

THE 16TH INTERNATIONAL SEMINAR ON
DOUBLE LAYER CAPACITORS AND
HYBRID ENERGY STORAGE DEVICES
December 4-6, 2006

Embassy Suites Deerfield Beach Resort
Deerfield Beach, Florida, USA

Organized By

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The 16th International Seminar on Double Layer Capacitors & Hybrid Energy Storage Devices

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10:30 - 12:00	TUTORIAL 2: Methods and Instrumentation Used in Evaluation of Electrochemical Capacitors B. Eggers, Princeton Applied Research, Oak Ridge, TN, USA	
1:15 - 1:30	Opening Address N. Marincic, Redox Engineering, LLC, Bonita Springs, FL, USA	
1:30 - 2:00	Concept and Status of Nano-Sculpted Capacitor Battery R. Signorelli, J. Schindall and J. Kassakian, MIT, Cambridge MA, USA	10
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2:30 - 3:00	Equivalent Circuits for Double-Layer Capacitors under DC, AC, and Transient Operations P. Moss and J. Zheng, Florida A&M University and FSU, Tallahassee, FL, G. Au and E. Plichta, U.S. Army CERDEC, Ft. Monmouth, NJ, USA	35
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4:00 - 4:30	Latest developments in Carbide Derived Carbon for energy storage applications M. Latt, J. Leis, M. Arulepp, H. Kuura and E. Lust, Tartu Technologies, Ltd., Tartu, Estonia	62
4:30 - 5:00	Design of Hybrid Materials Based on Carbon Nanotubes or Nanofibers and Polyoxometalates, and Their Application in Electrochemical Supercapacitors A. K. Cuentas-Gallegos, Center of Energy Research, Temixco, Morelos, Mexico	73
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11:30 - 12:00	Electrochemical Performance of Activated Carbons Produced from Renewable Resources P. Walmet, L. H. Hiltzik, E. D. Tolles, B. J. Craft and J. Muthu, MeadWestvaco, Charleston, SC, USA	136

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- 12:00 - 1:30 LUNCH
- 1:30 - 2:00 **Status Report 2006 on ECaSS and the Nanogate-capacitors**
M. Okamura, K. Hayashi and H. Ohta, Power Systems Co., Ltd., Yokohama, Japan
- 2:00 - 2:30 **Megalo Capacitance Capacitor and Management System**
M. Yoshio and H. Nakamura, Power Systems Co. Ltd., Yokohama, Japan
- 2:30 - 3:00 **Do supercapacitors have any chance to beat the batteries?**
Y. Maletin, N. Stryzhakova, V. Izotov, A. Mironova, V. Danylin, S. Podmogilny, and A. Maletin, APowerCap Technologies LLC, Alexandria, VA, USA
- 3:00 - 3:30 BREAK
- 3:30 - 4:00 **Al Electrolytic Capacitor Using Conductive Polymer Electrolyte / DLCAP Energy Storage Systems**
L. Dominey, K. Ueno and T. Furukawa, Nippon Chemi-Con Corp, Tokyo, Japan
- 4:00 - 4:30 **Flow Through Capacitor Physics**
M. Andelman, Biosource, Inc., Worcester, MA, USA
- 4:30 - 5:00 **Update on High Temperature EDLCs**
V. Koch, Covalent Associates, Woburn, MA, USA

WEDNESDAY, DECEMBER 6, 2006

- 8:30 - 9:00 **Electrochemical Capacitor Reliability in Heavy Hybrid Vehicles**
J. R. Miller, A. Klementov and S. Butler, JME Inc., Shaker Heights, OH, USA
- 9:00 - 9:30 **Double Layer Capacitors with Asymmetric Carbon Electrodes**
R. Waterhouse, Amtek Research International, Lebanon, OR, USA
- 9:30 - 10:00 **Lithium Ion Capacitor (LIC)**
O. Hatozaki, Subaru Technical Research Center, Fuji Heavy Industries Ltd. (FHI), Tokyo, Japan
- 10:00 - 10:30 BREAK
- 10:30 - 11:00 **Test of New Ultracapacitors and Comparisons with Lithium-ion Batteries in Hybrid Vehicle Applications**
A. Burke, UC Davis, Davis, CA, USA
- 11:00 - 11:30 **Determining Ripple Current Capability in Tantalum Hybrid Capacitors**
D. Evans, Evans Capacitor Co., East Providence, RI, USA
- 11:30 - 12:00 **Evaluation of Carbon Electrodes for Electrochemical Capacitors**
P. Smith, M. Cervenak, C. Kariya and A. Mansour, Naval Surface Warfare Center, West Bethesda, MD, & R. Waterhouse, Amtek Research International, Lebanon, OR, USA
- 12:00 - 1:30 LUNCH
- 1:30 - 2:00 ***In situ* Raman & XRD Studies of Ion Insertion from Supercapacitor-Type Electrolyte into Graphitic Materials**
P. Ruch, L. J. Hardwick, M. Hahn, P. Novak and R. Koetz, Paul Scherrer Institute, Villigen, Switzerland
- 2:00 - 2:30 **High Energy Asymmetric Supercapacitors Using Organosilicon Electrolytes**
V. Dementiev, P. Warf, K. Tse, L. Zhang, R. Hamers and R. West, POLYRON Materials, Inc., Madison, WI, USA
- 2:30 - 3:00 **Alternative Material Chemistries for Hybrid Aqueous Electrochemical Capacitors**
S. M. Lipka, C. Swartz, T. J. Harris, R. Andrews and M. Crocker, University of Kentucky, Lexington, KY, USA
- 3:00 - 3:30 **Bipolar Plate Supercapacitors: Simplicity and Elegance of a Neglected Design**
N. Marincic, Redox Engineering, LLC, Bonita Springs, FL, USA