

# **Electrochemical Capacitors Symposium 2016**

Held at AABC Europe 2016

Mainz, Germany  
25 – 28 January 2016

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# Electrochemical (EC) Capacitors Symposium

Part of: advanced automotive & industrial battery conference

25-28 January 2016 | Congress Centrum Mainz | Mainz, Germany

Monday, 25 January

**8:30 Registration**

Advances in EC Capacitor Materials and Cell Design

**10:00 Chairperson's Opening Remarks**

*Prof. Katsuhiko Naoi, Professor of Chemistry, Institute of Symbiotic Science & Technology, Tokyo University of Agriculture & Technology*

**10:05 New Insights on Generation-II Supercapacitors 1**

*Prof. Katsuhiko Naoi, Professor of Chemistry, Institute of Symbiotic Science & Technology, Tokyo University of Agriculture & Technology*

**10:25 Tracking Ion Fluxes in Porous Carbon Electrodes Used in Double Layer Capacitors 14**

*Prof. Patrice Simon, Professor of Material Science, Université Paul Sabatier*

**10:45 Novel Concepts of High Energy Electrochemical Capacitors 24**

*Prof. Elżbieta Frąckowiak, Professor, Poznan University of Technology*

**11:05 Revisiting the Concept of Activated Carbon/Ni(OH)<sub>2</sub> Hybrid Capacitors 33**

*Prof. Thierry Brousse, Professor of Materials Science, Institut des Matériaux Jean Rouxel (IMN), Université Polytechnique Nantes*

**11:25 Highly Effective Materials for Sacrificial Pre-Lithiation of the Graphitic Anode in Li-Ion Capacitors 46**

*Prof. François Béguin, Professor, Poznan University of Technology*

**11:45 Toward New Electrolytes for Electrochemical Double Layer Capacitors 58**

*Dr. Andrea Balducci, Researcher, Helmholtz Institute Ulm*

**12:05 Q&A**

**12:20 Networking LUNCH**

New EC Capacitor Products

**13:45 Chairperson's Opening Remarks**

*Chris Humphrey, Vice President Strategy, Maxwell Technologies*

**13:50 Development of Carbon Material for Higher Voltage EC Capacitors 70**

*Udaya Kumara, Director, R&D, Haycarb, PLC*



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Monday, 25 January

- 14:10**    **Ionic Liquid-Based Supercapacitors –Targets and Limitations**    **82**  
*Dr. Svetlana Menkin Bachbut, Researcher, Energy & Power Group, Elbit Systems*
- 14:30**    **Keeping the Ultracapacitor Industry Competitive**    **92**  
*Dr. Renee Joost, Program Director, Skeleton Technologies GmbH*
- 14:50**    **Q&A**
- 15:05**    **Refreshment Break**

## EC Capacitor Storage System Applications

- 16:10**    **Chairperson’s Opening Remarks**  
*Andrew F. Burke, Ph.D., Institute of Transportation Studies, University of California, Davis*
- 16:15**    **High Energy Density Supercapacitors**    **103**  
*Prof. Andrew F. Burke, Institute of Transportation Studies, University of California, Davis*
- 16:35**    **Ultracapacitor Modules that Produce the Highest Power and Efficiency**    **123**  
*Dr. Yurii Maletin, Chief Scientist, Yunasko*
- 16:55**    **EC Capacitors for Stabilizing Utility Grids with High Renewable Penetration**    **135**  
*Dr. Norbert Hennchen, Chief Executive Officer, Freqcon*
- 17:15**    **Lithium Titanate Oxide (LTO) Batteries and Supercapacitors as an Option for Hybrid Vehicles**    **150**  
*Prof. Andrew F. Burke, Institute of Transportation Studies, University of California, Davis*
- 17:35**    **Combining Energy with Power: Lithium Ion Capacitors**    **164**  
*Benoit Lalande, Senior Application Engineer, JSR Micro*
- 17:55**    **Q&A**
- 18:15**    **Welcome Reception**
- 19:15**    **Close of Day**