



Hanse-Wissenschaftskolleg
Institute for Advanced Study

Symposium

Next Generation Battery

Materials

Delmenhorst, June 17 – 19, 2010

Organizers:

Prof. Dr. R. Weiler
Prof. Dr. G. Wittstock
Prof. Dr. B. Guenther
Dr. B. Lenz
Dr. J. Schwenzel

Hanse-Wissenschaftskolleg
Institute for Advanced Study
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Thursday, June 17

- 5 p.m. Arrivals at the Hanse-Wissenschaftskolleg (HWK), refreshments
- 5:45 p.m. Welcome and Opening Remarks
Prof. Dr. Reto Weiler, Rector of the HWK
Prof. Dr.-Ing. Matthias Busse, Executive Director, Fraunhofer-Institute IFAM (Bremen)
- 6 p.m. Opening lecture
Chair: Prof. Dr. Reto Weiler
Prof. Dr. Gholam-Abbas Nazri (General Motors R&D and Planning Center, USA): New advances in battery materials and concepts for electric-based transportation (45 + 15 minutes)
- 7 p.m. **Conference Dinner (buffet) at the HWK**
- approx. 10 p.m. Transfer to hotel

Friday, June 18

- 8:00 a.m. Transfer from hotel to HWK
- 8:30 a.m. **Session I: Designing anode interfaces**
Chair: Prof. Dr.-Ing. Matthias Busse
Prof. Dr. Doron Aurbach (Bar-Ilan University, Israel): Electrodes-solutions interactions in Li ion batteries: a critical performance determining factor (30 + 15 minutes)
Prof. Dr. Petr Novak (Paul Scherrer Institut & ETH Zurich, Switzerland): Solid Electrolyte Interphase – the Key to Carbon Electrodes in Batteries (30 + 15 minutes)
- 10:00 a.m. **Coffee break**
- 10:20 a.m. **Session I (continued)**
Dr. Edgar Ventosa (Ruhr-Universität Bochum): Tailoring carbon cloth surface with oxygenated and nitrogenated groups: influence on Li-ion intercalation (15 + 5 minutes)
- 10:40 a.m. **Special Session: Energy Storage Research in Northwestern Germany – future plans, perspectives, examples**
Chair: Dr. Bettina Lenz (EWE Research Center “Next Energy”)
Prof. Dr. Gunther Wittstock (Carl von Ossietzky Universität Oldenburg): Local investigation of oxygen electrodes with scanning electrochemical microscopy (20 + 5 minutes)

Dr. Gerald Rausch (Fraunhofer-Institut IFAM, Bremen, and pmc – personal mobility center): Bremen/Oldenburg - a model region for e-mobility (15 + 5 minutes)

Dipl.-Phys. Marco Meyer (EWE-Forschungszentrum Next Energy, Oldenburg): Physicochemical modeling and simulation of lithium-ion secondary batteries (15 + 5 minutes)

11:45 a.m.

Session II: Alternative cathode materials

Chair: Prof. Dr. Gunther Wittstock

Prof. Dr. Janko Jamnik (National Institute of Chemistry, Slovenia): Li-battery cathode: conceptual perspectives and materials dilemmas (30 + 15 minutes)

Prof. Dr. Bruno Scrosati (Sapienza - Università di Roma, Italy): The lithium-sulfur battery: a valid example of new strategies in the lithium ion battery technology (30 + 15 minutes)

1:15 p.m.

Extended break: Lunch and coffee break are combined

*Opportunity to watch live broadcast of the soccer match
Germany - Serbia*

3:30 p.m.

Session II (continued)

Prof. Dr. Jean-Marie Tarascon (Université de Picardie Jules Verne, France): Novel electrode materials for Li-ion batteries through low-temperature chemistry (30 + 15 minutes)

4:30 p.m.

Social programme

Opportunities:

1. See E-cars and E-bikes on display, test E-bikes
2. Play table tennis and/or table soccer at the HWK
3. Watch Soccer World Cup at the HWK (two rooms: Germany – Serbia recorded or Slovenia – USA live)
4. Enjoy nice walks in the surroundings; gather informally with friends and colleagues

6:30 p.m.

Informal Conference night begins in the HWK lobby

6:45 p.m.

Buffet dinner in the HWK lecture hall

8:30 p.m.

Musical Interlude: Arias, and chansons (approx. 30 minutes)

Followed by small talk, more soccer (England – Algeria), have another look at E-Cars and E-bikes

Desserts, wine, etc. are served

Continuous transfer to hotel possible

11 p.m.

Last transfer to hotel

Saturday, June 19

- 9:00 a.m. Transfer from hotel to HWK
- 9:30 a.m. **Session III: Tailored electrolyte concepts**
Chair: Prof. Dr. Carsten Agert (Director EWE Research Center “Next Energy”)
Prof. Dr. Hans-Dieter Wiemhöfer (Westfälische Wilhelms-Universität Münster, Germany): Polymer based electrolyte concepts for lithium batteries (30 + 15 minutes)
Prof. Dr. Josh Thomas (Uppsala University, Sweden): Nafion: THE electrolyte for LT PEMFCs. Written-in-stone or is there a New Testament? (30 + 15 minutes)
- 11:00 a.m. Coffee break**
- 11:30 a.m. **Special Session II: Energy Storage Research in Northwestern Germany – future plans, perspectives, examples**
Chair: Wolfgang Stenzel (HWK)
Prof. Dr. Carsten Agert: The EWE-Forschungszentrum Next Energy – Structure and Mission, Current Projects (15 + 5 minutes)
Dr. Julian Schwenzel (Fraunhofer-Institut IFAM, Bremen and Oldenburg): The IFAM project group Electrical Energy Storage – objectives and structure (15 + 5 minutes)
Prof. Dr. Bernd H. Günther (Fraunhofer-Institut IFAM, Bremen): Metallic nanoparticles and porous deposits by sputtering methods (15 + 5 minutes)
- 12:30 p.m. **Final discussion, perspectives**
Chair: Prof. Dr. Josh Thomas
- 1:00 p.m. Farewell Lunch**
Departures

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