



**Materials with New Design for Improved Lithium Ion Batteries,
Werkstoffe mit neuem Design für verbesserte Lithium-Ionen-Batterien**

- Agenda -

Workshop im Schwerpunktprogramm 1473 der Deutschen Forschungsgemeinschaft

Termin: 14. - 17. Januar 2013
Ort: Der Achtermann – Hotel und Tagungszentrum Goslar
Rosentorstr. 20, 38640 Goslar; Tel.: 05321-70000
Homepage: <http://www.der-achtermann.de/>
Homepage WeNDeLIB: www.spp1473.kit.edu

Montag, 14.01.2013

Anreise; Abendessen 19:30 Uhr (Tischreservierung im „Der Achtermann“)

Dienstag, 15.01.2013

- 8:30 - 8:50** *Hans Seifert (KIT):* Begrüßung, SPP1473-Übersicht, Koordinator-Projekt, Termine; JP1
- 8:50 - 9:10** *Keke Chang (RWTH Aachen):* Theoretical study of Li-Mn-O system; JP3
- 9:10 - 9:30** *Julian Fischer (KIT):* Development of thin film cathodes for lithium-ion batteries in the system Li-Mn-O by r.f. magnetron sputtering; JP3
- 9:30 - 9:50** *Hans J. Seifert (KIT):* Calorimetric analysis of lithium ion batteries; JP3
- 9:50 - 10:10** *David Henriques (FZ Jülich):* ; Activity determination within the Cu-Li-Sn system by Knudsen Effusion Mass Spectrometry; JP4
- 10:10 - 10:30** *Dajian Li (KIT):* Thermodynamic evaluation of Li-Sn system; JP4

Pause

- 11:00 - 11:20** *Christian Rudisch (IFW Dresden):* Nuclear Magnetic Resonance and X-ray diffraction on single crystalline LiMnPO₄; JP5
- 11:20 - 11:40** *Daniel Albrecht (TU Clausthal):* Preparation and characterization of

MoS₂ nanostructures in ionic liquid containing lithium ion battery Cells; JP6

11:40 - 12:00 *Wassima El Mofid (TU Ilmenau):* Influence of synthesis conditions on the electrochemical performance of a cathode material NMC type for LIB; JP6

12:00 - 12:20 *Svetlozar Ivanov (TU Ilmenau):* Electrochemical behavior of anodically obtained titania nanotubes in organic carbonate and ionic liquid based Li ion containing electrolytes; JP6

12:20 - 12:40 *Hendrik Wulfmeier (TU Clausthal):* Thin-Film Calorimetry – A newly developed technique to determine thermodynamic properties of lithium ion battery materials; JP6

Mittagspause

14:00 - 14:20 *Soumyadip Choudhury (IPF, Dresden):* Template assisted porous carbon materials as cathode for high energy lithium sulfur accumulator; JP7

14:20 - 14:40 *Matthias Müller (PTB, Berlin):* Characterization of new LiS cathode material with synchrotron radiation based X-ray spectrometry; JP7

14:40 - 15:00 *Jan Kaspar (TU Darmstadt):* N-Si/ SiOC composite anodes for LIB; JP8

15:40 - 15:20 *Lukas Mirco Reinold (TU Darmstadt):* Carbon-rich polymer-derived SiCN ceramics for anode materials in lithium ion batteries; JP8

15:20 - 15:40 *Jochen Rohrer (TU Darmstadt):* Modelling of Si and Si/SiC(N,O) Composites for Li Ion Batteries; JP8

Pause

16:15 - 16:35 *Martin Drüe (Univ. Jena):* Phase stability of lithium-carbon alloys – experimental study; JP9

16:35 - 16:55 *Martin Seyring (Univ. Jena):* Microscopy of Li-C alloys - challenges and opportunities; JP9

17:00 **Individuelle Treffen**

19:00 **Abendessen**

20:00: *S. Klamor:* Insights of elevated temperature applications of LIB – challenges and progress

Mittwoch, 16.01.2013

- 8:30 - 8:50** Artem Kozlov (TU Clausthal): Li-C phase diagram; JP9
- 8:50 - 9:10** Michael Fleck (Univ. Bayreuth): Phase field modeling of Li-intercalation in LiFePO₄-cathodes for rechargeable Li-ion battery application; JP10
- 9:10 - 9:30** Michael Gruber (TU Bergakademie Freiberg): Theoretical calculation of heat capacity for lithium silicides; JP10
- 9:30 - 9:50** Stefan Loos (TU Bergakademie Freiberg): Synthesis and Chemical Delithiation of Li_{1-x}FePO₄ with Ce⁴⁺; JP10
- 9:50 - 10:10** Daniel Thomas (TU Bergakademie Freiberg): Heat capacity measurements of lithium silicides in the temperature range 2-873 K; JP10
- 10:10 - 10:30** Sara Borhani-Haghighi (Ruhr-Univ. Bochum): High-Throughput Evaluation of NMC Materials Library; JP11

Pause

- 11:00 - 11:20** Efim Borukhovich (ICAMS, Ruhr-Univ. Bochum): Treating of intercalation caused deformation of Li - ion electrodes with an advection approach; JP11
- 11:20 - 11:40** Hamidreza Hamiyani (ICAMS, Ruhr-Univ. Bochum): High-throughput ab-initio study of 3d transition-metal alloying of Li-MM'PO₄ for Li-ion battery cathodes; JP11
- 11:40 - 12:00** Ulrich Preiss (ICAMS, Ruhr-Univ. Bochum): A permeation model for the electrochemical interface; JP11
- 12:00 - 12:20** Daniel Wadewitz (IFW Dresden): Modifications of nano 3d transition metal oxides for conversion type electrodes in lithium ion batteries; JP12
- 12:20 - 12:40** Maren Lepple (KIT): Thermodynamics of copper oxides used as conversion type electrodes in lithium ion batteries; JP12

Mittagspause

- 14:00** Individuelle Besprechungen, Treffen der Projektleiter;
Vorbereitung der 2. Projektphase im SPP1473
- 19:00** Abendessen
- 20:00** Individuelle Besprechungen, Treffen der Projektleiter;
Vorbereitung der 2. Projektphase im SPP1473

Donnerstag, 17.01.2013

- 8:30 - 8:50** *Robert Adam (TU Bergakademie Freiberg):* Phase formation and microstructure development in anodes for LIB based on conversion reactions in the system Cu-Fe-O; JP12
- 8:50 - 9:10** *Buja Jerliu (TU Clausthal):* Electrochemical intercalation in lithium-ion-batteries: study with neutron reflectometry; JP14
- 9:10 - 9:30** *Michael Lepke (TU Clausthal):* Kinetics of Li intercalation at amorphous silicon electrodes: SIMS investigation; JP14
- 9:30 - 9:50** *Hans J. Seifert (KIT):* Zusammenfassung, Nächste Schritte
- 10:00** **Individuelle Besprechungen, Treffen der Projektleiter;
Vorbereitung der 2. Projektphase im SPP1473**

Mittagessen und Ende der Veranstaltung