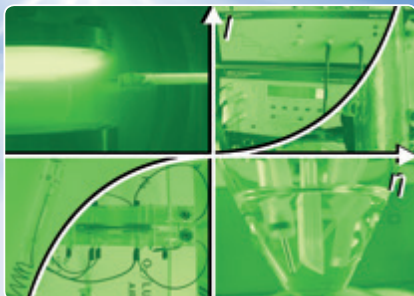




GESELLSCHAFT DEUTSCHER CHEMIKER

ELECTROCHEMISTRY 2018

Electrochemical Surface Science:
From Fundamentals to Applications



UNIVERSITÄT ULM
SEPTEMBER 24 – 26, 2018



ulm university universität
uulm



Conference jointly organized by

Fachgruppe Elektrochemie



Fachgruppe Analytische Chemie

Arbeitskreis Elektrochemische Analysenmethoden
(ELACH, GDCh)



Deutsche Bunsen-Gesellschaft für physikalische
Chemie e.V. (DBG)



Gesellschaft für Chemische Technik
und Biotechnologie e.V. (DECHEMA)



Arbeitsgemeinschaft elektrochemischer
Forschungsinstitutionen e.V. (AGEF)



Gesellschaft für Korrosionsschutz e.V. (GfKORR)



Deutsche Gesellschaft für Galvano- und
Oberflächentechnik e.V. (DGO)

www.gdch.de/electrochemistry2018

SECOND CIRCULAR & PROGRAM

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Timo Jacob	Ulm
Ludwig A. Kibler	Ulm
Silvia Kirrwald	GDCh
Stefano Passerini	HIU/KIT

Dear colleagues,

Electrochemistry is a successful series of conferences, held every other year. Starting in Gießen (2008), followed by Bochum (2010), Munich (2012), Mainz (2014) and Goslar (2016) scientists working in the various areas of electrochemistry joined for discussing cutting-edge trends and applications. The conference is jointly organized by GDCh Fachgruppe Elektrochemie, GDCh Arbeitskreis Elektroanalytische Chemie, DBG, DECHEMA, AGEF, GfKORR and DGO.

Electrochemistry will be continued in Ulm 2018. Outstanding electrochemists from Germany and from abroad will highlight research results and current trends. Four parallel sessions will cover nearly all topics of electrochemistry from fundamental science to technical applications, while the underlying theme of the conference is on Electrochemical Surface Science.

Electrochemistry – Electrochemical Surface Science: From Fundamentals to Applications. In this spirit, the organizing committee and the organizing societies invite electrochemists, scientists from other disciplines, who are interested in electrochemistry, and students to meet in Ulm. Colleagues from industry and academia, from Germany and from abroad are cordially invited to participate in the conference and to enrich its program by their scientific contributions.

Ulm is not only the city with the tallest church in the world and where Albert Einstein was born, it also has a long-standing tradition in electrochemistry, which in September 2018 will provide a fruitful forum for scientific exchange in electrochemistry.

We are therefore looking forward to hosting you here in Ulm and wish all of us a successful conference.

Prof. Dr. Timo Jacob
 Dr. Ludwig A. Kibler
 Prof. Dr. Stefano Passerini
 (Conference Chairs)

Monday, September 24, 2018

11:00 a.m. **Registration**

Lecture Hall H4/5

01.00 p.m. **WELCOME**

T. Jacob, Ulm/DE,
Michael Weber, President of Ulm University/DE

01.15 p.m. **PLENARY LECTURE**

Nano-electrochemistry: from spectroscopy to surface fabrication

Z.-Q. Tian, Xiamen/CN, J.-F. Li, Xiamen/CN,
D.-P. Zhan, Xiamen/CN, B. Ren, Xiamen/CN,
D. Yin Wu, Xiamen/CN, S.-Y. Ding, Xiamen/CN,
B.-W. Mao, Xiamen/CN

02.05 p.m. **PLENARY LECTURE**

Puzzling Out the Interfacial Electrochemistry of Functional Electrolytes: From Interface Features to Interphase Formation and Dynamics

M. Winter, Münster/DE, I. Cekic-Laskovic,
Münster/DE, L. Imholt, Münster/DE, G. Brunklaus,
Münster/DE, F. Schappacher, Münster/DE,
S. Nowak, Münster/DE, T. Placke, Münster/DE,
P. Bieker, Münster/DE

02.55 p.m. COFFEE BREAK & EXHIBITION

02.55 p.m. **GENERAL MEETING**

Monday, September 24, 2018

Lecture Hall H11

Interfacial electrochemistry

03.30 p.m. **DEMS studies using isotope labeling for unraveling mechanistic details in CO₂ electroreduction reaction.**

J. Ferreira de Araújo, Berlin/DE, X. Wang, P. Strasser,
Berlin/DE

03.55 p.m. **Electrochemical SPM Investigations: From Room-temperature Ionic Liquids to Solid-Electrolyte Interphases**

B.-W. Mao, Xiamen/CN, J.-W. Yan, W. -W Wang,
Y. Gu, S. Liu, M. -S. Zheng, Q.-F. Dong, Xiamen/CN

04.20 p.m. **An in situ spectroelectrochemical study on the orientation changes of an [Fe^{III}L^{N2O3}] metallosurfactant deposited as LB films on gold electrode surfaces**

I. Brand, Oldenburg/DE, C. N. Verani, Detroit/US

04.45 p.m. **Halogen Bond and Electrochemistry: A promising cooperation for controlling supramolecular architectures in solution and on surface**

C. Fave, Paris/FR, B. Schöllhorn, Paris/FR

05.10 p.m. **Electrochemistry at Graphene Monolayers: The Intricate Role of the Interface**

K. Balasubramanian, Berlin/DE, R.M. Lost,
M. Wehrhold, T.J. Neubert, A. Yadav, N.S. Kaya,
L. Zuccaro, Berlin/DE

05.35 p.m. **Gel Probes for Scanning Electrochemical Probe Measurements of Interfaces**

L. Liu, Nancy/FR, N. Dang, M. Etienne, A. Walcarius,
Nancy/FR

06.00 p.m. **POSTER SESSION**

Monday, September 24, 2018

Lecture Hall H2

Electrocatalysis I

- 03.30 p.m. **Reduced graphene oxide and hydrogen evolution catalysis in alkaline water electrolysis**
K. Bouzek, Prague/CZ, J. Hnat, J. Tomek, T. Bystron, Prague/CZ
- 03.55 p.m. **The role of ion spectators in the electro-catalysis of hydrogen evolution at platinum electrodes: a question of steric effect on the surface?**
F. La Mantia, Bremen/DE, A. Zeradjanin, Düsseldorf/DE, D. Koster, Bremen/DE
- 04.20 p.m. **What is the “trigger” for hydrogen evolution reaction?**
A. R. Zeradjanin, Düsseldorf/DE
- 04.45 p.m. **Reconsidering Water Electrolysis: Producing Hydrogen at Cathodes Together with Selective Oxidation of n-Butylamine at Anodes**
S. Xue, Garching/DE, S. Watzel, V. Colic, B. Garlyyev, K. Brandl, A. S. Bandarenka, Garching/DE
- 05.10 p.m. **The Role of Li Adsorption on Hydrogen Evolution Activity of 1T Phase MoS₂**
L. Wu, Eindhoven/NL, M. Yu, E. J. M. Hensen, J. P. Hofmann, Eindhoven/NL
- 05.35 p.m. **Direct electrolytic splitting of seawater: Activity, selectivity, degradation, and recovery studied from the molecular catalyst structure to the electrolyzer cell level**
S. Dresp, Berlin/DE, F. Dionigi, P. Strasser, Berlin/DE
- 06.00 p.m. **POSTER SESSION**

Monday, September 24, 2018

Lecture Hall H13

Electrocatalysis II

- 03.30 p.m. **New Method for the Preparation of Carbon Nanoelectrodes**
B. Janßen, Oldenburg/DE, N. Roth, G. Wittstock, Oldenburg/DE
- 03.55 p.m. **Investigation of electrochemical reactions by online electrochemistry-capillary electrophoresis-mass spectrometry**
T. Herl, Regensburg/DE, F.-M. Matysik, Regensburg/DE
- 04.20 p.m. **Methodical developments of hydrodynamic scanning electrochemical microscopy**
T. Raith, Regensburg/DE, C. Iffelsberger, S. Wert, F. M. Matysik, Regensburg/DE
- 04.45 p.m. **Diazonium electroreduction on graphene – Ultra-thin modification meets 2D-electrode**
T. J. Neubert, Berlin/DE, F. Rösicke, G. Sun, C. Kratz, T. Shaykhutdinov, K. Hinrichs, K. Balasubramanian, N. H. Nickel, J. Rappich, Berlin/DE
- 05.10 p.m. **Electroanalysis of gluten using titanium dioxide nanotubes with graphene oxide**
C. Dumitriu, Bucharest/RO, C. Pirvu, Bucharest/RO
- 05.35 p.m. **Operando-XAS Studies on nano-porous Cu-based Materials for the CO₂ reduction reaction**
B. Hecker, Oldenburg/DE, A. Dutta, Bern/CH, M. Rahaman, Bern/CH, P. Broekmann, Bern/CH, M. Oezaslan, Oldenburg/DE
- 06.00 p.m. **POSTER SESSION**

Monday, September 24, 2018

Lecture Hall H22

Batteries and electrochemical energy storage I

- 03.30 p.m. **In situ ^7Li -NMR analysis of lithium metal surface deposits**
V. Küpers, Münster/DE, M. Kolek, P. Bieker, M. Winter, G. Bruncklaus, Münster/DE
- 03.55 p.m. **SEI formation vs. Lithium intercalation: In-situ AFM experiments on Graphite and Silicon electrodes**
S. Benning, Jülich/DE, C. Chen, P. Notten, F. Hausen, Jülich/DE
- 04.20 p.m. **Surface Science Experiments on Li-ion Electrode Materials Using Electron Spectroscopy Methods: Approach and Recent Insights**
R. Hausbrand, Darmstadt/DE
- 04.45 p.m. **Grafted Polyrotaxane-based Solid Polymer Electrolytes for All-Solid-State Lithium Metal Batteries**
L. Imholt, Münster/DE, D. Bedrov, Salt Lake City/US, G. Bruncklaus, I. Cekic-Laskovic, M. Winter, Münster/DE
- 05.10 p.m. **Impact of cathode material particle size on the cycling performance of all-solid-state Li-ion batteries and implications for external pressure**
F. Strauss, Eggenstein-Leopoldshafen/DE, T. Bartsch, A.-Y. Kim, P. Hartmann, Eggenstein-Leopoldshafen/DE, J. Janek, Gießen/DE, T. Brezesinski, Eggenstein-Leopoldshafen/DE
- 05.35 p.m. **A thermodynamic description of the battery material LiCoO_2 based on ionic and electronic work functions**
K.-M. Weitzel, Marburg/DE, J. Schepp, S. Schuld, Marburg/DE, M. Fingerle, R. Hausbrand, W. Jägermann, Darmstadt/DE
- 06.00 p.m. **POSTER SESSION**

Tuesday, September 25, 2018

Morning

Lecture Hall H4/5

- 09.00 a.m. **PLENARY LECTURE**
Hierarchical Modeling of Catalyst Layers for Polymer Electrolyte Fuel Cells
M. H. Eikerling, Burnaby/CA, J. Huang, Changsha/CN, T. Muzaffar, Burnaby, BC/CA
- 09.50 a.m. COFFEE BREAK & EXHIBITION
- Lecture Hall H11
- Interfacial electrochemistry II**
- 10.20 a.m. **KEYNOTE LECTURE**
New Ways to Visualize Dynamic Processes at Electrochemical Interfaces
P. Unwin, Coventry/GB
- 10.55 a.m. **Water Adsorption on a n-Si/NiO Photoanode – Cryo Photoelectron Spectroscopy in the Frozen Electrolyte Approach**
M. Fingerle, Darmstadt/DE, S. Tengeler, W. Galvet, T. Mayer, W. Jaegermann, Darmstadt/DE
- Electroanalysis and sensors**
- 11.20 a.m. **Sensing strategies using light at electrode surfaces**
F. Lisdat, Wildau/DE
- Solid state electrochemistry**
- 11.45 a.m. **Site energy distributions of ions in the potential energy landscape of ion conducting glasses**
K.-M. Weitzel, Marburg/DE, M. Schäfer, Marburg/DE
- 12.10 p.m. **Investigation of layer by layer fabricated crystalline conductive coordination network compounds films**
P. Hosseini, Oldenburg/DE, I. Brand, Oldenburg/DE, E. Redel, Eggenstein-Leopoldshafen/DE, G. Wittstock, Oldenburg/DE
- 12.35 p.m. LUNCH BREAK

Tuesday, September 25, 2018

Morning

Lecture Hall H4/5

09.00 a.m. **PLENARY LECTURE**
Hierarchical Modeling of Catalyst Layers for Polymer Electrolyte Fuel Cells
 M. H. Eikerling, Burnaby/CA, J. Huang, Changsha/CN, T. Muzaffar, Burnaby, BC/CA

09.50 a.m. COFFEE BREAK & EXHIBITION

Lecture Hall H2

Electrocatalysis III

10.20 a.m. **KEYNOTE LECTURE**
Nonlinear Varieties in Plating Industry
 C. Donner, Berlin/DE, K. Haubner, T. Fischer, H. Brunner, R. Herold, L. Pohlmann, Berlin/DE

10.55 a.m. **Investigation of the Complex Interplay between Cation and Traces of Water during Oxygen Reduction and Evolution in Non-Aqueous Electrolytes**
 P. Reinsberg, Bonn/DE, P. P. Bawol, A. Köllisch, H. Baltruschat, Bonn/DE

11.20 a.m. **Towards Time-Resolved Analysis of Electrocatalytic Oxygen Reduction Reaction at Single Platinum Nanoparticles**
 M. Azimzadeh Sani, Bochum/DE, E. N. Saw, K. Tschulik, Bochum/DE

11.45 a.m. **Active Nanostructured PEM Fuel Cell Oxygen Reduction Reaction Catalysts Produced by Cathodic Corrosion**
 J. Fichtner, Garching/DE, S. Watzele, B. Garlyyev, A. S. Bandarenka, Garching/DE

12.10 p.m. **Oxygen Electrocatalysis on Transition Metal Spinel Oxides**
 Z. J. Xu, Singapore/SG

12.35 p.m. LUNCH BREAK

Tuesday, September 25, 2018

Morning

Lecture Hall H4/5

09.00 a.m. **PLENARY LECTURE**
Hierarchical Modeling of Catalyst Layers for Polymer Electrolyte Fuel Cells
 M. H. Eikerling, Burnaby/CA, J. Huang, Changsha/CN, T. Muzaffar, Burnaby, BC/CA

09.50 a.m. COFFEE BREAK & EXHIBITION

Lecture Hall H13

Electrosynthesis I

10.20 a.m. **KEYNOTE LECTURE**
Organic Synthesis in Extended Channel Electrochemical Flow Reactors
 R. Brown, Southampton/GB, D. Pletcher, R. A. Green, K. E. Jolley, Southampton/GB, A. A. M. Al-Hadedi, Mosul/IQ, A. Teuten, A. A. Folgueiras, D. Romano, Southampton/GB

10.55 a.m. **Inter- and intramolecular cathodic coupling of carbonyl and heterocarbonyl compounds**
 H. J. Schäfer, Münster/DE, K. Bürger, J. Heimann, Münster/DE

11.20 a.m. **Novel Strategies for Applications of Phenols in the Anodic Dehydrogenative C,C Cross-coupling Reaction**
 S. Lips, Mainz/DE, R. Franke, Marl/DE, S. R. Waldvogel, Mainz/DE

11.45 a.m. **Electrochemical synthesis of hypervalent iodine oxidation agents**
 T. Bystron, Prague/CZ, A. Giurg, A. Horbenko, V. Šimková, O. Šimůnek, J. Svoboda, Prague/CZ

12.10 p.m. **Novel Active Electrode Systems for Electroorganic Synthesis**
 S. R. Waldvogel, Mainz/DE

12.35 p.m. LUNCH BREAK

Tuesday, September 25, 2018

Morning

Lecture Hall H4/5

- 09.00 a.m. **PLENARY LECTURE**
Hierarchical Modeling of Catalyst Layers for Polymer Electrolyte Fuel Cells
 M. H. Eikerling, Burnaby/CA, J. Huang, Changsha/CN, T. Muzaffar, Burnaby, BC/CA
- 09.50 a.m. COFFEE BREAK & EXHIBITION
- Lecture Hall H22
- Batteries and electrochemical energy storage II**
- 10.20 a.m. **KEYNOTE LECTURE**
Strongly interacting electrolytes: bulk and surface dynamics
 A. Latz, Ulm/DE, M. Schammer, B. Horstmann, Ulm/DE
- 10.55 a.m. **Polyphosphazenes as Precursors for the SEI Formation on Lithium Metal Anodes**
 G. Abels, Bremen/DE, I. Bardenhagen, Bremen/DE, J. Schwenzel, Oldenburg/DE, M. Busse, Bremen/DE
- 11.20 a.m. **Reversible redox activity of oxygen in NCMs – A Soft XAS study**
 K. Kleiner, Didcot/GB, M. Merz, P. Nagel, S. Schuppler, Karlsruhe/DE
- 11.45 a.m. **Model-supported identification of LiS reduction mechanism and kinetics**
 P. Schön, Braunschweig/DE, U. Krewer, Braunschweig/DE
- 12.10 p.m. **Electrocatalysis on Pt Single Nanocrystals: The role of Capping Agents on the ORR Activity and Shape Stability**
 I. A. Safo, Oldenburg/DE, C. Dosche, M. Werheid, M. Oezaslan, Oldenburg/DE
- 12.35 p.m. LUNCH BREAK

Tuesday, September 25, 2018

Afternoon

Lecture Hall H11

- Fundamental and theoretical electrochemistry**
- 02.00 p.m. **KEYNOTE LECTURE**
Effect of the Surface and Interphase properties in Electrocatalysis
 E. Herrero, Alicante/ES
- 02.35 p.m. **Thermodynamic description of charge polarization and solvation at electrochemical interfaces**
 S. Sakong, Ulm/DE, A. Groß, Ulm/DE
- 03.00 p.m. **Direct Instrumental Identification of Catalytically Active Site Using Electrochemical Scanning Tunnelling Microscopy**
 Y. Liang, Garching/DE, J. H. K. Pfisterer, O. Schneider, D. McLaughlin, C. Csoklich, E. Mitterreiter, A. S. Bandarenka, Garching/DE
- 03.25 p.m. **In situ studies of the atomic structure/charge distribution at the electrochemical interface**
 Y. Grunder, Liverpool/GB, C. A. Lucas, Liverpool/GB, Y. Joly, Grenoble/FR
- 03.50 p.m. COFFEE BREAK & EXHIBITION
- Lecture Hall H11
- Photoelectrochemistry I**
- 04.15 p.m. **Studing the residence time of single NPs On the microelectrode surface by single molecule fluorescence spectroscopy**
 A. Alshalfouh, Oldenburg/DE, C. Dosche, G. Wittstock, Oldenburg/DE
- 04.40 p.m. **Artificial and biomolecule-based approaches for the construction of photoenzymatic architectures: Applications in driving enzymatic reactions**
 S. C. Feifel, Wildau/DE, K. S. Stieger, D. Ciornii, Wildau/DE, M. Hejazi, A. Zouni, Berlin/DE, F. Lisdat, Wildau/DE
- 05.05 p.m. **Photoelectrocatalytic behavior of stoichiometrically varied electrodeposited ferrite films**
 D. H. Taffa, Oldenburg/DE, S. Warfsmann, M. Wark, Oldenburg/DE
- 05.30 p.m. **Light for Hydrogen: Nanostructure design for photocatalytic water splitting**
 A. W. Majnenburg, Halle (Saale)/DE
- 07.00 p.m. **CONFERENCE DINNER**

Tuesday, September 25, 2018

Afternoon

Lecture Hall H2

Electrocatalysis IV

- 02.00 p.m. **KEYNOTE LECTURE**
Local Structure Control Towards Efficient Oxide Based Catalysts for OER
P. Krtil, Prag/CZ, J. Heyrovsky, Prag/CZ
- 02.35 p.m. **Mechanistic Studies of Manganese Oxides as Bifunctional Catalysts for Oxygen Electrocatalysis**
M. Risch, Göttingen/DE, M. Baumung, L. Köhler, Göttingen/DE
- 03.00 p.m. **Nanostructured Transition Metal Oxides as Oxygen Reduction Catalyst in Alkaline Anion Exchange Membrane Fuel Cells**
J. Behnken, Oldenburg/DE, H. Janßen, Oldenburg/DE, M. Yu, Mülheim an der Ruhr/DE, X. Deng, H. Tüysüz, Mülheim an der Ruhr/DE, M. Wark, C. Harms, A. Dyck, G. Wittstock, Oldenburg/DE
- 03.25 p.m. **Operando Surface X-ray Diffraction Studies of Co Oxide Electrocatalysts during Oxygen Evolution**
O. M. Magnussen, Kiel/DE, F. Reikowski, Kiel/DE, F. Maroun, P. Allongue, I. Pacheco-Bubi, Palaiseau/FR, T. Wiegmann, J. Stettner, Kiel/DE
- 03.50 p.m. COFFEE BREAK & EXHIBITION
- Electrocatalysis V**
- 04.15 p.m. **Free Energy Diagrams in Electrocatalysis – where Theory and Model Experiments meet each other**
K. S. Exner, Gießen/DE, H. Over, Gießen/DE
- 04.40 p.m. **Mechanistic insights in the CO₂ electro-reduction to CO and hydrocarbons on single site Fe-N-C catalysts**
W. Ju, Berlin/DE, A. Bagger, Copenhagen/DK, A. S. Varela, Mexico City/MX, J. Rossmeis, Copenhagen/DK, P. Strasser, Berlin/DE
- 05.05 p.m. **Fast and effective electrooxidation of formic acid at FeCo@Fe@Pd nanocatalysts incorporated on functionalized carbon nanotubes**
O. O. Fashedemi, Lagos/NG, K. I. Ozoemena, Johannesburg/ZA
- 05.30 p.m. **Solid acid based electrochemical cells operating at 240 C using Cu- and Pt-based electrodes in CO₂ containing atmospheres**
P. Holtappels, Roskilde/DK, J. Hallinder, M. B. Mogensen, Roskilde/DK
- 07.00 p.m. **CONFERENCE DINNER**

Tuesday, September 25, 2018

Afternoon

Lecture Hall H13

Electrosynthesis II

- 02.00 p.m. **KEYNOTE LECTURE**
Cobalt-Catalyzed Reductive Cross-Coupling from electrosynthesis to a pure chemical process
C. Gosmini, Palaiseau/FR
- 02.35 p.m. **Influence of cathode material on valeric acid electrosynthesis**
R. Bisselink, Wageningen/NL, M. Crockatt, E. Goetheer, Delft/NL
- 03.00 p.m. **Very Simple one-pot Electrosynthesis of Nitrones starting from Nitro and Aldehyde Components**
E. Rodrigo, Mainz/DE, S. R. Waldvogel, Mainz/DE
- 03.25 p.m. **Electrochemical Conversion of Phthaldianilides to Phthalazin-1,4-diones by Dehydrogenative N,N Bond Formation**
A. Kehl, Mainz/DE, T. Gieshoff, S. R. Waldvogel, Mainz/DE
- 03.50 p.m. COFFEE BREAK & EXHIBITION
- Electrosynthesis III**
- 04.15 p.m. **Electrosynthesis of lactic acid**
R. Latsuzbaia, Delft/NL, M. van Oorschot, E. Goetheer, Delft/NL
- 04.40 p.m. **Electrochemistry as Green Methode for the Degradation of Lignin**
M. Zirbes, Mainz/DE, S. R. Waldvogel, Mainz/DE
- 05.05 p.m. **Efficient Electrocatalytic Conversion of a Bio-Derived Hydroxy Acid to Biofuels**
J. Meyers, Aachen/DE, J. B. Mensah, F. J. Holzhäuser, S. Palkovits, R. Palkovits, Aachen/DE
- 05.30 p.m. **Electrochemical Synthesis of Valuable Monomers from Biomass Using Low-Cost Electrodes**
F. J. Holzhäuser, Aachen/DE, G. Creusen, Freiburg/DE, J. Artz, S. Palkovits, R. Palkovits, Aachen/DE
- 07.00 p.m. **CONFERENCE DINNER**

Tuesday, September 25, 2018

Afternoon

Lecture Hall H22

Batteries and electrochemical energy storage III

- 02.00 p.m. **KEYNOTE LECTURE**
Progress and prospects of advanced lithium ion batteries
M. Wohlfahrt-Mehrens, Ulm/DE, P. Axmann,
 M. Memm, M. Marinaro, A. Hoffmann, Ulm/DE
- 02.35 p.m. **Kinetics of the Ionic Charge Transfer between Liquid and Solid Li⁺ Electrolytes**
C. Korte, Jülich/DE, M. Schleutker, C.-L. Tsai, Jülich/DE
- 03.00 p.m. **Bottom-Up Electrodeposition of Polymer Electrolyte into 3D Nanoarchitected Electrodes for All-Solid-State Li-ion Microbatteries**
V. Sugiawati, Marseille/FR, F. Vacandio, Marseille/FR,
 T. Djenizian, Gardanne/FR
- 03.25 p.m. **Virtual materials design for the 3D microstructure of lithium-ion battery electrodes**
D. Westhoff, Ulm/DE, B. Prifling, T. Danner, S. Hein,
 Ulm/DE, A. Hilger, I. Manke, Berlin/DE, A. Latz,
 V. Schmidt, Ulm/DE
- 03.50 p.m. COFFEE BREAK & EXHIBITION
- Batteries and electrochemical energy storage IV**
- 04.15 p.m. **Sodium intercalation into hard carbon: A DFT study**
H. Euchner, Ulm/DE, A. Reddy, M. Helen, M. Fichtner,
 A. Groß, Ulm/DE
- 04.40 p.m. **Polyoxometalate-conductive polymer composites as redox-active charge storage materials**
M. H. Anjass, Ulm/DE, M. Fichtner, T. Jacob,
 C. Streb, Ulm/DE
- 05.05 p.m. **New graphite-based cathode materials for the Aluminum-ion battery**
M. Eckert, Frankfurt (Main)/DE, W. P. Peters, S. Lee,
 J.-F. Drillet, Frankfurt/DE
- 05.30 p.m. **Capacity Fade of Aluminum Electrodes in Lithium-ion Batteries: Lithium Trapping due to a Limited Diffusion Rate?**
D. Kramer, Karlsruhe/DE, M. H. Tahmasebi, S. T. Boles,
 Hong Kong/HK, R. Mönig, Karlsruhe/DE

07.00 p.m. **CONFERENCE DINNER**

Wednesday, September 26, 2018

Morning

Lecture Hall H4/5

- 09.00 a.m. **PLENARY LECTURE**
Composition, structure and dynamics of electro-deposited multi-component metal films
R. Hillmann, Leicester/GB, A. D. Ballantyne, Leices-
 ter/GB, R. Barker, Canterbury/GB, R. M. Dalglish,
 Harwell/GB, V. C. Ferreira, Lisbon/PT, E. J. R. Palin,
 M. Perera, K. S. Ryder, R. Sapstead, Leicester/GB,
 E. L. Smith, Nottingham/GB, N.-J. Steinke,
 Harwell/GB, C. Zaleski, Leicester/GB

09.50 a.m. COFFEE BREAK & EXHIBITION

Lecture Hall H11

Interfacial electrochemistry III

- 10.20 a.m. **KEYNOTE LECTURE**
Recent progress of hybrid simulation techniques for an electrode/electrolyte interface
M. Otani, Tsukuba/JP
- 10.55 a.m. **The metal-electrolyte interface in ionic liquids**
T. Pajkossy, Budapest/HU, C. Müller, T. Jacob,
 Ulm/DE
- 11.20 a.m. **Electrocatalytic Properties of SAM-modified Au(111)**
J. M. Hermann, Ulm/DE, H. Müller, L. A. Kibler,
 T. Jacob, Ulm/DE

Photoelectrochemistry II

- 11.45 a.m. **Driving Hydrogen Evolution and Oxidation on Pt with Femtosecond Laser Pulses**
G. Zwaschka, Berlin/DE, G. Wolf, Berlin/DE, Y. Tong,
 Berlin/DE, R. K. Campen, Berlin/DE
- 12.10 p.m. **Comparison of corrosion protection by titanium- and tin-oxide thin films for photovoltaic devices directly integrated with alkaline water electrolyzers**
S. Calnan, Berlin/DE, S. Stickel, F. Bao,
 R. Schlatmann, Berlin/DE

01.00 p.m. LUNCH BREAK

Wednesday, September 26, 2018

Morning

Lecture Hall H4/5

- 09.00 a.m. **PLENARY LECTURE**
Composition, structure and dynamics of electro-deposited multi-component metal films
R. Hillmann, Leicester/GB, A. D. Ballantyne, Leicester/GB, R. Barker, Canterbury/GB, R. M. Dalglish, Harwell/GB, V. C. Ferreira, Lisbon/PT, E. J. R. Palin, M. Perera, K. S. Ryder, R. Sapstead, Leicester/GB, E. L. Smith, Nottingham/GB, N.-J. Steinke, Harwell/GB, C. Zaleski, Leicester/GB

09.50 a.m. COFFEE BREAK & EXHIBITION

Lecture Hall H2

Electrocatalysis VI

- 10.20 a.m. **KEYNOTE LECTURE**
Photoemission Spectroscopy for the Investigation of Electrified Interfaces: from ex situ to Operando Studies
E.R. Savinova, Strasbourg/FR
- 10.55 a.m. **GDCh Award Förderpreis der GDCh-Fachgruppe Elektrochemie**
 Simon Geiger, Stuttgart/DE
- 11.20 a.m. **Local activity of hydroxide ions and water in the diffusion layer of operating oxygen depolarized gas-diffusion cathodes**
W. Schuhmann, Bochum/DE, B. Botz, J. Clausmeyer, D. Öhl, T. Tarnev, Bochum/DE, D. Franzen, T. Turek, Clausthal-Zellerfeld/DE
- 11.45 a.m. **Porous Sintered Electrodes for Alkaline Water Electrolysis**
T. Rauscher, Dresden/DE, C.I. Müller, B. Kieback, L. Röntzsch, Dresden/DE
- 12.10 p.m. **Constructive Impact Experiments for Individual Particle Electrodeposition**
M. V. Evers, Bochum/DE, K. Tschulik, Bochum/DE, M. B. López, Bochum/DE, B. R. Cuenya, Berlin/DE
- 12.35 p.m. **Transient Electrochemical Dissolution of Platinum: From Model Systems to Advanced Electrocatalysts**
D. J. S. Sandbeck, Erlangen/DE, H. Schmies, E. Hornberger, Berlin/DE, K. J. J. Mayrhofer, Erlangen/DE, P. Strasser, Berlin/DE, S. Cherevko, Erlangen/DE

01.00 p.m. LUNCH BREAK

Wednesday, September 26, 2018

Morning

Lecture Hall H4/5

- 09.00 a.m. **PLENARY LECTURE**
Composition, structure and dynamics of electro-deposited multi-component metal films
R. Hillmann, Leicester/GB, A. D. Ballantyne, Leicester/GB, R. Barker, Canterbury/GB, R. M. Dalglish, Harwell/GB, V. C. Ferreira, Lisbon/PT, E. J. R. Palin, M. Perera, K. S. Ryder, R. Sapstead, Leicester/GB, E. L. Smith, Nottingham/GB, N.-J. Steinke, Harwell/GB, C. Zaleski, Leicester/GB

09.50 a.m. COFFEE BREAK & EXHIBITION

Lecture Hall H13

Li-rich cation disordered rock-salt structures in batteries I

- 10.20 a.m. **KEYNOTE LECTURE**
The electrochemical performance of solid polymer electrolytes based on polycarbonates and polyesters
K. Edström, Uppsala/SE, D. Brandell, Uppsala/SE, J. Mindemark, Uppsala/SE
- 10.55 a.m. **Understanding Cation-Disordered Li-Ion Battery Cathodes by Computation**
A. Urban, Scotland/GB, A. Abdellahi, S. Dacek, Cambridge/GB, N. Artrith, G. Ceder, Berkeley/US
- 11.20 a.m. **Atomic Scale Investigations of Lithium Transition Metal Oxyfluorides**
J. H. Chang, Lyngby/DK, S. Loftager, J. M. Garcia Lastra, T. Vegge, Lyngby/DK
- 11.45 a.m. **Ab initio modeling of Li-rich transition metal fluorides**
H. Euchner, Ulm/DE, A. Gross, Ulm/DE
- 12.10 p.m. **Oxygen Redox Chemistry in Disordered Rocksalt Cathode Materials**
R. House, Oxford/GB, P. Bruce, Oxford/GB
- 12.35 p.m. **Disordered Rock Salt Oxyfluorides for electrochemical storage Synthesis and Stability**
C. Baur, Ulm/DE, J. Chable, Ulm/DE, J. H. Chang, Lyngby/DK, J. M. Ateba Mba, Ljubljana/SI, M. Fichtner, Ulm/DE

01.00 p.m. LUNCH BREAK

Wednesday, September 26, 2018

Morning

Lecture Hall H4/5

09.00 a.m. **PLENARY LECTURE**
Composition, structure and dynamics of electro-deposited multi-component metal films
 R. Hillmann, Leicester/GB, A. D. Ballantyne, Leicester/GB, R. Barker, Canterbury/GB, R. M. Dalglish, Harwell/GB, V. C. Ferreira, Lisbon/PT, E. J. R. Palin, M. Perera, K. S. Ryder, R. Sapstead, Leicester/GB, E. L. Smith, Nottingham/GB, N.-J. Steinke, Harwell/GB, C. Zaleski, Leicester/GB

09.50 a.m. COFFEE BREAK & EXHIBITION

Lecture Hall H22

Batteries and electrochemical energy storage V

10.20 a.m. **J.W. Schultze Award-Lecture**

10.55 a.m. **Real-time monitoring of gas formation in electrically rechargeable zinc-air batteries**
 S. Dongmo, Gießen/DE, D. Stock, D. Schröder, Gießen/DE, M. Groß, M. Hagen, Pfinztal/DE

11.20 a.m. **Bi-functional GDEs for Rechargeable Zn/Air Battery**
 M. Sakthivel, Frankfurt (Main)/DE, K. Kim, J.-F. Drillet, Frankfurt/DE

11.45 a.m. **State of Charge Determination in the Zinc/Air Redox Flow Battery**
 C. Zelger, Graz/AT, A. Laskos, Wiener Neustadt/AT, B. Gollas, Graz/AT

12.10 p.m. **Influence of Treatment Methods on Carbon Felts for All-Vanadium Redox Flow Batteries**
 L. E. Eifert, Ulm/DE, R. B. Banerjee, R. Banerjee, Z. Jusys, R. Zeis, Ulm/DE

01.00 p.m. LUNCH BREAK

Wednesday, September 26, 2018

Afternoon

Lecture Hall H11

Ionic liquids

02.00 p.m. **KEYNOTE LECTURE**
Molecular insights into electrochemical surfaces with EC-TERS
 K. F. Domke, Mainz/DE

02.35 p.m. **In situ Spectroelectrochemical Studies of the Electrical Double Layer at the Ionic Liquid/Electrode Interface**
 T. Stelling, Oldenburg/DE, I. Brand, Oldenburg/DE

03.00 p.m. **Influence of Mg²⁺ on the ORR and OER in the Ionic Liquid BMP-TFSI**
 J. Schnaidt, Ulm/DE, T. L. Nguyen, Z. Jusys, R. J. Behm, Ulm/DE

03.25 p.m. **Tantalum and Niobium electrodeposition from ionic liquids**
 O. Schneider, Garching/DE, A. Ispas, Ilmenau/DE, L. Seidl, Garching/DE, A. Bund, Ilmenau/DE, L. Asen, G. Yesilbas, S. Martens, C. Egger, P. Fischer, F. Kühn, A. Knoll, Garching/DE, A. Endrikat, T. Engemann, Ilmenau/DE

03.50 p.m. **Influence of specific ion adsorption on the determination of the potential of zero charge at polycrystalline gold/ionic liquid interfaces**
 N. M. Vargas-Barbosa, Marburg/DE, X. Ma, B. Roling, Marburg/DE

04.15 p.m. **FAIRWELL COFFEE BREAK**

Wednesday, September 26, 2018

Afternoon

Lecture Hall H2

Bioelectrochemistry

- 02.00 p.m. **KEYNOTE LECTURE**
Technical Photosynthesis, employing Single Step Direct Electrochemical Reduction of CO₂ Toward CO and Hydrocarbons
G. Schmid, Erlangen/DE
- 02.35 p.m. **Protection strategies for high current density redox-polymer/hydrogenase based bioanodes in H₂/O₂ and H₂/H₂O₂ biofuel cells**
A. Ruff, Bochum/DE, J. Szczesny, M. Markovic, F. Conzuelo, Bochum/DE, S. Zacarias, I. A. C. Pereira, Oeiras/PT, W. Lubitz, Mülheim (Ruhr)/DE, N. Plumeré, W. Schuhmann, Bochum/DE
- 03.00 p.m. **Microbial electrosynthesis of methane for biogas upgrading**
F. Mayer, Frankfurt (Main)/DE, F. Enzmann, A. Martinez Lopez, D. Holtmann, Frankfurt/DE
- 03.25 p.m. **Light-addressable sensors for multi-detections of glucose and sarcosine and their promising use for two-dimensional imaging**
S. Zhao, Hamburg/DE, J. Völkner, Marburg/DE, M. Riedel, Berlin/DE, G. Witte, Marburg/DE, Z. Yue, Tianjin/CN, F. Lisdat, Berlin/DE, W. J. Parak, Hamburg/DE

Corrosion Science

- 03.50 p.m. **Stability of CoP_x electrocatalysts in continuous and interrupted acidic electrolysis of water**
A. Goryachev, Eindhoven/NL, L. Gao, Eindhoven/NL, Y. Zhang, Eindhoven/NL, R. Y. Rohling, Eindhoven/NL, R. H. J. Vervuurt, Eindhoven/NL, A. A. Bol, Eindhoven/NL, J. P. Hofmann, Eindhoven/NL, E. J. M. Hensen, Eindhoven/NL
- 04.15 p.m. **FAIRWELL COFFEE BREAK**

Wednesday, September 26, 2018

Afternoon

Lecture Hall H13

Li-rich cation disordered rock-salt structures in batteries II

- 02.10 p.m. **Investigations on Positive Electrode Material Na_xLi_{1-0.7-x}Ni_{1-y}Mn_yO₂**
M. Shikano, Ikeda/JP, K. Chiba, H. Sakaebe, Ikeda/JP
- 02.35 p.m. **Li₂MO₂F (M=Fe or Ti) as high energy cathode materials**
R. Dominko, Ljubljana/SI, J. M. Ateba MBA, Ljubljana/SI, I. Arcon, Nova Gorica/SI, E. Chernyshova, G. Mali, Ljubljana/SI
- 03.00 p.m. **Surface chemistry of Li₂VO₂F seen through photoelectron spectroscopy**
M. Hahlin, Uppsala/SE, I. Källquist, A. Naylor, D. Brandeli, K. Edström, Uppsala/SE
- 03.25 p.m. **Study on the stabilization of the Electrolyte/Material interface for Disordered Rock-Salt cathodes**
J.-F. Colin, Grenoble/FR, J.-F. Martin, Grenoble/FR, M. Le Digabel, Monts/FR
- 03.50 p.m. **Design and tuning of the surface properties to improve the electrochemical performance of cation-disordered cathode material**
M. A. Cambaz, Ulm/DE, M. Fichtner, Ulm/DE
- 04.15 p.m. **FAIRWELL COFFEE BREAK**

Wednesday, September 26, 2018

Afternoon

Lecture Hall H22

Batteries and electrochemical energy storage VI

- 02.00 p.m. **KEYNOTE LECTURE**
Atomistic Solvation Models for Electrochemical Reactions
 E. Spohr, Essen/DE
- 02.35 p.m. **Illuminating ion storage and diffusion mechanisms in hierarchical porous carbon materials for supercapacitors**
 R. Yan, Potsdam/DE, M. Oschatz, M. Antonietti, Potsdam/DE
- 03.00 p.m. **Guidelines for the architecture of battery insertion electrodes based on the concept of wiring lengths**
 R. E. Usiskin, Stuttgart/DE, J. Maier, Stuttgart/DE
- 03.25 p.m. **The “in-situ electrolyte” concept – Using activating chemicals as electrolytes**
 S. Grätz, Dresden/DE, C. Schneidermann, D. Leistenschneider, L. Borchardt, Dresden/DE
- 03.50 p.m. **Single and Multi Sine Excitations on Batteries and Fuel Cells – Influence of Noise and Drift to Impedance Spectra**
 J. Odrobina, Kronach/DE, P. Beckhaus, Duisburg/DE, S. Fröba, Kronach/DE, U. Misz, Duisburg/DE, M. Multerer, C. A. Schiller, W. Strunz, Kronach/DE, M. Szesny, Duisburg/DE
- 04.15 p.m. **FAIRWELL COFFEE BREAK**

Batteries and electrochemical energy storage

- A001 **Measurement of Li-ion mobility in battery electrolytes**
 A. Hofmann, Eggenstein-Leopoldshafen/DE, T. Hanemann, Eggenstein-Leopoldshafen and Freiburg/DE
- A002 **Nanoimprint lithography of nanoporous carbon precursors for micro-supercapacitors**
 S. Lochmann, Dresden/DE, S. Kaskel, Dresden/DE
- A003 **Investigation of structural changes over long-term cycling of Ni-rich layered oxides used as cathode materials in Li-ion batteries**
 F. Friedrich, Garching/DE, B. Strehle, Garching/DE, H. Gasteiger, Garching/DE
- A004 **Quantification of NCM and LFP Particle Breaking During Charge-Discharge Cycling Using Impedance Spectroscopy**
 S. Oswald, Garching/DE, D. Pritzl, Garching/DE, M. Wetjen, Garching/DE, H. A. Gasteiger, Garching/DE
- A005 **Cost efficient approach for advanced Li₂S cathodes**
 S. D. Hirt, Duisburg/DE, S. Wennig, Duisburg/DE, B. Oberschachtsiek, Duisburg/DE, A. Heinzl, Duisburg/DE
- A006 **Selection of safe “salt-in-carbonate” electrolytes for lithium-ion batteries**
 Z. Wang, Eggenstein-Leopoldshafen/DE, A. Hofmann, Eggenstein-Leopoldshafen/DE, T. Hanemann, Eggenstein-Leopoldshafen/DE
- A007 **Influence of aging mechanism on safety of Li-ion cells in second-life applications**
 K. Richter, Ulm/DE, T. Waldmann, Ulm/DE, J. B. Quinn, Ulm/DE, M. Wohlfahrt-Mehrens, Ulm/DE
- A008 **Scanning electrochemical microscopy for characterization of redox-mediators that improve the charging of lithium-oxygen batteries**
 B. Krueger, Oldenburg/DE, G. Wittstock, Oldenburg/DE
- A009 **Investigation of reversible heat generation rates of blended Li-insertion electrodes**
 T. Liebmann, Dresden/DE, C. Heubner, Dresden/DE, M. Schneider, Dresden/DE, A. Michaelis, Dresden/DE
- A010 **Evaluation of Bipolar Plates with Different Graphite Types for Vanadium Redox Flow Batteries**
 G. Gupta, Oldenburg/DE, B. Satola, Oldenburg/DE, C. Harms, Oldenburg/DE, A. Dyck, Oldenburg/DE, R. Henkel, Oldenburg/DE

- A011 **Evaluation of Pt/C activity for ORR/OER and Al stripping/deposition in AlCl_3 -based aprotic electrolytes for the rechargeable Al-air battery**
J.-F. Drillet, Frankfurt (Main)/DE, N. Bogolowski, Frankfurt/DE
- A012 **Development and Characterization of Microfluidic Fuel Cells**
W. Rösing, Ilmenau/DE, J. König, Ilmenau/DE, K. Tschulik, Bochum/DE, C. Cierpka, Ilmenau/DE
- A013 **About $\text{V}^{2+}/\text{V}^{3+}$ and $\text{VO}^{2+}/\text{VO}_2^+$ redox reactions on boron doped diamond electrodes in vanadium redox flow batteries**
S. Schneider, Frankfurt (Main)/DE, A. Riefer, Frankfurt/DE, M. Markic, Frankfurt/DE, H. Ji, Frankfurt/DE, C. Weidlich, Frankfurt/DE
- A014 **Electrochemical Preparation of Tin Nanowires as Anode Material for Li-Ion Batteries**
K. Voigt, Dresden/DE, T. Liebmann, Dresden/DE, C. Heubner, Dresden/DE, C. Lämmel, Dresden/DE, M. Weiser, Dresden/DE, N. Junker, Dresden/DE, M. Schneider, Dresden/DE, A. Michaelis, Dresden/DE
- A015 **Analysis of Gas Permeation Phenomena in a PEM Water Electrolyzer Operated at High Pressure and Current Density**
J. Schröter, Munich/DE, M. Bernt, Munich/DE, H. A. Gasteiger, Munich/DE
- A016 **Characterisation of Mn-doped Li^+ -stabilized $\text{Na-}\beta$ -alumina electrolytes**
C. Dirksen, Hermsdorf/DE, A. I. Agustina, Hermsdorf/DE, M. Schulz, Hermsdorf/DE, M. Stelter, Hermsdorf/DE
- A017 **Towards Best Practices for Improving Paper-Based Microfluidic Fuel cells**
L.-L. Shen, Darmstadt/DE, G.-R. Zhang, Darmstadt/DE, M. B. Biesalski, Darmstadt/DE, B. J. M. Etzold, Darmstadt/DE
- A018 **The oxygen reduction and evolution in CaTFSI_2 / DMSO electrolytes**
S. Zaubitzer, Ulm/DE, M. Marinaro, Ulm/DE, P. Kottam, Ulm/DE, L. Jörissen, Ulm/DE, P. Fischer, Ulm/DE
- A019 **Manganese Carbonophosphates – Suitable Cathodes for Aqueous and Water-in-Salt Na-ion Batteries?**
M. Schuster, Villigen/CH, C. Villeveille, Villigen/CH, P. Novák, Villigen/CH, C. Marino, Villigen/CH
- A020 **Charge and Mass Transport at the Cathode | Li_2O_2 | Electrolyte Interface in Li-O_2 Battery Cells**
S. Müller, Marburg/DE, B. Roling, Marburg/DE

- A021 **Silicon/Graphene composite based anodes for advanced Lithium-Sulfur-Batteries**
T. Meyer, Duisburg/DE, F. Mahlendorf, Duisburg/DE, A. Heinzl, Duisburg/DE
- A022 **Development of capacity balancing methods in Vanadium Redox Flow Batteries by modelling crossover processes**
K. Schafner, Clausthal/DE, T. Turek, Clausthal/DE
- A023 **Structure-dependant distribution of discharge products within different designed Gas Diffusion Electrodes for Li/O_2 systems**
D. Fenske, Oldenburg/DE, I. Bardenhagen, Oldenburg/DE, J. Schwenzel, Oldenburg/DE
- A024 **The ORR Activity and Stability of Pt NP Supported on TiO_2 @CNT-Composites**
M. Eckardt, Ulm/DE, C. Gebauer, Ulm/DE, Z. Jusys, Ulm/DE, M. Wassner, Salzburg/AT, N. Hüsing, Salzburg/AT, R. J. Behm, Ulm/DE
- A025 **State of charge monitoring in a VFB by amperometric method**
I. Kroner, Clausthal-Zellerfeld/DE, M. Becker, Clausthal/DE, T. Turek, Clausthal/DE
- A026 **Interrelation between Redox Molecule Transport and Li^+ Ion Transport across Model SEIs grown on Glassy Carbon**
S. Kranz, Marburg/DE, T. Kranz, Marburg/DE, B. Roling, Marburg/DE
- A027 **A DEMS study of Gas Evolution at a High-voltage $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ Cathode in a Mixture of Ethylene and Dimethyl Carbonates**
Z. Jusys, Ulm/DE, D. Alwast, Ulm/DE, J. Schnaidt, Ulm/DE, R. J. Behm, Ulm/DE
- A028 **Synthesis, Characterization and Electrochemical Evaluation of Salt-Templated Carbon-Carbon Composite Electrodes for Application in Vanadium Redox Flow Batteries**
M. Schnucklake, Berlin/DE, T. Tichter, Berlin/DE, C. Roth, Berlin/DE
- A029 **Consumption of Fluoroethylene Carbonate Additives on Silicon Alloy Anodes**
D. Yoon, Ulm/DE, M. Marinaro, Ulm/DE, P. Axmann, Ulm/DE, M. Wohlfahrt-Mehrens, Ulm/DE
- A030 **Characteristics of Zinc-Air Flow Batteries**
C. Müller, Duisburg/DE, D. Fuchs, Duisburg/DE, F. Mahlendorf, Duisburg/DE, A. Heinzl, Duisburg/DE

- A031 **Electrochemical and hydrodynamic modeling linked with optical measurements for flow field design improvement of vanadium redox-flow batteries**
E. Prumbohm, Clausthal-Zellerfeld/DE, G. D. Wehinger, Clausthal-Zellerfeld/DE, U. Kunz, Clausthal-Zellerfeld/DE, T. Turek, Clausthal-Zellerfeld/DE
- A032 **Influence of Quinone Concentration on the Properties of Electrolytes for Organic Redox-Flow Batteries**
S. Bauer, Clausthal-Zellerfeld/DE, J. C. Namyslo, Clausthal-Zellerfeld/DE, D. E. Kaufmann, Clausthal-Zellerfeld/DE, T. Turek, Clausthal-Zellerfeld/DE
- A033 **Operando Raman Analysis on Lithium-Nickel-Manganese-Oxide Cathodes for Li-Ion-Batteries**
P. Jehnichen, Jülich/DE, C. Korte, Jülich/DE
- A034 **Use of additives for stability improvement in Li-O₂ cell.**
P. Kottam, Ulm/DE, P. Fischer, Ulm/DE, M. Marinaro, Ulm/DE, M. Wohlfahrt-Mehrens, Ulm/DE
- A035 **Sulfur spillover on carbon materials and possible impacts on metal-sulfur batteries**
L. Medenbach, Jena/DE, P. Adelhelm, Jena/DE, I. Escher, Jena/DE, L. Zedler, Jena/DE, B. Dietzek, Jena/DE, M. Armbrüster, Chemnitz/DE, N. Köwitsch, Chemnitz/DE
- A036 **Layered manganese oxides as cathodes for the aluminium-ion battery**
B. Sánchez Batalla, Frankfurt (Main)/DE, W. Peters, Frankfurt (Main)/DE, J.-F. Drillet, Frankfurt (Main)/DE
- A037 **Understanding the shape of ring current transients in RRDE experiments: From simulations to more detailed insights**
P. P. Bawol, Bonn/DE, J. H. Thimm, Bonn/DE
- A038 **π - π -Interactions in Redox Polymers – Enabling Polymeric Cathode-active Materials with Ultra-high Cycling Stability**
M. Kolek, Münster/DE, F. Otteny, Freiburg/DE, J. Becking, Münster/DE, B. Esser, Freiburg/DE, M. Winter, Münster/DE, P. M. Bieker, Münster/DE
- A039 **The Electrochemical Behaviour of Magnesium Alloys for Secondary Magnesium Ion Batteries**
D. Schloffer, Graz/AT, S. Bozorgi, Ranshofen/AT, B. Gollas, Graz/AT
- A040 **Electrolytes for the rechargeable magnesium ion battery**
D. Schloffer, Graz/AT, B. Gollas, Graz/AT

- A041 **Validation of the impedance-derived ion transport tortuosity by diffusion simulation on a 3D reconstructed graphite battery electrode**
M. Kroll, Marburg/DE, D. Hlushkou, Marburg/DE, S. Schlabach, Karlsruhe/DE, A. Höltzel, Marburg/DE, B. Roling, Marburg/DE, U. Tallarek, Marburg/DE
- A042 **Comparative Study of Zinc Electrode in Ionic Liquid and Alkaline Electrolyte for Secondary Zinc-Air Battery**
D. Yazili, Ulm/DE, E. Marini, Ulm/DE, C. Evangelisti, Ulm/DE, L. Jörissen, Ulm/DE
- A043 **Mesoporous carbon electrodes functionalized with manganese oxide nanosplotches for dense stable and wide-temperature ionic-liquid-based supercapacitors**
F. L. Lai, Potsdam/DE, M. Oschatz, Potsdam/DE, M. Antonietti, Potsdam/DE
- A044 **Enabling multi-electron step red-ox reactions in Cobalt free high energy LiNi_{0.5}Mn_{1.5}O₄**
P. Balasubramanian, Ulm/IN, M. Mancini, Ulm/DE, P. Axmann, Ulm/DE, M. Wohlfahrt-Mehrens, Ulm/DE
- A045 **Microstructural and electrochemical investigation of water-based electrodes for lithium ion batteries**
X. Yang, Münster/DE, G. Gallasch, Münster/DE, P. Noll, Münster/DE, F. Schappacher, Münster/DE, M. Winter, Münster/DE
- A046 **Analysis of the insertion behaviour of sodium ions into hard carbon by impedance spectroscopy**
M. Mandl, Ulm/DE, D. Buchholz, Ulm/DE, M. A. Danzer, Bayreuth/DE
- A047 **Investigations on the solid electrolyte interface of sodium in 1M NaPF₆ EC:DMC 1:1 electrolyte**
M. Mandl, Ulm/DE, D. Buchholz, Ulm/DE, M. A. Danzer, Bayreuth/DE
- A048 **Combination of Electrochemical Impedance Spectroscopy and Local Current Density Distribution for Fault Monitoring in PEMFC Stacks**
J. Mittel, Stuttgart/DE, D. Garcia-Sanchez, Stuttgart/DE, M. Schulze, Stuttgart/DE, F. Häußler, Ulm/DE, J. Hunger, Ulm/DE, G. Schlumberger, Ulm/DE
- A049 **Local current density distributions in electrolysis**
M. Schulze, Stuttgart/DE, I. Biswas, Stuttgart/DE, D. Garcia-Sanchez, Stuttgart/DE

- A050 **Investigating the impact of microstructure on electrolyte transport within the carbon felt electrodes for Vanadium redox flow batteries**
R. Banerjee, Ulm/DE, N. Bevilacqua, Ulm/DE, R. Zeis, Ulm/DE
- A052 **2,3-dichloro-5,6-dicyano-1,4-benzoquinone as a Mediator for Scanning Electrochemical Microscopy Investigations in Cathode Materials**
E. dos Santos Sardinha, Oldenburg/DE, A. Gräfenstein, Oldenburg/DE, G. Wittstock, Oldenburg/DE
- A053 **Structural design of ultra-thick NMC 622 cathodes for high energy Lithium-ion batteries**
L. Kremer, Ulm/DE, C. Dreer, Ulm/DE, A. Hoffmann, Ulm/DE, M. Wohlfahrt-Mehrens, Ulm/DE
- A054 **Metal self-diffusion barriers on terraces and steps and their relation to dendrite growth in batteries**
M. Jäckle, Ulm/DE, A. Groß, Ulm/DE
- A055 **Conversion/Alloying Materials – Impact of the Particle Size and Morphology**
M. Olutogun, Ulm/DE, J. Asenbauer, Ulm/DE, S. Passerini, Ulm/DE, D. Bresser, Ulm/DE
- A056 **Solid-Liquid Glyme-based Electrolytes for Lithium Metal Batteries**
M. Nojabae, Stuttgart/DE, K. Müller, Stuttgart/DE, B. Fenk, Stuttgart/DE, U. Starke, Stuttgart/DE, J. Popovic, Stuttgart/DE, J. Maier, Stuttgart/DE
- A057 **Influence of the Microstructural Properties of Positive Electrodes Based on Ni-rich Layered Transition Metal Oxides and their Performance in Li-metal Cells**
T. Beuse, Münster/DE, J. P. Badillo, Münster/DE, P. Niehoff, Münster/DE, F. Schappacher, Münster/DE, M. Winter, Münster/DE
- A058 **Changes in the preparation route of α -MnO₂/C and resulting modifications in the ORR activity and selectivity in alkaline solution**
E. Marini, Ulm/DE, M. Steininger, Ulm/DE, S. Brimaud, Ulm/DE, C. Evangelisti, Ulm/DE, L. Jörissen, Ulm/DE
- A059 **Degradation study of VRFB using distribution of relaxation times analysis**
J. Schneider, Berlin/DE, R. Zeis, Ulm/DE, M. A. Danzer, Bayreuth/DE, C. Roth, Berlin/DE
- A060 **Developing Aqueous Electrode Processing Strategies for Sustainable High-Voltage Lithium-Ion Cathodes**
M. Kuenzel, Ulm/DE, G.-T. Kim, Ulm/DE, D. Bresser, Ulm/DE, S. Passerini, Ulm/DE

- A062 **Limiting thermal runaway propagation in lithium-ion battery packs using phase change materials**
D. Becher, Ulm/DE, M. Bauer, Ulm/DE, H. Döring, Ulm/DE, B. Frieß, Sindelfingen/DE, M. A. Danzer, Bayreuth/DE
- A063 **Beneficial effect of different electrolyte additives on electrochemical performance of High-Voltage Lithium-Ion Cathodes**
A. Kazzazi, Ulm/DE, D. Bresser, Ulm/DE, M. Kuenzel, Ulm/DE, S. Passerini, Ulm/DE
- A064 **Degradation processes in vanadium redox-flow batteries**
H. Ji, Frankfurt (Main)/DE, C. Weidlich, Frankfurt (Main)/DE
- A067 **Challenges in Fabrication of Electrochemical Double Layer Capacitor in Pouch Cell Configuration**
D. Bhattacharjya, Vitoria-Gasteiz/ES, J. Ajuria, Vitoria-Gasteiz/ES, C. Daniel, Vitoria-Gasteiz/ES, A. Villaverde, Vitoria-Gasteiz/ES
- A068 **Improving Zn-air batteries by using results from electrochemical impedance spectroscopy**
A. Kube, Stuttgart/DE, N. Wagner, Stuttgart/DE, K. A. Friedrich, Stuttgart/DE
- A069 **Analysis of ripple current effects on lithium-ion cells performance**
H. Cheetamun, Ulm/MU, J. Klee Barillas, Ulm/DE, M. Bauer, Ulm/DE, P. Küber, Ulm/DE, H. Döring, Ulm/DE
- A070 **Utilizing the nanocasting method to obtain Ndoped porous carbons with transition metal centers for possible electrode applications**
A. Schierz, Hanover/DE, D. Nettelroth, Hanover/DE, P. Behrens, Hanover/DE
- A071 **PEO with tantalum substituted LLZ as novel type of solid hybrid polymer ceramic electrolytes**
M. Wirtz, Jülich/DE, H. Tempel, Jülich/DE, H. Kungl, Jülich/DE, R.-A. Eichel, Jülich/DE
- A073 **Electrodeposited Na₂Ni[Fe(CN)₆] Thin Film Cathodes Exposed to Simulated Aqueous Na-Ion Battery Conditions**
P. Marzak, Garching/DE, J. Yun, Garching/DE, A. Dorsel, Garching/DE, A. Kriele, Garching/DE, R. Gilles, Garching/DE, O. Schneider, Garching/DE, A. S. Bandarenka, Garching/DE
- A074 **Challenges in Silicon-Air Batteries with alkaline Electrolytes**
R. Schalinski, Halle (Saale)/DE, B. Griesche, Halle/DE, S. L. Schweizer, Halle/DE, R. B. Wehrspohn, Halle/DE

- A075 **Revealing Transport and Reaction Mechanisms in the Solid-Electrolyte Interphase**
B. Horstmann, Ulm/DE, F. Single, Ulm/DE, A. Latz, Ulm/DE
- A076 **Electrochemical performance of spheroidized graphite as anode active material for Lithium Ion Batteries**
J. Martin, Ulm/DE, M. Mancini, Ulm/DE, P. Balasubramanian, Ulm/DE, M. Mundsinger, Ulm/DE, U. Kaiser, Ulm/DE, M. Wohlfahrt-Mehrens, Ulm/DE
- A077 **Influence of additives on the morphology of oxidation products in rechargeable zinc-air batteries**
T. Heinemeyer, Hannover/DE, H.-C. Schwarz, Hannover/DE, A.M. Schneider, Hannover/DE, P. Behrens, Hannover/DE
- A078 **In-situ Raman study of the cation-dependent charge/discharge kinetics of birnessite-type MnO₂**
P. Scheitenberger, Ulm/DE, S. Brimaud, Ulm/DE, M. Linden, Ulm/DE
- A079 **Solid polymer electrolytes via solvent-free and simultaneous preparation of interpenetrating polymer networks**
A. Hoefling, Ulm/DE, A. Hellmann, Ulm/DE, J. Tübke, Karlsruhe/DE
- A080 **Direct Electropolymerization of p-Sulfonated Poly (Allyl Phenyl Ether) into Carbon Nanotube Anodes for High Performance Flexible Microbatteries**
V. Sugiawati, Marseille/FR, F. Vacandio, Marseille/FR, Y. Ein-Eli, Haifa/IL, P. Knauth, Marseille/FR, T. Djenizian, Gardanne/FR
- A081 **High Voltage Aqueous Na-ion batteries based on Prussian Blue Analogues**
J. Yun, Garching/DE, D. Scieszka, Garching/DE, P. Marzak, Garching/DE, A. Bandarenka, Garching/DE
- A082 **Metal-organic precursors for energy storage electrodes: Understanding electrochemical processes to design platform materials and processing technologies**
J. Linnemann, Dresden/DE, L. Giebeler, Dresden/DE
- A083 **Nanostructured nickel cobalt oxide and polymer derived carbon for high power and energy density aqueous asymmetric supercapacitor**
T. Panja, Vitoria-Gasteiz/ES, N. Diez, Oviedo/ES, R. Mysyk, Vitoria-Gasteiz/ES, D. Bhattacharjya, Vitoria-Gasteiz/ES, E. Goikoela, Bilbao/ES, D. Carriazo, Vitoria-Gasteiz/ES
- A084 **Evaluating the energy efficiency and volume expansion of conversion/alloying anodes for Li-ion batteries**
J. Asenbauer, Ulm/DE, M. Kuenzel, Ulm/DE, T. Eisenmann, Ulm/DE, A. Birrozzi, Ulm/DE, S. Passerini, Ulm/DE, D. Bresser, Ulm/DE

- A085 **Influence of microstructure processing on performance in all-solid-state Li-S battery**
S. Ohno, Gießen/DE, G. Dewald, Gießen/DE, J. Janek, Gießen/DE, W. Zeier, Gießen/DE
- A086 **Unraveling the Li⁺ storage mechanism in transition metal doped ZnO – The effect of aliovalent doping**
T. Eisenmann, Ulm/DE, G. Giuli, Camerino/IT, A. Trapananti, Camerino/IT, J. Asenbauer, Ulm/DE, F. Mueller, Ulm/DE, S. Passerini, Ulm/DE, D. Bresser, Ulm/DE
- A087 **Initial stages of the solid electrolyte interphase formation studied by ab initio calculations and surface science experiments**
K. Forster-Tonigold, Ulm/DE, F. Buchner, Ulm/DE, J. Kim, Ulm/DE, C. Adler, Ulm/DE, J. Bansmann, Ulm/DE, R. J. Behm, Ulm/DE, A. Groß, Ulm/DE
- A090 **Aqueous electrolytes with ionic liquids for redox flow batteries**
Y. Zhang, Saarbrücken/DE, R. Hempelmann, Saarbrücken/DE, R. Chen, Saarbrücken/DE
- A093 **Understanding the shape of ring current transients in RRDE experiments: From simulations to more detailed insights**
P. P. Bawol, Bonn/DE, J. H. Thimm, Bonn/DE, H. Baltruschat, Bonn/DE
- A094 **Polyoxometalate-conductive polymer nanocomposites as redox-active charge storage materials**
M. Anjass, Ulm/DE, M. Fichtner, Ulm/DE, T. Jacob, Ulm/DE, C. Streb, Ulm/DE
- A095 **Understanding the Capacity Loss in LNMO-LTO Lithium-ion Cells at Ambient and Elevated Temperatures**
B. Aktekin, Uppsala/SE, M. J. Lacey, Uppsala/SE, T. Nordh, Uppsala/SE, R. Younesi, Uppsala/SE, C. Tengstedt, Södertälje/SE, W. Zipprich, Wolfsburg/DE, D. Brandell, Uppsala/SE, K. Edstrom, Uppsala/SE
- A096 **Capacitive behavior of core shell composite electrodes**
E. Matsubara, Ribeirao Preto/BR, F. F. S. Xavier, Ribeirao Preto/BR, S. C. Cadore, Uberlandia/BR, J. M. Rosolen, Ribeirao Preto/BR
- A097 **Non-woven composite electrodes to LIB**
J. M. Rosolen, Ribeirao Preto/BR, D. B. Freitas Neto, Ribeirao Preto/BR, E. Y. Matsubara, Ribeirao Preto/BR, R. Parmar, Camerino/IT, R. Gunella, Camerino/IT

- A098 **Hydrothermal aging of electric double layer capacitors based on polymer-gel-electrolyte**
K. Anneser, Würzburg/DE, S. Braxmeier, Würzburg/DE, G. Reichenauer, Würzburg/DE
- A099 **Investigation on the mechanisms of additives in the active material of stationary lead-acid batteries**
P. Wulfert-Holzmann, Würzburg/DE, J. Settelein, Würzburg/DE, G. SEXTL, Würzburg/DE
- A100 **An electrochemical plating method for the preparation of novel electrode materials for lithium ion batteries**
J. Komorowska, Aalen/DE, M. Buhl, Aalen/DE, B. Streipert, Aalen/DE, S. Meinhard, Aalen/DE, T. Sörgel, Aalen/DE
- A101 **Fully anodized and functionalized alumina membranes for use as separators in Li/S batteries**
J. Komorowska, Aalen/DE, C. Kiesl, Aalen/DE, S. Meinhard, Aalen/DE, T. Sörgel, Aalen/DE
- A102 **Investigation of degradation mechanism during freezing process**
J. P. Sabawa, Garching/DE

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- B001 **Electrochemical removal of biofilms from titanium dental implant surfaces**
M. Rudolph, Frankfurt (Main)/DE, S. Schneider, Frankfurt/DE, V. Bause, Frankfurt/DE, A. Terfort, Frankfurt/DE
- B002 **Electric field induced changes in the structure of models of the outer membrane of gram-negative bacteria adsorbed on the gold electrode surface**
B. Khairalla, Oldenburg/DE, I. Brand, Oldenburg/DE, S. Sek, Warsaw/PL
- B003 **Nanoporous Platinum Coatings to Enhance the Electrode-Nerve Interface of Neural Implants**
K. D. Kreisköther, Hannover/DE, J. Schulze, Hannover/DE, A. Warnecke, Hannover/DE, P. Behrens, Hannover/DE
- B004 **Silane Based Mixed Self – Assembled Monolayer Formation on Thin Film Semiconducting Oxide for Phospholipid Membrane Development**
I. Gabriunaite, Vilnius/LT, A. Valiūnienė, Vilnius/LT
- B005 **Metallurgical Aluminium Plate for Hybrid Bilayer Formation**
T. Sabirovas, Vilnius/LT, A. Valiūnienė, Vilnius/LT

- B006 **ATP-Microbiosensor for Real-Time Measurement during Vesicles Respiration**
J. Lin, Ulm/DE, D. Weixler, Ulm/DE, S. Daboss, Ulm/DE, G. Seibold, Ulm/DE, C. Kranz, Ulm/DE
- B007 **Saccharomyces cerevisiae in Biocomposite design for Anode Modification**
A. Kisieliute, Vilnius/LT
- B008 **Combining DNA and Protein Simulations: Atomistic insights into the G coupled receptor CXCR4 and its corresponding Antagonist**
C. K. Jung, Ulm/DE, T. Jacob, Ulm/DE
- B009 **An NAD-NADH sensing electrode based on Diaphorase as a versatile basic system for enzyme electrodes**
M. Piescheck, Ulm/DE, T. Jacob, Ulm/DE
- B010 **Transparent Conducting Oxide Thin Films for Hydrogenase Spectroelectrochemistry**
V. Davis, Freiburg/DE, N. Heidary, Freiburg/DE, A. Fischer, Freiburg/DE, T. Harris, Freiburg/DE, S. Frielingsdorf, Berlin/DE, O. Lenz, Berlin/DE, I. Zebger, Berlin/DE

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- C001 **Nanoporous Gold – A Prototype for a Rational Design of Catalysts: Electrocatalysis and Transport**
M. Haensch, Oldenburg/DE, J. Behnken, Oldenburg/DE, L. Balboa, Oldenburg/DE, M. Graf, Hamburg/DE, J. Weissmüller, Hamburg/DE, G. Wittstock, Oldenburg/DE
- C002 **Anodic polarization of aluminum in a highly concentrated aqueous solution of lithium bis(trifluoromethylsulfonyl) amide**
M. Kurihara, Kyoto/JP, A. Kitada, Kyoto/JP, K. Fukami, Kyoto/JP, K. Murase, Kyoto/JP
- C003 **Galvanic corrosion behaviour of Titanium in artificial Cola drink at different pH values with/without Fluoride addition and tooth brushing simulation**
C. Schille, Tuebingen/DE, J. Becker, Tuebingen/DE, E. Schweizer, Tuebingen/DE, J. Geis-Gerstorfer, Tuebingen/DE
- C004 **Electrochemical Corrosion Studies on Zinc in boric Acid containing Electrolytes**
U. Harm, Dresden/DE, H. Kryk, Dresden/DE, U. Hampel, Dresden/DE
- C005 **Corrosion Protection of Aluminium Conversion Coatings after Deformation**
S. Apelt, Dresden/DE, U. Bergmann, Dresden/DE

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- D001 **Electrochemical determination of megestrol acetate in biological fluids and in megace tablets using modified glassy carbon microspheres paste electrode**
Y. Temerk, Assiut/EG, H. Ibrahim, Assiut/EG
- D002 **Development and optimization of an electrochemical flow cell configuration for hydrodynamic scanning electrochemical microscopy**
S. Wert, Regensburg/DE, T. Raith, Regensburg/DE, F.-M. Matysik, Regensburg/DE
- D003 **A Sensor for Simultaneous Detection of Dopamine and Serotonin using Nylon 6,6/MWCNT/ Ni, Zn, Fe Oxides nanofibers Modified Glassy Carbon Electrode**
O. Fayemi, Mafikeng/ZA, E. E. Ebenso, Mafikeng/ZA
- D004 **Prussian Blue-based Microbiosensors**
S. Daboss, Ulm/DE, A. Holzinger, Ulm/DE, J. Izquierdo, Ulm/DE, A. Karyakin, Moscow/RU, C. Kranz, Ulm/DE
- D005 **Microstructured Polydopamine Deposition via Scanning Electrochemical Microscopy**
D. Blaimer, Ulm/DE, J. Lin, Ulm/DE, L. Weber, Ulm/DE, S. Daboss, Ulm/DE, C. Kranz, Ulm/DE
- D006 **Electrochemical MIP-Sensors for Proteins and Peptides**
A. Yarman, Potsdam/DE, U. Wollenberger, Potsdam/DE, F. W. Scheller, Potsdam/DE
- D007 **Electroanalysing the Bioactivity of Polyphenols on Carbon Printed Chips**
V. Mun'delanji C., Kagoshima/JP, F. A. Azo-Oussou, Kagoshima/JP, Y. Nakazono, Kagoshima/JP, K. Samarat, Nomi/JP, H. T. T. Phan, Nomi/JP
- D008 **Fluorine doped tin oxide – an electrode material for the electrochemical discrimination of dopamine and related catecholamines**
G. Göbel, Wildau/DE, F. Lisdat, Wildau/DE

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- E001 **Power management of PEM fuel cells system for mobile power unit**
K. Bouzek, Prague/CZ, J. Malis, M. Paidar, Prague/CZ
- E002 **Electrospun Ag based gas diffusion electrodes for the oxygen reduction reaction in highly alkaline conditions**
M. Gebhard, Berlin/DE, C. Roth, Berlin/DE

- E003 **Multiscale analysis of complex three-phase systems: Oxygen reduction at gas-diffusion electrodes in aqueous electrolyte**
T. Turek, Clausthal-Zellerfeld/DE, U. Krewer, Braunschweig/DE, C. Roth, Berlin/DE, I. Manke, Berlin/DE, U. Nieken, Stuttgart/DE, T. Vidakovic-Koch, Magdeburg/DE, W. Schuhmann, Bochum/DE
- E004 **Frequency Response Analysis of Oxygen Reduction Reaction in Alkaline Media**
S. Kandaswamy, Magdeburg/DE, T. Vidakovic-Koch, Magdeburg/DE
- E005 **Distribution of Relaxation Times as a model-free characterization tool for electrochemical systems**
M. Hahn, Bayreuth/DE, L.-C. Triebs, Bayreuth/DE, M. A. Danzer, Bayreuth/DE
- E006 **Potential-controlled chromatography**
T. Turrina, Garching/DE, P. Fraga-García, Garching/DE, S. Berensmeier, Garching/DE
- E007 **Dynamic simulation of an alkaline water electrolyzer**
J. Brauns, Clausthal-Zellerfeld/DE, P. Haug, Clausthal-Zellerfeld/DE, T. Turek, Clausthal-Zellerfeld/DE
- E008 **Polypyrrole entrapped 18-molybdodisulphate anion for the detection of hydrogen peroxide**
M. Yagub, Dublin/IE; J. Walsh, Dublin/IE; F. Laffir, Limerick/IE; P. Olstoorn, Limerick/IE; L. Kailis, Limerick/IE, R. Forster Dublin/IE; T. E. Keyes, Dublin/Ireland; M. Vagin, Linköping/SE; T. McCormac, County Louth/IE
- E009 **Layer-by-layer Assembly of Graphene Oxide and 12 -Molybdocilicate composite films for the electrocatalytic reduction of chloroform**
B. Ali, County Louth/IE; E. Lepleux, L. Pacheco, F. Laffir, Limerick/IE; C. Maccato, T. McCormac, County Louth/IE

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- F001 **Mechanistic Investigation in Electrotechnologies process for Treatment of Caffeine from Water by BDD Anode**
S. Periyasamy, Coimbatore/IN, D. Liu, Hangzhou/CN
- F002 **Electrochemical Adsorption: Industrial Wastewater Treatment**
A.-D. Steinkamp, Frankfurt (Main)/DE, J. Schuster, Frankfurt (Main)/DE, K.-M. Mangold, Frankfurt (Main)/DE
- F003 **Removal of micropollutants in wastewater using a novel electrode combination for oxidants production**
R. G. Simon, Frankfurt (Main)/DE, K.-M. Mangold, Frankfurt (Main)/DE

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- G001 **Metal deposition from different types of “deep eutectic solvents” and ionic liquid**
M. U. Cebelin, Ulm/DE
- G002 **Differences in the Electrochemical Deposition of Zinc from the Ionic Liquid [MPPI][TFSI] on Au(111) and Au(100) Model Electrodes**
F. M. Schuett, Ulm/DE, J. Mayer, Ulm/DE, M.-K. Heubach, Ulm/DE, T. Jacob, Ulm/DE

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- H001 **Safe Synthesis of Peracetic Acid by Electrochemistry**
C. M. Hamm, Frankfurt (Main)/DE, K.-M. Mangold, Frankfurt/DE
- H002 **Bifunctional Heterostructure Assembly of NiFe LDH Nanosheets on NiCoP Nanowires for Highly Efficient and Stable Overall Water Splitting**
H. Zhang, Halle (Saale)/DE, X. Li, Shanghai/CN, A. Hähnel, Halle/DE, V. Naumann, Halle/DE, C. Lin, Shanghai/CN, S. Azimi, Halle/DE, S. Schweizer, Halle/DE, A. W. Majjenburg, Halle/DE, R. Wehrspohn, Halle/DE
- H003 **Selective alcohol electro oxidation via ZIF-8 functionalized Pt/carbon catalysts**
C. Schenk, Dresden/DE, I. Senkovska, Dresden/DE, S. Kaskel, Dresden/DE
- H004 **Reagent- and Metal-free Anodic Cross- and Homo-Coupling of Formanilides**
L. Schulz, Mainz/DE, S. R. Waldvogel, Mainz/DE
- H005 **Improved electrochemical performance of Fe-N-C catalysts through ionic liquid modification in alkaline media**
T. Wolker, Darmstadt/DE, I. Martinaiou, Darmstadt/DE, A. Shahraei, Darmstadt/DE, G.-R. Zhang, Darmstadt/DE, A. Janßen, Darmstadt/DE, S. Wagner, Darmstadt/DE, N. Weidler, Darmstadt/DE, R. W. Stark, Darmstadt/DE, B. J. M. Etzold, Darmstadt/DE, U. I. Kramm, Darmstadt/DE
- H006 **Mesoporous Carbon Supported Catalysts for PEMFC**
M. Sakthivel, Frankfurt (Main)/DE, S. Pani, Frankfurt/DE, J.-F. Drillet, Frankfurt/DE
- H007 **Electrodeposited Manganese Oxide on Superhydrophobic Nickel-Mesh for Application in Gas Diffusion Electrodes**
A. Bekisch, Hermsdorf/DE, K. Skadell, Hermsdorf/DE, M. Schulz, Hermsdorf/DE, M. Stelter, Hermsdorf/DE

- H009 **Degradation of Ionomeric Components in Membrane Electrode Assemblies of the Alkaline Anion Exchange Membrane Fuel Cell**
J. Behnken, Oldenburg/DE, L. Mues, Oldenburg/DE, J. Leppin, Oldenburg/DE, M. Wark, Oldenburg/DE, C. Harms, Oldenburg/DE, A. Dyck, Oldenburg/DE
- H010 **The influence of adsorbed substances on alkaline methanol electrooxidation**
T. Haisch, Braunschweig/DE, F. Kubanek, Braunschweig/DE, S. Baranton, Poitiers/FR, C. Coutanceau, Poitiers/FR, U. Krewer, Braunschweig/DE
- H011 **Electrochemical CO₂ reduction at copper electrodes with enhanced long-term stability by pulsed electrolysis**
A. Engelbrecht, Bayreuth/DE, C. Uhlig, Bayreuth/DE, O. Stark, Bayreuth/DE, M. Hämmerle, Bayreuth/DE, G. Schmid, Erlangen/DE, E. Magori, München/DE, K. Wiesner-Fleischer, München/DE, M. Fleischer, München/DE, R. Moos, Bayreuth/DE
- H012 **In-situ Cell Design for ⁵⁷Fe Mößbauer Spectroscopy on Fe-N-C Catalysts**
L. Ni, Darmstadt/DE, C. Gallenkamp, Darmstadt/DE, M. Kübler, Darmstadt/DE, N. Weidler, Darmstadt/DE, U. Kramm, Darmstadt/DE
- H014 **Investigations on the electrocatalytical activity of phosphorous containing carbon materials for oxygen reduction reaction**
N.-F. Schumacher, Saarbrücken/DE, H. Natter, Saarbrücken/DE
- H015 **Electrocatalysis on Pt Single Nanocrystals: The role of Capping Agents on the ORR Activity and Shape Stability**
I. A. Safo, Oldenburg/DE, M. Oezaslan, Oldenburg/DE, C. Dosche, Oldenburg/DE, M. Werheid, Oldenburg/DE
- H016 **Electrochemical reduction of 5-hydroxymethylfurfural (HMF) on MeNC catalysts**
C. Gallenkamp, Darmstadt/DE, L. Ni, Darmstadt/DE, M. Kübler, Darmstadt/DE, N. Weidler, Darmstadt/DE, U. I. Kramm, Darmstadt/DE
- H017 **Effects of Cation Ions on the Reactivity of Pt/C during the Hydrogen Oxidation Reaction**
D. J. Weber, Oldenburg/DE, M. Oezaslan, Oldenburg/DE

- H018 **Electrochemical durability of Pt/C as catalyst for the ORR**
P. Weber, Oldenburg/DE, D. J. Weber, Oldenburg/DE, M. Janssen, Oldenburg/DE, M. Werheid, Oldenburg/DE, M. Oezaslan, Oldenburg/DE
- H019 **Coating of carbon materials by pyrolysis of phosphorus containing ionic liquids for electrocatalytical applications**
A. Stephan, Saarbrücken/DE, H. Natter, Saarbrücken/DE
- H020 **A synthetic approach for ultra-low loaded Pt electrodes due to homogeneous ionomer distribution**
S. Ott, Berlin/DE, H. Schmies, Berlin/DE, B. Anke, Berlin/DE, M. Glied, Berlin/DE, S. Kuehl, Berlin/DE, H. Wang, Berlin/DE, M. Lerch, Berlin/DE, P. Strasser, Berlin/DE
- H021 **Deposition of a Cu monolayer by replacement of Hydrogen on Pt electrodes – first steps towards a scalable nanoparticle synthesis**
P. A. Loichet, München/DE, H. A. El-Sayed, München/DE, J. N. Schwämmlein, München/DE, H. A. Gasteiger, München/DE
- H022 **Step-by-step Investigation on Capping Agent Removal from Iridium Alloy Electrocatalysts for the Ethanol Oxidation**
C. Prössl, Darmstadt/DE, M. Kübler, Darmstadt/DE, N. Weidler, Darmstadt/DE, U. I. Kramm, Darmstadt/DE
- H023 **Size Effect of Graphene-supported Pt Clusters for the Electrocatalytic Hydrogen Evolution Reaction**
J. Klein, Ulm/DE, S. Brimaud, Ulm/DE, A. K. Engstfeld, Ulm/DE, R. J. Behm, Ulm/DE
- H024 **Molybdenum doped Pt-Ni octahedral shaped nanoparticles for the oxygen reduction reaction**
M. Primbs, Berlin/DE, F. Dionigi, Berlin/DE, P. Strasser, Berlin/DE
- H025 **Tuning the Dispersion of Pt Nanoparticles by Surface Modification of Carbon Support Materials**
M. Werheid, Oldenburg/DE, P. Weber, Oldenburg/DE, C. Dosche, Oldenburg/DE, M. Oezaslan, Oldenburg/DE
- H026 **Laser structured nickel-iron electrodes for oxygen evolution in alkaline water electrolysis**
M. Koj, Clausthal-Zellerfeld/DE, T. Gimpel, Goslar/DE, P. Haug, Clausthal-Zellerfeld/DE, W. Schade, Goslar/DE, T. Turek, Clausthal-Zellerfeld/DE

- H027 ***In situ* Spectroscopic Investigations of the Electrocatalytic Ethanol Oxidation Reaction**
J. B. Richter, Dresden/DE, C. Schenk, Dresden/DE, S. Kaskel, Dresden/DE, E. Brunner, Dresden/DE
- H028 **Investigation of electrocatalytical properties of nitrogen-containing carbon materials prepared from Ionic Liquids**
D. Klippert, Saarbrücken/DE, H. Natter, Saarbrücken/DE
- H029 **Boosting the ORR Performance of PtNi/C Catalysts by Ionic Liquid Modification: The Influence of Carbon Supports**
M. George, Darmstadt/DE, P. Reif, Darmstadt/DE, G.-R. Zhang, Darmstadt/DE, B. J. M. Etzold, Darmstadt/DE
- H030 **Sustainable Electroorganic Synthesis of Bio-based Carboxylic Acids**
A. L. Rauen, Mainz/DE, S. R. Waldvogel, Mainz/DE
- H031 **Water oxidation of LiMn₂O₄ in hydroxide electrolytes of the alkali metals**
M. Baumung, Göttingen/DE, M. Risch, Göttingen/DE
- H032 **Ethylene glycol oxidation on different platinum-based electrocatalysts**
A. Schätz, Halle (Saale)/DE, M. Bron, Halle (Saale)/DE
- H033 **Stability of FeNC ORR Catalysts in Acidic and Alkaline Electrolyte**
E. D. Speck, Erlangen/DE, P. G. Santori, Montpellier/FR, K. J. J. Mayrhofer, Erlangen/DE, F. Jaouen, Montpellier/FR, S. Cherevko, Erlangen/DE
- H034 **Carbon supported Bifunctional Electrocatalyst for Oxygen Reduction and Evolution Reaction**
M. Rauf, Shenzhen/CN, Z.-Y. Zhou, Xiamen/CN, S.-G. Sun, Xiamen/CN
- H035 **Electrocatalytic behavior of Pt, Pd, Pt/Pd and Pd/Pt Nanoparticles containing Poly 1,5- diamionaphthalene for formic acid oxidation**
A. S. Shatla, Bonn/DE, K. M. Hassan, Menoufia/EG, A. A. Abd-El-Latif, Bonn/DE, A. A. Hathoot, Menoufia/EG, H. Baltruschat, Bonn/DE, M. Abdel-Azzem, Menoufia/EG
- H036 **ORR Activity of Specific Bimetallic PtRu Sites on Pt Modified Ru(0001) Electrodes**
A. K. Engstfeld, Ulm/DE, S. Fuchs, Ulm/DE, R. J. Behm, Ulm/DE

- H037 **Mixed CO₂-CO Feeds Enhance Ethylene Production during CO₂ Electroreduction**
X. Wang, Berlin/DE, J. Ferreira de Araújo, Berlin/DE, P. Strasser, Berlin/DE
- H038 **Tuning the Structure of porous Cu Foams for the CO₂RR**
B. Hecker, Oldenburg/DE, C. Dosche, Oldenburg/DE, M. Oezaslan, Oldenburg/DE
- H039 **Electrochemical Synthesis of Cyclic Carbonates on Nanoporous Copper Electrodes**
S. Ibrahim, Oldenburg/DE, M. Oezaslan, Oldenburg/DE, B. Hecker, Oldenburg/DE, G. Hilt, Oldenburg/GE
- H040 **Online coupling of electro-organic synthesis in flow cells with mass spectrometry (EC-MS) for fast screening of electrolytic conditions**
C. Kampf, Mainz/DE, P. Kohlpaintner, Mainz/DE, S. R. Waldvogel, Mainz/DE
- H041 **Au single atoms on N-rich carbon structures for enhanced N₂ electrochemical reduction**
Q. Qin, Potsdam/DE, M. Oschatz, Potsdam/DE, M. Antonietti, Potsdam/DE
- H042 **Activity and electrochemical dissolution stability of Pt/IrO_x and Pt/IrO₂ bifunctional oxygen catalysts**
G. C. da Silva, Erlangen/DE, E. A. Ticianelli, São Carlos/BR, K. J. J. Mayrhofer, Erlangen/DE, S. Cherevko, Erlangen/DE
- H043 **Synergy between Active Sites and Electric Conductivity of Molybdenum Sulfide for Efficient Electrochemical Hydrogen Production**
F. Zeng, Aachen/DE, C. Broicher, Aachen/DE, S. Palkovits, Aachen/DE, K. Simeonov, Aachen/DE, R. Palkovits, Aachen/DE
- H044 **Dehydrogenative Anodic Cross-coupling of Aryls: Sustainable, Disruptive, and Scalable!**
S. R. Waldvogel, Mainz/DE
- H045 **Investigation of stable catalyst support materials for low temperature PEMFC**
P. K. Mohanta, Ulm/DE, F. Regnet, Ulm/DE, L. Jörissen, Ulm/DE
- H046 **Effects of cathode catalyst layers thickness on the MEA performances of low temperature PEMFC**
P. K. Mohanta, Ulm/DE, F. Regnet, Ulm/DE, L. Jörissen, Ulm/DE

- H047 **On a Dominating Mechanism of the Hydrogen Evolution Reaction at Polycrystalline Pt-electrodes in Acidic Media**
A. S. Bandarenka, Garching/DE, S. Watzel, Garching/DE, J. Fichtner, Garching/DE, B. Garlyyev, Garching/DE
- H048 **Hydrogen Peroxide Synthesis via Micro-Flow Cell using Benchmarking Electrocatalysts**
J. Hübner, Berlin/DE, Y. Sun, Berlin/DE, S. Dresp, Berlin/DE, P. Strasser, Berlin/DE
- H049 **Electrocatalytic full water splitting by a noble-metal-free, bifunctional metal oxide electrocatalyst supported on Cu foam electrodes**
D. Gao, Anhui/CN, C. Streb, Ulm/DE
- H050 **Novel Polyelectrolyte Mediators for Indirect Electroorganic Synthesis**
B. Schille, Rostock/DE, N. O. Giltzau, Rostock/DE, R. Francke, Rostock/DE
- H051 **Electrosynthesis Using a Recyclable Mediator-Electrolyte System Based on the I(I)/I(III) Redox Couple**
T. Broese, Rostock/DE, A. F. Roesel, Rostock/DE, R. Francke, Rostock/DE
- H053 **Electrooxidation of 5-Hydroxymethylfurfural on Non-Noble Multi-Metal Catalysts**
S. Wöllner, Darmstadt/DE, G.-R. Zhang, Darmstadt/DE, N. Rockstroh, Rostock/DE, A. Brückner, Rostock/DE, B. J. M. Etzold, Darmstadt/DE
- H054 **Sophisticated Electrode Design and Characterization Techniques for Gas Diffusion Electrodes for Electrochemical CO₂ Reduction**
N. Wagner, Stuttgart/DE, D. Kopjar, Stuttgart/DE, F. Bienen, Stuttgart/DE, E. Klemm, Stuttgart/DE, K. A. Friedrich, Stuttgart/DE
- H055 **Electrochemically Switchable Stiffness of Nanoporous Gold-Polypyrrole Electrodes**
J. Li, Geesthacht/DE, N. Mameka, Geesthacht/DE, J. Markmann, Geesthacht/DE, J. Weißmüller, Geesthacht/DE
- H056 **Mesoporous N-doped Carbon as Stable Pt Catalyst Support for the Oxygen Reduction Reaction**
J. Melke, Freiburg/DE, A. Fischer, Freiburg/DE, R. Schuster, Freiburg/DE, S. Möbus, Freiburg/DE, M. Soballa, Freiburg/DE, T. Jurzinsky, Pfalz/DE

- H057 **Investigating reaction pathways for the oxygen reduction reaction on platinum-type electrodes utilizing a GCMD approach within the ReaxFF framework**
L. Braunwarth, Ulm/DE, C. K. Jung, Ulm/DE, T. Jacob, Ulm/DE
- H058 **Polyformamidine derived Fe-N/C Electrocatalysts for the Oxygen Reduction Reaction**
J. Melke, Freiburg/DE, P. Elsässer, Freiburg/DE, A. Fischer, Freiburg/DE
- H059 **Electrochemical generation of carbenium ions and their reactions with nucleophiles**
A. Lielpetere, Riga/LV, A. Jirgensons, Riga/LV
- H060 **Synergistic bifunctional catalytic activity for oxygen reduction and evolution at oxide-modified metal: influence of support and insight into mechanism**
H. Amin, Oxford/GB, M. Soltani, Bonn/DE, C. Bondue, Bonn/DE, L. Zan, Bonn/DE, H. Baltruschat, Bonn/DE
- H061 **Nickeloxide nanoparticles and thin films as catalysts for (Photo)electrochemical water splitting: A surface science study**
B. Kaiser, Darmstadt/DE, S. Tao, Darmstadt/DE, S. Wagner, Darmstadt/DE, H. Radinger, Darmstadt/DE, S. Tengeler, Darmstadt/DE, W. Jaegermann, Darmstadt/DE
- H062 **Bridging the gap between fundamental and applied fuel cell electrocatalysis: High-throughput catalyst screening of gas diffusion electrodes**
K. Ehelebe, Erlangen/DE, G. Polymeros, Düsseldorf/DE, S. Thiele, Erlangen/DE, K. J. J. Mayrhofer, Erlangen/DE, S. Cherevko, Erlangen/DE
- H063 **In situ Study on CO₂ Reduction Reactions at Platinum/Ionic Liquid Interfaces**
A. Kemna, Münster/DE, B. Braunschweig, Münster/DE
- H064 **Isopropanol electrooxidation on Pt using electrochemical real-time mass spectrometry (EC-RTMS)**
P. Khanipour, Erlangen/DE, F. Waidhas, Erlangen/DE, G. Sievi, Erlangen/DE, O. Brummel, Erlangen/DE, P. Wasserscheid, Erlangen/DE, J. J. Mayrhofer, Erlangen/DE, I. Katsounaros, Erlangen/DE
- H065 **Electrochemical study of functionalized electrodes with Covalent Organic Frameworks for selective reduction of CO₂**
G. Dubed, Tarragona/ES, F. Franco, Tarragona/ES, S. Mondal, Tarragona/ES, A. Shafir, Tarragona/ES, J. Lloret, Tarragona/ES

- H066 **Cobalt vanadium oxide/C composite materials derived from pyrolyzed POM@ZIF-67 nanoparticles: Bi-functional materials for Oxygen evolution and Li ion battery**
Y. Ji, Ulm/DE, C. Streb, Ulm/DE, Y. Ma, Ulm/DE, R. Liu, Ulm/DE, S. Passerini, Ulm/DE
- H067 **Benchmarking the Stability of Oxygen Evolution Reaction Catalysts**
J. Knöppel, Erlangen/DE, S. Geiger, Düsseldorf/DE, O. Kasian, Düsseldorf/DE, M. Ledendecker, Düsseldorf/DE, K. J. J. Mayrhofer, Erlangen/DE, S. Cherevko, Erlangen/DE
- H068 **Electrochemical conversion of CO₂ to methanol – towards development of a 2 kW stack**
S. Geiger, Stuttgart/DE, A. S. Gago, Stuttgart/DE, K. A. Friedrich, Stuttgart/DE, S. S. Hosseiny, Stuttgart/DE
- H069 **Atomically Dispersed Mo-Oxides for the Electrocatalytic Oxygen Reduction Reaction**
R. Liu, Ulm/DE, C. Streb, Ulm/DE
- H070 **Electrochemical oxidation of HMF as alternative anode reaction to the oxygen evolution in next generation electrolyzers**
J. Weidner, Bochum/DE, S. Barwe, Bochum/DE, S. Cychy, Bochum/DE, D. Hiltrop, Bochum/DE, M. Muhler, Bochum/DE, W. Schuhmann, Bochum/DE

Ionic liquids

- J001 **The role of co-solvent for the accessibility of ionic liquids to microporous carbon based supercapacitors elucidated by solid-state NMR**
E. Zhang, Dresden/DE, N. Fulik, Dresden/DE, L. Borchardt, Dresden/DE, E. Brunner, Dresden/DE, S. Kaskel, Dresden/DE
- J002 **Polymerized Ionic Liquid based Ionogels for Lithium Ion Batteries**
R. Löwe, Karlsruhe/DE, Z. Wang, Karlsruhe/DE, T. Hanemann, Karlsruhe/DE, A. Hofmann, Karlsruhe/DE
- J003 **Tuning the Electrocatalytic Performance of Ionic Liquid Modified Pt Catalysts for Oxygen Reduction Reaction via Cationic Chain Engineering**
G.-R. Zhang, Darmstadt/DE, B. J. M. Etzold, Darmstadt/DE
- J004 **An Ionic Liquid State Composed of Superoxide Radical Anions and Crownether-Coordinated Potassium Cations**
A. Kitada, Kyoto/JP, D. Ishikawa, Kyoto/JP, K. Fukami, Kyoto/JP, K. Murase, Kyoto/JP

- J005 **Influence of Zn²⁺ and of the Addition of Water on the ORR and OER in the Ionic Liquid BMP-TFSI**
D. Alwast, Ulm/DE, J. Schnaidt, Ulm/DE, Z. Jusys, Ulm/DE, R. J. Behm, Ulm/DE
- J006 **Surface Science and Electrochemical Model Studies on the Solid Electrolyte Interphase between Graphite and an Ionic Liquid for Li-Ion Batteries**
I. Weber, Ulm/DE, F. Buchner, Ulm/DE, J. Schnaidt, Ulm/DE, R. J. Behm, Ulm/DE
- J007 **Proton Conductivity of Metal Organic Frameworks loaded with Protic Ionic Liquid**
K. Wolkersdörfer, Oldenburg/DE, M. Wark, Oldenburg/DE, R. Schaper, Oldenburg/DE, C. F. Seidler, Oldenburg/DE
- J008 **Analysis of redox series for key metals in ionic liquids**
J. Hartley, Freiberg/DE, T. Jaster, Freiberg/DE, G. Frisch, Freiberg/DE
- J009 **Hexacyanoferrate and ferrocene as internal standards in ionic liquids**
N. Frenzel, Freiberg/DE, J. Hartley, Freiberg/DE, G. Frisch, Freiberg/DE
- J010 **Search for a stable reference system for electrochemical measurements in a strongly coordinating ionic liquid**
P. Zürner, Freiberg/DE, G. Frisch, Freiberg/DE
- J011 **PBI-type Polymers and Acidic Proton Conducting Ionic Liquids – Conductivity and Molecular Interactions**
J. Lin, Jülich/DE, J. Giffin, Jülich/DE, C. Korte, Jülich/DE
- J012 **The Influence of the Acidity of Protic Ionic Liquids on the ORR Kinetics on Pt Electrodes**
Y. Suo, Jülich/DE, K. Wippermann, Jülich/DE, J. Giffin, Jülich/DE, W. Lehnert, Jülich/DE, C. Korte, Jülich/DE
- J013 **Investigations on the local electron-tunnelling barriers in ionic liquids on gold**
M. Lang, Karlsruhe/DE, S. Herzog, Karlsruhe/DE, P. Lavrova, Karlsruhe/DE, R. Schuster, Karlsruhe/DE
- J014 **Water-induced proton conduction in an acidic protic ionic liquid**
H. Hou, Jülich/DE, J. Giffin, Jülich/DE, C. Korte, Jülich/DE
- J015 **The Interaction of Ionic Liquids and Lithium with Model Electrodes-A Model Study for the Solid-Electrolyte Interphase in Li-ion Batteries**
F. Buchner, Ulm/DE, J. Kim, Ulm/DE, K. Forster-Tonigold, Ulm/DE, J. Bansmann, Ulm/DE, A. Gross, Ulm/DE, R. J. Behm, Ulm/DE

- J016 **Transport Properties and Ionicity of Protic and Aprotic Guanidinium Ionic Liquids**
D. Rauber, Saarbrücken/DE, F. Philippi, Saarbrücken/DE, H. Natter, Saarbrücken/DE, R. Hempelmann, Saarbrücken/DE

Fundamental and theoretical electrochemistry

- K001 **The Open Circuit Voltage of Polymer Electrolyte Fuel Cells**
Y. Cai, Jülich/DE, R. Li, Jülich/DE, U. Reimer, Jülich/DE, W. Lehnert, Jülich/DE
- K002 **Electrochemical speciation measurements for geochemical modelling of bioleaching solutions**
C. Ashworth, Freiberg/DE, G. Frisch, Freiberg/DE
- K003 **Lithium transference numbers of ionic liquid/ lithium salt mixtures and of solvate ionic liquids: Comparing values from field-gradient NMR and from electrochemical impedance spectroscopy**
F. Sälzer, Marburg/DE, B. Roling, Marburg/DE
- K004 **Activation Energy and Pre-Exponential Factor: a Case Study on Hydrogen Evolution Reaction on Pt, Ag and Au**
Z. D. He, Ulm/DE, Y. X. Chen, Hefei/CN, E. Santos, Ulm/DE, W. Schmickler, Ulm/DE
- K005 **Investigation of the electron transfer of monolayer graphene electrodes and its size effects**
M. Wehrhold, Berlin/DE, R. M. Iost, Berlin/DE, T. J. Neubert, Berlin/DE, K. Balasubramanian, Berlin/DE
- K006 **Modelling of Underpotential Deposition and Applications**
M. V. Sangaranarayanan, Chennai/IN
- K007 **Multiscale Electrochemistry Modelling of Lithium Dendrite Growth**
D. Gaissmaier, Ulm/DE, Dr. D. Fantauzzi, Reykjavik/IS
- K008 **Atom Probe Tomography for the *in-situ* Characterization of Electrochemical Metal-Electrolyte Interfaces**
M. Al-Shakran, Ulm/DE, A. Farkas, Ulm/DE, T. Jacob, Ulm/DE
- K009 **Ab Initio calculation on earth abundant molecular catalysts**
F. Nägele, Ulm/DE

Interfacial electrochemistry

- K010 **Improving Raman spectroscopy on solid-liquid interfaces: The distribution of shell-isolated nanoparticles at metal surfaces and its influence on pyridine adsorption/desorption spectra**
M. Gräf, Marburg/DE, B. Roling, Marburg/DE
- K011 **Characterization on the nanoscale: Electrochemical strain microscopy (ESM) on electrode materials**
D. Renz, Marburg/DE, S. Bradler, Marburg/DE, B. Roling, Marburg/DE
- K012 **Electrochemical studies of ionic adsorption at Au(111) in aprotic solvents using AC-voltammetry and EIS**
A. S. Shatla, Bonn/DE, P. Reinsberg, Bonn/DE, A. A. Abd-El-Latif, Bonn/DE, H. Baltruschat, Bonn/DE
- K013 **Electrochemical Deposition of Polyelectrolytes for Polymer Film Formation**
S. Schneider, Aachen/DE, S. Schneider, Aachen/DE, F. Plamper, Aachen/DE
- K014 **Interfacial Layering and Screening Behavior of Glyme-based Lithium Electrolytes**
M. Nojabaei, Stuttgart/DE, H. W. Cheng, Vienna/AT, M. Valtiner, Vienna/AT, J. Popovic, Stuttgart/DE, J. Maier, Stuttgart/DE
- K015 **In situ investigation of electrochemical nucleation and growth at liquid-liquid interfaces through X-ray reflectivity**
A. Sartori, Kiel/DE, S. Festersen, Kiel/DE, J. Warias, Kiel/DE, F. Bertram, Hamburg/DE, S. Maldonado, Ann Arbor/US, B. M. Murphy, Kiel/DE, O. M. Magnussen, Kiel/DE
- K016 **Pt oxidation studied with *in situ* Surface X-ray Diffraction: A comparison between Pt(111) and Pt(100)**
T. Fuchs, Kiel/DE, M. Ruge, Kiel/DE, N. Stubb, Victoria/CA, B. Rahn, Kiel/DE, F. Reikowski, Kiel/DE, F. Carla, Grenoble/FR, R. Felici, Grenoble/FR, J. Stettner, Kiel/DE, J. Drnec, Grenoble/FR, D. A. Harrington, Victoria/CA, O. M. Magnussen, Kiel/DE
- K017 ***In situ* Video-STM Studies of Sulfide Adsorbate Dynamics on Ag(100) in Halide Solutions**
R. Amirbeigiarab, Kiel/DE, B. Rahn, Kiel/DE, O. Magnussen, Kiel/DE
- K018 **Analysis of quasi-reversible voltammograms: transformation to potential-program independent form**
T. Pajkossy, Budapest/HU

- K019 **Determination of Real Electro-Active Surface Area of Common Metal Oxide Catalysts for the OER**
S. Watzele, Garching/DE, P. Hauenstein, Garching/DE, Y. Liang, Garching/DE, B. Garlyyev, Garching/DE, D. Scieszka, Garching/DE, A. Bandarenka, Garching/DE
- K020 **Redox-Active Interfaces Using Functionalized Monolayer Graphene**
R. Iost, Berlin/DE, A. Yadav, Berlin/DE, M. Wehrhold, Berlin/DE, K. Balasubramanian, Berlin/DE
- K021 **Strain controlled electrocatalysis on gold thin film**
X. Wu, Hamburg/DE, M. Graf, Hamburg/DE, J. Weissmueller, Hamburg/DE
- K022 **Hydrogen-derived electronic states at charged metal oxide-water interfaces**
K. Rettenmeier, Salzburg/AT, J.M. Jiménez, Salzburg/AT, T. Berger, Salzburg/AT
- K024 **Coadsorption of anions and cations on platinum**
F. Gossenberger, Ulm/DE, S. Sakong, Ulm/DE

Photoelectrochemistry and solid state electrochemistry

- L001 **Coupling photosystem I to electrodes by a dual approach**
D. Ciornii, Wildau/DE, F. Lisdat, Wildau/DE, S. Feifel, Wildau/DE, M. Hejazi, Berlin/DE, A. Zouni, Berlin/DE
- L002 **Photoelectrochemical Water Splitting Using Defective Multinary Transition Metal Oxides**
N. Allam, New Cairo/EG, S. M. Fawzy, New Cairo/EG, M. M. Omar, New Cairo/EG
- L003 **Competitive photoelectrochemical interface processes of dye-sensitized photoanodes investigate with scanning electrochemical microscopy (SECM)**
S. Scarabino, Oldenburg/DE, R. Ruess, Gießen/DE, D. Schlettwein, Gießen/DE, G. Wittstock, Oldenburg/DE
- L004 **Dihemic cytochrome c_4 a non-natural electron conduit interconnecting photoenzymatic supercomplexes with interfaces**
S. C. Feifel, Wildau/DE, K. S. Stieger, Wildau/DE, M. Hejazi, Berlin/DE, X. Wang, Marseille/FR, M. Ilbert, Marseille/FR, A. Zouni, Berlin/DE, E. Lojou, Marseille/FR, F. Lisdat, Wildau/DE
- L005 **Formation of particle-particle contacts in mesoporous TiO_2 photoelectrodes – Impact on charge transport and charge transfer efficiency**
K. Rettenmaier, Salzburg/AT, T. Berger, Salzburg/AT

- L006 **Plasma-Assisted Atomic Layer Deposition of Cobalt Phosphide Deposited on Si Wafers for High Efficiency Photoelectrochemical Hydrogen Evolution**
 Y. Chen, Halle (Saale)/DE, H. Zhang, Halle (Saale)/DE, A. Sprafke, Halle (Saale)/DE, S. Schweizer, Halle (Saale)/DE, R. Wehrspohn, Halle (Saale)/DE, W. Maijenburg, Halle (Saale)/DE
- L007 **Combinatorial study of a ternary abundant-metal-oxide system for photoanodes**
 S. Pleis, Bremen/DE, D. Kimmich, Oldenburg/DE, G. Wittstock, Oldenburg/DE
- L008 **Ultra-small Cocatalyst Nanoparticles for Efficient Photoelectrocatalysis**
 D. Mitoraj, Ulm/DE, L. Wang, Bochum/DE, O. V. Khavryuchenko, Kyiv/UA, S. Turner, Antwerp/BE, R. K. Hocking, Townsville/AU, T. Jacob, Ulm/DE, R. Beranek, Ulm/DE
- L010 **Photo- and electro-chemical studies of double Co(III) complex salts**
 K. Köble, Ulm/DE, E. Hofmeister, Ulm/DE, S. Amthor, Ulm/DE, L. Petermann, Ulm/DE, T. Ullrich, Leipzig/DE, A. Kahnt, Leipzig/DE, S. Rau, Ulm/DE, M. von Delius, Ulm/DE
- L011 **High Li⁺ conductivity in the amorphous system 0.33 LiI + 0.66 (0.75 Li₂S + 0.25 P₂S₅) after a short annealing**
 V. Miß, Marburg/DE, S. Spannenberger, Marburg/DE, E. Klotz, Darmstadt/DE, J. Kettner, Marburg/DE, M. Cronau, Marburg/DE, A. Ramanayagam, Marburg/DE, F. Di Capua, Darmstadt/DE, M. Vogel, Darmstadt/DE, B. Roling, Marburg/DE
- L012 **Structural and Transport Properties of Li-conducting NASICON materials**
 A. Roszbach, Aachen/DE, S. Grieshammer, Aachen/DE, F. Tietz, Jülich/DE
- L013 **Enhanced cycle life in solid-state lithium metal-based batteries using modified lithium electrodes**
 D. Liebenau, Münster/DE, S. Schmohl, Münster/DE, K. Jalkanen, Piispanristi/FI, P. Bieker, Münster/DE, M. Winter, Münster/DE, M. Kolek, Münster/DE

The poster session will take place in the university Mensa (canteen) on Monday from 06.00 p.m. to 10.00 p.m.

Abstracts for last-minute poster contributions need to follow the style guidelines published on the conference website:

www.gdch.de/electrochemistry2018

There are eleven sections with following topics:

- Batteries and electrochemical energy storage
- Bioelectrochemistry
- Corrosion science and electrochemical machining
- Electroanalysis and sensors
- Electrochemical engineering
- Electrochemical water treatment
- Electroplating and metal deposition
- Electrocatalysis and electrosynthesis
- Ionic liquids
- Fundamental and theoretical electrochemistry
- Interfacial electrochemistry
- Photoelectrochemistry and solid state electrochemistry

▶ POSTER

In order to guarantee for a smooth start of the poster session, all posters will be put up by the conference helpers.

Therefore, we ask everyone to hand-in the poster at the "Poster collection" stand in the forum located in front of lecture hall H1 on Monday until 01.00 p.m.

Further, please remove your poster directly after the poster session on Monday evening.

▶ ORAL PRESENTATION

Speakers are requested to upload their presentations at the slide desk neighbouring the registration desk well in advance of their sessions, preferably on the day before. Presentations need to be compatible with Microsoft Windows 7; Powerpoint or pdf format is required.

Use of speakers' own computers is discouraged as it may cause significant delay and out-phasing of the parallel sessions.

▶ PROGRAMME CHANGES

The organisers are not liable for any changes made to the programme. Please visit the web site regularly for updates.

SCIENTIFIC AWARDS



Promotion Prize in the Field of Applied Electrochemistry

The GDCh-Division of Electrochemistry awards a young chemist (less than 30 years of age). The prize is donated by BASF SE and consists of a certificate, € 1.000 and the invitation to the conference.

The prize will be awarded during the conference dinner and the awardee is given the opportunity to present his/her results work in an award lecture.

Application for this prize is already closed.



Joachim Walter Schultze Prize of the AGEF

This prize will be awarded at the Electrochemistry 2018 to a young electrochemist who is at the beginning of her/his scientific carrier, has made a significant contribution to electrochemical research, and has demonstrated a visible independent profile.

Application for this prize is already closed.

The next Schultze prize will be awarded in 2020

Metrohm Poster Prize

Metrohm offers the Metrohm poster prize (introduced at ELACH conference 1993). Three excellent poster contributions will be awarded (€ 3000 in total) to young researchers who have not yet received their doctoral degree. Posters will be judged by the Award Committee appointed by the Scientific Advisory Board, and winners will be announced at the conference dinner.

Renishaw Analytics Poster Award

Renishaw awards the most valuable poster in the field of analytics (€ 500) which is announced at the conference dinner.

The posters will be judged by a scientific committee at the conference. Renishaw is a recognised leader in Raman spectroscopy, producing high performance Raman systems for a range of applications.

Wiley Poster Award

A poster prize of € 500,- is officially sponsored by Wiley.

Wiley is a leading international publisher of print and electronic products, publishing scientific, technical, medical, and scholarly (STMS) journals, encyclopedias, books, and online products and services as well as educational materials for undergraduate and graduate students. Please find more on <http://www.wiley.com>.

Monday, September 24, 2018

06.00 p.m. – 10.00 p.m. **Poster Session**
with free drinks and snacks

Tuesday, September 25, 2018

06.30 p.m. Entrance to the conference dinner
07.00 p.m. – 11.00 p.m. **The conference dinner will take place at the Congress Centrum Ulm (CCU)**
Basteistr. 40
89073 Ulm

There are three buses available to take you to the dinner at the CCU on Tuesday, September 25, 2018.

The schedule is as follows:

Departure: 06:15 p.m. – University Ost, main entrance Süd and arrival at the Congress Centrum at 06.30 p.m.

Please proceed to the bus stop immediately after the end of the respective event, as the busses will leave at 06.15 p.m. sharp.

Upon arrival at the CCU you will have sufficient time to find your way to the banquet hall.

If you arrive at the CCU by car there is parking available at the Parkhaus CCU Süd, directly underneath the Hotel 'Maritim', which is situated next to the CCU.

Please note that buses will not return to the university. If you wish to return to the university or to your hotel please use the public transportation.

The conference dinner will start at 07.00 p.m. and end around 11.00 p.m.

There will be piano music, an award-giving ceremony, an evening lecture by Prof. Dr. Robert Schlögl (FHI-Berlin and MPI-Mülheim) and a banquet.

▶ VENUE

The conference will be held at Ulm University.

Universität Ost (Eingang Süd)
Gebäudekreuz O25
Erdgeschoß
Albert-Einstein-Allee 11
89081 Ulm

▶ BADGES

You will receive your personalized name badge when you register. Please wear your name badge throughout the conference, in particular for the coffee and lunch breaks. In case you have lost your badge, please report at the conference office.

▶ BEVERAGES

Coffee, tea and soft drinks will be provided for free during the breaks

▶ CLOAKROOM

Coats and luggage can be deposited in Rooms 2102 and 2103. The cloakroom will be open during the following times:

Monday, September 24, 2018:	10.00 a.m. to 13.00 p.m.
Tuesday, September 25, 2018:	08.00 a.m. to 07.00 p.m.
Wednesday, September 26, 2018:	08.00 a.m. to 06.00 p.m.

▶ CONFERENCE OFFICE (REGISTRATION)

Conference office will be open at the times (Room H7) indicated below:

Monday, September 24, 2018:	11.00 a.m. to 05.00 p.m.
Tuesday, September 25, 2018:	08.00 a.m. to 05.00 p.m.
Wednesday, September 26, 2018:	
Conference office	08.00 a.m. to 10.30 a.m.
Information desk	08.00 a.m. to 04.30 p.m.

▶ WIFI CONNECTION

For WiFi connection you can use the password-free ,welcome'-net or ,eduroam' (if supported by your home institution).

▶ COPYRIGHT PERMISSION

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▶ INFORMATION BEFORE AND AFTER THE MEETING

Gesellschaft Deutscher Chemiker e. V.
GDCh Event Team – Silvia Kirrwald
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E-mail: tg@gdch.de

Internet: www.gdch.de/electrochemistry2018

Executive Director: Professor Dr. Wolfram Koch,
Registered charity no: VR 4453, Registergericht Frankfurt am Main

▶ INSURANCE AND LIABILITY

The Organizers do not accept liability for personal injury or loss or damage of private property of participants and accompanying persons either during or while travelling to the conference. Participants are strongly recommended to seek insurance coverage for health and accident, lost luggage and trip cancellation.

▶ LANGUAGE

The official language of the conference is English.

▶ MOBILE PHONES

Participants are kindly requested to keep their mobile phones off in the meeting rooms during sessions.

▶ PUBLIC TRANSPORTATION

Upon arrival in Ulm by train, please exit the main station. The bus stop for lines 3 & 5 is located straight ahead across the main road. These two bus lines will take you to the University, where you have to exit at 'Universität Süd'. The buses run at intervals of 10 minutes.

Transport by public buses is included in your conference ticket, which you will receive upon registration. To reach the university on the first day, please present your Conference order confirmation (plus proof of identity).

▶ PARKING

Please find a map of the university campus on the next page. Public parking is only possible in carpark P20 (Parkhaus Mitte) and carpark P40 (Parkhaus Ost). Please note that space is very limited in those car parks.

Due to on-going roadworks and construction in the city of Ulm and resulting detours it might be very difficult for visitors to find their way. We therefore strongly suggest using public transport.

▶ TAXIS

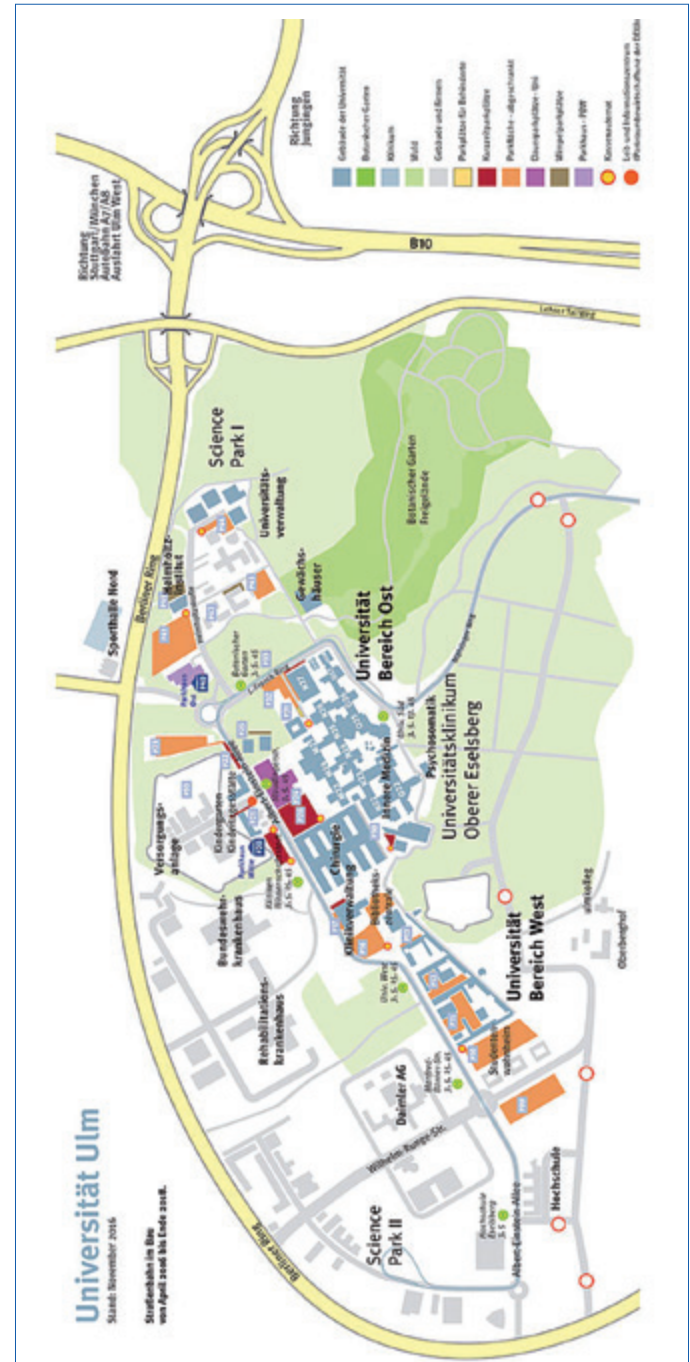
It is not customary to flag down a taxi cab. Instead, there are many taxi-stops in the city and you can order a taxi by telephone. Prices are set according to a basic charge and a set price per kilometre.

▶ TIME ZONE

Ulm is in the Central European time zone. Central European Standard Time (CET) is 1 hour ahead of Greenwich Mean Time (GMT).

▶ TIPPING AND ETIQUETTE

Service charges and VAT are generally included in the price. It is typical to “round up” the price by 5 – 10% to amount to a round figure.



EXHIBITORS

3T GmbH

AMETEK GmbH

Belltec / Palmsens BV

BIO-LOGIC SAS

C3 Prozess- und Analysetechnik

Deutsche METROHM GmbH & Co.KG

Hiden Analytical

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