

11th Workshop Lithium-Sulfur Batteries

November 11 – 12, 2024
Fraunhofer IWS | Dresden



Monday, November 11, 2024

SESSION 1: MATERIAL DESIGN | Chair: Stefan Kaskel, Fraunhofer IWS and TU Dresden

12:00 (CET) Registration

13:00 Opening

13:05 **Key Note: Porous Carbon Anodes Stabilizing S Species for Li-S Batteries**
Masashi Ishikawa, Kansai University

13:40 **Advancements in Lithium-sulfurized Carbon Cells: Mechanical and Chemical Stability Insight**
Rodrigo Salvatierra, Zeta Energy

14:00 **Beyond Intercalation: How Lithium-sulfur Batteries Will Transform the Future of Global Energy Storage**
Gareth Hartley, OXLiD/Gelion

14:20 **Development of Cathode Active Material "S-PMMA"**
Tatsuya Kubo, Sumitomo Rubber

14:40 **Morphological Changes for Lithium Deposition and Subsequent Dissolution in Bis(fluorosulfonyl)amidebased Ionic Liquids and Effect on Cycling**
Morgan L. Thomas, Keio University

15:00 Coffee Break

SESSION 2: CELL DEVELOPMENT | Chair: Holger Althues, Fraunhofer IWS

15:40 **From Blue Sky to Pack: LiS Energy's Commercialisation of Lithium Sulfur Technology**
Steve Rowlands, Li-S Energy

16:00 **Lyten's Advancements in Lithium-sulfur Batteries for Electric Vehicles**
Kumar Bugga, Lyten

16:20 **Solid-state Lithium-sulfur Batteries**
Jean Marie Doux, SAFT

16:40 **From Liquid to Solid State Lithium Sulfur Batteries**
Susanne Dörfler, Fraunhofer IWS

17:00 Concluding Remarks: Stefan Kaskel

17:15 Poster Session and Get Together

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SESSION 3: CATHODE CHEMISTRY | Chair: Stefan Kaskel, Fraunhofer IWS and TU Dresden

09:00 (CET) Opening

09:05 **Key Note: Nanoscale Perspectives on Electrochemical Conversion Pathways**
Christian Prehal, Uni Salzburg

09:40 **Development of a New Li-S Battery Prototype by the Combination of a Nanostructured Graphene Cathode and a Sparingly Solvating Electrolyte**
Daniel Carriazo, CIC energiGUNE

10:00 **Electrode Structures of Higher Order for Advanced Lithium-sulfur Batteries**
Aamir Iqbal Waidha, Theion

10:20 **The Dual Role of the Argyrodite Solid Electrolyte as Ion Conductor and Active Material Precursor in Lithium / Sulfur Solidstate Batteries**
Konrad Münch, Justus-Liebig-Universität Giessen

10:40 **Li₂S Cathodes for Solid State Batteries**
Pascal Seete, TU Dresden

11:00 Coffee Break

SESSION 4: MECHANISMS | Chair: Holger Althues, Fraunhofer IWS

11:40 **Strategies for Enhancing Sulfur Utilization in Lithium-sulfur Batteries**
Jun Hyuk Moon, Korea University

12:00 **Exploring Solid Conversion Products in Lithium-sulfur Batteries through Cryo-TEM and Machine-learning-supported Small Angle Neutron Scattering**
Jean-Mark von Mentlen, ETH Zürich

12:20 **A Numerical Operando Approach for Lithium-sulfur Batteries Based on Firedrake**
Max Okrashevski, German Aerospace Center (DLR)

12:40 **Sulfolane-based Solvate Electrolytes for Li-S Batteries**
Kaoru Dokko, Yokohama National University

13:00 Concluding Remarks: Holger Althues

13:15 Lunch

14:00 Lab Tour (1 hour)