42nd Topical Meeting

of the **International Society of Electrochemistry**

23 - 26 June 2026

Helsinki, Finland

Sustainable electrochemical energy materials:
Theory and practice

PROGRAM

www.ise-online.org/meetings/topical42

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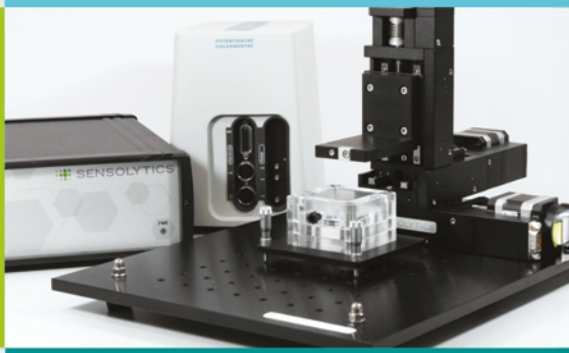

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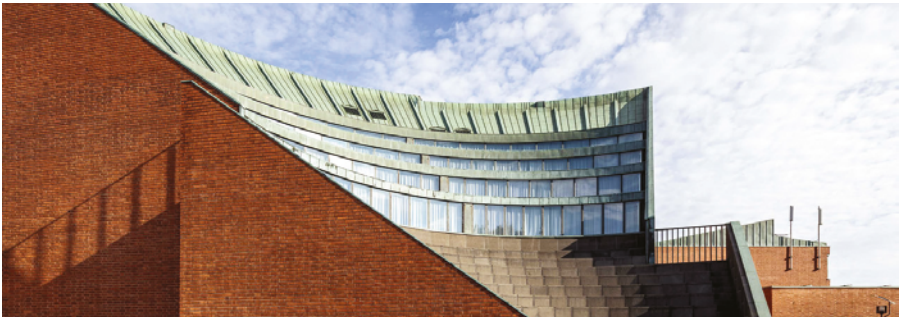
Conference Venue



Aalto University, Undergraduate Centre

Otakaari 1, 02150 Espoo, Helsinki, Finland

https://www.aalto.fi/en/locations/undergraduate-centre

The conference will take place at the renovated **Undergraduate Centre** located on the **Aalto University** campus, which was established in the 1950s. The appearance of the campus area reflects the vision of the renowned Finnish architect Alvar Aalto, while other celebrated Finnish architects have designed individual buildings. The campus is conveniently served by a frequent metro connection to Helsinki city, with a travel time of 10-15 minutes.

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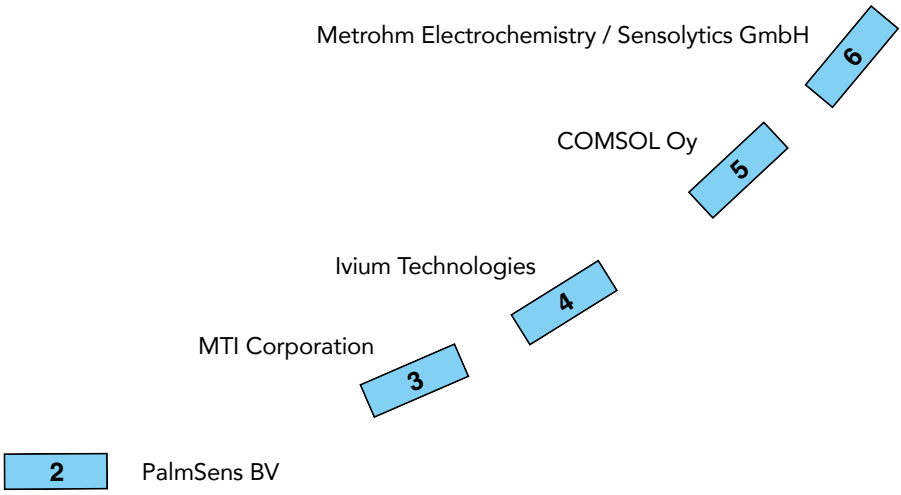

International Society of Electrochemistry
Chemin du Closelet 2
1006 Lausanne
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Program of the

42nd Topical Meeting of the International Society of Electrochemistry

23 - 26 June 2026

Helsinki, Finland

Sustainable electrochemical energy materials: Theory and practice

Organized by:

Division 3 *- Electrochemical Energy Conversion and Storage*

Division 7 *- Physical Electrochemistry*

ISE Region Finland

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Tanja Kallio (Chair), *Aalto University, Finland*
Pekka Peljo (Co-Chair), *Aalto University, Finland*
Kari Laasonen (Co-Chair), *Aalto University, Finland*
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Table of Contents

Front matter ..... i - vi

Important information 2

Oral presentation program

Tuesday afternoon 4

Wednesday morning 12

Wednesday afternoon 20

Thursday morning 29

Thursday afternoon 37

Friday morning 51

Poster presentations 61

Conference Floor Plan ..... Inside back pages

Conference Schedule ..... Back cover

Tuesday 23 June

Participant Registration

ISE Desk : **Main Lobby**

12:00 to 17:00 *Tuesday*
08:30 to 17:30 *(all other days)*

Opening Ceremony

Room : **Hall A**

17:00 to 17:30 - *Warm welcome by* **Tanja Kallio** *(Chair), Aalto University, Finland*

S2a - Keynote

17:30 to 18:00 *Keynote*

Erik Berg *(Department of Chemistry - Ångström Laboratory, Uppsala University, UPPSALA, Sweden)*, Lukas Lindén Thöming, Jens Sjölund, Viktor Vanoppen, Jackie Yik, Leiting Zhang

A Self-Driving Lab for Zn-metal Battery Electrolyte Exploration

Welcome Reception & Posters S1 & S3

Room : **Main Lobby**

18:00 to 20:00 *Sponsored by* ***Metrohm Electrochemistry / Sensolytics GmbH***

Thursday 24 June

Gala Dinner

Ravintola Töölö

19:00 to 23:00 **Ravintola Töölö** - *Runeberginkatu 14-16, Helsinki - ravintola-toolo.fi*

Friday 25 June

Closing Ceremony & Poster Awards

Room : **Hall A**

12:00 to 12:15 - *Fond farewell by* **Tanja Kallio** *(Chair), Aalto University, Finland*

Oral Presentations

Tuesday 23 June 2026 - Afternoon

S1 - Insight into reaction and ageing processes

Room : Hall **A**

Chaired by Sara Pakseresht, Princess Stephanie Llanos, Clotilde Cucinotta

14:00 to 14:15

Edina Sic *(MRS, Ettlingen, Germany)*

Advancements and Challenges of Magnetic Resonance Techniques in Battery Research

14:15 to 14:30

Elisa Grépin *(DEHT, CEA Liten, Grenoble, France)*, Johannes Ast, Lise Daniel, Sylvie Géniès

Operando SAXS-WAXS for multi-scale analysis of lithium metal pouch cell batteries with gel polymer electrolyte.

14:30 to 14:45

Matthias Weiling *(IMD-4, Helmholtz-Institute Münster, Forschungszentrum Jülich GmbH, Münster, Germany)*, Masoud Baghernejad, Verena Küpers, Christian-Timo Lechtenfeld, Sascha Nowak, Felix Pfeiffer, Silvan Stuckenberg, Jian-Fen Wang

Operando ATR-FTIR Spectroscopy Insights into 1,8-Naphthosultone-Derived SEI Formation on Si-Containing Electrodes

14:45 to 15:00

Beatrice Laurenti *(Nanoionics and Fuel Cells, IREC, Sant Adria del Besos (Barcelona), Spain)*

Operando Tip-Enhanced Raman Spectroscopy Reveals Grain Boundary-Dependent Lithium Dynamics in Thin-Film Cathodes

15:00 to 15:15

Xinhua Zhu *(Department of Materials and Chemistry, Vrije Universiteit Brussel, Ixelles, Belgium)*, Louis De Taeye, Mesfin Haile Mamme, Rodrigo Lopez Baez, Oussama Maach, Daniel Torres Morillo, Joan Roca Busacker, Stanislav Trashin, Jon Ustarroz

Probing the Local Electrochemistry of Li-ion Batteries Using Scanning Electrochemical Cell Microscopy

15:15 to 15:30

Daniel Nusko *(Electrical Energy Storage, Fraunhofer Institute for Solar Energy Systems, Freiburg, Germany)*, Maximilian Bruch-Rosar, Sonia Dsoke, Lea Eisele, Svenja Kalthoff, Moritz Kroll, Sebastian Maletti

Operando Core Temperature Measurements for High-Power Lithium-Ion Battery Cells during High-Current Discharge Conditions

15:30 to 16:00

Coffee Break

16:00 to 16:15

Marko Melander *(Department of Chemistry, Nanoscience Center, University of Jyväskylä, Jyväskylä, Finland)*

Theory and simulation of electrochemical thermodynamics and kinetics with constant potential DFT methods

16:15 to 16:30

Benjamin Janotta *(Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Rüdiger-A. Eichel, Maximilian Schalenbach, Hermann Tempel

Towards Predictive Non-Equilibrium Thermodynamics in Multi-Ionic Electrolytes: A Case Study in Buffered Electrolyte Dynamics

16:30 to 16:45 ***Invited***

Richard Hennig *(Materials Science and Engineering, University of Florida, Gainesville, USA)*, Sean Florez, Eric Fonseca

Active Learning Optimization of VASPsol for Non-Aqueous Solvents

S2a - Novel materials and processes for energy conversion and storage

Room : Hall **D**

Chaired by Svitlana Pylypenko, Daniel Martin Yerga, Mila Vikberg

14:00 to 14:15

Muhammad Naeem Hafiz *(Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania)*, Ramūnas Levinas, Eugenijus Norkus, Loreta Tamašauskaitė-Tamašiūnaitė

Investigating the Impact of the Interlayer on the OER Kinetics of $Co(OH)_2$-NiFe Electrodes

14:15 to 14:30

Nerea Azcona-Aliende *(Electrochemical Hydrogen Technologies, CIC energiGUNE, Vitoria-Gasteiz, Spain)*, Federico Calle-Vallejo, Rosalia Cid, Lorenzo Fallarino, Paramaconi Rodriguez, Yan Zhang

Bridging Experiments and Theory to Understand Structure-Activity Relationships in Ni-Based OER Catalysts under Mild Alkaline Conditions

14:30 to 14:45

Hugo Santos *(Chemistry, University of Helsinki, Helsinki, Finland)*, Pedro Carmargo, Sarah Haigh, William Ketola, Hugo Santos, Mark Turner, Shiqi Wang

Low-Iridium Nanocatalyst for Enhanced Oxygen Evolution in Proton Exchange Membrane Water Electrolysis

14:45 to 15:00

Intasar Ul haq *(Chair of Colloid and Environmental Chemistry, University of Tartu, Tartu, Estonia)*, Heiki Erikson Kaido Tammeveski

Oxygen evolution reaction on NiZnFe catalysts prepared by galvanic exchange.

15:00 to 15:15

Rui Gusmão *(Inorganic Chemistry, University of Chemistry and Technology Prague, Prague, Czech Republic)*

Composition-Engineered 2D Materials for Electrochemical Energy Conversion and Storage

15:15 to 15:30

Lisa Laa *(Nanoionics and Fuel Cell, Catalonia Institute for Energy Research (IREC), Barcelona, Spain)*, Federico Baiutti, William Berthou, Carlota Bozal-Ginesta, Serhiy Cherevko, Francesco Chiabrera, Alex Morata, Joanna Przybysz, Juande Sirvent, Albert Tarancón

High-Throughput Discovery of Oxygen Electrocatalysts through Combinatorial Perovskite Thin Films

15:30 to 16:00

Coffee Break

16:00 to 16:15

Ridha Zerdoumi *(Institute for Materials, Ruhr-Universität Bochum, Bochum, Germany)*, Alfred Ludwig, Alan Savan, Wolfgang Schuhmann

Rational Electrocatalysis Design via Screening of Electronic and Geometric Effects in Compositionally Complex Materials

16:15 to 16:30

Yash Deo *(Electrochemical Reaction Engineering (AVT.ERT), RWTH Aachen University, Aachen, Germany)*, Felix Berger, Anna K. Mechler, Janis Schmitt, Niklas Thissen

Scaling up Electrodeposition and Conditioning Processes to Prepare Alkaline OER Electrodes

16:30 to 16:45

Atta Muhammad *(Material Science and Nanotechnology, University of Milano Bicocca, Milan, Italy)*, Vincenzo Baglio, Enrico Berretti, Fabio Di Fonzo, Irene Gatto, Alessandro Lavacchi, Carmelo Lo Vecchio, Atta Muhammad, Mohsin Muhyuddin, Roberto Nisticò, Tatiana Rodriguez Flores, Carlo Santoro

Role of Crystallinity and Ni-Fe Stoichiometry in the OER Kinetics of $NixFe_{(1-x)}O$ for AEM Water Electrolysis

S2b - Novel materials and processes for energy conversion and storage

Room : Hall **B**

Chaired by Eneli Monerjan, Sara Pakseresht, Princess Stephanie Llanos

14:00 to 14:15

Nastaran Farrahi *(Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Jakub Drnec, Tanja Kallio, Xiangze Kong, Sara Pakseresht, Moritz Karl Rosenthal

Emergent Transition-Metal Ordering in Mn-Rich P_2 Sodium-Ion Cathodes: Pathway to Reversible Oxygen Redox

14:15 to 14:30

Hussien Hammoud *(FEL (Flexible Electronic Lab), EMSE, Gardane, France)*

Flexible Na-ion Battery for Bioresorbable Devices

14:30 to 14:45

Kaifee Sayeed *(Physics, Centre For Nano and Soft Matter Sciences, Arkavati, Bengaluru, India)*, Absar Ahmad, Kavita Pandey, Azam Raza, Aditya Sadhanala

Green Chemistry Derived V_2O_5/SWCNT Composites as Stable, Sustainable Anodes for Wide Temperature Sodium-Ion Batteries

14:45 to 15:00

Seyedrashid Mirmasoomi *(Institute for Technical Chemistry and Environmental Chemistr, Friedrich Schiller University of Jena, Jena, Germany)*, Martin Oschatz, Johannes Schenk

Biomass to battery: spherical hard carbon from kraft lignin for sodium-ion batteries

15:00 to 15:15

Luca Mesina *(Chemistry, Sapienza University of Rome, Rome, Italy)*

Zeolite Templated Carbon as an additive for Hard Carbon in Sodium Ion Batteries (SIBs)

15:15 to 15:30

Anisa Purwitasari *(Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Renate Fetzer, Georg Müller, Alfons Weisenburger

Performance and Corrosion Behavior of Na-based Liquid Metal Batteries under Different C-Rates

15:30 to 15:45

Annabel Olgo *(Department of Nanomaterials for Energy, The French Alternative Energies and Atomic Energy Commission, Grenoble, France)*, Quentin Berrod, Xaver S. Brems, Pascale Chenevier, Jakub Drnec, Elisa Grépin, Quentin Jacquet, Sandrine Lyonnard, Sathiya Mariyappan, Saioul Ngoun, Valentin Vinci

How Ageing Impacts the Sodiation Mechanism of Hard Carbon Negative Electrodes in Sodium-Ion Batteries

15:45 to 16:00

Coffee Break

16:00 to 16:15

Muhammad-Sadeeq Balogun *(College of Materials Science and Engineering, Hunan University, Changsha, China)*, Zeba Khanam

Designing Monolith and Thick Electrodes for High Areal Capacity Secondary-Ion Batteries

16:15 to 16:30

Renate Fetzer *(Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Georg Müller, Anisa Purwitasari, Alfons Weisenburger

Electrochemical Parameters of Na-based Liquid Metal Batteries

16:30 to 16:45 ***Invited***

Eneli Monerjan *(Institute Electrochemical Energy Storage, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany)*, Rutha Jäger, Laura Kalder, Liqiang Lu, Yan Lu, Enn Lust, Annika Lüning, Felix Nagler, Pouya Partovi-Azar

Can Small-Angle Scattering Reveal the Hidden Nanostructural Features Controlling Electrochemical Performance?

S2c - Novel materials and processes for energy conversion and storage

Room : Hall **E**

Chaired by Christian Schott, Pekka Peljo

14:00 to 14:15

Anna Ilnicka *(Faculty of Chemistry, Nicolaus Copernicus University in Torun, Torun, Poland)*, Marta Gajewska, Patrycja Grabowska, Anna Ilnicka, Laura Kubinska, Małgorzata Skorupska, Mariusz Szkoda

Improving Water Splitting Efficiency in Transition Metal Nitrides through Integration with Carbon Nanomaterials

14:15 to 14:30

Sasha Omanovic *(Department of Chemical Engineering, McGill University, Montreal, Canada)*, Kanghoon Choi

Nanostructured Ru-Ni-W Electrocatalysts: High-Performance, Low-Ru Alternatives for Acidic Hydrogen Evolution by Water Electrolysis

14:30 to 14:45

Sam Taylor *(Department of Chemistry, University of Bath, Bath, United Kingdom)*, Simon Freakley, Frank Marken, Hannah Robey

Galvanic Exchange Co-Precipitation Formation of Efficient Alkaline HER Catalysts on Ni Foam

14:45 to 15:00

Katsuyoshi Ikeda *(Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan)*

Electrochemical Hydrogen Evolution in Gas Phase using Proton Permeable Graphene Cathode

15:00 to 15:15

Tim Steeger *(Physics Department, Technical University of Munich, Garching, Germany)*, Aliaksandr S. Bandarenka, Elena Gubanova, Shuang Qiu, Peter Schneider, Christian Schott, Tim Steeger

Electrocatalytic Activity of Model Mono-, Bi-, and Tri-Layer Metal Systems toward Hydrogen Evolution Reaction

15:15 to 15:30

Teko Napporn *(Chemistry, Université de Poitiers, IC2MP, Poitiers, France)*, Thamyres Fernandes Messa Moreira, Kouakou Boniface Kokoh, Tatiana Yaakoub

Electrochemical Activation and Reversible Phase Flexibility in Ni–Mo Sulfides for Alkaline HER

15:30 to 16:00

Coffee Break

16:00 to 16:15

Cedric Schiwek *(Chemical Engineering, Aalto University, Espoo, Finland)*, Alisa Bogdanova, Polina Kalachikova, Tanja Kallio

Controlled Deposition of Pt on Freestanding SWCNT Films via Aerosol CVD and Potentiostatic Electrodeposition Towards Water Electrolysis

16:15 to 16:30

Elena Alfonso-González *(CHYTAC, Institute of Catalysis and Petrochemistry (ICP), CSIC, Madrid, Spain)*

Isothermal Thermo-Electrochemical Green Hydrogen Production Based on Ceria

16:30 to 16:45

Oktay Safarov *(Chemistry and Material Science, Aalto University, Espoo, Finland)*, Med Amine Hammouali, Tanja Kallio, Moritz Karl Rosenthal

Designing Durable Core-Shell Electrode Materials for Anion Exchange Membrane Water Electrolysers

Wednesday 24 June 2026 - Morning

S1 - Keynote

Room : Hall **A**

09:00 to 09:30 ***Keynote***

Ryosuke Jinnouchi *(Emerging Electrification Research Division, Toyota Central R&D Labs., Inc., Nagakute, Japan)*, Saori Minami, Masao Suzuki Shibata

From Fundamental Properties of Water to Proton Transport and Electrocatalytic Processes in Fuel Cells

S1 - Insight into reaction and ageing processes

Room : Hall **A**

Chaired by Kari Laasonen, Clotilde Cucinotta, Tanja Kallio, Imran Asghar

09:35 to 09:50

Roberto Fantin *(LEPMI-Li² lab, Université Grenoble Alpes, Grenoble, France)*

On the Aging Mechanism of Lithium Metal in Liquid Electrolytes at Open Circuit

09:50 to 10:05

Lauren Cork *(Physics, Chalmers University of Technology, Göteborg, Sweden)*, Jan Jamroz, Aleksandar Matic, Björn Wickman

Using EQCM-D for Understanding SEI Formation and Li plating on Metal Battery Anodes

10:05 to 10:20

Yuta Ito *(Department of Energy and Environment, Advanced Industrial Science and Technology (AIST), Ikeda, Japan)*, Yuta Maeyoshi, Toyoki Okumura, Tomonari Takeuchi, Kazuki Yoshii

Electrolyte-Induced Decoupling of CF_x and Li Metal Potentials in Ionic-Liquid Li-CF_x Batteries

10:20 to 10:35

Genlin Liu *(Dyson School of Design Engineering, Imperial College London, London, United Kingdom)*, Frederic Cegla, Zhengquan Shen, Billy Wu, Yifeng Zhang

Lifetime Tracking of Lithium Metal Anodes by Operando Guided-wave Ultrasonics

10:35 to 11:00

Coffee Break

Room : Hall **E**

11:00 to 11:15

Vladislav Ivanistsev *(Department of Chemistry, University of Latvia, Riga, Latvia)*, Nadezda Kongi, Thor Kongstad Madsen, Bruno Leite, Timmo-Hendrik Pukk

Reproducing two decades for computational studies of oxygen reduction reactions on a laptop

11:15 to 11:30

Ivan Khalakhan *(Department of Surface and Plasma Science, Charles University, Prague, Czech Republic)*, Valentín Briega-Martos, Serhiy Cherevko, Iva Matolínová, Rik V. Mom, Xianxian Xie

Effect of Gold on the Activity and Stability of Platinum ORR Electrocatalysts

11:30 to 11:45

Amber Watson *(School of Chemistry and Chemical Engineering, University of Southampton , Southampton, United Kingdom)*, Guy Denuault, Andrea E. Russell

Probing Porous Electrode Behaviour with Sampled Current Voltammetry

11:45 to 12:00

Nils Rieger *(Department of Physics, Chalmers University of Technology, Göteborg, Sweden)*, Isak Almyren, Martina Butori, Björn Eriksson, Patric Jannasch, Rakel W. Lindström, Linnéa Strandberg, Björn Wickman

In-Situ Investigation of PEMFC Catalyst-Ionomer Interactions with Electrochemical Quartz Crystal Microbalance

12:00 to 12:15

Isak Almyren *(Physics, Chalmers University of Technology, Göteborg, Sweden)*

Towards Understanding Carbon Corrosion for Intermediate Temperature PEM Fuel Cells Using Mass Spectrometry

12:15 to 12:30

Mattis Goßler *(Helmholtz Institute Erlangen-Nürnberg for Renewable Energy, Forschungszentrum Jülich GmbH, Erlangen, Germany)*, Marc Ledendecker, Huize Wang

Laser-Induced Solid-State Synthesis and Automated Electrochemical Screening for Accelerated Electrocatalyst Development

S2a - Novel materials and processes for energy conversion and storage

Room : Hall **E**

Chaired by Michael Busch, Sam Mousavi & Anna Kobets

09:35 to 09:50

Iratxe Aguado-Ruiz *(Materials Science and Physical Chemistry, University of Barcelona, Barcelona, Spain)*, Federico Calle-Vallejo, Ricardo Urrego-Ortiz

A Single Descriptor for the Oxygen Evolution and Reduction Reactions

09:50 to 10:05

Giulia Serafino *(MACH (Materials and Chemistry), Vrije Universiteit Brussel, Brussels, Belgium)*, Guillaume Dolphijn, Annick Hubin, Xinhua Zhu

Operando X-Ray Photoelectron Spectroscopy: A novel approach to study sulfide based all solid-state-batteries in realistic condition

10:05 to 10:20

Laura Laverdure *(Engineering Sciences and Mathematics, Luleå University of Technology, Luleå, Sweden)*, Michael Busch

Influence Of Metal Centre on Metal-Phthalocyanine Redox Potentials

10:20 to 10:35

Walter Orellana *(Department of Physics and Astronomy, Universidad Andres Bello, Santiago, Chile)*

Ligand-Dependent Stability and ORR/OER Activity of Single-Layer Metal-Organic Frameworks: A Theoretical Study

10:35 to 11:00

Coffee Break

Room : Hall **A**

11:00 to 11:15

Horyung Ji *(Chaire de Chimie du Solide et Energie, Collège de france, Paris, France)*, Jakub Drnec, Romain Dugas, Ion Ghilescu, Sandrine Lyonnard, Thomas Marchandier, Marta Mirolo, Gozde Oney, Mariia Platonova, Jean-marie Tarascon, Victor Vanpeene, Julie Villanova

Assessing β-Li_3N as a protective interlayer for halide-based all-solid-state Li-metal batteries

11:15 to 11:30

Jean Le Bideau *(Institut des Matériaux de Nantes, Nantes University, Nantes, France)*

Enhanced ions diffusion at the polymer – ionic liquid interface within biphasic solid-liquid ionogel

11:30 to 11:45

Thanh-Tuan Pham *(Thin film and NanoStructures, Institute of Physics of Czech Academy of Science, Praha, Czech Republic)*

Effect of Silicon Particle Size on the Performance of All-Solid-State Lithium-Ion Batteries

11:45 to 12:00

Shoayb Mojtahedi *(Department of Applied Science and Technology, Polytechnic of Turin, Turin , Italy)*, Sonia Dsoke, Lea Eisele, Felix Leonard Gottwald, Stefan Ingenhoven, Elisa Maruccia, Fulvio Pastore, Mauro Serafin, Francesca Soavi

Impact of Binder and Active Material Properties on the Scalable Fabrication of Free-Standing Film and Dry Battery Electrodes

12:00 to 12:15

Sai Gourang Patnaik *(BEChem, Inter University Microelectronics Center (imec), Leuven, Belgium)*, Farzad Rouzafzay, Philippe Vereecken

Electrodeposited Li Thin Films for Li Metal Batteries

S2b - Novel materials and processes for energy conversion and storage

Room : Hall **D**

Chaired by Kari Laasonen, Elena Gubanova

09:35 to 09:50

Marcus Einert *(Institute of Materials Science, Fachgebiet Oberflächenforschung, Darmstadt, Germany)*

Mesoporous High-Entropy Oxide Thin Film Electrocatalysts for the Alkaline Oxygen Evolution Reaction

09:50 to 10:05

Péter Gyenes *(Department of Chemistry, University of Copenhagen, Copenhagen, Denmark)*, Ida Kær Mønge, Rebecca Katharina Pittkowski

Element-Segregated Pt-Pd-Au-Cu-Fe Nanoparticles for Alkaline Oxygen Reduction Reaction

10:05 to 10:20

Antonio Jesús Medina Olivera *(Materials Science and Met. Eng. and Inorganic Chemistry, University of Cadiz (UCA), Puerto Real, Spain)*, Juan Carlos Hernández Garrido, Yashwant Kharwar, Yury V. Kolen'ko, Luc Cyrille Jacques Lajaunie, Sitaramanjaneya M. Thalluri, Celine Perrine Maynau, Juan José Quintana González, Conrado Valero Hernández

Defect Engineering in 2D-Based Core@Shell Nanostructures for Hydrogen and Oxygen Evolution Reactions

10:20 to 10:35

Lalita Sharma *(Structure and Dynamics in Catalysis, J. Heyrovsky Institute of Physical Chemistry, Czech Republic, Prague, Czech Republic)*

Synergetic Effects in Oxygen Evolution on Ru-Ir-O Solid Solutions - a DFT and in-situ soft X-ray Absorption Spectroscopy Study

10:35 to 11:00

Coffee Break

11:00 to 11:15

Josian Laumonnier *(LISE - Laboratoire Intefaces et Systèmes Electrochimiques, Sorbonne University , Paris, France)*, Gregory Barbillon, Alain Pailleret

Plasmon Enhanced Photoelectrochemical water oxidation on RF-Magnetron sputtered Au nanoparticles decorated WO_3 thin films

11:15 to 11:30

Philipp Pfeifer *(Campus Straubing for Biotechnology and Sustainability, Technical University of Munich, Straubing, Germany)*, Andreas Göpfert, Marc Ledendecker, Huize Wang, Wei Zhao

Benchmarking Niobium-Based Support Materials for Acidic Oxygen Evolution Reaction Catalysis

11:30 to 11:45

Kouakou Boniface Kokoh *(Chemistry, Université de Poitiers, IC2MP UMR-CNRS 7285, Poitiers, France)*, Frédéric Fouda-Onana, Teko Napporn, Arno Steimlé

Oxygen Evolution Reaction on Transition Metal Oxides/Hydroxides in an Anion Exchange Membrane Water Electrolyzer

11:45 to 12:00

Hatem Amin *(Faculty of Chemistry, University of Duisburg-Essen, Essen, Germany)*, Julian Grahl, Carsten Placke-Yan, Stephan Schulz

Engineering the catalytic activity of spinel oxide nanocubes via cation doping for the alkaline oxygen evolution reaction

12:00 to 12:15

Jaak Nerut *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaan Aruväli, Rutha Jäger, Jekaterina Kozlova, Marian Külaviir, Wiljar Lobjakas, Enn Lust, Valdek Mikli, Priit Möller, Peeter Paaver, Peeter Valk

Oxygen Reduction Reaction on Carbon-Supported Pt-Modified Cantor Alloy

12:15 to 12:30

Tina Dukić *(Research and Development, ReCatalyst, Ljubljana, Slovenia)*, Matija Gatalo, Nejc Hodnik, Iva Klofutar, Ante Matosin, Leonard Jean Moriau

Improved Durability of Pt-nanoalloy-based Electrocatalysts for Proton Exchange Membrane Fuel Cells: Fine-tuning of Metal Ratio and Crystal Structure

S2d - Novel materials and processes for energy conversion and storage

Room : Hall **B**

Chaired by Annukka Santasalo-Aarnio, Frederic Favier

09:35 to 09:50

Nynke Wijnant *(Faculty of Science & Technology, University of Twente, Enschede, Netherlands)*, Mark Huijben, Sylvain Laforet, Maya Marinova, Hannes Rijckaert

Structure-electrochemistry relation in nickel niobate anode thin films

09:50 to 10:05

Benedetto Bozzini *(Dipartimento di Energia, Politecnico di Milano, Milan, Italy)*, Abdollah Bagherpour Jahromi, Mirjam Bait Leban, Axel Bjerke, Mateja Košir, Gian Pietro De Gaudenzi, Fransisca Pirone, Sandra Tedeschi

Electrochemical Demolition as a High-Productivity and Eco-Friendly Recovery Process of Hardmetal Scrap

10:05 to 10:20

Elias Vollert *(Electrochemical Energy Storage Materials, Helmholtz Insitute Ulm, Ulm, Germany)*, Dominic Bresser, Thomas Diemant, Kerli Liivand

Direct Recycling of Graphite and Next-Generation Lithium-Ion Battery Anodes

10:20 to 10:35

Aline Kneubl *(Institut des Matériaux de Nantes (IMN), Nantes Université - CNRS, Nantes, France)*, Thomas Devic, Nicolas Dupré, Bernard Lestriez, Jean-Marc Suau

Polyacrylate Binders for Silicon-Rich Negative Electrodes in Lithium-Ion Batteries

10:35 to 11:00 Coffee Break

11:00 to 11:15

Zineb El Kacemi *(Institut des matériaux Jean Rouxel (IMN), CNRS, Nantes, France)*, Marcelo Amaro Andrade, Thierry Brousse, Olivier Crosnier, Sathish Deshagani, Camille Douard, Bernard Humbert, Jean Le Bideau, Hugo Mazoyer, Jean-Yves Mevellec, Philippe Poizot, Stéven Renault

Post-Mortem Insights into the Mechanisms of Croconate-Based Sacrificial Salts

11:15 to 11:30

Rebecka Kost *(Institute for Technical and Environmental Chemistry (ITUC), Friedrich Schiller University, Jena, Germany)*, Andrea Balducci, Desirée Leistenschneider, Taron Makaryan, Mihkel Kaarel Raidal

Methodology of Simultaneous Electrochemical Analysis and Molecular-Level Approach for Investigating Aging of Supercapacitors

11:30 to 11:45

Soha Aldroubi *(ICGM, Charles Gerhardt Montpellier Institute, Montpellier, France)*

Manganese (Mn) Hyperaccumulating Plants: Towards the Development of Composite Materials for Supercapacitors

11:45 to 12:00

Murilo Santhiago *(Brazilian Nanotechnology National Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, Brazil)*, Rogério A. O. Storai, Jefferson Bettini, Matheus F. F. das Neves, Renan G. de Assis, Leonardo H. Hasimoto, Tarcísio M. Perfecto, Edson R. Leite

Microfabrication of Porous Graphite Electrodes: TEM Analysis of Molybdenum Disulfide for Energy Applications

12:00 to 12:15

Thilini Suduwella *(Chemistry, McGill University, Montreal, Canada)*, Cathleen Crudden, Thiago Guimarães Selva, Erena Hinata, Janine Mauzeroll, Ahmadreza Nezamzadeh, Vikram Singh

Electrochemical Deposition of N-Heterocyclic Carbenes on Carbon

12:15 to 12:30

Pietro Zaccagnini *(Applied Science and Technology, Politecnico di Torino, Turin, Italy)*, Rif Atussaufiyah, Angelica Bisceglie, Andrea Lamberti, Eleonora Lorenzi, Alessandro Pedico, Mara Serrapede

K_2CO_3 as Pre-Potassiation Agent for K-ion Capacitors, Potential for Sustainable Scalability

Wednesday 24 June 2026 - Afternoon

S3 - Keynote

Room : Hall **A**

Chaired by Pekka Peljo, Milla Vikberg

13:40 to 14:10 ***Keynote***

Kathryn Toghill *(Department of Chemistry, Lancaster University, Lancaster, United Kingdom)*, Mark Potter

Realising their Potential: Decoupled Electrochemistry for Energy Storage and Chemical Synthesis

S1 - Insight into reaction and ageing processes

Room : Hall **E**

Chaired by Linas Viliauskas, Chanez Maouche

14:15 to 14:30

Abhishek Lahiri *(Chemical Engineering, Brunel University of London, Uxbridge, United Kingdom)*

Understanding Zn storage mechanism in polyaniline using in situ EQCM-Raman studies

14:30 to 14:45

Mathieu Freville *(Physics, ESPCI PARIS - PSL, Paris, France)*, Annie Colin

Surface Evolution Monitoring in Zinc-Air Batteries

14:45 to 15:00

Hugo Chotard *(Laboratoire de chimie du solide et énergie, CNRS, Paris, France)*, Ivette Aguilar, Fréderic Kanoufi, Jean-Marie Tarascon

Operando Mapping of Metal Electrodeposition Dynamics via Optical Flow

15:00 to 15:15

Nathanael Brandt *(Electrical Energy Storage, Fraunhofer ISE, Freiburg im Breisgau, Germany)*, Hassan Akhtar, Kai Peter Birke, Sonia Dsoke, Lea Eisele, Oliver Fitz, Jinglin Huang, Julia Pross-Brakhage

Locally Resolved Operando pH Measurement Technique in Aqueous Zinc-Manganese Dioxide Batteries

15:15 to 15:30

Viktor Vanoppen *(Department of Chemistry – Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Erik J. Berg

Revealing Zn/Electrolyte Interphases Evolution in Zn-metal Batteries

15:30 to 16:00

Coffee Break

Room : Hall **A**

16:00 to 16:30 ***Invited***

Piotr de Silva *(Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark)*

Computational Framework for Automated Discovery of Degradation Reaction Mechanisms of Organic Redox Flow Battery Materials

16:30 to 16:45

Christian Pichler *(Institute of Applied Physics, TU Wien, Vienna, Austria)*, Stylianos Daskalakis, Matthias Kogler, Markus Valtiner

Controlling carbon defects to understand electrode activity and deactivation in Vanadium redox flow batteries

16:45 to 17:00

Nico Remmler *(Chemistry, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany)*, Michael Bron, Tizian Kohl

Spectroelectrochemical Investigations on the Degradation Behaviour of different Carbon-based Model Electrodes during the V(IV)/V(V) Conversion

17:00 to 17:15

Antoine Larman *(Chimie des Matériaux pour l'Énergie, ICGM - CNRS - Montpellier University, Montpellier, France)*, Patricia Bassil, Sébastien Gauden, Steven Le Vot, Olivier Ouari

Mechanistic Insights into the Degradation of TEMPO- Type Electrolytes under Realistic AORFB Operating Conditions

17:15 to 17:30

Eduardo Martínez González *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Vahid Abbasi, Pekka Peljo, Rosa Tirronen

Carbon and Electrolyte Effects on the Performance of Prussian Blue-based Boosters in Flow Batteries

17:30 to 17:45 ***Invited***

Cristina Flox *(Electrical Energy Storage - Flow Batteries Unit, Iberian Centre for Research in Energy Storage, Caceres, Spain)*, Cesar A. López-Usma, Juan M. Pérez

Interfacial Processes in Organic Flow Batteries: From Molecular Reactivity to Cell Performance

S2a - Novel materials and processes for energy conversion and storage

Room : Hall **D**

Chaired by Milla Vikberg, Marko Melander

14:15 to 14:30

Verónica Cortés de Zea Bermúdez *(CQ-VR, University of Trás-os-Montes e Alto Douro, 5000-801 Vila Real, Portugal)*, A. Pinto, R. Oliveira da Silva, A. Briga de Sá

Sustainable Smart Windows: Leveraging Almond Shell Waste forHigh-Performance Radiative Cooling

14:30 to 14:45

Alessia Pollice *(Dept. of Chemistry "Giacomo Ciamician", Alma Mater Studiorum - University of Bologna, Bologna, Italy)*, Serena Berardi, Stefano Caramori, Paola Ceroni, Silvia Grandi, Francesco Paolucci, Giovanni Valenti

Electrode-Area Engineering in a Ti:Fe_2O_3; Photoanode-Assisted CO_2;RR Flow Cell

14:45 to 15:00

Ayaka Kakizawa *(Department of Chemistry, Graduate school of science, The University of Tokyo, Tokyo, Japan)*, Zhou Hongyao, Kunyi Leng, Tappei Tanabe, Yusuke Wakayama, Teppei Yamada

A new power generation system converting CO_2 gradients

15:00 to 15:15

Mark Potter *(Chemistry, Lancaster University, Lancaster, United Kingdom)*, Kathryn Toghill

Electrochemically Decoupled Reduction Processes Enabled by Chromium-based Redox Mediator

15:15 to 15:30

Damien Degoulange *(Laboratory of Inorganic Synthesis and Catalysis, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland)*, Xile Hu

Alkylammonium cations for CO_2RR in acidic medium

15:30 to 16:00

Coffee Break

16:00 to 16:15 ***Invited***

Samira Siahrostami *(Department of Chemistry, Simon Fraser University, Burnaby, Canada)*

Computational Design of Electrocatalysts for Transforming Nitrogen Pollutants into Valuable Chemicals

16:15 to 16:30

Pedro Souza *(Department of Physics and Astronomy, Universidad Andrés Bello, Santiago, Chile)*, Walter Orellana

External Electric Field Modulation of ORR/OER Activity in MOF-Graphene Heterostructures: A DFT Study

16:30 to 16:45

Tobias Binninger *(Theory and Computation of Energy Materials (IET-3), Forschungszentrum Jülich GmbH, Jülich, Germany)*

Quantum Computing in Electrochemical Materials Modelling

16:45 to 17:00

José-María Sansiñena *(Chemistry Division, Los Alamos National Laboratory (LANL), Los Alamos, USA)*, Sarah E. Braley, Robert P. Currier, Gabrielle R. Dangel

OREATE: An Electrochemical Process for Recovery of Transition and Rare Earth Metals

17:00 to 17:15

Amély Rondeau *(Thermodynamics and Molecular Modeling, IFP Energies nouvelles, Rueil-Malmaison, France)*, Manuel Corral Valero, Theodorus De Bruin, Namrata Jaykhedkar, Carlos Nieto-Draghi, Toon Verstraelen

Comparative Analysis of Classical and Machine-Learning Potentials for Ionic Transport in Halide Solid-State Electrolytes

S2b - Novel materials and processes for energy conversion and storage

Room : Hall **B**

Chaired by Erik Berg

14:15 to 14:30

Damian Kowalski *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Sandra Sajeev, Monika Srivastava

In-situ Observations of Charge Storage in metal-ion and metal-air Batteries

14:30 to 14:45

Olivier Crosnier *(CNRS - IMN, Nantes University, Nantes, France)*, Thierry Brousse, Camille Douard, Antonella Iadecola, Abbas Khan

High Power Negative Electrodes: the complex mechanism of A-NbO_3 materials

14:45 to 15:00

Léna Pineau *(LITEN, CEA, Grenoble, France)*, Yohan Biecher, Jakub Drnec, Quentin Jacquet, Sandrine Lyonnard, David Peralta, Irina Profatilova, Loïc Simonin, Valentin Vinci

Structural evolution of Prussian White powder for sodium-ion cathodes depending on air exposure and transition metals nature

15:00 to 15:15

Sara Pakseresht *(Chemistry and materials science, Aalto University, Espoo, Finland)*, Tanja Kallio

Interphase Engineering of Lithium Metal by Atomic Layer Deposition for Lithium-Based Batteries

15:15 to 15:30

Valeria Blanco *(Solid State Chemistry, Institute of Material Sciences of Barcelona, Bellaterra, Spain)*, Pedro Alonso-Sánchez, Valeria Blanco, Javier Campo, Vadim Diadkin, Emilie Hvidsten Swensen, Ann Mari Svensson, Kesavan Thangaian, Per Erik Vullum, Fride Vullum-Bruer

Mechanistic insights into $AlCl_3$-assisted Metallothermic Reactions of Biosilica for Silicon Anodes

15:30 to 16:00

Coffee Break

S2c - Novel materials and processes for energy conversion and storage

Room : Hall **E**

Chaired by Jaak Nerut

16:00 to 16:15 ***Invited***

Muhammad Imran Asghar *(Faculty of Engineering and Natural Sciences, Tampere University, Tampere, Finland)*, Buse Bilbey, Axel Savikko, Sini Virtanen

Additive Manufacturing of High-Performance Oxide-ion and Proton-Conducting Reversible Ceramic Fuel Cells

16:15 to 16:30

Zhenguo Zhang *(School of Energy and Power Engineering, Beihang University, Beijing, China)*, Wen Li, Wen Liu, Shanfu Lu, Haining Wang, Yan Xiang, Qi Zhang, Jialin Zhang, Jin Zhang

Dynamic Cu Ion Crosslinking Thin Membranes for High-Power-Density Elevated Temperature Fuel Cells

16:30 to 16:45

Amina Alimbekova *(Hydrogen Applications, VTT – Technical Research Centre of Finland, Espoo, Finland)*, Lius Daniel, Jari Ihonen, Johannes Lehmuskoski

PEM Fuel Cell Stack CO Poisoning Mitigation Using Galvanostatic CO Oxidation With and Without Selective Cell Protection

16:45 to 17:00

Lidiya Abdisa Ejjeta *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Björn Eriksson, Carina Lagergren, Göran Lindbergh, Rakel Wreland Lindström

Influence of Pemion Ionomer to Carbon Ratio and Operating Condition on Performance of Intermediate Temperature PEMFC

17:00 to 17:15

Sonia Bagheri *(Engineering for Innovation, Salento university, Lecce, Italy)*, Maria Federica De Riccardis, Claudio Mele, Marilena Re

Electrospun PVDF/Conjugated Polymers Blend as Pt-free Electrocatalysts

17:15 to 17:30

Jin Zhang *(Energy engineering, Beihang University, Beijing, China)*

Machine Learning Induced Watt-level Power Density of High Temperature Polymer Electrolyte Membrane Fuel Cell

S2d - Novel materials and processes for energy conversion and storage

Room : Hall **A**

Chaired by Jonathan Hidalgo Acosta, Maria Lucas

14:15 to 14:30

Richard Webster *(School of Chemistry, Chemical Engineering and Biotechnology, Nanyang Technological University, Singapore, Singapore)*, Yuting Jiang

Utilizing Intermolecular Interactions of Reduced Quinones with CO_2 in Flow Batteries

14:30 to 14:45

Reinder Bouma *(Chemistry, University of Groningen, Groningen, Netherlands)*, Edwin Otten

Bipolar Organic Active Materials for High-Voltage Redox Flow Batteries

14:45 to 15:00

Carlo Caianiello *(Division of Organic Chemistry, Department of Chemistry, Royal Institute of Technology, KTH, Stockholm, Sweden)*, Amirreza Khataee, Helena Lundberg, Darius Pakarinen

Insights into Imidazole-based Posolytes for Alkaline Aqueous Organic Flow Batteries: a Viable Alternative to Potassium Ferrocyanide?

15:00 to 15:15

Brian Lewis *(Chemistry, Lancaster University, Bailrigg, United Kingdom)*, Kathryn Toghill

Evaluating Redox Targeting Between Phenazine Monomers and Polymers for Aqueous Flow Batteries

15:15 to 15:30

Matyas Marek *(Chemical Engineering, UCT, Prague, Czech Republic)*, Jan Krsek, Prtr Mazur, Alberto Taccori

Design and challenges of microemulsion electrolytes for flow batteries

15:30 to 16:00

Coffee Break

Room : Hall **B**

16:00 to 16:15 ***Invited***

Linas Vilčiauskas *(Electrochemical Energy Storage Group (EESG), Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania)*, Jurga Juodkazytė, Vytautas Klimavičius, Jurgis Pilipavičius, Dovilė Skarnulytė, Nadežda Traškina

Preparation and Operando Characterization of Aqueous Na- and Zn-Ion Battery Materials

16:15 to 16:30

Umer Waqas *(Department of Thin Films and Nanostructures, FZU-Institute of physics of the Czech Academy of Sciences, prague 6, Czech Republic)*, Jiri Cervenka, Yitao He, Chaitanyakrishna Kamaja

Spray-Engineered Uniform Thin-Layer MnO_2 Cathode Delivering Enhanced Capacity and Superior Cyclic Stability

16:30 to 16:45

Prashanth Sivakumar *(ICMCB, University of Bordeaux, Pessac, France)*, Cyril Aymonier, Tom Brezout, Laurence Croguennec, Mathieu Morcrette, Chloé Pablos, Emmanuel Petit

O_3 Sodium Layered Oxides Derived from a continuous millifluidic co-precipitation process: A robust composition discovery route for commercial cathode active materials

16:45 to 17:00

Marek Mooste *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Kaspar Andreas Friedrich, Silver Juvanen, Arvo Kikas, Vambola Kisand, Jekaterina Kozlova, Kaupo Kukli, Rohit Kumar, Maike Käärik, Jaan Leis, Dana Schonvogel, Kaido Tammeveski, Alexey Treshchalov, Peter Wagner, Michaela Wilhelm

Optimization of the Cell Design and Pt-Free Double Transition Metals Doped Nitrogen-Carbon Catalysts for Zn-Air Battery Air Electrode

17:00 to 17:15

Liuwen Chang *(Department of Materials and Optoelectronic Science, National Sun Yat-sen University, Kaohsiung, Taiwan)*, Guan-Ting Fang, Ruo-Yu Li, Mei-Fan Lu, Yun-Chi Tung

Electroepitaxial deposition of Zn – A Strategy for Suppressing Dendrite Formation and Corrosion on Anode of Aqueous Zn Metal Batteries

17:15 to 17:30

Stefano Marchionna *(TGM- Generation Technology and Materials, RSE SpA - Ricerca sul Sistema Energetico, Milan, Italy)*, Gabriele Brugnetti, Chiara Ferrara, Antonio Gentile, Irene Ostroman, Riccardo Ruffo, Nicholas Vallana

Oxidized $Ti_3Al_{1-x-y}Sn_ySi_yC_2$ MAX Phase: Composition as a Driver Towards new Anode for Alkaline Ion Batteries

17:30 to 17:45

Mir Fazlollah Mousavi *(Chemistry, Tarbiat Modares University, Tehran, Iran (Islamic Republic of))*, Abolhassan Noori

From Structural Tailoring to Functional Devices: Advanced Electrocatalytic Materials for Sustainable Energy Systems

Thursday 25 June 2026 - Morning

S1 - Keynote

Room : Hall **A**

09:00 to 09:30 ***Keynote***

Serhiy Cherevko *(Helmholtz-Institute Erlangen-Nürnberg for Renewable Energy, Forschungszentrum Jülich GmbH, Erlangen, Germany)*

Electrocatalysis with the Scanning Flow Cell: From Mechanistic Insight to High-Throughput Screening

S1 - Insight into reaction and ageing processes

Room : Hall **E**

Chaired by Tanja Kallio, Yaolin Xu, Serhiy Chevreco

09:35 to 09:50

Ivonne Alonso-Lemus *(Secihti-Cinvestav Saltillo, Coahuila, Mexico)*, Denise Manuel-Ramírez, Carlos Hernández-Siller, F. Javier Rodríguez-Varela

Engineering Sub-Bituminous Coal into Advanced Carbon Electrodes for Electrochemical Energy Conversion and Storage

09:50 to 10:05

Pouya Beigzadeh Arough *(Department of Civil, Chemical and Environmental Engineering, University of Genoa, Savona, Italy)*, Ataollah Niyati, Ombretta Paladino

Comparative Degradation Analysis of an Anion Exchange Membrane Water Electrolyser under Alkaline and Seawater Electrolytes

10:05 to 10:20

Niklas Thissen *(Electrochemical Reaction Engineering (AVT.ERT), RWTH Aachen University, Aachen, Germany)*, Yashwardhan Deo, Jan P. Hofmann, Anna K. Mechler, Harol Moreno Fernández, Vera Seidl

Dissolved Fe in Stability Investigations of Alkaline Water Electrolysis

10:20 to 10:35

Lindsay Sanderson *(Chemistry, Simon Fraser University, Burnaby, Canada)*, Steven Holdcroft, Peter Mardle, Wei Qu

Evaluating the propensity for peroxide formation of different HER catalysts in AEMWE

10:35 to 11:00

Coffee Break

Room : Hall **B**

11:00 to 11:15

Michael Busch *(Department of Engineering Sciences and Mathematics, Luleå University of Technology, Luleå, Sweden)*, Dennis Hetterscheid

Unravelling the Underlying Mechanism for H_2O_2 and O_2 Formation over Sn Porphyrin

11:15 to 11:30

Marco Mazzucato *(Department of Chemical Science, University of Padova, Padova, Italy)*, Christian Durante

Unraveling Ring Potential Effects in RRDE Studies of O_2 and H_2O_2 Reduction at Neutral pH: The Case of Sb,Fe–N–C Catalysts

11:30 to 11:45

Fabiola Dominguez-Flores *(Institut für Theoretische Chemie, Ulm University, Ulm, Germany)*, Axel Groß, Wolfgang Schmickler

From Solvation to Capacitance: How Divalent-Ion Partial Charge Transfer Shapes the Compact Layer

11:45 to 12:00

Ashwin Mekkad *(Chemical Engineering, Indian Institute of Technology Hyderabad, Sangareddy, India)*, Vinod Janardhanan

Predictive Microkinetic Modeling of OER on IrO_2 in Acidic Media for Sustainable Water Electrolysis

12:00 to 12:15

María González-Ingelmo *(Materials Chemistry, Instituto de Ciencia y Tecnología del Carbono, Oviedo, Spain)*, Patricia Álvarez, Clara Blanco, Miriam López, Freddy Oropeza, Victoria G. Rocha, Ricardo Santamaría, Oleg Usoltsev

Operando Synchrotron XAS on Ni/Graphene Aerogels for Clarifying Fe Incorporation and Its Impact on OER Activity

12:15 to 12:30

Miika Mattinen *(Department of Chemistry, University of Helsinki, Helsinki, Finland)*, Stacey F. Bent, Michaela Burke Stevens, Simo Huotari, Thomas F. Jaramillo, Antti-Jussi Kallio, Mikko Ritala, Johanna Schröder

Activity and Structure Dynamics of Cobalt-Based Oxygen Evolution Reaction Thin Film Precatalysts

S2a - Novel materials and processes for energy conversion and storage

Room : Hall **B**

Chaired by Camila Tossi, Rakel Wreland Lindström

09:35 to 09:50

Luyanda Mabuza *(Chemistry, University of the Western Cape, Bellville, South Africa)*, Emmanuel Iwuoha, Kelechi Nwambaekwe

Cesium-Containing Double Perovskites $CsTiVBr_7$ and $CsPd_2VBr_7$ as Highly Efficient Energy Conversion Materials for Solar Cells

09:50 to 10:05

Nitika Garg *(Indian Institute of Technology Delhi and Indian Institute of Technology Delhi Abu Dhabi)*, Ashok Kumar Ganguli

Facet-Dependent Surface Energetics in $NaNbO_3/FeVO_4$ Governing Multiscale Charge Dynamics for Photoelectrochemical Oxygen Evolution

10:05 to 10:20

Kaltum Abdiaziz *(EPR Research group, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Alexander Schnegg

Harnessing the Potential of Spectroelectrochemical EPR: Design and Application

10:20 to 10:35

Nozomi Yoneda *(Graduate School of Science, The University of Tokyo, Tokyo, Japan)*, Hideo Ando, Nathan Hartanto, Hirotaka Inoue, Kazuhiko Matsumoto, Kakeru Nohara, Yusuke Wakayama, Teppei Yamada, Hongyao Zhou

Electrochemical Thermoelectric Conversion with Hydrogen Bonding between Quinones and Alcohol

10:35 to 11:00

Coffee Break

Room : Hall **A**

11:00 to 11:15

Maria Trosheva *(Chemistry, University College London, London, United Kingdom)*, Jawwad Darr

Flash Heat/Quench Synthesis of Carbon-Coated V-doped Lithium Iron Phosphate Cathodes for High-Performance Li-ion Batteries

11:15 to 11:30

Callum Chisnall *(Chemistry, UCL, London, United Kingdom)*, Tom Ashton, Jawwad Darr

Flash-Heat Treated Ni-Rich NCA Cathodes Controlled Lithium Excess and Enhanced Stability

11:30 to 11:45

Volker Presser *(Energy Materials, INM - Leibniz Institute for New Materials, Saarbrücken, Germany)*, Stefanie Arnold, Michael S. Elsaesser

From Architecture to Electrochemistry: Hybrid Carbon Spherogels for High-Performance Li-Ion Anodes

CANCELLED

11:45 to 12:00

Michele Setti *(Department of Mathematical, Physical and Computer Sciences, University of Parma, Parma, Italy)*, Giacomo Magnani, Daniele Pontiroli, Mauro Riccò, Vincenzo Vezzoni

Laser Induced Graphene for Future Sustainable Batteries

12:00 to 12:15

Fu Ming Wang *(Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology, Taipei, Taiwan)*

An investigation of prelithiated effects of SiOx: twin synergy effect lithiated organic coverages and bulk prelithiation with metallic Li

12:15 to 12:30

Daniele Versaci *(Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Julia Amici, Federico Bella, Silvia Bodoardo, Giorgio Montinaro, Elisa Ravesio, Lorenzo Tamboia

Rational Design of Eco-Friendly Binary Binders for Stable and High-Performance SiOx/C Lithium-Ion Anodes

S2b - Novel materials and processes for energy conversion and storage

Room : Hall **D**

Chaired by Ifan Stephens, Nathanael Brandt

09:50 to 10:05

Yixiao Zhang *(Physics, Technical University of Munich, Garching b. München, Germany)*

Advancing electrocatalytic CO_2 and NO_3- reduction -- MOF derived CuOxZnOy catalysts

10:05 to 10:20

Anastasiia Konovalova *(Department of Energy Conversion and Storage, Technical University of Denmark, Lyngby, Denmark)*, David Aili, Stephane Jouenne, Alexandros Pasadakis-Kavounis, Christoph Sachs

Bipolar Membrane Electrodialysis for CO_2 Capture Applications

10:20 to 10:35

Iuliia Vetik *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Vladislav Ivanistsev, Nadezda Kongi, Akmal Kosimov, Nikita Zoglo

Tunable Cu-based MOFs for Electrochemical CO_2 capture

10:35 to 11:00

Coffee Break

11:00 to 11:15

Silver Juvanen *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaan Aruväli, Silver Juvanen, Arvo Kikas, Vambola Kisand, Jekaterina Kozlova, Kaupo Kukli, Maike Käärik, Jaan Leis, Ave Sarapuu, Kaido Tammeveski, Alexei Treshchalov

Bifunctional Electrocatalyst Materials Prepared via Ionothermal Synthesis for Usage in Rechargeable Zinc-Air Batteries

11:15 to 11:30

Felix Konrad Schwab *(Computational Electrochemistry, German Aerospace Center (DLR), Ulm, Germany)*, Britta Doppl, Niklas Johannes Herrmann, Birger Horstmann

Modelling, Analysing and Optimising an Aqueous Ni/Zn Cell

11:30 to 11:45

Alar Jänes *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaanus Eskusson, Enn Lust, Tavo Romann

Zn-Ion Hybrid Capacitors: Theoretical vs Experimental Study

11:45 to 12:00

Rahul Patil *(Nanotechnology center, VSB Technical University of Ostrava, Ostrava, Czech Republic)*, Aristides Bakandritsos, Radek Zbořil

Functionalized Graphene cathodes for High-Efficiency Zinc-Ion storage

12:00 to 12:15

Hirenkumar Machhi *(Thin Film and Nanostructures Dept., Institute of Physics of the Czech Academy of Sciences (FZU), Prague, Czech Republic)*, Jiøí Cervenka

Small Organic Molecules Additives Stabilizing Zinc Anodes in Aqueous Zinc Ion Batteries

12:15 to 12:30

Chaitanyakrishna Kamaja *(Thin Film and Nanostructures Department, FZU-Institute of Physics of the Czech Academy of Sciences, Praha 8, Czech Republic)*, Jiøí Cervenka, Arun Kumar, Umer Waqas

Revealing the Role of Vinylene Carbonate Additive on the Formation of Electrolyte Interface for Highly Reversible Zn-ion Battery

S2d - Novel materials and processes for energy conversion and storage

Room : Hall **A**

Chaired by Yaolin Xu, Marcus Einert

09:35 to 09:50

Oumar Toure *(Physique, Institut des Matériaux de Nantes, Nantes, France)*, Jeremy Barbe, Marie-Paule Besland, Thierry Brousse

Operando characterizations of lanthanum niobate perovskite thin films for high-power Li-ion microbatteries

09:50 to 10:05

Emilia Olsson *(Institute for Theoretical Physics, University of Amsterdam, Amsterdam, Netherlands)*

Polaron-Guided Matrix Formation and Reversible Storage in Silicon Nitride Anodes

10:05 to 10:20

Janina Drews (Computational Electrochemistry, German Aerospace Center (DLR) @ Helmholtz Institute Ulm (HIU, Ulm, Germany), Michael R. Buchmeiser, Timo Danner, Arnulf Latz, Sadananda Muduli, Max Okraschevski

Modeling of Sulfurized Polymers for Li-S Batteries: Towards a better understanding of rate limitations

10:20 to 10:35

Maria Lucas *(Department of Organic and Inorganic Chemistry, University of the Basque Country UPV/EHU, Bilbao, Spain)*, Eider Goikolea, Verónica Palomares

Beyond PVDF: Unravelling the Mechanisms of Water-Based Binders in Sustainable Bio-Waste–Derived Hard Carbon Anodes for Lithium- and Sodium-Ion Energy Storage

10:35 to 11:00 Coffee Break

Room : Hall **E**

11:00 to 11:15

Bastian Kaufmann *(Electrolysis, The Hydrogen and Fuel Cell Center (ZBT GmbH), Duisburg, Germany)*, Miriam Hesse, Moritz Pilaski

Deconvoluting Electrochemical Impedance data of AEM-MEA Loss Processes with an integrated Reference Electrode

11:15 to 11:30

Javier Rodríguez-Varela *(Sustentabilidad de los Recursos Naturales y Energía, Cinvestav Saltillo, Ramos Arizpe, Mexico)*, Ivonne Liliana Alonso-Lemus, Gisela Guzmán-Balderas, Padmasree Karinjilottu Padmadas, Luis Carlos Ordóñez-López, Javier Rodríguez-Varela, Yong-Miao Shen, Miao Su, Kai Zhang

High Performance $La_{1-x}SrxFeO_3$-Pt/C Nanocatalysts for Overall Alkaline Water Splitting

11:30 to 11:45

Md Mofakkharulhashan *(Department of Chemistry, University of Helsinki, Helsinki, Finland)*, Pedro H. C. Camargo, Mykhailo Chundak, Mikko Ritala, Hugo L. S. Santos, Shiqi Wang

Rationally Modified RuO_2; for High-Performance Oxygen Evolution in AEM Water Electrolyzers.

11:45 to 12:00

Beatrice Ricciardi *(Grupo de Conversión de Combustibles, Instituto de Carboquímica (ICB-CSIC), Zaragoza, Spain)*, Cinthia Alegre, María Jesús Lázaro, David Sebastián, Carlos Serrano-Alcalde

Boosting Alkaline Water Splitting: LDH-Molybdenum Chalcogenide Composites for Efficient OER and HER

12:00 to 12:15

Ji-Hyeon Lee *(Department of Green Chemical Engineering, Sangmyung University, Cheonan, Korea)*, Moon-Sung Kang

Reinforced anion-exchange membranes with acid-treated cerium oxide nanoparticles for efficient water electrolysis

12:15 to 12:30

Rubab Zahra *(Electrical Engineering, LUT University, Lappeenranta, Finland)*, Christodoulos Chatzichristodoulou, Jens Oluf Jensen, Arunachala Mada Kannan, Pertti Kauranen, Matti Putkonen, Vesa Ruuskanen

Porous Polymeric Separator Materials for Intermediate-temperature Alkaline Water Electrolysis

Thursday 25 June 2026 - Afternoon

S1 - Insight into reaction and ageing processes

Room : Hall **A**

Chaired by Julia Amici, Niels Rieger

13:40 to 13:55 ***Invited***

Rakel Wreland Lindström *(Applied Electrochemistry, KTH Royal Institute of Technology, Stockholm, Sweden)*

Heterogeneous aging in large-format Li-ion battery cells and the influence of rest periods

13:55 to 14:10

Marion Chandesris *(DEHT, CEA - Liten, Grenoble, France)*, Marion Chandesris, Antoine Cordoba, Luis Eon, Romain Le Tellier, Hervé Manzanarez, Mathis Plapp, Elie Saikali

Lithium Dynamics in Graphite Particle Analyzed with a Multi-Layer Cahn-Hilliard Model

14:10 to 14:25

Neha Garg *(Department of Energy and Mechanical Engineering, Aalto University, Espoo, Finland)*, Daniel Brandell, Annukka Santasalo Aarnio

Electrochemical Discharge: Ensuring Active Material Integrity from End-of-Life Li-ion Batteries

14:25 to 14:40

Maryam Baoudizabadi *(Department of Chemical and Biotechnological Engineering, Université de Sherbrooke, Sherbrooke, Canada)*, Martin Désilets, Pouya Hashemzadeh, Gabriel Pouliot, Jocelyn Veilleux

Localized Temperature Prediction in Cylindrical Li-ion Cells for Improved Understanding of Local Aging Phenomena

14:40 to 14:55

Amritha P. Sandra *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Mickaël Bolmont, Sébastien Cahen, Vishnu Dhinakaran, Yasmine Hammi, Sébastien Hupont, Lucas Magniez, Rakel Wreland Lindström

Reductive Regeneration of Spent Graphite Electrodes: Probing Interfacial Stability of Re-fabricated Lithium-ion Batteries via Online Gas Analysis

14:55 to 15:10

Thierry Brousse *(Institut des Matériaux de Nantes Jean Rouxel - IMN, Nantes Université, CNRS, Nantes, France)*

Nb-based Oxides as Negative Electrodes for High-Power Batteries

15:30 to 16:00

Coffee Break

Room : Hall **E**

16:00 to 16:15 ***Invited***

Svitlana Pylypenko *(Chemistry, Colorado School of Mines, Golden, USA)*, Genevieve Stelmacovich, Lonneke van Eijk

Integrated Multi-Technique Characterization of Catalysts and Catalyst Layers for Enhanced PEM Water Electrolyzer Performance

16:15 to 16:30

Christian Durante *(Chemical Sciences Department, University of Padova, Padova, Italy)*, Marco Mazzucato, Mattia Parnigotto, Tara Sekulic

DRT-Guided Analysis of OER Activity and Degradation in GDE Devices: Impact of Carbon and CeO_2 Additives

16:30 to 16:45

Diego Garay-Ruiz *(FINDER group, Instituto de Micro y Nanotecnología, Tres Cantos, Spain)*, Marisol Martín-González

Computational Pourbaix Diagrams in the Age of Data: Unraveling Electrochemical Phase Competition

16:45 to 17:00

Julian Kapp *(New Materials and Technologies, The Hydrogen and Fuel Cell Center - ZBT GmbH, Duisburg, Germany)*, Harry Hoster, Kyra Kunz, Lukas Schmidt

Electrolyte Composition Effects in Ex Situ Corrosion Testing of PEMWE Bipolar Plates

17:00 to 17:15

Moritz Karl Rosenthal *(Department of Chemistry and Material Science, Aalto University, Espoo, Finland)*, Tanja Kallio, Lilian Moumaneix, Eeva-Leena Rautama

Iron manganese oxide as PGM-free electrocatalyst for oxygen evolution reaction in acid: Stability and reaction mechanism

17:15 to 17:30

Christian Schott *(Department of Physics, ECS, Technical University of Munich, Garching, Germany)*

Mechanistic and Activity Study of the Hydrogen Evolution Reaction over Palladium Single Crystals and Nanoparticles

17:30 to 17:45

Robert Baumann *(Chair for laser-based Manufacturing, Technische Universität Dresden, Dresden, Germany)*, Mayla Selene Barrientos, Andrés Fabian Lasagni, Marcello Sallese, Lis Geraldine Zschach

Laser-based surface enlargement for improved electrochemical performance

17:45 to 18:00

Ilaria Perissi *(Istituto di Chimica dei Composti Organo-Metallici, Consiglio Nazionale delle Ricerche (CNR-ICCOM) Sesto Fiorentino, Italy)*, Laura Capozzoli, Stefano Martinuzzi, Enrico Berretti, Maria Caporali, Werner Oberhauser, Alessandro Lavacchi, Jonathan Filippi

Ir-TiO_{2-x} Nanotubes as Ultra-low PGM Anodic Catalysts for Water Electrolysis

S2a - Novel materials and processes for energy conversion and storage

Room : Hall **B**

Chaired by Tanja Kallio, Alisa Bogdonova

13:40 to 13:55 ***Invited***

Alejandro A. Franco *(Laboratoire de Réactivité et de Chimie des Solides, Université de Picardie Jules Verne, Amiens, France)*

Multiscale Digital Twin Framework for Battery Manufacturing Optimization and Inverse Design

13:55 to 14:10

Daniele Callegari *(Department of Physical Chemistry, University of Pavia, Pavia, Italy)*, Stefania Davino, Eliana Quartarone

Quasi-Solid Electrolyte with Autonomous Self-Healing Capabilities for Li-Ion Batteries

14:10 to 14:25

Lekshmi Jegan *(Dept. of Thin Films and Nanostructures, FZU – Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic)*, Jiri Cervenka

Impact of Electrolyte Additives on Enhancing the Performance of Silicon Anodes

14:25 to 14:40

Cassandre Chalard *(Matérial Science, Institut des Matériaux de Nantes Jean Rouxel, CNRS , Nantes, France)*, François Beaume, Gilles Blanc, Nicolas Dupré, Bernard Lestriez, Lauréline Marchal

PVDF Coated Separators for Li-ion Batteries

14:40 to 14:55

Anders Gaarud *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Göran Lindbergh, Ann Mari Svensson, Rakel Wreland Lindström

Improved performance of the $Na_3V_2(PO_4)_3$ positive electrode for Na-ion batteries by changing to aqueous binder

14:55 to 15:10

Julen Beitia Elorriaga *(Organic and Inorganic chemistry, University of the Basque Country (EHU), Leioa, Spain)*, Oscar Castillo, Eider Goikolea, Idoia Ruiz de Larramendi

The use of metal-organic gels as anodes in lithium-ion batteries

15:10 to 15:25

Johannes Kasnatscheew *(University of Muenster, MEET, Münster, Germany)*

Origin of Faster Capacity Fade for Lower Electrolyte Amounts in Lithium Metal Batteries: Electrolyte "Dry-Out"?

15:30 to 16:00

Coffee Break

Room : Hall **A**

16:00 to 16:15 ***Invited***

Jesus Santos Pena *(ICMPE, CNRS UPEC, THIAIS, France)*, Eric De Vito

Revisiting the electrochemical (and chemical) activity of alpha-V_2O_5 electrode in aqueous rechargeable ammonium ion batteries

16:15 to 16:30

Mohd Aman *(Materials Science and Engineering, Indian Institute of Technology Kanpur, Kanpur, India)*, Manish Manish, Thutta Mohan, Shobit Omar, Saurabh Sharma

Experimental Study of a Bi_2Se_3-based Janus Separator for Regulating Polysulfide for Long Term Sodium Sulfur Battery

16:30 to 16:45

David Peralta *(CEA LITEN, , Grenoble, France)*, Philippe Azais, Nicolas Dautain, Anice Hammoutene, Bastien Leclercq, Jean-Frédéric Martin, Eric Mayousse, Fabien Perdu, Dane Sotta

From the Development of PBA Synthesis to the Manufacturing of K-Ion Pouch Cells

16:45 to 17:00

Adérito Fins Carreira *(CBI - MIE, ESPCI Paris - PSL, Paris, France)*, Annie Colin, Michael Levant, Zhiyi Man, Nan Wu

Upscaling Salinity Gradient CRED Cell for Blue Energy Harvesting

17:00 to 17:15

Yitao He *(Department of Thin Films and Nanostructures, FZU - Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic)*

Microfluidic Fabrication of Graphite Cathodes for Dual-Ion Aqueous Batteries

17:15 to 17:30

Seunga Yang *(Department of Future Convergence Technology, Soonchunhyang University, Asan-si, Korea)*, Soon-Ki Jeong, Yangsoo Kim, Sangyup Lee

Comparative analysis of electronic state, chemical bonding, and electrochemical properties of Ca^{2+} intercalated TiS_2 and MoS_2

17:30 to 17:45

Eric Tröster *(Electrochemical Energy Carriers and Storage Systems, University Freiburg, Freiburg, Germany)*, Sonia Dsoke, Angelina Sarapulova

DMSO as Co-Solvent for an improved Hybrid Zinc-Sodium Ion Battery

17:45 to 18:00 ***Invited***

Julia Amici *(Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Silvia Bodoardo, Carlotta Francia, Mattia Longo, Paulina Marquez, Daniele Versaci

Tuning Reaction Pathways in Li–O_2 Batteries: From Mechanistic Insights to Advanced Cell Components

S2b - Novel materials and processes for energy conversion and storage

Room : Hall **D**

Chaired by Patrycja Bober, Liis Siinor

13:40 to 13:55

Frederic Favier *(Institut Charles Gerhardt Montpellier, CNRS-Montpellier University, Montpellier, France)*, Sara Azmi, Katerina Ioannidou, Fairouz Touati

Multi-Scale Design of Carbon-Cement Composites for Structural Supercapacitor Electrodes

13:55 to 14:10

Patrycja Bober *(Functional electroactive materials, Institute of Macromolecular Chemistry CAS, Prague, Czech Republic)*, Manoj Karakoti, Zuzana Morávková

Electrochemically Optimized Polyaniline-Modified Biomass-Derived Porous Carbon for Supercapacitor Applications

14:10 to 14:25

Antonia Stoyanova *(Electrochemical Power Sources, IEES-BAS, Sofia, Bulgaria)*, Sonya Harizanova, Violeta Koleva, Delyana Manasieva, Svetlana Veleva

Mechanical Mixing with Reduced Graphene Oxide as a Strategy to Enhance the Electrochemical Performance of $NiMnO_3$ Hybrid Supercapacitors

14:25 to 14:40

Tomáš Lapka *(Department of Mathematics, Informatics, and Cybernetics, University of Chemistry and Technology, Prague, Prague, Czech Republic)*, Fatima Hassouna, Andrea Lamberti, Pietro Zaccagnini

Electrochemical Testing of Flexible N-doped Carbon Reinforced Electrodes from Polypyrrole Nanotubes and Cellulose Nanofibers for Supercapacitor Applications

14:40 to 14:55

Swagata Dutta *(ICMCB, LCPO, University of Bordeaux, PESSAC, France)*, Joachim Allouche, Rafael Bianchini Nuernberg, Mélanie Bousquet, Cyril Brochon, Benjamin Cabannes-Boue, Eric Cloutet, Valentin Damour, Delphine Flahaut, Liliane Guerlou-Demourgues, Jean-Bernard Ledeuil, Fantine Negny, Jacob Olchowka

New inorganic-polymer composite materials for the positive electrode of asymmetric supercapacitors

14:55 to 15:10

Eleonora Lorenzi *(Dipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino, Torino, Italy)*, Luisa Baudino, Angelica Bisceglie, Alberto Frache, Andrea Lamberti, Simone Martellone, Alessandro Pedico, Mara Serrapede, Roberto Speranza, Pietro Zaccagnini

A Sustainable Hybrid Capacitor for PV Direct Storage for Indoor Applications

15:10 to 15:25

Liis Siinor *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*

On the Electrical Double Layer Formation at the Sb(111) Electrode and Ionic Liquid Interface

15:30 to 16:00

Coffee Break

16:00 to 16:15 ***Invited***

Angelica Bisceglie *(Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Angelica Bisceglie, Sergio Bocchini, Giuseppe Ferraro, Andrea Lamberti, Simone Martellone, Davide Molino, Candido Fabrizio Pirri, Pietro Zaccagnini

Electrochemical Characterization of Choline-Amino Acid Ionic Liquids for Supercapacitors and CO_2CapMix Harvesting Devices

16:15 to 16:30

Aleksandra Mroziewicz *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Magdalena Skunik-Nuckowska, Karolina Solska

Structural effects of glycols on halide–based Low Transition Temperature Mixtures for hybrid electrochemical capacitors

16:30 to 16:45

Laura Kalder *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaan Aruväli, Eneli Härk, Riinu Härmas, Enn Lust, Jonas Lührs, Annabel Olgo, Pouya Partovi-Azar, Albrecht Petzold, Tavo Romann

Linking Hard Carbon Curvature to Sodium-ion Battery Performance

16:45 to 17:00

Andrea Hainthaler *(Institute of Technical and Environmental Chemistry, Friedrich-Schiller-University Jena, Jena, Germany)*, Jon Ajuria, Maria Arnaiz, Fatemeh Bahmei, Andrea Balducci, Sebastian Pinto Bautista, Rosalía Cid, Yiyue Lu, Manuel Jonathan Pinzón, Marcel Weil

Improving Electrolyte Sustainability and Safety for Sodium-ion Capacitors by Combining a Bio-based Solvent with a Low-fluorine Salt

17:00 to 17:15

Marcelo Amaro de Andrade *(ST2E, Nantes Université - Institut des Matériaux de Nantes (IMN), Nantes, France)*, Ademola Adeniji, Adrian Beda, Thierry Brousse, Philippe Fioux, Camelia Ghimbeu, Hugo Mazoyer

High-Rate Sustainable Na-Ion Capacitors from Engineered Porous Carbon and Recycled Carbon Fibers Enabled by Sacrificial Salt

17:15 to 17:30

Yu Kyoung Ryu *(Departamento de Física Aplicada e Ingeniería de Materiales, Universidad Politécnica de Madrid, Madrid, Spain)*, María Belén Gómez-Mancebo, Assia Hamada, Javier Martinez, Hiba Toumia, Andrés Velasco

Metal-Organic Framework Doping and Double Pass Strategies to Enhance the Performance of Laser-Induced Graphene Supercapacitors

17:30 to 17:45

Donald Kirk *(Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, Canada)*

Energy Storage at the Helmholtz Layer- a new perspective

17:45 to 18:00

Rosa Rego *(Chemistry Department and CQ-VR, University of Trás-os-Montes e Alto Douro, Quinta de Prados, Portugal)* Ana Rita Queijo, Tomé Cá Júnior, Verónica de Zea Bermudez

Bio-Derived Alginate Electrolytes for High-Performance and Sustainable Electrochromic Devices

S2d - Novel materials and processes for energy conversion and storage

Room : Hall **E**

Chaired by Sam Mousavi, Anna Kobets

13:40 to 13:55 ***Invited***

Dominik Weintz *(Helmholtz Institute Münster (IMD-4), Forschungszentrum Jülich GmbH, Münster, Germany)*, Isidora Cekic-Laskovic, Andrew Dopilka, Robert Hinz, Robert Kostecki, Austin Ready, Monica Theibault, Martin Winter

Operando Monitoring of the Solid Electrolyte Interphase GrowthKinetics on Copper under Potentiodynamic Control

13:55 to 14:10

Kaviarasan Govindarajan *(Energy and hydrocarbon chemistry, Kyoto University, Kyoto, Japan)*, Takeshi Abe, Susumu Kukita, Yuto Miyahara, Kohei Miyazaki, Ryo Sakamoto, Shota Tsujimoto

$La_{0.93}Ba_{0.07}F_{2.93}$ ceramic electrolyte as a separator for durable quasi-solid-state fluoride-ion batteries

14:10 to 14:25

Maria Di Pea *(Department of Chemical Engineering Materials Environment, Sapienza University of Rome, Rome, Italy)*, Giovanni Battista Appetecchi, Rodolfo Araneo, Daniela Ariaudo, Eleonora De Santis, Alessandro Dell'Era, Antonio Rinaldi

Innovative Ionic Liquids-Based Electrolytes for Low Temperatures Applications

14:25 to 14:40

Yu-Chi Wang *(Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan)*, Chia-Chin Chen, Shun-Jhih Yang

Probing Ion Transport in Polymer Electrolytes: Morphology-Controlled Anion Hindrance

14:40 to 14:55

Nolwenn Bouvier *(ST2E, Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes, France)*, Thierry Brousse, Olivier Crosnier, Camille Douard, Hanane El Marsi, Jean Le Bideau

Negative electrode for High Power Solid-State Batteries with ionogel electrolyte

14:55 to 15:10

Guan-Yi Liu *(Chemical Engineering, National Taiwan University, Taipei, Taiwan)*, Yu-Ting Weng, Nae-Lih Wu

Interfacial Engineering of Ni-Rich Cathodes with Lithiated Sulfonated Polymer for Enhanced Performance and Thermal Durability.

15:10 to 15:25

Chun-Yen Yang *(Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan)*, Chia-Chin Chen, Gang Wan

Unlocking Lithium Storage in Self-Activating Metal-Organic Frameworks

S2c - Novel materials and processes for energy conversion and storage

Room : Hall **M1/C**

Chaired by Daniel Martin Yerga

16:00 to 16:15 ***Invited***

Ifan Stephens *(Materials, Imperial College, London, United Kingdom)*

What Governs Electrochemical Nitrogen Reduction?

16:15 to 16:30

Andrea Zaffora *(Department of Engineering, University of Palermo, Palermo, Italy)*, Francesco Di Franco, Monica Santamaria

Electrochemical Oxidation of Alcohols on PGM-Free Metal-Functionalized TiO_2 Nanotubes Electrodes

16:30 to 16:45

Claudio Maria Pecoraro *(Engineering department, University of Palermo, Palermo, Italy)*, Marianna Bellardita, Francesco Di Franco, Vittorio Loddo, Alice Romano, Monica Santamaria

Versatile Anodized WO_3 Nanostructures Prepared by a Facile and Scalable Electrochemical Route for PGM-free Biomass Photoelectrolysis

16:45 to 17:00

Matheus Schiavon Kronka *(Sustainable Energy Materials, Technical University of Munich, Straubing, Germany)*, Maria Valnice Boldrin Zanoni, Juliana Ferreira de Brito, Marc Ledendecker, Sumin Lim, Arthur Ribeiro Piani, Matheus Schiavon Kronka, Guilherme Vilalba Fortunato

Pd Schottky junction at the WO_3/Cu_2O interface: the impact on selectivity and stability for photoelectrochemical nitrate-to-ammonia conversion

17:00 to 17:15

Pragya Narayana Prasad *(Department of Energy and Mechanical engineering, Aalto University, Espoo, Finland)*, Neha Garg, Michael Gasik, Annukka Santasalo-Aarnio

Bio-Based Cellulose Membranes: A Fluorine-Free Solution for SO_2 Depolarized Electrolysis

17:15 to 17:30

Juan Pedro Perez Trujillo *(Applied Electrochemistry, Department of Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Barbara Bosio, Dario Bove, Lucia Cardona, Carina Lagergren, Juan Pedro Perez Trujillo, Dulce Maria Silva Mosqueda

Water Electrolysis in Molten Carbonate Electrolysis Cells

17:30 to 17:45 ***Invited***

Elena Gubanova *(Department of Physics, ECS, Technische Universität München, Garching bei München, Germany)*

Au@Ag Core-Shell Nanoparticles Supported on Vulcan Carbon as a Catalysts for Nitrate Reduction Reaction

S3 - Efficient and viable energy conversion systems

Room : Hall **B**

Chaired by Richard Webster

16:00 to 16:15 ***Invited***

Amirreza Khataee *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*

Comparative Techno-Economic Analysis of Flow Batteries for Grid and Transport Electrification

16:15 to 16:30

Maider Elosua Alza *(LITEN/DEHT/STB/L2PC, CEA, Grenoble, France)*, Elias Aboudrar, Irene Canale, Domenico Frattini, Taos Guyot, Emmanuelle Lancelle-Beltran, Luca Maccarrone, Agathe Martin, Eric Mayousse, Jade Rebaudo, Yvan Reynier, Luis Santos, Eric Woillez

Impact of Laboratory-Scale Pouch Cell Design on Electrochemical Characterization of Battery Materials

16:30 to 16:45

Byeonghun Oh *(Research & Development, Energy11, Jeonbuk National University, Wanju-gun, Korea)*

A Lithium–Sulfur Battery with Enhanced Energy Density via Lithium Polysulfide Catholyte and Carbon Nanofiber Cathode Architecture

16:45 to 17:00

Rashen Lou Omongos *(Simulation Systems, AC2T Research GmbH, Wiener Neustadt, Austria)*, Alejandro Franco, Diego Galvez-Aranda, Andras Vernes, Franco Zanotto

Optimization of Gas Diffusion for Proton Exchange Membrane Fuel Cells

17:00 to 17:15

Ashoke Raman Kuppa *(Institute of Energy Technologies (IET-1), Forschungszentrum Jülich, Jülich, Germany)*, Rüdiger-A Eichel, Linus Hammacher, Eva Jodat, André Karl, Violeta Karyofylli

Machine learning-based evaluation of activation protocols for Proton-exchange membrane water electrolyzers

17:15 to 17:30

Jaegwan Shin *(Department of Environmental Engineering, Kangwon National University, Chuncheon-si, Korea)*, Kangmin Chon

Regulation of rheological behavior of walnut shell-derived electrodes via $KHCO_3$ activation for advancing power density of flow-electrode capacitive mixing

17:30 to 17:45

Wibke Zängler *(Chair of Chemical Process Engineering, RWTH Aachen University, Aachen, Germany)*, Robert Keller, Nick Semrau, Matthias Wessling

Effect of Natural Gas Impurities on Electrochemical Hydrogen Compression and Strategies for Mitigation

Friday 26 June 2026 - Morning

S2a - Keynote

Room : Hall **A**

08:30 to 09:00 ***Keynote***

Qing Wang *(Department of Materials Science and Engineering, National University Of Singapore, Singapore, Singapore)*

Redox-Mediated Electrified Chemistry

S1 - Insight into reaction and ageing processes

Room : Hall **A**

Chaired by Thierrry Brousse, Nastaran Farrahi

09:05 to 09:20

Camille Douard *(ST2E, Institut des Matériaux de Nantes Jean Rouxel, Nantes, France)*, Jérémy Barbé, Charlotte Bodin, Thierry Brousse, Clara Crygiel, Eric Gautron, Allan Lebreton, Isabelle Monnet, Romain Wernert

Influence of defects introduced by swift ions irradiation on electrochemical performances of electrode materials for Sodium ion batteries

09:20 to 09:35

Stefan Ingenhoven *(Electrical Energy Storage ELS, Fraunhofer ISE, Freiburg, Germany)*, Manuel Bauer, Dominic Bresser, Lea Eisele, Oliver Fitz, Mariam Pogosova

Deciphering Degradation Pathways and Interphase (In-)Stability in P_2-$Na_{2/3}Fe_{1/2}Mn_{1/2}O_2$-Hard Carbon Full Cells

09:35 to 09:50

Nahom Enkubahri Asres *(Division 6.3 Structure Analysis, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany)*, Paul Alexander Appel, Franziska Emmerling, Tim-Patrick Fellinger, Jonas Krug von Nidda, Shu-Han Wu, Nader de Sousa Amadeu

MAS and Operando NMR Characterization of Anode Materials for Na-ion Batteries

09:50 to 10:05

Ange Niyonkuru *(Electricity and Hydrogen for Transportation Division, Alternative Energies and Atomic Energy Commission (CEA), Grenoble, France)*, Loïc Baggetto, Dominic Bresser, Mariam Pogosova, Irina Profatilova, Magali Reytier, Samuel Tardif

CANCELLED

Operando Gas Analysis Coupled with Laue Micro-Diffraction of P_2-type $Na_{0.7}Fe_{0.5}Mn_{0.5}O_2$ Cathode Material

10:05 to 10:20

Anna Kobets *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Tanja Kallio, Xiangze Kong, Ulla Lassi, Seyedabolfazl Mousavihashemi, Filipp Obrezkov, Taina Rauhala, Olli Sorsa, Pekka Tynjälä

Application of Operando Techniques for Investigation of Electrode Materials for Sodium-Ion Batteries

10:20 to 10:35

Muhammad Ali Raza Malik *(Materials Science and Nanotechnology, Università degli Studi di Milano Bicocca, Milan, Italy)*, Riccardo Ruffo

Development and Integration of Composite Electrolytes for Sodium-Ion Batteries

S2a - Novel materials and processes for energy conversion and storage

Room : Hall **D**

Chaired by Eduardo Martinez Gonzalez, Amirreza Khataee

09:05 to 09:20

Julia Lorenzetti *(Energy, Mobility and Environment, Empa, Dübendorf, Switzerland)*, Cédric Kupferschmid, David Reber, Paweł P. Ziemiański

Enhancing Solid Booster Utilization in Redox-targeted Flow Batteries with Non-fluorinated Binders

09:20 to 09:35

Stylianos Daskalakis *(Applied Physics, TU Wien, Vienna, Austria)*, Stylianos Daskalakis, Thilo Hofmann, Ana Ivankovic, Markus Ostermann, Christian Pichler, Markus Valtiner, Adam Whitehead

Evaluating Solid Boosters for the Vanadium Flow Battery

09:35 to 09:50

Meleskow Cox *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Emmanuel Iwuoha

Unlocking the Fast V^{2+}/V^{3+} Redox Kinetics of Vanadium Redox Flow Batteries (VRFBs) Incorporating MXene/Biomass Hybrid Anodes

09:50 to 10:05

Eduardo Requena Miravalles *(Chemistry, University of Lancaster, Lancaster, United Kingdom)*

Stabilisation of Iron- Ligand Complexes for Use in Redox Flow Batteries

10:05 to 10:20

Mattia Duranti *(Center for Sustainable Energy, Fondazione Bruno Kessler, Trento, Italy)*, Giulia Busetti, Edoardo Gino Macchi

Exploration of Acidic Iron-ligand Anolytes for Sustainable all-iron Flow Batteries

10:20 to 10:35

Farshad Nouri *(Department of Chemistry, Material and Chemical Engineering, Politecnico di Milano, Milano, Italy)*, Silvia Leonardi, Alessandro Mariani, Giacomo Melani, Guido Raos

Unlocking the Organic Flow Battery: The Role of Electrolyte Structure and Dynamics

10:35 to 11:00 Coffee Break

11:00 to 11:15

Atut Reni Septiana *(Materials, The University of Manchester, Manchester, United Kingdom)*, Beatriz Mingo, Maria Perez-Page

Incorporating 2D-Layered Double Hydroxide into Polymer Matrix Membrane to Enhance Electrochemical Performance of Alkaline Zinc Iron Flow Battery

11:15 to 11:30

Ehab El Sawy *(Chemistry, The American University in Cairo, Cairo, Egypt)*, Asmaa Heiba, Mostafa Omran

Defect-Engineered Tungsten–Molybdenum Mixed Oxides for Dual-Mode Energy Storage: Advancing Redox Flow Batteries and Supercapacitors

11:30 to 11:45

Dominic Rochefort *(Chemistry, Université de Montréal, Montréal, Canada)*, Ariane Caron, Alizée Debiais, Marc-Antoni Goulet, Louis Hamlet, Calvine Lai, Hélène Lebel, Meysam Maleki, Gary Mathieu

Derivatives of Azobispyridinium as Posolytes for High-Energy Aqueous Organic Redox Flow Batteries

11:45 to 12:00

Hyunjin Kim *(Department of Environmental Engineering, Kongju National University, Cheonan-si, Korea)*, Choonsoo Kim

Redox Electrodialysis Integrated with Energy Recovery via Cell Voltage Extension in Organic Electrolytes

S2b - Novel materials and processes for energy conversion and storage

Room : Hall **E**

Chaired by Charez Maouche and Alejandro Franco

09:05 to 09:20

Abdulhai Faqeeh *(Chemistry, King Khalid University, Abha, Saudi Arabia)*, Zeliha Ertekin, Paula Lalaguna, Alex Pitman, Mark Symes

Comparing Membranes for Proton Exchange Membrane Water Electrolysis: Performance, Stability and Hydrogen Crossover

09:20 to 09:35

Lukas Rein *(Electrochemical Process Engineering (IET-4), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Andrea Hintzen, Anna Mechler, Markus Stähler

CCM Production for PEM Water Electrolysis: From laboratory to pilot plant … and back!

09:35 to 09:50

Francesco Bartoli *(IET-1, Forschungszentrum Jülich, Jülich, Germany)*, Shibabrata Basak, Rüdiger-A Eichel, Ayoub Elyaagoubi, Kristina Froehlich, Sabrina Heuer, Ali Javed, Zheng Jiang, Eva Jodat, André Karl, Kiran Kiran, Jialiang Liu, Christina Oeß, Jean-Pierre Poc, Robert Rameker, Leander Treutlein

Addressing the Effects of Thermal Annealing on Nafion® 115 in Relation to MEAs Preparation via Decal Transfer Method

09:50 to 10:05

Ali Javed *(Institute of Energy Technologies (IET-1), Forschungszentrum Juelich, Juelich, Germany)*, Rüdiger-A. Eichel, Eva Jodat, André Karl, Hans Kungl, Leander Treutlein, Niklas Wolf

Impact of Structural Configuration on the Performance of PEM Electrolyzer: Insights into Short-Term and Long-Term Operation

10:05 to 10:20

Alessandro Chesini *(Department of Physics, University of Trento, Trento, Italy)*, Ching-Lien Hsiao, Shailesh Kalal, Antonio Miotello, Michele Orlandi

Defect Engineering in Ti-Doped Ta_3N_5 Thin Films for Enhanced Photoelectrochemical Water Splitting: Electronic Structure Modulation and Charge Carrier Dynamics

10:20 to 10:35

Camilla Tossi *(ZARM Center for Applied Space Research and Microgravity, University of Bremen, Bremen, Germany)*, Katharina Brinkert, Sousan Salehi, Ella Schmidt

Synthesis of Rhodium Electrocatalyst Nanoparticles for Photoelectrochemical Water-Splitting in Microgravity

15:30 to 16:00 Coffee Break

Room : Hall **B**

11:00 to 11:15

Ngoc Tram Nguyen *(Department Energy Materials & Test Devices, Fraunhofer IISB, Erlangen, Germany)*, Gero Frisch, Franziska Jach, Ulrike Wunderwald

Operando XRD Reveals How Structure and Morphology of the Electrode Influence Cathode Intercalation in Aluminum-Graphite Dual-Ion Batteries

11:15 to 11:30

Joaquín Calbet Bernad *(Inorganic Chemistry, Complutense University of Madrid, Madrid, Spain)*, Paloma Almodóvar, David Badillo, Joaquín Calbet Bernad, Joaquín Chacón, María Luisa López, Inmaculada Álvarez-Serrano

Optimization of carbon xerogel-based electrodes for aluminum-ion batteries

11:30 to 11:45

Lukas Herrmann *(Institute of Chemistry, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany)*, Michael Bron, Simone Gut

Proton-Insertion Coupled Electron Transfer in Well-Defined Substoichiometric Titanium Oxides in Acidic Environment

S2c - Novel materials and processes for energy conversion and storage

Room : Hall **A**

Chaired by Thierrry Brousse, Nastaran Farrahi

11:00 to 11:15

Maria Jauregui *(X-ray diffraction / Physical Properties Measurement Facility, CIC energiGUNE, Vitoria-Gasteiz, Spain)*

New in situ / operando Magnetometry cell for the study of redox reactions by magnetic properties in M-ion battery material

11:15 to 11:30

Alisa Bogdanova *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Tanja Kallio, Princess Stephanie Llanos, Filipp A. Obrezkov, Samuli Urpelainen

Effect of ALD Precursor Pulses Sequence on NMC811 powder coating process: Insights from In Situ APXPS and Electrochemical Studies

11:30 to 11:45

Franck Junior Kakdeu Yewou *(Seine-et-Marne, Université Gustave Eiffel, Marne-la-Vallée, France)*, Nicolas Emery, Adama Gassama, Céline Léonard, Etienne Mangaud, Alexander Mitrushchenkov

Comprehensive Study of Lithium Diffusion in $Li_xMn_{12}Ni_4O_{32}$ (x = 8, 4 and 0) Spinel Compound using DFT and Molecular Dynamics

11:45 to 12:00

Nicolas Emery *(ICMPE, CNRS, Thiais, France)*, Mahmoud Aboaouf, Stephane Bach, Adama Gassama, Franck Kakdeu-Yewou, Céline Léonard, Etienne Mangaud, Alexander Mitrushchenkov

Influence of Nickel Content on the Structural Response of $Li_yMn_{1.5+x}Ni_{0.5-x}O_4$ During Lithium Insertion/Extraction ($0 < y < 1$)

S3 - Efficient and viable energy conversion systems

Room : Hall **B**

Chaired by Milla Vikberg, Antonia Herzog

09:05 to 09:20

Francesca Lorenzutti *(Laboratory of Renewable Energy Science and Engineering, Institute of Mechanical Engineering, EPFL, Lausanne, Switzerland)*, Marc Bischof, Sophia Haussener

Mass Transport Effects in Electrochemical CO_2 Reduction

09:20 to 09:35

Konstantin von Foerster *(IET-1 - Fundamentals of Electrochemistry, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Krzysztof Dzieciol, Rüdiger-A. Eichel, Sergio Sanz, Bernhard Schmid, Hermann Tempel

Direct Electroreduction of CO_2 to Formic Acid in a Three-Compartment Electrolyzer using PiperION Anion Exchange Membranes

09:35 to 09:50

Manel Machreki *(Condensed Matter and Electroactive Systems, Institut des Sciences Chimiques de Rennes, RENNES, France)*, Marielle Blot, Bruno Fabre, Gabriel Loget, Antoine Vacher

Solar-Driven Silicon-Based Dual Photoelectrode System for Coupled Plastic Waste Oxidation and CO_2 Reduction

09:50 to 10:05

Johannes Georg Sterzinger *(Physics Department, Technical University of Munich - TUM, Garching, Germany)*, Aliaksandr S. Bandarenka, Elena Gubanova, Bogdan Gulie, Vincenz Maier, Nikolaos Patelis, Carsten Peters, Tim Steeger, Johannes Sterzinger, Marc-Georg Willinger

Size-dependent Oxidation of Nano-structured Electrocatalysts Produced by Spark Ablation

10:05 to 10:20

Antonia Herzog *(Chemistry, DTU, Lyngby, Denmark)*

Dynamics of the Solid Electrolyte Interphase in Lithium-Mediated Electrochemical Ammonia Synthesis

10:20 to 10:35

Sandra Sajeev *(Chemistry, University of Warsaw, Warsaw, Poland)*, Yoshitaka Aoki, Fabienne Dumoulin, Umit Isci, Damian Kowalski

Na-CO_2 Battery Based on LSMN Double Perovskite

10:35 to 11:00 Coffee Break

Room : Hall **E**

11:00 to 11:15

Daniel Herranz *(Applied Physical Chemistry, Autonomous University of Madrid, Madrid, Spain)*, Juan Ramón Avilés Moreno, Alfonso Gijón, Pilar Ocón, Sara Rodríguez, Pablo del Mazo Sevillano

Reducing hydrogen crossover in alkaline electrolysers using crosslinked PBI-based anion exchange membranes

11:15 to 11:30

Prattakorn Metem *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Björn Eriksson, Göran Lindbergh, Mathilde Veschambre

Understanding the Role of Cation Transport in Asymmetric Anion Exchange Membrane Water Electrolysis (AEMWE): Crossover and Performance

11:30 to 11:45

Mohamed Elasmar *(Chair of Thermal Energy Technology, Brandenburg University of Technology Cottbus-Senftenberg, Cottbus, Germany)*

D isothermal modelling of multiphase flow in an anion exchange membrane water electrolysis (AEMWE) single cell

11:45 to 12:00

Ashley Elgersma *(Department of Chemistry, Simon Fraser University, Burnaby, Canada)*, Michael Eikerling, Chengkai Fan, Steven Holdcroft, Ravinder Singh, Alessandra Stacchini Menandro, Fabian Tipp

Hydroxide-Induced Degradation of Substituted (Bis)Imidazolium Cations for Applications as Anion Exchange Membranes

Notes

Poster Presentations

Sponsored by ***Metrohm Electrochemistry / Sensolytics GmbH***

Tuesday, **23 June**

18:00 - 20:00 : Posters **S1** & **S3**

Wednesday, **24 June**

12:30 - 13:40 : Posters **S1** & **S3**

17:45 - 19:00 : Posters **S2**

Thursday, **25 June**

12:30 - 13:40 : Posters **S2**

S1 - Insight into reaction and ageing processes

S1-001

Arijit Basu *(Mechanical and Materials Engineering, University of Turku, Turku, Finland)*, Jenna Hannonen, Ulriika Mattinen

CO_2 gas generation during Lithium-Ion Battery Aging – A novel detection technique using Commercial Gas Sensors

S1-002

Annik Bernhardt *(Material Diagnostics for H2 Technologies, Fraunhofer IMWS, Halle (Saale), Germany)*, Kerstin Witte-Bodnar

Analyzing Degradation of Nafion™ Membranes during XPS Measurements

S1-003

Tobias Binninger *(Theory and Computation of Energy Materials (IET-3), Forschungszentrum Jülich GmbH, Jülich, Germany)*

Fixed versus Floating Reference Potentials: Unnoticed Players in Hydrogen Electrochemistry

S1-004

Daniele Callegari *(Department of Physical Chemistry, University of Pavia, Pavia, Italy)*, Andrea Casalegno, Giorgia Nicosia, Eliana Quartarone, Claudio Rabissi

Recyclability Assessment of $LiFePO_4$-based Batteries After Severe Ageing

S1-005

Petr Cech *(Department of electrochemical materials, Jaroslav Heyrovský Institute of Physical Chemistry - CAS, Prague, Czech Republic)*, Graciela Eguía Márquez, Otakar Frank, Zuzana Vlčková Živcová

Resolving Electrochemical Processes in n-Si Anodes for Li-Ion Batteries Using Distribution of Relaxation Times-Assisted Impedance Analysis

S1-006

Marion Chandesris *(DEHT, CEA - Liten, Grenoble, France)*, Justin Bouvet, Marion Chandesris, Lise Daniel, Sébastien Fiette, Alexis Martin, Chau Tran, Eric Woillez

Lithium-ion Battery Model Parametrization: an Optimization Route Combining Impedance Spectroscopy and Thermodynamic Considerations

S1-007

Brend De Coen *(Department of Applied Engineering, Universiteit Antwerpen, Antwerp, Belgium)*, Tom Breugelmans, Luis F. Leon-Fernandez

Electrolyte Engineering Towards More Efficient Alkaline Oxygen Evolution On Nickel Thin Films

S1-008

Florian Dennewitz *(Simulation and Controls, Hydrogen and Fuel Cell Center (ZBT gGmbH), Duisburg, Germany)*, Matthias Bahr, Niklas Nickig, Felix Schubert

Coupling of a reaction kinetic degradation model with a PEM-FC performance model for real-time prediction of voltage decay in heavy-duty applications

S1-009

Simon Dovrén *(Physics, Chalmers University of Technology, Göteborg, Sweden)*, Julia Maibach

Investigating Storage Mechanisms and Interphase Formation in Hard Carbon Li- and Na-ion Batteries

S1-010

Christian Durante *(Chemical Sciences Department, University of Padova, Padova, Italy)*, Mattia Parnigotto, Matteo Stradolini

Linking GDE Performances to Radical Scavenging Activity of La-Doped CeO_2 in Pt-Based ORR Catalysts

S1-011

Matheus Gabriel Guardiano *(Department of Chemistry, Federal University of São Carlos, São Carlos, Brazil)*, Lucia Helena Mascaro, Eduardo Arizono Reis, Anelisse Brunca da Silva

Long-term Photoelectrolysis-induced $BiVO_4$ Surface Modification: Electrolyte Anions as a Contributing Factor

S1-012

Dániel Hetey *(Department of Electrocatalysis, Helmholtz-Institute Erlangen-Nürnberg for Renewable Energy, Erlangen, Germany)*, Serhiy Cherevko, Yi-Hsuan Wu

Transient Dissolution Assisted Recovery of Iridium and Platinum

S1-013

Svenja Kalthoff *(Electrical Energy Storage, Fraunhofer ISE, Freiburg im Breisgau, Germany)*, Maximilian Bruch-Rosar, Sonia Dsoke, Lea Eisele, Moritz Kroll, Sebastian Maletti, Daniel Nusko

From Operando Core Temperature Monitoring to Post-Mortem Investigation of High-Power Lithium-Ion Cells under High-Current Discharge

S1-014

Ayesha Kousar *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Pekka Peljo

Platinum Ultramicroelectrode Studies of Cyclohexene Oxidation in Non-aqueous Solvents

S1-015

Ohjeong Lee *(material science and engineering, Chonnam National University, Gwangju, Korea)*

Decoupling Electrode-Specific Impedance in Commercial 18650 Cells via Three-Electrode Reconstruction

S1-016

Quang Luong *(School of Minerals and Energy Resources Engineering, The University of New South Wales, Sydney, Australia)*, Rose Amal, Rahman Daiyan, Zhipeng Ma

Electrochemical co-reduction of CO_2 and NO_2: A new C-N coupling mechanism

S1-017

Christian Marcks *(Electrochemical Reaction Engineering, RWTH Aachen University, Aachen, Germany)*, Mohit Chatwani, Adarsh Jain, Anna K. Mechler, Janis Schmitt, Doris Segets, Vera Seidl, Vineetha Vinayakumar

How Cell Design Influences Electrode Characterization for the Alkaline Oxygen Evolution Reaction

S1-018

Ashwin Mekkad *(Chemical Engineering, Indian Institute of Technology Hyderabad, Sangareddy, India)*, Vinod Janardhanan

Elucidating OER Behavior in Phosphoric Acid for High-Temperature Electrolysis

S1-019

Lauren Moreti *(Laboratório Interdisciplinar de Eletroquímica e Cerâmica, Federal University of São Carlos, São Carlos, Brazil)*, Elton Sitta

Electrocatalysis beyond electrode material: Metal migration during acidic water electrolysis

S1-020

Mayank Pal *(Applied Physics, Division of Materials Science, Luleå University of Technology, Luleå, Sweden)*, Mayank Pal

Interfacial Contribution to Solvation Free Energy: A Computational Study

S1-022

Anna Stepanova *(Department of Chemistry, University of Latvia, Riga, Latvia)*, Vladislav Ivanistsev, Nadezda Kongi, Ba Long Nguyen

CO_2 Electrosorption from a Computational Perspective

S1-023

Jiaqi Wang *(Chemical Engineering, Aalto University, Espoo, Finland)*, Gen Li, Daniel Martín-Yerga, Ningyuan Nie, Wenwen Tian, Ruixue Zhao

Intrinsic Metal Effects Govern Methoxy Retention versus Demethoxylation in the Electrochemical Upgrading of Guaiacol

S1-024

Matthias Weiling *(IMD-4, Helmholtz-Institute Münster, Forschungszentrum Jülich GmbH, Münster, Germany)*, Gunther Brunklaus, Peter Lennartz, Martin Winter

Understanding Degradation Processes in Batteries via Quantum Computing and Quantum Sensing

S1-025

Haesik Yang *(Department of Chemistry, Pusan National University, Busan, Korea)*, Jihyeon Kim

Time-Dependent Increase in Carbon Electrode Real Surface Area and Reference Potential Drift in Screen-Printed Electrode Strips

S1-026

Haoxuan You *(Applied Physics, Aalto University, Espoo, Finland)*, Ville Miikkulainen, Yaolin Xu

Decoupling Solid Electrolyte Interface and Ammonia Selectivity in Lithium-Mediated Nitrogen Reduction via Controlled Artificial Interphases

S1-027

Yuguo Zhao *(Department of Physics, Chemistry and Biology, Linköping University, Linköping, Sweden)*, Emma Björk, Robert Boyd, Mats Fahlman, Shoushuang Huang, Zesheng Liu, Magnus Odén, Mikhail Vagin, Yong Yan

Synergistic Role of Mesopores and Oxygen Vacancies in SnO_2 for Enhanced CO_2 Electroreduction

S1-028

Angelo Bryan Ricamara Lazo *(Department of Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Dulce Maria Silva Mosqueda, Björn Eriksson, Tanja Kallio, Rakel Wreland Lindström

Stability Issues with AEM Fuel Cells Using PiperION-based Membrane Electrode Assemblies

S2 - Novel materials and processes for energy conversion and storage

S2-001

Vahid Abbasi *(Mechanical and Materials Engineering, University of Turku, Turku, Finland)*, Eduardo Martinez Gonzalez, Pekka Peljo

Using Galvani Potential Difference in Biphasic Flow Batteries

S2-002

Farooq Ahmad *(Physics, IFM PAN, Poznan, Poland)*, Michal Bielejewski, Istvan Furo, Jugo Okabe

Supramolecular Gel Battery Electrolytes: Diffusion, Conductivity, and Thermal Behavior

S2-003

Heejoon Ahn *(Department of Battery Engineering, Hanyang University, Seoul, Korea)*, Jinhyeong Yoon

Synergistic Interface Engineering of Zinc Powder Anodes with rGO and PAA for Durable Aqueous Zinc-Ion Batteries

S2-004

Kenya Akada *(Dept Sci Environment and Mathematical Modeling, Doshisha University, Kyotanabe, Japan)*, Masatsugu Morimitsu

Cycling Performance of Rechargeable ZnNi Pouch Cells Using Segmentation of Electrolyte

S2-005

Caio Almeida *(Chemistry Department, Federal University of São Carlos - UFSCar, São Carlos, Brazil)*, Lucia Mascaro

Enhancing Electrochemical Nitrate Reduction with FeOOH Co-Deposited on Amorphous MoS_x

S2-006

Paloma Almodóvar *(R&D, Zelestium Technologies, Soria, Spain)*, Paloma Almodóvar, Inmaculada Álvarez-Serrano, Ana Arenillas, Joaquín Calbet, Ignacio Cameán, Joaquín Chacón, Paloma Fernández, María Luisa López, Arevik Musheghyan, Angel Pérez del Pino, Belén Sotillo

Laser-Functionalized Carbon Xerogel Electrodes as a Versatile Platform for Emerging Metal-Ion Batteries

S2-007

Huma Amber *(Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania)*, Eugenijus Norkus, Dmytro Shyshkin, Loreta Tamašauskaitė-Tamašiūnaitė

Highly Efficient PtNPs-Decorated CoP and CoFeP Bifunctional Electrocatalysts for Overall Water Splitting

S2-008

Daniela Ariaudo *(Chemical Engineering, Materials and Environment, Sapienza University of Rome, Rome, Italy)*, Giovanni Battista Appetecchi, Rodolfo Araneo, Alessandro Dell'Era, Maria Di Pea, Antonio Rinaldi

Hybrid ionic liquid – organic electrolyte for sodium-ion batteries

S2-009

Rebekah Aruldhas *(Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Kraków, Poland)*, Kostiantyn Nikiforow, Daniel Piecha, Grzegorz D Sulka, Mateusz Szczerba

Engineering lattice-disordered NiSnIrMoZn high entropy alloy (HEA) for efficient electrocatalytic oxygen evolution reaction

S2-010

Rajkamal Arya *(Applied Science cluster, UPES, Dehradun, India)*, Anil Kumar Sinha

Functional Separator Coatings Enabling Enhanced Redox Kinetics in Lithium-Sulfur Batteries

S2-011

Airon Rae Asuncion *(Department of Chemistry and Chemical Engineering, Inha University, Incheon, Korea)*, Jinsub Choi

Computational and Experimental Research on Transition Metal Phosphides for Oxygen Evolution Reaction

S2-012

Mairis Bērziņš *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaan Aruväli, Sari Granroth, Rutha Jäger, Kuno Kooser, Jekaterina Kozlova, Marian Külaviir, Enn Lust, Valdek Mikli, Priit Möller, Jaak Nerut, Peeter Paaver, Tavo Romann, Peeter Valk

Ni-Doped Ruthenium Oxides with Enhanced Activity and Improved Stability as OER Catalysts for PEM Electrolysers

S2-013

Manuel Bauer *(Electrical Energy Storage, Fraunhofer Institute for Solar Energy Systems - ISE, Freiburg, Germany)*, Lukas A. Dold, Lea Eisele, Oliver Fitz, Ingo Krossing, Christopher Kuenneth

Battery Data Acquisition and Molecular Representations for the Machine Learning-based Prediction of Novel Electrolytes for Lithium-Ion Batteries

S2-014

Robert Baumann *(Chair for laser-based Manufacturing, Technische Universität Dresden, Dresden, Germany)*, Lairana Duarte, Kerstin Eckert, Julia Grothe, Julian Heinrich, Stefan Kaskel, Andrés Fabian Lasagni, Fabian Rene Ränke, Karin Schwarzenberger, Flavio Soldera, Marcos Soldera, Lis Geraldine Zschach

Optimization of oxygen evolution reaction via laser-based surface structuring of electrodes

S2-015

Angelica Bisceglie *(Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Serena Amenta, Luisa Baudino, Angelica Bisceglie, Marco Fontana, Javier Gómez-Monterde, Andrea Lamberti, Simone Martellone, Javier Martinez, Candido Fabrizio Pirri, Yu Kyoung Ryu, Miguel Sànchez-Soto, Roberto Speranza, Pietro Zaccagnini

Laser Writing: Bio-Derived Carbon Electrodes for Sustainable Supercapacitors

S2-016

Mia Bozikovic *(Department of Electrochemistry, Faculty of Chemical Engineering and Technology, Zagreb, Croatia)*, Zoran Mandic, Nikola Zdolsek

In Situ UV–Vis Study of Oxygen Reduction Reaction in Calcium Electrolytes

S2-018

Matheus das Neves *(Brazilian Nanotechnology National Laboratory-LNNano, Brazilian Center for Research in Energy and Materials-CNPEM, Campinas, Brazil)*, Heloísa Barêa, Jefferson Bettini, Felipe de Lima, Adalberto Fazzio, Edson Leite, Rafael Oliveira, Tarcísio Perfecto, Murilo Santhiago

Tunable Electrical Conductivity and Electrocatalytic Activity in large MoS_2 Flakes via Room-Temperature FIB-Induced Amorphization

S2-019

Maria Di Pea *(Department of Chemical Engineering Materials Environment, S, Sapienza University, Rome, Italy)*, Giovanni Battista Appetecchi, Sergio Brutti, Alessandro Dll'Era, Valerio Ficca, Giorgia Greco, Luca Mesina, Claudia Paoletti

Closing the Loop: Italian Waste Biomass as a Sustainable Source for Sodium-Ion Battery Anodes

S2-020

Hugo Dominguez Arroyo *(Department of Analytical Chemistry, Faculty of Chemistry, UNAM, Mexico City, Mexico)*, Hugo Dominguez Arroyo, Alejandro Gutiérrez Sánchez, Lucia Mora Tamez, Ana Lilia Ocampo Flores

Development of a Pd-Co catalyst for glycerol electrooxidation using design of experiments

S2-021

Hugo Dominguez Arroyo *(Materials Engineering Area, Department of Materials, UAM Azcapotzalco, Mexico City, Mexico)*, Hugo Dominguez Arroyo, Victor Alberto Medina Rojano, María Guadalupe Montes De Oca Yemha, Manuel Eduardo Palomar Pardavé, Mario Alberto Romero Romo

Palladium-Silver and Palladium-Rhodium Electrocatalytic Activity for Methanol Oxidation Reaction in Alkaline Medium

S2-022

Dmytro Donskyi *(Department of Biological and Environmental Sciences, University of Eastern Finland, Kuopio, Finland)*, Anna Lähde, Kirill Murashko

Catalytic Pressurized Pyrolysis of Polystyrene: A Sustainable Route to Graphitic Precursors for Lithium-Ion Batteries

S2-023

Ehab El Sawy *(Chemistry, The American University in Cairo, Cairo, Egypt)*, Manar Abdelhamid, Asmaa Heiba, Mohamed Moustafa, Maisara Rabie

Magneto-Electrochemical Synergy in Li-Substituted Cobalt Ferrites for High-Performance Supercapacitors

S2-024

Marwa Ennouri *(Department of Functional Electroactive Materials, Institute of Macromolecular Chemistry (IMC), CAS , Prague 6, Czech Republic)*, Patrycja Bober, Manoj Karakoti, Zuzana Morávková

Photorechargeable Supercapacitors Based on Photoactive labile Electrolytes: Effect of Electrode Chemistry

S2-025

Faiza Fayyaz *(Department of Chemistry and Material Science, School of Chemical Engineering, Aalto University, Espoo, Finland)*

Atomically Engineered Thin-Film Cathode Coatings via Atomic Layer Deposition for Hydrogen Evolution in Seawater Electrolysis

S2-026

Laura Femmer *(Institute of Engineering Thermodynamics, German Aerospace Center, Ulm, Germany)*, Piotr de Silva, Juan M. García-Lastra, Juliane Heitkämper, Birger Horstmann, Lukas Köbbing

Theory-based Analysis of 1,4-Polyanthraquinone as Cathode Material for Post-Lithium Batteries

S2-027

Masoud Foroutan Koudahi *(Department of Thin Films and Nanostructures, Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic)*, Jiri Cervenka

Improving the Interfacial Stability of Si-Based Lithium-Ion Batteries through Gel-Polymer Electrolyte Engineering

S2-028

Carlotta Francia *(Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Federico Bella, Silvia Bodoardo, Paula Mondino, Sabrina Trano

NextCell Project: Towards the next generation of high-performance Li-ion battery cells

S2-029

David Fuchs *(Department of Energy Technology, University Duisburg-Essen, Duisburg, Germany)*, Harry Hoster, Falko Mahlendorf, Thomas Meyer

Sustainable Solvent Systems for Sodium Ion Batteries Electrode Processing: Beyond N-Methyl-2-Pyrrolidone

S2-030

Diego Garay-Ruiz *(FINDER group, Instituto de Micro y Nanotecnología, Tres Cantos, Spain)*, Han Hao, Marisol Martín-González, Sergio Pablo-García

Database Utility for Cyclovoltammetry Knowledge (DUCK)

S2-031

Nitika Garg *(Indian Institute of Technology Delhi and Indian Institute of Technology Delhi Abu Dhabi)*, Ashok Kumar Ganguli

Hierarchically Integrated in-situ grown $CaMoO_4$/Polyaniline Hybrid Electrodes for Efficient Oxygen Evolution

S2-032

Cristina Gatti *(Materials Science, University of Milano-Bicocca, Milan, Italy)*, Marco Colasanti, Micol Di Veroli, Chiara Ferrara, Emilio Pafumi, Francesca Pagnanelli, Riccardo Ruffo

Mixed Oxalate Routes for NMC Cathodes Production: a Study on Applications, Processes & Pitfalls

S2-033

Andreas Göpfert *(Helmholtz-Institut Erlangen-Nürnberg (IET-2), Forschungszentrum Jülich GmbH, Erlangen, Germany)*, Marc Ledendecker, Huize Wang

Laser-Driven Formation of Crystalline Ta-Ir Oxide Solid-Solution Nanoparticles for Enhanced Acidic OER Performance

S2-034

Daliana Patricia Gonzalez Solano *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Marek Mooste, Kaido Tammeveski, Ivar Zekker

Dual Transition Metal and Nitrogen/Sulphur Co-doped Nanocarbon Catalysts for Oxygen Reduction at the Microbial Fuel Cell Cathode

S2-035

María González-Ingelmo *(Materials Chemistry, Instituto de Ciencia y Tecnología del Carbono, Oviedo, Spain)*, Clara Blanco, Lucía Muñiz Muñoz, Victoria G. Rocha, Ricardo Santamaría

Sequential Electrodeposition of NiMo and $NiCeO_2$ for Enhanced HER in Alkaline and Alkaline-Saline Media

S2-036

Oliwia Górzyńska *(Faculty of Chemical Technology, Poznan University of Technology, Poznań, Poland)*, Pawel Jezowski, Piotr Krawczyk

Activated Carbon from Biodegraded Precursor as Electrode Material for Energy Storage

S2-037

Patrycja Grabowska *(Faculty of Chemistry, Nicolaus Copernicus University in Toruń, Toruń, Poland)*, Marta Gajewska, Anna Ilnicka, Laura Kubinska, Mariusz Szkoda

Effect of Nitrogen-Doped Carbon on the Bifunctional Electrocatalytic Performance of Nickel Nitride for Water Splitting

S2-038

David Gráf *(Department of Chemical Engineering, University of Chemistry and Technology, Prague, Czech Republic)*, Jiří Charvát, Martin Drnec, Petr Mazúr, Přemysl Richtr

Membrane Selection and Operational Strategies for Scalable Zinc-Iodine Hybrid Flow Batteries

S2-039

Emanuele Maria Groiss *(Industrial Engineering, Fondazione Bruno Kessler, SE - Università di Trento, Trento, Italy)*, Mattia Duranti, Edoardo Gino Macchi

Study on Chloride-based Iron catholytes for durable Redox Flow Batteries

S2-040

Soma Halasi *(Department of Physical Chemistry and Materials Science, University of Szeged, Szeged, Hungary)*, Balázs Endrődi, Dániel Horváth, Csaba Janáky, Péter Pusztai, Angelika Anita Samu

Iterative ML-based optimization and aging characterization in zero-gap CO_2RR cells

S2-041

JunHyuk Han *(Convergence of Chemistry and Chemical Engineering, Inha University, Incheon, Korea)*, Jinsub Choi

Enhancing the rate capability of $LiFePO_4$ cathodes via lithiated functionalized conductive additives

S2-042

Yu-Hsuan Hsiao *(Materials and Optoelectronic Science, National Sun Yat-sen University, Kaohsiung, Taiwan)*, Liuwen Chang, Da-Jin Dai, Yi-Hsuan Shih

A High-throughput Approach to Investigate Electroepitaxial Growth of Cu_2O for Solar Energy Conversion Applications

S2-043

Kenta Ida *(Dept Sci Environment and Mathematical Modeling, Doshisha University, Kyotanabe, Japan)*, Masatsugu Morimitsu, Aya Okazaki

Preparation, Characterization, and Catalytic Activity of Na-doped Bismuth Ruthenium Oxide (NBRO) Nanoparticles Formed on Nickel Substrate

S2-044

Anton Iemtsev *(Physical Chemistry, University of Chemistry and Technology, Prague , Prague , Czech Republic)*, Fatima Hassouna

Thermally Stable and Compressible Allyl Cellulose–Polyaniline Aerogels with Electromechanical Responsiveness

S2-045

Joaquim Igreja Mendes *(Division of Applied Electrochemistry, Department of Chemical, KTH Royal Institute of Technology, Stockholm, Sweden)*, Si Chen, Johan Hjelm, Joaquim Igreja Mendes, Patric Jannasch, Amirreza Khataee, Rakel Wreland Lindström

Membranes containing tertiary and quaternary ammonium as ion exchange groups for all-vanadium flow batteries: A comparative study

S2-046

Yuta Ito *(Department of Energy and Environment, Advanced Industrial Science & Technology (AIST), Ikeda, Japan)*, Toyoki Okumura, Misae Otoyama, Kazuki Yoshii

Single-Cation Ionic Liquid for Stable Interfaces in Sulfide Solid-State Batteries

S2-047

Vladislav Ivanistsev *(Department of Chemistry, University of Latvia, Riga, Latvia)*, Ritums Cepitis, Nadezda Kongi, Thor Kongstad Madsen

Geometry Effect on Activity and Selectivity in Oxygen Reduction Reaction on Dual-Atom Site Catalysts

S2-048

Ewa Iwanek *(nee Wilczkowska) (Faculty of Chemistry, Warsaw University of Technology, Warsaw, Poland)*, Zbigniew Kaszkur, Donald Kirk, Kamil Kotwica, Maciej Marczewski, Urszula Nietrzeba, Maciej Smoliński

Biochar from Agricultural Waste as an Electrode Component

S2-049

Juhana Jämsén *(Department of Environmental and Biological Sciences, University of Eastern Finland, Kuopio, Finland)*, Anna Lähde, Kirill Murashko, Muhammad Tanveer

Flame spray pyrolysis of highly conductive doped TiO_2 nanoparticles for enhancing porous carbon cathode of lithium–sulfur battery

S2-050

Santanu Jana *(Department Of Chemical science, Ariel University, Ariel, Israel)*, Arie Borenstein

CO_2 Electroreduction on Nano-Cu-ZIF Grown inside Activated Carbon

S2-051

Santanu Jana *(Department Of Chemical science, Ariel University, Ariel, Israel)*, Arie Borenstein

Laser Induced Cu-Phenanthroline Derived Cu-N-C Electrocatalyst for Efficient Nitrate to Ammonia Conversion

S2-052

Dongheon Jeong *(Chemistry and Chemical engineering, Inha University, Incheon, Korea)*, Kiyoung Lee, JeongEun Yoo

Sustainable Synthesis of Silicon-Based Anode Materials for Lithium-Ion Batteries from Industrial Waste

S2-054

Moon-Sung Kang *(Department of Green Chemical Engineering, Sangmyung University, Cheonan, Korea)*, Ji-Hyeon Lee

PPO-based blend-structured ion-exchange membranes for efficient electrochemical energy conversion processes

S2-055

Emir Karagul *(Department of Chemistry - Ångström Laboratory, Uppsala, Sweden)*, Rebecca Clulow, Dragos Dancila, Therese Eriksson, Andrew Naylor

Microwave Reduced Graphene Oxide as a Sustainable Conductive Additive for High Mass Loading LFP Electrodes

S2-130

Reza Khakpour *(Applied Physics, Aalto University, Espoo, Finland)*, Tapio Ala-Nissila, Kaveh Farshadfar, Arsalan Hashemi, Kari Laasonen

Second-Sphere Cationic Functionalization Enhances CO_2 Electroreduction: A Mechanistic DFT Study over Cobalt Phthalocyanines

S2-056

Muhammad Waqas Khan *(ELCAT, Faculty of Applied Engineering, University of Antwerp, Antwerp, Belgium)*, Tom Breugelmans, Nick Daems, Gerard Montserrat-Sisó

MOF-Derived FeNiCo Sulfide for Efficient Oxygen Evolution in Anion Exchange Membrane Water Electrolysis

S2-057

Zeba Khanam *(Department of Thin Films and Nanostructures, Institute of Physics of the Czech Academy of Sciences (FZU), Prague, Czech Republic)*, M.-Sadeeq Balogun, Jiri Cervenka

Active 3D Current Collector Enabled High Areal Capacity Anode for Na-Ion Batteries

S2-058

Mohammadmahdi Khodaverdi *(Mechanical and Materials Engineering, University of Turku, Turku, Finland)*, Ulriika Mattinen, Pekka Peljo

Designing Cost-Effective Electrocatalysts for Sustainable Hydrogen Production

S2-059

Beonjun Kim *(Convergence of Chemistry and Chemical Engineering, Inha University, Incheon, Korea)*, Jinsub Choi, Heonsoo Park

Enhancing the Structural and Electrochemical Stability of SiOx Anodes via Precursor-Controlled Carbon Coatings

S2-060

Hyewon Kim *(Convergence of Chemistry and Chemical Engineering, Inha university, Incheon, Korea)*, Jinsub Choi

Interfacial Instability Induced by Salt-Water Overdischarge and Its Impact on Direct Recycling of $LiFePO_4$ Cathodes

S2-061

Sarp Kölgesiz *(Doctoral School of Engineering- ED I-MEP2, University of Grenoble, Grenoble, France)*, Naceur Belgacem, Davide Beneventi, Roberta Bongiovanni

Low-Cost and Environmentally Friendly Gas Diffusion Layer from Biosourced Precursors for PEMFCs

S2-062

Thor Kongstad Madsen *(Chemistry Department, University of Tartu, Riga, Latvia)*

Getting around intrinsic errors of density functional theory calculations in electrocatalysis

S2-063

Anastasiia Konovalova *(Department of Energy Conversion and Storage, Technical University of Denmark, Lyngby, Denmark)*, Theodora Dragani, Alberto Laggioni, Dmytro Serhiichuk

Tailored Anion Exchange Ionomers for Low Temperature Electrolysis Applications

S2-064

Kwanele Kunene *(Chemistry and Chemical Engineering, Chalmers University of Technology, Göteborg, Sweden)*, Burçak Ebin

Sustainable Silver Recovery from CIGS Solar Cell Waste via Hydrometallurgical and Electrochemical Methods

S2-065

Jaehyun Lee *(Chemistry and Chemical Engineering, Inha University, Incheon, Korea)*, Jinsub Choi

Interfacial Engineering of Aluminum Foil Anodes via Electropolishing for Regulated Alloying Kinetics in Lithium-Ion Batteries

S2-066

Chuyue Li *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Mousumi Dey, Eduardo González, Xinyue Liu, Lilian Moumaneix, Pekka Peljo

From Screening to Mechanistic Insights: Automated High-Throughput Electrochemistry for Redox Species Discovery

S2-067

Qiujun Li *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Eduardo Martínez González, Pekka Peljo

Phosphonate-based iron complex for ultra-stable near-neutral aqueous redox flow batteries

S2-068

Hong-Ping LIN *(Chemistry, National Cheng Kung University, Tainan, Taiwan)*

Kilogram-Scale Hard-Carbon Production from Agricultural Waste Under O_2/CO Atmosphere Generated by Oyster-Shell Decomposition

S2-069

Xinyue Liu *(Department of Chemistry and Materials Science, Aalto University, espoo, Finland)*, Daniel Martin-Yerga

Composition-Gradient Libraries Prepared by an Automated Hull-Cell Platform for Electrocatalyst Discovery

S2-070

Princess Stephanie Llanos *(VTT Technical Research Centre of Finland, VTT Technical Research Centre of Finland, Espoo, Finland)*, Taina Rauhala, Olli Sorsa, Riikka Suhonen

Effect of Additives for $NaPF_6$ Carbonate-Based Electrolytes in Na-Ion Batteries

S2-071

Francesca Lorenzutti *(Laboratory of Renewable Energy Science and Engineering, Institute of Mechanical Engineering, EPFL, Lausanne, Switzerland)*, Abhinav Bhanawat, Sophia Haussener

Modeling Porous Photoelectrodes for Water Splitting and Glycerol Oxidation

S2-072

Leonardo Alberto Luciano *(Department of Applied Science and Technology, Politecnico di Torino, Turin, Italy)*, Julia Amici, Silvia Bodoardo, Daniele Versaci

Fast and Sustainable Microwave-Assisted Synthesis of Metal Sulphide Catalysts for Lithium-Sulphur Batteries

S2-073

Quang Luong *(School of Minerals and Energy Resources Engineering, The University of New South Wales, Sydney, Australia)*, Rose Amal, Rahman Daiyan, Zhipeng Ma

Confinement-driven CO Enrichment in Inter-connected CuO Architectures for Efficient High-rate CO_2 Electrolysis

S2-074

Pedro Pablo Machado Pico *(Department of Chemistry, Sapienza University, RM, Italy)*, Jorge Montero, Akiko Tsurumaki

FeNi–N–C Based Bifunctional Electrocatalyst for Sustainable Energy Conversion Technologies

S2-075

Chanez Maouche *(School of Chemical Engineering, Aalto University, Espoo, Finland)*, Maxime Artault, Gabriel Gonzalez, Qiujun Li, Pekka Peljo, Petri M Pihko

Aza-Anthraquinone Derivative as a High Stable Negolyte for Acidic Aqueous Organic Flow Batteries

S2-076

Menandro Marquez *(Materials Science and Engineering, Kyoto University, Kyoto City, Japan)*, Haruki Katori, Kuniaki Murase, Kiho Nishioka

Reversible Na+/K+ Ion Exchange and High Volumetric Capacitance in Sr-Assisted Electrodeposited $Ni(OH)_2$/NiOOH Hybrid Microsupercapacitor Electrode

S2-077

Marco Mazzucato *(Department of Chemical Science, University of Padova, Padova, Italy)*, Elisabetta Campedelli, Marco Carniato, Christian Durante

Structural and Electronic Modifications of MoS_2 with Cu/Co Doping for Efficient HER

S2-078

Angelique Pauline Mbourra *(Electro and Energy Materials, Institute For Frontier Materials - Deakin University, Melbourne, Australia)*, Mega Kar, Cristina Pozo Gonzalo, Anthony Somers

Advanced Non-Aqueous Electrolytes for Rechargeable Zinc Batteries

S2-079

Chirag Mevada *(Electrical Engineering, Tampere University, Tampere, Finland)*, Philippe Dallemagne, Jari Keskinen, Matti Mäntysalo, Pascal Nussbaum, Kaisa-Leena Väisänen, Marja Välimäki, Alberto Zandara

Fabrication and Stability of 3D-Printed Nontoxic Supercapacitors for Wireless Sensor Applications

S2-080

Alexander Mirandona Olaeta *(Department of Organic and Inorganic Chemistry, UPV/EHU // BCMaterials, Leioa, Spain)*, Arkaitz Fidalgo-Marijuan, Idoia Ruiz de Larramendi

MOF-Confined Ionic Liquids in Polymer Matrices: A Hybrid Strategy toward Safer Sodium Batteries

S2-081

Shoayb Mojtahedi *(Department of Chemistry "Giacomo Ciamician", University of Bologna, BOLOGNA, Italy)*, Simone D'Agostino, Ncholu Manyala, Federico Mascetti, Francesca Soavi, Andrea Vitale

Co-Coordination Polymers and Complexes from Lithium-ion Battery Cathode Scraps

S2-082

Francisca Moreira *(LSRE-LCM, Faculty of Engineering of University of Porto, Porto, Portugal)*, Meiline Póvoa, Karolina Rodrigues, Vítor Vilar

Advanced PEM Electrolyzer Design for Sulfur Dioxide-Depolarized Electrolysis

S2-083

Francisca Moreira *(LSRE-LCM, Faculty of Engineering of University of Porto, Porto, Portugal)*, Hanane Boumeriame, Isabel Fernandes, Margarida Peixoto, Meiline Póvoa, Karolina Rodrigues, Ricardo Santos, Vítor Vilar

Integrated Electrochemical and Thermochemical Solutions for Hydrogen Production via the Westinghouse Cycle

S2-084

Seyedabolfazl Mousavihashemi *(Digital technologies, VTT technical research centre of Finland, Espoo, Finland)*

Toward Sustainable Manufacturing of Solid-State Lithium Metal Batteries via Dry Cathode Extrusion

S2-085

Kirill Murashko *(Department of Environmental and Biological Sciences, University of Eastern Finland, Kuopio, Finland)*, Ali Huerta Flores, Tao Hu, Anna Lähde, Ulla Lassi, Muhammad Tanveer

Synthesis of the carbon-coated $Na_4Fe_3(PO_4)_2P_2O_7$ cathode for sodium-ion batteries by flame spray pyrolysis.

S2-086

Ava N. Nair *(Chemical Engineering, Indian Institute Of Science Education and Research Bhopal, Bhopal, India)*, Sweta Lal, Devyani Sanjay Patil

A Microfluidic Fuel Cell on Paper Powered by Ammonia Borane (μPFC-AB) for Portable Powering Applications- Insights from Experimental–Computational Framework

S2-087

Markus Nilsson *(Department of Chemistry and Chemical Engineering, Chalmers University of Technology, Gothenburg, Sweden)*, Mathilde Luneau, Arma Ya'u Musa

Dilute Alloy Catalysts for CO_2 Electroreduction to Ethylene

S2-088

Amritha P. Sandra *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Vishnu Arumughan, Gustavo Garcia M., Göran Lindberg, Max Vargas Mena, Rakel Wreland Lindström

Bio-Based Nanochitin Binder for High Voltage $LiNi_{0.5}Mn_{1.5}O_4$ Electrodes

S2-089

Maarja Paalo *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Alar Jänes, Karl-Sten Põder, Markus Rätsep

Water Processed Binders as the New Standard for Sodium-Ion Battery Hard Carbon Anodes

S2-090

Carla Palladini *(Materials Science, Università degli Studi di Milano-Bicocca, Milano, Italy)*, Antonio Gentile, Stefano Marchionna, Riccardo Ruffo

Strategies to Mitigate First-Cycle Irreversibility in Alkali-Ion Batteries

S2-091

Hongwei Pan *(KU LEUVEN, , LEUVEN, Belgium)*, Jan Fransaer

Mechanically Stable Gel Polymer Electrolyte with Fast Li+ Transport for High-Performance Lithium Metal Batteries

S2-092

Chan-Woo Park *(Material science and engineering, Chonnam National University, Gwangju, Korea)*

Improving BMS SOC Accuracy for High-Nickel and LFP Cells through Directly Measured EIS-Derived Physics Parameters

S2-093

Bastien Penninckx *(Physics, Chalmers University of Technology, Gothenburg, Sweden)*, Fabian Wenger, Björn Wickman

Improving Electrochemical Durability of PEMWE Electrodes with CNF-Enhanced Low Ir Catalysts

S2-094

Hazzalea Elyse Reyes *(Laboratory of Molecular Science and Engineering, Åbo Akademi University, Turku/Åbo, Finland)*, Johan Bobacka, Tor Laurén, Zekra Mousavi, Chunlin Xu, Hao Zhang

Nanocellulose Fibril-Templated Preparation of $Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$ (NZSP) NASICON Electrolytes

S2-095

Angelo Robiños *(Laboratory of Molecular Science and Engineering, Åbo Akademi University, Åbo-Turku, Finland)*, Johan Bobacka, Najeeb ur Rehman Lashari, Inge Schlapp-Hackl, Jan-Henrik Smått, Jerwin Jay Taping, Chunlin Xu, Ville Yrjänä, Hao Zhang

Phenolate-Mediated Structural Evolution of Lignin toward Hard Carbon Anodes for Sodium-Ion Batteries

S2-096

Natasha Ross *(Chemistry, University of the Western Cape, Bellville, South Africa)*

Tailoring Nanomaterial Surfaces for Sustainable and Scalable Paper-Based Sodium-Ion Batteries

S2-097

Natasha Ross *(Chemistry, University of the Western Cape, Bellville, South Africa)*

Enhanced Electrochemical Performance of $LiMxMn_{2-x}O_4$/MWCNT Cathodes through Multiple Cation Doping for Energy Storage Systems

S2-098

Soroush Sabbaghi *(Chemistry, Materials and Chemical Engineering, Politecnico di Milano, Milan, Italy)*

Classical Molecular Dynamics Investigation of Polymeric Membranes for Organic Redox Flow Batteries

S2-099

Murilo Santhiago *(Brazilian Nanotechnology National Laboratory, Brazilian Center for Research in Energy and Materials, Campinas, Brazil)*, Jefferson Bettini, Matheus F. F. das Neves, Leonardo H. Hasimoto, Tarcísio M. Perfecto, Alisson R. Cadore, Edson R. Leite

Precise Defect Engineering of Molybdenum Disulfide for Hydrogen Evolution Reaction

S2-100

Siro Saronni *(Materials Science, University of Milano Bicocca, Milan, Italy)*, Eleonora Carena, Piercarlo Mustarelli, Riccardo Ruffo, Diego Stucchi, Nicholas Vallana

Inorganic Fillers as Stabilizing Agents for PVdF-HFP QSSEs: Inhibition of HF Degradation Pathways

S2-101

Shyamkrishna Sasikumar *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaana Lilloja-Lensment, Kaido Tammeveski

Mesoporous Non-Precious Metal Catalysts for Low-Temperature Anion-Exchange Membrane Fuel Cell Cathode

S2-103

Magdalena Skunik-Nuckowska *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Grażyna Z. Żukowska, Jerzy Antonowicz, Rafał Jurczakowski, Aleksandra A. Mroziewicz

Cation Identity Effects in Iodide-Based Redox-Active Low Transition Temperature Mixtures for Electrochemical Capacitors

S2-104

Martin Spurny *(Dept. of Chemical Engineering, University of Chemistry & Technology Prague, Prague, Czech Republic)*, Dalibor Berka, Petr Mazur, Marco Tucci

Enhancing energy density of flow batteries by solid capacity boosters

S2-105

Gautam Sreedevi Jacob *(Institute of Engineering Thermodynamics, Deutsches Zentrum für Luft- und Raumfahrt (DLR) Stuttgart, Stuttgart, Germany)*, Klemens Bremmel, Birger Horstmann, Dennis Kopljar, John Mugisa, Micha Philipp, Christina Schmitt

Parameterization of an NCA/Gr-Si-based commercial cell - Experimental Procedures and Inverse Modeling Workflow

S2-106

Lilly Steil *(Physics of Energy Conversion and Storage, Technical University of Munich, Garching, Germany)*, Aliaksandr Bandarenka, Satyakam Kar, Alfred Ludwig

Identification of Active Sites for IrPdPtRhRu Electrocatalysts for Hydrogen Evolution and Oxygen Reduction Reaction via Electrochemical Scanning Tunneling Microscopy

S2-107

Anna Stepanova *(Department of Chemistry, University of Latvia, Riga, Latvia)*, Margarita Burunova, Vladislav Ivanistsev, Nadezda Kongi, Karolina Kudelina, Iuliia Vetik

An Open Data Approach for Comparing CO_2 Capture Materials

S2-108

Mojgan Taheri *(Department of Environmental and Biological Sciences, University of Eastern Finland, Kuopio, Finland)*

Ultrasonic Spray-Dried Fe and Fe–Zn Catalysts for Catalytic Graphitization of Kraft Lignin Toward Electrochemical Applications

S2-109

Pingping Tan *(Department of Materials Engineering, KULeuven, Leuven, Belgium)*, Jan Fransaer, Xuan Zhang

Oriented High-Index Faceted Ni_3S_2 for Efficient Oxygen Evolution Reaction

S2-110

Muhammad Adeel Tariq *(Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania)*, Muhammad Naeem Hafiz, Ramūnas Levinas, Eugenijus Norkus, Loreta Tamašauskaitė-Tamašiūnaitė

Electrochemical oxidation of methanol at $Ni(OH)_2$-supported Pd electrocatalysts for direct methanol fuel cells

S2-111

Ozan Ustün *(Mathematics, Informatics and Cybernetics, University of Chemistry and Technology, Prague (VŠCHT), Prague, Czech Republic)*, Fatima Hassouna, Tomáš Lapka

Size-Controlled ZIF-Derived Carbons for Stable Polypyrrole-Based Flexible Supercapacitors

S2-112

Svetlana Krasimirova Veleva *(Institute of Electrochemistry and Energy Systems, Bulgarian Academy of Sciences, Sofia, Bulgaria)*, Sonya Harizanova, Violeta Koleva

N-rGO Electrodes for Efficient and Stable Alkaline Supercapacitors

S2-113

Linas Vilčiauskas *(Electrochemical Energy Storage Group (EESG), Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania)*, Biswaranjan Das Mohaptra, Jurgis Pilipavičius, Nadežda Traškina

Boosting Electrochemical Performance of $Zn_{1+x}Mn_{2-x}O_{4-2x}$

S2-114

Erlantz Villar *(Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden)*, Amirreza Khataee, Rakel Wreland Lindström

Distribution of Relaxation Times: Analysis of the H_2-Mn Flow Battery

S2-115

Yusuke Wakayama *(Department of Chemistry, The University of Tokyo, Tokyo, Japan)*, Teppei Yamada, Hongyao Zhou

Fundamentals and Chemical Engineering Strategies for the Electrochemical Peltier Effect

S2-116

Yuqiao Wang *(Sorbonne university, Sorbonne university, Paris, France)*, Farzaneh Arefi-khonsari, Alain Pailleret, Jerome Pulpytel

Magnetron Sputtering Deposition of Copper Oxides Based Photocathode Materials and Stabilization by Heterojunction Engineering for the Photoelectrochemical Production of H_2

S2-129

Ying Wang *(Materials Science & Engineering, National University of Singapore, Singpaore, Singapore)*, Daniel J Blackwood

Sulphate-Anion-Mediated Hydrothermal Synthesis of Amorphous MnO_2 Nanosheet Arrays on Nikel Foam for High-Performance Pseudocapacitors

S2-117

Hui Wang *(Jülich Centre for Neutron Science (JCNS-1), Research Center Jülich, Jülich, Germany)*, Jürgen Allgaier, Nicolas Bucher, Takeshi Egami, Stephan Förster, Eugene Mamontov, Michael Ohl, Naresh Osti

Microscopic Understanding of Li+ Transport in 4-Arm star Poly(ethylene oxide): Insights from Molecular Dynamics and Neutron Scattering

S2-118

Nianxing Wang *(Department of Mechanical and Materials Engineering, University of Turku, Turku, Finland)*

Redox-Active Viologen Polymer/Carbon Hybrid Films for Electrochemical Energy Storage Applications

S2-119

Nico Philipp Weiss *(Electrochemical Energy Conversion and Storage, Aalto University, Espoo, Finland)*, Alisa Bogdanova, Tanja Kallio, Princess Stephanie Llanos

Atomic Layer Deposited Oxide Coating on Silicon Nanopowders for improved cycling stability in Lithium-Ion Battery Anodes

S2-121

Shukai Wu *(Sustainable Energy and Environment Thrust, The Hong Kong University of Science and Technology (GZ), Guangzhou, China)*, Chao Fang

High-Throughput Screening and Inverse Design for Solvation Engineering toward High Thermopower Thermogalvanic Electrolytes

S2-122

Wei Yu *(Advanced Institute for Materials Research, Tohoku University, Sendai, Japan)*, Hirotomo Nishihara

Carbon Honeycomb Cathodes with Xylem-Like Structures for Lithium-Oxygen Batteries

S2-123

Pietro Zaccagnini *(Applied science and technology, Politecnico di Torino, Turin, Italy)*, Luisa Baudino, Angelica Bisceglie, Andrea Lamberti, Eleonora Lorenzi, Simine Martellone, Mara Serrapede

Unraveling the Lithium faradic behavior at Laser Induced Graphene, enabling stable Micro-Hybrid Capacitor development.

S2-124

Alexander Zestos *(Chemistry, American University, Washington, USA)*, Teflah Alshammari

Metal Organic Framework (MOF) Microelectrodes for Energy Storage and Dissipation

S2-125

Xueliang Zhang *(Materials Engineering, KU Leuven, Leuven, Belgium)*

A low-Fermi-level current collector enables anode-free lithium metal batteries with long cycle life

S2-126

Ziling Zhang *(School of Minerals and Energy Resources Engineering, The University of New South Wales, Sydney, Australia)*, Rose Amal, Rahman Daiyan, Zhipeng Ma

Stable Dual Metal Oxide Matrix for Tuning Selectivity in Acidic Electrochemical CO_2 Reduction

S2-127

Yixiao Zhang *(Physics, Technical University of Munich, Garching b. München, Germany)*

Tuning CO_2 Electroreduction Selectivity with Cu–Al Bimetallic Catalysts toward C_2+ products

S2-128

Yue Zhao *(Department of Advanced Functional Materials Research, National Institutes for Quantum Science and Technology (QST), Takasaki, Japan)*, Yasunari Maekawa, Toshinori Motegi, Kimio Yoshimura

Strategies to Predict Conduction Efficiency in Polymer Electrolyte Membranes through the Structure Database

S2-131

Amir Mahdian *(Department of Chemistry and Material Science, School of Chemistry, Aalto-yliopisto, Espoo, Finland)*

Understanding Proton Electron Transfer Pathways: Bridging Theoretical Scheme of Squares and Experimental Cyclic Voltammetry

S3 - Efficient and viable energy conversion systems

S3-001

Suhyeon Ahn *(Research&Development, Energy11, Jeonbuk National University, Wanju, Korea)*

Enhancing the Cycling Stability of $Na_2FeP_2O_7$ through Sucrose-Derived Carbon Coating

S3-002

Mohd Aman *(Materials Science and Engineering, IIT kanpur, Kanpur, India)*, Tania Naqvi, Shobit Omar, Saurabh Sharma

Fabrication of Metastable β-Bi_2O_3@Carbon Composite Architecture for the Na-Ion Battery and SERS Application

S3-003

Yongwon An *(Chemical Engineering, Chung-Ang University, Seoul, Korea)*

Enhanced Oxygen Evolution Reaction Activity Enabled by NiFeCoCuW High Entropy Alloy

S3-004

Sayani Biswas *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Joan Arnandis Calatayud, Daniel Martín-Yerga, Amar Raj

Electrocatalytic Performance of AuCu Microstructures Prepared by Tandem Electrodeposition-Galvanic Exchange for Sugar Oxidation

S3-005

Jaeyoung Byun *(Chemical Engineering, Chung-Ang University, Seoul, Korea)*, Sang Hyun Ahn, Jungmin Yoo

One-Step Co-Fe Deposition on Nickel Foam via Insoluble Seed Formation for Enhanced Alkaline Oxygen Evolution

S3-006

Katsiaryna Charniakova *(Chemistry, Jagiellonian University, Krakow, Poland)*, Vaclovas Klimas, Grzegorz Sulka

Aminoacetic Acid Mediated Regulation of Growth Kinetics during Aluminum Anodizing in Oxalic Acid Electrolytes

S3-007

Chia-Ying Chiang *(Chemical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan)*

Process Intensification for Membraneless Glycerol Valorization and Hydrogen Production Under Industrial Relevant Current Density: From Electrolyte Engineering to Dual-Rotor Spinning Disc Reactors

S3-008

Maria Cuartero-Gonzalez *(Electrochemical processes Unit, IMDEA Energy, Móstoles, Spain)*

High Rate Urea Elecrolysis Enabled by Porous Oxide Interlayers on Stainless Steel Cathodes

S3-009

Jonnathan Hidalgo *(Department of Chemistry and Materials Sclence, Aalto University, Espoo, Finland)*

Decoupled All-Iron Redox Flow Batteries with pH Recovery

S3-010

Dong young Hwang *(Chemical Engineering, Chung-Ang University, Seoul, Korea)*, Sang Hyun Ahn

Design of CuZn Catalysts for Urea-Selective CO_2/NO_3– Co-Reduction

S3-011

Mitra Ila *(Chemical and Metallurgical Engineering, Aalto university, Espoo, Finland)*, Marjatta Louhi-Kultanen

Performance Evaluation of a Non-Aqueous Redox Flow Battery with Functionalized Ionic Redox Species: A Numerical Modeling Study

S3-012

Ryuto Iwata *(Chemistry, University of Tokyo, Tokyo, Japan)*, Yusuke Wakayama, Teppei Yamada, Hongyao Zhou

Reversible Thermoelectric Conversion Enabled by an Ionic Junction between Acidic and Basic Thermo-responsive Polymer Nanoparticles

S3-013

Byeongyeong Kwack *(Chemical Engineering, Chung-Ang University, Seoul, Korea)*, Sang Hyun Ahn, Junbeom Bang

Deciphering Electrochemical Surface Reconstruction of Nickel Sulfide for Alkaline Hydrogen Evolution Reaction

S3-014

Zhiyi Man *(ESPCI, Paris, France)*

Energy Efficiency of Resonant Electro-osmosic Pumping in Membrane-Based Practical Applications

S3-015

Abdullah Sirat *(Department of Chemistry and Materials Science, School of Chemical Engineering, Aalto University, Espoo, Finland)*, Jerzy Jasielec, Eduardo Martínez González, Pekka Peljo

Multiphysics Modeling of Coupled Charge and Mass Transfer in Redox-Mediated Flow Batteries

S3-016

Padinjarethil Vishnu *(Chemical Engineering, Indian Institute of Science Education & Research Bhopal, Bhopal, India)*, Ijjada Mahesh, Manoj Kumar Tripathi

Development of Membrane-Free Electrochemical Flow Reactor with Vertically Eccentric Non-Coaxial Electrodes for Impure Water Electrolysis

S3-017

Ziyi Wan *(Department of Applied Physics, Aalto University, Espoo, Finland)*

Remarkably Improved Photo-Charging and Dark-Discharging Current in A Faradaic Junction Solar Rechargeable Device by Regulating the Morphology of a Semiconductor

S3-018

Teppei Yamada *(Department of Chemistry, The University of Tokyo, 7-3-1 Hongo, Japan)*

A CO_2 concentration cell using copper ethylenediamine complex

S3-019

Jungmin Yoo *(Chemical Engineering, Chung-Ang University, Seoul, Korea)*, Sang Hyun Ahn, Gyeong Ho Han, Haeryang Lim, Giwon Shin

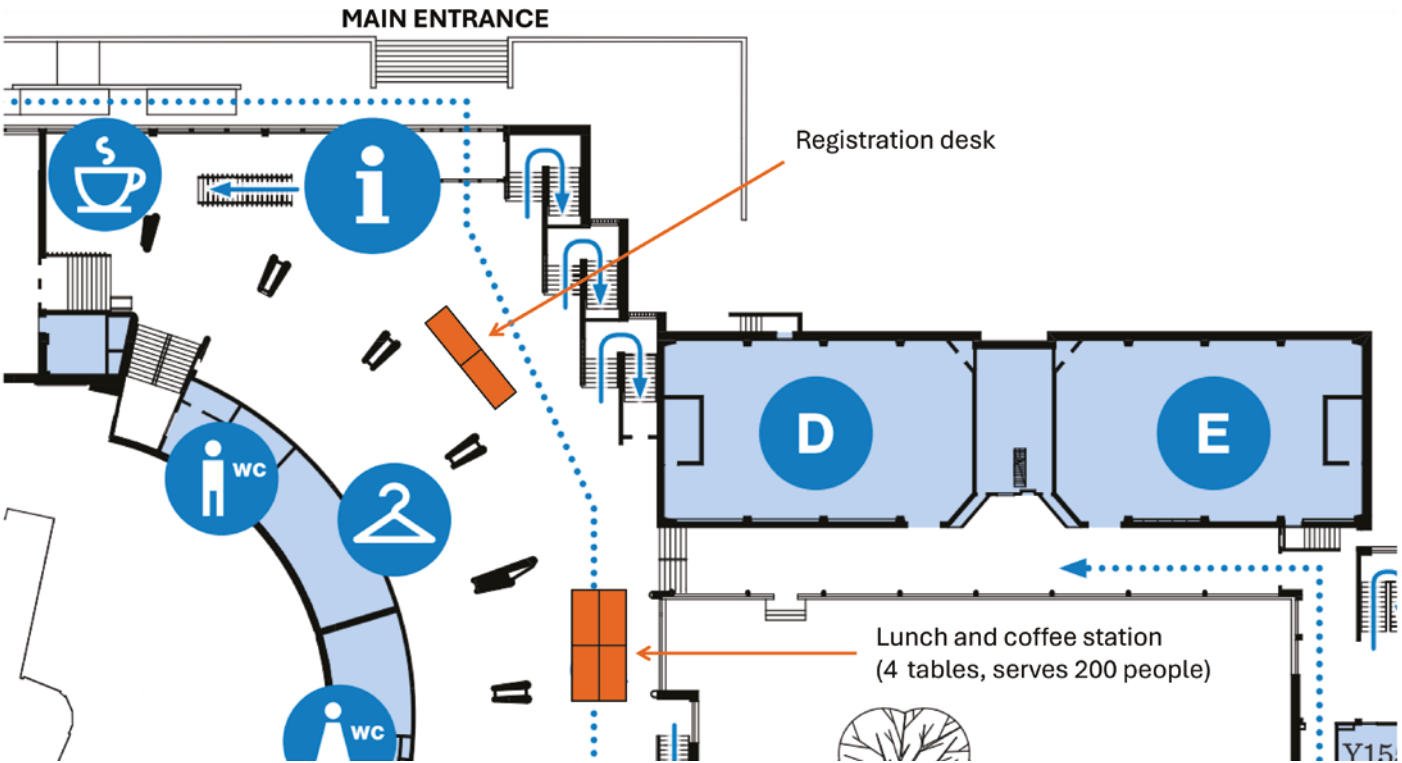
Rational Design of Interstitial Alkyl Chains and Ion-Exchange Capacity in Anion Exchange Membranes for Durable Zero-Gap CO_2 Electrolysis

Notes

Notes

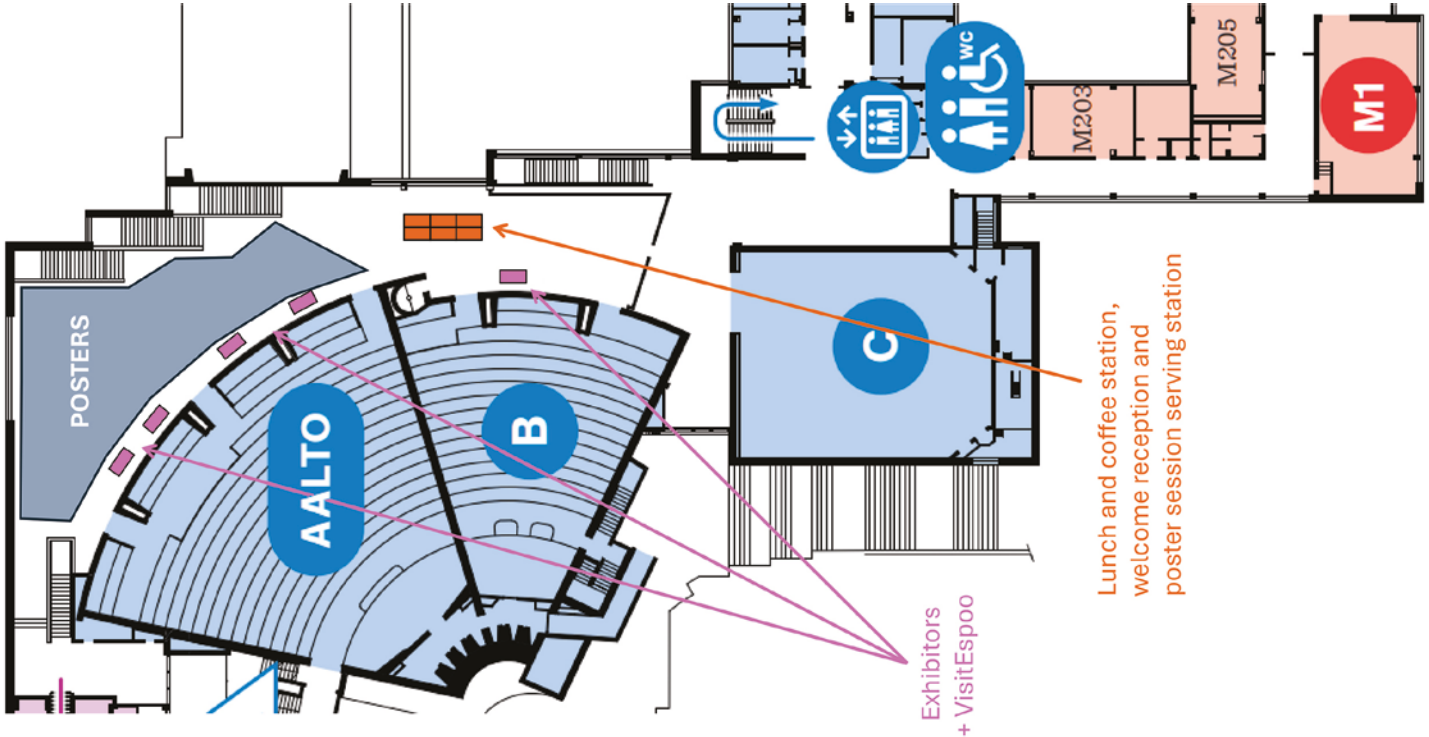
Conference Floor Plan

Sessions in lecture **halls D** and **E** (Tuesday-Friday) - **1st floor**



Conference Floor Plan

Sessions in lecture **halls A** (ALTO) and **B** (Tuesday-Friday) and **C** or **M1** on Thursday - **2nd floor**



42nd Topical Meeting of the International Society of Electrochemistry

Conference Schedule 23 - 26 June 2026 - *Helsinki, Finland*

Key to Symposia:

- **S1** - Insight into reaction and ageing processes
- **S2** - Novel materials and processes for energy conversion and storage
- **S3** - Efficient and viable energy conversion systems

	TUESDAY 23 June	WEDNES. 24 June	THURSDAY 25 June	FRIDAY 26 June
08:30 - 09:00				Keynote - Hall A
Room				A D E B
09:00 - 09:30		Keynote - Hall A	Keynote - Hall A	S1 Orals / S2a Orals / S2b Orals / S3 Orals
Room		A E D B	E B D A	
09:35 - 10:35		S1 Orals / S2a Orals / S2b Orals / S2d Orals	S1 Orals / S2a Orals / S2b Orals / S2d Orals	
10:35 - 11:00		Coffee Break	Coffee Break	Coffee Break
Room		E A D B	B A D E	A D B E
11:00 - 12:30		S1 Orals / S2a Orals / S2b Orals / S2d Orals	S1 Orals / S2a Orals / S2b Orals / S2d Orals	S2c Orals / S2a Orals / S2b Orals / S3 Orals
12:30 - 13:40		Lunch / Posters S1 & S3	Lunch / Posters S2	Closing Ceremony & Poster Awards 12:00-12:15 Hall A
13:40 - 14:10		Keynote - Hall A	Keynote - Hall A	
Room		E D B A	A B D E	
14:15 - 15:30		S1 Orals / S2a Orals / S2b Orals / S2d Orals	S1 Orals / S2a Orals / S2b Orals / S2d Orals	
15:30 - 16:00		Coffee Break	Coffee Break	
Room		A D E B	E A D M1/C B	
16:00 - 18:00		S1 Orals / S2a Orals / S2c Orals / S2d Orals	S1 Orals / S2a Orals / S2b Orals / S2c Orals / S3 Orals	
Evening		Posters S2 17:45 - 19:00	Gala Dinner 19:00 - 23:00	

Registration 12:00 - 17:00

A	D	B	E
S1 Orals	S2a Orals	S2b Orals	S2c Orals
Coffee Break			
S1 Orals	S2a Orals	S2b Orals	S2c Orals

Opening Ceremony 17:00 - 17:30 **Hall A**

Keynote 17:30 - 18:00 **Hall A**

Welcome Reception

Posters S1 & S3 18:00 - 20:00