

## 8<sup>th</sup> Energy Colloquium of the Munich School of Engineering

# Advances in Energy Transition

July 19, 2018 – 8:30 a.m. to 8:00 p.m.  
TUM – Quantum, Garching-Hochbrück

**8:30 – 9:00 a.m.**

Registration

**9:00 – 9:15 a.m.**

**Opening: Prof. Thomas Hamacher**  
Director Munich School of Engineering

**9:15 – 9:45 a.m.**

**Keynote: Shell Hydrogen Study – Energy of the Future?**  
Dr. Jurgen Louis, Shell Global Solutions GmbH

**9:45 – 11:00 a.m.**

***Electrochemical Energy Storage: From Fundamentals to Experiments***

Session Chair: **Prof. Peter Müller-Buschbaum**

**Watching Metal Nanolayer Growth on Functional Polymer Thin Films for Lithium-Ion Battery Applications**

Simon Schaper, Chair of Functional Materials

**Towards Graphite/V2O5 Na Ion Batteries**

Lukas Seidl, Electrochemical Research Group

**Activity of Oxygen and Hydrogen Evolution Reaction Electrocatalysts under Industrially Relevant Conditions**

Sebastian Watzele, Physics of Energy Conversion and Storage

**11:00 – 11:30 a.m.**

Poster Presentation and Coffee Break

**11:30 – 12:45 p.m.**

***Power Generation and Storage: From Micro to Macro***

Session Chair: **Prof. Hartmut Spliethoff**

**Monitoring a Commercial  $\mu$ -CHP SOFC-Stack by Electrochemical Impedance Spectroscopy**

Tobias Herrmann, Chair of Plant and Process Technology

**Biomass Combustion from Lab-Scale to Full-Scale: A Holistic Approach for CHP Plants**

Richard Nowak Delgado, Chair of Energy Systems

**Distributed Residential Battery Energy Storage Systems in a Microgrid Environment**

Stefan Englberger et al., Institute for Electrical Energy Storage Technology

**12:45 – 2:00 p.m.**

Poster Presentation and Lunch Break

**2:00 – 2:30 a.m.**

**Keynote: Potential of Sustainable Campuses in Driving Energy Transition**

AStA Umweltreferat, TUM

**2:30 – 3:45 p.m.**

***Renewable Energies: From Prediction to Market***

Session Chair: **Prof. Carlo L. Bottasso**

**An Analytical Weather Generator: Energy Source Data for Renewable Energy Models**

Franz Christange, Chair of Renewable and Sustainable Energy Systems

**Numerical Simulation of a Scaled Wind Farm**

Chengyu Wang, Chair of Wind Energy

**Renewable Auctions – A Real Options Approach**

David Matthäus, Chair of Management Accounting

**3:45 – 4:15 p.m.**

Poster Presentation and Coffee Break

**4:15 – 5:30 p.m.**

***Energy-Water-Nexus: From Munich to Harare***

Session Chair: **Prof. Werner Lang**

**Multi Energy Management and Aggregation Platform**

Alexandre Capone, Chair of Renewable and Sustainable Energy Systems

**Thermal Use of Shallow Groundwater in Munich's Energy Planning**

Fabian Böttcher, Chair of Hydrogeology

**Promoting Rural Electrification in Sub-Saharan Africa: Least-Cost Modeling of Decentralized Energy-Water-Food Systems**

Johannes Winklmaier, Chair of Renewable and Sustainable Energy Systems

**5:30 – 6:00 p.m.**

**Keynote: Designing with Nature - The Potentials of Green Technologies in the Context of Climate Change and the Transition to Renewable Energy**

Prof. Ferdinand Ludwig, TUM

**6:00 – 6:15 p.m.**

Summary and Closing

**6:15 – 8:00 p.m.**

Poster and Presentation Award with Colloquium Dinner

**Please register:** <http://www.mse.tum.de>