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 Falling (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

Wednesday, May 22, 2024

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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 Andronescu (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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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: **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)

15.00: **Step engineering for model electrocatalysis using ion erosion**
Dr. Josef Mysliveček (Charles University, Czech Republic)

15.30: **End of Session 5**

15.30 – 16.00 Coffee Break

16.00: **Poster Session**
Poster presentations, networking with food and drinks at the conference venue

To ensure that everyone has the opportunity to view all contributions, we divided the poster presentations into two groups:

- 16.00 - 17.00: odd numbered posters
- 17.00 - 18.00: even numbered posters
- 18.00 - 19.00: flexible

approx. 19.00: End of Day 2

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

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: **End of Session 6**

12.35: **Closing and Posteraward**

12.45 – 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**