



## February 2015 Battery Seminar

Day 1 – Morning	Principles of Electrochemistry
Day 1 – Afternoon	Battery Safety & Overview of Alternative Technologies
Day 1 – Evening	Cocktail Reception – Facility Tour & Networking Mixer
Day 2 – Morning	Batteries & Their Integration for Automotive Applications
Day 2 – Afternoon	Grid Applications & OEM Battery Technology Updates

### Day 1: Tuesday, February 10, 2015

8:00 am – 6:00 pm	<b>Registration Open</b>
8:30 am – 8:55 am	Coffee with Networking & Poster Presentations
8:55 am – 9:00 am	Welcome Note/Introduction
9:00 am – 10:00 am	Module 1: Introduction to Cells and Batteries – Types of Batteries, Definitions, Cell/Battery Components
10:00 am – 11:00 am	Module 2: Thermodynamics & Kinetics of Cell Reactions, and Cell Design Principles for EDVs
11:00 am – 11:30 am	Coffee with Networking & Poster Presentations
11:30 am – 12:30 pm	Module 3: Latest Advancements in Cell Technologies (Electrodes, Electrolytes, Separators, etc.)
12:30 pm – 1:30 pm	Lunch with Networking & Poster Presentations
1:30 pm – 2:30 pm	Module 4: Evaluation of Battery Safety – Assessing & Defining Safe Operational Limits
2:30 pm – 3:15 pm	Module 5: Beyond Lithium Ion – Emerging Technologies
3:15 pm – 3:45 pm	Coffee with Networking & Poster Presentations
3:45 pm – 4:30 pm	Module 6: Alternative Energy Storage Technologies (Fuel Cells, Flow Batteries, etc.)
4:30 pm – 5:00 pm	Module 7: Electrochemical Model-based Battery Controls: Approaches and Benefits Tae-Kyung Lee – Ford
5:00 pm – 5:30 pm	Module 8: ECE R100 Requirements for European and Global Markets Rich Byczek – Intertek
6:00 pm – 8:00 pm	Intertek Facility Tour – Evening Cocktail Reception & Networking Mixer

*\*Agenda subject to change without notice*

Modules 1 to 6 will be presented by Dr. Paul Gifford

### Day 2: Wednesday, February 11, 2015

8:00 am – 6:00 pm	<b>Registration Open</b>
8:00 am – 8:25 am	Coffee with Networking & Poster Presentations
8:25 am – 8:30 am	Welcome Note
8:30 am – 9:00 am	Module 9: Lithium Ion Use in Transportation Markets & Next Generation Battery Technologies Sam Abuelsamid – Navigant Research
9:00 am – 9:30 am	Module 10: Stop/Start & 48V Light Electrification George Shaska – Ford
9:30 am – 10:00 am	Module 11: Title TBA (Invited) JT Guerin – General Motors
10:00 am – 10:30 am	Coffee with Networking & Poster Presentations
10:30 am – 11:00 am	Module 12: Applications Testing and Benchmarking Methods for xEV Batteries Carrie Okma – Chrysler



11:00 am – 11:30 am	Module 13: Polarization Issue of Silicon Contained Anode in Lithium Ion Batteries Xiaoguang Hao – Nissan North America
11:30 am – 12:00 pm	Module 14: Testing Methods for 48V Systems Elie Naim – AVL North America
12:00 pm – 12:30 pm	Module 15: The Lithium-Ion Battery – The Key to Vehicle Electrification Carlton Brown – Bosch Battery Systems
12:30 pm – 2:00 pm	Lunch with Networking & Poster Presentations
2:00 pm – 2:30 pm	Module 16: Optimizing Pack Integration Flexibility with Light Weight Battery Technologies Beth Sommers – Magna Steyr Battery Systems
2:30 pm – 3:00 pm	Module 17: How Are Low Voltage Powertrain Electrification Systems Impacting 12V & 48V Battery Requirements Sebastian Milan – Valeo North America
3:00 pm – 3:30 pm	Module 18: Implementing Small Cells into Large EV Packs Using “Weldless” Module Systems Darren Bischoff – Boston Power
3:30 pm – 4:00 pm	Coffee with Networking & Poster Presentations
4:00 pm – 4:30 pm	Module 19: Experiences with Utility-Scale Energy Storage Systems Kevin Fok – LG Chem
4:30 pm – 5:00 pm	Module 20: The Future of US Battery Manufacturing: Strategy, Value Proposition & Case Studies John Warner – Xalt Energy
5:00 pm – 5:30 pm	Module 21: Commercialization of Solid State Batteries: Sakti3 Technology and Roadmap Ann Marie Sastry – Sakti3
5:30 pm – 6:00 pm	Guest Speaker Panel Discussion: “What’s Next” for Energy Storage? Initiatives, Challenges and Opportunities for Technologies Beyond Lithium Ion
6:00 pm – 6:05 pm	Closing Comments/End of Seminar

\*Agenda subject to change without notice

## Poster Presentations (more TBA)

- **Wildcat Discovery Technologies** – Development of In Situ Gas Measurements for Lithium Ion Battery R&D – Dr. Dee Strand
- **TUV SUD America** – Is Your xEV Immune From Salt Water? – Bill Arrandale
- **Saint-Gobain Plastics** – Cold Temperature Performance of Pouch Cell Compression Pads – Mark Sinofsky
- **HEL Group** – Battery Modeling & Thermal Management Design Based on Calorimetry – Graham Hibbert
- **NEC Energy Solutions** (formerly A123 Energy Solutions) – Title TBA
- **NextEnergy** – Michigan’s Energy Storage Ecosystem and NextEnergy Support Services – Kelly Jezierski
- **Cap-XX** – Title TBA, Anthony Kongats
- **PEC North America** – ACT0550: The New Benchmark in Cell Testing – Peter Ulrix
- **Gamry Instruments** – Electrochemical Instrumentation for Battery Testing – Chris Beasley
- **Thermal Hazard Technology** – The Performance and Safety of 20Ah Secondary Lithium Cells; Testing with the Accelerating Rate Calorimeter (ARC®) – Jeff Rachford
- **Southwest Research Institute (SwRI)** – Estimating Degradation of a Battery Under Storage and Arbitrary Cycling – Jayant Sarlashkar and Bapi Surampudi

## Location

### Seminar

The Inn at St. Johns Golf Resort  
44045 5 Mile Rd.  
Plymouth Township, MI 48170  
USA

### Facility Tour & Cocktail Reception

Intertek  
45000 Helm Street, Suite 150  
Plymouth, MI 48170  
USA



Valued Quality. Delivered.



Limited rooms are reserved by the hotel at a discounted rate, and will be offered on a first-come-first-serve basis. To claim this discount, please use group code **10G6F4** during registration, or register directly at:

<https://bookings.ihotelier.com/bookings.jsp?groupID=1282073&hotelID=6153>

## Pricing & Registration

September 15, 2014	Registration Opens
September 15, 2014 – October 27, 2014	Early Bird Rate: \$699/day or \$949 for both days
October 28, 2014 – February 9, 2015	Regular Rate: \$749/day or \$1049 for both days
February 10, 2015 – February 11, 2015	On-Site Rate: \$799/day or \$1149 for both days

- 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

Payments can be made via check, bank wire transfer, or electronically using any major bank credit or debit cards.

## Questions?

Contact JC Soman at 1-877-PLUGVOLT or [juratesoman@plugvolt.com](mailto:juratesoman@plugvolt.com) for more details, or visit our website [www.plugvolt.com](http://www.plugvolt.com)

## Program Outline

This seminar will carry in-depth discussions on worldwide status quo of some raw materials presently under research, and technological advances and recent developments in anodes, cathodes, electrolytes, separators and other battery components. Topics will cover several existing battery chemistries, including NiMH and Li Ion and their application to xEVs, along with recent advances in some lithium ion technologies, challenges faced in bringing these batteries to a high volume production, and any specific performance requirements driven by such applications.

The seminar will also include an exclusive tour of the Intertek battery test facility. This offers attendees a unique opportunity to participate in a guided tour of Intertek battery performance and safety test lab, which supports environmental simulation, vibration, durability, battery performance and abuse, and electrical safety certification testing.

## Biography – Dr. Paul Gifford

Dr. Gifford received his Ph.D. in chemistry, specializing in electrochemistry, from the State University of New York at Buffalo in 1980. His work experience has included positions at Allied-Signal Inc., Gates Energy Products / Energizer, Duracell, Ovonic Battery Company, and Cobasys. Additionally, Dr. Gifford has worked in other areas including electro-catalysis, corrosion, and fuel cells. Paul has authored or co-authored numerous publications and holds several patents in the area of advanced batteries.



## Seminar Registration Form

Please fill out the paper form below, or register online electronically at address:

<http://tinyurl.com/PlugVoltFeb2015Seminar>

<b>Organization</b>	
<b>Title</b>	
<b>First Name</b>	
<b>Last Name</b>	
<b>Street</b>	
<b>City</b>	
<b>State</b>	
<b>Country</b>	
<b>Zip</b>	
<b>Phone</b>	
<b>Fax</b>	
<b>E-mail</b>	
<b>Where did you hear about this seminar?</b>	

Select preferred payment method:

- Wire transfer
- Check
- Credit card

Please forward an electronic copy of the completed registration form to JC Soman at [juratesoman@plugvolt.com](mailto:juratesoman@plugvolt.com)

Payments can be made via check, bank wire transfer, or electronically using any major bank credit or debit cards. All checks should be made payable to PlugVolt LLC.

Payment details will be sent upon receipt of completed registration form.

### Questions?

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