37th Topical Meeting

of the International Society of Electrochemistry

9 - 12 June 2024
Stresa, Italy

Electrochemical energy for a greener and more sustainable future society

PROGRAM

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Conference Venue

Stresa Convention Centre (Palazzo dei Congressi)
28838 Stresa VB, Italy.

International Society of Electrochemistry
Chemin du Closelet 2
1006 Lausanne
Switzerland

Printed in Italy

Program of the

37th Topical Meeting of the International Society of Electrochemistry

Electrochemical energy for a greener and more sustainable future society

9 - 12 June 2024
Stresa, Italy

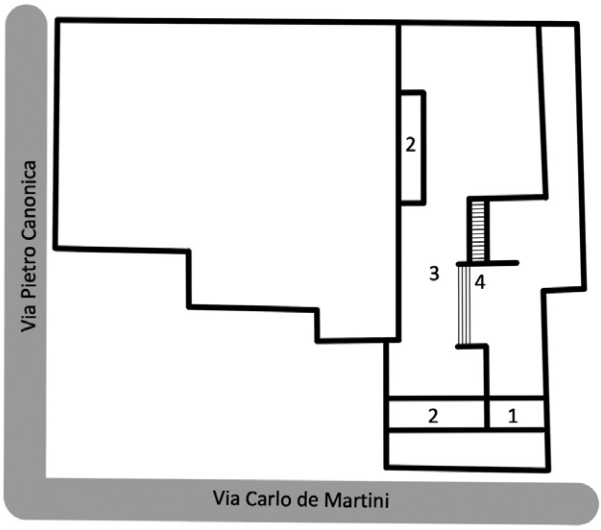
Organized by:

Division 3 - Electrochemical Energy Conversion and Storage

Division 4 - Electrochemical Materials Science

ISE Region Italy

Basement



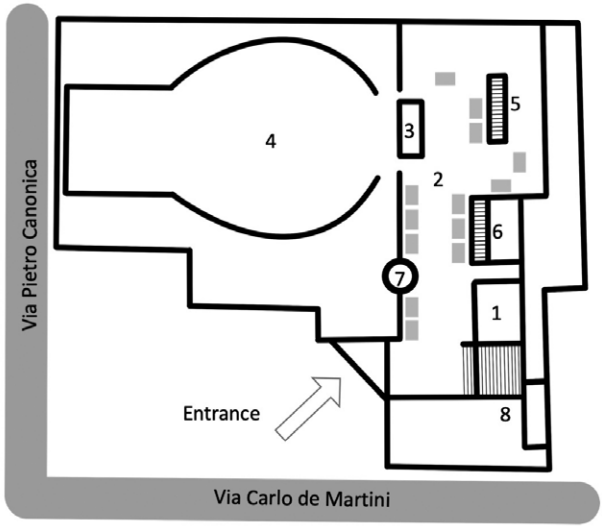
1 – Cafeteria

2 – Aperitif and Coffee Break

3 – Poster Exhibition (S2 –S4)

4 – Stairs to the Ground Floor

Ground Floor (main conference area)



1 – Reception and Registration

2 – Conference hall, Exhibitors

3 – Aperitif and Coffee Break

4 – "Isola Bella" Theatre (Plenary & S1)

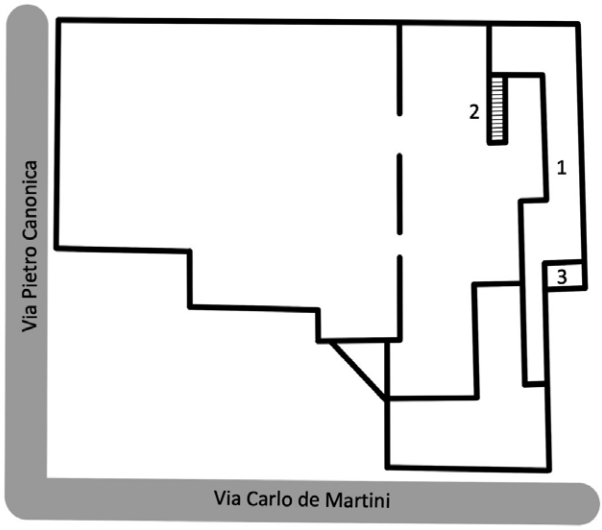
5 – Escalators to the First Floor - Balcony

6 – Stairs to the Basement

7 – Elevator to the Second Floor

8 – Stairs to Second Floor

First Floor - Balcony

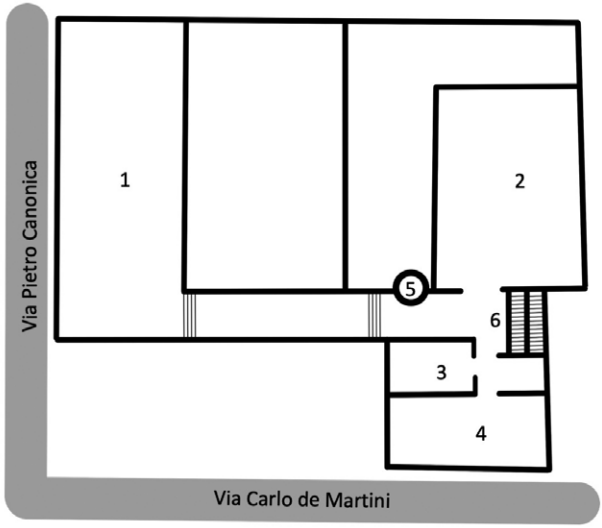


1 – Poster Exhibition (S1 –S3) & Coffee Break

2 – Escalators to the First Floor

3 – Aperitif and coffee break

Second Floor



1 – Lunches & gala dinner

2 – Room “Isola dei Pescatori” (S2)

3 – Room “Isola Madre” (S3)

4 – Room “Mottarone” (S4)

5 – Elevator to the ground floor

6 – Stairs to Ground Floor

Organizing Committee

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Claudio Gerbaldi, *Politecnico di Torino*
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Thierry Brousse, *University of Nantes*
Andrea Balducci, *Friedrich Schiller University Jena*

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Alessandro Piovano, *Politecnico di Torino*
Giuseppe Antonio Elia, *Politecnico di Torino*

Symposium Organizers

Symposium 1 - Lithium-based technologies: Fundamental understanding and application aspects

Catia Arbizzani, *University of Bologna*
Francesco Nobili, *University of Camerino*
Giovanni Battista Appetecchi, *ENEA Research Center "Casaccia" Rome*
Julia Amici, *Polytechnic University of Torino*

Symposium 2 - Beyond lithium: New chemistries and approaches

Sergio Brutti, *University of Rome "La Sapienza"*
Francesca Soavi, *University of Bologna*
Michele Pavone, *University of Napoli "Federico II"*
Maria Assunta Navarra, *University of Rome "La Sapienza"*

Symposium 3 - Hydrogen production technologies: Novelties and advances

Andrea Baricci, *Polytechnic University of Milano*
Irene Vassalini, *University of Brescia*
Vincenzo Baglio, *CNR-ITAE Messina*
Alessandra d'Epifanio, *University of Rome "Tor Vergata"*

Symposium 4 - Hydrogen conversion technologies: Fundamentals, materials, applications

Christian Durante, *University of Padova*
Patrizia Bocchetta, *University of Salento*
Massimo Innocenti, *University of Florence*
Antonio Barbucci, *University of Genova*

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Sunday 9 June

Participant Registration

Ground Floor (main conference area) - Stresa Convention Centre

13:00 to 14:30 Registration desk will also be open throughout the conference

S1 & S3 Posters & Welcome reception

First Floor - Balcony - Stresa Convention Centre

18:45 to 20:30

Monday 10 June

S2 & S4 Posters & Aperitif

Second Floor - Stresa Convention Centre

18:30 to 20:30

Tuesday 11 June

Gala Dinner

Second Floor - Stresa Convention Centre

20:00

Oral Presentations

Sunday 9 June 2024

Keynote

Room : R1 - Isola Bella Theatre

14:45 to 15:35 Chaired by Riccardo Ruffo

Yi Cui *(Materials Science and Engineering, Stanford University, Stanford, USA)*

Materials and Electrolyte Design for Lithium-Based Batteries

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R1 - Isola Bella Theatre

Chaired by Jakub Reiter, Marilena Mancini & Akiko Tsurumaki

15:45 to 16:00

Marilena Mancini *(Accumulator Materials Research (ECM), ZSW, Ulm, Germany)*, Peter Axmann, Marius F. Hoffmann, Jan Martin

Electrochemical performance of recycled anode and cathode active materials

16:00 to 16:15

Saeed Mardi *(Department of Chemistry, Uppsala University, Uppsala, Sweden)*

The Influence of Fluorine-Free Electrolytes on the Thermal and Electrochemical Performance of Li-ion Battery

16:15 to 16:30

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

Why Lithium Dendrites Become Thinner During Cycling in Li Metal Batteries?

16:30 to 17:00

Coffee Break

17:00 to 17:30 Invited

Jakub Reiter *(R&D, Inobat Auto, Voderady, Slovakia)*

Inobat – Advanced Li-ion Cell Manufacturer

17:30 to 17:45

Akiko Tsurumaki *(Department of Chemistry, Sapienza University of Rome, Rome, Italy)*, Chiara Dal Bosco, Tecla Gasperi, Alessandra Gentili, Valentina Liberti, Maria Assunta Navarra, Corrado Zamparelli

Naturally Derived Battery Components for Safe, Stable, and Sustainable Li-ion Batteries

17:45 to 18:00

Nerea Casado *(POLYMAT, University of the Basque Country, San Sebastian, Spain)*, Maria Forsyth, Antonela Gallastegui, David Mecerreyes

Functional Polymer Binders for More Sustainable Batteries

18:00 to 18:05

Corentin Renais *(Material Science, Electrochemistry, Université Grenoble Alpes, LEPMI, Grenoble, France)*, Fannie Alloin, Céline Barchasz, Marta Mirolo, Maxime Servajon, Claire Villevieille

Power limitations in graphite electrodes - Electrode engineering study

18:05 to 18:10

Anthony De Simone *(LITEN, CEA Grenoble, Grenoble, France)*, Sophie Chazelle, Hervé Manzanarez, Sébastien Martinet, Dane Sotta

Optimization of Extrusion-Lamination Process to Cast Solid Polymer Electrolyte

18:10 to 18:15

Mattia Longo *(DISAT, Politecnico di Torino, Torino, Italy)*, Julia Amici, Silvia Bodoardo, Daniela Fontana, Matteo Gandolfo

Thiol-ene polymerization towards easily up-scalable gel polymer electrolyte

18:15 to 18:20

Matteo Gandolfo *(DISAT, Politecnico di Torino, Torino, Italy)*, Julia Amici, Silvia Bodoardo, Dominic Bresser, Mattia Longo

Crosslinked ionogels containing active fillers for lithium-metal batteries

18:20 to 18:25

Hanxin Mei *(Department of Chemistry and Industrial Chemistry, via Dodecaneso 31, DCCI, genoa, Italy)*, Alessandro Cingolani, Paolo Piccardo, Roberto Spotorno

Thin-Film Li_3InCl_6 Composite Solid-State Electrolyte Prepared by Solution Casting Method

18:25 to 18:30

Fabio Ferrario *(Chimica, Materiali ed Ingegneria Chimica "Giulio Natta, Politecnico di Milano, Milan, Italy)*, Valentina Busini, Stephan Hildebrand, Mircea Lazareanu, Natalia Lebedeva, Ricardo da Costa Barata

Li-ion Battery Electrolyte Vapour Cloud Dispersion: an Experimental and Computational Fluid Dynamics approach

18:30 to 18:35

Sergio Ferrer-Nicomedes *(Chemical Engineering Department, Universitat Jaume I, Castellón de la Plana, Spain)*, Antonio Barba-Juan, Andrés Mormeneo-Segarra, Nuria Vicente-Agut

On The Composition And Microstructural Dependance Of Environmentally Friendly LATP Composite Solid Electrolytes

18:35 to 18:40

Andrés Mormeneo-Segarra *(Chemical Engineering, Jaume I University, Castellón de la Plana, Spain)*, Antonio Barba-Juan, Sergio Ferrer-Nicomedes, Nuria Vicente-Agut

Assessing the Influence of LATP Microstructure in the Cold Sintering Process by pioneering EIS in operando technique

18:40 to 18:45

Victoria Greussing *(Department of Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*, Engelbert Portenkirchner, Teja Stüwe

Deciphering Silicon Carbide: Insulator or Optimal Anode Material?

S2 - Beyond lithium: New chemistries and approaches

Room : R2 - Isola dei Pescatori

Chaired by Sergio Brutti, Matteo Bonomo & Giorgia Zampardi

15:45 to 16:00

Matteo Bonomo *(Chemistry, Università Degli Studi di Torino, Turin, Italy)*, Claudia Barolo, Alessandro Damin, Giuseppe Antonio Elia, Simone Galliano, Claudio Gerbaldi, Gabriele Lingua, Daniele Motta, Stefano Nejrotti, Federica Piccirilli, Elisabeth Pires

Engineering Glycerol-derived Molecules as Hydrogen Bond Donor in NaCl and $ZnCl_2$-based Deep Eutectic Electrolytes for Electrochemical Energy Storage Devices

16:00 to 16:15

Giorgia Zampardi *(Production Engineering, University of Bremen, Bremen, Germany)*, Fabio La Mantia, Michele Tribbia

Electrodeposited Metallic Substrates as Highly Efficient Anodes for Aqueous Zn-Ion Batteries

16:15 to 16:30

Luis Fernando Arenas *(Institute of Chemical & Electrochemical Process Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany)*, Maik Becker, Sascha Genthe, Ulrich Kunz, Thomas Turek

Measuring potential distribution within the porous foam electrodes of improved zinc-silver/air hybrid flow batteries

16:30 to 17:00

Coffee Break

17:00 to 17:30 Invited

Nagore Ortiz-Vitoriano *(Electrochemical Energy Storage, CIC energiGUNE, Miñano, Spain)*, Estíbaliz García-Gaitán

Naturally derived Biopolymer-based Electrolytes for Zn-air Batteries

17:30 to 17:45

Eugenio Gibertini *(Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milano, Italy)*, Gianlorenzo Bussetti, Luca Magagnin, Prisca Viviani

Zn-Ion Storage In Inkjet Printed $Ti_3C_2T_x$ Mxene Electrodes

17:45 to 18:00

Felix Schwab *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Ulm, Germany)*, Britta Doppl, Niklas Herrmann, Birger Horstmann

D Continuum Modelling and Simulations of Ni/Zn Batteries

18:00 to 18:05

Théo Vallier *(ICGM, Université de Montpellier, Montpellier, France)*, Bruno Ameduri, Jean-Louis Ferrandis, Sébastien Issa, Vincent Lapinte, Laure Monconduit, Rafaël Nuernberg, Lorenzo Stievano

Understanding Na+ diffusion, physico-chemical behavior and electrochemical performance of a Gel Polymer Electrolyte

18:05 to 18:10

Thiago Bertaglia *(Department of Physical Chemistry, São Carlos Institute of Chemistry, São Carlos, Brazil)*, Michael Aziz, Rafael Colombo, Frank Crespilho, Luana Faria, Roy Gordon, Rodrigo Iost, Emily Kerr, Lucyano Macedo, Cristiano Oliveira, Graziela Sedenho, Gabriel Teobaldo, Andrew Wong

Quinone-Based Hydrogel for Wearable Battery

18:10 to 18:15

Léa Flores *(Battery materials laboratory, CEA, Grenoble, France)*, Jean-Frédéric Martin, Sébastien Martinet

Exploration of aqueous electrolytes with large operating voltage window for low cost M-ion cells

18:15 to 18:20

Coumba Fall *(Hérault, Institut Charles Gerhardt de Montpellier (ICGM), Montpellier, France)*, Frederic Favier, Steven Le Vot, Patrice Simon, Pierre Louis Taberna

Investigating the Influence of Aryl Diazonium Modification on Graphite Felt for the Improvement of Redox Flow Batteries

18:20 to 18:25

Karim Boutamine *(D4 ICGM, Montpellier University, Montpellier, France)*, Patricia Bassil, Frédéric Favier, Steven Le Vot, Olivier Ouari

Improving the performance of organic posolytes for aqueous redox flow batteries

18:25 to 18:30

Maria Alhajji *(Physics, University of Limerick, Limerick, Ireland)*, Andrea Bourke, Noel Buckley, Robert Lynch

Vanadium Flow Batteries: Possible Reasons Why There is Lack of Consensus Regarding Which Electrode has Faster Kinetics

18:30 to 18:35

Luca Minnetti *(School of Sciences and Technologies, University of Camerino, Camerino, Italy)*, Jusef Hassoun, Vittorio Marangon, Francesco Nobili, Leonardo Sbrascini, Antunes Staffolani

Transport and Interphase Features of a Converted Mixed Olivine Cathode for Sodium-Ion Batteries

18:35 to 18:40

Shubham Kumar *(Energy Science and Engineering, Indian Institute of Technology Bombay, Mumbai, India)*, Sandeep Kumar, S Parida

Subabul sawdust-derived activated carbon for supercapacitor application

18:40 to 18:45

Antonio De Marco *(Chemistry "Giacomo Ciamician", Università di Bologna, Bologna, Italy)*, Catia Arbizzani, Marco Giorgetti, Mariam Maisuradze

Alginate-based separators for green battery technology

S3 - Hydrogen production technologies: Novelties and advances

Room : R3 - Isola Madre

Chaired by Dario Dekel, Vincenzo Baglio & Andrea Zaffora

15:45 to 16:00

Vincenzo Baglio *(Istituto di Tecnologie Avanzate per l'Energia (ITAE), CNR, Messina, Italy)*, Irene Gatto, Carmelo Lo Vecchio, Isabella Nicotera, Cataldo Simari, M.H. Ur Rehman

Anion Exchange Membranes Based on Polysulfone Grafted with Tetramethyl Ammonium Functionalities for Fuel Cells and Electrolysers

16:00 to 16:15

Nicholas Carboni *(Chemistry Department, Sapienza University of Rome, Rome, Italy)*, Vincenzo Baglio, Angela Caprì, Alessandra Carbone, Irene Gatto, Lucia Mazzapioda, Maria Assunta Navarra

Composite Anion Exchange Membranes based on Graphene Oxide for Water Electrolyzer Applications

16:15 to 16:30

Susanne Koch *(Electrochemical Energy Systems, University of Freiburg, Freiburg, Germany)*, Joey Disch, Mohamed Elshamy, Sophia Kilian, Lukas Metzler, Severin Vierrath

Catalyst Layer Engineering for Improved Water Management in Anion-Exchange Membrane Water Electrolyzers

16:30 to 17:00

Coffee Break

17:00 to 17:30 Invited

Dario Dekel *(Chemical Engineering, Technion - Israel Institute of Technology, Haifa, Italy)*

Current Challenges in Anion-Exchange Membranes for Water Electrolyzers

17:30 to 17:45

Andrea Zaffora *(Engineering Department, University of Palermo, Palermo, Italy)*, Sabrina Grassini, Leonardo Iannucci, Monica Santamaria, Valentina Maria Volanti

Performance of Electrochemically Functionalized MOF-based Anodic Porous Transport Layers for Alkaline Water Electrolysis

17:45 to 18:00

Patrizia Bocchetta *(Innovation Engineering, Università del Salento, Lecce, Italy)*, Antonio Ficarella, Meenal Gupta, Filippo Selleri

In-situ electrochemical production of hydrogen for sustainable fuel cell feeding

18:00 to 18:05

Farid Attar *(School of Engineering, The Australian National University, Canberra, Australia)*, Bikesh Gupta, Siva Karuturi, Parvathala Reddy Narangari, Asim Riaz, Astha Sharma, Joshua Soo

Advanced Statistical Models for Optimising the Operating and Synthesis Parameters of Electrochemical Water Splitting

18:05 to 18:10

Sarah Zerressen *(IEK-14: Institute of Energy and Climate Research, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Ulf-Peter Apfel, Klaus Bender, Andreas Glüsen, Martin Müller, Ralf Peters, Tim Sievert, Robert Vaßen

Stainless steel based Porous Transport Layers for Polymer Electrolyte Water Electrolysis

18:10 to 18:15

Delphine Clauss *(LEPMI, Univ. Grenoble Alpes, CNRS, Grenoble, France)*, Raphaël Chattot, Jakub Drnec, Laetitia Dubau, Frédéric Maillard, Vincent Martin, Marta Mirolo

Achieving Small IrOx Nanoparticles with Dual OER Activity and Stability via Thermal Annnealing

18:15 to 18:20

Linghui Li *(Laboratoire de Chimie Moleculaire (LCM), Ecole polytechnique, Palaiseau, France)*, Clément Marchat, Cédric Tard, Sandrine Tusseau-Nenez

Efficient Electrocatalysts for Alkaline Oxygen Evolution Reaction from Wolframite Derived Heteroatom Materials

18:20 to 18:25

Sharon-Virginia Pape *(IEK-14, Forschungszentrum Jülich, Jülich, Germany)*, Felix Lohmann-Richters, Anna K. Mechler, Martin Müller, Florian Seidler

Navigating the Dynamics of Alkaline Water Electrolysis: Methodological Approaches to Aging Characterization

18:25 to 18:30

Ramūnas Levinas *(Department of Catalysis, Center for Physical Sciences and Technology, Vilnius, Lithuania)*, Eugenijus Norkus, Vidas Pakštas, Loreta Tamašauskaitė-Tamašiūnaitė, Roman Viter

White Light Sensitivity and p-n Photocurrent Switching in TiO_2/CuO Heterostructures: Optimization and Mechanistic Insights

18:30 to 18:35

Christian Marcks *(Electrochemical Reaction Engineering, RWTH Aachen University - Aachener Verfahrenstechnik, Aachen, Germany)*, Mohit Chatwani, Adarsh Jain, Doris Segets

Characterization of Powder-Based Catalysts for the Oxygen Evolution Reaction Beyond Rotating Disc Electrodes

18:35 to 18:40

Theo Faverge *(LEPMI, Université Grenoble Alpes, Grenoble, France)*, Antoine Bonnefont, Marian Chatenet, Christophe Coutanceau

Electrocatalytic Oxidation of Glucose into Hydrogen and Value Added Compounds on Gold: Experiments and Microkinetic Model

18:40 to 18:45

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

Advancing AEMWE Cathode with a Novel PGM-Free MoS_2 Composite Catalyst Synthesized via a Green Fast Method

S4 - Hydrogen conversion technologies: Fundamentals, materials, applications

Room : R4 - Mottarone

Chaired by Plamen Atanassov, Enrico Negro & Marco Mazzucato

15:45 to 16:00

Zubair Ahmed *(Chemistry, University of Tartu, Tartu, Estonia)*, Zubair Ahmed, Srinu Akula, Jaan Aruväli, Arvo Kikas, Vambola Kisand, Jekaterina Kozlova, Kaupo Kukli, Maike Käärik, Jaan Leis, Helle-Mai Piirsoo, Kaido Tammeveski, Alexey Treshchalov

Hybrid High-Performance Oxygen Reduction Reaction Fe-N-C Electrocatalyst for Anion Exchange Membrane Fuel Cells

16:00 to 16:15

Milena Setka *(Department of Chemical Engineering, University of Chemistry and Technology, Prague, Czech Republic)*, Marjan Bele, José M. Catalá-Civera, Nejc Hodnik, Miroslav Soos

Microwave-assisted synthesis of nitrogen-doped carbon-based catalysts for electrochemical hydrogen peroxide production

16:15 to 16:30

Enrico Negro *(Department of Industrial Engineering, University of Padova, Padova, Italy)*, Soufiane Boudjelida, Vito Di Noto, Angeloclaudio Nale, Gioele Pagot, Keti Vezzù

Interplay between the Precursor Features and the Physicochemical Properties of "Core-Shell" Hierarchical Carbon Nitride Electrocatalysts for the Oxygen Reduction Reaction

16:30 to 17:00

Coffee Break

17:00 to 17:30 Invited

Plamen Atanassov *(Chemical & Biomolecular Engineering, University of California Irvine, Irvine, USA)*

Hybrid Platinum and Metal-Nitrogen-Carbon Catalyst Library for the Oxygen Reduction Reaction

17:30 to 17:45

Diana Constanza Orozco-Gallo *(CIDEMAT, Universidad de Antioquia, Medellin, Colombia)*, Jorge Andrés Calderón-Gutierrez, Verónica Muñoz-Montes, Catalina Orozco-Silva, Ricardo Ossa-Gallego

Beyond Purity Precursors: Towards Oxygen Reduction Reaction Activity Enhancement for PEM Fuel Cells

17:45 to 18:00

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

NO-Stripping in Gas Diffusion Electrode Setup: Toward More Practical Site Density Determination in Fe-N-C Catalysts for Oxygen Reduction Reaction

18:00 to 18:05

Silvia Nasarre Artigas *(Freudenberg e-Power Systems GmbH, Bayerwaldstraße 3, München, Germany)*, Florian Mack, Hong Xu

Use of Distribution of Relaxation Times Analysis as an in-situ Diagnostic Tool for Water Management in PEM Fuel cell applications

18:05 to 18:10

Jun Huang *(IEK-13, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Lulu Zhang

Cdl of Pt(111)

18:10 to 18:15

Michael Eppler *(CR/ATC2, Robert Bosch GmbH, Renningen, Germany)*, Ulrich Berner, Michael Eikerling, Matthias Hanauer, Thomas Kadyk

Understanding Mass Transport in PEMFCs through Modeling and Advanced Limiting Current Techniques

18:15 to 18:20

Tina Đukić *(Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Matija Gatalo, Nejc Hodnik, Iva Klofutar, Leonard Jean Moriau, Martin Šala

Towards Long Durability of Pt-nanoalloy-based ORR Electrocatalysts: Adjustment of Potential Limits

18:20 to 18:25

Mattia Parnigotto *(Chemical Sciences, University of Padova, Padova, Italy)*, Stephane Cotte, Gregorio Dal Sasso, Maria Chiara Dalconi, Christian Durante, Marco Mazzucato

Optimizing Pt/C Catalyst Performance in PEMFC Cathode Compartment via Metal Oxide Addition

18:25 to 18:30

Quentin Labarde *(EIP, LEPMI, Grenoble, France)*, Marian Chatenet, Laetitia Dubau, Thomas Gaumont, Fabrice Micoud

Carbon-capped PtNi-alloy Cathodic Electrocatalysts for PEMFC

18:30 to 18:35

Sunil Kumar Sethy *(Hydro and Renewable Energy, IIT Roorkee, Haridwar, India)*, Amit C. Bhosale

Optimization of contact resistance of a cylindrical PEMFC using gaskets

18:35 to 18:40

Patrick Sarkezi-Selsky *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Stuttgart, Germany)*, Thomas Jahnke

Multiscale modeling of water management in a Polymer Electrolyte Membrane Fuel Cell (PEMFC) using novel multiphase transport relations derived from Lattice Boltzmann simulations

18:40 to 18:45

Matthieu Tempelaere *(LEPMI, Univ. Grenoble Alpes, CNRS, Grenoble INP, Grenoble, France)*, Marian Chatenet, Marc Zimmermann

Towards 3D-organized Catalytic Layers: Pt/Vertically Aligned Carbon Nanotubes composites for efficient Oxygen Reduction Reaction in Proton Exchange Membrane Fuel Cells.

Monday 10 June 2024 - Morning

Keynote

Room : R1 - Isola Bella Theatre

08:30 to 09:20 Chaired by Carlo Santoro

Radenka Maric *(Office of the President, The University of Connecticut, Storrs Mansfield, USA)*, Zhiqiao Zeng, Stoyan Bliznakov, Leonard Bonville

Innovative Low-loaded MEAs for PEM Water Electrolyzers: Design, Fabrication, Performance, and Durability Assessment

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R1 - Isola Bella Theatre

Chaired by Francesca Soavi & Chiara Ferrara

09:30 to 10:00 Invited

Laurence Hardwick *(Department of Chemistry, University of Liverpool, Liverpool, United Kingdom)*, Jacqui Everitt, Julia Fernandez-Vidal, Alex Neale, Igor Sazanovich

What have the Ramans ever done for us?

10:00 to 10:15

Kamran Amin *(National Center for Nanoscience and Technology, Chinese Academy of Sciences, Beijing, China)*

Combining High Redox Potential and High-Capacity in Organic Cathodes Paving the Way for Commercial Organic Lithium-ion Batteries

10:15 to 10:30

Junichi Inamoto *(Department of Applied Chemistry, Graduate School of Engineering, University of Hyogo, Hyogo, Japan)*, Akane Inoo, Yoshiaki Matsuo

Graphene-like graphite, a novel cathode material for dual-carbon batteries with large capacity

10:30 to 10:45

Öykü Simsek *(Laboratory of Organic and Macromolecular Chemistry (IOMC), Friedrich Schiller University/CEEC Jena, Jena, Germany)*, Alessandro Innocenti, Simon Muench, Stefano Passerini, Ulrich S. Schubert

UV-Initiated Composite Ionogels for Li-Organic Batteries

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Fabio La Mantia *(Electrical Energy Storage, Fraunhofer IFAM, Bremen, Germany)*, Hermann Pleteit, Federico Scarpioni

Insights from dynamic impedance spectroscopy on the aging of lithium batteries

S2 - Beyond lithium: New chemistries and approaches

Room : R2 - Isola dei Pescatori

Chaired by Ivana Hasa & Vito Di Noto

09:30 to 10:00 Invited

Lorenzo Stievano *(ICGM, Univ. Montpellier, Montpellier, France)*, Laure Monconduit

Electronic Structure and Electrochemical Mechanisms in Electrode Materials for Potassium Batteries

10:00 to 10:15

Aniello Langella *(Department of Chemical Sciences, University of Napoli Federico II, Napoli, Italy)*, Arianna Massaro, Ana B. Muñoz-García, Michele Pavone

First-principles insights on solid-state transitions in Mn-based layered oxides as high-energy cathodes for Na-ion batteries

10:15 to 10:30

Noha Sabi *(The High Throughput Multidisciplinary Research Laboratory, Mohammed VI Polytechnic University, Benguerir, Maroc)*

Effect of Titanium Substitution in P_2-$Na_{2/3}Co1\text{-}xTi_xO_2$ Cathode Material: Understanding of the sodiation desodiation mechanism upon electrochemical cycling

10:30 to 10:45

Koji Yazawa *(NM Business Unit, JEOL ltd., Akishima, Japan)*, Seung-Taek Myung, Natalia Voronina

Direct observation of lithium-ion migration in sodium ion battery cathodes by nuclear magnetic resonance

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Ivana Hasa *(WMG, The University of Warwick, Coventry, United Kingdom)*, Jacob Compton, Faduma Maddar

Elucidating Dehydration of Prussian White Cathodes: A Journey from Lab to Upscaled Sodium-ion Cell Prototypes

11:45 to 12:00

Leonardo Sbrascini *(School of Science and Technology - Chemistry Division, University of Camerino, Camerino, Italy)*, Luca Bottoni, Hamideh Darjazi, Francesco Nobili

Bio-based Hard Carbons and Binders for Sodium-ion Batteries Derived from Forestry Waste

12:00 to 12:15

Metin Taha Orbay *(Institute for Technical Chemistry, Friedrich-Schiller-University Jena, Jena, Germany)*, Andrea Balducci, Thierry Brousse, Olivier Crosnier, Abbas Khan, Etienne Le calvez

$AgNbO_3$ as Anodic Material for Lithium, Sodium and Potassium-Batteries

12:15 to 12:30

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

Nano-Structured Ti/Sn Oxides Derived by $Ti_3Al_{(1-x)}Sn_xC_2$ MAX Phase as Highly Stable Anode for Sodium Ion Batteries

12:30 to 12:45

Darío Alvira *(Chemical Engineering and Environmental Technologies, University of Zaragoza, Zaragoza, Spain)*, Daniel Antorán, Hamideh Darjazi, Claudio Gerbaldi, Joan J. Manyà, Víctor Sebastián

Acid-Mediated Hydrothermal Carbonization of Vine Shoots as a Pathway to High-Performance Hard Carbons for SIBs

12:45 to 13:00

Kie Hankins *(Institute For Advanced Materials Electrochemical Technology, Karlsruhe Institute of Technolohy, Karlsruhe, Germany)*

Insights on SEI Growth and Behavior in Na-ion Batteries via Physically-Driven Kinetic Monte Carlo Model

S3 - Hydrogen production technologies: Novelties and advances

Room : R3 - Isola Madre

Chaired by Patrizia Bocchetta & Elena Colombo

09:30 to 10:00 Invited

Ulrike Krewer *(Institute for Applied Materials - Electrochem. Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Inga Dorner, Niklas Oppel, Philipp Roese

Water and CO_2 Electrolysis – Insight into Kinetic Limitations

10:00 to 10:15

Florian Hausen *(IEK-9, Forschungszentrum Jülich, Jülich, Germany)*, Felix Gunkel, Anton Kaus, Karin Kleiner, Muzaffar Maksumov, Zhenjie Teng

Insights on the Evolution of Functional Layers in Electrolyzersby Friction Force Microsopy

10:15 to 10:30

Toni Moser *(Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*, Andrea Auer, Christoph Griesser, Julia Kunze-Liebhäuser

Exploring Au(111) Oxidation Dynamics in Oxygen-Free Alkaline Environments using Electrochemical Scanning Tunneling Microscopy

10:30 to 10:45

Jan Niklas Hausmann *(Chemistry, Helmholtz Zentrum Berlin, Berlin, Germany)*, Prashanth W. Menezes

Reproducibility in Electrochemistry

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Antonino Aricò *(CNR-ITAE Istituto di Tecnologie Avanzate per l'Energia, Consiglio Nazionale delle Ricerche, Messina, Italy)*

Anion Exchange Membrane Water Electrolysis: from Materials to Stack Development

S4 - Hydrogen conversion technologies: Fundamentals, materials, applications

Room : R4 - Mottarone

Chaired by Michele Piana & Lior Elbaz

09:30 to 10:00 Invited

Lior Elbaz *(Chemistry, 1 Max and Anna Webb St., Ramat-Gan, Israel)*, Rifael Snitkoff-Sol

Quantifying the Active Site Density in MNC ORR catalysts

10:00 to 10:15

Luiza Zudina *(AVT.ERT - Elektrochemische Reaktionstechnik, RWTH Aachen University, Aachen, Germany)*, Anna K. Mechler, Georgii Sokolsky

MnO_2-based Electrocatalysts For Oxygen Reduction Reaction in Low-temperature Ammonia Fuel Cells

10:15 to 10:30

Walter Orellana *(Department of Physical Science, Universidad Andres Bello, Santiago, Chile)*

Catalytic activity of organometallic phthalocyanine sheets for oxygen reduction and oxygen evolution reactions: A theoretical study

10:30 to 10:45

Williane da Silva Freitas *(Department of Chemical Science and Technologies, University of Rome Tor Vergata, Rome, Italy)*, Alessandra D'Epifanio, Barbara Mecheri, Manuela Montalto, Beatrice Ricciardi

Development of PGM-free Catalysts for Oxygen Electrocatalysis in Polymer Electrolyte Fuel Cells, Electrolyzers, and Metal-Air Batteries

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Michele Piana *(Dept. of Chemistry and Catalysis Research Center, Technical University of Munich, Garching, Germany)*, Ana Marija Damjanović, Tim-Patrick Fellinger, Anna T. S. Freiberg, Hubert A. Gasteiger, Burak Koyutürk, Yan-Sheng Li, Pankaj Madkikar, Davide Menga, Olivier Proux, Armin Siebel

Ex Situ/In Situ/Operando X-ray Absorption Spectroscopy on Fe-based Oxygen Reduction Reaction Catalysts in PEMFCs

11:45 to 12:00

Thomas Gaumont *(LEPMI, Grenoble Institute of Technology, Grenoble, France)*, Marian Chatenet, Laetitia Dubau, Frédéric Maillard, Camille Roiron, Arnaud Viola

Carbon-supported PtNi Sponges Nano-architecture as a Cathode Catalyst for ORR in PEMFC

12:00 to 12:15

Christian Durante *(Chemical Sciences, Università degli studi di Padova, Padova, Italy)*, Stephane Cotte, Marco Mazzucato, Mattia Parnigotto

Pt supported ZrO_2/C catalyst: one-pot solid-state synthesis and activity/stability performance in PEMFC

12:15 to 12:30

François Guillet *(LEPMI, Grenoble INP, Gières, France)*, Laetitia Dubau, Lenka Svecova

Resurrecting PEMFC nanocatalysts – Electrochemical approaches for platinum recycling

12:30 to 12:45

Jens Mitzel *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Stuttgart, Germany)*, Pawel Gazdzicki, Hanno Kaess, Tobias Morawietz

Impact of Ionomer Mobility on Transport and Structural Properties of the Cathodic Catalyst Layer in a PEMFC Durability Test

12:45 to 13:00

Antonela Gallastegui *(Innovative Polymers Group, POLYMAT, San Sebastián-Donostia, Spain)*, Ilaria Abdel Aziz, Nerea Casado, Antonela Gallastegui, David Mecerreyes, Yuliana Pairetti

Fluorine-Free Protic Poly(ionic liquid)s Membranes for Fuel Cells

Monday 10 June 2024 - Afternoon

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R1 - Isola Bella Theatre

Chaired by Yong Yang, Patrik Johansson & Alessandro Piovano

14:30 to 15:00 Invited

Patrik Johansson *(Departement of Physics, Chalmers University of Technology, Gothenburg, Sweden)*

Practical Modelling of Lithium Battery Electrolytes

15:00 to 15:15

Mervyn Soans *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany)*, Argjend Blakaj, Dominic Bresser, Timo Böhler, Dominik Steinle, Alberto Varzi

Versatile Chemically Delithiated Reference Electrode for Solid-State Lithium-Ion/Lithium Metal Battery Applications

15:15 to 15:30

Wei-Fan Kuan *(Department of Chemical and Materials Engineering, Chang Gung University, Taoyuan, Taiwan)*, Hsiang-Chih Chuang, Jen-Wei Teng

Supercritical CO_2-Assisted Coating Technique on Lithium Iron Phosphate Cathode for High-Performance Lithium-Ion Batteries

15:30 to 15:45

Célia Doublet *(LEPMI MIEL, UGA, Grenoble, France)*, Lauréline Lecarme, Claire Villevieille

Monitoring failure mechanisms in water-in-salt Li-ion full cell $LiFePO_4/TiS_2$

15:45 to 16:00

Tanveerkhan Pathan *(WMG, University of Warwick, Coventry, United Kingdom)*, M. Chelladurai Asirvatham, Maria Balart, Melanie Loveridge, Iain Masters, James McLaggan, Thomas Moore, Puritut Nakhanivej, Vincent Perry-French, Louis Piper, Geoff West

Forensic Evaluation of High-Capacity Prismatic Cells

16:00 to 16:05

Camilla Rosa *(Physical Chemistry - University of Pavia, IUSS Pavia, Pavia, Italy)*, Daniele Callegari, Eliana Quartarone

Enhancing the Electrochemical Performances of Multi-Doped Spinel Oxide Cathodes for Lithium-Ion Batteries through Fluorine Anion Doping

16:05 to 16:10

Mingyang Zhang *(High-Performance Polymer Nanocomposites Group, IMDEA Materials Institute, Madrid, Spain)*, Arnab Gosh, Wei Tang, De-Yi Wang, Junchen Xiao

Self-extinguishing efficiency: A new concept to discriminate incomparability in electrolyte fire safety evaluation

16:10 to 16:15

Abbas Khan *(Institut des Matériaux de Nantes Jean Rouxel, IMN, CNRS, Nantes Université, Nantes, France),* Andrea Balducci, Thierry Brousse, Olivier Crosnier

Effect of A-site deficiency on Li^+ storage in $K_{1-3x}La_x\square_{2x}NbO_3$ ($x \leq 0.15$) negative electrode material

16:15 to 16:20

Svenja Both *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Stuttgart, Germany)*, Timo Danner, Estefane Delz, Simon Hein, Volker Knoblauch, Arnulf Latz, Adrian Lindner, Christian Weisenberger

Modelling performance and degradation of Ni-rich cathodes

16:20 to 16:25

Teja Stüwe *(Department of Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*

Synthesis and electrochemical characterization of n- and p-type doped SiC

16:25 to 16:30

Ruonan Zhu *(Department Of Chemistry Materials And Chemical Engineering, Politecnico di Milano, Milano, Italy)*

Facilitating the Formation of Effective Solid-electrolyte-interphase on $Li_4Ti_5O_{12}$ Anode via ZnO Modification in Aqueous Lithium-ion Batteries

16:30 to 17:00

Coffee Break

17:00 to 17:30 Invited

Yong Yang *(Chemistry, Xiamen University, Xiamen, China)*

Interfacial Issues in Sulfide-Based All-Solid-State Li Batteries

17:30 to 17:45

Nuria Garcia-Araez *(Chemistry, University of Southampton, Southampton, United Kingdom)*, Sacha Fop, Andrew Hector, Denis Kramer, Nina Meddings, J. Padmanabhan Vivek, Min Zhang

Safer batteries with 'shut-down' ceramics and hybrid electrolytes

17:45 to 18:00

Randy Jalem *(Research Center for Energy and Environmental Materials, National Institute for Materials Science, Tsukuba, Japan)*

Multi-Objective Design of Antiperovskite-Type Solid Electrolytes for All-Solid-State Batteries by High-Throughput First-Principles Calculations and Machine Learning Methods

18:00 to 18:15

Sven Uhlenbruck *(Institute of Energy and Climate Research, IEK-1, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany, Jülich, Germany)*, Dina Fattakhova-Rohlfing, Martin Finsterbusch, Olivier Guillon, Christoph Roitzheim, Walter Sebastian Scheld, Doris Sebold, Yoo Jung Sohn

Manufacturing of Solid-State Batteries meets Thermodynamics – Uncovering of Novel Phases, and their Impact on Future Experimental and Theoretical Work

18:15 to 18:30

Alessandro Innocenti *(ECM, Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-W, Ulm, Germany)*, Simon Beringer, Stefano Passerini

Cost and Performance Analysis as a Valuable Tool for Battery Material Research

S2 - Beyond lithium: New chemistries and approaches

Room : R2 - Isola dei Pescatori

Chaired by Giovanni B. Appetecchi, Magdalena Titirici & Gioele Pagot

14:30 to 15:00 Invited

Magda Titirici *(Chemical Engineering, Imperial College London, London, United Kingdom)*

Beyond Li: Na, K and Al based batteries-progress, challenges and perspectives.

15:00 to 15:15

Vittorio Marangon *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany)*, Aislim Aracil Regalado, Katharina Bischof, Dominic Bresser, Thomas Waldmann

Commercial sodium-ion batteries: Insights into the cell design and electrode chemistry

15:15 to 15:30

Ashley Willow *(Department of Materials Engineering, Swansea University, Swansea, United Kingdom)*, Sajad Kiani, Serena Margadonna, Olutimilehin Omisore, Marcin Orzech, Nathan Reynolds

Design and Assembly of a Sodium-Ion Anode-Free Battery Based on a Prussian White Cathode

15:30 to 15:45

Antunes Staffolani *(Department of Chemistry "Giacomo Ciamician", Alma Mater Studiorum - University of Bologna, Bologna, Italy)*, Edoardo Finaurini, Luca Minnetti, Francesco Nobili, Leonardo Sbrascini

Electrochemical Characterization of a Na-ion Cell based on Sn anode and Recycled $NaFePO_4$ cathode

15:45 to 16:00

Evelina Wikner *(Electrical Engineering, Chalmers University of Technology, Gothenburg, Sweden)*, Yonas Tesfamhret

Estimating the electrode kinetics from ICI for Sodium-Ion Batteries

16:00 to 16:05

Md. Abdul Aziz *(Interdisciplinary Research Center for Hydrogen Technologies, King Fahd University of Petroleum & Minerals (KFUPM), Dhahran, Saudi Arabia)*, Muhammad Ali, Abbas Saeed Hakeem, Syed Shaheen Shah, Zain H. Yamani

High-Energy-Density All-Solid-State Supercapacitors via Nickel-Cobalt Double Hydroxide Nanoflowers on Jute Sticks-Derived Activated Carbon Nanosheets

16:05 to 16:10

Yeasmin Lamyea *(Department of Industrial Chemistry, University of Bologna, Bologna, Italy)*

PVA_H_2SO_4 Hydrogel for wearable devices

16:10 to 16:15

Sebastian Liebl *(Physical Chemistry, University Innsbruck, Innsbruck, Austria)*, Engelbert Portenkirchner, Daniel Werner

Small Organic Molecules as Electrode Materials for Aqueous Sodium-Ion Batteries

16:15 to 16:20

Carla Albenga *(WMG, University of Warwick, Coventry, United Kingdom)*, James A. Gott, Ivana Hasa, Faduma Maddar

Understanding bulk degradation of Sn-based anodes for sodium-ion batteries

16:20 to 16:25

Thukshan Samarakoon *(Stephenson Institute for Renewable Energy, Chemistry, The University of Liverpool, Liverpool, United Kingdom)*, Elliot Coulbeck, Laurence J. Hardwick, Alex R. Neale, Tyler Petek, Dan Saccomando

Online pressure cells enable multicycle operando monitoring of redox-mediated metal-oxygen battery chemistries

16:25 to 16:30

Fabio Biffoli *(Department of Chemistry "Ugo Schiff", University of Florence, Firenze, Italy)*, Marco Bonechi, Antonio De Luca, Claudio Fontanesi, Massimo Innocenti, Marco Pagliai

Chiral and Achiral Polycyclic Aromatic Hydrocarbon Conductors: A Theoretical Study on Vibrational Polaron Signature and Conceptualization of the Chiral Polaron Signature

16:30 to 17:00

Coffee Break

17:00 to 17:15

Engelbert Portenkirchner *(Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*, Josef Gallmetzer, Thomas Hofer, Mihai Irimia-Vladu, Stefanie Kröll, Niyazi Serdar Sariciftci, Daniel Werner, Dominik Wielend

Anthraquinone and its Derivatives as Sustainable Materials for Organic Sodium Ion Batteries – a joint Experimental and Theoretical Investigation

17:15 to 17:30

Gioele Pagot *(Department of Industrial Engineering, University of Padova, Padova, Italy)*, Federico Brombin, Vito Di Noto, Enrico Negro, Keti Vezzù

Conductivity Mechanisms in Solid State Hybrid Inorganic Organic Polymer Electrolytes for Sodium Secondary Batteries

17:30 to 17:45

Margaux Guiraud *(IFM (institute for frontier materials), Deakin University, Melbourne, Australia)*, Maria Forsyth, Mega Kar, Faezeh Makhlooghi Azad

Borate-Based Polymer Electrolytes for Sodium Batteries.

17:45 to 18:00

Giovanni Battista Appetecchi *(SSPT, ENEA, S. Maria di Galeria (Rome), Italy)*, Sergio Brutti, Giovanna Maresca, Michela Ottaviani, Angelica Petrongari, Kevin M Ryan

Can Ionic Liquid Electrolytes Improve the Interfacial Compatibilitytowards Sodium Battery Electrodes?

18:00 to 18:15

Franziska Jach *(Department Energy Materials and Test Devices, Fraunhofer IISB, Erlangen, Germany)*, Max Bamberg, Martin Eckert, Gero Frisch, Felix Fuhrmann, Franziska Jach, Ulrike Wunderwald

Reducing Self-Discharge Processes in Aluminum-Graphite Batteries

18:15 to 18:30

Paloma Almodovar *(R&D, Zelestium Technologies, Soria, Spain)*, Ana Arenillas, Ignacio Camean, Joaquin Chacón, Samanta Flores-López, Ana Beatriz García, Maria Luisa López, Julio Ramirez-Castellanos, Natalia Rey-Raap, Lara Santos, Belen Sotillo, Miguel Tinoco, Inmaculada Álvarez-Serrano

Carbon Xerogels: Breaking Capacity Carriers in Aluminium-ion Batteries

S3 - Hydrogen production technologies: Novelties and advances

Room : R3 - Isola Madre

Chaired by Elena Savinova, Evelina Slavcheva & Irene Vassalini

14:30 to 15:00 Invited

Evelina Slavcheva *(Institute of Electrochemistry and Energy Systems, Bulgarian Academy of Sciences, Sofia, Bulgaria)*, Galin Borisov, Iveta Boshnakova, Mariela Dimitrova, Borislava Mladenova

Investigation of montmorillonite as carrier for OER catalysts

15:00 to 15:15

Garance Cossard *(LEPMI, Université Grenoble Alpes, Grenoble, France)*, Marian Chatenet, Gwénaëlle Kérangueven, Elena Savinova, Eric Sibert

Oxygen evolution reaction in alkaline media using Co-spinels and stainless steel based electrodes

15:15 to 15:30

Irene Vassalini *(Department of Information Engineering, University of Brescia, Brescia, Italy)*, Ivano Alessandri, Luca Ciambriello, Luca Gavioli

Electrocatalytic Performance and Stability of Nanogranular NiFe Thin Film for Oxygen Evolution Reaction in Alkaline Media

15:30 to 15:45

Vladislav Mints *(DCBP, University of Bern, Bern, Switzerland)*, Matthias Arenz, Jan Rossmeisl, Katrine Svane

Exploring the high entropy oxide composition space: insights through comparing experimental with theoretical models for the oxygen evolution reaction

15:45 to 16:00

Etienne Berner *(Department of Chemistry, Biochemistry and Pharmaceutical Sc., University of Bern, Bern, Switzerland)*, Matthias Arenz, Gustav K.H. Wiberg

Achieving enhanced Oxygen Evolution Reaction Rates on Ni-based Foam Catalysts in a Gas Diffusion Electrode Setup

16:00 to 16:05

Pierrick Merlin *(CEA, Université Paris Saclay, Gif-sur-Yvette, France)*, Jean-Marc Borgard, Romain Chanson, Alexis Fallet, Benoit Gwinner, Fabien Rouillard, Nathanaelle Schneider

Elaboration of High-Efficient Coatings for Bipolar Plate of Proton Exchange Membrane Water Electrolyzers

16:05 to 16:10

Quinten Van Laere *(Applied Electrochemistry and Catalysis (ELCAT), University of Antwerp, Wilrijk, Belgium)*, Tom Breugelmans, Jonas Hereijgers, Kevin Van Daele

Enhancing Electrolyser Efficiency by Studying Porous Transport Layers and Flow Field Designs for Alkaline Water Electrolysis

16:10 to 16:15

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

Enhancing H_2 production rate by addition of biomasses in PGM-free batch and continuous photoelectrochemical cells.

16:15 to 16:20

Fanny Reichmayr *(Chair of Electrochemistry, Technische Universität Dresden, Dresden, Germany)*, Renhao Dong, Xinliang Feng, Axel Lubk, Inez Weidinger, Daniel Wolf, Geping Zhang

Spectroscopic and Spectro-Electrochemical Characterisations of a Bimetallic Layered Metal-Organic Framework Catalyst: Revealing Structural Dynamics and Catalytic Behaviour

16:20 to 16:25

Moritz Karl Rosenthal *(School of Chemical Engineering, Aalto University, Espoo, Finland)*, Tanja Kallio, Lilian Moumaneix, Eeva-Leena Rautama

Fluorine-doped $CuMn_2O_4$ as PGM-free electrocatalyst for oxygen evolution reaction in acidic media: investigating reaction mechanism and deactivation

16:25 to 16:30

Arthur Bukowski *(LEPMI, UGA-Grenoble INP, Grenoble, France)*, Antoine Bonnefont, Marian Chatenet, Jean-François Vanhumbeeck

Iron Contamination and Electrodeposition on Nickel Cathodes in Alkaline Water Electrolysers

16:30 to 17:00

Coffee Break

17:00 to 17:30 Invited

Elena Savinova *(ICPEES, University of Strasbourg - CNRS, Strasbourg, France)*, Tristan Asset, Antoine Bonnefont, Fabrice Bournel, Jean-Jacques Gallet, Iryna Makarchuk, Benoit P. Pichon, Benjamin Rotonnelli

Core-Shell Fe_3O_4@$CoFe_2O_4$ Spinel Nanoparticles as Promising Materials for the Oxygen Evolution Reaction in Alkaline Media

17:30 to 17:45

Hongyuan Yang *(Department of Chemistry, Technical University of Berlin, Berlin, Germany)*, Matthias Driess, Prashanth Menezes

Novel Iron-based Compounds Mediated by s-, p-, and f-block Metals for Alkaline Oxygen Evolution Electrocatalysis

17:45 to 18:00

Sebastian Tigges *(Department of Heterogeneous Catalysis, Max-Planck-Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Serena DeBeer, Ulrich Hagemann, Walid Hetaba, Saskia Heumann, Liqun Kang, Milen Nachev, Michael Poschmann, Daniela Ramermann, Robert Schlögl, Bernd Sures

Ultra-Low Loading Transition Metal's Impact on the Alkaline OER Performance of N-Doped, Hydrothermal Carbon

18:00 to 18:15

Elod Gyenge *(Chemical and Biological Engineering, University of British Columbia, Vancouver, Canada)*, Yu Pei, David Wilkinson, Wendie Wu

High-Performance Reversible Oxygen Reduction/Evolution Gas Diffusion Electrodes with Core-Shell Mn/Mn_3O_4 Catalysts

18:15 to 18:30

Ladislav Kavan *(Electrochemical Materials, J. Heyrovsky Institute of Physical Chemistry, Praha 8, Czech Republic)*, Zdenek Hubicka, Ladislav Kavan, Hana Krysova, Vera Mansfeldova, Hana Tarabkova, Marketa Zukalova

Photoelectrolysis of Water on SnO_2 and ZnO: Effects of Electrode Morphology and Interface Properties

S4 - Hydrogen conversion technologies: Fundamentals, materials, applications

Room : R4 - Mottarone

Chaired by Andrea Casalegno

14:30 to 15:00 Invited

Iryna Zenyuk *(Chemical and Biomolecular Engineering, University of California Irvine, Irvine, USA)*

Comparison of Various Accelerated Stress Tests to Understand Degradation of PtCo/C Catalysts in Polymer Electrolyte Fuel Cell

15:00 to 15:15

Hadi Heidary *(Chemical Engineering, University of Birmingham, Birmingham, United Kingdom)*, Hadi Heidary, Robert Steinberger-Wilckens

Development of Polymer Electrolyte Fuel Cells with Porous Foam Distributor

15:15 to 15:30

Ivan Pivac *(Department of Mechanical Engineering and Naval Architecture, FESB, University of Split, Split, Croatia)*, Frano Barbir, Quentin Meyer, Ivan Pivac, Chuan Zhao

Localized Operando Diagnostics of PEM Fuel Cells – Internal Performance Insights

15:30 to 15:45

Yoed Tsur *(Chemical Engineering, Technion - Israel Instisute of Technology, Haifa, Israel)*, Gal Avioz Cohen, Wisal Khalaily

Degradation studies on PEMFC Cathodes using Distribution Functions of Relaxation Times

15:45 to 16:00

Fabrice Micoud *(CEA LITEN, Université Grenoble Alpes, Grenoble, France)*, Laure Guétaz, Benoit Morin, Jean-Philippe Poirot-Crouvezier, Magali Reytier, Guillaume Soubeyran

Analyzing innovative operating strategies for the optimization of PEMFC stack performance recovery

S2 - Beyond lithium: New chemistries and approaches

Room : R4 - Mottarone

Chaired by Mohsin Muhyuddin

16:00 to 16:05

Radhika Krishna Hema *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany)*

Interphase Tuning in Acetate-based Water-in-Salt Electrolytes (WiSEs) for Sodium-ion Batteries Using Halogenated Additives

16:05 to 16:10

Jithin Antony *(Energy Storage & Conversion, DECHEMA Forschungsinstitut, Frankfurt am Main, Germany)*, Jean Francois Drillet, Willi Peters

Development of a Rechargeable Jelly Roll Zinc/Manganese Battery

16:10 to 16:15

Muath Radi *(Physico-chemistry of surfaces and polymer materials, IPREM, University of Pau & Pays Adour, CNRS, Pau, France, Pau, France)*, Rémi Dedryvère, Alexandre Ponrouch, Taniya Purkait

Evaluation of Additives in $Mg(TFSI)_2$ Electrolyte for Mg Plating/Stripping Process in Rechargeable Mg Batteries

16:15 to 16:20

Faduma Maddar *(WMG, University of Warwick, Coventry, United Kingdom)*, Aidan Cheung, Ivana Hasa, Maider Zarrabeitia

Investigating the Impact of 0 V Storage on Prussian White Cathode-Based Sodium-ion Battery Cells

16:20 to 16:25

Emanuele Maria Groiss *(Centre for Sustainable Energy - Industrial Engineering Dept., Fondazione Bruno Kessler - Università degli Studi di Trento, Trento, Italy)*, Mattia Duranti, Michele Fedel, William Gomes de Morais, Edoardo Gino Macchi

Iron hydrolysis suppression with Glycine addition in a concentrated Iron electrolyte for aqueous Redox Flow Batteries

16:25 to 16:30

Nathan Reynolds *(Chemical Engineering, Swansea University, Swansea, United Kingdom)*, Serena Margadonna

Zero-Excess Sodium-Organic Battery Through in-situ Metal Plating

16:30 to 17:00

Coffee Break

S4 - Hydrogen conversion technologies: Fundamentals, materials, applications

Room : R4 - Mottarone

Chaired by Iryna Zenyuk

17:00 to 17:30 Invited

Andrea Casalegno *(Dipartimento di Energia, Politecnico di Milano, Milano, Italy)*, Andrea Baricci, Elena Colombo, Amedeo Grimaldi

PEMFC performance decay during real-world light and heavy duty vehicle operation: degradation mechanisms and their impact

17:30 to 17:45

Karin Beaussant Törne *(Corrosion, RISE, Kisa, Sweden)*, Tomas Kubart, Anders Lundblad, Live Mølmen, Hannes Nederstedt, Smita Rao, Richard Westergård, Yao Yao

Corrosion resistance of coated Al for bipolar plates in PEM fuel cells

17:45 to 18:00

Elena Colombo *(Department of Energy, Politecnico di Milano, Milano, Italy)*, Andrea Baricci, Andrea Casalegno, Amedeo Grimaldi, Yu Morimoto, Magnolia Pak, Iryna V. Zenyuk

Correlating the PEM Fuel Cell Air-Inlet Degraded Performance to the Heterogeneous Cerium Distribution Caused by Automotive Operations

18:00 to 18:15

Alexandr Oshchepkov *(ICPEES, University of Strasbourg, Strasbourg, France)*, Tristan Asset, Elena Savinova

Enhancing the CO tolerance of Pt/C anodes of the proton exchange membrane fuel cells through optimization of the ionomer concentration in the catalyst layer

18:15 to 18:30

Sylvain Brimaud *(Fuel Cell Fundamentals, Zentrum für Sonnenenergie- und Wasserstoff-Forschung (ZSW), Ulm, Germany)*, Alessandro Brega, Ludwig Jörissen, Masuma Sultana Ripa, Oliver Thimm

Applied electrochemistry for the maturation of hydrogen fuel cell technology

Tuesday 11 June 2024 - Morning

Keynote

Room : R1 - Isola Bella Theatre

08:30 to 09:20 Chaired by Piercarlo Mustarelli

Marian Chatenet *(LEPMI, Grenoble Institute of Technology, Saint Martin d'Hères, France)*, Huong Doan, Ricardo Sgarbi

Carbon-capped metal-based nanoparticles; towards fast and durable hydrogen reactions catalysis in alkaline electrolytes

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R1 - Isola Bella Theatre

Chaired by Mauro Pasta & Claire Villevieille

09:30 to 10:00 Invited

Claire Villevieille *(LEPMI, CNRS, Saint Martin d'Hères, France)*

Microstructure Evolution in Solid-State Batteries During Cycling

10:00 to 10:15

Anna Windmüller *(Institute of Energy and Climate Research (IEK-9), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Anna Domgans, Rüdiger-A. Eichel, Bing-Joe Hwang, Felix Hüning, Hans Kungl, Kristian Schaps, Roland Schierholz, Bereket Woldegbreal Taklu, Hermann Tempel, Chih-Long Tsai, Shicheng Yu, Frederik Zantis

The role of $LiGaO_2$ in Li-metal batteries using Ga-doped garnet solid-electrolytes

10:15 to 10:30

Lorena García *(Electrochemical Energy Storage, CIC energiGUNE, Vitoria, Spain)*, Itziar Aldalur, Michel Armand, Mikel Arrese-Igor, Julen Etxabe, Maria Martinez-Ibañez, Leire Meabe, Izaskun Serna

Towards novel CF_3-free lithium salt for solid polymer electrolytes

10:30 to 10:45

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

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

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Mauro Pasta *(Department of Materials, University of Oxford, Oxford, United Kingdom)*

Lithium-Alloy Anodes in Solid-State Batteries

11:45 to 12:00

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

Engineering of Nanostructured High-Capacity Anode Materials for Lithium-Ion Batteries

12:00 to 12:15

Damian Kowalski *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Sandra Sajeev, Mewin Vincent

In-Situ Raman Spectroscopy of Li+ and Na+ Storage in Anodic Nanotubes

12:15 to 12:30

Saveria Santangelo *(Department of Civil, Energy, Environmental and Materials Eng, Mediterranean University, DICEAM, Reggio Calabria, Italy)*, Vito Di Noto, Marco Giorgetti, Min Li, Yanchen Liu, Mariam Maisuradze, Gioele Pagot, Nicola Pinna, Alessandro Ponti, Saveria Santangelo, Claudia Triolo

Li-Storage Performance of $(Mn^{1/5}Fe_{1/5}Co_{1/5}Ni_{1/5}Zn_{1/5})_3O_4$ Nanofibers: Role of the Microstructure

12:30 to 12:45

Mario Marinaro *(ECM, ZSW - Zentrum für Sonnenenergie-und Wasserstoff- Forschung, Ulm, Germany)*

The Role of Silicon in High-Energy Li-ion Batteries

12:45 to 13:00

Afshin Pendashteh *(Multifunctional Nanocomposites Group, IMDEA Materials Institute, Getafe, Spain)*, Rafael Tomey, Juan J. Vilatela

Silicon nanowire paper anodes in gen. 3b Li-ion batteries exceeding 400Wh/Kg

S2 - Beyond lithium: New chemistries and approaches

Room : R2 - Isola dei Pescatori

Chaired by Julia Amici

09:30 to 10:00 Invited

Shinichi Komaba *(Department of Applied Chemistry, Tokyo University of Science, Tokyo, Japan)*, Tomooki Hosaka, Masayoshi Matsuzaki, Kosuke Nakamoto, Nobuhiro Okada, Masayoshi Shimizu, Ryoichi Tatara, Kazuteru Umetsu

Sacrificial Electrode Additive in Na-ion Batteries to Compensate for the Sodium Deficiency in P2-Type Layered Oxides

10:00 to 10:15

Maider Zarrabeitia *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Elizabeth Castillo-Martínez, Jinyu Chen, Sohelia Ebrahimi, Boyan Iliev, Thomas J. S. Schubert

Ternary Polymer Electrolytes for Potassium-based Solid-State Batteries

10:15 to 10:30

Ana López Cudero *(HEMPOL, ICTP-CSIC, Madrid, Spain)*, Ángela Campo, Nuria García, Víctor Gregorio, Aránzazu Martínez-Gómez, Pilar Tiemblo

Functional Separators for Semi-solid Electrolytes in Beyond-Li Batteries

10:30 to 10:45

Hagar K. Hassan *(Echem II and Theory I, Helmholtz Institute Ulm (HIU), Ulm, Germany)*, Muhammed B. Arian, Paul Hoffmann, Kana Inshigami, Timo Jacob, Aya Mohamed

Unraveling Electrolyte Challenges in Post-Lithium Ion Batteries: From Metal-Organic Frameworks to Metal-Rich Antiperovskites

10:45 to 11:15 Coffee Break

11:15 to 11:30

Vito Di Noto *(Department of Industrial Engineering, University of Padua, Padua, Italy)*, Enrico Negro, Gioele Pagot, Keti Vezzù

Beyond Lithium Batteries: Conductivity mechanisms of New functional electrolytes

11:30 to 11:45

Simone Dagostino *(Department of Chemistry, university of Bologna, Bologna, Italy)*, Samet Ocak, Francesca Soavi

Effects of Supramolecular Complexations of Solid-Acids with Crown Ethers: a Route to Access Novel Solid-State Electrolytes

S3 - Hydrogen production technologies: Novelties and advances

Room : R3 - Isola Madre

Chaired by Tobias Binninger & Svitlana Pylypenko

09:30 to 10:00 Invited

Svitlana Pylypenko *(Chemistry, Colorado School of Mines, Golden, USA)*

Characterization of Surfaces and Interfaces in Polymer Electrolyte Membrane Electrolyzers

10:00 to 10:15

Tomas Bystron *(Department of Inorganic Technology, University of Chemistry and Technology Prague, Prague, Czech Republic)*, Tereza Bautkinova, Karel Bouzek, Johannes Häusler, Meital Shviro, Nikolai Utsch

Investigation of Ti Hydrides for Proton Exchange Membrane Water Electrolysis Application

10:15 to 10:30

Bas van Dijk *(STIP, TNO, Petten, Netherlands)*, Johan Buurma, Oscar Diaz Morales, Simone Dussi, Gopalan Jayashankar, Marcelle Potgieter, Davide Ripepi, Jie Shen, Rick de Waard, Coen van Aken, Emma van Zanten

Next Generation Components and Manufacturing for PEM Water Electrolysis

10:30 to 10:45

Pascal Sous *(Electrolysis, The hydrogen and fuel cell center GmbH, Duisburg, Germany)*, Sebastian Hirt, Harry Hoster, Natalia Levin-Rojas

Enhancing PEM water electrolysis performance by optimizing Ir-catalyst ink

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Aliaksandr Bandarenka *(Physics, Technical University of Munich, Garching, Germany)*

Identification of Active Electrocatalytic Sites for the Hydrogen Evolution Reaction

11:45 to 12:00

Dzevad Kozlica *(Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Marjan Bele, Pedro Farinazzo Bergamo Dias Martins, Matjaz Finsgar, Maris M. Mathew, Dusan Strmcnik

Key Parameters Controlling the Hydrogen Evolution Reaction on Nickel

12:00 to 12:15

Arnaud Viola *(LEPMI, Grenoble INP, Grenoble, France)*, Raphaël Chattot, Jakub Drnec, Frédéric Maillard, Vincent Martin, Jaysen Nelayah, Galina Tsirlina

Hydrogen Trapping in Palladium Nanoparticles, and its Influence on the Rate of Hydrogen Evolution/Oxidation Reaction

12:15 to 12:30

Elena L. Gubanova *(Department of Physics, Technische Universität München, Garching bei München, Germany)*, Aliaksandr S. Bandarenka, Johannes A. Fischer, Batyr Garlyyev, Elena L. Gubanova, Jan M. Macak, Frédéric Maillard, Jan Michalićka, Kais Sadraoui, Peter M. Schneider, Christian M. Schott, Anatoliy Senyshyn, Arnaud Viola, Sebastian A. Watzele

Pd-Based Catalyst Synthesized via Electrochemical Erosion for Hydrogen Evolution Reaction

12:30 to 12:45

Kangwoo Cho *(Division of Environmental Science and Engineering, Pohang University of Science and Technology, Pohang, Korea)*, Jiseon Kim

Electrolytic Hydrogen Generation Efficiency Coupled with Urea and Ammonia Oxidation Reactions

12:45 to 13:00

Iryna Antonyshyn *(Inorganic Chemistry, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Berlin, Germany)*, Ulrich Burkhardt, Yuri Grin, Peter Höhn, Marcus Schmidt, Büsra Sevdaroglu

Heterophase boronization as a flexible method for electrocatalyst preparation

13:00 to 13:15

Salvo Mirabella *(Physics and Astronomy, University of Catania, Catania, Italy)*, Sergio Battiato, Luca Bruno, Antonio Terrasi, Mario Urso

Ni-based Microflowers for Water Splitting

S4 - Hydrogen conversion technologies: Fundamentals, materials, applications

Room : R4 - Mottarone

Chaired by Christian Durante

09:30 to 10:00 Invited

Frederic Jaouen *(ICGM, CNRS, Montpellier, France)*, Simon Amigues, Nicolas Bibent, Laetitia Dubau, Frédéric Maillard, Eliot Petitdemange

MOF-derived Nickel Catalysts for Anion Exchange Membrane Fuel Cell Anode

10:00 to 10:15

Hsiharng Yang *(Graduate Institute of Precision Engineering, National Chung Hsing University, Taichung, Taiwan)*, Guan-Yu Chu

Silver Nano-particles Modification Used as Cathode Catalysts to Enhance Anion Exchange Membrane Fuel Cells

10:15 to 10:30

Giovanni Di Liberto *(Materials Science, Università degli Studi di Milano-Bicocca, Milano, Italy)*, Livia Giordano, Gianfranco Pacchioni

Modeling Single Atom Catalysts

10:30 to 10:45

Fabio Coral Fonseca *(CECCO, IPEN, Sao Paulo, Brazil)*, Tamara Moraes

Solid-solution Driven Metallic Active Sites in Perovskite Anodic Layer for Direct Ethanol Solid Oxide Fuel Cell

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Ulrike I. Kramm *(Chemistry, TU Darmstadt, Darmstadt, Germany)*, Vladislav Gridin, Hendrik Haak, Ulrike I. Kramm, Lingmei Ni, Anna Ostroverkh, Nicole Segura-Salas, Pascal Theis, Xiaohua Yang

How do nanoparticles affect FeNC catalysts and their catalytic performance for the ORR and CO_2 conversion?

Tuesday 11 June 2024 - Afternoon

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R1 - Isola Bella Theatre

Chaired by Giuseppe Antonio Elia & Daniele Callegari

14:30 to 14:35

Johannes Hörmann *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Stuttgart, Germany)*, Ashutosh Agrawal, Timo Danner, K. Andreas Friedrich, Simon Hein, Birger Horstmann, Dennis Kopljar, Yannick Kuhn, Arnulf Latz

Combining Single-Particle Measurements and Simulations for Advanced Electrochemical Characterization of Lithium-Ion Battery Materials

14:35 to 14:40

Jean-Baptiste Guy *(Electric Mobility, CEA LITEN, Grenoble, France)*, Fréderic Bossard, Benoit Chavillon, Sophie Chazelle, Jean-Baptiste Guy, Sébastien Martinet, Eric Mayousse, Willy Porcher

Influence of the Electrolyte and Temperature on the Tortuosity Measurement by Electrochemical Impedance Spectroscopy

14:40 to 14:45

Chenkun Li *(Wilhelm-Johnen Str.1, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Jun Huang

Deciphering impedance response of the solid-electrolyte interphase at lithium metal anodes

14:45 to 14:50

Bhavya Nidhi Vats *(Centre for Automotive Research and Tribology, Indian Institute of Technology Delhi, New Delhi, India)*, S Fatima, Raghvendra Gupta, Amit Gupta, Deepak Kumar

Electrochemical performance and post-operational characteristics of composite anode: Graphite-x(Si@TiO_2) nanoparticles (x=5,10,15%)

14:50 to 14:55

Philipp Müller *(IEK-9, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Dominic Bresser, Hans Kungl, Eichel Rüdiger, Sandro Schöner, Dominik Steinle, Conrad Szczuka, Hermann Tempel, Chih-Long Tsai, Anna Windmüller, Shicheng Yu

Decoding low coulombic efficiencies in PEO based zero excess lithium metal solid-state batteries

Panel Discussion

15:00 to 16:30

Symposia 1 & 2

16:30 to 17:00

Coffee Break

17:00 to 17:15

Liang-Yin Kuo *(Chemical Engineering, Ming Chi University of Technology, New Taipei City, Taiwan)*, Yola Bertilsya Hendri, Chun-Chen Yang

Taylor–Couette reactor synthesis method and density functional theory study for investigating structure, morphology, and diffusion mechanism in Ta-modified Ni-rich cathode material

17:15 to 17:30

Jean-Francois Colin *(DEHT/ Materials Laboratory, Univ. Grenoble Alpes, CEA-LITEN, Grenoble, France)*, Marion Chandesris, Thibaut Jousseaume, Sandrine Lyonnard, Samuel Tardif

Significance of the Strain-Lithium Content Relationship in Ni-Rich Cathodes: An Operando Study

17:30 to 17:45

Marc Nel-lo *(Energy Storage, Harvesting and Catalysis, IREC, Barcelona, Spain)*, Jordi Jacas, Elias Martínez, Leif Olav

Investigating the Influence of Synthesis-Generated Carbonates on NMC811

17:45 to 18:00

Valerie Siller *(Electrochemistry Laboratory, Paul Scherrer Institute, Villigen, Switzerland)*, Mario El Kazzi, Carlos Antonio Fernandes Vaz, Christian Jordy, Barthélémy Lelotte, Vincent Pelé, Robin Wullich

Probing the instable interface between solid electrolytes and high voltage cathodes with operando X-ray spectroscopy

18:00 to 18:15

Francesca Soavi *(Department of Chemistry "Giacomo Ciamician", Alma Mater Studiorum Università di Bologna, Bologna, Italy)*, José Ramón Herrera Garza, Clara Santato

In Operando Characterization of the Electronic Properties of Li-ion Intercalation Materials

18:15 to 18:30

Laura Silvestri *(Department of Energy Technologies and Renewable Sources, ENEA, Rome, Italy)*, Giovanni Battista Appetecchi, Sergio Brutti, Arcangelo Celeste, Eleonora De Santis, Valeria Lombardi

Co-free Li-rich Layered Oxide Materials as Positive Electrodes in Li-ion Batteries

S2 - Beyond lithium: New chemistries and approaches

Room : R2 - Isola dei Pescatori

Chaired by Shinichi Komaba & Hamideh Darjazi

14:30 to 14:35

Meenal Gupta *(Department of Innovation Engineering, University of Salento, Lecce, Italy)*, Patrizia Bocchetta, Yogesh Kumar, Ashwani Kumar

Modified Carbonaceous Electrode Materials for Energy Storage and Conversion Devices

14:35 to 14:40

Khai Shin Teoh *(Research Group Prof. Andrea Balducci, Friedrich-Schiller-University Jena, Jena, Germany)*, Andrea Balducci, Sandesh Darlami Magar, Juan Luis Gómez Urbano, Massimo Melchiorre, Francesco Ruffo

Bio-based Solvent Gamma-valerolactone for Energy Storage Devices

14:40 to 14:45

Prisca Viviani *(Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milano, Italy)*

$Ti_3C_2T_x$ MXene flakes size effect on zinc crystal growth in anode-free Zn batteries

14:45 to 14:50

Mirabella Salvo *(Dipartimento di Fisica e Astronomia, Università di Catania, catania, Italy)*, Elena Bruno, Giacometta Mineo, Antonio Terrasi, Federico Ursino

Improved specific capacitance of WO_3 and MoO_3 nanostructures obtained by hydrothermal synthesis for energy storage applications.

14:50 to 14:55

Massimo Melchiorre *(Dipartimento di Scienze Chimiche, Università degli Studi di Napoli Federico II, Napoli, Italy)*, Balducci Andrea, Ruffo Francesco, Juan Luis Gómez Urbano, Khai Shin Teoh

Lactic Acid Dioxolanes as Bio-based Solvents for Supercapacitors and Li-ion Batteries

14:55 to 15:00

Bashir Ahmed Johan *(Materials Science and Engineering, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)*, Atif Saeed Alzahrani, Md Abdul Aziz

Electrodeposited Zinc-ion Batteries: High-Performance and Low-Cost Aqueous Systems for Flexible Electronics.

Panel Discussion

Room : R1 - Isola Bella Theatre

15:00 to 16:30

Symposia 1 & 2

16:30 to 17:00

Coffee Break

17:00 to 17:15

Omar Elkhafif *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Hagar K. Hassan, Timo Jacob

Boosting Mg Deposition/Dissolution from Ionic liquids; The role of different Additives for Applications in Mg-ion Batteries

17:15 to 17:30

Shanghai Wei *(Department of Chemical and Materials Engineering, The University of Auckland, Auckland, New Zealand)*

Alloy anodes for Magnesium Rechargeable Batteries

17:30 to 17:45

Fabio Maroni *(Accumulator Materials Research Team, Zentrum für Sonnenenergie- und Wasserstoff-Forschung (ZSW), Ulm, Germany)*, Mario Marinaro

Tracking Nucleation of Electrodeposited Divalent Cations

17:45 to 18:00

Malaurie Paillot *(DRF/IRAMIS/NIMBE, CEA Saclay, Gif-sur-Yvette, France)*, Magali Gauthier, Sophie Le Caër, Bénedicte Montigny, Alan Wong

Fundamental understanding of concentrated aqueous electrolytes for Mg batteries

18:00 to 18:15

Patrick Gerlach *(IMN, Institut des Matériaux de Nantes Jean Rouxel, Nantes Université, Nantes, France)*, Thierry Brousse, Camille Douard, Fabrice Leroux, Julien Sarmet, Philippe Stevens, Christine Tavoit-Gueho, Gwenaëlle Toussaint

Understanding the Electrochemical Behavior of Layered Double Hydroxides with Intercalated Ferrocene Anions for Energy Storage Application

18:15 to 18:30

Megan Daw *(School of Chemistry, University of Southampton, Southampton, United Kingdom)*, Megan Daw, Andrew Hector, Gillian Reid

Novel Electrolyte Materials for Rechargeable Magnesium Metal Batteries

S3 - Hydrogen production technologies: Novelties and advances

Room : R3 - Isola Madre

Chaired by Carlo Santoro, Aliaksandr Bandarenka & Giovanni Di Liberto

14:30 to 14:35

Yi-Hsuan Wu *(Department of Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland)*, Denis A. Kuznetsov, Christoph R. Müller

Probing Surface Transformations of Lanthanum Nickelate Electrocatalysts During Oxygen Evolution Reaction

14:35 to 14:40

Polina Kalachikova *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Tanja Kallio, Lilian Moumaneix

Low-cost PGM-free bimetallic Nickel-Iron MOF-derived catalysts for electrocatalytic hydrogen oxidation reaction in alkaline electrolyte

14:40 to 14:45

Niklas Thissen *(Electrochemical Reaction Engineering, RWTH Aachen ERT, Aachen, Germany)*, Anna K. Mechler, Alina Tran

The Role of Fe in Stability Investigations of Ni Catalysts in Alkaline Water Electrolysis under Fluctuating Loads

14:45 to 14:50

Katerina Hradecna *(Department of Inorganic Technology, University of Chemistry and Technology, Prague, Czech Republic)*, Karel Bouzek, Karel Denk, Jaromir Hnat, Roman Kodym, Michaela Plevova

The effect of catalytic layer composition and properties on alkaline membrane water electrolysis

14:50 to 14:55

Clara Schare *(Electrochemical Energy Systems, Hahn-Schickard, Freiburg, Germany)*, Carolin Klose, Andreas Münchinger, Giorgi Titvinidze, Severin Vierrath, Marco Viviani

µm crosslinked hydrocarbon membrane reaching stable performance of 5 A/cm² at 1.8V

15:00 to 15:30 Invited

Tobias Binninger *(Institute of Energy and Climate Research, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Adrian Heinritz, Juan Herranz, Paramaconi Rodriguez, Thomas J. Schmidt

Alkaline Hydrogen Evolution and Oxidation Reaction on Platinum: Potential Scale and the Effects of H_2 Concentration and Electrolyte pH

15:30 to 15:45

Agnieszka Brzózka *(Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Krakow, Poland)*, Mikolaj Kozak, Lifeng Liu, Mateusz Marzec, Renata Palowska, Daniel Piecha, Grzegorz Sulka, Mateusz Szczerba, Joanna Waksmundzka

Electrodeposition of binary compounds from deep eutectic solvents for electrochemical water splitting

15:45 to 16:00

Mir F. Mousavi *(Tarbiat Modares University, Tehran, Iran)*, Abolhassan Noori

Advanced Emerging Materials for Sustainable Hydrogen Production

16:00 to 16:15

Kassa Belay Ibrahim *(Department of Molecular Science and Nanosystems, Ca'Foscari University of Venice, Venice, Italy)*, Mohammadhossein Hamrang, Elisa Moretti, Tofik Ahmed Shifa, Alberto Vomiero

Synergistic effect of Ru-doped Fe_2TiO_5: An innovative catalyst advancing Urea-Assisted water splitting efficiency

16:15 to 16:30

Magdalena Warczak *(Faculty of Chemical Technology & Engineering, Bydgoszcz University of Science and Technology, Bydgoszcz, Poland)*, Magdalena Bonarowska, Agnieszka Dabrowska, Roman Minikayev, Marcin Opallo, Magdalena Osial, Marcin Pisarek, Natalia Slawkowska, Weronika Urbanska

Insights into high catalytic activity of Li-ion battery waste toward ORR to H_2O_2 – batteries in a circular economy

16:30 to 17:00 Coffee Break

Panel Discussion

17:00 to 18:30 **Symposia 3 & 4**

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R4 - Mottarone

Chaired by Shahid Khalid

14:30 to 14:35

Federico Scarpioni *(Energy storage and converter, Fraunhofer IFAM, Bremen, Germany)*, Fabio La Mantia, Federico Scarpioni

Dynamic Electrochemical Impedance Spectroscopy for the Investigation of Materials for Energy Storage in Three-Electrode Cells

14:35 to 14:40

Christoph P. Schmidt *(Institute for Computational Mechanics, Technical University of Munich, Garching bei Muenchen, Germany)*, Gil Robalo Rei, Wolfgang A. Wall

Method Driven Optimization of the Composite Electrode Composition of Solid-State Batteries

14:40 to 14:45

Christian Leibing *(Institute for Technical and Environmental Chemistry, Friedrich Schiller University Jena, Jena, Germany)*, Andrea Balducci

Electrode-Electrolyte-Interphase Composition Effects Introduced by Glyoxylic-Acetal-based Electrolytes in Lithium-Ion Batteries

14:45 to 14:50

Nathan Reydet *(LEPMI, LEPMI/Grenoble-INP, Grenoble, France)*, Renaud Bouchet, Marc Deschamps, Eric Maire, Sofia Perticarari

Electrochemical study coupled with X-ray tomography on Lithium Metal anode impurities

Wednesday 12 June 2024 - Morning

Keynote

Room : R1 - Isola Bella Theatre

08:30 to 09:20 Chaired by Claudio Gerbaldi

Maria Rosa Palacin *(Solid State Chemistry, ICMAB-CSIC, Barcelona, Spain)*

Post-Li battery chemistries: Back to the Future?

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R1 - Isola Bella Theatre

Chaired by Renaud Bouchet & Dominic Bresser

09:30 to 10:00 Invited

Dominic Bresser *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany)*

Step-by-Step Development of Single-Ion Conducting Polymer Electrolytes for Lithium-Metal Batteries

10:00 to 10:15

Sergio Granados-Focil *(Chemistry and Biochemistry, Clark University, Worcester, USA)*, Valeria Gutierrez-Venegas, Luis Smith, Yuxin Yang

Rational design of sulfonated oligomer/polymer structures to understand the structural underpinnings of Li^{+} transport through non-volatile electrolytes.

10:15 to 10:30

Jiajia Wan *(Me: Department of Chemistry Materials and Chemical Engineering, Milano, Italy)*

Artificial SEI Combined with Polymer Electrolytes to Prevent Dendrite Growth in Lithium Metal Batteries

10:30 to 10:45

Pietro Zaccagnini *(Applied Science and Technologies, Turin, Italy)*, Serena Amenta, Luisa Baudino, Marco Carofiglio, Valentina Cauda, Marzia Conte, Andrea Lamberti, Marco Reina, Mara Serrapede

Fe-Doped ZnO Nanoparticle Recycling: Second Life Valorization in Energy Storage

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Renaud Bouchet *(LEPMI (UMR5279), Université Grenoble Alpes, Phelma Grenoble INP, Grenoble, France)*

Governing parameters of the ionic transport through ceramic/organic electrolyte interface.

11:45 to 12:00

Ismael Saadoune *(Appled Chemistry & Engineering Research, Mohammed VI Polytechnic University, Benguerir, Maroc)*, Ismail Assengar, Stefan Mangold, Björn Schwarz, Indris Sylvio, Vanessa Trouillet

High-Voltage and Superior Performance Fluorophosphate-Based Cathode Material for Li-ion Batteries

12:00 to 12:15

Hasna Aziam *(HTMR Lab, UM6P, BEN GUERIR, Maroc)*

$Li_{3.27}Fe^{II}_{0.19}Fe^{III}_{0.81}V(PO_4)_3$ NaSICon-type cathode material for Lithium-ion Batteries

12:15 to 12:30

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

Low-Temperature Recovery of Deteriorated Ni-Rich Cathode Material Surfaces: $LiNiO_2$ and $LiNi_{0.8}Mn_{0.1}Co_{0.1}O_2$ Examples

12:30 to 12:45

Marc Fleury *(Earth Sciences and Environmental Technologies, IFP Energies nouvelles, Rueil-Malmaison, France)*, Ludivine Afonso De Araujo, Thibaud Chevalier, Quentin Denoyelle, Rachel Jorand, Benjamin Nicot, Bernard Simon

Tortuosity and pore size distribution on LFP electrodes using low field NMR techniques.

12:45 to 13:00

Keyvan Malaie *(Institute of Biochemistry, Universität Greifswald, Greifswald, Germany)*, Uwe Schröder

Understanding Electrochemical Phase Transition Reactions in Batteries through Examples from Cathode Materials in Aqueous Solution

13:00 to 13:15

Ziyauddin Khan *(Department of Science and Technology, Linköping University, Norrköping, Sweden)*, Reverant Crispin, Divyaratan Kumar

Water in Polymer Salt Electrolyte for Lignin based Batteries

S2 - Beyond lithium: New chemistries and approaches

Room : R2 - Isola dei Pescatori

Chaired by Francesco Nobili & Matteo Zago

09:30 to 10:00 Invited

Rebeca Marcilla *(Electrochemical Processes Unit, imdea energy, Mostoles, Spain)*

Membrane-free Flow Batteries based on Immiscible Electrolytes

10:00 to 10:15

Mirko D'Adamo *(Smart Energy Unit, NVISION Systems and Technologies, S.L., Barcelona, Spain)*, Wouter Badenhorst, Hector Marañon, Lasse Murtomäki, Jose Saez, Lluís Trilla

Leveraging Machine Learning for Enhanced Health Predictions in Copper Redox Flow Batteries

10:15 to 10:30

Matteo Zago *(Department of Energy, Politecnico di Milano, Milan, Italy)*, Andrea Casalegno, Marco Cecchetti, Luca Perlini, Francesco Toja

Reduced Capacity Decay Through Imbalanced Electrolyte Composition and State of Charge in Vanadium Redox Flow Batteries

10:30 to 10:45

Francesco Toja *(Energy, Politecnico di Milano, Milano, Italy)*, Andrea Casalegno, Luca Perlini, Matteo Zago

Improved Mass Transfer and Electrolyte Utilization in Large Scale Flow Batteries

10:45 to 11:15

Coffee Break

11:15 to 11:30

Carla Santana Santos *(Analytical Chemistry- Center for Electrochemical Sciences, Ruhr-University Bochum, Bochum, Germany)*, Igor Echevarria Poza, Maria Ibáñez, Nomnotho Jiyane, Mario Palacios Corella, Thomas Quast, Carla Santana Santos, Wolfgang Schuhmann, Edgar Ventosa

Evaluating the Intrinsic Electrochemical Performance of Solid Materials for Mediated-Redox Flow Battery

11:30 to 11:45

Rossella Petruzzelli *(Chemistry 'Giacomo Ciamician', University of Bologna, Bologna, Italy)*, Catia Arbizzani, Giampaolo Lacarbonara

Evaluation of kinetic parameters of redox flow battery reactions by rotating disk electrode as a function of the state of charge

11:45 to 12:00

Eduardo Martínez González *(Department of Mechanical and Materials Engineering, University of Turku, Turku, Finland)*, Pekka Peljo, Rosa Tirronen

Improving the volumetric capacity of air-stable aqueous organic flow battery electrolytes by using additives and solid boosters

12:00 to 12:15

Jonas Hereijgers *(Applied Electrochemistry & Catalysis, University of Antwerp, Wilrijk, Belgium)*, Luis Fernando Arenas, Renée De Wolf, Kavin Teenakul

Improved Redox Flow Battery Performance through Flow Engineering

12:15 to 12:30

Rosa Maria Gonzalez-Gil *(NEO-Energy, Institut Català de Nanociència i Nanotecnologia, Barcelona, Spain)*, Leandro Nicolas Bengoa, Verónica Fabián Puerta, Pedro Gómez -Romero, Daniel Rueda Garcia

Improving Zn-ion supercapacitors performance using hybrid organic/water-in-salt electrolytes

12:30 to 12:45

Patricia Bassil *(Hérault, Institut Charles Gerhardt Montpellier, Montpellier, France)*, Frédéric Favier, Steven Le Vot

Hybrid Composites from Controlled Re-Stacking of 2D-Electroactive Materials for Supercapacitors

12:45 to 13:00

Maria Arnaiz *(Electrochemical Energy Storage, CIC energiGUNE, Vitoria-Gasteiz, Spain)*, Jon Ajuria, Paulo Luis, Maria C. Morant-Miñana, Aitor Villaverde

Towards sustainable and high-performance electrode fabrication for EDLC and sodium ion capacitors

13:00 to 13:15

Emerson Sarmento Goncalves *(Materials Division, Institute of Aeronautics and Space, São José dos Campos, Brazil)*, Meriene Gandara, Bianca Fortes Palley, Biljana Sljukic

Nb-Mxene: Electrochemical Performance Of Microsupercapacitor Electrodes

S1 - Lithium-based technologies: Fundamental understanding and application aspects

Room : R4 - Mottarone

Chaired by Jusef Hassoun & Stefan Freunberger

09:30 to 10:00 Invited

Stefan Freunberger *(Institute of Science and Technology Austria, Klosterneuburg, Austria)*

New tools for understanding sulfur electrochemistry

10:00 to 10:15

Ezequiel Leiva *(Departamento de Química Teórica y Computacional, UNC, INFIQC-CONICET, Córdoba, Argentina),* Daniel Barraco, Victoria Bracamonte, Andrea Calderón, Fernando Cometto, Melina Cozzarin, L García Tsuruoka, Guillermina Luque, Luciana Morel, Sofia Raviolo, Fabio Saccone, Guillermina Tommasone, Martin Zoloff Michoff

Molecular dynamic simulations of polysulfides in Li-S batteries

10:15 to 10:30

Markéta Zukalová *(Electrochemical Materials, J. Heyrovsky Institute of Physical Chemistry, CAS, Prague, Czech Republic)*, Martin Fabián, Ladislav Kavan, Barbora Pitna Lásková, Olena Porodko, Monika Vinarcíková

Inorganic Additives Improving the Performance of Li-S Batteries

10:30 to 10:45

Saeed Yari *(IMO-IMOMEC, Hasselt University, Hasselt, Belgium)*

Synergistic Approach to Lithium-Sulfur Battery Optimization: Porous Electrode Formulation for Effective Polysulfide Regulation

10:45 to 11:15

Coffee Break

11:15 to 11:45 Invited

Jusef Hassoun *(Chemical, Pharmaceutical, and Agricultural Aciences, University of Ferrara, Ferrara, Italy)*

Graphene Substates in Lithium-Sulfur and Lithium-Oxygen batteries

11:45 to 12:00

Toshihiro Kondo *(Chemistry, Ochanomizu University, Bunkyo-ku, Japan)*, Makoto Aoki, Dilinigeer Dilixiati, Kazuno Maeda

Detailed Cathode Reaction Analyses in Li-O_2 Battery Based on Operando XRD Measurements

12:00 to 12:15

Julia Amici *(Department of Applied Science and Technology, Politecnico di Torino, Turin, Italy)*, Silvia Bodoardo, Matteo Gandolfo, Mattia Longo, Marco Sangermano

Bio-renewable organogels, towards more sustainable Li-O_2 batteries

12:15 to 12:30

Soumyadip Mondal *(Institute of Science and Technology Austria (ISTA), Klosterneuburg, Austria)*, Stefan A Freunberger

Surface electrochemistry with redox active insulator in non-aqueous oxygen redox and its impact on singlet oxygen

12:30 to 12:45

Mewin Vincent *(Faculty of Chemistry, Center for Biological and Chemical Sciences, Warsaw, Poland)*, Damian Kowalski, Sandra Sajeev

Perovskite type $Co_{0.7}Fe_{0.3}Mn_{1-x}NixO_{3-y}$ electrocatalyst for the nonaqueous Lithium-O_2 batteries

12:45 to 13:00

Rakesh Kumar Pandey *(Chemistry, Mahatma Gandhi Central University, Motihari, Motihari, India)*, Anshu Andola, Yashvant Kashyap, Ravi Ranjan Pandey, Himani Pandey

Unlocking the Potential of Depleted Dry Batteries: A Dual-Purpose Approach for Waste Mitigation and Sustainable Energy Production

Poster Presentations

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Symposium 2..... page 70
Symposium 3..... page 79
Symposium 4..... page 87

S1 - Lithium-based technologies: Fundamental understanding and application aspects

S1-001

Julia Amici *(Department of Applied Science and Technology, Politecnico di Torino, Turin, Italy)*, Silvia Bodoardo, Davide Dessantis, Piera Di Prima, Domenico Ferrero, Massimo Santarelli, Daniele Versaci

Modelling of lithium-ion battery with sulfide-based solid-state electrolyte

S1-002

Hagyeong Baek *(Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Jakob Asenbauer, Dominic Bresser, Thomas Diemant, Tobias Eisenmann, Xilai Xue

Interphase formation on (Carbon-coated) Fe-doped CeO_2 Li-Ion Anodes

S1-003

Edoardo Barcaro *(Chemical, Pharmaceutical and Agricultural Sciences, University of Ferrara, Ferrara, Italy)*, Jusef Hassoun, Vittorio Marangon, Marco Mutarelli

A lithium-ion battery with cycling stability promoted by the progressive activation of a silicon oxide anode in a graphene-amorphous carbon matrix

S1-004

Lioba Boveleth *(Institute of Engineering Thermodynamics - CEC BMA, German Aerospace Center (DLR @ HIU), Stuttgart, Germany)*, Timo Danner, Arnulf Latz, Adrian Lindner

Material Parameters Affecting Li Plating in Si/Graphite Composite Electrodes

S1-005

Daniele Callegari *(Physical Chemistry, University of Pavia, Pavia, Italy)*, Umberto Anselmi Tamburini, Mauro Coduri, Eliana Quartarone

Spray Drying Synthesis of Single Crystal $LiNi_{0.5}Mn_{1.5}O_4$ with Enhanced Electrochemical Performance

S1-006

Mattia Canini *(Department of Chemistry, Università degli Studi di Pavia, Pavia, Italy)*, Umberto Anselmi-Tamburini, Daniele Callegari, Mauro Coduri, Martina Fracchia, Eliana Quartarone

On the stabilizing effect of Trace Zr doping in $LiMn_{1.5}Fe_{0.5}O_4$ spinel cathodes for Lithium Ion-Batteries

S1-007

Joaquin Chacon *(R and D, Zelestium Technologies, Olvega, Spain)*, Paloma Almodóvar, Enrique Fatás, Pilar Herrasti

Advancing Rapid Charging in Lithium-Ion Batteries: Strategies to Mitigate Degradation for Enhanced Performance and Reliability

S1-008

Tom Chamberlain *(Warwick Manufacturing Group, University of Warwick, Coventry, United Kingdom)*, Ivana Hasa, Tomáš Syrový

The Salamander Project: Smart Sensors and Self-Healing Functionalities for Increased Li-ion Battery Longevity

S1-009

Qi Chen *(Structures, Foundations and Materials, iMDEA, Universidad Politecnica de Madrid, GETAFE, Spain)*, Arnab Ghosh, Deyi Wang, Guangzhong Yin

Flame-retardant biobased solid electrolyte for lithium-ion battery

S1-010

Hamideh Darjazi *(Department of Applied Science and Technology, Politecnico di Torino, Turin, Italy)*, Begoña Acebedo, Elena Gonzalo, Iñaki Madinabeitia, Miguel Ángel Muñoz-Márquez, Francesco Nobili, Maider Zarrabeitia

The Influence of Nitridation on High-Voltage Cathode Materials: $LiNi_{0.5}Mn_{1.5}O_4$ Sputtered Thin Films for High-Power Li-ion Batteries.

S1-011

Martino Fortunati *(Energy, Politecnico di Milano, Milano, Italy)*, Andrea Casalegno, Davide Ottolina, Claudio Rabissi

Non-Invasive Characterization of Real-Life Heterogeneous Aging within Lithium-Ion Battery Modules through Thermal Measurements and a Lumped 0-D Model

S1-012

Antonela Gallastegui *(Innovative Polymers Group, POLYMAT, San Sebastian-Donostia, Spain)*, Miryam Criado-Gonzalez, Rafael Del Olmo, Maria Forsyth, Jose Ramon Leiza, David Mecerreyes

Printable Single-ion Polymer Nanoparticle Electrolytes for Lithium Batteries

S1-013
Siri Gani *(Materials Science, TU Darmstadt, Darmstadt, Germany)*, Magdalena Graczyk-Zajac, Ralf Riedel, Axel Schönecker, Marco Spreafico
Stabilization of highly porous silicon for application as anode in a high capacity lithium-ion batteries.

S1-014
Nuria Garcia-Araez *(Chemistry, University of Southampton, Southampton, United Kingdom)*, Philip Bartlett, Nikolay Zhelev
Correlative SEM, EDX and Raman for battery characterization

S1-015
Matteo Gastaldi *(DISAT, Politecnico di Torino, Torino, Italy)*, Giuseppe Antonio Elia, Marisa Falco, Francesco Gambino, Claudio Gerbaldi, Giuseppina Meligrana
Solvent-free extrusion process of PEO-polycarbonate blends as electrolytes for Li-ion batteries

S1-016
Antonio Gentile *(Materials and Generation Technologies, Ricerca sul Sistema Energetico - RSE S.p.A., Milano, Italy)*, Stefano Marchionna, Nicholas Vallana
Enhancing Battery Performance through Evaluation of Electrode Materials in Full Pouch Cells

S1-017
Arnab Ghosh *(High-Performance Polymer Nanocomposites Group, IMDEA Materials Institute, Getafe, Spain)*, De-Yi Wang, Abdulmalik Yusuf
Structure, chemistry, and formation mechanism of an in-situ phosphazene flame retardant-derived interphase layer in $LiFePO_4$ cathode

S1-018
Alessandro Gregucci *(Chemistry, University of Bologna, Bologna, Italy)*, Vanessa Pennazzi, Michele Rizzotti, Congcong Shang, Francesca Soavi, Antunes Staffolani
Influence of Surface Area Calculation Methods on the Interpretation of Lithium-ion Diffusion Coefficient in Graphite Electrodes

S1-019

Hamid Hamed *(Industrial engineering, Uhasselt, Hasselt, Belgium)*

Unveiling Aging Dynamics in Large Lithium-Ion Pouch Cells through Comprehensive Material and Electrochemical Characterizations

S1-020

Florian Hausen *(IEK-9, Forschungszentrum Jülich, Jülich, Germany)*, Karin Kleiner, Niklas Scheer, Bixian Ying

Electronic Structure, Li-ion Mobility and Mechanical Properties in Individual NCM Particles – a Correlative Study

S1-021

Guillaume Henderson *(CMET, Ghent University, Ghent, Belgium)*

Membrane characterization for the electrochemical production of LiOH from Li_2SO_4 and byproduct valorization of H_2SO_4

S1-022

BeomSu Jo *(Engineering Chemistry, Chungbuk National University, Cheongju-si, Chungchungbuk-do, Korea)*, Jung Sang Cho

Synthesis of Conductive Carbon/Si Composite Microspheres for Anodes of Li-ion Batteries and Optimization of Pitch-Derived Carbon Coating Process

S1-023

Doohun Kim *(Next Generation Battery Research Center, Korea Electrotechnology Research Institute, Changwon-Si, Korea)*, Hae-Young Choi, Suriyakumar Dasarathan, Se Won Han, You-Jin Lee, Geon-Woong Lee, Jun-Woo Park, Junghwan Sung

Modified interlayer as a polysulfide inhibitor for Li-S batteries

S1-024

Do Kyung Kim *(Materials Science & Engineering, KAIST, Daejeon, Korea)*, Yoon Jae Cho, Dong Gyu Kim, Dong Jun Kim, Do Kyung Kim, Jay Kruzic

Electrochemical and Mechanical Performance of Reaction-Sintered $Li_{1.3}Al_{0.3}Ti_{1.7}(PO_4)_3$ Solid Electrolytes

S1-025

Do Kyung Kim *(Dept. of Materials Science & Engineering, KAIST, Daejeon, Korea)*, Yoon Jae Cho, Dong Gyu Kim, Dong Jun Kim, Do Kyung Kim, Rubha Ponraj

Enhanced Interfacial Stability of Sulfide Solid Electrolyte/Li Metal Anode by N-GQD Coating

S1-026

Urban Košir *(Department of Materials Chemistry (D10), National Institute of Chemistry, Ljubljana, Slovenia)*, Robert Dominko, Sara Drvarić Talian, Matteo Gastaldi, Claudio Gerbaldi, Gregor Kapun

Improving Transport and Interfacial Properties of Polymer Coatings for Anodes in Solid-State Lithium Metal Batteries with PEO-based Electrolytes

S1-027

Ezequiel Leiva *(Departamento de Química Teórica y Computacional, UNC, INFIQC-CONICET, Córdoba, Argentina)*, Daniel Barraco, Victoria Bracamonte, Andrea Calderón, Giorgio De Luca, Robert Dominko, Guillermina Luque, Javier Luque Di Salvo, Santiago Maldonado-Ochoa, Fabián Vaca Chávez, Alen Vizintin

Application of biocarbons as electrodes in lithium Batteries

S1-028

Chenkun Li *(Wilhelm-Johnen Str.1, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Jun Huang

Modelling the Electric Double Layer of Nanoscale Lithium Dendrite using Hybrid Density-Potential Functional Theory

S1-029

Maryam Maryam *(Materials Science, University of Milano Bicocca, Milan, Italy)*, Maryam Maryam

Synthesis and surface coating of single crystal NMC-811 for improving the performance of lithium-ion batteries.

S1-030

Kirstie McCombie *(WMG, University of Warwick, Coventry, United Kingdom)*, Ivana Hasa, Reuben Walcott

Direct Recycling of Li-ion Battery Cathode Active Materials from Production Scraps

S1-031

Hanxin Mei *(Department of Chemistry and Industrial Chemistry, university of genoa, genoa, Italy)*, Alessandro Cingolani, Paolo Piccardo, Roberto Spotorno

Application of Li_3InCl_6-PEO Composite Electrolyte in All-Solid-State Battery

S1-032

Almagul Mentbayeva *(Center for energy and advanced materials science, National Laboratory Astana, Nazarbayev University, Astana, Kazakhstan)*

Free-standing of NMC Cathode Materials for the Lithium-Ion Battery

S1-033

Shoayb Mojtahedi *(Department of Chemistry "Giacomo Ciamician", University of Bologna, Bologna, Italy)*, Elisa Maruccia, Fulvio Pastore, Mauro Serafin, Francesca Soavi, Antunes Staffolani

Sustainable Approach for Lithium-Ion Battery Cathode Manufacturing: Alternative Binder Compositions and Semi-Solventless Coating Process

S1-034

Pranaya Keshari Nahak *(Energy Science and Engineering, Indian Institute of Technology Bombay, Mumbai, India)*, Venkatasailanathan Ramadesigan

Mechano-Electrochemical Coupled Model-Based Study of Anode-free Solid-State Battery

S1-059

Tú Nguyen *(Sustainable Materials and Chemistry, Flemish Institute of Technological Research (VITO), Mol, Belgium)*, Yoran De Vos, Hamid Hamed, An Hardy, Jasper Lefevere, Mohammadhosein Safari

Carbon Additives for 3D-printed LFP Electrodes in High Energy Density Li-ion Batteries

S1-035

Irene Ostroman *(Materials Science, Università degli studi di Milano-Bicocca, Milano, Italy)*, Lorenzo Mezzomo, Riccardo Ruffo

Optimizing Anodeless Lithium Metal Batteries: strategies for enhanced performance and stability

S1-036

Matteo Palluzzi *(Department of Chemistry, Sapienza University of Rome, Rome, Italy)*, Paola D'Angelo, Aleksandar Matic, Maria Assunta Navarra, Akiko Tsurumaki

Ionic liquids, synthesized by greener methods, as cathode additives

S1-037

Jun-Woo Park *(Next Generation Battery Research Center, Korea Electrotechnology Research Institute, Changwon-si, Korea)*, Se Won Han, Geon-Woong Lee

Size-Controlled Wet-Chemical Direct Synthesis of Argyrodite Sulfide Electrolyte for All-Solid-State Batteries

S1-038

Tamara Patranika *(Chemistry Ångström, Uppsala University, Uppsala, Sweden)*, Kristina Edström, Guiomar Hernández, Andrew J. Naylor

Investigation of the Solid Electrolyte Interphase on Silicon Wafers using a Fluorine-free Electrolyte

S1-039

Ivan Claudio Pellini *(Department of Material Science, University of Milano-Bicocca, Milano, Italy)*, Shahid Khalid, Elena Polato, Riccardo Ruffo

Saturated Water/DMSO hybrid electrolytes for lithium-ion batteries

S1-040

Matteo Prati *(Department of Materials Engineering, Politecnico di Milano, Milano 20133, Italy)*, Roberto Biancardi, Ségolène Brusseau, Alice Cattaneo, Michele Fiore, Marie Raffin, Andrea Vittorio Oriani

Impact of the inorganics and their interaction with fluorinated binders on the cathode properties for Gen.3 Lithium Ion Batteries

S1-041

Elisa Ravesio *(DISAT - Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Silvia Bodoardo, Giorgio Montinaro, Valentina Sumini, Daniele Versaci

Towards scaling up in the production of Silicon-rich anodes with water-based binders

S1-042

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

NEXTCELL Project: Development of new-generation Lithium-Ion Batteries

S1-043

Manuel Reiter *(Department of Mechanical and Process Engineering, ETH Zürich, Zürich, Switzerland)*, Dario Gomez Vazquez, Chulgi Nathan Hong, Maria R. Lukatskaya

Controlled Halogenation of the Solid Electrolyte Interphase in Li-metal Batteries

S1-044

Clara Roggerone *(Faculty 1, Technical Chemistry, University of Applied Sciences (HTW) Berlin, Berlin, Germany)*, Julia Kowal, Fabio La Mantia, Asnakech Lass-Seyoum

Design of High Mass Loading $LiMn_2O_4$ Electrodes for Lithium Extraction from Brines

S1-045

AmirReza Rouhani Esfahani *(Materials Engineering, McGill University, Montreal, Canada)*, Eric McCalla, Philippe Ouzilleau, Nooshin Zeinali Galabi

Investigation of the Green Aqueous Binders on $LiCoPO_4$ Cathodes in Lithium-Ion Batteries

S1-046

Ritwik Roy *(Energy Science and Engineering, Indian Institute of Technology Bombay, Mumbai, India)*, Venkatasailanathan Ramadesigan

Mathematical modelling of ion-ion interaction and solvation effects in lithium-sulfur batteries

S1-047

Sofia Saffirio *(Department of Applied Science and Technology - DISAT, Politecnico di Torino, Torino, Italy)*, Sonia Lucia Fiorilli, Claudio Gerbaldi, Antonio Gianfranco Sabato, Federico Smeacetto, Albert Tarancón

NASICON-type glass-ceramic electrolytes: the effect of boron oxide and ultra-fast high-temperature sintering (UHS) on their functional properties

S1-048

Sandra Sajeev *(Chemistry, CNBCH, Warsaw, Poland)*

Electrochemical Performance of $La_{0.7}Sr_{0.3}Mn_{1-x}NixO_{3-\delta}$ Electrocatalyst in Nonaqueous Li-O_2 Battery

S1-049

Saveria Santangelo *(Department of Civil, Energy, Environmental and Materials Eng, Mediterranean University, DICEAM, Reggio Calabria, Italy)*, Miguel Ángel Muñoz-Márquez, Francesco Nobili, Asia Patriarchi, Saveria Santangelo, Claudia Triolo

Evaluation of Spinel-Structured High-Entropy (Cr, Mn, Fe, Co, Ni)-Oxides as Inorganic Fillers for Solid Polymer Electrolytes

S1-050

Antunes Staffolani *(Department of Chemistry "Giacomo Ciamician", Alma Mater Studiorum - University of Bologna, Bologna, Italy)*, Aishabibi Ashir, Marco Giorgetti, Monica Giovannucci, Ncholu Manyala, Federico Mascetti, Elisabetta Petri, Alessandro Girolamo Rombolà, Chiara Samorì, Francesca Soavi, Andrea Trebbi

Designing Sustainable Processes for Lithium-ion Battery Recycling

S1-051

Junghwan Sung *(Next Generation Battery Research Center, Korea Electrotechnology Research Institute, Changwon-si, Korea)*, Jun-Woo Park

Infiltration-driven performance enhancement of poly-crystalline cathodes in all-solid-state batteries

S1-052

Manaswee Suttipong *(Department of Chemical Technology, Faculty of Science, Chulalongkorn University, Pathumwan, Thailand)*, Jitti Kasemchainan, Siriporn Teeraburanapong

Advancing Lithium-Ion Battery Safety and Performance through Co-Solvent Optimization: A Molecular Dynamics Study

S1-053

Nicholas Vallana *(Department of Material Science, University of Milano-Bicocca, Milano, Italy)*, Chiara Ferrara, Antonio Gentile, Stefano Marchionna, Irene Ostroman, RIccardo Ruffo

Nanocomposite Sn/Ti Oxide from $Ti_3Al_{(1-x)}Sn_xC_2$ MAX Phases as Promising Negative Electrode for Lithium-Ion Batteries

S1-054

Irene Vassalini *(Department of Information Engineering, University of Brescia, Brescia, Italy)*, Ivano Alessandri, Alessandro Bonometti, Elza Bontempi, Antonella Cornelio, Elisa Galli, Matteo Scaglia, Alessandra Zanoletti

Recycling Critical Raw Materials from Lithium-Ion Battery Black Mass: The Critical Role of Carbothermic Reactions

S1-055

Yasuaki Yamamoto *(EP Application Department, JEOL Ltd., Akishima, Japan)*, Kazuhiro Hikima, Tatsuhito Kimura, Reiko Matsuda, Atsunori Matsuda, Yoshikazu Sasaki, Kota Yanagihara

In-situ charge-discharge observation and analysis for Si anode of all solid-state batteries by using the SEM-EDS-SXES method

S1-056

Zengming Zhang *(IEK-13, FZJ-Jülich, Jülich, Deutschland, Germany)*

Physical Modelling of Impedance Response of Solid Electrolyte Interphase in Lithium-Ion Batteries

S1-057

Mingjie Zhang *(Material science and engineering, Politecnico di Torino, Torino, Italy)*

Effective Optimization of Poly(ethylene oxide)-based Polymer-in-High Concentrated Ionic Liquid Electrolyte for all-solid-state Lithium Metal Batteries

S1-058

Dongni Zhao *(Chemistry Department, Lancaster University, Lancaster, United Kingdom)*, Stijn F. L. Mertens

Understanding Mn dissolution from $LiMn_2O_4$ cathodes

S2 - Beyond lithium: New chemistries and approaches

S2-001

Younes Abghoui *(Engineering and natural sciences, University of Iceland, Reykjavik, Iceland)*, Naveed Ashraf

Unlocking the Potential for Next-Generation Batteries

S2-002

Marco Ambrosetti *(Tecnologie di Generazione e Materiali, RSE S.p.A. - Ricerca sul Sistema Energetico, Milan, Italy)*, Marcella Bini, Chiara Milanese, Irene Quinzeni

Effect of Mn Substitution on $GeFe_2O_4$ as an Anode for Sodium-Ion Batteries

S2-003

Daniel Antoran *(Thermochemical Processes Group (GPT), Univerty of Zaragoza, Zaragoza, Spain)*, Dario Alvira, Joan J. Manyà

Enhancing the performance of Waste Hemp Hurd-Based Carbons in SIBs through H_2SO_4-assisted hydrothermal Pretreatment

S2-004

Luis Fernando Arenas *(Research Group Applied Electrochemistry & Catalysis (ELCAT), University of Antwerp, Antwerp, Belgium)*, Tom Breugelmans, Michiel De Rop, Jonas Hereijgers

Mass Transport and Pressure Drop at Pillar Electrodes in Electrochemical Flow Reactors: Experiments and Simulations

S2-005

Claudia Carbone *(Chemistry, Università degli Studi di Milano, Milan, Italy)*, Manuel Minardi, Alessandro Minguzzi, Aaron Stoeckle, Fulvio Uggeri, Alberto Vertova

Electrochemical Synthesis of "MIB"-Inspired Gadolinium-Based Contrast Agents

S2-006

Marco Cecchetti *(Energy, Politecnico di Milano, Milano, Italy)*, Andrea Casalegno, Martino Fortunati, Matteo Zago

Development of an Innovative Selective Layer for Vanadium Redox Flow Battery via Ultrasonic Spray Coating: Investigation of Deposition Process Parameters and Scale-Up

S2-007

Jacob Compton *(WMG, University of Warwick, Coventry, United Kingdom)*, Ivana Hasa, Faduma Maddar

Prussian White/Hard Carbon Sodium-ion Cells: From Lab to Upscaled Cell Prototypes

S2-009

Petra Demjan *(Chemistry, University of Southampton, Southampton, United Kingdom)*, Petra Demjan, Nuria Garcia-Araez, Andrew Hector

Tin nitride and hard carbon blends as a novel material for sodium ion battery anodes.

S2-010

Domenico Florenzano *(Scienza dei Materiali, Università di Milano Bicocca, Milano, Italy)*

Coffee waste-derived hard carbon as a promising negative electrode for sodium-ion batteries

S2-011

Andrea Gentile *(Department of Chemistry, Sapienza University of Rome and ENEA (Italian company), Rome, Italy)*, Sergio Brutti, Nicholas Carboni, Margherita Moreno, Maria Lucia Pace, Antonio Santagata

Anode-less Electrodes for Lithium Metal Batteries

S2-012

Asia Grattagliano *(Department of Chemical Science and Technologies, University of Rome Tor Vergata, Rome, Italy)*, Alessandra D'Epifanio, Pierluca Galloni, Barbara Mecheri, Silvia Pezzola, Federica Sabuzi

M-tetra-(4-sulfonatophenyl) porphyrin-based redox couples for Aqueous Organic Redox Flow Battery (AORFB) application.

S2-052

Giorgia Greco *(Chemistry, University La Sapienza, Rome, Italy)*, Philipp Adelhelm, Burkhard Beckhoff, Sergio Brutti, Katja Frenzel

REALSEI: opeRando chEmical spAce- and time-resoLved quantification of Solid Electrolyte Interphase in hard carbon anode for sustainable sodium-ion batteries

S2-013

Meenal Gupta *(Department of Engineering for Innovation, University of Salento, Lecce, Italy)*, Namrata Agrawal, Patrizia Bocchetta, Pallavi Gupta, Yogesh Kumar, Pushpa Singh, Neha Taneja

Highly conductive free-standing electrolyte films based on biowaste for supercapacitors

S2-014

Se Won Han *(Electrical Materials Division, KERI, Changwon City, Korea)*, Jina Han, Goen Woong Lee, Dae Ho Lee

Kinetics analysis of thermostable polyimide coating via electrophoretic deposition

S2-015

Hongqing Hao *(WMG, University of Warwick, Coventry, United Kingdom)*, John Low

Carbon coated current collector by Electrophoretic deposition: Lithium-ion battery applications

S2-016

Carlos Hurtado *(Chemistry, Curtin University, Perth, Australia)*, Simone Ciampi

Electrostatically Induced Flexovoltage in Silicon–Platinum Junctions

S2-017

Md Tauhidul Islam *(Institute for Chemistry and Technology of Materials, Graz University of Technology, Graz, Austria)*, Qamar Abbas, Bernhard Gollas

Ion Dynamics in the Bulk of Water-in-salt Electrolytes and Under Confinement in Multiporous Carbon

S2-018

Luana Cristina Italiano Faria *(São Carlos Institute of Chemistry, University of Sao Paulo, Sao Carlos, Brazil)*, Thiago Bertaglia, Frank Nelson Crespilho, Lucyano Jefferson Alves de Macêdo, Graziela Cristina Sedenho

Toward Enhanced Performance: Flexible Carbon Fiber Electrode for Aqueous Organic Redox Flow Batteries

S2-019

Hyun Young Jung *(Energy Engineering, Gyeongsang National University, Jinju-si, Korea)*, Hyun Young Jung, Chenrayan Senthil

Practical High-Performance Lithium-Sulfur Battery under Lean Electrolyte

S2-020

Shahid Khalid *(Department of Materials Science, University of Milano-Bicocca, Milan, Italy)*, Piercarlo Mustarelli, Ivan Pellini Claudio, Riccardo Ruffo, Alessandro Tos

Electrolyte Optimization for Enhanced Aqueous Sodium-Ion Batteries through molecular-crowding

S2-021

Jae Seob Lee *(Department of Materials Science and Engineering, Korea University, Seongbuk-Gu, Seoul, Korea)*, Jung Sang Cho

Synthesis of Porous Nanofibers Comprising Hollow N-Doped Carbon Nanocages within the N-Doped Graphitic Carbon Matrix and Evaluation as Anodes for K-Ion Batteries

S2-022

Stanislav Levchenko *(Department of Chemical, Pharmaceutical and Agri. Sciences, University of Ferrara, Ferrara, Italy)*, Sebastiano Bellani, Francesco Bonaccorso, Jusef Hassoun, Vittorio Marangon, Lea Pasquale, Vittorio Pellegrini

Influence of Ion Diffusion on the Lithium-Oxygen Electrochemical Process and Battery Application Using Carbon Nanotubes-Graphene Substrate

S2-023

Federico Lissandrello *(Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milano, Italy)*, Eugenio Gibertini, Federico Lissandrello, Luca Magagnin, Eleonora Natale

Demonstration of an Aqueous Zinc-Permanganate Redox Flow Battery with High Energy Density

S2-053

Letlhogonolo Mabena *(Chemistry, Tshwane University of Technology, Pretoria, South Africa)*, Mabuatsela Maphoru, Violet Moagi

Electrochemical Performance of Nickel Sulphide Decorated on Lignin-Derived Activated Carbon for High-Performance Symmetric Supercapacitors

S2-024

Mahin Maleki *(Institute for Frontier Materials, Deakin University, Melbourne, Australia)*, Maria Forsyth, Patrick Howlett, Minkyung Kang

Investigation of Electrolyte-Electrode Interface and Interphase in Advanced Na-ion Batteries

S2-025

Benjamin Mercier-Guyon *(MIEL, LEPMI,Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Gière, France)*, Joanna Conder, Marta Mirolo, Claire Villevieille

Electrode engineering for ASSB: Challenges and prospects

S2-026

Luca Mesina *(Chemistry, La Sapienza, Rome, Italy)*

Synthesis and Structural Analysis of Hard Carbons for Sodium-Ion Batteries

S2-027

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Operando Electrochemical Raman Spectroscopy of Self-Adsorbed Fe-Phthalocyanine on Nitrogen-Doped Templated Carbon (DUT-108) for Enhanced Oxygen Reduction Reaction Activity

S4-033

Sofia Saffirio *(Department of Applied Science and Technology - DISAT, Politecnico di Torino, Torino, Italy)*, Simone Anelli, Silvia Fiore, Sonia Lucia Fiorilli, Claudio Gerbaldi, Manasa Kumar Rath, Massimo Santarelli, Federico Smeacetto

Scalable strategies for the recovery and reuse of ceramic materials from Solid Oxide Cells (SOCs)

S4-034

Aleksandr Samarin *(LEPMI, University Grenoble Alpes, Grenoble INP, Saint-Martin-d'Hères, France)*, Antoine Bonnefont, Marian Chatenet, Eric Sibert

Study of Single Crystal Pt/Ionomer Interfaces

S4-035

Hendrik Sannemüller *(Department of Microsystems Engineering, Hahn-Schickard-Gesellschaft für angewandte forschung e.V., Freiburg, Germany)*, Hannes Liepold, Andreas Muenchinger, Hien Nguyen, Severin Vierrath

Gas mass transport resistance of Hydrocarbon-Based Catalyst Layers in Proton-Exchange Membrane Fuel Cells

S4-036

Mohammad Reza Shirzad Kebria *(Materials science, University of Milano-Bicocca, Milan, Italy)*, Saeed Asadi, Piercarlo Mustarelli

Reinforced Conductive Membrane Integration: Enhancing Performance and Durability of PEM Fuel Cells

S4-037

Diego Stucchi *(Materials Science, Università degli Studi di Milano Bicocca, Milano, Italy)*, Tommaso Caielli, Antonio Di Tolla, Alessandro Ferrari, Piercarlo Mustarelli, Giulia Stucchi

Cerium oxide nanoparticles decorated with different perfluoroalkyl silanes as radical scavengers in Aquivion®-based composite PEMFC

S4-038

Francesco Verducci *(Energy Department, MRT Fuel Cell & Battery Lab, Politecnico di Milano, Milan, Italy)*, Andrea Baricci, Andrea Casalegno, Elena Colombo, Amedeo Grimaldi, Giorgio Orsenigo

Modeling Analysis of the Impact of Platinum Oxides on PEMFC Performance and Degradation Under a Realistic Driving Cycle

S4-039

Lulu Zhang *(Institute of Energy and Climate Research, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Yanxia Chen, Jun Huang, Weiqiang Tang, Dongchen Zhao

Anion-Dependent Non-Nernstian Behaviors in Oxygen Reduction at Pt(111)

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Contemporary Amperex Technology Co., Limited (CATL)
Unite Global Talent for a World-Class Enterprise
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We look forward to receiving your application!

● COMPANY PROFILE

Established in 2011, Contemporary Amperex Technology Co., Limited (CATL) is a global leader in new energy innovative technology. Headquartered in Ningde, China, CATL has established six R&D centers and thirteen battery manufacturing bases worldwide.

● VISION

Rooted in Chinese civilization and embracing global culture, striving to be a world-class technology innovator, delivering superior contributions to green energy for the world, and providing a platform of pursuing spiritual and material well-being for employees!

● BUSINESS SCOPE

CATL is mainly engaged in researching, developing, producing, and selling batteries for transport and stationary storage applications and promoting innovative market applications through electrification and intelligentization. Our products aim to accelerate the energy transition towards electrification and renewable energy sources.

The company is at the forefront of innovation in battery materials, systems, and recycling, covering the whole value chain. CATL is committed to providing premier solutions and services for new energy applications worldwide through its material and electrochemical systems, green extreme manufacturing, and innovative business models.

According to SNE Research, CATL's EV battery consumption volume has ranked first in the world for seven consecutive years, holding 36.8% of global EV battery market share in 2023. CATL also ranked first globally for the third consecutive year in terms of energy storage battery shipments, with a market share of 40% in 2023.

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CATL emphasizes research and development, covering various fields including material research, product development, engineering design, testing and analysis, intelligent manufacturing, information systems and project management. CATL has 20,604 staff members engaged in R&D so far and its 21C Lab has developed into a global leader in the R&D of energy storage and conversion frontier technologies. CATL's issued and pending patents have reached 22,039 worldwide, and it has contributed to the drafting or amending of over 110 industry standards at home and abroad.

20,604
R&D members

22,039
Issued and
Pending patents

36.8%
Global EV battery
Market share in 2023

Ranking First
Seven consecutive years

40%
Global energy storage battery
Market share in 2023

Ranking First
Three consecutive years

● Who we are looking for
We are actively recruiting candidates with a broad range of skills, and different backgrounds, such as chemistry, material, physics, engineering, computer science, business and finance.

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37th Topical Meeting of the International Society of Electrochemistry

Conference Schedule

	SUNDAY 9 June	MONDAY 10 June	TUESDAY 11 June	WEDNESDAY 12 June
08:30 - 09:20		**Keynote** - Radenka Maric	**Keynote** - Marian Chatenet	**Keynote** - Maria Rosa Palacin
		Room 1 / Room 2 / Room 3 / Room 4	Room 1 / Room 2 / Room 3 / Room 4	Room 1 / Room 2 / Room 3 / Room 4
09:30 - 10:00		**S1** - Invited / **S2** - Invited / **S3** - Invited / **S4** - Invited	**S1** - Invited / **S2** - Invited / **S3** - Invited / **S4** - Invited	**S1** - Invited / **S2** - Invited / **S1** - Invited
10:00 - 10:45		**S1** - Orals / **S2** - Orals / **S3** - Orals / **S4** - Orals	**S1** - Orals / **S2** - Orals / **S3** - Orals / **S4** - Orals	**S1** - Orals / **S2** - Orals / **S1** - Orals
10:45 - 11:15		Coffee break	Coffee break	Coffee break
11:15 - 11:30		**S1** - Invited / **S2** - Invited / **S3** - Invited / **S4** - Invited	**S1** - Invited / **S2** - Orals / **S3** - Invited / **S4** - Invited	**S1** - Invited / **S1** - Invited
11:30 - 11:45				
11:45 - 13:00		**S1 & S3** Posters / **S2** - Orals / **S1 & S3** Posters / **S4** - Orals	**S1** - Orals / **S2 & S4** Posters / **S3** - Orals / **S2 & S4** Posters	**S1** - Orals / **S2** - Orals / **S1** - Orals
13:00 - 14:30	Registration	Lunch	Lunch	Closing Ceremony
14:30 - 14:45	Opening Ceremony	**S1** - Invited / **S2** - Invited / **S3** - Invited / **S4** - Invited	**S1** - PITCH / **S2** - Pitch / **S3/4** - Pitch / **S1** - Pitch	
14:45 - 15:00	**Keynote** - Yi Cui			
15:00 - 15:15		**S1** - Orals / **S2** - Orals / **S3** - Orals / **S4** - Orals	**S1 & S2** Panel discussion / **S3** - Invited	
15:15 - 15:30				
15:30 - 15:45	Room 1 / Room 2 / Room 3 / Room 4		**S3** - Orals	
15:45 - 16:00	**S1** - Orals / **S2** - Orals / **S3** - Orals / **S4** - Orals			
16:00 - 16:15		**S1** - Pitch / **S2** - Pitch / **S3** - Pitch / **S2** - Pitch		
16:15 - 16:30				
16:30 - 17:00		Coffee break	Coffee break	
17:00 - 17:15	**S1** - Invited / **S2** - Invited / **S3** - Invited / **S4** - Invited	**S1** - Invited / **S2** - Orals / **S3** - Invited / **S4** - Invited	**S1** - Orals / **S2** - Orals / **S3 & S4** Panel discussion	
17:15 - 17:30				
17:30 - 17:45	**S1** - Orals / **S2** - Orals / **S3** - Orals / **S4** - Orals	**S1** - Orals / **S2** - Orals / **S3** - Orals / **S4** - Orals		
17:45 - 18:00				
18:00 - 18:15	**S1** - Pitch / **S2** - Pitch / **S3** - Pitch / **S4** - Pitch			
18:15 - 18:30				
18:30 - 18:45				
Evening	**S1 & S3** Posters & Welcome Reception	**S2 & S4** Posters & Aperitif	Gala Dinner *20:00*	

S1 - Lithium-based technologies
S2 - Beyond lithium: New chemistries and approaches
S3 - Hydrogen production technologies
S4 - Hydrogen conversion technologies