

PROGRAM

Wednesday, May 22, 2024

08.00: Registration

08.45: Welcome and Opening

Prof. Bastian Etzold (FAU), Prof. Jörg Libuda (FAU)
and Prof. Karl Mayrhofer (HI ERN/FAU)

09.00: Electrolyte Effects in Electrocatalysis

Prof. Marc Koper (Leiden University, Netherlands)

09.45 – 10.15: Coffee Break

Session 1

Chair: Anna Freiberg (HI ERN)

10.15: Alkaline oxygen evolution reaction on activated industrial Ni-Fe alloys

Prof. Marian Chatenet (Grenoble INP, France)

10.45: Cobalt based MXene composites for the Oxygen Evolution Reaction

Dr. Michelle Browne (Helmholtz-Zentrum Berlin, Germany)

11.15: Highly Active and Durable Composite-Type Self-Repairing Anode Catalysts for Alkaline Water Electrolysis

Prof. Yoshiyuki Kuroda (Yokohama National University, Japan)

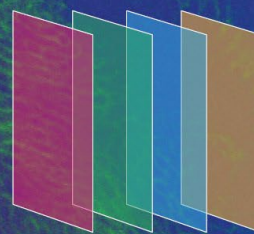
11.35: Atomic insights into the competitive edge of nanosheets splitting water

Dr. Lorenz Filling (Technical University Munich, Germany)

11.55: End of Session 1

11.55 – 13.20: Lunch

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Session 2

Chair: Dr. Dominik Dworschak (HI ERN)

- 13.20: Influence of alkali metal cations on electrocatalytic activity and stability**
Prof. Chang-Hyuck Choi (Pohang University of Science and Technology (POSTECH), Korea)
- 13.50: Routes towards molecular carbon materials for electrochemical conversion of small molecules**
Prof. Martin Oschatz (FSU Jena, Germany)
- 14.10: Exploring metal exsolution to modify the electrochemical interface of perovskite-based catalysts for the oxygen evolution reaction in aqueous medium**
Dr. Moritz Lukas Weber (Forschungszentrum Jülich, Germany)
- 14.30: Dewetted nanoparticles – A platform to study nanoscale effects in electrocatalysis**
Prof. Marco Altomare (University of Twente, Niederlande)
- 14.50: End of Session 2**

14.50 – 15.10: Coffee Break

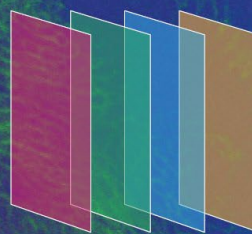
Session 3

Chair: Dr. Olaf Brummel (FAU)

- 15.10: Water and CO₂ Electrolysis: Understanding Kinetic vs. Transport Limitations**
Prof. Ulrike Krewer (Karlsruhe Institute of Technology, Germany)
- 15.40: Assessment of the Reproducibility in Interfacial Electrochemistry and Electrocatalysis Measurements Using Pt Electrodes in Aqueous Acidic and Alkaline Media**
Niusha Mouchani (Queen's University, Canada)
- 16.00: Combining activity and durability in oxygen evolution electrocatalysis: the case of crystalline iridium oxide**
Dr. Tobias Binninger (Forschungszentrum Jülich, Germany)

16.20 – 16.40: Coffee Break

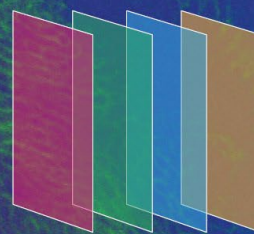
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- 16.40: Catalysis on High Entropy Materials**
Prof. Jan Rossmeisl (University of Copenhagen, Denmark)
- 17.10: What Governs the Electrocatalytic Activity of Oxygen-Evolution Reaction Catalysts? Beyond Scaling Relations**
Prof. Kai Exner (University of Duisburg-Essen, Germany)
- 17.30: Unravelling the “Iron Effect” in Oxygen Evolution on Nickel and Cobalt Oxides using Electronic structure calculations**
Prof. Alexander Auer (MPI für Kohlenforschung, Germany)
- 17.50: End of Session 3**
- 19.00: Joint Dinner at "Alter Rathaussaal"**
- ca. 23.00: End of day 1**

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PROGRAM

Thursday, May 23rd, 2024

09.00: Trials and Tribulations in the Electro-reduction of N₂ to Ammonia
Prof. Douglas MacFarlane (Monash University, Australia)

09.45 – 10.05: Coffee Break

Session 4

Chair: Dr. Pavlo Nikolaienko (HI ERN)

10.05: Syngas production via CO₂ electroreduction at industrially relevant conditions enabled by catalyst design and electrode optimization
Prof. Corina Andronesco (University of Duisburg-Essen, Germany)

10.35: Long-term continuous ammonia electrosynthesis
Dr. Shaofeng Li (Technical University of Denmark (DTU), Germany)

10.55: In-situ analysis of the dynamic interfacial electrolyte composition near electrodes during the electrochemical reduction of CO₂ or N₂
Prof. Georgios Katsoukis (University of Twente, Netherlands)

11.15 – 11.35: Coffee Break

11.35: System and Process Development for Industrial Carbon-dioxide Electroreduction
Dr. Csaba Janáky (University of Szeged, Hungary)

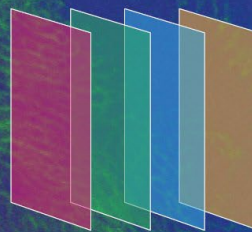
12.05: Influence of ionomer type on the performance of CO₂-reducing gas diffusion electrodes
Christina Martens (Forschungszentrum Jülich, Germany)

12.25: Beyond Cu catalysts: Synergistic effects of Cu with metal co-catalysts to enable CO(2) reduction to higher carbon products
Dr. Nina Plankensteiner (University of Innsbruck, Austria)

12.45: End of Session 4

12.45 – 14.00: Lunch

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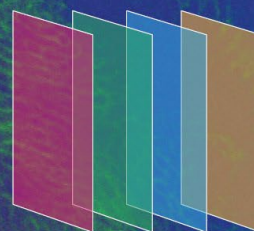
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Session 5

Chair: Dr. Andreas Hutzler (HI ERN)

- 14.00: From flow fields to catalyst layers: a multiscale approach to advancing electrochemical clean energy**
Prof. Aimy Bazylak (University of Toronto, Canada)
- 14.30: *Operando* Methods at Dynamic Catalyst Interfaces**
Prof. Yao Yang (Cornell University, USA)
- 15.00: The inconvenient truth of ORR catalyst stability: Operando high energy X-ray investigations of ORR catalysts from cradle to grave**
Dr. Jakub Drnec (European Synchrotron Radiation Facility (ESRF), France)
- 15.30: Step engineering for model electrocatalysis using ion erosion**
Dr. Josef Mysliveček (Charles University, Czech Republic)
- 16.00: End of Session 5**
- 16.00: Poster Session**
Poster presentations, networking with food and drinks at the conference venue
- ca. 19.00: End of Day 2**

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PROGRAM

Friday, May 24, 2024

09.00: **Operando Spectroscopy in Electrocatalysis: Seeing the Catalyst in Action**
Prof. Thomas Justus Schmidt (Paul Scherrer Institute, Switzerland)

09.45 – 10.05: Coffee Break

Session 6

Chair: Dr. Matthew Brodt (HI ERN)

10.05: **Electrochemical diagnostic methods: model-based and data-driven analysis**
Dr. Tanja Vidakovic-Koch (Max Planck Institute for Dynamics of Complex Technical Systems, Germany)

10.35: **How to find *and* understand new electrocatalysts**
Prof. Matthias Arenz (University of Bern, Switzerland)

11.05: **Green hydrogen production by electrolysis promoted by ethanol oxidation**
Prof. Germano Tremiliosi-Filho (University of Sao Paulo, Brazil)

11.25 – 11.45: Coffee Break

11.45: **Electron Microscopy for Understanding the Stability of Electrocatalysts**
Prof. Nejc Hodnik (National Institute of Chemistry, Slovenia)

12.15: **On the Design of Structured Electrocatalysts for Enhancing Gas Evolution Processes During Water Electrolysis**
Prof. Byron Gates (Simon Fraser University, Canada)

12.35: **Beyond CO₂ and CO - Electro catalytic functional group conversion on copper electrodes**
Bernhard Schmid (Forschungszentrum Jülich, Germany)

12.55: **End of Session 6**

12.55 – 14.00: Lunch

14.00: **Excursion and Guided Lab Tour to HI ERN's headquarters at Erlangen**
via bus shuttles

18.00: **Conference closing at Erlanger Bergkirchweih**

23.00: **Bus Shuttle back to Nuremberg and End of the symposium**

Friday, May 24, 2024