Challenges on the Renewable Energy Storage

29th - 31st August 2022
Zámek Liblice, Czech Republic

Conference Programme

as of 5th August 2022 (Subject to change)

DAY 1 • MONDAY, 29th AUGUST	
SESSION 01	
09:00	**KEY NOTE LECTURE** **Catalysis for renewable energy** • *Robert Schlögl (Fritz-Haber-Institute, Germany)* **09:45 DISCUSSION**
10:15	**KEY NOTE LECTURE** **Dynamics in Electrocatalysis** • *Beatriz Roldan (Fritz-Haber-Institute, Germany)* **11:30 DISCUSSION**
12:00	**COFFEE BREAK**
12:30	**Electrocatalytic CO2-Reduction in Acid Medium at Cu2O-Derived Polycrystalline Cu Sites Immobilized within Network of WO3 Nanowires** • *Pawel Kulesza (University of Warshaw, Polen)*
12:50	**PLD preparation of electrodes for water electrolysis** • *Martin Kostejn (Institute of Chemical Process Fundamentals of the CAS, Czech Republic)*
13:10	**LUNCH BREAK**
SESSION 02	
14.30	**KEY NOTE LECTURE** **Electrocatalysis at high entropy alloy surfaces** • *Jan Rossmeisl (Department of Chemistry University of Copenhagen, Denmark)* **15:!5 DISCUSSION**
15:45	**Stability of electrocatalysts: From high-throughput and model studies to real systems** • *Serhiy Cherevko (Forschungszentrum Jülich / Helmholtz-Institute Erlangen-Nürnberg for Renewable Energy, Germany)*
16:05	**Atomistic Insights into the Electrolyte/Electrode Interface of Solid Oxide Cells** • *Thomas Lunkenbein (Fritz-Haber-Institute / CatLab, Germany)*
16.25	**Stability Challenges in Oxygen Electrocatalysis: Atomic-Scale Insights and Design of Advanced Materials** • *Olga Kasian (Helmholtz-Zentrum Berlin, Germany)*
16:45	**COFFEE BREAK**
17:15	**Intermetallic Compounds and Catalysis: Perspectives and Challenges** • *Yuri Grin (Max-Planck-Institute for Chemical Physics of Solids, Germany)*
17:35	**Hybrid electrocatalytic systems composed of PtSn nanocenters and Ru additives for oxidation of dimethyl ether as alternative fuel** • *Iwona Rutkowska (University of Warshaw, Polen)*
17:55	**Challenges of intensifying electrochemical technologies for renewable energy storage** • *Sonya Calnan (Helmholtz-Zentrum Berlin / CatLab, Germany)*
18:30	**DINNER**

DAY 2 • TUESDAY, 30th AUGUST	
SESSION 03	
09:30	**KEY NOTE LECTURE** **Storage Technology Needs for the New Energy System and their Industrialization Trends** • *Max Fleischer (Siemens Energy, Germany)* **10:15 DISCUSSION**
10:45	**COFFEE BREAK**
11:15	**Challenges and opportunities of electrochemical CO2 conversion: from nanoscale catalysis to industrial implementation** • *Csaba Janaky (University of Szeged, Hungary)*
11:35	**Electrochemical scanning probe microscopy for catalysis research** • *Christopher Kley (Helmholtz-Zentrum Berlin / Fritz-Haber-Institute, Germany)*
11:55	**Experimental and Numerical Reactor Diagnostics: How to look inside catalytic reactors at work** • *Raimund Horn (Hamburg University of Technology, Germany)*
12:15	**LUNCH BREAK**
SESSION 04	
14:30	**KEY NOTE LECTURE** **Renewable energy systems: The role of O-vacancies in catalytic CO2 reduction reactions** • *Jürgen Behm (Institute of Theoretical Chemistry, University of Ulm, Germany)* **15:15 DISCUSSION**
15:45	**COFFEE BREAK**
16:15	**Electrocatalysis as Major Enabling Technology for Decarbonization** • *Plamen Atanassov (University of California, Irvine, USA)*
16:35	**Chemical behaviour of Al-Pt compounds in oxygen evolution reaction (OER)** • *Iryna Antonyshyn (Max-Plank-Institute for Chemical Phyics of Solids, Germany)*
16:55	**Size selected sub-nm clusters in heterogenous catalysis, electrocatalysis and Li-O2 batteries** • *Stefan Vajda (Heyrovsky Institute of Physical Chemistry, Czech Republic)*
17:15	**Thin-film technologies for catalyst preparation and characterization** • *Daniel Amkreutz (Helmholtz-Zentrum Berlin / CatLab - Germany)*
18:00	**CONCERT**
19.00	**CONFERENCE DINNER**

DAY 3 • WEDNESDAY, 31st AUGUST	
SESSION 05	
09:00	**KEY NOTE LECTURE** **Energy Efficiency: Key to Defossilizing the Chemical Industry** • *Michael Bender (BASF - Germany)* **09:30 DISCUSSION**
10:00	**Density Functional Theory studies of catalytic systems for solar energy harvesting and storage** • *Dorota Rutkowska-Zbyk (Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, Poland)*
10:20	**Influence of host structure and synthesis technique on the formation of active Fe, Co and Ni catalysts for ammonia decomposition under reaction conditions** • *Annette Trunschke (Fritz-Haber-Institute, Germany)*
10:40	**COFFEE BREAK**
11:10	**Transformation of methane to liquids by its selective oxidation by molecular oxygen** • *Jiri Dedecek (J. Heyrovsky Institute of Physical Chemistry of the CAS, Czech Republic)*
11:30	**LDH-derived multinary magnesioferrites as alternative precursors for ammonia synthesis catalysts** • *Jan Folke (Max Planck Institute for Chemical Energy Conversion, Germany)*
11:50	**X-ray Photoelectron Spectroscopy Studies of Pd Thin Film Catalysts** • *Eylül Öztuna (Fritz-Haber-Institute / CatLab, Germany)*
12:10	**Catalytic Performance of Thin Film Pd for Selective Acetylene Hydrogenation** • *Zehua Li (Fritz-Haber-Institute / CatLab, Germany)*
12:30	**LUNCH BREAK**
SESSION 06	
14:30	**KEY NOTE LECTURE** **Mechanisms of Electrochemical Hydrogen Evolution and CO2 Reduction** • *Marc Koper (Leiden University, The Netherlands)* **15:15 DISCUSSION**
15:45	**COFFEE BREAK**
16:15	**Effect of the Surface Charge on the Oxygen and Hydrogen Peroxide Reduction Reactions** • *Enrique Herrero (University Alicante, Spain)*
16:35	**Electrochemical CO2 Conversion: Current Status, Perspectives and Caveats** • *Soma Vesztergom (Eötvös Loránd University of Budapest, Department of Physical Chemistry, Hungary)*
16:55	**Intermetallic Compounds as Water Splitting Electro(pre)catalysts** • *Prashanth Menezes (Helmholtz-Zentrum Berlin / CatLab, Germany)*
17:15	**Synthesis of NiSi and PbSn as cathodic materials** • *V. Drinek (Institute of Chemical Process Fundamentals, Czech Republic)*
17:35	**CLOSING and FAREWELL**
18:30	**DINNER**