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2026 CONFERENCE PROGRAMS:

R&D

- Next-Generation Battery Research
- AI for Energy Storage
- Lithium-ion Battery Development & Commercialization
- Battery Recycling

MANUFACTURING

- High-Performance Battery Manufacturing
- Global Supply Chain for Battery Raw Materials
- Battery Manufacturing Production
- Battery Engineering

APPLICATIONS

- Advances in Automotive Battery Applications
- Large-Scale Energy Storage
- Battery Power for Consumer Electronics
- Battery Technologies for Military Applications

ENGINEERING

- Battery Safety
- AI for Energy Storage
- Battery Engineering
- Battery Manufacturing Production

PLENARY KEYNOTES:

LFP Cells Are Boring—Why Should I Care?

Jeff Dahn, FRSC, PhD, Dalhousie University

Delivering Advanced Battery Technologies for EV Range and Value

George Cintra, Director, Battery R&D, General Motors

Today's EV Reality and the Path Forward

Tim DeBastos, Managing Director, North American Battery Development, LG Energy Solution

Panasonic Energy: Driving Battery Technology Innovation for Sustainable Growth

Masato Fujikawa, Director, Energy R&D Center, Panasonic Energy Co., Ltd.

First Steps for Blue Solutions' Solid-State Batteries: From Applications to End-of-Life Management

Richard Bouveret, CEO & Chairman, Blue Solutions, Bolloré Group

Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big Data Requirements

Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

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PLENARY KEYNOTE PROGRAM

3:50 pm Chairperson's Remarks

Craig Wohlers, General Manager, Cambridge EnerTech

3:55 pm LFP Cells Are Boring—Why Should I Care?

Jeff Dahn, FRSC, PhD, Professor of Physics and Atmospheric Science & NSERC/Tesla Canada Industrial Research Chair, Dalhousie University

LFP Li-ion cells are now the most common cells in energy storage products and EVs. They are inexpensive and since they are relatively safe, they can be made in large-Ah-capacity cells, reducing cost and complexity in battery modules and packs. Even though they are not "sexy," boring old LFP will dominate in many applications for years to come. However, the high-temperature lifetime of LFP cells is poor, which means they require temperature control in many applications to attain an acceptable lifetime. I will explain why the high-temperature lifetime is poor and discuss some strategies to improve it. I will explain how to make LFP cells exciting, including strategies to dramatically increase their energy density.

4:15 pm Delivering Advanced Battery Technologies for EV Range and Value

George Cintra, Director, Battery R&D, General Motors

General Motors is building an electrification powerhouse, having launched a dozen EVs into the market, ranging from the Equinox EV to the Cadillac Escalade IQ. General Motors is pioneering next-generation battery and manufacturing technologies, such as prismatic cells with LMR cathodes. Mr. Cintra will provide an update on GM's battery research & development activities, tools and innovations to deliver longer range, lower costs, and faster charging batteries for EV customers.

4:35 pm Today's EV Reality and the Path Forward

Tim DeBastos, Managing Director, North American Battery Development, LG Energy Solution

LG Energy Solution is the leading lithium-ion battery manufacturer, working with the top OEMs globally in transforming the automobile industry. The market for EVs is expanding rapidly, driven by both consumer demand and regulatory incentives. In North America, there are unprecedented levels of investment to support EVs, by both OEMs and battery manufacturers. This presentation will discuss market growth projections, announced expansion plans, and the challenges ahead.

4:55 pm Panasonic Energy: Driving Battery Technology Innovation for Sustainable Growth

Masato Fujikawa, Director, Energy R&D Center, Panasonic Energy Co., Ltd.

Panasonic Energy has been at the forefront of battery technology development, driving the growth of BEVs and AI. To meet increasing market demand, we are expanding our production capacity in North America and strengthening strategic partnerships. These initiatives will contribute both to the realization of a sustainable society and to our business growth. This presentation will highlight the innovative activities within our battery business from a technological perspective.

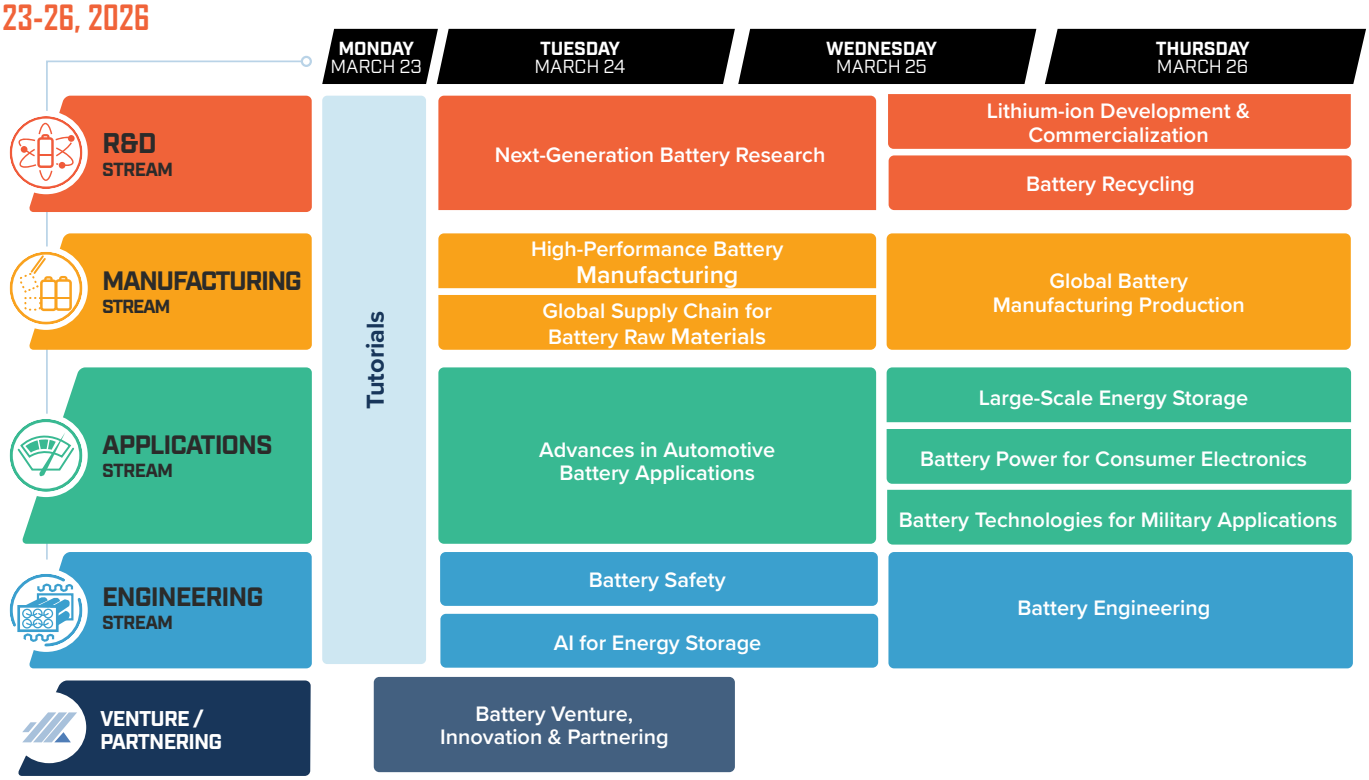
5:15 pm First Steps for Blue Solutions' Solid-State Batteries: From Applications to End-of-Life Management

Richard Bouveret, CEO & Chairman, Blue Solutions, Bolloré Group

Solid-state batteries have been in development for decades. Blue Solutions' Gen4 Polymer Lithium-metal SSB is transitioning from lab cells to real-world applications. The company has developed a demonstrator electric two-wheeler, surpassing Li-ion battery performance. The presentation will cover lessons learned and the overall development strategy focused on three pillars: Safety, Sustainability, and Smart Technology, including an innovative recycling process that recovers 90% of the metallic lithium from Blue Solutions' cells.

2026 Conference Programs:

March 23-26, 2026



INTERACTIVE TUTORIALS*

MONDAY, MARCH 23 8:30-10:00 AM

TUT1: Cathode Active Materials: The Strategic Core of Performance, Cost and Sustainability
Instructor:
Tom Van Bellinghen, Founder, Lithink

TUT2: In-Depth Analysis of the Chinese xEV Battery Industry
Instructor:
Shmuel De-Leon, CEO, Shmuel De-Leon Energy Ltd.

TUT3: Economics of Battery Material Development & Manufacturing
Instructor:
Thomas D. Gregory, Owner and Consultant, Borealis Technology Solutions LLC

MONDAY, MARCH 23 10:30 AM-12:00 PM

TUT4: Virtual Analysis of Cell Aging and Cell Behaviors for the Selection and Development of Long-Life Cells
Instructor:
Luke Hu, Co-Founder & GM, Global Business, Electroder Ltd.

TUT5: Critical Minerals and Battery Supply Chain: Challenges, Geopolitics and Sustainable Solutions
Instructor:
Kimberly Berman, Independent Consultant, Pivot Research

TUT6: Understanding the Future of Battery Cell Cost & Assessing the Economic Feasibility of Emerging Technologies
Instructor:
Varnika Agarwal, Research Analyst, Rho Motion

MONDAY, MARCH 23 1:30-3:00 PM

TUT7: Improving the Energy Density of Batteries with Silicon-Based Anodes
Instructor:
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.

TUT8: Li-ion Cell Design and Manufacturing
Instructor:
James Kaschmitter, CEO, SpectraPower LLC

TUT9: Predictive Analytics and AI in Inventory Optimization, Demand Planning and Forecasting
Instructor:
David Steven Jacoby, Managing Director, Energy Consulting, Boston Strategies International

MONDAY, MARCH 23 3:00-4:30 PM

TUT10: Latest Regulatory and Legislative Developments on the Safe Transport, Storage, Collection and Recycling of Lithium Batteries
Instructor:
Marcus Boolish, Policy Advisor, Wiley Rein LLP, PRBA Rechargeable Battery Association

TUT11: Solid-State Batteries
Instructor:
Venkataraman Thangadurai, PhD, Chair, Energy & Faraday Institution; Adjunct Professor, School of Chemistry, University of St. Andrews

TUT12: Technology Innovation in the Chinese Battery Industry
Instructor:
Mark Lu, PhD, Senior Industrial Analyst, Industrial Economics & Knowledge Center, Industrial Technology Research Institute

*All Access Registration or separate registration required for Tutorials

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R&D STREAM

Next-Generation Battery Research

Powering Higher Performance and Energy Density through Electrochemical Engineering

MONDAY, MARCH 23

7:00 am Registration Open and Morning Coffee

4:45 pm Close of Day

TUESDAY, MARCH 24

7:00 am Registration Open and Morning Coffee

8:05 Organizer's Remarks
Mary Ann Brown, Executive Director, Conferences, Cambridge EnerTech Institute

ELECTROLYTE DESIGN: POWERING BATTERY INNOVATION

8:10 Chairperson's Remarks
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.

8:15 FEATURED PRESENTATION: Electrolyte and Interphase Design for High-Performance Lithium-ion Batteries
Arumugam Manthiram, PhD, George T. and Gladys H. Abell Endowed Chair of Engineering, Mechanical Engineering, University of Texas at Austin
Lithium-ion batteries have become embedded in our modern-day life, but there is an appetite to enhance the fast charging, safety, and wide-temperature-operation capabilities, while maintaining high energy density. Electrolytes play a dominant role in these performance parameters. This presentation will focus on the design and development of electrolytes with optimal interphase chemistry to achieve the goals, with an in-depth fundamental understanding aided by advanced characterization methodologies.

8:45 Building Better Electrolytes for TWh Scale
Gustavo Hobold, PhD, CTO, Elementium Materials
Carbonate-based electrolytes struggle to meet performance requirements of emerging electrode materials (Si, high Ni, high voltage, Mn-rich, Na-ion). Most alternatives fail to meet scalability requisites for mass-market applications and remain an R&D exercise, such that industry continues to rely on carbonates. Here we present new electrolytes that solve long-withstanding performance issues with legacy electrolytes, while being scalable to TWh capacity, and thus helping enable a new generation of battery technology.

9:15 Deciphering the Dynamic Nature of the Solid-Electrolyte Interphase in Lithium-Metal Batteries
Wurigumula Bao, PhD, Project Scientist, PME, University of Chicago
Lithium metal batteries (LMBs) offer exceptional energy density but face fast degradation from lithium loss. Time-resolved analysis reveals that fast charging accelerates solvent-driven SEI thickening and inactive Li° buildup, rapidly reducing active Li and heightening safety risks. Slow charging with fast discharging instead yields a stable, salt-derived SEI and better Li utilization. These findings uncover coupled SEI–Li° evolution governed by interfacial kinetics, guiding optimized cycling for durable, safe LMBs.

9:45 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

CATHODE DESIGN: POWERING BATTERY PERFORMANCE

10:30 Chemo-Mechanics in Solid-State Cathodes
Kelsey Hatzell, PhD, Associate Professor, Andlinger Center for Energy and the Environment, Princeton University

11:00 Disordered Rocksalt Cathode Materials: A Promising Material for Next-Generation Lithium-ion Batteries
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.
Development of advanced US-patented cathode materials is critical to establishing next-generation domestic battery materials. Wildcat will highlight breakthrough performance of high energy, low cost, and cobalt-and nickel-free Disordered Rocksalt (DRX) cathodes. Wildcat has significantly improved performance in cycle life, voltage fade, and resistance growth while maintaining high energy density. The material has also been demonstrated with roll to roll coating and multi-layer pouch cells.

11:30 Next-Generation High Energy and Sustainable Cathode Materials
Tongchao Liu, PhD, Chemist, Chemical Sciences and Engineering Division, Argonne National Laboratory
We introduce two new cathode innovations that overcome long-standing trade-offs in high-energy lithium-ion batteries. A Ni-rich dual-gradient design enables stable cycling up to 4.7 V without capacity decay, and a low-Ni (<0.6) integrated structure delivers Ni-rich-level capacity with superior durability and sustainability. These new architectures open the door to high energy density, advancing sustainable, high-performance cathodes for next-generation lithium-ion batteries.

12:00 pm Presentation to be Announced

UNICO

12:30 Networking Luncheon

1:15 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

MATERIAL DESIGN AND CONSISTENCY: POWERING BATTERY RELIABILITY

1:45 Chairperson's Remarks
Kevin L. Gering, PhD, Distinguished Staff Scientist, Energy Storage Technologies, Idaho National Laboratory

1:50 Multiscale Degradation Understood Using Cryogenic Electron Microscopy: Gas, Transition Metal Dissolution, Dead Lithium, and Separator Deformation
Katherine Jungjohann, PhD, Group Manager, Microscopy, Imaging, and Characterization for Renewables, National Renewable Energy Laboratory (NREL)
Lithium-ion transport in cathodes depends on interfacial properties of the cathode electrolyte interface (CEI), at around 10 nm the composition/thickness highly impact impendence while protecting against parasitic reactions. CEI characterization in structure, composition, and bonding were completed using multiscale cryogenic electron microscopy. Millimeter-scale cross-sections through intact coin cell batteries and nanoscale mapping were used to visualize degradation in electrodes such as particle cracking, gas evolution, dead lithium, and torn separators.

2:20 Physics-Based Modeling Platform to Predict Battery Power Envelopes over Aging

Kevin L. Gering, PhD, Distinguished Staff Scientist, Energy Storage Technologies, Idaho National Laboratory

Achievable power is central to battery state of health (SOH), encompassing capacity and conductance losses. However, testing multiple power conditions during battery aging involves considerable extra expense. Addressing this, INL created the Smart Pulse Diagnostic Tool. Based on analysis of a simple, single, short pulse per cell, a wealth of power behavior (power envelopes) is predicted over a wide range of cycling conditions, accounting for temperature affects from joule heating.

2:50 How the Evolving Nanocarbon Supply Chain Will Impact the Battery Industry

Conor O'Brien, PhD, Senior Technology Analyst, Analyst Team, IDTechEx

Advanced nanocarbons such as carbon nanotubes and graphene can play a key role in improving energy storage technologies, enhancing energy density, charge rates, and cycle life in both lithium-ion and next-generation batteries. IDTechEx has covered the nanocarbon market for 15 years, and this talk will discuss historic trends in nanocarbon supply chains, current bottle necks and a future outlook based on continuously increasing production capacity.

3:20 Refreshment Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

PLENARY KEYNOTE

3:50 Shep Wolsky Battery Innovator of the Year Award Presentation and Chairperson's Remarks

Craig Wohlers, General Manager, Cambridge EnerTech

3:55 LFP Cells Are Boring—Why Should I Care?

Jeff Dahn, FRSC, PhD, Professor of Physics and Atmospheric Science & NSERC/Tesla Canada Industrial Research Chair, Dalhousie University

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5:35 Reception in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

6:35 Close of Day

WEDNESDAY, MARCH 25

7:30 am Registration Open and Morning Coffee

EMERGING ELECTROCHEMISTRIES: DRIVING BATTERY INNOVATION

7:55 Chairperson's Remarks

Amy C. Marschilok, PhD, Professor, Materials Science & Chemical Engineering, SUNY Stony Brook

8:00 Presentation to be Announced

8:30 Advanced X-Ray Characterization of Aqueous Metal Batteries

Johanna Nelson Weker, PhD, Lead Scientist, SLAC National Accelerator Laboratory

Synchrotron-based X-rays enable multiscale characterization of materials with sensitivity to microstructure, chemistry, and morphology. At the Stanford Synchrotron Radiation Lightsource, we have a suite of X-ray tools for operando battery research. We are applying these to zinc-based aqueous batteries for grid-scale energy storage. We are directly tracking

degradation phenomena such as dendrite growth and hydrogen evolution through X-ray microscopy to identify underlying failure mechanisms and inform strategies to enhance performance.

9:00 Operando Acoustic Analysis of Formation Parameter Coupling in Lithium-Metal Batteries

Daniel A. Steingart, PhD, Stanley Thompson Professor, Chemical Metallurgy & Chair, Earth & Environmental Engineering, Columbia University

9:30 Presentation to be Announced

9:45 Talk Title to be Announced

Rob Anstey, CEO, GDI Inc.

10:15 Coffee Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

11:05 High-Entropy and Disordered Materials and Electrodes: Progress and Opportunities for Next-Generation Batteries

Amy C. Marschilok, PhD, Professor, Materials Science & Chemical Engineering, SUNY Stony Brook

Entropy and disorder are typically viewed as negative factors in rocking-chair (de)intercalation-based lithium ion battery systems. However, entropy and disorder can be harnessed for significant benefit in beyond lithium-ion batteries utilizing new materials and energy storage modalities, as will be highlighted in this presentation.

11:35 Novel Vanadium-Oxide Anode Technology for High-Performance Lithium-ion Batteries

Haodong Liu, PhD, Co-Founder and CTO, Tyfast Energy Corp.; Activate Fellow, Lawrence Berkeley National Laboratory

Tyfast is advancing lithium-ion batteries for heavy-duty, mining, construction, and defense applications with a proprietary vanadium oxide anode. Our cells deliver ultra-fast charging (<6 minutes to 80% SOC), long life (>10,000 cycles), and reliable performance under extreme conditions, including −60 °C operation, zero-volt stability, and high-rate discharge above 45 C. We are also developing next-generation vanadium oxide anodes to enable higher energy density cells, broadening the impact of this technology.

12:05 pm Presentation to be Announced

12:35 Interactive Roundtables and Networking Luncheon *(Sponsorship Opportunity Available)*

1:20 Dessert Break in the Exhibit Hall with Poster Viewing

(Sponsorship Opportunity Available)

1:50 Close of Conference Track

R&D STREAM

Battery Recycling

Advanced Recycling Methods for Sustainable Battery Materials Supply

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

MARKET DEMAND FOR RECYCLING

1:50 Chairperson's Remarks
Steve Sloop, PhD, President, OnTo Technology LLC

1:55 FEATURED PRESENTATION: Lithium-ion Battery Recycling: Science & Technology Challenges and Opportunities
Ilias Belharouak, PhD, Section Head, Electrification and Energy Infrastructure Division, Oak Ridge National Laboratory
Lithium-ion battery recycling is essential to address economic and environmental challenges. We demonstrate a polyol-metallurgical process that upgrades polycrystalline cathodes into single-crystal forms through controlled co-precipitation and re-synthesis using citric acid and ethylene glycol. The method achieves efficient leaching, uniform particle morphology, and pristine LiNi0.6Co0.2Mn0.2O2 regeneration, offering a scalable pathway for closed-loop recycling and next-generation cathode synthesis.

2:25 Life-Cycle Assessment and Battery Recycling: Using Data to Quantify Net-Zero Claims
Tomasz Poznar, PhD, Vice President, Strategy, Ascend Elements
Claims of carbon emission reductions and energy efficiency are widespread in the battery materials and recycling industry, but they are not always backed up by independently reviewed data. In this presentation, Ascend Elements describes the life cycle assessment (LCA) process used to calculate carbon emissions equivalent (CO_2e) and particulate matter (PM 2.5) reductions associated with its sustainable NMC pCAM and recycled lithium carbonate products.

2:55 Sponsored Presentation *(Opportunity Available)*

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

3:55 Where Stewardship Meets Safety: The Evolving Landscape of Battery Collection in the United States
Eric Frederickson, Vice President of Operations, Call2Recycle
Battery EPR is rapidly taking hold across the US, narrowing the gap with Europe's long-standing producer responsibility systems. As fires and rising logistics costs challenge the waste industry, safe and scalable packaging is becoming the cornerstone of effective stewardship. In this session, Call2Recycle's Eric Frederickson will share insights into state legislation, operational challenges, and the packaging innovations that are making next-generation battery collection programs both cost-efficient and resilient.

4:25 Advancing Data Transparency in Battery Recycling and Reuse
Antoni Tong, PhD, CEO, Smartville
Smartville has developed an integrated platform that enables the efficient assessment, trading, and repurposing of used EV batteries for second-life applications. Combining its proprietary Periscope diagnostic tool and Battery-connect repurposing solution, Smartville helps recyclers, fleet operators, and energy developers to address retired EV batteries. This presentation will highlight the technology, data workflows, and real-world use cases that drive Smartville's mission to extend battery life, reduce waste, and unlock new value.

4:55 Opportunities and Challenges for Closed Loop within North America
Aki Fujita, Principal, Arthur D. Little
Currently, the North American recycling supply chain is not a complete closed loop within the region, and the challenges include: (1) "leakage" of black mass to Asia, (2) economies of scale sufficient to ensure profitability, and (3) lack of pCAM factories. This presentation will discuss the challenges and business opportunities for establishing a closed loop supply chain within North America in the future.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

MARKET DEMAND FOR RECYCLING

8:25 Chairperson's Remarks
Eric Frederickson, Vice President of Operations, Call2Recycle

8:30 Sponsored Presentation *(Opportunity Available)*

9:00 Evolution of North America's Recycling Industry: Pricing Dynamics, Emerging Intermediates, and Policy Updates
Frederick Bloomfield, Senior Analyst, Benchmark Mineral Intelligence
This presentation will cover the pricing dynamics, emerging intermediates, and policy updates for the US Recycling Industry.

9:00 Coffee Break in the Exhibit Hall

9:30 Sponsored Presentation *(Opportunity Available)*

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

RECYCLING METHODS

10:45 Battery Deactivation—A Commercial-Scale Service Mode
Steve Sloop, PhD, President, OnTo Technology LLC
Mobile Battery Deactivation improves safety and reduces costs of end-of-life lithium-ion logistics. The patented and regulatorily recognized process transforms batteries into non-hazardous materials to simplify storage, transportation, and recycling logistics. The presentation will discuss commercial scale operation of the process.

11:15 ReCell Center: Advances in Battery-Recycling Technologies
Jessica Durham Macholz, PhD, Critical Materials Program Lead, Applied Materials Division, Argonne National Laboratory
The ReCell Center, funded by the Department of Energy—Vehicle Technologies Office, has continued to pursue the advancement of lithium-ion battery recycling technologies. This presentation will cover some of the exciting new technologies that have been developed in ReCell and the deployment of the pilot scale recycling facility at Argonne National Laboratory.

11:45 Sponsored Presentation *(Opportunity Available)*

12:15 pm Enjoy Lunch on Your Own

RECYCLING METHODS

1:10 Chairperson's Remarks

Jessica Durham Macholz, PhD, Critical Materials Program Lead, Applied Materials Division, Argonne National Laboratory

1:15 Process Water from Lithium-ion Battery Recycling: Current Trends of Characterization

Sascha Nowak, PhD, Head of Analytics & Environmental, Electrochemical Energy Technology, University of Münster

Water-using recycling processes—such as wet crushing and electrohydraulic fragmentation—generate large amounts of contaminated process water, resulting in increased costs for the disposal of hazardous waste and safety guidelines. To improve wastewater management, safety, and sustainability of water-assisted recycling processes, comprehensive knowledge of the battery components in the water are required. Analytical techniques can play an important role during these processes, including wet shredding processes, wastewater management, and analytical techniques.

1:45 Environmental Controls for Lithium-ion Battery Recycling from Black Mass to Downstream Hydromet Processes

Barry Perlmutter, President, Perlmutter & Idea Development (P&ID) LLC

Lithium-ion battery recyclers and Hydromet processors can think like recyclers but must act like chemical plants. This is especially true for environmental emissions. Each plant handles solids emissions (dust such as ferrous, non-ferrous metals and plastics), liquid emissions (wastewater, electrolyte and solvents), and gaseous emissions of volatile organic compounds (VOCs) and acid gases (hydrofluoric acid). This presentation examines the source of the emissions and then discusses possible control approaches.

2:15 Graphite-Anode Recycling: An Environmentally Friendly Approach to Supply-Chain Localization

Rakan Ashour, PhD, Technology Program Manager, Orbia Fluor & Energy Materials

Graphite is the critical anode material for lithium-ion batteries and a cornerstone of the global energy transition. Orbia Fluor & Energy Materials has pioneered advanced regeneration processes that transform waste graphite from battery recycling into high-performance, battery-grade anode materials. Regenerated graphite has demonstrated equivalent performance to leading commercial anode materials. Importantly, its application extends beyond batteries to other automotive components such as lightweight materials, conductive additives, and brake systems.

SECOND-LIFE

2:45 Retirement Planning for Electric-Vehicle Batteries: Why Lithium-Iron-Phosphate Batteries Have Greater Second-Life Potential than Nickel-Cobalt Batteries

Anna Cobb, PhD Candidate, Engineering & Public Policy, Carnegie Mellon University

In this work, we assess the technoeconomics of repurposing electric vehicle batteries for use in second-life battery energy storage systems and compare the economics of second life to recycling. We find that second life is economically favorable to recycling for LFP batteries, but that recycling is favorable to second life for NCA batteries. For NMC batteries, the battery's first life, second-life application, and other factors determine the economically optimal pathway.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

Lithium-ion Battery Development & Commercialization

Bridging the Gap between Benchtop Research and Industrial Development

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

TRANSFORMING BENCHTOP RESEARCH TO COMMERCIAL SUCCESS

1:50 Chairperson's Remarks
Toby Bond, PhD, Senior Scientist, Industrial Science Division, Canadian Light Source

1:55 High-Energy, Transition-Metal-Free Batteries Enabled by a Layered Organic Cathode
Harish Banda, PhD, CEO, Daqus Energy Inc.

Inorganic cathodes face challenges of cost, supply risk, and environmental impact, underscoring the need for new chemistries. This talk introduces TAQ-a crystalline, all-organic cathode material that eliminates reliance on critical metals while delivering high energy density, long cycle life, and safety across multiple metal-ion systems. The presentation will also outline Daqus Energy's efforts to commercialize this next-generation battery technology.

2:25 Commercializing Lithium-Metal Battery Technology for Electric-Vehicle Applications
Matthew Genovese, Director, Full Cell Development, QuantumScape

The next generation of energy storage is being driven by breakthrough solid-state battery technology that overcomes the fundamental limitations of conventional lithium-ion batteries, enabling longer range, faster charging, and enhanced safety through advanced ceramic separator technology. The current challenge facing those developing this technology is commercialization at a global scale to meet the massive global battery demand. This presentation addresses the unique commercialization strategies to bring this technology to market.

2:55 Advancing Quality Control and Lifetime Prediction with Ultra-High Precision Coulometry NOVONIX
Stephen Glazier, Director of Cell Technology, NOVONIX

Traditional cell testing equipment cannot capture subtle, critical, differences in electrochemistry and cell quality which slows the progress of battery development and manufacturing scale-up, leading to long development and qualification timelines and high scrap rates. Ultra-High Precision Coulometry (UHPC) resolves differences sub-ppm levels, enabling earlier insights and more reliable data. This talk presents real experiments and large-scale case studies demonstrating the value of UHPC in lifetime prediction and manufacturing quality control.

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

3:55 Breaking Limits in Solid-State: Scalable Micro-Batteries for the Next Generation of Electronics
Nojan Aliahmad, PhD, Manager, Battery Technology, Ensurge Micropower

Ensurge Micropower is advancing high volumetric energy density (VED) anodeless all-solid-state lithium micro-batteries built on ultra-thin stainless steel foil, delivering compact form factors, rapid charging, and high pulse discharge for wearables, hearables, and IoT applications. These SMT-compatible micro-batteries leverage unique packaging and stacking technology. This work highlights progress from research to manufacturing through innovations in materials engineering, roll-to-roll processing, and multilayer stacking for reliable, high-performance production.

4:25 How to Prevent Cathode Microcracking: Advanced X-Ray Studies of Polycrystalline vs. Single-Crystal NMC after Years of Cycling
Toby Bond, PhD, Senior Scientist, Industrial Science Division, Canadian Light Source

Cathode microcracking is a significant problem, especially for Ni-rich NMC and NCA that are commonly used in automotive cells. We need ways to assess the effectiveness of strategies that prevent microcracking—ideally using non-destructive methods. In this work, we use *in-situ* x-ray imaging and diffraction to characterize how microcracking affects the microstructure and function of commercial cells that have been cycled for years.

4:55 PANEL DISCUSSION: We Have to Do the Work: Fostering Battery Innovation *and* Execution
Moderator: Celina Mikolajczak, Advisor to the Battery Industry

The battery industry is experiencing supercharged growth despite shifting political and funding dynamics. This panel of experts examines our industry's future addressing emerging electrochemistries, growth prospects, key challenges, and achievable milestones for the near and long term.Join this panel of experts as they explore:

- What are the next steps?
- Where is the funding?
- Why collaboration is critical?

Panelists:

Mei Cai, PhD, Senior Director, Battery Engineering, Fluence

Paige Johnson, Founder & CEO, Ten-Nine Technologies LLC

Johanna Nelson Weker, PhD, Lead Scientist, SLAC National Accelerator Laboratory

Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

PURPOSE-DRIVEN ELECTROCHEMISTRY: FROM LAB TO MARKET

8:25 Chairperson's Remarks
Jay Whitacre, PhD, CEO/CTO, Stratus Materials; Full Professor, Materials Science and Engineering, Carnegie Mellon University

8:30 Recent Advances in Degradation Mechanism Research and Sample Development for All-Solid-State Batteries maxell Within, the Future
Genyo Kaneko, Chief Engineer, Energy Products OEM Battery Group, Maxell Corporation of America

Maxell is advancing the development and commercialization of all-solid-state batteries, with emphasis on high safety, reliable performance, and wide operating temperature ranges. Through continuous technological

innovation, Maxell has established a strong presence in the competitive solid-state battery field. This talk presents recent findings on degradation mechanisms and introduces newly released all-solid-state batteries samples, representing a meaningful step toward practical deployment.

9:00 Nanocomposite Electrolyte and Cathode Development for All-Solid-State Lithium Battery Applications

Yuepeng Zhang, PhD, Group Leader, Nanocomposite Materials and Membrane Manufacturing, Argonne National Laboratory

Progress in all-solid-state lithium batteries (ASSBs) is constrained by the challenge of developing high-energy-density cathodes and solid electrolytes (SEs) that are both highly conductive and electrochemically stable against lithium metal anodes and high-voltage cathodes. We report the synthesis of ceramic–polymer composite SEs with high ionic conductivity using industrially compatible roll-to-roll manufacturing and rapid photonic processing. Integration with composite cathodes and the resulting cell performance will be presented.

9:00 Coffee Break in the Exhibit Hall

9:30 Presentation to be Announced

Coreshell

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

10:45 Commercializing Future-Generation Lithium Batteries with Molecule-Engineered Liquid Electrolytes

Zhiao Yu, PhD, CTO, Feon Energy Inc.

Future-generation lithium batteries are expected to conquer multiple frontiers, including increased energy density, faster charging, greater safety, and lower cost. While several new active materials continue to achieve higher levels of technology maturity and readiness, there are no commercially available electrolytes that are tailored for these systems. Feon pioneers a novel pharma-inspired approach to developing and tailoring new molecules and electrolyte formulations to unlock breakthrough performances.

11:15 High-Energy Density, Co-Free LMR Batteries with over 1000 Cycles

Jay Whitacre, PhD, CEO/CTO, Stratus Materials; Full Professor, Materials Science and Engineering, Carnegie Mellon University

LMR cathode active materials historically exhibit persistent voltage and capacity fade, and typically require tailored electrolytes that are functional at high potentials. Stratus Materials has developed a scaled a low-cost processing route that locks in an exceptionally stable entropic crystallographic state in cobalt-free LXMO. Data will be disclosed that shows LXMO-based large-format cells (20Ah and larger) can have energies of over 700 Wh/l, and cycle-life stability of over 2000 cycles.

11:45 Silicon in Action: Silicon-Dominant Cells in Consumer Electronics and Drone Applications

E MAGY on with silicon

Marco Spreafico, Head of Product, Product, E magy

The demand for high-energy-density lithium-ion batteries in portable electronics and electric aviation has spurred the development of silicon-dominant anode technology, offering up to 10 times the capacity of graphite. This presentation discusses how these anodes improve volumetric and gravimetric energy density in weight-sensitive and space-limited applications. We will present performance data from ongoing projects, including cycle life, rate capability, and energy density results from prototype cells for consumer electronics and drones, highlighting the path toward commercial adoption.

12:15 pm Enjoy Lunch on Your Own

ADVANCING TECHNOLOGICAL PROCESSES FOR MANUFACTURING

1:10 Chairperson's Remarks

Darren Tan, PhD, CEO, UNIGRID Battery

1:15 Technological Progress in Lithium-Metal Anode Manufacturing via Low-Cost Rolling Process

Changkeun Back, PhD, CEO, NEBA Corporation

Ultra-thin lithium metal foils are essential for achieving high-energy density in lithium rechargeable batteries. However, current manufacturing methods are hindered by high cost and low productivity, resulting in an expensive and limited supply chain. The processing technology using a conventional rolling process has been considerably developed, and we will discuss it as a viable path for low-cost commercial production.

1:45 Quantitative Understanding of Moisture Stability in Sulfide Solid Electrolytes for Scalable Manufacturing

Chengcheng Fang, PhD, Assistant Professor, Chemical Engineering & Materials Science, University of Michigan

Sulfide solid-state electrolytes offer high ionic conductivity but are considered moisture-sensitive, hindering scalable processing. Using Na3PS4 (NPS) as a model, we developed a controlled-humidity glovebox (1–50% RH) to quantify moisture tolerance, and found NPS maintains recoverable conductivity and stable cycling below a surprisingly high critical humidity threshold. These results define a practical process window and provide guidelines for cost-effective manufacturing of high-performance solid-state batteries beyond ultra-dry conditions.

2:15 Novel Low-Cost Silicon Anodes Ready for Commercialization in EV Application

Marcel Neubert, PhD, Co-Founder & CTO, NorcSi GmbH

A purely physical roll-to-roll process enables scalable fabrication of stable silicon anodes for lithium-ion batteries. Through direct silicon deposition and ultra-short, high-intensity flashing, low-grade silicon is transformed into a defect-engineered, locally passivated structure. These semiconductor-derived effects stabilize the silicon network, mitigating mechanical and chemical degradation during cycling. The result is a cost-efficient, durable anode concept that bridges semiconductor material control with industrial battery manufacturing for next-generation high-energy-density cells.

2:45 From Glovebox to Roll-to-Roll: Scaling All-Solid-State Lithium-Metal Batteries

William Fitzhugh, PhD, Co-Founder & CEO, Adden Energy

All-solid-state lithium-metal batteries promise step-change improvements in energy density, but scalable manufacturing of lithium-metal anodes has remained a key bottleneck. This talk traces the transition from glovebox-based prototyping to roll-to-roll production, highlighting advances in lithium-anode handling, assembly, and integration under dry-room conditions. These innovations enable high-throughput production of lithium-metal batteries using processes increasingly compatible with existing lithium-ion manufacturing lines.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

High-Performance Battery Manufacturing

Global Production of Safe, Efficient, Higher Energy Density Batteries

MONDAY, MARCH 23

7:00 am Registration Open and Morning Coffee

4:45 pm Close of Day

TUESDAY, MARCH 24

7:00 am Registration Open and Morning Coffee

8:05 Organizer's Remarks
Craig Wohlers, General Manager, Cambridge EnerTech

ADVANCES IN CELL MANUFACTURING

8:10 Chairperson's Remarks
Rory McNulty, Senior Technology & Market Analyst, Anaphite

8:15 Talk Title to be Announced
Brendan Skelly, Technical Sales Manager at EGI Battery

8:45 Dispersion & Milling for Energy Storage Development & Manufacturing
Jonathan Bain, Business Line Manager, BYK Gardner
Highly efficient dissolvers, bead mills, and basket mills are designed for the challenges of battery slurry development. In this presentation, we'll review the milling and dispersing requirements, processes, and best practices. High-performance dispersing and milling equipment are required for optimum performance of battery slurries.

9:15 Safety of Solid-State Batteries (SSB) and Batteries (LSB), the Mechanisms and the Role of Separators
John Zhang, PhD, CTO/CSO, Polypore International
This presentation will address the safety behavior and underlying mechanisms of SSBs, with direct comparison to liquid-state batteries (LSBs). Testing results show that, during internal shorts in high-energy systems, the severity of fire and explosion follows the order: SSB > LSB. The data indicate a counterintuitive trend — the greater the liquid content in the battery, the safer its behavior under abuse conditions.

9:45 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

10:30 Presentation to be Announced

11:00 Toward a Standardized Protocol for Lithium-Metal Quality Assessment in Batteries
Wurigumula Bao, PhD, Project Scientist, PME, University of Chicago
Lithium-metal battery performance is closely tied to lithium-foil quality, yet no industry-wide standards exist to evaluate or compare it. We present a unified assessment framework that integrates structural, chemical, and electrochemical analyses to link lithium-metal properties with cycling behavior. Benchmarking foils from multiple suppliers highlights the key factors governing anode performance and provides practical metrology to ensure consistent, high-quality lithium-metal supply for next-generation batteries.

11:20 Scaling AM Batteries' Powder to Electrode Dry Coating Technology
Hieu Duong, PhD, Chief Manufacturing Officer, AM Batteries
Current battery electrode manufacturing is complex, expensive, and dirty. This presentation will highlight the industrialization progress of AMB's Powder to Electrode dry coating technology and how it will deliver performance benefits and superior economics. This session is particularly relevant for OEMs, battery manufacturers, investors, and newcomers in the battery ecosystem, and all those seeking to establish or scale battery production while reducing costs and environmental impact.

11:40 Sponsored Presentation *(Opportunity Available)*

12:00 pm Presentation to be Announced

12:30 Networking Luncheon

1:15 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

ADVANCES IN CELL MANUFACTURING

1:45 Chairperson's Remarks
Jonathan Bain, Business Line Manager, BYK Gardner

1:50 Presentation to be Announced

2:20 The History and the Resurgence of LFP
Joseph Fisher, President, JCF International
This presentation, will explore the foundational R&D breakthroughs and patent disputes that shaped LFP development. In addition, understanding how China has emerged as the global leader and why LFP is experiencing a strategic resurgence, will be presented. Also, attendees will gain insights into the evolving role of LFP and it's potential across future applications.

2:50 Cutting Cost and CO_2 in BEV Batteries with Dry Coating
Rory McNulty, Senior Technology & Market Analyst, Anaphite
To meet global demand for low-cost BEVs, battery manufacturing must change. Conventional wet coating electrode production is capital and energy intensive, and costly. Dry battery electrode production techniques can reduce cell production costs by up to 40%, however, performance and scalability are hindered by cumbersome dry mixing. Anaphite's DCP technology solves these difficulties, creating flowable, homogeneous composite electrode powders with engineered particle interactions, enabling improved coating speeds and cell yields.

3:20 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

PLENARY KEYNOTE

3:50 Shep Wolsky Battery Innovator of the Year Award Presentation and Chairperson's Remarks
Craig Wohlers, General Manager, Cambridge EnerTech

3:55 LFP Cells Are Boring—Why Should I Care?
Jeff Dahn, FRSC, PhD, Professor of Physics and Atmospheric Science & NSERC/Tesla Canada Industrial Research Chair, Dalhousie University
LFP Li-ion cells are now the most common cells in energy-storage products and EVs. They are inexpensive and since they are relatively safe, they can be made in large-Ah-capacity cells, reducing cost and complexity in battery modules and packs. I will explain how to make LFP cells exciting, including strategies to dramatically increase their energy density.

4:15 Delivering Advanced Battery Technologies for EV Range and Value
George Cintra, Director, Battery R&D, General Motors
General Motors is building an electrification powerhouse, having launched a dozen EVs into the market, ranging from the Equinox EV to the Cadillac Escalade IQ. General Motors is pioneering next-generation battery and manufacturing technologies, such as prismatic cells with LMR cathodes. Mr. Cintra will provide an update on GM's battery research & development activities and innovations to deliver longer range, lower costs, and faster-charging batteries for EV customers.

4:35 Today's EV Reality and the Path Forward
Tim DeBastos, Managing Director, North American Battery Development, LG Energy Solution
LG Energy Solution is the leading lithium-ion battery manufacturer, working with the top OEMs globally in transforming the automobile industry. The market for EVs is expanding rapidly, driven by both consumer demand and regulatory incentives. In North America, there are unprecedented levels of investment to support EVs, by both OEMs and battery manufacturers. This presentation will discuss market growth projections, announced expansion plans, and the challenges ahead.

4:55 Panasonic Energy: Driving Battery Technology Innovation for Sustainable Growth
Masato Fujikawa, Director, Energy R&D Center, Panasonic Energy Co., Ltd.
Panasonic Energy has been at the forefront of battery technology development, driving the growth of BEVs and AI. To meet increasing market demand, we are expanding our production capacity in North America and strengthening strategic partnerships. These initiatives will contribute both to the realization of a sustainable society and to our business growth. This presentation will highlight the innovative activities within our battery business from a technological perspective.

5:15 First Steps for Blue Solutions' Solid-State Batteries: From Applications to End-of-Life Management
Richard Bouveret, CEO & Chairman, Blue Solutions, Bolloré Group
Solid-state batteries have been in development for decades. Blue Solutions' gen4 polymer lithium-metal SSB is transitioning from lab cells to real-world applications. The company has developed a demonstrator electric two-wheeler, surpassing Li-ion battery performance. The presentation will cover lessons learned and the overall development strategy focused on three pillars: safety, sustainability, and smart technology, including an innovative recycling process that recovers 90% of the metallic lithium from Blue Solutions' cells.

5:35 Reception in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

6:35 Close of Day

WEDNESDAY, MARCH 25

7:30 am Registration Open and Morning Coffee

ADVANCES IN CELL MANUFACTURING

7:55 Chairperson's Remarks
Joseph Fisher, President, JCF International

8:00 Presentation to be Announced lumafield

8:30 The Path Forward to Cost Reduction in Manufacturing
Sam Jaffe, Principal, 1019 Technologies
This talk will review the different stages (electrode manufacturing, cell assembly, and cell formation) and steps (up to nineteen, ranging from mixing to coating to calendaring to electrolyte filling and OCV testing) and will explore approaches to reducing both capex and opex costs in each.

9:00 Introducing the OpenCell Project
Adrian Yao, Founder & Team Lead, STEER, Stanford University
Stanford's STEER is launching a new platform called the OpenCell Project, aimed at scaling up commercial benchmarking efforts in a decentralized manner to better inform state-of-the-art innovation trends. At the heart of OpenCell is a new, snappy cell design tool capable of designing commercially relevant form factors using half-cell curves, but the true power of OpenCell comes from the database of digital twins. Both will be demoed in this talk.

9:30 Battery Projects—Strategies for (Profitable) Success HATCH
Mark Bellino, Global Director, Battery Materials and Cells, Hatch Ltd.
In this presentation, Hatch reviews various strategies to setup an investment for a greater chance of success. Building on Hatch's 2025 presentation theme, which reviewed the various challenges and solutions faced during project delivery in the Battery Space. This presentation focuses on achieving profitable operation and addresses the project cash flow.

10:00 IonPort Fiber-Based Separators for Secondary Batteries & Solid-State—The Hidden Key to Today's & Tomorrow's Battery Breakthroughs delfort
Alexander Onz, Technical Program Manager IonPort Separators, Delfort
Sometimes underestimated but essential, Delfort's IonPort separators set new standards in efficient cell manufacturing and performance. With exceptional wettability, unmatched thermal stability, and precisely engineered pore structures, IonPort boosts charge/discharge rates, extends battery life, and ensures safety at a competitive price. Suitable for LIB, SIB, AZIB, and solid-state batteries, including the IonPort NX series for polymer, sulfide, and oxide electrolytes. These solutions enable efficient electrolyte film formation while minimizing resistance, setting new standards in performance.
Follow us on Wednesday 10 AM or visit our booth 935 for more insights!

10:15 Coffee Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

GLOBAL MARKET OPPORTUNITIES IN BATTERY MANUFACTURING

11:05 PANEL DISCUSSION: Dry Battery Electrode (DBE) Manufacturing is Inevitable: Adopt or Fall Behind
Moderator: Lie Shi, CEO, AM Batteries
This panel will explore the latest advances, anticipated future, and overriding advantages of DBE that make industry-wide adoption an inevitability. This panel will ground the discussion in both technology and

market realities and cognizant of macroeconomic and geopolitical trends.

Panelists:

Bonne Eggleston, PhD, Senior Director, Tesla

Ramin Amin-Sanayei, PhD, Senior Principal Scientist, Battery Group, Arkema

12:05 pm **Presentation to be Announced**

12:35 **Interactive Roundtables and Networking Luncheon** *(Sponsorship Opportunity Available)*

1:20 **Dessert Break in the Exhibit Hall with Poster Viewing** *(Sponsorship Opportunity Available)*

1:50 **Close of Conference Track**

Global Supply Chain for Battery Raw Materials

Balancing Supply, Demand, and Costs for Battery Materials

MONDAY, MARCH 23

7:00 am Registration Open and Morning Coffee

4:45 pm Close of Day

TUESDAY, MARCH 24

7:00 am Registration Open and Morning Coffee

8:05 Organizer's Remarks
Craig Wohlers, General Manager, Cambridge EnerTech

MARKET DEMAND FOR BATTERY RAW MATERIALS

8:10 Chairperson's Remarks
Irene Berry, Director, Data Science, Albemarle

8:15 Progress Toward Solving North America's Graphite Anode Materials Supply Shortage.
Shaun Verner, Managing Director & CEO, Syrah Resources Ltd.
After a decade of commitment and perseverance, Syrah has delivered the first US based mass production facility for EV Lithium-ion Battery materials. The group continues to deliver on its vertical integration strategy, leveraging the Balama Graphite Operation in Mozambique—the world's largest natural flake graphite deposit and production facility. In the session, we provide updates on trade-flow dynamics, policy, market conditions, and Syrah's role supporting diversification.

8:45 Design-to-Cost Mn-Rich Cathode Active Materials for Mass-Market EVs
Rohan Gokhale, PhD, Applied Technology Manager, Umicore Rechargeable Battery Materials
This presentation will provide an overview of the development of sustainable layered Mn-rich cathodes (HLM) materials for the high-performance and low-cost segment of the electric vehicle market.

9:15 Australia as an Energy Storage Powerhouse
Adam Best, Principal Research Scientist, CSIRO Manufacturing
We will describe the increasing challenge of discovering and processing primary mineral supplies, and the importance of secondary resources. Lastly, we will demonstrate Australia's capability to operate the world's longest (transmission) network with 100% renewable energy as a proposed renewable energy powerhouse.

9:45 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

10:30 FEATURED PRESENTATION: The Impact of Lithium Salts on the Performance of Cathodes and Solid Electrolytes
Job Rijssenbeek, PhD, Vice President of R&D, Energy Storage, Albemarle
The performance of lithium-based batteries is critically influenced by the lithium salts starting materials. Their nature and characteristics (such as particle size, morphology, impurities, etc.) have significant impacts down the value chain – from cathode manufacturability and solid electrolyte conductivity, to cell performance and cost. Although frequently overlooked, innovations in lithium salts are expected to contribute significantly to the continued evolution of lithium batteries and the diversification of supply chains.

11:00 FEATURED PRESENTATION: Lithium Developments, Carbon Accounting, and Outlook to 2040
Roland Chavasse, Secretary General & Co-Founder, International Lithium Association
The presentation by the International Lithium Association (ILiA) will explore challenges and potential solutions to some of the key global issues in the lithium industry, including efforts to coordinate carbon and water footprinting techniques and regionalization and friendshoring in the value chain. In addition, the role of the ISO in the lithium industry and the risks posed by misinformation will be discussed.

11:30 FEATURED PRESENTATION: Commercializing the Lithium Metal Battery and Reinventing the US Supply Chain
Emilie Bodoin, Founder & CEO, Pure Lithium
Pure Lithium is a Chicago based lithium metal battery company pioneering a vertically integrated Brine-to-Battery process that combines lithium extraction and anode production. Winner of the 2025 ACS Green Chemistry Challenge, their Gen 1 technology pairs lithium metal with LFP, delivering and unprecedented 5,500 cycles, while a Gen 2 vanadium chemistry delivers 400+ Wh/kg. PL is scaling U.S. production without graphite, nickel, or cobalt; eliminating reliance on China.

12:00 pm Charge Fast, High Energy Density: Zwitterion-driven SEI and Thick-Electrode Wetting in LFP Batteries
Chong Mao, Dean of Research Institute, R&D, Zhuhai Smoothway Electronic Materials Co., Ltd.
Super-fast charging and thick-electrode design are often coupled constraints in LFP batteries. This talk presents a two-part chemistry–architecture strategy for LFP||graphite cells. Part I introduces a zwitterionic electrolyte additive that reshapes Li^+ solvation toward anion-driven polar SEI. The resulting interphase lowers desolvation energy of Li^+ and charge-transfer barriers, mitigates lithium-plating risk and enables 6C fast charging. Part II presents a novel electrolyte wetting inducer incorporated into the LFP cathode that establishes electrolyte diffusion channels, increases electrolyte wetting ability, shortens wetting time, and unlocks the performance of dense and thick LFP electrodes.

12:30 Networking Luncheon

1:15 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

MARKET DEMAND FOR BATTERY RAW MATERIALS

1:45 Chairperson's Remarks
Brian Barnett, PhD, CTO, Nyobolt

1:50 FIRESIDE CHAT: Developments in the Lithium-ion Battery Industry from the Lithium Chemicals' Perspective
Ashish Patki, Director, Market Intelligence, Rio Tinto
Various demand drivers for lithium-ion batteries have shown peculiar trends. To look forward, the lithium-ion battery supply chain should look back at these trends, particularly the breadth of applications on the one hand, and the variables impacting supply of lithium chemicals on the other hand.

Interviewed By:
Brian Barnett, PhD, CTO, Nyobolt

GLOBAL PERSPECTIVES ON BATTERY RAW MATERIALS SUPPLY

2:20 The Implications of Tariffs on the North American Battery Supply Chain
Kimberly Berman, Independent Consultant, Pivot Research
The high dependency on China and Chinese companies for key material inputs, especially in today's geopolitical environment, will continue to constrain EV adoption in the US market regardless of chemistry. Critical minerals policy won't remedy this situation as abnormal supply conditions continue to depress commodity prices and increase production risk. This talk will tie the headlines to the challenges currently plaguing battery supply chains.

2:50 The Unintended Consequences of AI and it's Massive Impact on the Battery Value Stream
Ken Hoffman, Founder & CEO, Traubenbach
The world has gone nuts over AI. Trillions are being spent as quickly as possible to build out AI infrastructure. The downside is that AI, in addition to cryptocurrencies, consumes massive amounts of power, destabilizing the grid. Already, we have seen in the Iberian Peninsula widespread blackouts early in 2025 due to AI, and more such catastrophic events are likely to occur. The answer is batteries, and we will discuss.

3:20 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

PLENARY KEYNOTE

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Craig Wohlers, General Manager, Cambridge EnerTech

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5:35 Reception in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

6:35 Close of Day

WEDNESDAY, MARCH 25

7:30 am Registration Open and Morning Coffee

GLOBAL PERSPECTIVES ON BATTERY RAW MATERIALS SUPPLY

7:55 Chairperson's Remarks
Rohan Gokhale, PhD, Applied Technology Manager, Umicore Rechargeable Battery Materials

8:00 Sponsored Presentation *(Opportunity Available)*

8:30 Electric Vehicle Battery Supply Chain and Carbon Footprint Implications
Michael Wang, PhD, Group Center Director & Distinguished Fellow, Systems Assessment Center, Argonne National Laboratory
Critical minerals, materials, and components of electric vehicle batteries are produced in different global regions and shipped to EV applications in different countries. The global nature of the EV battery supply chain affects the carbon intensities, as well as the economics, of batteries. Argonne National Laboratory has been simulating global battery production with its R&D GREET model. This presentation will cover

variations in the carbon intensities of the global battery supply chain.

9:00 Lithium Ecosystem Evolution: Data-Driven Mine-to-Market Insights

Irene Berry, Director, Data Science, Albemarle

Lithium-ion batteries—and the lithium in them—are key enablers of decarbonization. As demand for lithium continues to rapidly grow and evolve with the electric vehicle and stationary storage markets, the lithium market must respond. We will present our data-driven methodology for tracking these demand dynamics across existing—and emerging—battery technologies and the corresponding response from the lithium market over the next decade.

9:30 AEROXIDE Fumed Metal Oxides for Improved Battery Performance

Victor Lifton, Tech Dir, Tech Market, Evonik Industries AG

The presentation will focus on the most recent developments in the area of fumed metal oxides to increase the performance, life-time, and safety of the Li-ion battery. We will expand on the concept of CAM dry coating using special additives presented last year and focus on the performance improvements of the LFP cathode material by doping with fumed titania additive.

9:45 Presentation to be Announced

10:00 Sponsored Presentation *(Opportunity Available)*

10:15 Coffee Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

11:05 Lithium Industry in Europe, the US, and Canada: Mining and Refining Landscape

Lukasz Bednarski, Principal Analyst, S&P Global

In recent years, Europe and the United States have prioritized independence in critical minerals supply chains, especially for batteries and electric vehicles. This emphasis on developing raw and refined lithium supplies is vital to governmental agendas. Our discussion will highlight the complexities outlined in our report and present forecasts for these regions.

11:35 Graphite and Anode Materials Supply Risks and Mitigation Paths

Urvi Mehta, Senior Research Associate, Energy Storage, Lux Research

Graphite remains the at-risk anode material due to several factors: its disproportionate dependence on Chinese supply, increasing regulatory pressures related to environmental sustainability, and escalating demand from the EV sector, all of which contribute to heightened price volatility and supply chain vulnerabilities. This presentation assesses the exposure levels between natural and synthetic graphite, examines the implications of recent policies, and discusses alternative anode chemistries, such as a silicon-doped anode material.

12:05 pm Sponsored Presentation *(Opportunity Available)*

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

1:50 Close of Conference Track

Global Battery Manufacturing Production

Maximizing Production Efficiency & Quality to Deliver on Global Demand

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

SCALING GLOBAL BATTERY PRODUCTION

1:50 Chairperson's Remarks
Alejandro Franco, PhD, Professor, Reactivity & Chemistry of Solids Lab, University of Picardie Jules Verne

1:55 KEYNOTE PRESENTATION: Reducing the Cost of Batteries by Properly Apportioning the Risk of Failure
Celina Mikolajczak, Advisor to the Battery Industry
When considering the cost of batteries, we seldom consider the costs associated with warranty failures, particularly those related to thermal runaway failures that have driven major recalls. Economic analysis and review of available technology indicates that it should be possible to drop total battery pack costs, and vehicle total cost of ownership, by apportioning the responsibility for preventing thermal runaway between cell maker and OEM.

2:25 Key Success Factors for Efficiently Scaling-Up Battery Manufacturing
Hailong Ning, PhD, Co-Founder & CEO, VTA Technology
The talk explores essential strategies for scaling battery manufacturing effectively, highlighting innovations in technology, supply chain optimization, workforce development, and sustainable practices.

2:55 1. Integrated Thermal Processing and Analytical Solutions for Next-Generation Battery Anodes
Speaker to be Announced, Verder Scientific Inc
Vacuum and continuous furnace systems are essential for the pyrolysis and graphitization of battery anode materials. This presentation explores high-temperature graphite vacuum chamber furnaces, hot-walled retort furnaces, and continuous thermal processing solutions for advanced material treatment. Analytical techniques for precise characterization of particle size, morphology, and surface area will be discussed, as these parameters critically influence electrode performance and cycle life.

3:10 Presentation to be Announced

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

3:55 Battery Report 2025: A Bird's-Eye View of Battery Manufacturing
Michael Liu, Director, Research & Insights, Volta Foundation
We will walk through the most consequential developments shaping the global manufacturing landscape- from commissioning milestones and capacity swings to the emergence of new regional hubs. The session will highlight the technologies making meaningful progress in deployment, including advances in LFP manufacturing optimization, dry-electrode scaling, and early semi-solid-state production line activity.

4:15 BATT Coalition Advocacy for a Robust Domestic Battery Materials Supply Chain
David Howell, Vice President, Strategic Marketing Innovations (SMI)
The Battery Advocacy for Technology and Transformation (BATT) Coalition is a voice for the US battery materials manufacturers working to grow the upstream materials supply from extraction, synthesis, and processing. BATT advocates for legislative and federal policy that will promote market incentives and trade policies to support industry growth. This presentation will highlight the Federal policy landscape and Administration actions that support coalition objectives and the gaps that remain.

4:35 Impacts of AI on the Battery Industry—How Can AI Revolutionize Battery Development and Industrialization?
Ines Miller, Associate Partner, Battery Technology, P3 Group
AI is transforming our daily work and the battery industry is no exception. In R&D, it can predict new materials and combinations and can also optimize cell and battery designs. In production, it can drive efficiency through predictive maintenance and real-time control. Vertical integration will be key to success, providing end-to-end data access and ownership.

4:55 Analysis of Manufacturing Technology Progress of Chinese xEV Batteries in 2026
Mark Lu, PhD, Senior Industrial Analyst, Industrial Economics & Knowledge Center, Industrial Technology Research Institute
Chinese xEV battery manufacturing technology has developed special battery production technologies for solid-state batteries, new materials, and fast-charging batteries for the targets of reducing costs and energy consumption. Solid-state battery production has gradually derived from thermal composite and *in situ* solidification, as well as active-material composite solid-state electrolyte technologies. Fast-charging batteries put more effort to lamination accuracy, speed, and multi-tab design. This report will briefly analyze the latest developments.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

INNOVATION IN R&D FOR MANUFACTURING

8:25 Chairperson's Remarks
Ines Miller, Associate Partner, Battery Technology, P3 Group

8:30 Coperion—Your Battery Process Partner for Powder and Continuous Dry Electrode Processing
Nick Giefer, GM, Battery, Coperion
Key Topics: dry battery electrode, active materials, pilot and gigafactory scale, weighing & mixing with extrusion. Coperion offers an extensive range of products, allowing us to provide equipment and system solutions for various stages of battery manufacturing. Solutions trailered to meet client-specific needs through years of experience and expertise and with test centers to prove it. In this presentation, Coperion will illustrate many of the dry battery electrode process solutions with important technologies such as: feeding, conveying, mixing, milling, dust collection, extrusion and thermal/drying, ensuring efficient production in the battery processes.

9:00 Improvement of Quality and Productivity through Equipment Approach in Battery Manufacturing

Naoki Tomimoto, Manager, Sales & Marketing, Kanematsu USA Inc.

Kanematsu KGK Corporation, a Japan-based trading company specializing in battery manufacturing equipment, provides integrated solutions that cover the entire battery production process. Through collaboration with Japan's leading equipment manufacturers, Kanematsu KGK offers unique function for battery production lines. Among the many excellent facilities available, for today I would like to introduce high-precision homogenizer system that enable uniform slurry preparation and process stability, battery performance improvement by electrode surface treatment system and sophisticated rolling mill that enables improved productivity of dry electrodes.

9:00 Coffee Break in the Exhibit Hall

9:30 Presentation to be Announced by DF Intelligent

9:45 Dry Coating of High Performance Lithium Ion Batteries

Speaker to be Announced, Anaphite

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

10:45 Beyond the Pack: Scaling Battery Manufacturing for Resilience, Innovation, and Circularity

John Warner, PhD, Chief Customer Officer, American Battery Solutions

This presentation explores how battery pack manufacturing is evolving to meet the demands of resilience, innovation, and circularity. Dr. John Warner examines supply chain localization, advances in automation and AI, and the integration of sustainable practices such as recycling and second-life applications. Attendees will gain insights into strategies for building flexible, future-proof manufacturing ecosystems, navigating policy changes, and driving industry collaboration to support the global transition to electrified transportation.

11:05 From Academic Battery Manufacturing Modeling to Industrial Impact: Introducing the Startup Aikemics

Alejandro Franco, PhD, Professor, Reactivity & Chemistry of Solids Lab, University of Picardie Jules Verne

Building on 12 years of academic research, I will introduce Aikemics, a startup that develops predictive computational models for battery manufacturing. Our software integrates physics-based simulations and hybrid AI to assist decision-making from electrode to full-cell assembly. This lecture highlights our unique approach and the transition from academic pilot-line validation to providing scalable industrial solutions.

11:25 Next Generation of Advanced Wet Electrode Slurry Processing

Kai Baer, PhD, Managing Director & President, adphos Innovative Technologies GmbH

BearLITE-processing is patented wet slurry drying technology which enables defined, inline controlled processing within seconds, up to 90% energy reduction, and is CO2-free and a fraction of today's convection dryer investment costs.

11:45 Sponsored Presentation *(Opportunity Available)*

12:15 pm Enjoy Lunch on Your Own

SCALING BATTERY MANUFACTURING

1:10 Chairperson's Remarks

Kai Baer, PhD, Managing Director & President, adphos Innovative Technologies GmbH

1:15 University Pilot Lines: Where Battery Ideas Become Scalable, Market-Ready Technologies

Greg Less, PhD, Director, University of Michigan Battery Lab, University of Michigan

William Mustain, PhD, Director, Carolina Institute for Battery Innovation, University of South Carolina

University-operated pilot lines can be key partners in bridging the gap between research and manufacturing—helping companies to scale battery innovations from concept to commercial viability, and supporting validation for OEMs, tier-ones, and agencies. In 2025, UM opened an expanded facility and USC will be fully operational in 2026. This talk will focus on existing and future capabilities, including formats, chemistries, etc.

1:45 Visualizing and Contextualizing Data to Rapidly Assess Process Adjustments for Battery Manufacturing and Material Refining

Stephanie Van Kirk, Industry Leader, Battery, Rockwell Automation

This talk presents data visualization and contextualization tools that enable rapid assessment of process changes in battery manufacturing and material refining.

2:15 Beyond Gigafactories: Unlocking Value in Niche and Performance Cell Programs

James Hoxey, Director, Monkscroft Advisory, Ltd.

The battery industry has been fixated on gigafactories, but high-value applications in aerospace, defence, and performance automotive require a different approach. This talk will show how niche programs not only deliver solutions where scale players cannot, but also act as innovation engines and sovereign supply proof points that shape the wider industry.

BRIDGING THE TALENT GAP

2:45 At a Crossroads: Building the Battery Workforce for the Future

Matt Anders, Founder & Lead Recruiter, VoltForce

The US battery industry is at a crossroads. Recent closures and delays show that capital alone isn't enough—people are the true bottleneck. This session explores current workforce realities, why talent remains the biggest challenge, and what must change to ensure competitiveness. Attendees will gain a clear view of the skills, strategies, and priorities needed to build a sustainable US battery ecosystem.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

Advances in Automotive Battery Applications

Optimizing High-Performance Batteries for EVs

MONDAY, MARCH 23

7:00 am Registration Open and Morning Coffee

4:45 pm Close of Day

TUESDAY, MARCH 24

7:00 am Registration Open and Morning Coffee

8:05 Organizer's Remarks
Craig Wohlers, General Manager, Cambridge EnerTech

OEM APPLICATION-DRIVEN DEVELOPMENT

8:10 Chairperson's Remarks
Kevin Konecky, Vice President, Battery Systems Engineering, Spiro

8:15 Voltage-Based Degradation Behavior of NMC-Gr/SiO Cells for SOH-SOC Prediction and Operation Control
Bharat Gattu, Senior Researcher, Technology Planning & Research, Nissan Tech Center North America

SOC/SOH prediction is essential for optimizing the LIB usage and operation using onboard controls. However, with the advances and changes in cell material chemistry, the prediction models develop new issues due to additional phenomenon and reactions which evolve. NMC-Gr/SiO cells were tested at different voltage and SOC ranges and a degradation mapping was developed. Gradual degradation behavior and unusual degradation behavior studied using data analysis and cell internal resistance mapping.

8:45 In a Mission to Democratize Decarbonized Mobility: Critical Role of Battery Chemistry
Mohamed Taggougui, Expert Leader, Battery Cell, Ampere, part of the Renault Group

It is imperative to reduce the cost of the chemistry to make EV accessible to everyone in Europe. At Ampere, we have a plan to reduce the battery cost by 40%. In this talk I will share with you at high level what we are doing at Ampere, from a battery chemistry perspective, to reduce the cost of electric cars.

9:15 Solid-State Battery Commercialization: Status and Challenges
Alvaro Masias, Supervisor, Cell Technology Research, Ford Motor Company

Solid state batteries garner a large amount of attention as the future of next-generation battery chemistries and as a result it can be difficult to separate hype from reality in this important technology. This talk will discuss the status of solid state battery commercialization, important challenges remaining, and technology needs from an automotive OEM perspective.

9:45 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

10:30 Accelerating Battery Cell Innovation Through Conductive and Dielectric Coating Expertise
Janel Ruhlman, Senior Application Engineer, Battery Applications, Henkel - Madison Heights, MI

As electric vehicle (EV) demand evolves amid changing market dynamics, battery manufacturers are reimagining how to scale innovation efficiently and sustainably. Henkel's conductive and dielectric coating labs at its Global Center of Excellence in Madison Heights, Michigan, offer application expertise and advanced testing to support these goals. This session highlights how Henkel's coating technologies enhance conductivity, insulation, thermal management, reliability, and scalable manufacturability.

11:00 The Role of Structure in Advanced Battery Materials and Applications
Tobias Glossmann, Principal Systems Engineer, HV Battery Research and Test Lab, Mercedes-Benz Research and Development North America

As advanced materials enable more efficient applications, understanding their structure is paramount. However, the detailed structure of battery materials, for example, often remains unclear despite commercial success. This talk will address key issues related to electrolytes, interfaces, electrodes, and active materials. It will emphasize the need to leverage structural insights to achieve high performance at a lower cost.

11:30 Materials Progress and Needs for Advanced Battery Technologies
Rana Mohtadi, PhD, Senior Principal Scientist, Materials Research, Toyota Research Institute of North America

Solid-state electrolyte SSE materials hold the key to enabling highly efficient solid-state battery technologies. Thus, the demonstration of SSEs capable of meeting the performance metrics demanded is of paramount importance. Herein, we will provide an update related to progresses being made in the area of SSE material development.

12:00 pm USABC Battery Development Program Overview
Meng Jiang, PhD, Staff Researcher, R&D, General Motors Company

The United States Advanced Battery Consortium LLC (USABC), a subsidiary of USCAR, is a collaborative research organization comprised of technical personnel from Ford, General Motors, and Stellantis. USABC has been pursuing advanced energy storage technologies for electrified vehicles for over 30 years. This talk will highlight recent updates to USABC's long term battery development targets and provide an overview of expected upcoming funding opportunities for US-based battery suppliers.

12:30 Networking Luncheon

1:15 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

OEM APPLICATION-DRIVEN DEVELOPMENT

1:45 Chairperson's Remarks
Tobias Glossmann, Principal Systems Engineer, HV Battery Research and Test Lab, Mercedes-Benz Research and Development North America

1:50 FEATURED PRESENTATION: Beyond LFP for EV: Where We Might be Going
Oliver Gross, MASc, Senior Fellow—Electrified Energy Technology, Stellantis

Lithium iron phosphate (LFP) offers safety, longevity, and cost benefits for EV batteries, yet faces constraints in energy density, rate performance, and supply chain accessibility, currently compensated by use of Ni-dominant cathode chemistries. This talk presents low-cost strategies to enhance LFP for automotive use, including material and system-level innovations. It also explores emerging alternatives—lithium-sulfur (Li-S) and sodium-ion (Na-

ion)—that promise scalable, sustainable energy storage solutions for next-generation EV platforms.

ADVANCED BATTERY R&D FOR AUTOMOTIVE APPLICATIONS

2:20 Solid-State Batteries Unplugged: Mapping the Future and Tackling Today's Challenges
Varnika Agarwal, Research Analyst, Rho Motion
The battery market saw a deployment of around 1.7 TWh in 2025. Battery evolution is occurring in many different directions, with each avenue viewed as 'the next big thing.' Developments include advancements in LFP chemistry with LMFP, the use of silicon anodes, sodium ion or the emergence of ultra-fast charging technologies. However, solid-state batteries have gained interest for over a decade now.The session will look to address several key questions.

2:40 Solid-State Batteries: Unlocking the Next Era of Energy Storage
Asma Sharafi, Senior Vice President of Partnerships and Product Strategy, Ensurge MicroPower
Solid-state batteries are increasingly viewed as the most promising pathway to achieve safer, higher-performance, and longer-lasting energy storage systems. This talk will explore how advances in material science, cell engineering, and manufacturing innovation must converge to unlock the full potential of solid-state batteries across industries.

3:00 Cost-Effective and Energy-Efficient Megawatt EV Fast Charging Stations Directly Connected to the 10kV Medium-Voltage Power Grid Using Loosely Coupled Resonant Solid-State Transformer
Chris Mi, PhD, Fellow, IEEE & SAE; Distinguished Professor, San Diego State University
This presentation explores novel megawatt-scale EV fast-charging stations powered directly from medium-voltage grid based on Loosely-Coupled Resonant Solid-State Transformers without the need for low-frequency transformers. The approach aims to reduce energy loss by 70%, footprint & weight by 50%, and cost by 25% compared to existing SST. It enables flexible and modular deployment and achieves more reliable operation in EV fast-charging stations, AI data-centers, and large-scale MWh energy storage systems.

3:20 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

PLENARY KEYNOTE

3:50 Shep Wolsky Battery Innovator of the Year Award Presentation and Chairperson's Remarks
Craig Wohlers, General Manager, Cambridge EnerTech

3:55 LFP Cells Are Boring—Why Should I Care?
Jeff Dahn, FRSC, PhD, Professor of Physics and Atmospheric Science & NSERC/Tesla Canada Industrial Research Chair, Dalhousie University
LFP Li-ion cells are now the most common cells in energy-storage products and EVs. They are inexpensive and since they are relatively safe, they can be made in large-Ah-capacity cells, reducing cost and complexity in battery modules and packs. I will explain how to make LFP cells exciting, including strategies to dramatically increase their energy density.

4:15 Delivering Advanced Battery Technologies for EV Range and Value
George Cintra, Director, Battery R&D, General Motors
General Motors is building an electrification powerhouse, having launched a dozen EVs into the market, ranging from the Equinox EV to the Cadillac Escalade IQ. General Motors is pioneering next-generation battery and manufacturing technologies, such as prismatic cells with LMR cathodes. Mr. Cintra will provide an update on GM's battery research & development activities and innovations to deliver longer range, lower costs, and faster-charging batteries for EV customers.

4:35 Today's EV Reality and the Path Forward
Tim DeBastos, Managing Director, North American Battery Development, LG Energy Solution
LG Energy Solution is the leading lithium-ion battery manufacturer, working with the top OEMs globally in transforming the automobile industry. The market for EVs is expanding rapidly, driven by both consumer demand and regulatory incentives. In North America, there are unprecedented levels of investment to support EVs, by both OEMs and battery manufacturers. This presentation will discuss market growth projections, announced expansion plans, and the challenges ahead.

4:55 Panasonic Energy: Driving Battery Technology Innovation for Sustainable Growth
Masato Fujikawa, Director, Energy R&D Center, Panasonic Energy Co., Ltd.
Panasonic Energy has been at the forefront of battery technology development, driving the growth of BEVs and AI. To meet increasing market demand, we are expanding our production capacity in North America and strengthening strategic partnerships. These initiatives will contribute both to the realization of a sustainable society and to our business growth. This presentation will highlight the innovative activities within our battery business from a technological perspective.

5:15 First Steps for Blue Solutions' Solid-State Batteries: From Applications to End-of-Life Management
Richard Bouveret, CEO & Chairman, Blue Solutions, Bolloré Group
Solid-state batteries have been in development for decades. Blue Solutions' gen4 polymer lithium-metal SSB is transitioning from lab cells to real-world applications. The company has developed a demonstrator electric two-wheeler, surpassing Li-ion battery performance. The presentation will cover lessons learned and the overall development strategy focused on three pillars: safety, sustainability, and smart technology, including an innovative recycling process that recovers 90% of the metallic lithium from Blue Solutions' cells.

5:35 Reception in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

6:35 Close of Day

WEDNESDAY, MARCH 25

7:30 am Registration Open and Morning Coffee

ADVANCED BATTERY R&D FOR AUTOMOTIVE APPLICATIONS

7:55 Chairperson's Remarks

Chris Mi, PhD, Fellow, IEEE & SAE; Distinguished Professor, San Diego State University

8:00 OEM Battery Strategy: Competing when Traditional Approaches No Longer Work

VOLTAIQ

Tal Sholklapper, CEO & Co Founder, Voltaiq Inc.

OEMs today are squeezed from all sides: shifting EV policies, China's cost dominance, and a flood of cheap cells driving reliability issues. To compete, OEMs can't afford slow, traditional serial development—continuous, agile, parallelized processes and hyper-efficient supply chains are now table stakes. Meanwhile, advanced analytics and AI promise big results, but mostly fail to deliver ROI. This talk will show how the right data foundations deliver real production wins to lower costs, manage risk, and accelerate product release cycles with analytics that actually work.

8:30 Insights into Gas Generation in Battery Cells during Thermal Abuse

Vamakshi Yadav, Researcher, General Motors

Gas detection during thermal runaway in lithium-ion batteries offers a promising method for early detection and safety assessment. Although heat-generating reactions have been extensively studied using techniques like accelerating rate calorimetry (ARC) and differential scanning calorimetry (DSC), correlating these reactions with gas emissions remains challenging. This talk will focus on real-time analysis of gas species generated within battery cells leading up to thermal runaway.

9:00 Current Industry Trends in Performance and Opportunities in Next-Generation Battery Systems

Kevin Konecky, Vice President, Battery Systems Engineering, Spiro

Battery systems have evolved into complex assemblies where the battery cell, while central, is only part of a larger integrated architecture. Battery systems incorporate mechanical structure, thermal management, and advanced BMS, requiring robust integration to deliver safety, reliability, and performance. This presentation will discuss how each subsystem contributes to the overall battery system performance. We will examine current trends, emerging trends, technological advancements, and opportunities for innovation in next-generation systems.

9:30 Sponsored Presentation *(Opportunity Available)*

9:45 Presentation to be Announced

PULSETRAIN

10:00 Presentation to be Announced

SINEXCEL-RE

10:15 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:05 Silicon-Anode Platform Integration Achieving Enhanced Power and Capability

amprius

Ionel Stefan, CTO, R&D, Amprius Technologies

Amprius Technologies delivers the industry's most advanced silicon-anode lithium-ion batteries, achieving energy and power levels previously unattainable with conventional graphite cells. The company's SiCore® platform combines ultra-high-energy designs reaching 450 Wh/kg with balanced high-power variants delivering 300 Wh/kg at 10C, enabling unmatched versatility across demanding applications. These cells pair breakthrough energy density with fast-charge capability, and high cycle life, unlocking new possibilities for aerospace, defense, and high-performance mobility systems. Supporting our growing customer base by leveraging our gigawatt-scale manufacturing partners around the globe, Amprius is redefining the boundaries of energy density, mission endurance, and system efficiency for next-generation power solutions.

11:35 PANEL DISCUSSION: From Lab to Lot: How Battery Start-Ups Can Break into the Supply Chain

Moderator: Katherine He, Investor, TDK Ventures Inc.

Tailored for battery ecosystem founders and suppliers, this discussion will dive into real-world challenges and practical strategies—from financing and partnerships to scaling and validation—that can make or break a start-up's path to commercialization.

12:35 pm Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

1:50 Close of Conference Track

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

EXPLORING CHEMISTRIES FOR EVOLVING AND INCREASING ENERGY-STORAGE NEEDS

1:50 Chairperson's Remarks
Brandon Kelly, PhD, Vice President, Cell Engineering, Peak Energy

1:55 Revolutionizing Battery Technology with Aluminum: Clean, Efficient Energy Storage with No Thermal Runaway
Gunjan Agarwal, CEO, Zenthos Energy
Zenthos Energy is building pioneering energy solutions that enable a low-cost and sustainable supply chain by utilizing aluminum-based chemistries. In addition to being an abundant resource, Aluminum offers superior performance attributes that cannot be delivered by rare earth minerals. Zenthos has performed rigorous third-party validation proving that its batteries do not incur thermal runaway. This enables an unprecedented combination of performance, safety, and integrity, redefining battery innovation across applications.

2:25 From Pilot to Grid: Delivering Reliability, Safety, and Speed with Sodium-ion
Brandon Kelly, PhD, Vice President, Cell Engineering, Peak Energy
Peak Energy's sodium-ion systems are transitioning from pilot validation to grid deployment, demonstrating a new benchmark for reliability, safety, and deployment speed. This talk will share insights from early MWh-scale installations, highlighting how simplified architecture and stable chemistry enable rapid, low-risk deployment for utility-scale storage. Sodium-ion's proven field performance positions it as a scalable, dependable solution to meet accelerating global electricity demand.

2:55 Sponsored Presentation *(Opportunity Available)*

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

3:55 Electrolyte Innovation to Unlock High-Performance Aqueous Energy Storage
Emily Dickens, CCO, Octet Scientific
Aqueous batteries are a leading candidate for safe, low-cost, long-duration energy storage, but their performance is hindered by parasitic reactions, plating instabilities, and electrolyte degradation. Octet Scientific develops advanced electrolyte additives that improve round-trip efficiency, battery capacity, and enable more reliable battery cycling. Case studies in zinc–air, zinc–bromine, and near-neutral zinc systems demonstrate how electrolyte innovation can accelerate the commercialization of grid-scale aqueous storage.

4:25 Low-Cost Organic Electrolytes for Next-Generation Flow Batteries
Meisam Bahari, PhD, CTO, Quino Energy
Flow batteries have proven reliable and scalable, yet their broader adoption has been constrained by expensive, conventional vanadium electrolytes. Quino Energy's innovative organic electrolyte matches vanadium's performance, safety, and lifetime at less than one-third the cost, enabled by a zero-waste, continuous-flow manufacturing process supporting rapid global scale-up. Its distinctive chemistry is compatible with carbon steel tanks, cutting system cost, installation time, and footprint to roughly one-third that of lithium-ion batteries.

4:55 PANEL DISCUSSION: We Have to Do the Work: Fostering Battery Innovation *and* Execution
Moderator: Celina Mikolajczak, Advisor to the Battery Industry
The battery industry is experiencing supercharged growth despite shifting political and funding dynamics. This panel of experts examines our industry's future addressing emerging electrochemistries, growth prospects, key challenges, and achievable milestones for the near and long term.Join this panel of experts as they explore:
- What are the next steps?
- Where is the funding?
- Why collaboration is critical?

Panelists:
Mei Cai, PhD, Senior Director, Battery Engineering, Fluence
Paige Johnson, Founder & CEO, Ten-Nine Technologies LLC
Johanna Nelson Weker, PhD, Lead Scientist, SLAC National Accelerator Laboratory
Dee Strand, PhD, CSO, R&D, Wildcat Discovery Technologies, Inc.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

DEPLOYING HIGH-CAPACITY BATTERY-STORAGE SYSTEMS: DATA CENTERS

8:25 Chairperson's Remarks
Christina Peabody, Hardware Engineer, Google Inc.

8:30 Sponsored Presentation *(Opportunity Available)*

9:00 Maximizing Grid-Scale Battery Investments with Power Electronics
John Glassmire, Vice President of Digital Enablement and Transformation, Hitachi Energy
Power electronics, despite being a relatively new technology in the grid, are revolutionizing the transition to an electrified energy ecosystem and creating new investment opportunities. When combined with cutting-edge controls, they unlock the frontiers of grid-scale battery investments, including DC-coupled solar-batteries driving efficiency and faster interconnection, enabling large-load interconnections to expedite data center, e-mobility, and industrial electrification. This practical talk will demystify power electronics, helping you make stronger BESS investments.

9:00 Coffee Break in the Exhibit Hall

9:30 Sponsored Presentation *(Opportunity Available)*

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

10:45 Battery System Design for Hyperscale AI/ML Datacenters
Christina Peabody, Hardware Engineer, Google Inc.

Advanced, high-power batteries are key to datacenter power backup systems. Li-ion batteries are a common choice for datacenter energy storage systems, due to their versatility and significant power density and longevity benefits. This talk will discuss hyperscale datacenter power management challenges presented by the proliferation of AI/ML. Specifically, we will address how to incorporate batteries at different levels of the power system for optimal power management and system reliability.

11:15 Bridging Instant Power Supply and Long-Duration Storage
Ian Rock, Founder & CTO, TerraFlow Energy

This session addresses the critical gap between fast-response UPS and long-duration energy storage. We will explore engineering solutions for continuous power buffering, achieving sub-5ms response and 10-hour-plus endurance for critical applications. The talk will compare lithium, flow, and alternative chemistries, analyzing degradation, serviceability, and Total Cost of Ownership (TCO). Use cases from data centers and utilities will highlight pathways to redefine resilience across sectors.

11:45 Sponsored Presentation *(Opportunity Available)*

12:15 pm Enjoy Lunch on Your Own

DEPLOYING HIGH-CAPACITY BATTERY-STORAGE SYSTEMS

1:10 Chairperson's Remarks
Mei Cai, PhD, Senior Director, Battery Engineering, Fluence

1:15 Jacksonville Battery Gigafactory in Florida: How a Fully Integrated Delivery Model Creates Value for BESS Solutions
Gerardo Rebollar, Director of Strategy, Marketing, and Transformation, Saft

Saft presents its flexible BESS roadmap, highlighting the strategic setup of the Jacksonville Gigafactory. We will explore how a fully integrated delivery model—from battery manufacturing to full system integration—drives long-term value and sustainability for BESS applications. Attendees will gain insights into system design for 20-year lifespans, integration guidelines for successful deployment, and real-world examples. Discover how innovation, scale, and integration converge to unlock performance and economic benefits in energy storage.

1:45 Optimizing BESS Batteries: Key Performance and Design Criteria
Mei Cai, PhD, Senior Director, Battery Engineering, Fluence

Battery Energy Storage Systems (BESS) play a crucial role in integrating renewable energy sources and stabilizing power grids. This presentation focuses on the essential performance and design requirements for BESS batteries, highlighting factors such as energy density, cycle life, thermal management, and safety. We will discuss how optimizing these criteria can enhance the efficiency, reliability, and cost-effectiveness of BESS, ultimately supporting a sustainable energy future.

2:15 BESS Cybersecurity and Supply Chain Security
Joseph O'Connor, Director, ESS Solutions, Engineering, Nuvation Energy

As energy storage grows, security and resilience are as critical as performance. For utility-scale BESS, North American components and in-house test systems strengthen grid reliability and independence. For behind-the-meter projects, robust physical and cyber protections ensure uptime, safe integration, and data security.

2:45 Thermal Barrier Stability under Mechanical Load: Strategies for Safer, Higher-Density Battery Modules
Steven R Aubuchon, PhD, Marketing Development Lead, Electronics, WL Gore & Associates Inc

As BESS modules experience increasing compressive loads, traditional thermal barriers may lose thickness and thermal resistance, reducing their effectiveness in slowing thermal runaway propagation. This presentation reviews how compressive stress influences insulation performance and shares laboratory and field test results for a novel, thin, compression-stable thermal barrier. Findings illustrate how a durable thermal resistance under load can support safer, higher-density BESS module designs and improved propagation mitigation strategies.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

ADVANCED RESEARCH AND DEVELOPMENT

1:50 Chairperson's Remarks
John Wozniak, PhD, President, Energy Storage and Power Consulting Inc.

1:55 Battery-Design Optimization for High-Performance Applications: Engineering Safety, Power, and Thermal-Management Excellence
Mayowa Alonge, Battery System Integrity Engineer, Amazon
Battery demands for higher energy density and smaller devices in hot environments create engineering challenges. While safer battery chemistries require larger sizes, this research presents a safety-testing framework for compact batteries in extreme conditions. Through thermal analysis and testing, this framework guides chemistry selection and thermal management strategies. The approach has improved power density and system reliability in products, while balancing performance, safety, and thermal stability requirements.

2:25 Supporting OCV Drift of Si-Anode Cells in State-of-Charge and State-of-Health Indication Algorithms
Yevgen Barsukov, PhD, Head, Algorithm Development, Battery Power Systems, Texas Instruments, Inc.
State-of-charge indication relies on correlation of open circuit voltage with depth of discharge (DOD). Established chemistries have a stable OCV vs. DOD relationship over the age of the battery. However, new chemistries with higher energy density but less stable OCV are appearing. One example is Si-anode, with larger capacity, but rapid change of cells' OCV. We will discuss the TI solution for this issue and analyze its accuracy.

2:55 Binder-Free Electrodes Enabling Performance Gains in Li-ion Battery
YAZAKI YTC AMERICA INC.
Sean Brahim, R&D Manager, Energy Storage Devices, YTC America, Inc.
YTCA has developed binder-free anodes and cathodes containing carbon nanotube (CNT) in lieu of polymer binder as electrodes for Li-ion batteries (LiBs). Our proprietary processing of CNT into viscous organic or water-based slurry without surfactant or dispersant eliminates the need for organic binder and carbon black additives in both anode and cathode electrodes. YTCA's binder-free electrode technology has also been demonstrated to be chemistry agnostic. LiB cells with YTCA's binder-free electrode technology consistently exhibit superior high-rate capability and improved lifetime cycling performance compared to LiB cells with polymer binder. These performance gains are highlighted using the LTO|NMC electrode combination in pouch cells. Compared to the conventional cell with binder, binder-free LTO|NMC cells charge ~10x faster at 10C rate, retains 2x higher capacity under high current discharge, and operates to > 8,000 cycles at 1C rate with ~ 2x longer cycle lifetime.

3:10 Presentation to be Announced
ENOVIX

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

OEM-DRIVEN DEVELOPMENT

3:55 Some Thoughts on Battery Quality
Bruce Miller, Principal Engineer, Regulatory Compliance, Dell EMC
This presentation explores the concept of lifelong quality, highlighting key industry trends and their implications in today's marketplace. It emphasizes the importance of a holistic design approach that integrates product development and manufacturing from the outset. Through a series of illustrative hypothetical scenarios, the session will examine common challenges and practical strategies for achieving enduring product excellence.

4:25 Battery Development for AI Glasses
Karthik Kadirvel, PhD, Director, Battery Engineering, Meta Platforms

4:55 Batteries for Medical Devices
Laura McCalla, PhD, Senior Principal Scientist, Battery Research & Technology, Medtronic
Within the medical device market, lithium-ion batteries power everything from miniature implantable products to large hospital capital equipment. Delivering the utmost safety and reliability to our patients requires a unique focus on requirements and a clear understanding of the use conditions. Here, we will examine how some of these aspects influence the design and use of lithium-ion cells and packs in medical devices.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

OEM-DRIVEN DEVELOPMENT (CONT.)

8:25 Chairperson's Remarks
Bruce Miller, Principal Engineer, Regulatory Compliance, Dell EMC

8:30 Powering Innovation: G2CFx for BLE-Enabled Leadless Pacemakers, ICMs, and Beyond
Joseph Lehnes, Principal Scientist, Integer
This presentation focuses on G2CFx, Integer's next-generation primary battery technology designed for implantable medical devices. G2CFx delivers improved longevity and higher rate capability, enabling BLE communication while supporting flexible geometries such as cylindrical and complex 3D designs. Applications include leadless pacemakers, ICMs, smart orthopedics, and implantable glucose monitors. Long-term characterization data will be shared, highlighting performance advantages for advanced medical solutions.

9:00 Optimizing Tab Architecture for Enabling High Power in Consumer Batteries
April Yun Li, PhD, Cell Engineer, Battery Development Team, Microsoft Corp.
AI-enabled consumer electronics demand higher power from batteries. Microsoft and industry partners studied how tab architecture impacts power delivery and thermal performance in pouch cells. Optimized tab designs reduce impedance and heat without altering cell chemistry. Results show that strategic tab configurations enhance peak power output while minimally affecting energy density or cycle life, advancing cooler, more efficient batteries tailored for high-performance applications.

9:00 Coffee Break in the Exhibit Hall

9:30 Presentation to be Announced
LeydenJar

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

AI FOR CONSUMER APPLICATIONS

10:45 AI-Based Smart-Charging Algorithm for Next-Generation Li-ion Batteries

Naoki Matsumura, Principal Engineer, Intel

Li-ion batteries are widely used but degrade quickly with always full and fast charging. Current adaptive charging, which adjusts charge level and speed based on "if-then" scenarios, can prolong battery longevity if user behavior aligns with these scenarios. This session introduces context-based charging, which employs machine learning and deep learning to customize charging to individual usage patterns, extending longevity further. The session also covers implementation and application to future batteries.

11:15 Dismantling Battery Data Silos: Preparing for AI Learning through Context-Rich Datasets

Phil Hamilton, Senior Manager of Battery Characterization, Microsoft

Maximizing the impact of battery test data requires a thoughtful metadata architecture that enables AI learning and agents for a robust, centralized, curated, and democratized data source. Through practical approaches to organizing and enriching battery-related datasets, this presentation discusses the Surface Battery Development Characterization Lab methods to mitigate "garbage in, garbage out" pitfalls and support the notion that all data can be useful within the appropriate context.

11:45 Sponsored Presentation *(Opportunity Available)*

12:15 pm Enjoy Lunch on Your Own

ADVANCING PERFORMANCE AND COMPETITIVENESS

1:10 Chairperson's Remarks

Laura McCalla, PhD, Senior Principal Scientist, Battery Research & Technology, Medtronic

1:15 Can U.S. Battery Manufacturing Compete with Asia?

John Wozniak, PhD, President, Energy Storage and Power Consulting Inc.

Domestic battery pack and cell production in the U.S. have filled primarily niche roles over the past 25 years. Concern over tariffs and geopolitical instability has resurrected interest in establishing high-volume battery manufacturing in the U.S. This presentation will discuss the future of battery manufacturing in the U.S. given the significant hurdles that must be overcome.

1:45 Beyond Outdoor Power Equipment Performance: Battery Compliance and Producer Responsibilities

Brandon Martin, Vice President, Battery & Electric Products & Industry Affairs, Outdoor Power Equipment Institute

A harmonized approach, across the U.S., is the goal by the Environmental Protection Agency for rechargeable battery extended producer responsibilities as they prepare a 2026 congressional report on "Battery Collection Best Practices and Battery Labeling Guidelines." OPEI, an international trade association, remains engaged and represents more than 100 manufacturers and their suppliers of gas and electric-powered outdoor power and transport equipment, with domestic yearly shipments of nearly 40 million products.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

Battery Technologies for Military and Aerospace Applications

Powering Defense and Aerospace Innovation with Energy Solutions Built for Extreme Conditions

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

APPLICATION-DRIVEN DEVELOPMENT

1:50 Chairperson's Remarks
Tyler Andrews, Vice President Business Development, Echion Technologies Ltd.

1:55 Battery Standardization for Unmanned Systems
Lisa King, Director, Advanced Battery Strategy, LEAP Manufacturing
Developing standardized battery systems for uncrewed aerial vehicles (UAVs) is essential to enable interoperability, safety, and scalability across civilian and defense applications. This presentation explores the creation of unified battery standards for dual-use UAVs, highlighting how standardization fosters reliability and lifecycle efficiency while driving aggregated demand for high-performance pouch cells. Harmonized specifications can unlock cost reductions, enhance supply resilience, and accelerate adoption across both commercial and military UAV sectors.

2:25 Starship: Next Generation of Battery Systems Applications
Denis Trofimov, Senior Avionics and Power Systems Engineer, SpaceX
The Starship Launch Vehicle is the next generation of super heavy launch vehicles, standing in a class of power and capabilities all its own. It also features a brand new topology of CONOPs, where the battery system becomes the backbone. In this presentation, we present the overall concept of the Starship electrical thrust vector control and the SpaceX approach to delivering a rapidly reusable, human-rated launch vehicle.

2:55 Custom Electrolyte Manufacturing in the U.S.A. orbia
Carl Thoemmes, Business Development Director, Orbia
This presentation will explore recent progress in electrolyte raw materials, advanced formulations, and scalable manufacturing solutions in the U.S.A. supporting advanced defense applications and their often-extreme use-case requirements.

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

3:55 Domestic Manufacturing of Lithium-ion Battery Cells and Packs for UAS Applications: Challenges and Opportunities
Tan Nguyen, PhD, Battery Cell Plant Director, Engineering, Packet Digital
Establishing a domestic lithium-ion battery cell factory is a complex endeavor, particularly for Uncrewed Aircraft System (UAS) applications that demand various cell formats, extreme performance, and specialized chemistries. This presentation outlines key considerations—including capital investment, regulatory compliance, facility design, equipment selection, technology scale-up, and customer acquisition. We will also highlight Packet Digital's factory-building progress and cell-testing results from its U.S.-based high-performance pouch-cell manufacturing initiative.

4:25 Battery Technology for Aerospace and Beyond
Xilin Chen, PhD, Sr Scientist, SAFT SA
This presentation explores how advances in battery technology are transforming aerospace and related industries. Covering high-energy-density chemistries, safety and thermal management, and system integration, it highlights how these innovations enable lighter, more efficient, and sustainable power solutions. Attendees will gain insight into selecting and optimizing battery technologies to meet the demanding performance and reliability needs of aerospace and beyond.

4:55 Extending Mission Endurance: Silicon-Anode Batteries for Next-Generation Aviation and Defense
Ionel C. Stefan, PhD, CTO, Amprius, Inc.
Amprius Technologies is powering a new era of aviation and defense performance with silicon-anode batteries delivering record energy and power density. Reaching up to 450 Wh/kg and 10C discharge, Amprius cells extend mission range and endurance by 50–100%, recharge rapidly, and sustain high output under extreme conditions. From uncrewed aircraft to electric propulsion, Amprius enables greater payloads, longer missions, and faster readiness for next-generation aerospace and defense systems.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

APPLICATION-DRIVEN DEVELOPMENT (CONT.)

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

8:30 Sponsored Presentation *(Opportunity Available)*

9:00 Mission Critical Energy: Creating Resilient and High-Performance Systems Utilizing Novel Battery Technology
Tyler Andrews, Vice President Business Development, Echion Technologies Ltd.
Explore the evolution of mission-critical energy solutions, leveraging novel battery technology to enhance the survivability and performance of next-gen defense systems, including hybrid vehicle powertrains and directed-energy weapons. This forum focuses on high TRL solutions that can be implemented into current development projects and operated reliably across all global theaters. These advancements improve survivability through reduced noise, minimized heat signatures, and enhanced power redundancy, offering strategic advantages in contested environments.

9:00 Coffee Break in the Exhibit Hall

9:30 Sponsored Presentation *(Opportunity Available)*

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

10:45 Design Principles for Flexible Batteries for Wearable Applications
Candace K. Chan, PhD, Professor, Materials Science & Engineering, Arizona State University
As demand for flexible, lightweight wearable electronics grows,

development of robust, flexible lithium-ion batteries is essential. We conducted a systematic study of failure modes in conventional and flexible batteries under repeated mechanical deformation, focusing on key components like current collectors, electrodes, interconnections, and packaging. Our research elucidates how repeated flexing impacts battery reliability and identifies mitigation strategies for enhancing the performance and durability of high energy density, wearable power sources.

11:15 Scalable 'Liquid-to-Solid' Phase Change Electrolytes Enable Ruggedized, Energy-Dense Batteries

David Mackanic, PhD, Co-Founder and CEO, Anthro Energy

Anthro Proteus is a new class of injectable phase change electrolytes that allows for the production of high-performance batteries while using existing manufacturing processes. The liquid-to-solid phase transition stabilizes high-energy-density silicon anodes by forming an elastic binder network and improves cell ruggedness, mechanical strength, and safety. This presentation details the performance advantages of cells fabricated using Anthro Proteus in DoD relevant cell chassis and test conditions.

11:45 Sponsored Presentation *(Opportunity Available)*

12:15 pm Enjoy Lunch on Your Own

SAFETY AND QUALITY

1:10 Chairperson's Remarks

Lisa King, Director, Advanced Battery Strategy, LEAP Manufacturing

1:15 Isolating Cell Internal Shorts with Polymer Current Collectors in Cylindrical Designs > 265 Wh/kg

Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center

Once cylindrical cell designs exceed >265 Wh/kg, we've found that thermally stable separator designs greatly increase the consistency for nail-penetration tolerance. High-speed radiography and post-test CT imaging provide unique insights into the internal short isolation phenomena provided by thermally unstable metallized polymer current collectors.

1:45 Battery Quality Control via High-Throughput CT Scanning

Peter Attia, PhD, Co-Founder & CTO, Glimpse

Battery quality control is critical for aerospace applications, where safety and reliability are paramount. We supported NASA's Starliner program by CT scanning 200 cylindrical cell assemblies. Our automated inspection algorithms measured key battery features, identifying both anode overhang defects and metallic particle contaminants and validating these results with teardowns. Our findings demonstrate the value of high-throughput CT scanning for aerospace qualification workflows, reducing defect escape rates and mitigating safety risks.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

MONDAY, MARCH 23

7:00 am Registration Open and Morning Coffee

4:45 pm Close of Day

TUESDAY, MARCH 24

7:00 am Registration Open and Morning Coffee

8:05 Organizer's Remarks
Victoria Mosolgo, Cambridge EnerTech

BATTERY OPTIMIZATION

8:10 Chairperson's Remarks
Prashant Pawan Gargh, PhD, Senior Customer Quality Engineer, Quality Assurance, Panasonic Corp.

8:15 Mechanical and Electrochemical Testing for Safer High-Energy Batteries
Prashant Pawan Gargh, PhD, Senior Customer Quality Engineer, Quality Assurance, Panasonic Corp.
This presentation examines how mechanical stress and fast charging impact lithium-ion battery reliability and safety. It highlights key degradation mechanisms and practical insights into testing methods and strategies to improve battery performance and prevent failure for safer energy-storage applications.

8:45 Optimizing Li-ion Cells for EV Application through CT Scanning
Chloe Namkoong, Senior Engineer, Battery Cell Engineering, Lucid Motors Inc.
Cell degradation is commonly characterized by electrochemical signatures. However, there is more to the story than meets the eye. We investigate the impact of aging parameters on cell internal changes characterized through CT scanning to improve cell performance and durability.

9:15 Chemical Exposure Risk Management in LFP Battery Manufacturing: Measurement and Mitigation
Christopher Lugo, CIH, CSP, MBA, Staff Industrial Hygienist, EHS, Tesla, Inc.
As battery manufacturing rapidly evolves, comprehensive risk analysis of personnel chemical exposures is imperative for industry longevity. This talk explores Tesla's holistic approach to identifying, quantifying (via standard and novel sampling methods), and mitigating exposures to chemicals in lithium-iron-phosphate (LFP) battery manufacturing. In this presentation, we will discuss design and operational solutions for manufacturers to proactively protect employee health while maintaining regulatory compliance (US) in a high-flux industry.

9:45 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

10:30 Advancing Battery Safety: Research Innovations at the U.S. Department of Transportation
Erica Wiener, Physical Scientist, R&D & Technology PHH 63, PHMSA
Batteries present unique safety risks throughout their lifecycle—from production, transportation, and use, to end-of-life disposal/recycling. This talk highlights the Office of Hazardous Materials Safety's battery research portfolio at the U.S. Department of Transportation. Our battery-safety research covers safety throughout the lifecycle, investigating safer packaging, risks of new/emerging chemistries, battery-safety monitoring/detection, and end-of-life handling. Additionally, the team pursues applied research on innovative technologies that can enhance battery safety.

11:00 Research Strategy for Batteries
Joshua Lamb, PhD, Special Scientific Advisor, OUSD R&E/Emerging Technologies, Office of the Undersecretary of Defense
This talk will detail the recent high-level objectives and capabilities of the battery safety and abuse testing program at Sandia National Laboratories. Sandia's recent efforts in large-scale and system testing will be detailed, as well as new efforts to understand the effectiveness of fire suppressants on battery fires and impacts to first responders. A brief overview of Sandia capabilities will also be provided.

11:30 Battery Fleet Management and End-of-Life
Marcel Stieber, Principal Interdisciplinary Systems Engineer, Operations Infrastructure Services, Amazon
Effective battery fleet management is essential for optimizing performance, safety, and lifespan in large-scale energy storage and transportation systems. This talk will explore strategies for monitoring battery health, predicting end-of-life, and implementing sustainable recycling or repurposing solutions, highlighting best practices for maximizing value while minimizing environmental impact.

12:00 pm Increasing Success and Safety in Battery Testing
Nick DiCeglie, Account Executive, Sales, Associated Environmental Systems
Enhancing safety in battery testing processes is crucial to managing high-density testing in controlled, secure environments. This practice involves creating specialized scenarios that ensure safety measures are prioritized and optimized, helping to protect both equipment and personnel. In certain applications, larger batch testing in safely managed environments may be required. We will guide you through the necessary steps to ensure a safer approach to battery testing.

12:15 SafeCore: A Safety Layer that Addresses Thermal Runaway in Lithium-ion Batteries
Matthew Wang, VP, Tech Programs, Amionx
SafeCore is a safety layer that is coated on the current collector in a battery cell that is responsive to current, temperature and/or voltage thresholds being reached. When one or any combination of these threshold is reached, the material either: 1. Causes the conductive pathway to be destroyed, or :2. Creates a high impedance environment. In both cases, thermal runaway if prevented, and the energy from the cell is fully released gradually over time. SafeCore is applied using existing equipment in a battery factory eliminating the need or incremental capital investment or changes to manufacturing techniques.

12:30 Networking Luncheon

1:15 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

BATTERY TRANSPORTATION AND REGULATIONS

1:45 Chairperson's Remarks
Erica Wiener, Physical Scientist, R&D & Technology PHH 63, PHMSA

1:50 The Transportation Battery Development Process and Its Interaction with Safety Regulations
Ian Smith, Battery Product Manager, Energy & Industrial Automation, UL Solutions
The presentation will cover the typical battery development process from requirements definition to cell selection and battery-pack design and development and how there can be several key interactions with safety regulations. An overview of safety regulations for the United States will be shared along with an overview of the new FMVSS 305a rule and its new requirements.

2:20 When the Price Is Wrong: The Risks of Free Battery Power Banks
Hernan Sanchez Casalongue, PhD, Principal, Battery and Consumer Electronics, Exponent
With more battery-powered devices in use, power banks have become everyday essentials—and cheap or "free" ones are now common giveaways. However, lower costs often mean lower quality. This talk presents a case study on the safety risks of "free" power banks, highlighting how reduced quality control can lead to hazards.

2:50 Impact of Aging on Battery Safety and Implications for Diagnostics
Yuliya Preger, PhD, Principal Member of Technical Staff, Energy Storage Technology & Systems, Sandia National Labs
This talk reviews all open literature on the thermal abuse response of aged lithium-ion cells to identify critical changes in their behavior relative to fresh cells. We will also share more recent data from a broad experimental study of aged cell safety across multiple chemistries and safety testing protocols.

3:20 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

PLENARY KEYNOTE

3:50 Shep Wolsky Battery Innovator of the Year Award Presentation and Chairperson's Remarks
Craig Wohlers, General Manager, Cambridge EnerTech

3:55 LFP Cells Are Boring—Why Should I Care?
Jeff Dahn, FRSC, PhD, Professor of Physics and Atmospheric Science & NSERC/Tesla Canada Industrial Research Chair, Dalhousie University
LFP Li-ion cells are now the most common cells in energy-storage products and EVs. They are inexpensive and since they are relatively safe, they can be made in large-Ah-capacity cells, reducing cost and complexity in battery modules and packs. I will explain how to make LFP cells exciting, including strategies to dramatically increase their energy density.

4:15 Delivering Advanced Battery Technologies for EV Range and Value
George Cintra, Director, Battery R&D, General Motors
General Motors is building an electrification powerhouse, having launched a dozen EVs into the market, ranging from the Equinox EV to the Cadillac Escalade IQ. General Motors is pioneering next-generation battery and manufacturing technologies, such as prismatic cells with LMR cathodes. Mr. Cintra will provide an update on GM's battery research & development activities and innovations to deliver longer range, lower costs, and faster-charging batteries for EV customers.

4:35 Today's EV Reality and the Path Forward
Tim DeBastos, Managing Director, North American Battery Development, LG Energy Solution
LG Energy Solution is the leading lithium-ion battery manufacturer, working with the top OEMs globally in transforming the automobile industry. The market for EVs is expanding rapidly, driven by both consumer demand and regulatory incentives. In North America, there are unprecedented levels of investment to support EVs, by both OEMs and battery manufacturers. This presentation will discuss market growth projections, announced expansion plans, and the challenges ahead.

4:55 Panasonic Energy: Driving Battery Technology Innovation for Sustainable Growth
Masato Fujikawa, Director, Energy R&D Center, Panasonic Energy Co., Ltd.
Panasonic Energy has been at the forefront of battery technology development, driving the growth of BEVs and AI. To meet increasing market demand, we are expanding our production capacity in North America and strengthening strategic partnerships. These initiatives will contribute both to the realization of a sustainable society and to our business growth. This presentation will highlight the innovative activities within our battery business from a technological perspective.

5:15 First Steps for Blue Solutions' Solid-State Batteries: From Applications to End-of-Life Management
Richard Bouveret, CEO & Chairman, Blue Solutions, Bolloré Group
Solid-state batteries have been in development for decades. Blue Solutions' gen4 polymer lithium-metal SSB is transitioning from lab cells to real-world applications. The company has developed a demonstrator electric two-wheeler, surpassing Li-ion battery performance. The presentation will cover lessons learned and the overall development strategy focused on three pillars: safety, sustainability, and smart technology, including an innovative recycling process that recovers 90% of the metallic lithium from Blue Solutions' cells.

5:35 Reception in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

6:35 Close of Day

WEDNESDAY, MARCH 25

7:30 am Registration Open and Morning Coffee

EVALUATING BATTERY SAFETY

7:55 Chairperson's Remarks
Donal Finegan, PhD, Staff Scientist Batteries, Electrified Transport, National Renewable Energy Laboratory

8:00 Presentation to be Announced

8:30 NVPF Sodium-ion versus NMC and LFP Lithium-ion Batteries in Thermal Runaway: Vent Gas Composition and Thermal Analysis
Christiane Essl, Researcher, Battery Safety, VIRTUAL VEHICLE Research GmbH
In this study, cells with three different cell chemistries—

Na3V2(PO4)2F3 (NVPF), LiNi0.6Mn0.2Co0.2O2 (NMC), and LiFePO4 (LFP)—are analyzed in exactly the same setup to compare the hazardous vent gases and their thermal behavior during thermal runaway. Additionally, the influence of different triggers on the failure behavior of NVPF cells is elucidated.

9:00 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 modeling 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.

9:30 Closing the Loop: Digital Twin Approaches for Fault Detection, Aging, and Asset Reliability

Nikhil Biju, Staff Engineering, Battery Applications, Electrical Systems, Gamma Technologies Inc. GTI

Battery reliability, safety, and warranty costs remain critical challenges as electrification expands across industries. Conventional battery management systems (BMS) rely primarily on empirical models and threshold-based logic, often reacting only after performance degradation or failure. This talk will showcase how high-fidelity plant models can be used offline or in real-time to identify faults, predict battery aging, and support warranty prediction. It will highlight how digital twins transform battery management from reactive monitoring to proactive prediction.

9:45 Presentation to be Announced

10:15 Coffee Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

11:05 The Influence of Separator Design on Polymer Current Collector Safety

Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center

A metallized polymer cathode current collector demonstrated consistent isolation of internal short circuits triggered by a slow, shallow (3mm) radial nail penetration in 5Ah, 21700 cells yielding > 265 Wh/kg. A remarkable consistency (16 no thermal runaways (TR) in 16 attempts) while penetrated at 100% SoC occurred.

11:35 International Code Council Report and Gap Analysis on Lithium-ion Batteries

Michael O'Brian, Managing Partner, Code Concepts Group; Fire Chief, Brighton Area Fire Department

The International Code Council ad-hoc committee was tasked with performing a gap analysis on the impact of lithium-ion batteries and associated codes and standards. Established by the Code Council Board of Directors, the committee identified four major areas. This presentation will review the findings, recommendations, and actions related to how lithium-ion batteries are manufactured, stored, and used in our built environment.

12:05 pm Presentation to be Announced

12:35 Interactive Roundtables and Networking Luncheon *(Sponsorship Opportunity Available)*

1:20 Dessert Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

1:50 Close of Conference Track

MONDAY, MARCH 23

7:00 am Registration Open and Morning Coffee

4:45 pm Close of Day

TUESDAY, MARCH 24

7:00 am Registration Open and Morning Coffee

8:05 Organizer's Remarks

R&D FOR AI BATTERY DEVELOPMENT

8:10 Chairperson's Remarks
Eli Leland, PhD, CTO and Co-Founder, Voltaiq

8:15 How Machine Learning Prediction Continues to Accelerate Battery Development
Venkat Viswanathan, Assistant Professor, Mechanical Engineering, Carnegie Mellon University

We will discuss how new computational approaches enabled by high-performance computing and machine learning algorithms are accelerating the traditional materials design and commercialization process for battery materials.

8:45 AI in Battery Technology: From Laboratory Testing to Field Applications
Weihan Li, Junior Professor, RWTH Aachen University

By integrating physics-based models with machine learning, our research is advancing intelligent, data-driven strategies for battery testing and real-world field applications. This talk will offer a unique perspective on how AI and digitalization are shaping the future of energy storage systems, with an emphasis on reliability, performance, and sustainability.

9:15 Characterization and Design of Battery Electrodes with Generative AI
Isaac Squires, CEO, Polaron

The development of next-generation batteries is bottlenecked by slow, manual scientific workflows. While industrial manufacturing is highly automated, materials research remains expert-driven and iterative. This talk will explore how AI can shorten this loop—from automated microstructural characterization and multimodal reconstruction to data-driven design and optimization. Using real industrial case studies, we'll show how Polaron's platform accelerates the path to higher-performing battery materials.

9:45 Grand Opening Refreshment Break in the Exhibit Hall with Poster Viewing *(Sponsorship Opportunity Available)*

AI FOR BESS

10:30 Battery Intelligence Approach for Large-Scale BESS
Wenjiao Huang, Principal Battery Research Data Scientist, Fluence

This presentation will explore the current state of battery intelligence in large-scale energy storage systems. As transmission-connection energy storage systems regularly top 1 GWh, grids worldwide depend more than ever on reliable performance. Battery intelligence is key: from controls that adapt to state-of-health, to dynamic degradation prediction, to multifaceted balance, and state-of-charge management, to mitigating cyber threats.

11:00 From Rules to Resilience: From Reactive Alerts to Probability-of-Failure Horizons
Daniele Pia, Team Lead, Data Science & Analytics, LG Energy Solution Vertech, Inc

BESS sites are rich in time-series telemetry, but many fleets still rely on static thresholds and reactive maintenance. This talk presents an asset-agnostic approach to evolve from rule-based alerts to probabilistic forecasting that estimates the likelihood of abnormal behavior over future horizons and probability of survival.

11:30 Using AI to Maximize BESS Performance and Longevity
Craig Mauel, Manager ESS Services, Saft

Saft is pleased to present the Intensium Sight (I-Sight) technology: a new, powerful hardware and software tool. I-Sight is an AI-powered cloud platform for energy storage system monitoring and optimization. I-Sight integrates with Saft's Battery Management System to deliver real-time analytics and predictive maintenance capability. With seamless integration, digital twin capabilities, and automated performance tracking, I-Sight enhances system availability, safeguards asset economics, and supports scalable, future-proof energy storage architectures.

12:00 pm Accelerating Electrical Interconnections with AI-Powered Energy Hubs
John Glassmire, Vice President of Digital Enablement and Transformation, Hitachi Energy

Increasing electrification—data centers, e-mobility, industrial electrification—are straining traditional electric grid access approaches. Growing interconnection queues, both for loads and generators, drive the need for energy hubs, which optimize asset use with business models for managing increasing amounts of data. Advanced energy hub analytics, paired with AI models on both sides of the utility meter, can reduce costs across project lifecycle, from planning to building to operations to maintenance.

12:30 Networking Luncheon

1:15 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

ADVANCING AI FOR BATTERY APPLICATIONS

1:45 Chairperson's Remarks
Mona Faraji-Niri, PhD, Assistant Professor, Energy Systems, Energy Innovation Centre, University of Warwick

1:50 Battery AI: Hype vs. Reality, and Real-World Use Cases
Tal Sholklapper, PhD, CEO & Co-Founder, Voltaiq

As an MIT study recently highlighted, the hype around AI has failed to materialize measurable returns, with a 95% failure rate. We'll review a range of the battery industry's ambitious claims and aspirations around AI applications, including proof-of-concepts that are failing to deliver. We'll then lay out the data building blocks needed to enable scalable AI. Finally we'll show real-world battery AI delivering measurable returns in production with customers.

2:20 Presentation to be Announced STRCPOWER迅洋技术

2:50 How Rivian Is Using AI to Make EV Charging Smarter
Yash Gupta, Data Scientist, Rivian

Electric vehicles are pivotal for decarbonizing transportation. However, over 70% of EV owners charge immediately after reaching home, missing cheaper, cleaner electricity, even when plugged-in during optimal

hours. This represents a significant opportunity for OEMs like Rivian to unlock substantial cost savings and emission reductions at scale. This presentation explores how Rivian leverages AI to transform EVs from grid liabilities into intelligent energy assets benefiting owners, utilities, and the environment.

3:20 **Refreshment Break in the Exhibit Hall with Poster Viewing**
(Sponsorship Opportunity Available)

PLENARY KEYNOTE

3:50 **Shep Wolsky Battery Innovator of the Year Award Presentation and Chairperson's Remarks**
Craig Wohlers, General Manager, Cambridge EnerTech

3:55 **LFP Cells Are Boring—Why Should I Care?**
Jeff Dahn, FRSC, PhD, Professor of Physics and Atmospheric Science & NSERC/Tesla Canada Industrial Research Chair, Dalhousie University
LFP Li-ion cells are now the most common cells in energy-storage products and EVs. They are inexpensive and since they are relatively safe, they can be made in large-Ah-capacity cells, reducing cost and complexity in battery modules and packs. I will explain how to make LFP cells exciting, including strategies to dramatically increase their energy density.

4:15 **Delivering Advanced Battery Technologies for EV Range and Value**
George Cintra, Director, Battery R&D, General Motors
General Motors is building an electrification powerhouse, having launched a dozen EVs into the market, ranging from the Equinox EV to the Cadillac Escalade IQ. General Motors is pioneering next-generation battery and manufacturing technologies, such as prismatic cells with LMR cathodes. Mr. Cintra will provide an update on GM's battery research & development activities and innovations to deliver longer range, lower costs, and faster-charging batteries for EV customers.

4:35 **Today's EV Reality and the Path Forward**
Tim DeBastos, Managing Director, North American Battery Development, LG Energy Solution
LG Energy Solution is the leading lithium-ion battery manufacturer, working with the top OEMs globally in transforming the automobile industry. The market for EVs is expanding rapidly, driven by both consumer demand and regulatory incentives. In North America, there are unprecedented levels of investment to support EVs, by both OEMs and battery manufacturers. This presentation will discuss market growth projections, announced expansion plans, and the challenges ahead.

4:55 **Panasonic Energy: Driving Battery Technology Innovation for Sustainable Growth**
Masato Fujikawa, Director, Energy R&D Center, Panasonic Energy Co., Ltd.
Panasonic Energy has been at the forefront of battery technology development, driving the growth of BEVs and AI. To meet increasing market demand, we are expanding our production capacity in North America and strengthening strategic partnerships. These initiatives will contribute both to the realization of a sustainable society and to our business growth. This presentation will highlight the innovative activities within our battery business from a technological perspective.

5:15 **First Steps for Blue Solutions' Solid-State Batteries: From Applications to End-of-Life Management**
Richard Bouveret, CEO & Chairman, Blue Solutions, Bolloré Group
Solid-state batteries have been in development for decades. Blue Solutions' gen4 polymer lithium-metal SSB is transitioning from lab cells to real-world applications. The company has developed a demonstrator electric two-wheeler, surpassing Li-ion battery performance. The presentation will cover lessons learned and the overall development strategy focused on three pillars: safety, sustainability, and smart technology, including an innovative recycling process that recovers 90% of the metallic lithium from Blue Solutions' cells.

5:35 **Reception in the Exhibit Hall with Poster Viewing**
(Sponsorship Opportunity Available)

6:35 **Close of Day**

WEDNESDAY, MARCH 25

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

AI FOR BATTERY MANUFACTURING APPLICATIONS

7:55 **Chairperson's Remarks**
Weihan Li, Junior Professor, RWTH Aachen University

8:00 **Sponsored Presentation** *(Opportunity Available)*

8:30 **Manufacturing Process Modeling and Optimization Based on a Hybrid (AI and Physics-Based) Approach**
Mona Faraji-Niri, PhD, Assistant Professor, Energy Systems, Energy Innovation Centre, University of Warwick
The manufacturing process of batteries has 140 steps and almost 600 variables, which make the optimization of battery performance against the manufacturing process very challenging. AI techniques provide an opportunity to formulate and understand the impact of key variables. Such AI-based practices are to make the product performance predictable and reduce the number of tests and experiments needed for its design and optimization.

9:00 **Virtual and Mixed-Reality Platforms for AI-Enhanced Battery Manufacturing**
Alejandro Franco, PhD, Professor, Reactivity & Chemistry of Solids Lab, University of Picardie Jules Verne
In this lecture, I will present our research on AI-driven virtual and mixed-reality platforms to enhance decision-making and training for battery manufacturing operators and students. Examples showcase a battery manufacturing metaverse, where geographically dispersed students collaboratively troubleshoot problems, and specific mixed-reality applications for real-time guidance. This work highlights how immersive AI technologies can optimize both operational efficiency and educational outcomes in the battery sector.

9:30 **Sponsored Presentation** *(Opportunity Available)*

10:15 Coffee Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

11:05 From Molecules to Market: Multiscale Machine Learning and Informatics for Solid-State Electrolyte Design, Integration, and Scale-Up
Amir Taqieddin, PhD, Materials Informatics Scientist, Solid Power
The demand for better batteries has outgrown trial and error. This talk shows how Solid Power integrates multiscale machine learning, informatics, and physics-guided surrogates to design efficient solid-state electrolytes, linking atomistic structure to process conditions and cell metrics. We demonstrate ultra-early predictions, intelligent design of experiments, and robust optimization pipelines that speed materials design, streamline cell integration, and improve manufacturing scale-up to deliver a faster, more effective path to market for solid-state electrolytes.

11:35 Scaling AI for Solid-State Battery Manufacturing: From Defect Detection to ML Pipelines
Xiaoyu Wen, Principal Member of Technical Staff, QuantumScape
Next-generation batteries require intelligent, adaptive manufacturing systems to scale ceramic-based architectures and meet demands for high energy density and safety. Innovative developers use AI to optimize processes, enabling high-throughput and predictive analytics. The session will detail how image-based deep learning models detect product defects in ceramic separators. These robust machine learning pipelines are scaled to optimize yields, ensure safety and reliability, and accelerate defect-free solid-state battery manufacturing.

12:05 pm Sponsored Presentation *(Opportunity Available)*

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

1:50 Close of Conference Track

WEDNESDAY, MARCH 25

12:35 pm Registration Open

12:35 Interactive Roundtables and Networking Luncheon
(Sponsorship Opportunity Available)

1:20 Dessert Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

BATTERY SAFETY AND RELIABILITY

1:50 Chairperson's Remarks
Yuandan Li, PhD, Senior Reliability Engineer, Product Integrity Engineering, Google Inc.

1:55 A Unified Machine-Learning Framework for Predicting Energy Yield and Classifying Failure Modes in Battery Thermal Runaway
Simran Kumari, PhD, Senior Research Scientist, Materials Informatics, Nissan
A data-driven framework is introduced for predicting the energy yield and classifying the trigger mechanism of thermal runaway in lithium-ion batteries. The core of this approach is a 2D uniform data augmentation method that corrects for severe data imbalances across multiple feature dimensions simultaneously. A stacked ensemble regressor trained on this balanced data demonstrates high predictive accuracy across all failure modes, providing a valuable tool for designing safer battery systems.

2:25 Mathematical Modeling of Thermal Runaway
Ahmed Said, PhD, Engineer, Battery Safety, Lucid Motors
This talk presents mathematical modeling approaches to understand and simulate thermal runaway in lithium-ion batteries, focusing on capturing the complex-heat and mass-transfer processes that drive this critical phenomenon.

2:55 Sponsored Presentation *(Opportunity Available)*

3:25 Refreshment Break in the Exhibit Hall with Poster Viewing
(Sponsorship Opportunity Available)

3:55 Shifting Left: Agile Battery-Reliability Validation for Fast-Paced Consumer-Electronics Product Development
Yuandan Li, PhD, Senior Reliability Engineer, Product Integrity Engineering, Google Inc.
The fast pace of consumer-electronics development often challenges the validations for lithium-ion batteries, which are long lead-time and critical components. To navigate this constraint, reliability validation needs to be agile. This talk details Google's "shift-left" strategies to expedite battery validation. We will share practical approaches covering three key phases: early mechanical-risk validation; module-system validation correlation; and longevity assessment for intended field life.

4:25 Engineering of Solid-State Sulfide Electrolytes, Other Materials, and the Prototyping of All-SSB
Lane Crofton, R&D Research Engineer, R&D Aerospace Defense & Performance ADP, SAFT America
Solid-state batteries provide an excellent opportunity for innovation, thanks to their ability to combine higher energy density, greater power, and increased safety—but require new materials and processes. This talk will review Saft's position in the technological development of all-solid-state batteries (ASSB) and our progress in working with sulfide electrolytes. Topics of discussion include screening for sulfide and silicon materials, creation of protective layers, and growth areas for prototype development.

4:55 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.

5:25 Close of Day

THURSDAY, MARCH 26

8:00 am Registration Open and Morning Coffee

BATTERY-PACK ENGINEERING

8:25 Chairperson's Remarks
Roman Yakobov, Battery Engineering Manager, Electrical Engineering, Plug Power Inc.

8:30 Sponsored Presentation *(Opportunity Available)*

9:00 Battery Module/Pack Design around Safety
Roman Yakobov, Battery Engineering Manager, Electrical Engineering, Plug Power Inc.
This talk explores key challenges in battery-module design, focusing on thermal malmanagement with high-power cells in confined spaces—particularly in the material-handling sector. Drawing from real-world experience, it covers failure scenarios, design strategies, and novel thermal solutions using both emerging and commercial materials. Attendees will gain actionable insights into how engineering decisions impact thermal behavior across the battery development lifecycle.

9:00 Coffee Break in the Exhibit Hall

9:30 Presentation to be Announced

COMSOL

10:00 Battery Booth Crawl with Bagels in the Exhibit Hall with Last Chance for Poster Viewing

10:45 Three Ways to Compute Lithium-ion Cell Impedance from Physics-Based Models
Gregory L. Plett, PhD, Professor, Electrical & Computer Engineering, University of Colorado, Colorado Springs
The impedance spectrum of a lithium-ion battery cell contains a rich amount of information regarding the cell's physical properties. It can be measured in a straightforward way using electrochemical-impedance spectroscopy (EIS) and the measurements can be regressed against a physics-based model to infer model parameter values. To do so, we must be able to simulate the model quickly and accurately: this talk addresses three approaches to doing so.

11:15 A Comparative Review of Simplified Battery Models Used for Advanced Controls
Scott Trimboli, PhD, Professor, Electrical & Computer Engineering, University of Colorado, Colorado Springs
Battery management systems must perform several tasks, including estimating state of charge, state of health, state of power, and state of energy. Various approaches are available to accomplish these goals. This

tutorial will give an overview of commonly used methods and discuss some of their individual advantages and disadvantages. Methods based on empirical equivalent circuit models will be highlighted, but methods using physics-based models will also be introduced.

11:45 Sponsored Presentation *(Opportunity Available)*

12:15 pm Enjoy Lunch on Your Own

THERMAL MANAGEMENT

1:10 Chairperson's Remarks
William Walker, CTO, KULR Technology

1:15 Thermal Management Systems
William Walker, CTO, KULR Technology

KULR Technology Corporation, in collaboration with South 8 Technologies and NASA Johnson Space Center, is developing -60 °C lithium-ion batteries for deep-space and lunar missions under the Texas Space Commission's SEARF program. Using South 8's novel LiGas electrolyte in 18650-M35A and 21700-M52V cells, the project integrates the cells and KULR's kBMS into the KULR ONE Space (K1S) platform, culminating in an 8U CubeSat flight demonstration validating cryogenic, human-rated battery performance.

1:45 Li-ion Battery Safety & Thermal Runaway
Ahmad Pesaran, PhD, Advisor, Heat Sync

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.

2:15 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 such as gas sensors and hot particle filters.

2:45 Does the Electric Behavior Sufficiently Describe Battery State of Health?
Anna Stefanopoulou, PhD, William Clay Ford Professor of Technology, University of Michigan

Does the electric behavior sufficiently describe battery state of health? Not for cases with sizeable irreversible swelling from plating or gas evolution. Dimensional changes of cells can be harbingers of poor health.

3:15 Transition to Closing Plenary

CLOSING PLENARY PANEL DISCUSSION

3:30 Navigating the Global EV Growth in Harmony with Shifting US Policy, Demanding Energy Security, and Big-Data Requirements

Moderator: Christina Lampe-Onnerud, PhD, Founder and CEO, Cadenza Innovation

In this plenary closing discussion, we are ending the conference with a thought-provoking and insightful panel of experts led by Christina Lampe-Onnerud to help us think through: where is the US EV market going in the aftermath of the Big Beautiful Bill and how is this different in Europe and Asia? How do we as an industry navigate these uncertain times?

4:30 Close of Conference

4TH ANNUAL

BATTERY

VENTURE, INNOVATION & PARTNERING

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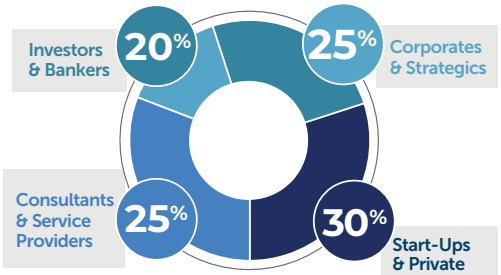

Features of the Event

- Co-located with the well-established *International Battery Seminar & Exhibit*
- Connect with multiple stakeholders across the entire battery value chain
- A unique opportunity for investors and innovators to understand each other's perspectives
- Panel sessions that are inspiring and highly relevant to investors, startups, and technologists
- Networking breaks and a collaborative atmosphere, facilitating discussions and potential partnerships
- Listen to successful entrepreneurs and venture firms to gain invaluable lessons for future innovators

Preliminary Agenda

Raising the Capital to Commercialize Technology—Fund Deep Tech to Scale
PANEL MODERATOR:
James Frith, Principal, Volta Energy Technologies
PANELISTS:
Jeff Johnson, General Partner, B Capital
Scott Walbrun, Principal, BMW i Ventures
Sidd Bhat, Executive Director, IFM Investors
Amanda Hall, CEO, Summit Nanotech

PANEL DISCUSSION: New Markets for Battery—Needs and Gaps, Let's Think Differently
PANEL MODERATOR:
Kyle Teamey, Managing Partner, Planetary Health, RA Capital
PANELISTS:
Paul Lichty, Co-Founder & CEO, Forge Nano
Curtis Collar, CEO, Nanotech Energy

PANEL DISCUSSION: What is the Future Battery Strategy for the West in the Next Five Years? —Domestic Supply Chain & Beyond
PANEL MODERATOR:
Ken Hoffman, Founder & CEO, Traubenbach
PANELISTS:
Annie Liu, Chief Commercial & Strategy Officer, Mangrove Lithium
David Klanecky, President & CEO, Cirba Solutions
Spencer Huh, CEO, Neo Battery Materials Ltd.

PANEL DISCUSSION: Where Innovation Still Matters: Charting the Future of Western Battery Leadership
PANEL MODERATOR:
Josh Stiling, Investment Director, Anzu Partners
PANELISTS:
Robert L. Galyen, Owner, Galyen Energy, LLC
Celina Mikolajczak, Advisor to the Battery Industry

PANEL DISCUSSION: Manufacturing Scale-Up—Where Startups can Go Big and Win
PANEL MODERATOR:
Eric Rosenblum, Managing Partner, Foothill Ventures
PANELISTS:
Daniel A. Steingart, PhD, Stanley Thompson Professor, Chemical Metallurgy & Chair, Earth & Environmental Engineering, Columbia University
Yan Wang, Professor, WPI, Co-Founder, Ascend Elements and Co-Founder, AM Batteries
Sungkwon Kang, PhD, Director, LG Technology Ventures

PANEL DISCUSSION: Bridging the Gap between GPUs and the Grid - Powering AI Data Centers with Next-Gen Batteries
PANEL MODERATOR:
Katherine He, Investor, TDK Ventures Inc.
PANELISTS:
Cameron Dales, Co-Founder, Peak Energy
Chetan Krishna, Principal and Head of Research and Diligence, Third Derivative
Dan Blondal, Founder & CEO, Nano One Materials

PANEL DISCUSSION: Material Informatics and AI in Battery Discovery: Is the Hype Real Yet? —A Road Map
PANEL MODERATOR:
Anil Achyuta, Partner, Energy Impact Partners
PANELISTS:
Rajesh Swaminathan, Partner, Khosla Ventures
Vivaswath Kumar, CEO, Mitra Chem
Qichao Hu, CEO, SES AI
Preparing for Diligence: Tips and Lessons Learned
Bill Grigos, Patent Attorney, Medler Ferro Woodhouse & Mills

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HOTEL & TRAVEL INFORMATION

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To book your discounted room, visit the, visit the **Hotel & Travel page**

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ENERGY BUSINESS REVIEW

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2025 Sample Attendee List

3M Global Application Specialist, Automotive & Aerospace Solutions	amazon Sr Interdisciplinary Systems Engineer, Operations Technology Infrastructure	Dir Battery Technology	Sr Battery Technology Engineer, Research & New Technologies & Innovations	Chevron GM Emerging Business, Chevron New Energies	DAIMLER TRUCK North America Program Mgr Battery & H2 Fuel Cell, Tech Qualification	DOW Assoc Research Scientist, Engineered Materials Corning Inc, Battery Technology Mgr, Environmental Technologies	DURACELL VP Front End Innovation, R&D	ExxonMobil Sr Market Dev Advisor, Carbon Material Venture	Ferrari Battery Cell Responsible, R&D
Ford Battery Research Engineer, Energy Storage Research	GM Dir of Battery R&D	Google Ford Motor Co, Battery Research Engineer, Energy Storage Research	HYUNDAI Sr Mgr, EV Battery Systems R&D	intel Sr Staff Engineer, Battery	GARMIN Staff Engineer, Electrification	JOHN DEERE Henkel Corp, VP Automotive Electronics & eMobility NAMEX	LG Managing Dir, NA Battery Dev	LUCID Sr Battery Cell EngineerProduct Planning Mgr, Product Electrification Planning & Strategy	Medtronic Principal R&D Engineer, Li ion Battery & Li Metal Battery R&D
Meta Safety Engineer	Microsoft Dir Battery Dev, Battery Technologies	Milwaukee Principal Battery Cell Engineer, Power Tools Technology	Dir Global Semiconductor & Battery Procurement, Supply Chain Organization	NREL Sr Mechanical Engineer, Vehicle Technology Integration	NISSAN Mgr, Battery R&D	Panasonic Chief Engineer, Energy R&D Center	PORSCHE Team Lead, Predev HV Cell Batteries	SAMSUNG Dir R&D	SHERWIN WILLIAMS Global Market Mgr & Energy & EV Battery, General Industrial
SIEMENS Engagement Mgr Battery Industry, Digital Industries Software	SONY Member, Power Mgmt Technology DevNanoscience Ctr	SPACEX , Sr Supplier Dev Engineer, Starlink Production , Sr Supplier Dev Engineer, Starlink Production	Stanley Black & Decker Battery Cell Dev Engineer, Power Tools Grp Panasonic Corp Energy R&D Ctr, Dir	TESLA Sr Dir	TEXAS INSTRUMENTS Head of Algorithm Dev, Battery Power Systems	TOYOTA Sr Engineer Process Mgmt Operations, Battery Cell Mfg Engineering Saab AB, System	Engineering Saab AB, System Environmental	VW Compliance Specialist	

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