FINAL AGENDA

November 4-5, 2024

Westin Alexandria Oldtown | Alexandria, VA + Virtual

The 14th Annual

BATTERY SAFETY SUMMIT

Implementing Lithium-ion Battery Safety to Meet Increasing Energy Demands

2024 CONFERENCE PROGRAMS

CHEMISTRY FOR SAFETY

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

ENGINEERING FOR SAFETY

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

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

SAVE $200!
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MONDAY, NOVEMBER 4

7:30 am Registration Open and Morning Coffee

8:20 Organizer's Remarks

CHEMISTRIES FOR AUTOMOTIVE APPLICATIONS

8:25 Chairperson's Remarks
Thomas Soczka-Guth, Senior Manager, HV Battery Lithium Ion Cells and BMS, Daimler Truck AG

8:30 Lithium-ion Cell Chemistries for Commercial Applications
Thomas Soczka-Guth, Senior Manager, HV Battery Lithium Ion Cells and BMS, Daimler Truck AG
Exploring lithium-ion cell chemistries for commercial applications, this study delves into diverse formulations, evaluating their suitability in battery technology for widespread commercial use and sustainable energy solutions.

9:00 GM Solid-State Battery: Recent Advances and Prospects
James R. Salvador, Chemical Sciences & Materials Systems Laboratory, General Motors Co.
Solid-state battery represents a promising future battery technology, owing to its merits in abuse tolerance, operable temperature ranges, and system integration. There are still technical barriers that hinder their practical application, such as poor interfacial electrochemical compatibility. In this talk, we will discuss different types of solid electrolytes and propose the strategies to effectively enhance the interfacial compatibility and prolong cell cycling stability, with targets on multiple GM vehicle applications.

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

SOLID-STATE LITHIUM-METAL

10:15 Material Design Principles for Solid-State Lithium-Metal Batteries
William Fitzhugh, PhD, Co-Founder & CEO, Adden Energy
This talk will discuss design principles for solid-electrolyte to enable safe solid-state lithium-metal batteries. Particularly, safety features necessary for adoption by the automotive industry and how solid-state lithium-metal batteries can achieve these will be explored. Contrasting with liquid and/or semi-solid-state approaches, true all-solid-state batteries can safely deliver lithium-metal energy densities, fast charging, and stable cycling if the solid-electrolyte is properly designed.

10:45 Solid-State Battery Safety: From Calorimetry to Characterization
Nathan Johnson, PhD, Postdoctoral Appointee, Sandia National Laboratories
The validity of improved safety often attributed to solid-state batteries has recently been investigated. Key findings indicate reaction pathways exist in SSBs which can release significant heat. That heat release may result in temperatures approaching, and in some cases exceeding, those seen in thermal runaway of conventional Li-ion batteries. In this talk, characterization of abused SSB materials will be examined and correlated to differential scanning calorimetry heat flows.

11:15 Sponsored Presentation *(Opportunity Available)*

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

12:15 pm Session Break

ELECTROLYTES

12:40 Chairperson's Remarks
Thomas Soczka-Guth, Senior Manager, HV Battery Lithium Ion Cells and BMS, Daimler Truck AG

12:45 Phase Field Modeling of Pressure-Induced Densification in Solid Electrolytes
Hakim H. Iddir, PhD, Physicist, Materials Science, Argonne National Laboratory
Phase field modeling used to study densification in solid electrolytes under pressure. Investigates microstructural evolution, aiding in material design for batteries. Offers insights into electrode performance enhancement. Valuable for renewable energy storage advancements.

1:15 Designing Multivalent Battery Electrolytes
Glenn Pastel, PhD, Materials Engineer, DEVCOM, U.S. Army Research Lab
Multivalent metal anodes contain sufficient gravimetric and volumetric capacity to complement lithium-ion battery materials, but issues associated with anode utilization and reversibility persist. This talk will summarize studies led by the Army Research Laboratory related to designing multivalent electrolytes and comment on safety considerations for multivalent batteries.

1:45 Advancing Net-Zero with Safer Batteries Engineering
He Li, PhD, Advisor, Chilwee Group Co. Ltd.
In this presentation, we emphasize our core value of Safety-Driven Design. From concept to commissioning, we integrate hazard analysis, risk assessments, and safety protocols into engineering designs. Leveraging digital tools, we provide a Safety in Design: HAZOP method for battery material engineering and we illustrate the Hazard and Operability (HAZOP) method for battery projects, ensuring robust safety practices throughout the commercial production line design.

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

SOLID-STATE AND ZINC BATTERIES

2:45 Safety Related to Solid-State Li-Metal Batteries
Mickael Dollé, PhD, Professor, Department of Chemistry, Université de Montréal
All-solid-state lithium-metal batteries (ASSB) are often presented as the future technology for improving the energy density and safety of today's Li-ion batteries. However, with higher energy density, the reactions that can occur during abusive use are numerous and potentially more energetic. This presentation will focus on the reactions to be considered in the presence of Li-metal, relying on thermodynamic models based on the composition of future ASSB.

3:15 Current Collector: The Forgotten Component
Sam Jaffe, Business Development Senior Manager, Addionics
Battery current collectors used to be off-the-shelf rolls of metal foil. Now they are getting lighter (down to 4 microns), more conductive (thanks to carbon priming), and more dimensional (3D topographies). This talk will explore the evolution of current collectors from dumb solid sheets of metal to intelligent and efficient highways for electrons.

3:45 Presentation to be Announced

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

5:15 Close of Day

TUESDAY, NOVEMBER 5

8:00 am Registration Open and Morning Coffee

8:50 Organizer's Remarks

CATHODES

8:55 Chairperson's Remarks
He Li, PhD, Advisor, Chilwee Group Co. Ltd.

9:00 Fast-Charging Zero-Cobalt Zero-Strain Stoichiometric Layered Cathodes

Huolin Xin, PhD, Professor, Department of Physics and Astronomy, University of California, Irvine

In this talk, I will talk about a universal strategy to entirely eliminate Co and reduce Ni content in traditional stoichiometric layered cathodes (e.g., NMC, NCA, etc.) while preserving the high specific energy (>800 wh/kg), high charge rate (>180 mAh/g at 3C), and moderate upper cutoff voltage (4.3 V vs. Li).

9:30 Next-Generation Cathode for Lithium-ion Battery

Tongchao Liu, PhD, Assistant Chemist, Chemical Sciences and Engineering Division, Argonne National Laboratory

This study explores leveraging iron metal as a cathode for sustainable Li-ion batteries through an anion solid solution approach, promising advancements in battery technology towards sustainability and efficiency.

10:00 Low-Cost and Sustainable Cathodes for High-Energy Automobile Batteries

Ray Xu, Co-Founder & CTO, Fermi Energy, Inc.

In this talk, I will discuss Fermi Energy, Inc.'s advances in developing cobalt- and nickel-free cathodes, fast-charging and all-weather electrolytes, and coal-derived anodes for EV batteries. Our battery cell prototype will achieve 250 Wh/kg, 625 Wh/L, 6.25-minute charging to 80%, =0.3% performance loss per °C, 90% capacity retention at 1500 cycles, and reduce cell cost to $60/kWh, using abundant low-cost raw materials to mitigate supply chain risks.

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

NEXT-GENERATION CHEMISTRIES

11:00 Development of Aluminum/Air Battery

James Wu, PhD, Senior Research Scientist, NASA Glenn Research Center

The Subsonic Single Aft Engine (SUSAN) Electrofan project seeks high-capacity, high-performance, and safe battery tech for NASA's electrified aircraft program. Aluminum-air batteries show promise, but face challenges addressed in this paper's preliminary investigation.

11:30 Development of High-Energy and Long-Life Sodium-ion Batteries

Gui-Liang Xu, Chemist, Chemical Sciences & Engineering, Argonne National Laboratory

In this talk, I will talk about high-capacity cathode and anode development for sodium-ion batteries through new synthesis processing and advanced characterization. Specifically, I will present use of *in situ* synchrotron X-ray probes (XRD and TXM) to guide the design and synthesis of sodium-layered oxide cathodes with reduced native structural defects. I will also introduce the strategies to suppress the volume swelling of alloy anode development during cycling.

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

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

1:00 Session Break

BATTERY COMPONENTS AND MATERIALS

1:25 Chairperson's Remarks

He Li, PhD, Advisor, Chilwee Group Co. Ltd.

1:30 Enhancing Battery Safety with Higher Operating Temperatures

Brian McCarthy, PhD, CTO, EC Power

This talk will explore a potential future where lithium-ion cells are intentionally engineered for higher operating temperatures—and so revolutionize battery safety. By delving into cutting-edge advancements like solid-state batteries, which inherently thrive at elevated temperatures, we contemplate the possibility of harnessing higher operating temperatures as a design advantage rather than a limitation. We will also discuss the role that next-generation thermal management systems could play to facilitate this future.

2:00 Reducing the Risk of Thermal Propagation through Innovative Inactive Materials

Maddy Cox, Global Consortium Director, Soteria Battery Innovation Group

Due to uncontrollable latent defects or accidental damage, today's batteries are potentially unsafe. Soteria is dedicated to solutions for the root cause of battery safety events with patented technology that neutralizes the spark inside a battery, enabling cells to continue functioning after damage. In this presentation, Soteria will demonstrate how innovative inactive materials can reduce the risk of thermal propagation in batteries incorporated in various applications.

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

END-OF-LIFE

3:00 Lithium-ion Batteries through Fluorinated Materials

Joseph Sunstrom, PhD, Principal Development Scientist, R&D, Daikin America

3:30 Deactivation of End-of-Life Batteries

Corey T. Love, PhD, Materials Research Engineer, Alternative Energy & Chemistry, US Naval Research Laboratory

This talk details the risks associated with end-of-life batteries and explores techniques for deactivating them when they reach the end of their useful life. Among these techniques, saltwater immersion shows promise, but it is hindered by slow deactivation and potential electrolyte release.

4:00 Safe Recycling

Weikang Li, PhD, CTO, ExPost Technology, Inc.

Lithium-ion battery safety is critical from production to disposal. The rapid increase in LIBs has led to more fire hazards in the recycling process, necessitating more robust methods. Both electrochemical and chemical hazards must be managed for safe recycling. ExPost is developing new machinery to treat batteries safely and eliminate potential hazards before transportation. This system effectively reduces risks and costs, benefiting various battery-use and recycling stakeholders.

4:30 Close of Conference

MONDAY, NOVEMBER 4

7:30 am Registration Open and Morning Coffee

8:20 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

OEM & MANUFACTURING PERSPECTIVES ON BATTERY SAFETY

8:25 Chairperson's Remarks
Ahmad Pesaran, PhD, Chief Energy Storage Engineer, National Renewable Energy Laboratory

8:30 Cell Safety for Commercial Vehicles
Dragoljub Vrankovic, PhD, Manager, Team Cell Technology, Daimler Truck
Battery electric trucks can be the future backbone of the transport industry—combining maximum energy efficiency with good flexibility. Daimler Truck AG has proven with a number of projects and products on a global scale how capable these electric trucks can be. This presentation will investigate the special needs of batteries and cells for commercial vehicles with a special focus on the safety aspects.

9:00 Development of Time-Resolved X-Ray Diffraction Technology for Analysis on Thermal Runaway of Li-ion Battery
Hajime Nishino, Senior Engineer, Energy R&D Center, Panasonic Energy Co., Ltd.
To observe the rapid material transition in lithium-ion batteries during thermal runaway, we developed a specialized equipment for nail penetration utilizing synchrotron radiation XRD. Equipped with a wide-aperture Cd-Te detector, it allows for millisecond-scale observation of structural changes in cathode materials without moving the detector. In this presentation, we will report the measurement results of a battery with $LiCoO_2$ cathode.

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

KEY STANDARDS FOR ENERGY STORAGE

10:15 Energy Storage Codes and Standards: Ongoing Developments
Kevin Fok, Director of Compliance, LG Energy Solution Vertech, Inc.
This presentation covers recent developments in codes and standards for energy storage systems. While technology developments continue to outpace codes and standards developments, there are acceleration efforts underway to bridge gaps.

ABUSE TOLERANCE, ADVANCED TESTING, AND SIMULATION

10:45 Understanding the Hazards and Abuse Tolerance of Next-Generation Batteries
Donal Finegan, PhD, Staff Scientist Batteries, Electrified Transport, National Renewable Energy Laboratory
In this talk, an overview will be provided on what has been learned for conventional Li-ion batteries, how safety and abuse tolerance of cells are likely to change for up-and-coming technologies, as well as challenges and opportunities for reimagining safe cell and battery system designs.

11:15 Presentation to be Announced

11:30 Sponsored Presentation *(Opportunity Available)*

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

12:15 pm Session Break

12:40 Chairperson's Remarks
Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center

12:45 Multi-Functional Uses of Solvents in the Lithium-ion Recycling Process
Judy Jeevarajan, PhD, Vice President and Executive Director, Electrochemical Safety Research Institute, UL Research Institutes
With the increased use of lithium-ion cells for various applications from consumer devices to electric vehicle and grid energy storage systems, the accumulation of used batteries of this chemistry has increased exponentially. Recycling batteries of this chemistry will allow for recovery of expensive metals and contribute to a sustainable circular economy. ESRI's research studies have focused on using solvents that serve multiple functions in the initial process of recycling lithium-ion cells.

1:15 Dissecting Flood-Impacted Electric Vehicles: A Comprehensive Analysis
Tanvir Tanim, Battery R&D Engineer and Group Lead, Energy Storage Technology Group, Idaho National Laboratory
This presentation offers an in-depth analysis of 10 electric vehicles (EVs) affected by floodwaters during Hurricane Ian, procured from auction sites in Florida. Central objectives include generating insights gleaned from incidents involving saltwater-flooded EVs, documenting observations derived from teardown analyses, and offering valuable insights for future research endeavors focused on enhancing EV resilience.

1:45 Early Insights, Safer Outcomes—Advancing Battery Safety from the Ground, Up
Loraine Torres-Castro, PhD, Battery Safety Lead, Sandia National Laboratories
As the transportation sector moves towards full electrification, the performance limitations of Li-ion batteries are prompting the development of advanced battery technologies. However, battery advancements are frequently pursued with an emphasis on performance metrics, thereby relegating safety evaluation to later stages of development. This presentation will discuss our strategy for leveraging small-scale experimental results to forecast the safety profile of large-format cells, thereby informing safer and more effective battery technologies.

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

2:45 Na-ion Battery Safety Tests, Performance, and Mechanism
John Zhang, PhD, CTO/CSO, Celgard
To balance the high price of lithium, to find alternatives to the Li-ion batteries and lead-acid batteries, Na-ion batteries are rapidly R&D'ed with some scale of commercial production. The safety (tests) of Na-ion batteries are not well discussed. Here, we are going to present the safety test results and performance data of various Na-ion batteries and probe the mechanism of the Na-ion safety (tests).

3:15 Vibration Levels near Mine Utility Vehicle Lithium-ion Batteries
David Yantek, Lead Research Engineer, National Institute for Occupational Safety & Health
The mining industry is implementing lithium-ion batteries (LIBs) on mine utility vehicles (MUVs). The National Institute for Occupational Safety and Health (NIOSH) is investigating the effects of the harsh mining environment on MUV LIBs. Mining vehicle vibration levels could be high due to adverse travelway conditions. This presentation will discuss MUV vibration levels measured by NIOSH and vibration levels specified in standards and guidelines for LIBs.

3:45 Battery Thermal Runaway in Electric Vehicle (EV) Crash Simulations
Vidyu Challa, PhD, Reliability Manager, ANSYS, Inc.
As EVs become more mainstream, safety concerns are paramount for OEMs, consumers, and regulators. Owing to thermal runaway risks in EV crashes, it is important to know the mechanical deformation that triggers internal shorting. Understanding mechanical design limits helps design crashworthy vehicles while balancing the need for lightweighting. In this presentation, a cell-to-vehicle crash simulation will be discussed using LS-DYNA models with calibration and validation against experimental data.

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

5:15 Close of Day

TUESDAY, NOVEMBER 5

8:00 am Registration Open and Morning Coffee

8:50 Organizer's Remarks
Craig Wohlers, Executive Director, Conferences, Cambridge EnerTech

ABUSE TOLERANCE, ADVANCED TESTING, AND SIMULATION

8:55 Chairperson's Remarks
Judy Jeevarajan, PhD, Vice President and Executive Director, Electrochemical Safety Research Institute, UL Research Institutes

9:00 Science of Lithium-ion Battery Safety: Diagnostics and Modeling
Ahmad Pesaran, PhD, Chief Energy Storage Engineer, National Renewable Energy Laboratory
To design safer lithium-ion batteries for electric vehicles, a combination of experiments, diagnostic techniques, and multiphysics modeling tools are needed to understand how various abuses, such as mechanical crush, lead to electrical and thermal failures. NREL's Battery Abuse Diagnostics Laboratory can test and diagnose batteries under various abuse conditions—such as dynamic impact—and provides data as input to safety models, providing guidance to design safer cells and modules.

9:30 Integrating Spine Heat Sinks with 21700 Cells to Optimize Gravimetric Energy Density in a PPR Battery Pack
David Petrushenko, PhD, Postdoctoral Researcher, University of South Carolina; NASA Pathways Intern, National Aeronautics and Space Administration
This study introduces a battery design focused on improving the gravimetric energy density of a passively propagation-resistant (PPR) battery pack. This design integrates spine heat sinks as the primary path for heat dissipation. Commercially available 21700 cells were bonded to aluminum spines and arranged into a test module with a 36P electrical topology. We provide a concise overview of the design, thermal analysis predictions, and forthcoming PPR test results.

FORENSIC ANALYSIS

10:00 Safety in Li-ion Batteries—A Forensic Perspective
Tanveer Pathan, PhD, Research Fellow, WMG, University of Warwick
Forensic evaluation of lithium-ion batteries using advanced characterization techniques is extremely important to understand performance levels, capacity fade, and degradation/failure mechanisms. It is becoming imperative to understand the cell chemistries relating to operational phenomena in various cell formats. In addition to understanding failure mechanisms, a thorough understanding of the chemistries and component assembly is required to improve safety and performance.

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

THERMAL RUNAWAY MITIGATION

11:00 Investigating How Plastic Current Collectors Isolate Internal Shorts in Cylindrical Cells
Eric Darcy, PhD, Battery Technical Discipline Lead, Power Systems, NASA Johnson Space Center
Cylindrical cells <250 Wh/kg with Al-coated plastic current collectors (PCC) have demonstrated consistent tolerance to sharp and blunt nail penetration at all states of charge. Radiography and cell teardowns indicate that cathode-active materials at the nail interface delaminate from the vaporizing PCC and become electrically stranded. Cylindrical cells >250 Wh/kg with cathode PCCs have gone into immediate TR with nail penetration. What is driving design factor?

11:30 How Silicon-Anode Design Impacts Battery Safety
Gabriel Torres, Director of Product Management, Sionic Energy
Silicon has emerged as the leading next-generation anode material for lithium-ion batteries and is being used to replace traditional graphite to raise the overall energy density of cells. However, higher energy density is expected to correlate with safety concerns relating to cell self-heating rates and thermal events. The relationship between silicon loading and safety is elucidated through material and cell-level investigations, with solutions proposed with novel electrode and electrolyte designs.

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

1:00 Session Break

THERMAL RUNAWAY MITIGATION

1:25 Chairperson's Remarks
Vidyu Challa, PhD, Reliability Manager, ANSYS, Inc.

1:30 Assessing the Thermal Runaway Venting Hazards in High-Energy-Density Lithium-ion Batteries
Chuanbo Yang, PhD, Senior Engineer Energy Storage, Energy Conversion & Storage Systems Center, National Renewable Energy Laboratory
Thermal runaway venting in high-energy-density lithium-ion batteries presents significant hazards, including the increased likelihood of thermal runaway propagation, the release of combustible gases, and heightened fire risks. This presentation provides an overview of these dangers and introduces our integrated approach that combines experimental characterization with multiphysics modeling to deepen our understanding of these dynamic risks and investigate potential mitigation strategies.

2:00 Safety Evaluation of Sodium Commercial 18650 Cylindrical Cells: Fresh and Cyclic-Aged at Different Operating Temperatures
Ijaz Mohsin, Batteries Calorimetry & Safety, Karlsruhe Institute of Technology
In this study, commercial 18650 sodium-ion cylindrical cells undergo cyclic aging test at temperatures of 0°C, 25°C, and 40°C with the discharge rate of 1C, 2C, and 3C conditions (1C charge) to evaluate the influence of these parameters on degradation behavior, cyclic performance, and safety. The results reveal significant correlations between operating temperature, discharge rates, and safety parameters such as sodium plating, exothermic reactions, and self-heating rates.

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

3:00 A Discussion on Lithium-Iron-Phosphate Battery Safety and the Importance of Cell Quality
Adam Cohn, PhD, Managing Scientist, Materials & Corrosion Engineering, Exponent, Inc.
The recent rise in the popularity of lithium-iron-phosphate (LFP) batteries in the US has created a renewed interest in their safety characteristics. In this talk, we review our findings from evaluations of a range of LFP battery designs and discuss the potential safety implications of variations in cell designs, manufacturing quality, and failure behavior.

3:30 Enhancing Safety with Immersive Battery Thermal Management Fluids
Ya-Ting Liao, PhD, Associate Professor, Case Western Reserve University
This study investigates the thermal runaway behavior of lithium-ion batteries (LIBs) under two conditions: with and without immersion in a cooling fluid. Energy required to trigger thermal runaway, gas release, and fire are characterized and compared between the two setups. The findings shed light on the potential of using battery thermal management fluids to prevent and mitigate hazards associated with LIB thermal runaway, while also addressing the challenges involved.

4:00 Characterizing Safety of Commercial 21700 Lithium-ion Cells and Modules
Dhevathi R Rajagopalan Kannan, PhD, Research Scientist, Electrochemical Safety Research Institute, UL Research Institutes
This study focuses on the comprehensive characterization of the safety aspects of commercial 21700 Lithium-ion (Li-ion) cells and modules. The primary objective is to evaluate the safety performance of Li-ion cells under various stress conditions. Results of safety tests, including overcharge, overdischarge, external short tests, and external heating tests, will be discussed at the cell and module level.

4:30 Close of Conference

TUTORIAL*

Monday, November 4 | 5:30-7:00pm

** separate registration required*

TUT1: Battery Safety and Abuse Tolerance Validation

Instructor:

Shmuel De-Leon, CEO, Shmuel De-Leon Energy Ltd.

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HOTEL & TRAVEL

CONFERENCE VENUE AND HOTEL:

Westin Alexandria

400 Courthouse Square

Alexandria, VA 22314

Room Rate: $229 S/D

Discounted Room Cut-off Date: October 1, 2024

For Hotel reservations and more information, visit the travel page of CambridgeEnerTech.com/Battery-Safety

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

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

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- BenQ Materials Corp, VP R&D
- BMW Mfg Co, Battery Specialist, Materials and Process Analysis
- Concorde Battery Corp, VP Advanced Technology, Engineering
- Daimler Truck N America, Battery Materials Engineer, Powertrain Engineering
- DEKA R&D Corp, Engineer, Product Safety
- DuPont, Application Engineer, Battery Application Engineering
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- FDA CTP, General Engineer
- Ford Motor Co, Mgr, Electric Vehicle & Battery Safety
- General Motors, Lead Risk Mitigation Engineer & EV Safety SME, Electric Vehicle Occupational Safety
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- Japan Automobile Research Institute Inc, Sr Researcher, Environment R&D
- Jensen Hughes, Technical Expert, Research and Development
- LG Energy Solution Vertech, Dir Compliance
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- Mercedes Benz AG, Researcher
- NASA Johnson Space Ctr, Asst Dir of Energy Conversion, Power Systems
- Natl Electrical Manufacturers Association, Sr Program Mgr
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