



PLUGVOLT

July 2018 Battery Seminar

July 17, 2018: Day 1 – EnerDel Lithium Ion Battery Training

8:00 am – 5:00 pm	Registration Open
8:00 am – 8:25 am	Breakfast with Networking & Poster Presentations Sponsored by EXPONENT
8:25 am – 8:30 am	Welcome Note
8:30 am – 10:00 am	<p>Introduction to Battery Technologies, Markets and Applications Tomasz Poznar – Vice President of Business Development</p> <p>Module 1 will begin with a brief history of batteries and an introduction to the major battery chemistries in use today, both primary and secondary battery chemistries will be discussed. It will also discuss some of the many markets that are adopting advanced battery technologies.</p> <ul style="list-style-type: none"> • Intro to battery history, chemistry and technology • Markets and applications – today and tomorrow
10:00 am – 10:30 am	Coffee with Networking & Poster Presentations
10:30 am – 12:00 pm	<p>Lithium Ion Theory of Operation, Cell Components and Design Principles Dr. Mary Patterson – Director of Cell Engineering R&D</p> <p>Module 2 will begin with an introduction to electrochemistry and how batteries operate, followed by a discussion on the different types of chemistries that are available today and ending with a discussion around the components that make up the cell.</p> <ul style="list-style-type: none"> • Li-Ion cell theory of operation • Battery technologies comparison • Cell components and design
12:00 pm – 1:30 pm	Lunch with Networking & Poster Presentations
1:30 pm – 3:00 pm	<p>Design Criteria for Modules, Packs, Systems and BMS Derrick Buck – Director of Engineering</p> <p>Module 3 will include discussions on the design criteria for the development of modules, packs and large systems, including a discussion on requirements development and the associated BMS and electronics.</p> <ul style="list-style-type: none"> • Module, pack and system design criteria • Battery Management Systems (BMS) criteria for design
3:00 pm – 3:30 pm	Coffee with Networking & Poster Presentations
3:30 pm – 5:00 pm	<p>Overview of Manufacturing Processes and Implementing Quality Systems Athena Reed – Director of Quality</p> <p>Module 4 will include an overview of the process for cell manufacturing including mixing, coating, slitting, pressing, cell assembly and formation. Building on the cell manufacturing, the module will continue on by discussing the manufacturing of modules, packs and systems as well as the importance of implementing a quality system.</p> <ul style="list-style-type: none"> • Overview of cell manufacturing processes • Overview of module and pack manufacturing processes • The importance of quality manufacturing systems
5:00 pm – 5:30 pm	<p>Wrap-Up (Summary & Conclusions)</p> <ul style="list-style-type: none"> • Summary, conclusions and closing comments for Day 1

*Agenda subject to change without notice

All Day 1 presentations by EnerDel

Chairperson: Tomasz Poznar, Vice President of Business Development – EnerDel

July 18, 2018: Day 2 – Energy Storage Systems in Automotive Applications

8:00 am – 6:00 pm	Registration Open
8:00 am – 8:30 am	Breakfast with Networking & Poster Presentations Sponsored by EXPONENT
8:30 am – 9:00 am	Development and Vertical Manufacturing of Battery System for EV Yifan Tang – SF Motors
9:00 am – 9:30 am	State of Solid State Batteries for EV Applications Venkat Anandan – Ford
9:30 am – 10:00 am	Vibration Matters in Ultrasonic Welding of Li-ion Battery Wayne Cai – General Motors
10:00 am – 10:30 am	Coffee with Networking & Poster Presentations Sponsored by MACCOR
10:30 am – 11:00 am	Title TBA John Harris – Thor Trucks
11:00 am – 11:30 am	Motorsport, Driving Innovation for Production Electric Vehicles Ken Gould – Porsche North America
11:30 am – 12:00 pm	Case Study For Technical, Electrochemical & Economic Development of an Automotive Lithium Battery Jan Wohlmuther – P3 Group
12:00 pm – 1:30 pm	Lunch with Networking & Poster Presentations Sponsored by ENERDEL
1:30 pm – 2:00 pm	Typical Failure Modes and Design Considerations for xEV Lithium-Ion Batteries Ryan Spray – Exponent
2:00 pm – 2:30 pm	Success of LTO and its Future Akira Morise – Toshiba
2:30 pm – 3:00 pm	Impact of Changing Global Regulations on the Next Generation of 48V Hybrids Jason Muccioli – A123 Systems
3:00 pm – 3:30 pm	Coffee with Networking & Poster Presentations Sponsored by MACCOR
3:30 pm – 4:00 pm	48V Electrified Powertrain System Overview Matti Vint – Valeo North America
4:00 pm – 4:30 pm	Overview of 48V Powertrain Systems Carlton Brown – Robert Bosch Battery Systems
4:30 pm – 5:00 pm	Battery Pack Design and Controls for E-Mobility Harsha Nanjundaswamy – FEV North America
5:00 pm – 5:30 pm	Certification Challenges for Secondary Use EV Batteries Rich Byczek – Intertek
6:00 pm – 8:00 pm	Intertek Facility Tours with Cocktails Reception Exclusive opportunity to tour Intertek's 100,000+ square-foot Battery Testing Center of Excellence to learn about the latest testing methods for batteries of all sizes from coin-cell through electric vehicles. Intertek performs a variety of tests out of this facility, to industry and global standards, including life-cycling, vibration, environmental, abuse and safety certifications. See this facility firsthand and ask questions to resident experts, and enjoy some light appetizers and beverages while networking with industry peers.

**Agenda subject to change without notice*

July 19, 2018: Day 3 – Energy Storage Systems in Stationary Grid/Utility Applications

8:00 am – 4:00 pm	Registration Open
8:00 am – 8:30 am	Breakfast with Networking & Poster Presentations Sponsored by EXPONENT
8:30 am – 9:00 am	Automated Mobility Services and the Grid – Feeding Off Each Other Sam Abuelsamid – Navigant Research
9:00 am – 9:30 am	BESS Deployment for Utilities: Customer Interaction and Economic Drivers Adrienne Lalle – Consolidated Edison (Con Edison)
9:30 am – 10:00 am	TBA TBA
10:00 am – 10:30 am	Coffee with Networking & Poster Presentations Sponsored by DIGATRON
10:30 am – 11:00 am	Increasing Opportunities for Microgrids Michael Maiello – Schneider Electric
11:00 am – 11:30 am	Solar Microgrids – Solar & Energy Storage for Off-Grid Applications Joe O'Connor – Farasis Energy
11:30 am – 12:00 pm	Transforming Microgrids Through Clean Energy and Power Solutions Ramkumar Krishnan – NantEnergy (formerly Fluidic Energy)
12:00 pm – 1:30 pm	Lunch with Networking & Poster Presentations
1:30 pm – 2:00 pm	Project Management and Experiences in Deploying Energy Storage Kevin Fok – LG Chem
2:00 pm – 2:30 pm	Making the Most Money From Your Microgrid and Future Proofing It! Suzanne Escudier – EnSync Energy
2:30 pm – 3:00 pm	Energy Storage in The C&I Market Sriram Emani – Younicos
3:00 pm – 3:30 pm	Coffee with Networking & Poster Presentations Sponsored by DIGATRON
3:30 pm – 4:00 pm	Design Evaluations and Failure Analysis of Large Format Stationary Lithium-Ion Batteries Joel Forman – Exponent
4:00 pm – 4:30 pm	Non-Battery Energy Storage Systems and Their Applications Mike Hopkins – Ice Energy
4:30 pm – 5:00 pm	Moving Beyond Theory – Is High Capacity Silicon Metal Applicable for the Stationary Storage Industry? If So, How and When? Jeff Norris – Paraclete Energy
5:00 pm – 5:15 pm	Closing Comments / End of Seminar

**Agenda subject to change without notice*

Location – Battery Seminar

The Inn at St. John's
44045 Five Mile Road
Plymouth, MI 48170 USA
Tel.: (001) 734-414-0600

Location – Facility Tour

Intertek
45000 Helm St. #150
Plymouth, MI 48170 USA
Tel.: (001) 734-582-2900

Pricing

January 8, 2018	Registration Opens
January 8, 2018 – May 12, 2018	Early Bird: \$699/day, \$1099/2 days or \$1399/3 days
May 13, 2018 – July 16, 2018	Regular: \$799/day, \$1199/2 days or \$1499/3 days
July 17 – 19, 2018	On-Site: \$899/day, \$1299/2 days or \$1599/3 days
Networking Pass – access to evening cocktails reception and Day 2 Intertek facility tour (no access to seminar)	\$200/person* *already included with minimum 1-day event registration

- 10% group discount for 3+ attendees from the same corporation/institution (all attendees must register and pay at the same time)
- 10% discount for attendees from a government agency (copy of a valid government ID is required)
- 10% discount for attendees from an academic institution (copy of 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 Inn at St. John's until July 01, 2018, following which rooms may not be available and/or available at the prevailing rate. Reservations can be made directly at:

[PlugVolt July 2018 Battery Seminar Hotel Bookings](#)

Program Outline

This seminar will provide an entire day of in-depth training by EnerDel on Lithium Ion battery chemistry, its manufacturing, battery management system (BMS) design, thermal management, testing and validation methodologies, safety processes, 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 automotive xEVs, 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 offer attendees an exclusive opportunity to take a tour of the 100,000+ square-foot Intertek Battery Testing Center of Excellence to learn about the latest testing methods for batteries of all sizes from coin-cell through electric vehicles. Intertek performs a variety of tests out of this facility, to industry and global standards, including life-cycling, vibration, environmental, abuse and safety certifications. See this facility firsthand and ask questions to resident experts, and enjoy some light appetizers and beverages while networking with industry peers.

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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