

Tagung der GDCh-Fachgruppe Chemie & Energie 2023

Scientific Programme

Wednesday, May 24, 2023

08.00 a.m.

Registration

Welcome

09.45 a.m.

Welcome Fachgruppe und ICT

10.00 a.m.

ICT Short Introduction

Plenary Lecture

10.15 a.m.

B. Roldán Cuenya - Operando evolution of catalysts at work

Materials for Energy efficiency

11.00 a.m.

Na-ion batteries: Energy storage based on abundant elements

P. Adelhelm, Berlin/DE

11.30 a.m.

Nanomechanical and Nanoelectrical Characterization of Proton Exchange Membrane Electrode Assemblies

J. Borowec, Jülich/DE, R.-A. Eichel, Jülich/DE, F. Hausen, Jülich/DE

11.50 a.m.

Size- and shape-selective synthesis of spinel-type nanoparticles for OER and alcohol oxidation

S. Schulz, Essen/DE, C. Placke-Yan, Essen/DE, S. Saddeler, Bochum/DE, G. Bendt, Essen/DE

12.10 p.m.

Ultrahigh Mass Activity Pt Entities composed of Pt Single atoms, Clusters and Nanoparticles on Mesoporous N-doped Carbon Nanospheres for improved Hydrogen Evolution Reaction

S. Küspert, Freiburg/DE, Z. Zeng, Freiburg/DE, S. E. Balaghi, Freiburg/DE, H. E. M. Hussein, Warwick/GB, N. Ortlieb, Freiburg/DE, M. Knäbber-Buß, Freiburg/DE, P. Hügenell, Freiburg/DE, S. Pollitt, Villigen/CH, N. Hug, Freiburg/DE, J. Melke, Freiburg/DE, A. Fischer, Freiburg/DE

12.30 p.m.

Lunch Break and Poster Session

Sustainable Processes

02.30 p.m.

BASF's Net Zero Accelerator

M. Bosch, Ludwigshafen/DE

03.00 p.m.

Electrochemical Hydrodimerization of Biobased Compounds for the Production of Polymers and Fuels

R. Kunkel, Pfinztal/DE, V. M. Schmidt, Mannheim/DE, D. Schmiedl, Pfinztal/DE, J. Tübke, Pfinztal/DE

03.20 p.m.

Monitoring, Understanding and Predicting Degradation Processes in Hydrogen PEM Fuel Cells for Heavy-Duty Transportation Applications

S. Thiel, Nuremberg/DE, L. Birkner, Nuremberg/DE, M. Eichelbaum, Nuremberg/DE

03.40 p.m.

Early stage recovery of lithium from lithium-ion batterie black mass in pilot scale

B. F. Hansel, Freiberg/DE, C. Pätzold, Freiberg/DE, M. Bertau, Freiberg/DE

04.00 p.m.

Coffee Break

04.30 p.m.

Members Meeting

Award Ceremony

05.30 p.m.

Greeting BASF

05.45 p.m.

Perspectives to (Electro-)Chemical Energy Storage: From Fundamental Thermodynamics to CO₂-Hydrogenation and Next Generation Batteries

I. Krossing, Freiburg/DE

06.15 p.m.

Electrochemical sodium storage in non-graphitizing carbons - insights into mechanisms and synthetic approaches towards high-energy density materials

K. Schutjajew, Jena/DE

06.45 p.m.

Dinner - BBQ

Thursday, May 25, 2023

Green Industry

09.00 a.m.

Flexibility Options in the Chemical Industry

K. Perrey, Dormagen/DE

09.30 a.m.

Green methanol from renewable feeds – Towards scalable catalyst synthesis and improved stability

L. Warmuth, Eggenstein-Leopoldshafen/DE, M. Steurer, Eggenstein-Leopoldshafen/DE, D. Schild, Eggenstein-Leopoldshafen/DE, A. Zimina, Eggenstein-Leopoldshafen/DE, J.-D. Grunwaldt, Eggenstein-Leopoldshafen/DE, T. A. Zevaco, Eggenstein-Leopoldshafen/DE, S. Pitter, Eggenstein-Leopoldshafen/DE

09.50 a.m.

Size Effects in Transition Metal Catalyzed Ammonia Decomposition

J. Wang, Kiel/DE, M. Behrens, Kiel/DE, S. Chen, Kiel/DE

10.10 a.m.

Three-dimensional XCT characterization of large membrane electrode assemblies – from acquisition to statistical analysis of delineated morphology

C. Heume, Jülich/DE, K. Dziencial, Jülich/DE, R.-A. Eichel, Jülich/DE

10.30 a.m.

Coffee Break

Enabling Electrochemical energy systems

11.00 a.m.

Electrosynthesis: Insight into Processes, States and Potential of Electrodes via Kinetic Modeling

U. Krewer, Karlsruhe/DE

11.30 a.m.

Effect of Fe doped electrolyte on advanced alkaline water electrolysis

M. Demnitz, Eindhoven/NL, R. Barros, Eindhoven/NL, M. de Groot, Eindhoven/NL, J. van der Schaaf, Eindhoven/NL

11.50 a.m.

New Methods for State-of-Charge Monitoring in VRFB: Electrochemical Quartz-Cristal Microbalance and Chronoamperometric Measurements

C. Weidlich, Frankfurt/DE, M. Wieland, Frankfurt/DE, F. Lulay, Frankfurt/DE, M. Valencia, Frankfurt/DE

12.10 p.m.

Optimized Characterization of Powder-Based Catalysts for the Oxygen Evolution Reaction in Alkaline Media

C. Marcks, Aachen/DE, A. Jain, Duisburg/DE, V. Vinayakumar, Duisburg/DE, D. Segets, Duisburg/DE, A. Mechler, Aachen/DE

12.30 p.m.

Closing

Visit

01.30 p.m.

Visit of the RedOx-Flow battery by appointment