



Battery Seminar 2025

Jul. 15, 2025: Day 1 – Battery Training Tutorials

8:00 am – 5:00 pm	Registration Open
8:00 am – 8:25 am	Breakfast with Networking Sponsored by AMERICAN BATTERY SOLUTIONS
8:25 am – 8:30 am	Welcome Note
8:30 am – 9:30 am	Tutorial A: Composite Electrodes and Electrode Binders for Lithium-ion and Advanced Battery Chemistries Gao Liu – Lawrence Berkeley National Lab Battery electrodes are polymer composite materials, comprising high contents of lithium-ion storage materials and a small amount of polymer electrode binder. The polymer binder serves multiple functions in the composite electrode. The structure of the composite determines the electrode's performance. New energy storage materials and chemistries, such as solid-state batteries, also require multifunctional electrode binders. This tutorial will focus on composite electrode properties and multifunctional binders.
9:30 am – 10:30 am	Tutorial B: Pushing the Boundaries of Energy Density with Li-rich Cathodes Assistant Professor Kent Griffith – University of California San Diego After decades of material development, battery energy density is reaching a plateau as NMC approaches $\geq 90\%$ nickel and the reversible capacity reaches 200–225 mAh/g. In order to further increase the capacity, the cathode needs more lithium. Two families of Li-rich cathodes—layered and disordered rocksalt—contain excess lithium (on the order of 20% more) and can reach capacities of 250–300 mAh/g. This talk will describe the promises and challenges of Li-rich cathodes.
10:30 am – 11:00 am	Coffee with Networking
11:00 am – 12:00 pm	Tutorial C: Molecular Understanding and Design Approaches for Developing Beyond Li-ion Batteries Professor Zhenan Bao and Hao Lyu – Stanford University The tutorial will cover recent progress in the understanding of the challenges in developing next-generation beyond-Li-ion batteries, as well as the development of molecularly designed liquid electrolytes and polymers for (i) stabilizing high-energy-density lithium metal batteries and (ii) improving lithium-sulfur batteries toward practicality.
12:00 pm – 1:30 pm	Lunch with Networking
1:30 pm – 2:30 pm	Tutorial D: Leading the Charge – Analytical Innovations for Battery Research & Manufacturing Joseph Moore – Bruker This tutorial introduces Bruker's Magnetic Resonance (NMR/EPR)-based methods for battery research and manufacturing, focusing on analysis of raw materials, slurries, electrolytes, and full cells. Attendees will learn how these techniques deliver quantitative, reproducible data for monitoring consistency, detecting process deviations, and optimizing formulations. Emphasis is placed on reducing scrap rates and cost per cell, while supporting scalable, data-driven manufacturing through integration into automated workflows.
2:30 pm – 3:30 pm	Tutorial E: Predicting Short Circuit Due to Accidental Mechanical Abuse of Lithium-ion Batteries Associate Professor Elham Sahraei and Yihan Song – Temple University This tutorial presents methods to predict internal short circuits in lithium-ion batteries under mechanical abuse. It covers failure mechanisms, experimental characterization, and multi-scale modeling approaches to assess short-circuit risk, with a focus on translating material-level damage to system-level safety predictions in electric vehicles and other high-impact applications.
3:30 pm – 4:00 pm	Coffee with Networking
4:00 pm – 5:00 pm	Tutorial F: Battery Powered Aerial Platform - Cell Selection, System Design and Engineering Tradeoffs Aiden Leonard – And Battery Aero This tutorial explores battery system design, cell selection, and optimization strategies for high performance airborne applications such as drones, UAVs, and electric aircraft. It covers Li-ion advancements, emerging technologies like silicon anodes, lithium-metal cells, and future chemistries capable of achieving 1,000 Wh/kg. Attendees will gain insights into enhancing specific energy, safety, and performance via cell, stack, and system-level decisions.
5:00 pm – 5:30 pm	Wrap-Up (Summary & Conclusions)

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Chairperson: Dr. John Warner – Chief Customer Officer at American Battery Solutions

Jul. 16, 2025: Day 2 – Energy Storage Systems in eMobility Applications

8:00 am – 6:00 pm	Registration Open
8:00 am – 8:30 am	Breakfast with Networking Sponsored by AMERICAN BATTERY SOLUTIONS
8:30 am – 9:00 am	Solid State Battery Commercialization Alvaro Masias – Ford
9:00 am – 9:30 am	Battery Innovations on the Path to Automotive Scale – Trends and Challenges Tobias Glossmann – Mercedes-Benz R&D North America
9:30 am – 10:00 am	Long-Term Battery Developments for Vehicle Electrification Oliver Gross – Stellantis
10:00 am – 10:30 am	Coffee with Networking Sponsored by MACCOR
10:30 am – 11:00 am	Key Energy Storage Drivers in Electrified Propulsion Aircraft Ed Lovelace – Ampaire
11:00 am – 11:30 am	Advanced Battery Solutions for eVTOL – Balancing Performance, Safety, and Customer Satisfaction Sun Kim – Pivotal
11:30 am – 12:00 pm	Battery Segment Comparisons for Electrified Air Mobility Rachael Barritt – magniX
12:00 pm – 1:30 pm	Lunch with Networking
1:30 pm – 2:00 pm	Understanding and Addressing Battery Cell Variability for Improved Automotive Applications Maithri Venkat – Lucid Motors
2:00 pm – 2:30 pm	Thinner, Lighter, Metal-Blocking Separators for Li-ion and Li-metal Brian Sisk – Sepion Technologies
2:30 pm – 3:00 pm	Quality at Scale – Lyten’s Transition from R&D to Pilot and Production Engin Tuncer– Lyten
3:00 pm – 3:30 pm	Coffee with Networking Sponsored by MACCOR
3:30 pm – 4:00 pm	High Performance Silicon Anode Cells Powering Electric Flight Ionel Stefan – Amprius
4:00 pm – 4:30 pm	How to Ensure Quality in Pack Production - A Tale of Two Manufacturers Tal Sholklapper – Voltaiq
4:30 pm – 5:00 pm	Building Cathode Supply Chain Through Efficient Ni Refining Haixia Casey Deng – Xera Energy
5:00 pm – 5:30 pm	Commercializing Future Generation Lithium Batteries with Molecule-Engineered Liquid Electrolytes Salil Soman – Feon Energy
5:30 pm – 7:30 pm	Cocktail Reception with Industry Networking

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Jul. 17, 2025: Day 3 – Energy Storage Systems in Stationary Grid Applications

8:00 am – 5:00 pm	Registration Open
8:00 am – 8:30 am	Breakfast with Networking Sponsored by AMERICAN BATTERY SOLUTIONS
8:30 am – 9:00 am	How Technology Helped Drive the Automation Connection Device Standard SAE J3105-1 Pat Hayes – ABB
9:00 am – 9:30 am	DC Distribution Systems and Megawatt Charging for Commercial Electric Vehicles Kevin Walkowicz – Eaton
9:30 am – 10:00 am	Vertiport Design and Electrification Robert Bassey – Federal Aviation Administration (FAA)
10:00 am – 10:30 am	Coffee with Networking
10:30 am – 11:00 am	Unique EVSE Installation Certification Options Rich Byczek – Intertek
11:00 am – 11:30 am	US Made On- and Off-Road Commercial Vehicle Batteries John Warner – American Battery Solutions
11:30 am – 12:00 pm	Creating Value Streams From Bidirectional Charging and State of the V2X Market Russell Vare – The Mobility House
12:00 pm – 1:30 pm	Lunch with Networking
1:30 pm – 2:00 pm	Bridging the Grid Gap – How Battery Integrated Chargers are Accelerating EV Charging Infrastructure Deployment Alex Urist – XCharge
2:00 pm – 2:30 pm	Multi-port Solid-State Transformers for Multi-Source Lowest-TCO Power Delivery with Increased Resiliency Thomas Schuldt – DG Matrix
2:30 pm – 3:00 pm	EVs as Our Biggest Distributed Energy Resource Opportunity Rudi Halbright – Pacific Gas & Electric
3:00 pm – 3:30 pm	Coffee with Networking
3:30 pm – 4:00 pm	Why Domestic Design is More Important Than Domestic Manufacturing Michael Worry – Nuvation Energy
4:00 pm – 4:30 pm	Enabling Data Centers and Utilities to Bypass Grid Constraints With Non-Flammable, Low-Cost Organic Flow Batteries Daniel Sottosanti – XL Batteries
4:30 pm – 5:00 pm	Cell-level Intelligence – Better Measurements for Better Analytics Joel Sylvester – Dukosi
5:00 pm – 5:15 pm	Closing Comments / End of Seminar

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Register Online: [PlugVolt Battery Seminar 2025 Online Registration Form](#)

Location – Battery Seminar 2025

Holiday Inn San Jose – Silicon Valley
1350 North 1st Street
San Jose, CA 95112 USA
Tel.: (001) 408-453-6200

Pricing

January 1, 2025	Registration Opens
January 1, 2025 – May 10, 2025	Early Bird: \$999/day, \$1299/2 days or \$1499/3 days
May 11, 2025 – July 05, 2025	Regular: \$1099/day, \$1399/2 days or \$1699/3 days
July 06, 2025 – July 17, 2025	Late: \$1199/day, \$1499/2 days or \$1799/3 days

- 10% group discount for 3+ attendees from the same corporation/institution (all attendees must register and pay at the same time)
- 25% discount for attendees from a government agency (a valid government ID is required)
- 25% discount for attendees from an academic institution (a valid academic institution ID is required)
- Contact us for additional attractive group discounts for parties of 5+ people attending from the same corporation/institution

PlugVolt® discounted room rate is available at the Holiday Inn San Jose – Silicon Valley until June 29, 2025, following which rooms may not be available and/or available at the prevailing rate. Reservations can be made directly at:

[PlugVolt Battery Seminar 2025 Hotel Bookings](#)

Program Outline

This seminar will provide an entire day of in-depth technical tutorials on solid-state batteries, next-gen anodes and cathodes, battery diagnostics, failure modes and best design practices for cell engineering, securing North American supply chain for gigafactories, etc.

These presentations will be accompanied by complementary industry updates offered by subject matter experts from major multinational OEMs, Tier 1 suppliers and battery manufacturers. Topics will cover several existing battery chemistries and their application to stationary/grid storage and e-mobility, along with recent advances in some Li Ion technologies, challenges in bringing these batteries to volume production, and any specific performance requirements driven by such applications.

The seminar will also host an evening reception where attendees will have plenty of opportunities for industry networking.

Questions?

Contact JC Soman at 1-877-PLUGVOLT or juratesoman@plugvolt.com for more details, or visit our website www.plugvolt.com or www.batteryseminars.com

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