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October 15-18, 2018 • Hyatt Regency • Osaka, Japan

**CONFERENCE PROGRAMS**



**Lithium-Ion Battery Materials**  
 OCTOBER 16-17, 2018



**Conference Chair:**  
 Martin Winter, PhD, Chair, Applied Material Science for Energy Conversion and Storage, MEET Battery Research Center, Institute of Physical Chemistry, University of Muenster



**Batteries for Hybrid & Electric Vehicles**  
 OCTOBER 17-18, 2018



**Conference Chair:**  
 Menahem Anderman, PhD, President, Total Battery Consulting, Inc.

» Don't Miss the Must-Attend Tutorials on October 15



**Solid-State Batteries – Solid Electrolytes, Electrode Interfaces and Full Cells**  
 Jürgen Janek, PhD, Professor, Director, Center of Materials Research, Justus-Liebig University & BELLA, Institute of Nanotechnology, Karlsruhe Institute of Technology



**The Rechargeable Battery Market: Value Chain and Main Trends 2018 - 2028**  
 Christophe Pilot, PhD, Battery Survey Manager, Avicenne Energy, France

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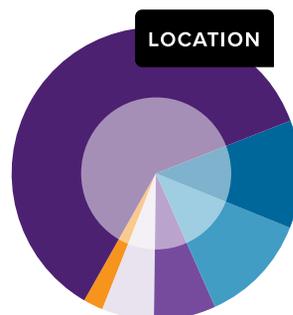
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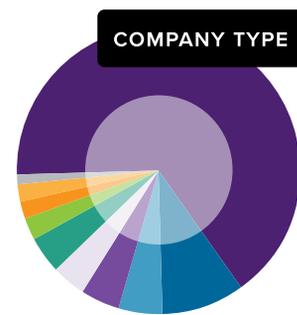
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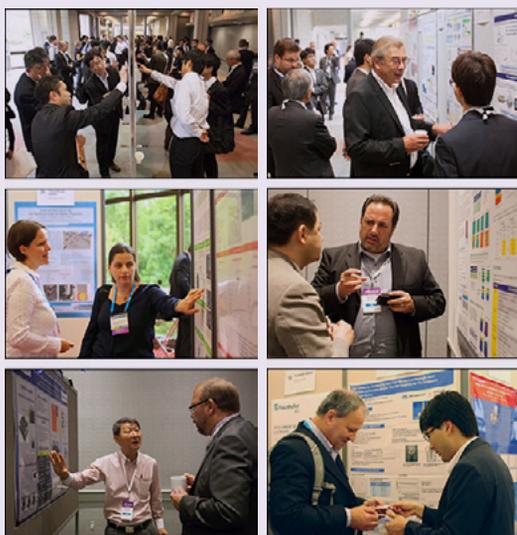
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## TUTORIALS\*

MONDAY, OCTOBER 15, 2018



12:30-14:30

### TUT1: Solid-State Batteries – Solid Electrolytes, Electrode Interfaces and Full Cells

This tutorial will give an overview on the current status of solid-state battery development. The scientific basis for solid-state batteries, i.e. solid state ionics, solid electrolytes and the specifics of solid/solid interfaces will be explained in detail. The different types of solid electrolytes (oxides, sulfides, polymers) will be introduced, and recent trends will be highlighted. The potential role and the function of the lithium metal anode will also be critically discussed. The chemo-mechanics of solid-state batteries will be another key subject, as volume changes of electrode materials can lead to mechanical instabilities. Finally, the long-term perspective of solid-state batteries and their practical application will be evaluated.

*Instructor: Jürgen Janek, PhD, Professor, Director, Center of Materials Research, Justus-Liebig University & BELLA, Institute of Nanotechnology, Karlsruhe Institute of Technology, Germany*



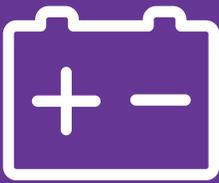
15:00-17:00

### TUT2: The Rechargeable Battery Market: Value Chain and Main Trends 2018 - 2028

This tutorial will present the 10-year automotive market forecasts from Avicenne and other analysts (micro|Hybrid|P-HEV|EV). Other coverage will include car makers' strategies and advanced energy storage (advanced lead acid|supercap|NiMH|LIB). Additionally, LIB design for P-HEV & EV markets (cylindrical, prismatic, pouch|wounded, stacked, Z fold cells) and LIB cell, module & pack cost structure 2018-2028 will be discussed.

*Instructor: Christophe Pillot, PhD, Battery Survey Manager, Avicenne Energy, France*

\*Separate registration required for Tutorials



# Lithium-Ion Battery Materials

From Raw Materials to the Latest Advancements in Battery Chemistries

October 16-17, 2018 • Hyatt Regency • Osaka, Japan

## TUESDAY, OCTOBER 16

8:00 Registration and Morning Coffee

### GLOBAL RAW MATERIALS SUPPLY – TRENDS & ANALYSIS

#### 9:00 Chairperson's Opening Remarks

Yuan Gao, President & CEO, Board Director, Pulead Technology Industry Co., Ltd., China

#### 9:05 Managing the Supply Chain to Sustain the Growth of Chinese EV Market

Yuan Gao, President & CEO, Board Director, Pulead Technology Industry Co., Ltd., China

An overview of Chinese EV market will be given. In particular, the impact of government incentives over the years, as well as different "flavors" of cathode materials for different sub segments of the EV market in China will be discussed. The impact of the recent development of the upstream raw materials (e.g. lithium and cobalt) will be touched upon too.

#### 9:30 LiB Material Trend Based on Growing xEV Market

Yoshiaki Tanaka, Senior Analyst, Industrial Technology Unit, Yano Research Institute, Ltd., Japan

This presentation will be about a market trend of LiB major 4 materials such as cathode, anode, electrolyte, and separator. The market size of these materials has been growing fast thanks to expansion of the xEV market, and high energy density materials will be a key factor to support this growth. Also, the market presence of Chinese material manufacturers has been rising based on their internal market growth. I will talk about recent and future market trends as to these 4 major materials based on LiB and application market, especially xEV.

#### 9:55 The Impact of High and Low Case Demand on Lithium, Cobalt and Graphite Anode Prices

Andy Leyland, Head of Forecasting, Benchmark Mineral Intelligence, United Kingdom

The wide range of demand forecasts for EVs has created uncertainty as to what level of raw material production is required. The presentation will show new data on the potential impact of both too little and too much demand on the supply chains for lithium, cobalt and graphite. This will include an assessment of upside and downside risks to prices for critical raw materials over the next 10 years.

10:20 Networking Coffee Break

#### 10:50 Talga high performance natural anode raw materials for current and next generation Lithium-ion batteries

Claudio Capiglia, PhD, Director, Battery Technologies, Talga Resources Ltd.

Talga Resources is an Australian advanced material technology company with 100%-owned high-grade graphite deposits in Sweden, including the largest resource in Europe, a test process facility located in Germany, and a cutting-edge product development team in Cambridge, UK. Recent developments include uniquely exfoliated and/or expanded cost-effective natural micro-graphite for Lithium-ion battery anode active materials with a higher capacity and rate performance, compared to common natural and synthetic commercial reference materials. In parallel Talga is developing a variety of natural graphene and micro-graphite materials suitable for next generation Lithium-ion battery technologies, including silicon composite anodes and nano-additives for cathodes. These naturally sourced materials are suitable for blending with various active materials to improve performance at a similar or lower price. Benefitting from our vertical integration and strategic locations, we can offer a secure supply of battery materials with a minimal CO2 footprint, due to unique processing techniques eliminating the need for power hungry production steps, and meet the increasing supply demand from the growing number of global Giga-factories. The vision for our future Lithium-ion battery material development, along with the accompanying technology roadmap, will be illustrated during the presentation.

#### 11:15 Geology Trumps Geography: Why OEMs and the Li-Ion Battery Value Chain Are Increasingly Heading into Uncharted Waters to Lock-In Their Raw Material Supply

Jack Bedder, Division Manager, Roskill Information Services Ltd., United Kingdom

This presentation will analyze the geographical distribution of the investments and supply agreements between miners and battery supply chain manufacturers, their relationship with pricing of these commodities, their potential in terms of battery output, and how these investments may change the deal structuring of battery raw materials procurement.

#### 11:40 Solvay's Latest Developments on Electrolyte Ingredients for Next Generation LIB

Yusuke Suzuki, Sales Development Manager, SOLVAY

A leading target of the Li-ion battery industry is to achieve high energy density at affordable cost without compromising on safety. Solvay has increased its efforts to propose electrolyte ingredients for enabling high voltage solutions. We present new results with fluorinated additives and Energain® on next generation cathode plus silicon-graphite anodes system.

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**12:05 Ensuring Battery Safety, Performance, and Reliability for Multiple Battery Suppliers in the EV Supply Chain***Tal Sholklipper, PhD, CEO, Voltaiq*

Rapid EV growth is creating a battery supply chain challenge due to the hundreds of EVs currently in development. This presentation will cover how automotive OEMs are using big data analytics to monitor and ensure battery quality and performance for every battery supplier regardless of where those batteries were manufactured.

**12:20 Q&A****12:40 Networking Lunch in the Exhibit Hall with Poster Viewing***(Sponsorship Opportunity Available)***ADVANCEMENTS IN LITHIUM-ION BATTERIES****14:30 Chairperson's Remarks***Martin Winter, PhD, Chair, Applied Material Science for Energy Conversion and Storage, MEET Battery, Research Center, Institute of Physical Chemistry, University of Muenster***14:35 FEATURED PRESENTATION: Recent Progress of LIB Technology and Future***Akira Yoshino, PhD, General Manager, Yoshino Laboratory, Asahi Kasei Corporation*

Recent technical trends of lithium ion batteries will be described. In particular, the ionic conductivity of the solid electrolyte has remarkably improved in recent years. It has also been clarified that all solid state batteries using these solid electrolytes have interesting battery characteristics. Discuss the features of this all solid state battery and the problems to be solved.

**5:25 Towards Silicon Based Batteries***Stefan Koller, PhD, CEO, VARTA Micro Innovation GmbH***15:50 Refreshment Break in the Exhibit Hall with Poster Viewing****16:35 Challenge of High-Ni Cathode Materials for Lithium Ion Batteries***Young-min Choi, Ph.D, Senior Research Fellow/Vice President, Advanced Materials R&D, LG Chem***17:05 Improvements to Disordered Rock-Salt Li-Excess Cathode Materials***Dee Strand, PhD, CSO, Chemistry, Wildcat Discovery Technologies*

Cathode materials with higher energy density than layered oxide materials are required for future demands of vehicle electrification. Disordered rock-salt Li-excess structures, such as Li<sub>3</sub>NbO<sub>4</sub>, have been demonstrated to achieve capacities of greater than 300 mAh/g reversible capacities at elevated temperatures. The high capacity is believed to be due to reversible redox chemistry of the oxide anions. This new class of high energy cathode materials provides an opportunity for a step change increase in cell level energy density. However, improvements are still required.

**17:25 From Lithium Metal Powder to High Energy Batteries***Adam Best, PhD, Principal Research Scientist & Research Grp Leader, Metal Industries, CSIRO Manufacturing*

In order to enable higher energy batteries lithium metal is a key requirement for the anode. At present, there are a number of challenges to produce Lithium metal sustainably whilst ensuring that Lithium metal foils used in devices do not turn dendritic on continuous cycling. This presentation will address both of these topics and describe innovations which are being developed at CSIRO Australia.

**17:50 Q&A****18:15 Close of Day****WEDNESDAY, OCTOBER 17****8:30 Registration and Morning Coffee****9:00 Chairperson's Remarks***Martin Winter, PhD, Chair, Applied Material Science for Energy Conversion and Storage, MEET Battery, Research Center, Institute of Physical Chemistry, University of Muenster*Sponsored by  
**voltaiq****9:05 Towards High Energy Density Lithium Batteries through Novel Electrolyte Components***Martin Winter, PhD, Chair, Applied Material Science for Energy Conversion and Storage, MEET Battery, Research Center, Institute of Physical Chemistry, University of Muenster*

The long-term stability and safety of lithium metal and lithium ion batteries depends on the reactivity with the electrolyte and the formation of interphases. Here we present novel polymer and liquid electrolyte components that enable long term cycling of Li metal and lithium ion battery full cells. The concepts for electrolyte selection and formulation will be particularly highlighted.

**9:30 Electrolyte Solutions for High Energy Density xEV Libs***Yunxian Qian, PhD, Senior Research Scientist, R&D Center, Shenzhen CAPCHEM Technology Co. Ltd.*

Ni-rich or high voltage NMC cathode combined with graphite or Si-C composite anode was considered to be the most possible choice for high energy density xEV LIBs. Electrolyte solutions like cathode protecting additives, anode SEI additives and new fluoro-containing solvent system was proven to be effective to deal with the performance challenges like high temperature storage and cycling.

**9:55 From Liquid to Solid: High Conductivity Electrolytes for Lithium Batteries***Andreas Hintennach, PhD, Professor, Research HV Battery Systems, Daimler AG*

Novel and sustainable electroactive materials can help to decrease the ecological impact of novel battery concepts in the near future. While on the one hand, high energy density is required, the aspects of safety, lifetime get more important and often mean a challenge. All these requirements are met by very different approaches with different characteristics: all solid-state cells, high-energy materials, lithium-sulfur and even different systems, e.g. Na- or Mg-ion.

**10:20 Coffee Break in the Exhibit Hall with Poster Viewing****10:50 Topic: Solid State***Jürgen Janek, PhD, Director, Center of Materials Research, Justus-Liebig University & BELLA, Institute of Nanotechnology, Karlsruhe Institute of Technology, Germany***11:15 Li-Metal as the New Frontier in Battery Technology***Qichao Hu, PhD, Founder & CEO, SolidEnergy Systems Corp.*

SolidEnergy has introduced light semi-solid lithium metal batteries. The breakthrough technology incorporates a high concentration solvent-in-salt electrolyte capable of operating at room temperature as well as a protected lithium metal anode that is many times smaller and lighter than a graphite or silicon composite anode. Thus, SolidEnergy offers twice the energy density at an incredibly reduced weight when compared to conventional lithium-ion technology. The semi-solid design results from use of both solid and liquid electrolytes, and it features additives that prevent a lithium metal reaction, which otherwise forms dendrites.

**11:40 Kynar® Fluoropolymers in LiB – Range Extension for Cathode and Separator Coatings***Thomas Fine, PhD, Global Market Manager, Technical Polymers, ARKEMA*

Today, Kynar® Battery Solutions are represented by two flagship ranges – Kynar® HSV electrode binder resins and Kynarflex® LBG separator coating resins. During this presentation, Arkema will highlight its latest innovation in these 2 product lines to meet the always more demanding requirements in terms of performance and safety.

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**ARKEMA****12:05 Q&A****12:35 Networking Lunch in the Exhibit Hall with Poster Viewing***(Sponsorship Opportunity Available)***14:00 Close of Lithium-Ion Battery Materials**



# Batteries for Hybrid & Electric Vehicles

October 17-18, 2018 • Hyatt Regency • Osaka, Japan

## WEDNESDAY, OCTOBER 17

### 13:00 Registration

## MARKET DEVELOPMENT OF xEV BATTERIES

### 14:00 Chairperson's Introduction: xEV Market Expansion

*Menahem Anderman, PhD, President, Total Battery Consulting, Inc.*

### 14:10 Toyota's Views on Electrification of Major World Vehicle Markets

*Michael Lord, Executive Engineer, Toyota Motor Engineering & Manufacturing, NA*  
In the race towards electrified transportation, multiple regional and national policies are pushing and pulling OEM product strategies, often in different directions. Every OEM is looking to align electrified product strategy, not just with these policies, but also market conditions. This presentation will review Toyota's view on this topic and will touch upon worldwide sales trends, our expectations of market pull for different xEV technologies, and what the future might have in store.

### 14:35 Key Factors Affecting xEV Implementation

*Ted Miller, Senior Manager of Energy Storage Strategy and Research, Ford Motor Company*

Vehicle electrification is now occurring apace due to a variety of factors, including regulatory pressure, environmental concerns, and customer preference. There are key economic and technical enablers in play that are helping to usher xEV implementation. However, barriers to universal adoption remain. This presentation will consider what's working (enablers), such as increasing fuel cost and air quality concerns, as well as technical successes, including lower battery cost, increased energy density, and fast charging. Among the barriers, or what's not working, considered are vehicle package compromise, low temperature operating penalty, materials cost, etc.

### 15:00 Global xEV Market and Supply-Chain Development

*Wolfgang Bernhart, PhD, Senior Partner/Automotive, Roland Berger GmbH*

### 15:25 Refreshment Break in the Exhibit Hall with Poster Viewing

### 16:05 Key Issues in Promotion of Chinese Plug-In Vehicles and the Differences between Chinese NEVs and Those in the Rest of the World

*Mark Lu, PhD, Certified Senior Industrial Analyst, Industrial Economics & Knowledge Center (IEK), Industrial Technology Research Institute (ITRI)*  
In the past 5 years, the Chinese xEV market has become the biggest plug-in vehicle market in the world. Compared to the US, the promotion of Chinese New Energy Vehicles (NEVs) covers a number of key issues like policies, subsidies and regional promotions. Therefore, this presentation will highlight the differences between Chinese NEVs and those in the rest of the world. In addition, technical & industrial battery requests and the material supply-and-demand relationship will also be covered.

### 16:30 Latest Analysis of xEV and LIB Battery Technology and Market Trends

*Hideo Takeshita, President and CEO, B3 Corporation*

BEV/PHEV markets are continuing significant growth in these years with the future tighter environmental regulations as a background. B3 will present results for the latest status of the xEV market, examine the latest status of the LIB suppliers, and describe noteworthy moves including technology trends in this industry.

### 16:55 Global Leading Battery Manufacturers' Growth and Competition in the EV Market

*Kenny Kim, CEO, SNE Research*

The presentation will cover:

- The technical and business strategy of the top four xEV battery producers: Samsung SDI, LG Chemical, CATL and Panasonic.
- Battery Supply Chain management and Profitability at present and the future.
- Shortage situation of battery and material

### 17:20 Q&A

### 17:45 Networking Reception in the Exhibit Hall with Poster Viewing

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### 18:45 Close of Day

## THURSDAY, OCTOBER 18

### 8:30 Morning Coffee

## BATTERIES FOR HYBRID AND ELECTRIC VEHICLES

### 9:00 Chairperson's Opening Remarks

*Heinz-Willi Vassen, Director, C/EE Development Electric/Electronics, Audi China*

### 9:05 Battery Development for the New Camry HV

*Takanori Soejima, Assistant Manager, Battery Materials Engineering and Research Division, Toyota Motor Corporation*

The New Camry HV, released in 2017, introduced the lithium-ion battery with higher capability than those of the previous Camry HV. It also enables higher comfortableness for passengers by downsized package. We would discuss the development of the battery for the New Camry HV, including results from the safety and reliability evaluations.

### 9:30 Chinese Market Situation and its Impact on Battery Development

*Heinz-Willi Vassen, Director, C/EE Development Electric/Electronics, Audi China*

China is the main driver in the field of NEV with its rapid increasing competitor landscape and an "over regulated" market. The speech will focus on the challenges OEMs face in China NEV market to overcome the fast changing regulations and market demands, it will present an inside as well as an outlook on the battery development in China with its annual capacity update cycles and its assembly efficiency targets.

### 9:55 NEV Li-Ion Battery Technology Development for China and the Major World Markets

*Keith Kepler, PhD, CTO, Farasis Energy, Inc.*

The global trend of vehicle electrification is being driven by a variety of forces including regulatory pressure, environmental concerns and customer demand. How these forces influence OEM NEV product decisions vary from market to market as they try to best meet these requirements, preferably with a global strategy. Li-ion battery manufacturers need to consider the different priorities that emerge as they plan their technology development strategy. This presentation will give an overview of Li-ion battery technology development at Farasis to provide solutions for the global EV market.

### 10:20 Coffee Break in the Exhibit Hall with Poster Viewing

### 10:50 Can Batteries Support Ambitious Vehicle Electrification?

*Menahem Anderman, PhD, President, Total Battery Consulting, Inc.*

This presentation will assess the battery technology that is necessary to power the expanding EV Market. It will show that while xEV market expansion is now unstoppable, the pace of growth for each of the of xEV architectures is tied to i) regional-government regulations, ii) battery and vehicle technology and cost development, and iii) consumer eagerness. Li-ion batteries have been on a continuous path of technology improvement and cost reduction for 27 years. We will explore how much further the technology can evolve and whether or not a shift to a different chemistry or a drastic change in electrolyte, anode, or cathode composition are feasible in the next 8-10 years.

### 11:25 New Laser Developments for EV Materials Processing

*Shigetomo Mizutani, Market Development Manager, Coherent Japan, Inc.*

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Laser has been expected as a cost- and energy-saving process tool that enables material processing more precise and faster. Batteries, especially for EV, are demanded to be lighter weight with higher capacity. Coherent is introducing new laser developments for EV materials processing utilizing the unique process expertise and know-how.



**11:45 Continued Glimpses into xEV Batteries on the Market – AVL Series Battery Benchmarking**

Wenzel Prochazka, Manager, Battery Benchmarking Program, AVL List GmbH  
The Program provides a database for objective comparison in technical attributes as well as in engineering methodology with market competitors for clear system target definition of high performing, reliable and safe batteries. 270 different criteria are evaluated through AVL benchmarking metrics displayed in 8 high level attributes. The found integrated system performance values in cell, mechanical and electrical system are pointed out to support current and future development programs. Example vehicles are the Tesla Model 3, Volkswagen e-Golf and Chevrolet Bolt.

**12:10 Q&A**

**12:35 Networking Lunch in the Exhibit Hall with Poster Viewing**



**SPECIALTY EV MARKET DEMAND**

**14:00 Chairperson's Remarks**

Mo-Hua Yang, General Manager, TD HiTech Energy, Inc.; President, EnergyBus e.V.

**14:05 Advances in Development & Applications of BYD's Automotive & Specialty EV/PHEV's and Their Advanced Batteries**

Guishu Zhou, PhD, Director and Project Leader, BYD; Rui Zhou, PhD, Manager, BYD; Hanwen Li, PhD, Manager, BYD

The global EV/PHEV market has been growing of the past two decades and will continue to do so. This presentation provides EV/PHEV market information as well as current battery development at BYD. This presentation will also cover research strategies to solve the technical challenges faced by high energy density batteries including the cathode, anode materials and electrolytes. Finally, this presentation will highlight the realistic future goals and market outlook for batteries at BYD.

**14:30 Current Status & Trends of Advanced Batteries for New Energy Specialty Vehicles in China**

Jiqiang Wang, PhD, Director Emeritus, Taijin Institute of Power Sources and China Industrial Association of Power Sources (CIAPS), China; Yanlong Liu, General Secretary, Taijin Institute of Power Sources and China Industrial Association of Power Sources (CIAPS); Chenwei Xiao, Manager, Taijin Institute of Power Sources and China Industrial Association of Power Sources (CIAPS)  
EV/PHEV powered by lithium ion batteries have shown a significant forward development in China. It has been reported that there were production and sales of 794 and 777 thousand EV/PHEV units in 2017. The Li ion batteries for EV/PHEV reached 37GWh in total, among those, Li ion batteries with NMC reached 15.56GWh. In this case, energy density of practical Li ion battery (in cell level) reached more than 200Wh/kg. According to national technology roadmaps proposed in several key technology development plans, the energy density of advanced batteries will reach 300 Wh/kg (cell level) in 2020 and 400 Wh/kg in 2025, in addition the whole system cost will be reduced to equal or even less than 1 Yuan/Wh. In order to achieve the above goals, not only does the present technology need modification with increased safety and higher energy density, but there also needs to be a rapid increase in innovative research on key battery materials and new battery chemistries. Some recent R&D progress related to the above goals

and more analysis of EV/PHEV market trends in China will be presented.

**14:55 Honda Mobile Power Pack World Energy Innovation in Mobility and Living for the Sustainable Future**

Minoru Noguchi, Manager, International Standardization Planning Department, Honda Motor Co., Ltd.

There are concerns resulting from battery technology in which EVs are short-range, charge time is long, and vehicle cost is high. Honda thinks it rational to expand EVs from small vehicles which can be driven by small batteries. Using the mobile power pack as the core item, we will create a social system infrastructure including electric motorcycles, electric four-wheels, and portable power supplies. This system will make maximum use of renewable energy. This presentation will introduce necessary technologies as an example of a demonstration project developed in Asia.

**15:50 Hitachi's R&D Challenges of High Performance Lithium Ion Batteries for Specialty Applications**

Takefumi Okumura, PhD, Division Manager, Energy Storage Research Department, Center for Technology Innovation-Materials, Hitachi, Ltd. Research & Development Group

Hitachi has launched lithium ion batteries (LIBs) for use in hybrid delivery trucks, hybrid diesel trains, and hybrid electric vehicle. Major issues of the LIBs are improvements in energy density, safety, and lifetime. In this presentation, we will introduce recent R&D achievements, such as i) 320 Wh/kg-class high energy density LIB, ii) highly safe LIB employing hardly combustible electrolyte, and iii) life prediction model for enhancing the LIB's lifetime.

**15:20 Networking Refreshment Break**

**16:15 Addressing Application Specific Challenges in the Design of Low Voltage Thermal Management Systems**

Cole Fan, Senior Engineering Manager, Johnson Controls

Low voltage batteries must address the complexity of vehicle applications and requirements. Johnson Controls provides advanced system engineering capabilities to develop battery systems from requirement analysis, functional decomposition and thermal electrical life performance estimations.

**LIGHT ELECTRIC VEHICLE (LEV) BATTERY SYSTEMS**

**16:40 Li-Ion Battery Development for LEV Applications - Market and Technology**

Mo-Hua Yang, General Manager, TD HiTech Energy, Inc.; President, EnergyBus e.V.

In spite of the blooming of EVs, LEV (E-Bike) as E-personal mobility has received attention in the urban mobility for the first and last mile connection to the public transportation system. In order to overcome the material limitation in the further capacity increasing and keeping battery pack system cost down, a new format of standard Li-ion cell 21700 has been proposed by cell and EV manufacturers. The LEV market trend and 18650/21700 Li-ion cell development status will be discussed in this presentation.

**17:05 Q&A**

**17:30 Closing Remarks**

**17:35 Close of Conference**

**Hotel & Travel Information**

**Conference Hotel and Venue:**  
**Hyatt Regency Osaka**  
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**Discounted Reservation Cutoff Date:** September 21, 2018



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Advance Registration Rate until October 5	¥260,000	¥215,000	¥53,000
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Advance Registration Rate until October 5	¥150,000	¥110,000	¥20,000
Late Registration Rate after October 5	¥160,000	¥120,000	¥20,000

## CONFERENCE SELECTIONS

Tuesday - Wednesday   October 16-17	Wednesday - Thursday   October 17-18
C1: Lithium-Ion Battery Materials	C2: Batteries for Hybrid & Electric Vehicles

## TUTORIAL PRICING (Includes Access to Tutorials Only)

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One Tutorial	¥40,000	¥40,000
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## TUTORIALS

Monday   October 15	
TUT1: Solid-State Batteries – Solid Electrolytes, Electrode Interfaces and Full Cells	TUT2: The Rechargeable Battery Market: Value Chain and Main Trends 2018 - 2028

\*Full-time graduate students including Masters, PhD candidates and post-docs presenting a poster are eligible for the Student Fellow rate. A poster is required. Not eligible for additional discounts.

## DISCOUNTS

### Group Discounts are Available!

Special rates are available for multiple attendees from the same organization. For more information on group discounts contact Joseph Verange at 781-247-6263.

### Present a Poster and Save – ¥17,000

**Discount:** Poster abstracts are due by **September 7, 2018**. Once your registration has been fully processed, we will send an email containing a unique link allowing you to submit your poster abstract. If you do not receive your link within 5 business days, please contact jring@cambridgeenertech.com. \*AABC reserves the right to publish your poster title and abstract in various marketing materials and products. No extra discount for Student Fellows.

\*Twitter, LinkedIn, Facebook or any other promotional discounts cannot be combined. Discounts not applicable on Tutorials.

## ADDITIONAL REGISTRATION DETAILS

Each registration includes all conference sessions, posters and exhibits, food functions, and access to the conference proceedings link. Handicapped Equal Access: In accordance with the ADA, Cambridge EnerTech is pleased to arrange special accommodations for attendees with special needs. All requests for such assistance must be submitted in writing to CET at least 30 days prior to the start of the meeting. Video and/or audio recording of any kind is prohibited onsite at all CET events.

If you are unable to attend but would like to purchase the Advance Automotive Battery Conference Asia CD for ¥50,000 (plus shipping), please visit [AdvancedAutoBat.com/Asia](http://AdvancedAutoBat.com/Asia). Massachusetts delivery will include sales tax.

## How to Register: [AdvancedAutoBat.com/Asia](http://AdvancedAutoBat.com/Asia)

[reg@cambridgeenertech.com](mailto:reg@cambridgeenertech.com) | P: 781.972.5400 or Toll-free in the U.S. 888.999.6288

Please use keycode  
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Please refer to the Registration Code below:



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