

## 11<sup>th</sup> Energy Colloquium of the Munich School of Engineering 2<sup>nd</sup> Virtual Edition

# Energy Sciences for Europe's Green Deal

Please register by July 23<sup>rd</sup>, 2021 to get your login information: <http://www.mse.tum.de>

July 28, 12:30 to 5:30 pm

### 12:30 pm Opening

Prof. Dr. Thomas Hamacher  
Director, Munich School of Engineering, TUM

### 12:45 pm Keynote

#### Technologies Enabling the H2 Value Chain

Dr. Andreas Peschel, Head of Chemical Technology R&D, Linde GmbH,  
Linde Engineering

### 1:15 pm *Fundamentals in Functional Materials*

Session Chair: Prof. Dr. Peter Müller-Buschbaum

#### Comparison of the Temperature-Dependent Impedance and Rate Performance of Silicon and Graphite Anodes

Clara Berg, Chair of Technical Electrochemistry, TUM

#### Top-Down Synthesis of Pt-Based Oxygen Electro-Reduction Catalysts

Dr. Batyr Garlyyev, Department of Physics, TUM

#### A Concept of a $\mu$ -Photoreactor for Planar Hydrogen Evolution Catalysts at Ambient Conditions

Clara Aletsee, Chair of Physical Chemistry, TUM

### 2:30 pm Coffee Break

### 2:45 pm *Innovative Technologies and Applications*

Session Chair: Prof. Dr. Andreas Jossen

#### Emerging Thin-Film Solar Cell Technologies Reaching Space

Lennart Reb, Department of Physics, TUM

#### Water-Based Prussian Blue Ink Optimization by Using High-Throughput Robotic System for Electrochromic Smart Windows

Oleksandr Mashkov, i-Meet, FAU

#### Development of Innovative Nano-CHP Using New Thermoelectric Generators (TEG)

Arne Stumpf, Competence Center Thermal Energy Systems, TH Nuernberg

### 4:00 pm Keynote

#### Energy Demand in the Built Environment - Strategies for Sector Coupling

Kerstin Stratmann, VdZ

### 4:30 pm Poster Session I

*Join us for a virtual get together!*

July 29, 9:00 am to 5:30 pm

### 9:00 am Workshop - Energy Scenarios for Bavaria

The STROM-Project investigates the future of the energy system in Bavaria with a special focus on heating sector and the interaction between heating and power sector. The development will depend pretty much on the development of the Global, European and National energy system. Therefore the workshop will define the possible scenario frames we need to consider and will also discuss the central technologies which most likely will be of prime importance for the project. An example which will be highlighted in the workshop is deep geothermal energy for heat production.

### 12:30 pm Poster Session II

### 1:30 pm Opening

Prof. Dr. Thomas Hamacher

### 1:45 pm Keynote

#### Security of Supply – Concept of Evaluation

Dr. Philipp Kuhn, Chair of Sustainable and Renewable Energy Systems, TUM

### 2:15 pm *Innovative & Improved Energy Conversion Technologies*

Session Chair: Prof. Dr. Hartmut Spliethoff

#### BioCORE- Highly Efficient Biogas Conversion in Reversible Solid Oxide Cells

Felix Fischer, Chair for Energy Systems, TUM

#### Utilization of Wood Gas in a SOFC-Stack

Federica Torigino, Chair of Energy Process Engineering, FAU

#### Compact and Cost-Efficient Cold Storage Based on an Absorption Process with H<sub>2</sub>O/LiBr

Dieter Pressl, ZAE Bayern

### 3:30 pm Coffee Break

### 3:45 pm *Impacts on Energy Supply in the Near Future*

Session Chair: Prof. Dr. Thomas Hamacher

#### Battery-Assistance vs. Grid Reinforcement for High-Power EV Charging: An Emissions Perspective

Anupam Parlikar, Institute for Electrical Energy Storage Technology, TUM

#### Can the Environmental Impact of Wind Turbines be Reduced through Design?

Helena Canet, Chair for Wind Energy, TUM

#### Environmental Effects of Digitization for Smart Grid Use Cases – a Life-Cycle Perspective and Beyond

Daniela Wohlschlager, Forschungsstelle für Energiewirtschaft

### 5:00 pm Keynote

#### What Factors Influencing the Adoption of Green Hydrogen: A Global Perspective

Prof. Dr. Svetlana Ikonnikova, Center for Energy Markets, TUM

### 5:30 pm Summary and Closing

Prof. Dr. Thomas Hamacher