

Programme  
**4<sup>th</sup> Graz Battery Days**

on

**Tools to Tackle the Challenges of Lithium-Ion  
Battery Technology**

19<sup>th</sup> to 21<sup>st</sup> September 2022

**Monday, 19<sup>th</sup> of September**

Pre-Registration & Get Together Event - Heimatsaal (18:00 – 21:00)

**Tuesday, 20<sup>th</sup> of September - DAY 1**

Registration Heimatsaal - Foyer (08:00 – 09:30)

Welcome 2 GBD - Heimatsaal (09:00 – 09:30)

**Session 1: Advanced analytic tools for material and cell investigation**

Conference Dinner - Restaurant Schlossberg Graz (19:00)

**Wednesday, 21<sup>st</sup> of September - DAY 2**

**Session 2: Analytic tools and sensors in cell production**

## DAY 1 - Tuesday, 20<sup>th</sup> of September

### Session 1

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- 09:30 – 10:15 **Electrochemical and Chemical Analyses as Powerful Complement for Battery Diagnostics**  
Martin Winter – Helmholtz Institute Münster
- 10:15 – 11:00 **Capturing Operando Ion Dynamics in Battery Materials using Optical Scattering Microscopy**  
Christoph Schnedermann - University of Cambridge
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- 11:00 – 11:30 Coffee Break
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- 11:30 – 12:15 **Breaking the Nutshell of a Hard Case Lithium-Ion Cell**  
Simon Burkhardt – VARTA Microbattery GmbH
- 12:15 – 13:00 **Solutions for Battery Materials Characterization and Implications for the Process Chain**  
Christopher Giehl - Anton Paar Germany GmbH
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- 13:00 – 14:15 Lunch
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### Session 1

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- 14:15 – 14:45 **A Correlative, Multimodal Characterization Workflow for the Analysis of Batteries: Accessing Deeply Buried Structures Guided by X-Ray Microscopy**  
Benjamin Tordoff – Carl Zeiss Microscopy GmbH
- 14:45 – 15:15 **On In-situ and Operando X-Ray and Neutron Imaging and Diffraction for Lithium Ion Cells**  
Paul Shearing – University College London
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- 15:15 – 15:45 Coffee Break
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- 15:45 – 16:15 **In-Situ NMR/EPR Development of Redox Mediated Lithium-Oxygen Batteries**  
Vera Kunz – University of Cambridge
- 16:15 – 16:45 **Investigating Silicon-Based Anodes in Li-Ion Batteries by Correlating Neutron Imaging Techniques with X-Rays**  
Erik Lübke – Institut Laue-Langevin
- 16:45 – 18:30 Poster Session
- 18:30 End

## DAY 2 - Wednesday, 21<sup>st</sup> of September

### Session 2

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09:00 – 09:45 **In-line Monitoring in Electrode Manufacturing: A Research-Based Approach to Quality Assurance**  
Arnaud du Baret de Limé – Fraunhofer IKTS

09:45 – 10:30 **Cell Modelling and Multiscale Simulations: Numerical Tools for Battery Research and Production Processes**  
Jochen Zausch – Fraunhofer ITWM

10:30 – 11:00 **Advanced Imaging and Analysis of Si-Based Li-Ion Cells: Unravel the Microstructure – Material Property Relationship**  
Roland Brunner – Materials Center Leoben Forschung GmbH

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11:00 – 11:30 Coffee Break

11:30 – 12:00 **Basis Weight Measurement System for Battery Electrode**  
Martin Eßmann – Yokogawa Deutschland GmbH

12:00 – 12:30 **Area Density Measurement with Ultrasonic Transmission Sensors - Application in Battery Production**  
Enno Duplitzer – MeSyS GmbH

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12:30 – 13:45 Lunch

### Session 2

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13:45 – 14:30 **The Smart Battery Production – Key Factors for a Successful GWh Cell Manufacturing**  
Lang Jan-Steffen – PEC Germany GmbH

14:30 – 15:15 **Multi-Scale Multi-Domain Modeling of Lithium-Ion Batteries: The Challenges of Parameterization**  
Dr. Christoph Lechner – AVL

15:15 – 15:45 **Optical sensors for the highest quality in cell production**  
Dr. Jens Reiser - Precitec GmbH & Co. KG

15:45 – 17:00 **Closing Remarks and Farewell Party**