

31st International Battery Seminar and Exhibit 2014

Primary & Secondary Batteries – Other Technologies

**Ft. Lauderdale, Florida, USA
10-13 March 2014**

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31TH INTERNATIONAL BATTERY SEMINAR & EXHIBIT

Sunday, March 9, 2014

**Early Seminar Registration -- 3:30 - 5:30 -- Embassy Suites Hotel Lobby
1100 SE 17TH Street, Fort Lauderdale, Florida**

Monday, March 10, 2014

7:30 -10:30 Registration for TUTORIALS ONLY at Convention Center

8:30 -10:00 Pre-Seminar Tutorial I: Materials and Components for Advanced Power Sources (Batteries, Fuel Cells, and Supercapacitors)

Prof. D. Aurbach, Bar Ilan Univ., Dept. Chemistry, Israel

Areas of focus include:

1. Classification of batteries, fuel cells and super-capacitors
2. The most important battery systems vs. scope of applications
3. On storage systems for load leveling applications
4. On power sources for electrical propulsion: from single cells to a full battery system
5. Classification of Li batteries
6. A brief review of characterization techniques
7. The road map for R&D of advanced rechargeable Li batteries
8. Electrolyte solutions for Li ion batteries
9. A review on anodes for Li ion batteries
10. A review on cathodes for Li ion batteries
11. a review on binders and separators
12. Capacity fading of rechargeable batteries, why?
13. Thermal aspects and safety issues of advanced batteries
14. Beyond Li ion battery technology 1: Li-sulfur and Li-oxygen systems
15. Beyond Li ion battery technology 2: Other metal-air batteries, sodium and magnesium batteries
16. In brief on super (EDL) capacitors, pseudo-capacitors and asymmetrical capacitors
17. Summary

10:30 -12:15 Pre-Seminar Tutorial II: The Rechargeable Battery Market and Main Trends 2013 - 2025

C. Pillot, Director, Avicenne Energy, France

Areas of focus include:

- A. The rechargeable battery market in 2013
 - By technology: Lead acid, NiCd, NiMH, Li-ion
 - By application: Portable, Industrial, Automotive
 - By battery suppliers
- B. Li-ion battery value chain (anode, cathode, electrolyte, separators)
 - Market & trends
 - Supplier/customer relations
 - Cost structure (CAPEX, manufacturing cost, etc...) in US, Europe, Japan, Korea or China
 - Entry barriers
 - New entrants strategy: Big chemicals like DUPONT, BASF or small start-up
 - Raw materials road map up to 2030
- C. xEV market in 2013 and forecasts up to 2025
 - Automotive market forecasts from Avicenne and other analysts (micro/Hybrid/P-HEV/EV)
 - Car makers strategies
 - Advanced Energy Storage (Advanced lead acid/SuperCap/NiMH/LIB) for each application
 - LIB design for P-HEV & EV market (cylindrical, Prismatic, Pouch / wounded, stacked, Z fold cells)
 - LIB cell, module & pack cost structure 2013-2020
- D. Advanced Energy Storage for Grid systems & renewable energy
 - Market needs (Frequency regulation, renewable energy)
 - Advanced Energy Storage system available (NAS, Zebra, Flow batteries, Lead acid, NiCd, LIB...)
- E. Could Lithium ion replace lead acid?
 - Forklift market
 - UPS, Telecom, Back-up
 - Medical
 - Marine
- F. Rechargeable battery market forecasts up to 2025

10:45 REGISTRATION AT CONVENTION CENTER

PLENARY SESSION

- 12:45 - 1:15 U.S. DOE Vehicle Technologies Office Battery R&D Plans and Progress – D. Howell, U.S. Dept. of Energy 1
- 1:15 - 1:45 The Joint Center for Energy Storage Research – Research and Innovation for Technology Beyond Li-ion - J. Chamberlain, ANL..... 9
- 1:45 - 2:15 State of the Automotive Battery Industry – A Powertrain Portfolio Perspective – M. Wright, Johnson Controls, Inc. N/A
- 2:15 - 2:45 PEV Market Update – M. Lord, Toyota 26
- 2:45 - 3:15 Na-ion Batteries: Electrode and Electrolyte Materials – S. Komaba, Tokyo Univ. Science 43
- 3:15 - 3:45 Break**
- 3:45 - 4:15 Investigation of the Main Cause of Li ion Battery safety – Internal Shorts - J. Zhang, Celgard 60
- 4:15 - 4:45 Who is Driving Who: 25 Years of Battery and Circuit Development – D. Heacock & D. Freeman, Texas Instruments 80
- 4:45 - 5:15 Present Status and Future Development of Primary Lithium Batteries in China - C. Lang, EVE, China 88
- 5:15 - 5:45 Renewable Energy Storage in Germany – How Renewables are Driving Stationary Energy Storage - C. Habermeyer, Germany Trade & Invest 108
- 5:45 - 6:15 Recharging Valence – J. Fisher, CEO, Valence 122
- 6:15 - 7:30 COCKTAIL RECEPTION -- OPENING OF EXHIBIT AREA and POSTER SESSIONS**

Tuesday, March 11, 2014

THE FUTURE

- 8:00 Coffee**
 8:00 - 8:30 Progress in High Energy Density Polymer Battery and Future Perspective - P. Cheng, Highpower International (HPJ) 133
 8:30 - 8:55 What Redox Couple for High Energy Density?..... 148
 S. Patoux, CEA-Liten
 8:55 - 9:20 Unveiling New Views and Future Prospects of Sulfur..... 170
 I. Belharouak, Argonne Natl. Lab
 9:20 - 9:45 The IBM Battery 500 Lithium/Air Project - W. Wilcke, IBM172
 9:45 -10:10 Graphene in Energy Storage - What's Fundamentally New 173
 M. Lerner, Oregon State Univ.
 10:10 -10:35 High Capacity Silicon-Graphene Anode for Li ion Batteries183
 R. Privette, XG Sciences
10:35 -11:00 Break – Exhibits Open

11:00 -12:00 Rechargeable Batteries for a Sustainable Modern Society - Prof. J. Goodenough, U. Texas

Slide Presentation with Q&A Live via Telephone N/A

12:00 - 2:00 Lunch Sponsored by EVE, China

- 2:00 - 2:25 New Developments in Li Ion Technology N/A
 H. Matsumoto, Panasonic

SAFETY

- 2:25 - 2:50 Making Sense of the UN Testing Requirements for Large Format Batteries and Proposed Changes Under Consideration N/A
 G. Kerchner, Wiley Rein
 2:50 - 3:15 Development of a Safer Li Battery Electrolyte Using Li-Imide Salts - M. Juzkow, Leyden Energy 196
3:15 - 3:45 Break – Exhibits Open
 3:45 - 4:10 Assessing the Fire Hazard of Li ion Batteries in Warehouse Storage
 B. Ditch, FM Global 205
 4:10 - 4:35 Future Innovation for Safety in Li ion Batteries 211
 N. Overfield, Battery Innovation Ctr.
 4:35 - 5:00 Batteries with Improved Safety Through Thermally Stable 224
 Separators – B. Morin, Dreamweaver
 5:00 - 5:25 High Specific Energy and Safe Lithium-ion Cells for AerospaceN/A
 Applications - R. Bugga, JPL
 5:25 - 5:50 Lithium Coin Battery Ingestion – A 5-Pronged Approach 231
 P. Cooper, Energizer
5:50 - 7:00 COCKTAILS in EXHIBIT and POSTER AREA

HYBRID AND SUPER CAPACITORS

- 8:15 Coffee**
 8:30 - 8:55 Advances in Electrochemical Capacitors and Hybrids 250
 R. Hamlen, consultant
 8:55 - 9:20 Capacitor Watt Second Throughput Efficiency 265
 T. Dougherty, Maxwell Technologies
 9:20 - 9:45 Composite Material for High Energy Density Ultracapacitors 273
 B. Padmakumar, Amperics
 9:45 -10:10 Ultracapacitors in Place of Batteries in Micro and Mild hybrid..... 277
 Vehicles – A. Burke, Univ CA Davis
BATTERIES AND CELLS
 10:10 -10:35 Solid Electrolyte Battery Market 2014 289
 S. DeLeon, Shmuel De-Leon Energy Ltd, Israel
10:35 -11:00 Break – Exhibits Open

12:00 - 2:00 Lunch Sponsored by EVE, China

- 2:25 - 2:50 The Evolution of Micro-Hybrid Systems Using Nickel Zinc 300
 Energy Stage - J. Phillips, PowerGenix

- 2:50 - 3:15 Development of Low Self Discharge Type Ni-MH Batteries with High Recovery Technology 315
 H. Teraoka, FDK TWICELL
3:15 - 3:45 Break – Exhibits Open
 3:45 - 4:10 Recent Advances in BASF Ovonic NiMH Battery Technology 323
 M. Fetcenko, BASF-Ovonic

THE GRID

- 4:10 - 4:35 Valuation of the Benefits of Battery Energy Storage 338
 D. Bradshaw, Consultant to NRECA
 4:35 - 5:00 Recent Developments in Grid Energy Storage 357
 H. Kamath, EPRI
 5:00 - 5:25 GE Energy Storage Systems and Applications Based on Sodium Nickel Chloride – M. Maroon, GE N/A
 5:25 - 5:50 Battery Systems for Smart Grid Applications 368
 F. Kruger, Roland Berger
5:50 - 7:00 COCKTAILS in EXHIBIT and POSTER AREA

Wednesday, March 12, 2014

LARGE FORMAT BATTERIES

- 8:15 Coffee**
 8:30 - 8:55 Recent Progress on R & D and Application of Advanced Batteries and Relative Materials Typically for xEV & BESS in China 385
 J. Wang, China
 8:55 - 9:20 Translation to Alternative Vehicles and Fuels 405
 R. Brodd, Broddarp
 9:20 - 9:45 Progress of BYD Batteries and Cathode Materials Characterization
 J. Li, BYD, China 420
 9:45 -10:10 Recent Progress of ATL EDV Batteries and Their Abuse Test429
 K. Wu, ATL, China
10:10 -10:40 Break – Exhibits Open
 10:40 -11:05 LG Chem's Large Format Battery Solutions - M. Alamgir, LG Chem
 437
 11:05 -11:30 Lishen Battery Technical Review 448
 J. Gao, Lishen, China
 11:30 -11:55 Mathematical Methods (Analytic Solutions) to Characterize Battery Systems - M. Verbrugge, GM 458
**12:00 - 2:00 Lunch Sponsored by:
 Highpower International (HPJ) and CIAPS**
 2:00 - 2:25 Advanced Lead Acid Batteries for Start-Stop and Micro Hybrid468
 Vehicles - G. May, Focus Consulting, U.K. & B. Monahov, ALABC
 2:25 - 2:50 Li-Ion Low Temperature Performance for EV 482
 R. Chamberlain, Boston Power
 2:50 - 3:15 High Performance Lithium Ion Batteries for Motor Sports Applications
 A. Osgood, A123 Systems N/A
3:15 - 3:45 Break – Exhibits Open
 3:45 - 4:10 LTO Chemistry for Micro-hybrid Transportation Applications 497
 Y. Roh, EIG

MATERIALS

- 8:15 Coffee**
 8:30 - 8:55 The Return of Confidence to Rare Earth Markets..... 552
 – Y. Gao, Molycorp
 8:55 - 9:20 Polymer Chemistry and the Building Blocks for Advanced 558
 Lithium Ion Anode Materials – A. Feaver, Energ2
 9:20 - 9:45 Layered to Spinel Conversion Free Li-rich NMC Cathodes for 567
 Li-ion Batteries - KM Abraham, Northeastern University
 9:45 -10:10 Development of Frontier Lithium-Ion Battery Cathodes 580
 M. Lefebvre, Samsung SDI
10:10 -10:40 Break – Exhibits Open
 10:40 -11:05 High Energy and High Power Cells Employing High Capacity 593
 Cathode Material – S. Sriramulu, TIAX
 11:05 -11:30 Advances in Electrolytes for Lithium Ion Batteries: A 605
 Mechanistic Understanding – B. Lucht, URI
 11:30 -11:55 Assuring Safety in Li-ion Batteries - B. Barnett, TIAX 617
**12:00 - 2:00 Lunch Sponsored by:
 Highpower International (HPJ) and CIAPS**
 2:00 - 2:25 Electrolyte for High Voltage Lithium-ion Battery: Challenges and Possible Solutions - Q. Shi, Capchem, China..... 642
 2:25 - 2:50 BASF Advanced Battery Materials for xEV and High-Performance Consumer Products - R. Wise, BASF 653
 2:50 - 3:15 The Resistive and Dielectric Properties of PVDF-based 663
 Microporous Membranes - T. Feaver, Porous Power
3:15 - 3:45 Break – Exhibits Open
 3:45 - 4:10 What we've Learned from Testing >250,000 Cells: New Cell 683
 Evaluation Methods and Data Mining Techniques Derived from High Throughput Screening
 S. Kaye, Wildcat Discovery Technologies

4:10 - 4:35	Large Temperature Range PHEV and Start-Stop Li4Ti5O12 Batteries V. Manev, Altairnano 508	4:10 - 4:35	High Performance Lithium Cathode Nanopowders Prepared by a Novel Methodology – T. Kullberg, Perfect Lithium Corp 690
4:35 - 5:00	Carbon/Graphite and Lead-Carbon Battery 521 J. Li, Superior Graphite	BATTERY MANAGEMENT	
5:00 - 5:25	High Performance Lithium Ion Battery for Motorcycles and Other .. N/A Vehicles - K. Ozawa, Enax, China	4:35 - 5:00	Ultra-low Power Management 715 U. Sengupta, T.I.
5:25 - 5:50	Binder Technology Advancements as a Means to Improved Li-ion Cell Performance - B. Cail, Zeon 536	5:00 - 5:25	Wireless Battery Management System for Safe, High- Capacity Energy Storage for Electric Vehicles and the Grid 729 J. Farmer, LLNL
6:00 - 7:00	COCKTAILS in EXHIBIT and POSTER AREA	5:25 - 5:50	Smart AC Adapter Simplifying Mobile PC Power 735 Measurement to Aid Battery Life Extension – K. Shah, Intel
		6:00 - 7:00	COCKTAILS in EXHIBIT and POSTER AREA

Thursday, March 13, 2014

RECYCLING / MANUFACTURING / SAFETY

8:15	Coffee
8:30 - 9:00	IEC 62133 2nd Edition Certification Utilizing UN 38.3 Transport Test Reports – I. Jilani, UL 744
9:00 - 9:30	A Look Through The Crystal Ball at Future Automotive Battery Recycling - L. Gaines, ANL 756
9:30 -10:00	Performance of Recycled Cathode Materials in Lithium-ion Cells – S. Sloop, On-To Technology 764
10:00 -10:30	Ultra-low Downtime Power Sources for Robotic Application – G. Thomas, Evgentech 772

MANUFACTURING

10:30 -11:00	Products for Automotive and Specialty Applications – D. Kelley, SAFT 779
11:00 -11:30	Lowering Costs and Increasing Quality Control Through Integrated Automation – J. Jackson, Siemens 780

Co-authors of papers will be listed in the program published in the Seminar Proceeding Materials

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