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## Exhibitors

**Batemo GmbH**  
[www.batemo.com](http://www.batemo.com)



**GFS Fuel Cells GmbH**  
[www.gfs-fuelcells.de](http://www.gfs-fuelcells.de)



**Math2Market GmbH**  
[www.math2market.com](http://www.math2market.com)



**Zahner-Elektrik GmbH & Co. KG**  
[www.zahner.de](http://www.zahner.de)



## Program Overview

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### Monday March 10<sup>th</sup>

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|            |  |
|------------|--|
| 18:00      | Registration opens   |
| From 18:00 | Get-together and evening buffet (open until 21:00) at conference venue |

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### Tuesday March 11<sup>th</sup>

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|       |                                      |  |
|-------|--------------------------------------|--|
| 07:30 | Registration opens                   |  |
| 08:45 | Welcome                              |  |
| 09:00 | <b>Plenary 1</b>                     |  |
| 09:50 | Short Break                          |  |
|       | <b>Session A: Energy Conversion</b>  | <b>Session B: Energy Storage</b>             |
| 10:00 | Session A1: <i>Fuel Cell Systems</i> | Session B1: <i>Hysteresis</i>                |
| 11:00 | Coffee Break                         |  |
| 11:30 | Session A2: <i>PEMFC Stacks</i>      | Session B2: <i>Next-Generation</i>           |
| 12:30 | Lunch Break                          |  |
| 13:40 | Session A3: <i>PEMFC Cells 1</i>     | Session B3: <i>Aspects of Battery Design</i> |
| 14:50 | Coffee Break                         |  |
| 15:10 | <b>Poster Session 1</b>              |  |
| 16:40 | Short Break                          |  |
| 16:50 | Session A4: <i>PEMFC Cells 2</i>     | Session B4: <i>Degradation</i>               |
| 19:30 | <b>Conference Dinner</b>             |  |

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### Wednesday March 12<sup>th</sup>

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|       |  |   |
|-------|--|---|
| 09:00 | <b>Plenary 2</b>   |   |
| 09:50 | Short Break  |   |
|       | <b>Session A: Energy Conversion</b>                            | <b>Session B: Energy Storage</b>                              |
| 10:00 | Session A5: <i>Solid oxide cells</i>                           | Session B5:<br><i>Particle &amp; Electrode Microstructure</i> |
| 11:00 | Coffee Break   |   |
| 11:20 | <b>Poster Session 2</b>  |   |
| 12:30 | Lunch Break  |   |
| 13:40 | Session A6: <i>Electrolysis</i>                                | Session B6:<br><i>Parameterization &amp; Characterization</i> |
| 15:10 | Short Break  |   |
| 15:20 | <b>Poster Award, ModVal 2026 Announcement, Closing Remarks</b> |   |

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## Oral Program

### Monday March 10<sup>th</sup>, Evening

|       |  |
|-------|--|
| 18:00 | Registration opens   |
| 18:00 | Get-together and evening buffet (open until 21:00) at conference venue |

### Tuesday March 11<sup>th</sup>, Morning I

|       |  |   |
|-------|--|---|
| 07:30 | Registration opens   |   |
| 08:45 | Welcome  |   |
|       | Plenary 1, Chair: Wolfgang Bessler, Room TR03-05 (Ground floor)  |   |
| 09:00 | <b>David Howey</b> (University of Oxford)<br>Impedance as a battery modelling and diagnostics tool   |   |
| 09:50 | Short Break  |   |
|       | Session A – <i>Energy Conversion</i><br>Room TR20-21 (First floor)   | Session B – <i>Energy Storage</i><br>Room TR03-05 (Ground floor)  |
| 10:00 | Session A1: <i>Fuel Cell Systems</i><br>Chair: Jan Haußmann  | Session B1: <i>Hysteresis</i><br>Chair: Michael Danzer  |
| 10:00 | <b>Andraž Kravos</b><br>(University of Ljubljana)<br>Advanced Model-Based Framework<br>for State-of-X Diagnostics in Low-<br>and High-Temperature Proton<br>Exchange Membrane Fuel Cells | <b>Jamie Foster</b><br>(University of Portsmouth)<br>The Newman model for phase-change<br>electrodes: physics-based hysteresis                                  |
| 10:20 | <b>Mohammad Shojayian</b><br>(Simon Fraser University)<br>Investigation and Optimization of a<br>Battery-Hybridized Fuel Cell Electric<br>Vehicle for Durability and Fuel<br>Consumption | <b>Lukas Köbbing</b><br>(German Aerospace Center)<br>Chemo-Mechanical Core-Shell Model<br>Explaining the Silicon Voltage<br>Hysteresis and Long-Term Relaxation |
| 10:40 | <b>Dante Fronterotta</b><br>(École Polytechnique Fédérale de<br>Lausanne)<br>Long-term Predictive Analysis of a $\mu$ -<br>CHP Solid Oxide Fuel Cell System                              | <b>Emmanuelle Hagopian</b><br>(University of Oxford)<br>Voltage Hysteresis Experiments to<br>Inform Physics-Based Models  |
| 11:00 | Coffee Break   |   |

*Tuesday March 11<sup>th</sup>, Morning 2*

|       | Session A – <i>Energy Conversion</i><br>Room TR20-21 (First floor)   | Session B – <i>Energy Storage</i><br>Room TR03-05 (Ground floor)  |
|-------|--|---|
| 11:30 | Session A2: <i>PEMFC Stacks</i><br>Chair: Jürgen Schumacher  | Session B2: <i>Next-Generation</i><br>Chair: Michael Schönleber   |
| 11:30 | <b>Sébastien Kawka</b><br>(Univ. Grenoble Alpes)<br>Stress heterogeneities inside PEMFC stacks: a homogenization method  | <b>Namrata Jaykhedkar</b><br>(IFP Energies nouvelles)<br>Comparative analysis of ethylene carbonate decomposition in Li <sub>2</sub> CO <sub>3</sub> - and Na <sub>2</sub> CO <sub>3</sub> -based solid electrolyte interphases |
| 11:50 | <b>Jakob Träger</b><br>(TU Braunschweig)<br>PEMFC with dead-ended anode for hydrogen-powered commercial aircraft   | <b>Max Okraschevski</b><br>(German Aerospace Center)<br>A Scale-Resolved Numerical Operando Approach for Lithium-Sulfur Batteries   |
| 12:10 | <b>Henning Becker</b><br>(TU Clausthal)<br>A network model-based analysis of stray currents in electrochemical stacks and development of design strategies for optimized stack layouts | <b>Elizabeth Olisa</b><br>(Imperial College London)<br>What is Missing from Current Li-S Models to Predict Coin-Cell Behaviour?   |
| 12:30 | Lunch Break  |   |

*Tuesday March 11<sup>th</sup>, Afternoon 1*

|                  | Session A – <i>Energy Conversion</i><br>Room TR20-21 (First floor)   | Session B – <i>Energy Storage</i><br>Room TR03-05 (Ground floor)   |
|------------------|--|--|
| 13:40            | Session A3: <i>PEMFC Cells 1</i><br>Chair: Adam Weber  | Session B3:<br><i>Aspects of Battery Design</i><br>Chair: David Howey  |
| 13:40            | <i>Keynote A3</i><br><b>Ulrich Sauter</b><br>(Robert Bosch GmbH)<br>Towards virtual design of Fuel Cells<br>and Electrolyzers  | <i>Keynote B3</i><br><b>Edwin Knobbe</b><br>(BMW Group)<br>The role of computational fluid<br>dynamics in battery cell development   |
| 14:10            | <b>Martin Andersson</b><br>(Lund University)<br>Water Management in PEMFCs:<br>Volume of Fluid Modeling of Two-<br>phase Flow in Gas Diffusion Layers<br>and the Gas Channels                  | <b>Niklas Weber</b><br>(Karlsruhe Institute of Technology)<br>Thermal Runaway Prevention and<br>Mitigation: From Cell Level Insights<br>to System Level Strategies                     |
| 14:30            | <b>Sercan Erdogan</b><br>(Zentrum für<br>BrennstoffzellenTechnik GmbH)<br>Optical investigation and<br>quantification of liquid water in the<br>cathode side gas channels of PEM<br>fuel cells | <b>Sunil Kumar Rawat</b><br>(Imperial College London)<br>How to Design a Zero-Degradation<br>Battery: Compensating for Loss of<br>Lithium Inventory in LFP Cells with<br>LFO Additives |
| 14:50            | Coffee Break   |  |
| 15:10 –<br>16:40 | <b>Poster Session 1 (odd numbers)</b><br>Rooms on first floor:<br>TR13-14 (Energy Conversion) &<br>TR15-16 (Energy Storage)  | Authors with odd numbers are asked<br>to be present at their poster  |
| 16:40            | Short Break  |  |

Tuesday March 11<sup>th</sup>, Afternoon 2

|       | Session A – Energy Conversion<br>Room TR20-21 (First floor)   | Session B – Energy Storage<br>Room TR03-05 (Ground floor)   |
|-------|---|---|
| 16:50 | Session A4: <i>PEMFC Cells 2</i><br>Chair: Martin Andersson   | Session B4: <i>Degradation</i><br>Chair: Fridolin Röder   |
| 16:50 | <b>Tim Dörenkamp</b><br>(Paul Scherrer Institute)<br>Probing 3D-Printed Model-Architectures for Enhanced Water Management in Polymer Electrolyte Fuel Cells                                     | <b>Michael Schönleber</b><br>(Batemo GmbH)<br>Beyond Data Correlation: Understanding and Predicting Battery Aging with Fast, Physical and Accurate Models   |
| 17:10 | <b>Anne-Christine Scherzer</b><br>(Fraunhofer ISE)<br>Simulating Morphology and Degradation of PEMFC Cathode Catalyst Layers with Porous Carbon Supports  | <b>Mohammed Asheruddin Nazeeruddin</b><br>(Imperial College London)<br>PyBaMM-Aided Analysis of Reservoirs in Lithium-Ion Cells: Strategies for Cell Design and Cycling Protocols                         |
| 17:30 | <b>Roman Schärer</b><br>(Zurich University of Applied Sciences)<br>Electrochemical Interface Model Coupling Oxygen Reduction and Degradation Reactions in the Cathode Catalyst Layer of a PEMFC | <b>Patricia Ogochukwu Mmeka</b><br>(Offenburg University of Applied Sciences)<br>An aging-sensitive and physically-informed equivalent circuit model for predicting the lifespan of lithium-ion batteries |
| 17:50 | <b>Miroslav Hala</b><br>(University of Chemistry and Technology Prague)<br>Investigating Platinum Gradient Effects on Performance of PEM Fuel Cells Using Agglomerate Models                    | <b>Michael Danzer</b><br>(University of Bayreuth)<br>A spatially resolved electrode model for the simulation of lithium deposition and stripping in graphitic anodes                                      |
| 19:30 | Conference Dinner   |   |

*Wednesday March 12<sup>th</sup>, Morning 1*

|                  |  |   |
|------------------|--|---|
|                  | Plenary 2, Chair: André Weber, Room TR03-05 (Ground floor)   |   |
| 09:00            | <b>Adam Weber</b> (Lawrence Berkeley National Laboratory)<br>Importance of Mass Transfer in Hydrogen Technologies  |   |
| 09:50            | Short Break  |   |
|                  | Session A – <i>Energy Conversion</i><br>Room TR20-21 (First floor)   | Session B – <i>Energy Storage</i><br>Room TR03-05 (Ground floor)  |
| 10:00            | Session A5: <i>Solid Oxide Cells</i><br>Chair: André Leonide   | Session B5:<br><i>Particle &amp; Electrode Microstructure</i><br>Chair: Jamie Foster  |
| 10:00            | <b>Daniel Ewald</b><br>(Karlsruhe Institute of Technology)<br>Utilization of a validated 0D<br>approach for 1D SOFC performance<br>modeling  | <b>Maximilian Fath</b><br>(BASF SE)<br>Modelling the Impact of Secondary<br>Particle Cracks and Pores on<br>Transport and Kinetics in NCM<br>Cathodes                         |
| 10:20            | <b>Shuang Zhao</b><br>(North China Electric Power<br>University)<br>Numerical simulation of multi-<br>physics and local electrochemical<br>characteristics of hythane-fueled<br>SOFC | <b>Simon Daubner</b><br>(Imperial College London)<br>High through-put simulations for<br>battery microstructure<br>characterization and design                                |
| 10:40            | <b>René Lorenz</b><br>(German Aerospace Center)<br>From Cells to Multi-Stack Modules:<br>Model Validation and Simplification<br>Approaches for Scaled-up Solid<br>Oxide Cell Systems | <b>Matthias Neumann</b><br>(Graz University of Technology)<br>Data-driven stochastic 3D modeling<br>of the nanoporous binder-conductive<br>additive phase in battery cathodes |
| 11:00            | Coffee Break   |   |
| 11:20 –<br>12:30 | <b>Poster Session 2 (even numbers)</b><br>Rooms on first floor:<br>TR13-14 (Energy Conversion) &<br>TR15-16 (Energy Storage)   | Authors with even numbers are asked<br>to be present at their poster  |
| 12:30            | Lunch Break  |   |

Wednesday March 12<sup>th</sup>, Afternoon 1

|                  | Session A – <i>Energy Conversion</i><br>Room TR20-21 (First floor)   | Session B – <i>Energy Storage</i><br>Room TR03-05 (Ground floor)  |
|------------------|--|---|
| 13:40            | Session A6: <i>Electrolysis</i><br>Chair: Ulrich Sauter  | Session B6:<br><i>Parameterization &amp; Characterization</i><br>Chair: Edwin Knobbe  |
| 13:40            | <i>Keynote A6</i><br><b>Etienne Boutin</b><br>(Ecole Polytechnique Fédérale de<br>Lausanne)<br><br>Carbon Monoxide Effect on<br>Hydrogen Production During CO <sub>2</sub><br>Electrochemical Reduction at Silver<br>Electrodes: A Combined<br>Experimental-Modeling Study | <i>Keynote B6</i><br><b>Fridolin Röder</b><br>(University of Bayreuth)<br><br>Pitfalls of Diffusion Coefficient<br>Determination for P2D Battery Model<br>Parameterization                                |
| 14:10            | <b>Ashoke Raman Kuppa</b><br>(Forschungszentrum Jülich GmbH)<br><br>Data-driven approach for modeling<br>and sensitivity analysis of a Proton-<br>exchange membrane water<br>electrolyzer  | <b>Micha Philipp</b><br>(German Aerospace Center)<br><br>Parameterizing physics-based<br>degradation models in Li-ion batteries<br>with Bayesian methods  |
| 14:30            | <b>Supriya Bhaskaran</b><br>(Otto-von-Guericke-Universität<br>Magdeburg)<br><br>Pore-scale investigation of anodic<br>porous transport layer of PEM water<br>electrolyzer: Experimental and<br>Lattice Boltzmann simulations   | <b>Bansidhar Patel</b><br>(MPI for Dynamics of Complex<br>Technical Systems)<br><br>Data-Driven Analysis of Relaxation<br>Time Distributions in<br>Electrochemical Systems Using the<br>Loewner Framework |
| 14:50            | <b>Wiebke Schrader</b><br>(Karlsruhe Institute of Technology)<br><br>Numerical Investigation of Two-<br>phase Flow Effects on Species<br>Transport in Electro-chemical<br>Systems  | <b>Andreas Markert</b><br>(Karlsruhe Institute of Technology)<br><br>Simultaneous Measurement of EIS<br>and MRI of Lithium-Ion Batteries  |
| 15:10            | Short Break  |   |
| 15:20 –<br>16:00 | <b>Poster Award</b> , ModVal 2026 Announcement, Closing Remarks<br>Room TR03-05 (Ground floor)   |   |

## Poster Program

### A. Energy Conversion

- 
- A 01**    **Christian Rissler** (Lund University)  
Numerical Modeling of Two-Phase Flows in Electrolyzer Channels: Towards  
Optimized Thermal and Flow Management
- 
- A 02**    **Venu Agarwal** (EPFL)  
Modelling Water Transport in Bipolar Membranes for CO<sub>2</sub> Electrolysis  
Application
- 
- A 03**    **Erwan Tardy** (University Grenoble Alpes)  
Modeling of Anion Exchange Membrane Electrolysis: Impact of KOH  
Concentration on Electrochemical Performance
- 
- A 04**    **Roman Kodým** (University of Chemistry and Technology Prague)  
Multidimensional Mathematical Modelling Study of Mass and Charge Transfer  
Limitations in Alkaline Water Electrolysis: Effect of Separator
- 
- A 05**    **Katerina Hradecna** (UCT Prague)  
Effect of Catalyst to Binder Ratio on the Performance of Alkaline Membrane  
Water Electrolysis: A Mathematical Modeling Study
- 
- A 06**    **Vladimir Sovljanski** (EPFL)  
Accurate Li-ion Cell Parameters Estimation from Impedance Measurements:  
Methods and Applications
- 
- A 07**    **Jannik Heitz** (Forschungszentrum Jülich GmbH)  
Investigating the Role of Ionomer Distribution on Catalyst Stability in PEM Fuel  
Cells with a Hierarchical Modeling Approach
- 
- A 08**    **Abhinav Bhanawat** (École Polytechnique Fédérale de Lausanne (EPFL))  
Efficiency limits for photoelectrochemical glycerol oxidation combined with  
hydrogen evolution
- 
- A 09**    **Lourenço Vieira** (Zurich University of Applied Sciences)  
Mechanistic study and parameter estimation of a multi-electron transfer organic  
synthesis
- 
- A 10**    **Niklas Oppel** (Karlsruhe Institute of Technology (KIT))  
Flow Cell Electrolysis of CO<sub>2</sub> in Aprotic Media: Bridging Experiments and  
Simulations
-

- 
- A 11 Swantje Pauer** (Karlsruhe Institute of Technology (KIT))  
Dynamic Model-based Investigation of the 5-Hydroxymethylfurfural Oxidation and Ni(OH)<sub>2</sub> to NiOOH Transitions on Nickel Anodes
- 
- A 12 Jules Wolff** (Unistra Strasbourg)  
Cations effect on Pt(100) electrodes in aqueous solution studied by Molecular Dynamics at constant potentials
- 
- A 13 Felix Ehrlich** (Karlsruhe Institute of Technology (KIT))  
Predicting electrostatic equilibrium potentials in mixed conductor cells
- 
- A 14 Eva Fensterle** (Zentrum für Sonnenenergie- und Wasserstoff-Forschung (ZSW))  
Modified species equation in OpenFOAM to improve the description of species diffusion in porous media
- 
- A 15 Paul Feurstein** (EPFL)  
Modeling Charge Carrier Transfer in Photoanodes
- 
- A 16 Xin Shen** (University of Strasbourg)  
Microkinetic Modeling of Oxygen Evolution Reaction on Ni-Fe Alloy Electrodes
- 
- A 17 Paige Brimley** (EPFL)  
Understanding ion-specific interactions in anion-exchange membranes via atomistic modeling
- 
- A 18 Dieter Froning** (Forschungszentrum Jülich GmbH)  
Machine Learning for the Characterization of Porous Transport Layers
- 
- A 19 Linus Hammacher** (Forschungszentrum Jülich GmbH)  
Elucidating Parasitic Currents in Proton-Exchange Membrane Electrolytic Cells Via Physics-based and Data-driven Modeling
- 
- A 20 Violeta Karyofylli** (Forschungszentrum Jülich GmbH)  
Predictive modeling of proton-exchange membrane electrolytic cells
- 
- A 21 Florian Altmann** (TU Wien)  
A numerically highly efficient dynamic quasi-2D PEMFC model including non-isothermal and phase change processes
- 
- A 22 Pedro Henrique Affonso Nóbrega** (PSL University)  
A new generation zero-dimensional physics-based model for proton-exchange membrane fuel cells
- 
- A 23 Lukas König** (Zentrum für Sonnenenergie- und Wasserstoff-Forschung (ZSW))  
Revisiting the Gas Diffusion Layer Water Inventory – Benchmarking Leverett
-

- 
- A 24**    **Jamil Kharrat** (Karlsruhe Institute of Technology (KIT))  
Influence of the Energy Management System in Fuel Cell-Battery Hybrid Powertrains on the operation of PEM fuel cells
- 
- A 25**    **Tobias Schmitt** (Robert Bosch GmbH)  
Bridging the Gap: Investigating the Influence of Clamping Pressure and performance in Full-Size PEM Fuel Cells
- 
- A 26**    **Edoardo Scoletta** (ZHAW)  
A Modelling Framework for the Simulation of Coupled Performance-Degradation Phenomena in Proton Exchange Membrane Fuel Cells
- 
- A 27**    **Sarah Hoffmann** (Karlsruhe Institute of Technology (KIT))  
Enhancing Gas Diffusion Layer Design: Integrating Simulation and Experimental Methods for Improved Gas Flow in PEM Fuel Cells
- 
- A 28**    **Bhanu Seth** (Karlsruhe Institute of Technology (KIT))  
Simulative fuel cell spatial behavior analysis for enhanced fuel cell control
- 
- A 29**    **Theresa Uhlemayr** (Zentrum für Sonnenenergie- und Wasserstoff-Forschung (ZSW))  
Performance Modeling of PEM fuel cells under consideration of electrochemical aging effects
- 
- A 30**    **Yuze Hou** (Fraunhofer ISE)  
Pore-Scale Investigation of Ordered Mesoporous Carbon Supported Catalyst in Proton Exchange Membrane Fuel Cells
- 
- A 31**    **Felix Benz** (Forschungszentrum Jülich GmbH)  
Mechanical Interaction Between Microporous Layer and Fiber Substrate in Gas Diffusion Layers for PEM Fuel Cells
- 
- A 32**    **Marine Cornet** (University Grenoble Alpes)  
Experimental investigation of Freeze/thaw cycle in Proton Exchange Membrane Fuel Cell
- 
- A 33**    **Ann Chantal Goutier** (Paul Scherrer Institute)  
Simulations on Electrode Placement for Non-Invasive Localized Impedance Measurements of Polymer Electrolyte Fuel Cells
- 
- A 34**    **Barbara Thiele** (Paul Scherrer Institute)  
Multi-scale Wettability Determination in Gas Diffusion Layers of Polymer Electrolyte Fuel Cells
-

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- A 35 Margherita Bulgarini** (Politecnico di Milano)  
Extension of an OpenFOAM CFD framework for the simulation of PEM fuel cell at the channel scale
- 
- A 36 Jinho Ha** (Yonsei University)  
Surrogate Model-based Parameter Estimation of Physics-based Model for Vanadium Redox Flow Batteries
- 
- A 37 Marine Cornet** (University Grenoble Alpes)  
A spatially averaged pseudo-3D model for analyzing operating heterogeneities in large PEM fuel cells
- 
- A 38 Steffen Zappe** (University of Bayreuth)  
Unveiling the Deposition Dynamics in Hybrid All-Fe Redox Flow Batteries based on kinetic Monte-Carlo Simulations
- 
- A 39 Marius Müller** (Robert Bosch GmbH)  
Impact of temperature dependent kinetic parameters on overpotential distributions in solid oxide cells
- 
- A 40 Philipp Blanck** (Karlsruhe Institute of Technology (KIT), EIfER)  
Electrochemical ammonia synthesis on an iron based electrode and a BaCe<sub>0.7</sub>Zr<sub>0.2</sub>Y<sub>0.1</sub>O<sub>3-δ</sub> membrane
- 
- A 41 Oscar Furst** (Karlsruhe Institute of Technology (KIT))  
Multiscale Simulation of a Solid Oxide Electrolysis Cell Stack: Evaluating the Influence of a Manifold on the Performance
- 
- A 42 Daniel Esau** (Karlsruhe Institute of Technology (KIT))  
2D FEM model for simulation of high temperature steam and co- electrolysis with a nickel/MIEC cermet electrode
- 
- A 43 Martin Deichelbohrer** (Karlsruhe Institute of Technology (KIT))  
Evaluation of Cell Housing Designs for Pressurized Testing of Solid Oxide Single Cells
- 
- A 44 Cedric Grosselindemann** (Karlsruhe Institute of Technology (KIT))  
Pressurized Testing and Modeling of Solid Oxide Single Cells
- 
- A 45 Khaled Lawand** (EPFL)  
3D Segmentation and Characterization of Solid Oxide Cells
- 
- A 46 Yanyu Chen** (Forschungszentrum Jülich GmbH)  
CFD-Based Mesoscale Simulation of Triple Phase Boundary Effects on Solid Oxide Cells Performance
-

- 
- A 47 Niklas Eyckeler** (Forschungszentrum Jülich GmbH)  
Unraveling Performance Decay in Solid Oxide Electrolysis Cells: Laying the  
Groundwork for Experiment-Driven Modeling Approaches
- 
- A 48 Bing Ni** (German Aerospace Center (DLR))  
Model-Based Analysis of Hydrogen Supply in Integrated PEM Fuel Cell/Liquid  
Hydrogen Tank Systems for Aviation Application
- 
- A 49 Diamantis Almpantis** (Lunds University)  
Integrated Optimization of PEM Electrolyzer and BoP Dynamics: Demand-Based  
Hydrogen Production and Storage Using Solar, Grid, and Hybrid Energy Strategies
- 
- A 50 Xiaolu Wang** (North China Electric Power University)  
A homogenized modeling approach for heat transfer-flow coupling in stacked  
structures
- 
- A 51 Ladislaus Schönfeld** (Technische Universität München)  
CFD Simulation of Novel Spacer Designs for Membrane Humidifiers and  
Experimental Validation
- 
- A 52 Martin Gay** (EPFL)  
Impact of system efficiency maximization on an SOFC inside a hybrid SOFC +  
mGT system
-

## B. Energy Storage

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- B 01 Maximilian Luczak** (Math2Market GmbH)  
Pathway towards a Validated Simulation Model for All-Solid-State Batteries
- 
- B 02 Felix Kullmann** (Karlsruhe Institute of Technology (KIT))  
Optimization of multiphase electrodes in all-solid-state batteries by physicochemical impedance modeling
- 
- B 03 Luigi Jacopo Santa Maria** (University of Giessen)  
Understanding the Relationship between Microstructure and Charge Transport Properties for Sodium Solid-State Batteries: A Focus on Cathode Composite Optimization
- 
- B 04 Noah Lettner** (German Aerospace Center)  
A Thermodynamically Consistent Continuum Model for Ion-Selective Membranes in Aqueous Batteries
- 
- B 05 Kyunghyun Kim** (Samsung SDI)  
Understanding LiFePO<sub>4</sub> Battery Through Charging Dynamics and Electrochemical Modeling
- 
- B 06 Andreas Schiller** (Fluxim AG)  
Physics-Based Modelling of Operando Electrical Impedance Spectroscopy for the Characterization of Lithium-Ion Batteries
- 
- B 07 Ahmad Azizpour** (Johannes Kepler University Linz)  
Modelling Aging and Capacity Fade in graphite/NCA LIB: An Extended 1D Finite Element Approach with Particle Distribution Effects
- 
- B 08 Tim Laufer** (Karlsruhe Institute of Technology (KIT))  
Cracking and large deformations inside battery active particles
- 
- B 09 Nikolai Erhardt** (Karlsruhe Institute of Technology (KIT))  
A Novel Design of Physics-Informed Neural Networks for Modeling Mechanical Degradation in Active Materials with Phase Separation
- 
- B 10 Adrien Najjar-Giudicelli** (Univ. Grenoble Alpes)  
Diagnosis and Data Analysis of Aging Patterns for Second Life Applications of Electric Vehicle Batteries
- 
- B 11 Kawa Manmi** (University of Warwick)  
Comparing Common Zero-dimensional SEI Models Under Varied Conditions
-

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| <b>B 12</b> | <b>Anastasia Efthymiadou</b> (Paul Scherrer Institute)<br>Diagnostic protocol development for rapid SOH assessment for LFP/LMFP battery chemistries  |
| <b>B 13</b> | <b>Marek Sedlařík</b> (Brno University of Technology)<br>Predictive Analysis and Data-Driven Modeling for Electrochemical Degradation of Li-ion Batteries  |
| <b>B 14</b> | <b>Philipp Benjamin Kuhn</b> (University of Stuttgart)<br>Simulation of NMC cathode particle fracture based on the multiphase-field method   |
| <b>B 15</b> | <b>Monica Marinescu</b> (Imperial College London)<br>The importance of degradation mode analysis in parametrising lifetime prediction models   |
| <b>B 16</b> | <b>Julian Ulrich</b> (Karlsruhe Institute of Technology (KIT))<br>Your Charge Transfer Coefficient is not simply 0.5: Insights into Kinetics of Lithium-Ion-Batteries  |
| <b>B 17</b> | <b>Aravind Unni</b> (Karlsruhe Institute of Technology (KIT))<br>KMC Simulation Study of SEI Formation from LiFSI/DME electrolyte in Li-Metal Battery  |
| <b>B 18</b> | <b>Rene Windiks</b> (Materials Design s.a.r.l.)<br>Unravelling Reaction Mechanisms in Liquid Electrolytes of Lithium-Ion Batteries to Calculate Thermochemical-Kinetic Parameters  |
| <b>B 19</b> | <b>Jürgen Fuhrmann</b> (Weierstrass Institute Berlin)<br>LiquidElectrolytes.jl - A Generalized Poisson-Nernst-Planck solver written in Julia   |
| <b>B 20</b> | <b>Alastair Hales</b> (About:Energy and University of Bristol)<br>Overcoming Thermal Modelling Challenges in Cylindrical and Prismatic Cells   |
| <b>B 21</b> | <b>Jorge Valenzuela</b> (Karlsruhe Institute of Technology (KIT))<br>Thermochemical-Kinetic Insights into the Thermal Degradation Mechanisms of Lithium-Ion Batteries through Gas Analysis Modeling                        |
| <b>B 22</b> | <b>Albert Pool</b> (German Aerospace Center (DLR))<br>Quantum algorithms to solve partial differential equations in battery modelling  |
| <b>B 23</b> | <b>Leonie Pfeifer</b> (Karlsruhe Institute of Technology (KIT))<br>Investigation of the influence of different thermal aging conditions on the thermal transport properties and porosity of lithium-ion battery electrodes |

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- B 24 Anne Heß** (Karlsruhe Institute of Technology (KIT))  
A Combined Experimental and Modeling Approach to Transfer Experimental Test Cell to Automotive Pouch Cell Behavior
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- B 25 Raphael Mühlport** (Karlsruhe Institute of Technology (KIT))  
Investigation of crucial effective transport parameters of Li-ion cells based on experimental impedance spectroscopy by a hybrid simulation model
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- B 26 Marc Schiffler** (Karlsruhe Institute of Technology (KIT))  
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- B 27 Pascal Willer** (Universität Stuttgart)  
Development of a Physics-Based Electrochemical and Thermal Model of Li-Ion Batteries for Microcontroller Applications
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- B 28 Caroline Willuhn** (Technische Universität Braunschweig)  
Analysis of DEM-calendered anode microstructure for electronic and ionic conductivity
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- B 29 Jan Lammel** (Fraunhofer ITWM)  
Fully coupled three-dimensional electrochemical and thermal simulation of cylindrical lithium-ion battery cells
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- B 30 Dharshannan Sugunan** (Imperial College London)  
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- B 31 Jakub Jambrich** (Karlsruhe Institute of Technology (KIT))  
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- B 32 Emir Gumrukcuoglu** (University of Portsmouth)  
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- B 33 Hossein Harimi** (Bayreuth University)  
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- B 34 Christoph Lechner** (AVL List GmbH)  
Enhanced Virtual Upscaling - From Battery Cell to Module with Smart Sensor Measurements
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- B 35 Paula Lorson** (Karlsruhe Institute of Technology (KIT))  
Modelling the discharge behaviour of battery cells with phase-separating active materials on the example of LFP
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- B 36**    **Simon Schwab** (Offenburg University of Applied Sciences)  
Electrochemical and mechanical behavior of a lithium-ion cell with a silicon-graphite negative blend electrode
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- B 37**    **Jinho Ha** (Yonsei University)  
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- B 38**    **Jonas Braun** (Offenburg University of Applied Sciences)  
Integration of lithium-ion batteries in a micro-photovoltaic system: Demonstration of an active charging system
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- B 39**    **Filiz-Pinar Seren** (Karlsruhe Institute of Technology (KIT))  
Growth Mechanisms of Lithium Metal Dendrites Revisited
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- B 40**    **Elia Zonta** (Technical University of Munich)  
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- B 41**    **Will Clarke** (University of Portsmouth)  
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- B 42**    **Sascha Stallmann** (Fraunhofer IFAM)  
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- B 43**    **John Mugisa** (German Aerospace Center)  
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- B 44**    **Laura Femmer** (German Aerospace Center)  
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- B 45**    **Alexandra Pamperin** (Karlsruher Institut für Technologie (KIT))  
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- B 46**    **Huy Nguyen** (Ulm University)  
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- B 47**    **Elisabeth Oldenburg** (Karlsruhe Institute of Technology (KIT))  
Model-based Characterization of Aging in Sodium-Ion Batteries
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- B 48**    **Paul Maidl** (German Aerospace Center (DLR))  
Extending multi-scale simulations of sodium-ion batteries
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**B 49**    **Alexander Ruth** (AVL List GmbH)

DoE Supported Parameterization of a Five Equation Pseudo Chemical Battery  
Thermal Runaway Model

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**B 50**    **Pamella Palmeira de Araújo** (Lund University)

A Review of Coupled Numerical Modelling of Heat Transfer and Flame  
Propagation in Batteries

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