FINAL AGENDA

November 12-13, 2025
Bethesda, MD + Virtual
Hyatt Regency Bethesda

The 15th Annual

# BATTERY SAFETY SUMMIT

## Implementing Lithium-Ion Battery Safety to Meet Increasing Energy Demands

## 2025 CONFERENCE PROGRAMS

### CHEMISTRY FOR SAFETY

- Chemistry & Materials for Next-Generation Batteries
- Increasing Efficiency & Thermal Stability

### ENGINEERING FOR SAFETY

- Battery Management Systems and Charging Safety
- Forensics & Post-Incident Diagnostics & Testing

With constantly increasing market demands for higher energy density cells globally, it is critical that advances in chemistry and engineering for next generation batteries have a significant focus on safety. With streams focusing on both materials and engineering for safety, the **Battery Safety Summit** will bring together the key players from around the world to present the latest R&D advancements for integrating and implementing LIB safety to meet ever-increasing energy demands.

**SAVE $300! REGISTER BY JULY 11**

Co-Located with: Battery Recycling & SUSTAINABILITY SUMMIT

CORPORATE SPONSOR: AMIONX

Cambridge EnerTech

CambridgeEnertech.com/Battery-Safety

## Wednesday, November 12

**7:30 am Registration Open and Morning Coffee**

**8:20 Organizer's Opening Remarks**

## SOLID-STATE BATTERY DESIGN AND SAFETY

**8:25 Chairperson's Remarks**
*William Fitzhugh, PhD, Co-Founder & CEO, Adden Energy*

**8:30 Enhancing Solid-State Battery Safety through Interface Design and Chemomechanics**
*Paul V. Braun, PhD, Professor & Grainger Distinguished Chair, Engineering, University Of Illinois Urbana Champaign*
Stresses resulting from electrode chemomechanics are strongly coupled to solid electrolyte-electrode interface failures. Such failures are significant barriers to realization of solid-state batteries (SSBs) and may result in significant safety issues including lithium dendrites. Using understandings of SSBs chemomechanical effects, we form long cycle-life SSBs with practical areal capacity (5 mAh/cm2) operating under low stack pressures at room temperature. Our findings highlight the importance of controlling cathode chemomechanics in SSBs.

**9:00 Safe Scaling of Lithium Metal Batteries via Self-Healing Solid-State Separators**
*William Fitzhugh, PhD, Co-Founder & CEO, Adden Energy*
Lithium metal batteries offer high-energy density but face safety challenges from dendrite growth, especially at scale. Solid-state batteries were introduced to block dendrites but often fail due to defects. Self-healing separators address this by autonomously repairing defects, eliminating dendrite pathways. This talk presents the operating principles of these separators and recent advancements in scaling the technology for full-scale automotive deployment.

**9:30 Welcome Coffee Break in the Exhibit Hall with Poster Viewing**

**10:15 Achieving Extreme High Ion-Current Densities in Room Temperature Solid-State Batteries**
*Eric Wachsman, PhD, Professor & Director, Materials Science & Engineering, University of Maryland College Park*
Solid-state batteries have the potential to be a transformational energy storage solution due to their non-flammable ceramic electrolyte and use of high-capacity metal anodes and high-voltage cathodes. We developed tailored solid-state materials, structures, and interfaces that enable extreme high-current densities of 100 mA/cm2 and 30 mA/cm2 with Li-metal and Na-metal anodes, respectively, at room temperature with no applied pressure. These and full-cell results will be presented.

**10:45 How Safe Are Solid-State Batteries? Identifying Hazards with a Bottom-Up Approach**
*Nathan Johnson, PhD, Senior Member of Technical Staff, Sandia National Laboratories*
This talk examines safety considerations in solid-state batteries using a bottom-up approach. By analyzing material behavior and interface interactions, we identify potential failure mechanisms and highlight emerging insights that challenge assumptions about the inherent safety of solid-state systems.

**11:15 Sponsored Presentation** *(Opportunity Available)*

**11:45 Luncheon Presentation** *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

**12:15 pm Session Break**

## SODIUM ION

**12:40 Chairperson's Remarks**
*Glenn Pastel, PhD, Materials Engineer, DEVCOM, U.S. Army Research Lab*

**12:45 Safety and Performance Trade-Offs of Na-ion versus Li-ion Anodes**
*Glenn Pastel, PhD, Materials Engineer, DEVCOM, U.S. Army Research Lab*
Sodium-ion batteries are an emerging complement to lithium-ion batteries with potential advantages associated with zero-volt storage, low-temperature performance, and abundant crude materials. This talk will summarize studies led by the DEVCOM Army Research Laboratory related to testing sodium-ion batteries and comment on safety considerations for emerging electrode and electrolyte chemistries.

**1:15 Comparative Impacts of Li Cation and Na Cation Chemistry on Electrolyte Design, Interphases, and Battery Safety Risks**
*Gebrekidan G. Eshetu, PhD, Senior Scientist & Group Leader Energy Storage Devices, Power Electronics & Electrical Drives, RWTH Aachen University*
This talk explores how the distinct chemistries of lithium and sodium cations influence electrolyte behavior, interfacial phenomena, and safety concerns in rechargeable batteries. By comparing Li cation and Na cation systems, we uncover critical insights into thermal stability, chemical reactivity, and design strategies that impact the performance and risks associated with next-generation energy storage technologies.

## ZINC BATTERIES

**1:45 Aluminum Zinc Anodes**
*Esther S. Takeuchi, PhD, Distinguished Professor, Materials Science & Chemical Engineering, SUNY Stony Brook*
Battery safety depends on a myriad of parameters, including the active and passive materials, the electrode architecture, as well as the cell design. This study is focused on systems that use air-stable zinc anodes, mildly acidic aqueous electrolyte, and metal oxide cathode materials. These systems may serve as promising alternatives to non-aqueous batteries such as lithium-ion.

**2:15 Refreshment Break in the Exhibit Hall with Poster Viewing**

**2:45 Recent Development on Zinc Secondary Battery**
*Masatsugu Morimitsu, Dr.Eng., Professor, Department of Science of Environment and Mathematical Modeling, Doshisha University*
This talk presents some recent developments in zinc rechargeable batteries using the novel technology "Segmentation of Electrolyte (SoE)", to control the reaction distribution on the zinc anode in laminated cells. It also covers operando observations of zinc deposition and dissolution in zinc flow cells, revealing the correlation between the operating conditions and the rechargeability.

**3:15 PANEL DISCUSSION: Safe Handling and Efficient Recovery of Lithium-Based Batteries**
*Moderator: Hakim H. Iddir, PhD, Physicist, Chemical Sciences and Engineering, Argonne National Laboratory*
- Safe transport and storage of aged, damaged, or defective cells
- On-site vs centralized deactivation strategies
- Design-for-disassembly and materials compatibility with recycling
- Emerging technologies for lithium and critical material recovery
- Regulatory gaps and harmonization challenges in battery logistics
- Fire prevention and incident response planning during collection and transit

**4:15 Networking Reception in the Exhibit Hall with Poster Viewing**

**5:15 Evening Tutorials *Separate registration required.**

**6:45 Close of Day**

## Thursday, November 13

**8:00 am Registration Open and Morning Coffee**

**8:50 Organizer's Remarks**

### IMPROVED MATERIALS

**8:55 Chairperson's Remarks**
*Hakim H. Iddir, PhD, Physicist, Chemical Sciences and Engineering, Argonne National Laboratory*

**9:00 Insights on Synthesis and Performance from Atomistic Modeling of Battery Materials**
*Hakim H. Iddir, PhD, Physicist, Chemical Sciences and Engineering, Argonne National Laboratory*
Layered LiMO2, Li, and Mn-rich oxides, and Co-free, Li-excess spinel (LxS) cathode, are popular cathode materials currently considered for automotive applications. The performance of these materials depends on the composition, structure, local environment, and synthesis conditions. Herein, I will present few examples using atomistic modeling to provide few insights into the lithiation and layering mechanisms of NMC materials, and oxygen redox activity in LxS.

**9:30 Hydrothermal Synthesis of Carbon Dots from Polypropylene**
*Deirdre O'Carroll, PhD, Associate Professor, Materials Science & Engineering, Rutgers University*
We explore a hydrothermal synthesis approach to convert polypropylene into carbon-based nanomaterials. This method offers a potential route for upcycling polymer waste into functional carbon dots, with implications for sustainable material development and advanced applications across various fields

**10:00 Recent Developments on High-Energy Density Li-ion and Post Li-ion Batteries at CEA-LITEN**
*Sebastien Martinet, PhD, Battery Senior Scientist, Electrochemical Storage, CEA Liten*
The presentation will make an update on CEA-LITEN developments on high-energy density batteries for xEV applications. Last results relative to new oxyfluoride and sulfide rocksalt positive materials will be discussed. Then, our recent achievements on the improvement of lithium metal electrode cyclability will be detailed, combining modelling and experimental approaches. High-energy density cells based on some major innovations will be presented.

**10:30 Coffee Break in the Exhibit Hall with Poster Viewing**

**11:00 Development of Aluminum/Air Battery**
*James Wu, PhD, Senior Research Scientist, NASA Glenn Research Center*

**11:30 Deactivation and Extraction of Lithium(-Metal) from Lithium-ion Batteries and Other Next-Generation Materials**
*Sascha Nowak, PhD, Head of Analytics & Environmental, Electrochemical Energy Technology, University of Münster*
Handling and transporting aged or defective battery cells is a key challenge in establishing an efficient battery recycling infrastructure. An important prerequisite for such a system is the development of suitable methods for the pretreatment and deactivation of lithium-ion and lithium-metal batteries. Additionally, the extraction of lithium is getting more attention to achieve an overall better recycling efficiency. Here, we present some of our latest results on the topic.

**12:00 pm Sponsored Presentation** *(Opportunity Available)*

**12:30 Luncheon Presentation** *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

**1:00 Session Break**

### BATTERY RELIABILITY

**1:25 Chairperson's Remarks**
*Deepti Tewari, PhD, Research Scientist, Electrochemical Safety, UL Research Institutes*

**1:30 Internal Short Circuit in Li-ion Batteries: Cause or Consequence**
*Sara Abada, PhD, Research Engineer, Modeling of Electrochemical Storage Systems, IFP Energies Nouvelles*
Thermal Runaway (TR) of LiBs is the key to safety. It involves multi-scale phenomena ranging from internal physic-chemical mechanisms to battery components including safety features (CID, pressure disk, vent) and further to thermal propagation. At IFPEN, a Multiphysics Multiscale model is developed to be able to simulate the cell behavior under different initiation events (overheating, overcharging, short circuiting). The impacts of chemistry, SOC, and aging are studied.

**2:00 Battery-Life Predictions**
*Kevin L. Gering, Distinguished Staff Scientist, Energy Storage Technologies, Idaho National Laboratory*
Battery applications are increasing in number and complexity, calling for more robust tools for life predictions and health diagnostics. While we hope batteries "age gracefully," there is an abiding need to monitor battery health for signs of failure precursors such as lithium plating in Li-ion cells. This work showcases INL tools (measurements + models) that determine metrics of lithium plating, and the consequences of aged electrolyte on battery performance.

**2:30 Refreshment Break in the Exhibit Hall with Poster Viewing**

**3:00 Overdischarge Modeling Framework for Lithium-ion Battery Modules: From Single-Cell to System-Level Prediction**
*Deepti Tewari, PhD, Research Scientist, Electrochemical Safety, UL Research Institutes*
Battery overdischarge causes degradation through copper dissolution, leading to temperature rise and potential failure. A Thermal Tanks-in-Series (TTiS) model efficiently predicts voltage profiles and capacity fade during overdischarge. Extended to battery modules, the framework accounts for cell-to-cell variations and spatial effects, enabling scalable prediction of capacity degradation in larger battery systems while maintaining computational efficiency.

**3:30 PANEL DISCUSSION: Understanding and Predicting Internal Shorts and Battery Lifespan**
*Moderator: Deepti Tewari, PhD, Research Scientist, Electrochemical Safety, UL Research Institutes*
- How internal shorts originate: dendrites, particle cracking, separator failure
- Detection techniques: embedded sensors, acoustic, impedance, thermal signatures
- Predictive modeling: cycle life estimation, health forecasting, data-driven and physics-based approaches
- Safety risks associated with unpredictable end-of-life behavior
- Role of materials selection and design in mitigating shorts and degradation
- Industry standards and testing limitations

**4:30 Close of Conference**

## Wednesday, November 12

**7:30 am Registration Open and Morning Coffee**

**8:20 Organizer's Opening Remarks**

### KEY STANDARDS FOR ENERGY STORAGE

**8:25 Chairperson's Remarks**
*Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center*

**8:30 Lithium Batteries as Hazardous Waste: Regulatory Overview and Challenges**
*Patrick Wise, Program Analyst, Office of Resource Conservation & Recovery, U.S. Environmental Protection Agency*
This presentation will provide an overview of how end-of-life lithium batteries are currently regulated as universal waste under RCRA and acknowledge regulatory gaps posed by novel aspects of waste lithium batteries. These challenges (such as their behavior when damaged or "insulted," their variable form factor, and the fire hazards they pose) will be discussed in relation to the current regulations, potential best management practices, and EPA's proposed rulemaking.

**9:00 Developments and Market Updates: Energy Storage System Codes and Standards**
*Kevin Fok, Director of Compliance, LG Energy Solution Vertech, Inc.*
Energy storage systems are continuing to be deployed at a rapid pace. There have also been recent developments in codes and standards requirements. This presentation discusses the market growth, updates about codes and standards, and potential impacts on projects.

**9:30 Welcome Coffee Break in the Exhibit Hall with Poster Viewing**

### OEM & MANUFACTURING PERSPECTIVES ON BATTERY SAFETY

**10:15 Thermal Runaway Fundamentals for Prospective Cell Chemistries**
*James R. Salvador, Chemical Sciences & Materials Systems Laboratory, General Motors*
Customer safety is a top priority throughout the vehicle development cycle and implementing effective thermal runaway mitigation technology is vital. Ideally, safety tests should simulate realistic failure scenarios to accurately assess performance of propagation mitigation strategies. The nature of abuse inflicted during safety tests can profoundly influence the outcomes of the resulting thermal runaway and lead to inaccurate conclusions regarding the efficacy of newly developed battery safety technologies.

**10:35 Pushing the Cell Boundaries for Heavy-Duty Applications while Maintaining Safety**
*Dragoljub Vrankovic, PhD, Manager, Team Cell Technology, Daimler Truck*
Battery-electric trucks are the future backbone of the transport industry—combining maximum energy efficiency with good flexibility and cost. Daimler Truck AG has proven how capable these electric trucks can be with several global projects and products. This presentation will investigate the special needs of batteries and cells for commercial vehicles, focusing on cell chemistry and safety.

**10:55 Thermal, Electrochemical, and Mechanical Abuse Tests for EV Batteries**
*Hannah Loizzo-Jay, Research Engineer, Cell Technology, Ford Motor Co.*
Thermal, electrochemical, and mechanical tests are all useful tools for abuse testing of batteries. This presentation will highlight the details of these tests and the sensitivity of the experiment inputs that can affect the outcome. The variables measured will be expounded upon to better understand their significance and contribution to the bigger picture of battery performance.

**11:15 Presentation to be Announced**

**11:45 Luncheon Presentation** *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

### OEM & MANUFACTURING PERSPECTIVES ON BATTERY SAFETY

**12:40 pm Chairperson's Remarks**
*Ahmad Pesaran, PhD, Chief Energy Storage Engineer, National Renewable Energy Laboratory*

**12:45 Safety First in Second-Life Battery Energy Storage Systems: A Wholistic Value-Chain Approach to Maximizing System Performance and Minimizing Operational Risk for Energy Storage Systems Utilizing First- and Second-Life Batteries**
*Jeremy Bedine, Product Head, Volvo Energy*
This talk will provide a high-level overview of the BESS product lifecycle, and it will lay out the total value chain from design and development, site engineering and deployment, digitization, remote monitoring, field service, and asset management. It will illustrate how safety and risk management are woven into each of these value-chain components.

**1:15 AI-Based Smart Charging Algorithm for Next-Generation Li-ion Batteries**
*Naoki Matsumura, Principal Engineer, Intel*
Artificial Intelligence (AI) plays a pivotal role in various sectors, including search engines, autonomous vehicles, and content generation. Typically trained on substantial datasets, AI excels at uncovering hidden relationships between inputs and outputs. The integration of domain knowledge, such as battery technology, significantly enhances AI performance. This presentation explores how the synergy of battery expertise and AI can improve user experience through context-based charging and battery health prediction.

### ABUSE TOLERANCE, ADVANCED TESTING, AND SIMULATION

**1:45 Early Failure Detection in Lithium-ion Batteries Using Rapid Electrochemical Impedance Spectroscopy and Gas Sensors**
*Loraine Torres-Castro, PhD, Battery Safety Lead, Sandia National Laboratories*
As lithium-ion batteries increase in capacity, early failure detection is critical for safety. This presentation compares rapid Electrochemical Impedance Spectroscopy (EIS) and gas sensors for lithium iron phosphate and nickel manganese cobalt cells under overtemperature and overcharge conditions. Results indicate that rapid EIS provides earlier warnings for overtemperature, while gas sensors excel in overcharge scenarios, suggesting a combined approach for optimal diagnostics.

**2:15 Refreshment Break in the Exhibit Hall with Poster Viewing**

**2:45 Critical Battery Physical Parameter Measurements for Simulation**
*Vidyu Challa, PhD, Reliability Manager, ANSYS, Inc.*
Thermal runaway is a critical concern in battery safety modeling, requiring multi-physics simulations to capture electrical, thermal, and mechanical behaviors. Electrical properties are characterized using HPPC, EIS, and entropy tests. Thermal behavior involves measuring capacity, conductivity, melting point, and electric conductivity. Mechanical properties are evaluated via stress-strain tests. This work presents relevant test methods and data, enabling accurate property characterization for improved safety modeling of battery systems.

**3:15 Pragmatic Approach to Robust Multiphysics-Based Cell Venting Detection**
*Brian Engle, Chairman, NAATBatt; Chair, SAE Battery Standards Steering Committee; Director, Business Development, Amphenol*
This presentation will describe failure physics and dangers after cell venting,

as well as passive and active countermeasures that can be deployed based on fast detection system that is generally agnostic to electrochemistry, cell design, and system configuration.

**3:45 Cell Performance Mapping and QC**
*Steven Weiss, PhD, President, Xilectric*
Xilectric is developing a hardware-enabled cell mapping tool that accelerates battery evaluation using precise electrochemical measurements and automated quality control metrics. By identifying subtle performance variations and enabling mission-specific screening, the system provides a faster, data-driven alternative to traditional methods. This approach improves cell binning, reduces qualification time, and lowers integration risks for new chemistries, supporting both R&D teams and manufacturers in selecting reliable, high-performance battery cells.

**4:15 Networking Reception in the Exhibit Hall with Poster Viewing**

**5:15 Evening Tutorials *Separate registration required.**

**6:45 Close of Day**

## Thursday, November 13

**8:00 am Registration Open and Morning Coffee**

**8:50 Organizer's Remarks**

### ABUSE TOLERANCE, ADVANCED TESTING, AND SIMULATION

**8:55 Chairperson's Remarks**
*Donal Finegan, PhD, Staff Scientist Batteries, Electrified Transport, National Renewable Energy Laboratory*

**9:00 State-of-Health Measurements for Vanadium (III) Acetylacetonate as a Model Chemistry to Monitor Degradation and Capacity Fade in Real-Time**
*Becca Segal, PhD, CEO, FlowCellutions*
A key challenge for redox flow batteries (RFBs) is the inability to precisely monitor state of charge (SOC) imbalance and degradation during operation. In light of this challenge, this presentation will focus on recent efforts to characterize RFB electrolyte composition through a real-time electroanalytical platform that is generalizable across a range of RFB electrolytes. Broader implications regarding the development and deployment.

**9:30 Battery Engineering for Safety: High-Throughput Encapsulation for Partial Propagation Resistance**
*Amit Ranjan, Founder; Director, Regenerative Technologies, Asterisk Green*
This session presents a high-throughput encapsulation process using silicone or foams, engineered to achieve Partial Propagation Resistance (PPR) by integrating advanced process engineering with polymerization kinetics. Zoned control of temperature, pressure, and additive chemistry enables sub-90-second cycle times for 3L of material, with under 0.1% glass-balloon loss. Adoption of inline cameras, color sensors, and robotics supports full automation, addressing critical safety challenges of Li-ion chemistries without cost or weight compromise.

**9:50 Characterizing Safety of Commercial Lithium-ion Cells**
*Dhevathi R. Rajagopalan Kannan, PhD, Research Scientist, Electrochemical Safety Research Institute, UL Research Institutes*
The use of lithium-ion batteries for EVs and BESS has surged globally, but recent fire incidents have raised safety concerns. This study focuses on characterizing the safety aspects of commercial lithium-ion cells of different formats. Results of safety tests, including overcharge, overdischarge, external short tests, and external heating tests, will be discussed. Findings from this study provide valuable insights that can help develop safer and more reliable energy storage solutions.

**10:10 Cryo-Resistance and Cryo-HiPot to Detect and Locate Internal Short Circuits in Lithium-ion Batteries**
*Adam Cohn, PhD, Principal Scientist, Materials Science and Electrochemistry, Exponent, Inc.*
High-resistance internal short circuits in lithium-ion batteries can be challenging to detect. Electrical methods typically require prolonged monitoring periods to distinguish the electrical resistance of a short circuit from electrochemical activity. In this talk, we will discuss using liquid nitrogen to freeze a cell's electrolyte and allow for direct measurement of the electrical resistance. Additionally, we will explore using HiPot testing while frozen to reveal the location of the short.

**10:30 Coffee Break in the Exhibit Hall with Poster Viewing**

**11:00 The Safety Implications of Sodium-ion Batteries**
*Sam Jaffe, Principal, 1019 Technologies*
Sodium-ion batteries are making their entrance onto the world stage with a flourish, as companies in China and the US introduce new products. The safety implications of Na-ion batteries are far reaching, depending on the chemistry of the electrolyte and electrodes: some Na-ion cells are safer, while others see no demonstrable improvement in safety parameters when compared to Li-ion.

**11:20 Analytical Methods in Battery Storage Engineering**
*Beth Schroeder, Vice President of Engineering, Engineering, Fluence*
In stationary storage, conducting physical tests to verify performance characteristics can be a multimillion-dollar endeavor. We will discuss analytical methods for engineering teams to predict energy storage system-level performance accurately before the construction of the initial prototype.

### LIFECYCLE MANAGEMENT

**11:30 Adopting Lifecycle Management of Critical Minerals for Changing Battery Chemistries**
*Derek Ramsell, Founder & CEO, Battery Metals*
This presentation will cover adopting lifecycle management of critical minerals in the world of ever-changing battery chemistries.

**12:00 pm Sponsored Presentation** *(Opportunity Available)*

**12:30 Luncheon Presentation** *(Sponsorship Opportunity Available)* **or Enjoy Lunch on Your Own**

**1:00 Session Break**

### THERMAL RUNAWAY MITIGATION

**1:25 Chairperson's Remarks**
*Adam Cohn, PhD, Principal Scientist, Materials Science and Electrochemistry, Exponent, Inc.*

**1:30 Are Liquified Gas Electrolyte Cells Less Violent in Thermal Runaway?**
*Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center*
A comparison of the total and distribution of thermal runaway heat will be presented for 2.7Ah cells with liquified gas electrolyte and 2.7Ah cells with standard liquid electrolytes using NASA's Fractional Thermal Runaway Calorimeter experiments while at a synchrotron for high-speed radiography.

**2:00 Challenges with Discharging Stranded Energy of an EV Battery after a Crash**
*Ahmad Pesaran, PhD, Chief Energy Storage Engineer, National Renewable Energy Laboratory*
Discharging stranded energy in electric vehicle (EV) batteries after a crash presents significant logistical challenges. Post-collision, damaged batteries may retain high voltage and capacity, posing risks of thermal runaway, fires, or electric shocks. Identifying safe and effective methods to discharge

this energy is critical for first responders. This presentation explores the complexities of safely managing stranded energy, examining current approaches, technologies, and potential improvements to enhance post-crash safety protocols.

**2:30 Refreshment Break in the Exhibit Hall with Poster Viewing**

**3:00 Advancing Automotive Battery-Pack Safety with Innovative Venting Units**

***Michael Harenbrock, PhD, Principal Expert, Engineering Electric Mobility, MANN+HUMMEL GmbH***

Vents are crucial for battery pack safety, especially under thermal runaway conditions. As battery cell chemistry and pack designs evolve, selecting appropriate venting units becomes increasingly important. The presentation provides an overview of regulatory and technological trends influencing vent design and introduces additional features like gas sensors and hot particle filters.

**3:30 Evaluating the Safety of Next-Generation Batteries**

***Donal Finegan, PhD, Staff Scientist Batteries, Electrified Transport, National Renewable Energy Laboratory***

This talk will focus on providing a quantitative understanding of the diverging behaviors of up-and-coming cell technologies including their abuse tolerance and hazards during thermal runaway. The talk will also cover what is still unknown about the behaviors of next-generation cells, and how modelling and experimentation can be combined to accelerate our insight into their behaviors and therefore help us foresee upcoming opportunities and challenges for safe battery pack designs.

**4:00 Detailed Characterization of Emissions from Thermal Runaway of Sodium-ion Cells**

***Vinay Premnath, Director of Research, Energy Storage Safety, UL Research Institutes***

Sodium-ion batteries are gaining recognition as a viable and cost-effective alternative to lithium-ion batteries due to the abundant availability of sodium. This research will provide critical insight into hazards associated with failure of sodium-ion cells which will help first responders, and in the development of mitigation and control strategies.

**4:30 Close of Conference**

# Present a Poster and Save $50

Cambridge EnerTech encourages attendees to gain further exposure by presenting their work in the poster sessions. To secure an onsite poster board and ensure your poster is included in conference materials, your submission must be received, and your registration paid in full, by **October 3, 2025.**

## Reasons you should present your R&D findings at this conference:

- Your research will be seen by leaders from top commercial, academic, and government institutes
- Discuss your research and collaborate with interested attendees and speakers
- Your poster presentation will be published in our conference materials
- Receive a $50 discount off your Commercial or Academic/Government registration

# TUTORIAL*

**Wednesday, November 12 | 5:15-6:45pm**

** separate registration required*

## TUT1: Battery Safety and Abuse Tolerance Validation

***Instructor:***
***Shmuel De-Leon, CEO, Shmuel De-Leon Energy Ltd.***

## MEDIA PARTNERS

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# HOTEL & TRAVEL

CONFERENCE VENUE AND HOTEL:

**Hyatt Regency Bethesda**

1 Bethesda Metro Center

Bethesda, MD 20814

Discounted Room Rate: $279 S/D
Discounted Room Cut-off Date: October 14, 2025

Reservations and Additional Information:
Go to the Travel Page of Battery Safety Summit

# Sponsorship, Exhibit & Lead Generation Opportunities

CET offers comprehensive sponsorship packages that can be customized to your company's objectives and budget. Sponsorship allows you to achieve your objectives before, during, and long after the event. Packages may include podium presentations, exhibit space, and branding, as well as the use of delegate lists.

## Podium Presentations

– Available within the Main Agenda!

Showcase your solutions to a guaranteed, targeted audience through a 15- or 30-minute podium presentation during a specific conference program, breakfast, lunch, or separate from the main agenda within a pre-conference workshop. Package includes exhibit space, onsite branding, and access to cooperative marketing efforts by CET.

## Invitation-Only VIP Dinner/ Hospitality Suite

Select specific delegates from the preregistration list to attend a private function at an upscale restaurant or a reception at the hotel. From extending invitations, to venue, to suggestions, CET will deliver your prospects and help you make the most of this invaluable experience.

## One-on-One Meetings

Select your top prospects from the pre-conference registration list. CET will reach out to your prospects and arrange the meeting for you. A minimum number of meetings will be guaranteed, depending on your marketing objectives and needs. A very limited number of these packages will be sold.

## Additional Opportunities Available for Sponsorship Include:

- Conference Tote Bags
- Literature Distribution (Tote Bag Insert or Chair Drop)
- Badge Lanyards
- Padfolios and more…

## Exhibit

Exhibitors will enjoy facilitated networking opportunities with qualified delegates, making it the perfect platform to launch a new product, collect feedback, and generate new leads. Exhibit space sells out quickly, so reserve your booth today!

## Sample List of 2024 Attendees

- 24M Technologies Inc, Sr Dir Strategic & Tech Partnership
- Apple Inc, Engineering Safety Legal, Product Safety
- Arkema Inc, Sr Principal Scientist, Battery Grp
- Cox Automotive Inc, EHS Dir
- Cummins, Sr Electrochemistry Scientist, eMobility
- Daimler Truck N America, Engineer, Materials Process & Technologies
- E One Moli Energy Canada Ltd, Sr Research Scientist, R&D
- ENOVIX Corp, Sr Principle Engineer, R&D
- Federal Aviation Administration, Engineer Electrical Systems, Aircraft Certification Svcs
- Ford Motor Co, Research Engineer, Cell Technology
- Freudenberg e Power Systems, Research Scientist, R&D
- General Motors Co, Battery Safety Dev & Valication Tech, Global Powertrain Dev & Validation
- Honda Mfg & Dev LLC, Sr Tech Project Mgr, Dev Operations & Prototype Fabrication
- LG Energy Solution, CTO
- Lucid Motors Inc, Sr Engineer, High Voltage Battery Systems
- Milwaukee Tool, Sr Global Battery Safety Mgr
- NASA Johnson Space Ctr, Battery Tech Discipline Lead, Power Systems
- Nissan Motor Co Ltd, Expert Leader & Research Dir
- Panasonic Energy Co Ltd, Sr Engineer, Energy R&D Ctr
- Porsche AG, Leader, Predevelopment Cell R&D
- Saint Gobain, R&D Mgr, EV Program
- Sherwin Williams Co, Global Market Mgr & Energy & EV Battery, General Industrial
- Stanley Black & Decker Inc, Mgr Tech Engineering, Battery Engineering Testing
- TDK Sensors AG & Co KG, Dev Engineer, Strategic Project Mgmt
- Toyota Motor Engineering & Mfg N America, Engineer, Model Based Dev
- US Dept of Transportation, Ofc Dir, Crashworthiness Standards

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