



**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:** 21. - 23. Februar 2012  
**Ort:** Gustav-Stresemann-Institut (GSI)  
Langer Grabenweg 68, 53175 Bonn  
**Homepage:** [www.gsi-bonn.de](http://www.gsi-bonn.de)  
**Homepage WeNDeLIB:** [www.spp1473.kit.edu](http://www.spp1473.kit.edu)

#### **Dienstag, 21.02.2012**

**Anreise; Abendessen 19:00 Uhr (Tischreservierung im GSI)**

#### **Mittwoch, 22.02.2012**

- 8:30 - 8:50** *Hans Seifert:* Begrüßung, SPP1473-Übersicht, Koordinator-Projekt, Termine; JP1
- 8:50 - 9:10** *Keke Chang:* Design of cathode materials for improved capacity, stability and safety for lithium ion batteries based on the system LiMO<sub>2</sub> (M = Co, Mn, Ni); JP3
- 9:10 - 9:30** *Elke Schuster:* Calorimetric analysis of a lithium ion battery, Electrochemical-calorimetric studies on safety fundamentals; JP3
- 9:30 - 9:50** *Julian Fischer:* Thin film cathodes for lithium ion batteries in the material system Li-Mn-O; JP3
- 9:50 - 10:10** *Torsten Markus:* Experimental Thermodynamics and Phase Relations of New Electrode Materials for Li-Ion-Batteries; JP4
- 10:10 - 10:30** *David Henriques:* Thermodynamic properties of the Li-Sn system measured by Knudsen Effusion Mass Spectrometry; JP4

#### **Pause**

**11:00 - 11:20** *Arno Lehmann:* LIBworks, the SPP1473 Collaboration Tool

- 11:20 - 11:40** *Dajian Li*: Thermodynamic Assessment of Cu-Sn System; JP4
- 11:40 - 12:00** *Sebastian Klamor*: Development of nanoscaled anode compositions and cell systems towards elevated temperatures; JP13
- 12:00 - 12:20** *Hellmut Eckert*: NMR Methoden zur strukturellen und dynamischen Charakterisierung von Komponenten in Lithiumionenbatterien; JP13
- 12:20 - 12:40** *Frank Berkemeier*: Lithium Intercalation in Tin; JP13

### Mittagspause

- 14:00 - 14:20** *Christian Rudisch*: Combined Nuclear Magnetic Resonance and X-ray diffraction study on single crystalline LiMnPO<sub>4</sub>; JP5
- 14:20 - 14:40** *Hendrik Wulfmeier*: Thin Film Calorimetry based on piezoelectric resonators for characterization of battery materials; JP6
- 14:40 - 15:00** *Daniel Albrecht*: Molybdenum Disulfide as active material- Characteristics of different morphologies; JP6
- 15:40 - 15:20** *Svetlozar Ivanov*: Preparation and electrochemical properties of non-modified and Si – modified TiO<sub>2</sub> nanoporous layers for application in Li-ion batteries; JP6
- 15:20 - 15:40** *Wassima El Mofid*: Synthesis and characterization of a positive electrode material, NMC type, for lithium ion batteries; JP6

### Pause

- 16:15 - 16:35** *Matthias Müller*: Characterization of LiS Battery Materials by X-ray Spectrometry; JP7
- 16:35 - 16:55** *Soumyadip Choudhury*: Template Assisted Porous Carbon Materials for Lithium Sulfur Accumulators; JP7
- 16:55 - 17:15** *Lukas Mirco Reinold*: Polymer-Derived-Ceramics and n-Si/SiCN Composites as Anode Materials in LIBs; JP8
- 17:15 - 17:35** *Jan Kaspar*: Lithium Insertion into Carbon-Rich SiOC Ceramics and Nano-Si/ SiOC Composites; JP8

**Ab 17:35: Individuelle Treffen**

**19:00 Abendessen**

**Ab 20:00: Individuelle Treffen; Treffen der Projektleiter**

### Donnerstag, 23.02.2012

- 8:30 - 8:50** *Jochen Rohrer*: Si/SiC(N,O) nanocomposites as anode material for Li-ion batteries: Lithiation of embedded Si from density-functional

theory calculations and classical continuum mechanics; JP8

**8:50 - 9:10** *Martin Drüe, Martin Seyring:* Assessment of the binary Li-C phase diagram, synthesis, nanostructuring and characterization of Li-C alloys; JP9

**9:10 - 9:30** *Michael Fleck:* Phase field modeling of Li-intercalation in LiFePO<sub>4</sub>-cathodes for rechargeable Li-ion battery application; JP10

**9:30 - 9:50** *Thomas Gruber:* Current theoretical investigations of Li<sub>x</sub>Si as electrode materials in Li-Ion-Batteries; JP10

**9:50 - 10:10** *Daniel Thomas:* The way from experimental results of Li<sub>x</sub>Si to the phase diagram; JP10

**10:10 - 10:30** *Stefan Loos:* Aspects of Chemical Lithiation and Delithiation of Li<sub>1-x</sub>FePO<sub>4</sub>; JP10

### Pause

**11:00 - 11:20** *Hamidreza Hamiyani:* Modelling de/-intercalation with ab-initio calculations: Structural stability of Li-FePO<sub>4</sub>; JP11

**11:20 - 11:40** *Ulrich Preiss:* An Interface Dissipation Phase Field Model for Electrochemistry; JP11

**11:40 - 12:00** *Sara Borhani Haghighi:* Combinatorial Development of Lithium Ion Battery Electrode Materials; JP11

**12:00 - 12:20** *Stefan Klink:* Scanning Probe Microscopy for the Evaluation of Thin Film Sputtered Electrode Libraries; JP11

**12:20 - 12:40** *Daniel Wadewitz:* Modifications of nano 3d transition metal oxides for conversion type electrodes in LIB; JP12

### Mittagspause

**14:00 - 14:20** *Maren Lepple:* Thermodynamic Aspects of the Li-Cu-Fe-O System as Conversion Type Electrode Materials for LIB; JP12

**14:20 - 14:40** *Robert Adam:* Mikrostrukturcharakterisierung von Ausgangspulvern im System Cu-Fe-O für Konversionselektroden; JP12

**14:40 - 15:00** *Aiswarya Bhaskar:* Influence of electrolyte on stabilization of 3d transition metal oxide composites in conversion type electrodes for LIB; JP12

**15:00 - 15:20** *Harald Schmidt:* Kinetics of Lithium intercalation at amorphous silicon electrodes: Neutron Scattering and SIMS investigation; JP14

**15:20 - 15:35** *Hans J. Seifert:* Resümee, Nächste Schritte, Verabschiedung