

# WORKSHOP „LITHIUM-SULFUR-BATTERIES VI“

NOVEMBER 6 - 7, 2017

Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS  
Winterbergstraße 28, 01277 Dresden

## November 6, 2017

10:00 Registration

### **Session I Trends in material development**

Chair: Prof. Dr. Stefan Kaskel, Fraunhofer IWS, TU Dresden

11:00 Welcome and opening

Prof. Dr. Eckhard Beyer

Fraunhofer IWS, TU Dresden

11:15 Solvate ionic liquids for lithium-sulfur batteries

Prof. Masayoshi Watanabe, Yokohama National University, Japan

12:00 Importance of carbon materials in positive electrodes of the lithium-sulfur batteries

Dr. Elena Karaseva, Ufa Institute of Chemistry of Russian Academy of Sciences, Russia

12:30 Chemical engineering science of lithium metal anode in lithium-sulfur batteries

Prof. Qiang Zhang, Tsinghua University, China

13:00 *Lunch break*

### **Session II Lithium metal anodes**

Chair: Prof. Dr. Stefan Kaskel, Fraunhofer IWS, TU Dresden

14:15 Lithium metal anodes on solid electrolytes

Prof. Jürgen Janek, Justus-Liebig-Universität Gießen, Germany

14:45 Suitability of sulfide based solid state electrolytes for use in lithium metal secondary batteries

Dr. Yuichi Aihara, Samsung R&D Institute Japan

15:15 Lithium metal anodes for lithium-sulfur batteries

Stephen Lawes, OXIS Energy Limited, UK

15:45 *Coffee break*

16:15 Lithium-metal film deposition for Li-S-cells with high volumetric energy density

Dr. Benjamin Schumm, Fraunhofer IWS

16:45 Handling and processing of metallic lithium in the production of next generation battery cells

Anna Kollenda, Technische Universität München, Germany

17:15 *Short poster introduction*

*(Short presentation of some selected posters in preparation of the poster session)*

17:45 *Poster session and dinner at Fraunhofer IWS*

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## November 7, 2017

### Session III Cathode chemistry and new electrolytes

Chair: Dr. Holger Althues, Fraunhofer IWS

- 09:00 Is lithium-sulfur ready for commercial uptake? Market demand and competition  
Gleb Ivanov, Sigma Lithium Ltd
- 09:30 Stabilizing sulfur carbon cathodes - a biotechnology approach  
Mark Griffiths, EndLiS Energy, USA
- 10:00 On the factors affecting the capacity depletion of lithium-sulfur batteries at the cycling and storage  
Dr. Elena Kuzmina, Ufa Institute of Chemistry of Russian Academy of Sciences, Russia
- 10:30 *Coffee break*
- 11:00 Impact of adapted nitrate-free electrolytes on pouch cell performance  
Dr. Susanne Dörfler, Fraunhofer IWS
- 11:30 Sparingly solvating electrolytes design for high energy density lithium-sulfur batteries  
Dr. Kevin R. Zavadil, Sandia National Laboratories, USA
- 12:00 Effects of Li-anion interactions on solubility of lithium polysulfides in ionic liquids  
Dr. Seiji Tsuzuki, National Institute of Advanced Industrial Science and Technology (AIST), Japan
- 12:30 *Lunch break*
- 13:45 Characterization of reaction intermediates in lithium-sulfur battery via operando transmittance UV/Vis spectroscopy  
Qi He, TU München, Germany
- 14:15 Operando characterization of a lithium-sulfur battery by coupling X-ray absorption tomography and X-ray diffraction  
Guillaume Tonin, CEA Grenoble, France
- 14:45 Thermal effects and diagnosis tools in multilayer cells for real applications  
Dr. Monica Marinescu, Imperial College, UK
- 15:15 Concluding remarks  
Prof. Dr. Stefan Kaskel, Fraunhofer IWS, TU Dresden
- 15:30 *Tour through the labs of the Fraunhofer IWS (optional 1h)*

*With my registration I agree with the potential publication of photographs taken during the event and with the electronic storage of my address (incl. the use of my address for future invitations).*