74th Annual Meeting
of the International Society of Electrochemistry

3 - 8 September 2023
Lyon, France

Bridging Scientific Disciplines
to Address the World’s Challenges

https://annual74.ise-online.org
e-mail: events@ise-online.org
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The 74th Annual Meeting of the International Society of Electrochemistry
Bridging Scientific Disciplines to Address the World’s Challenges
3 to 8 September 2023. Lyon, France

CENTRE DE CONGRÈS DE LYON - 50 Quai Charles de Gaulle, 69006 Lyon
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Welcome Address

Dear Colleagues,

On behalf of the ISE Executive Committee, the Organizing Committee and the Symposium Organizers, we are both delighted and honoured to welcome you to Lyon, from Sunday, September 3 to Friday, September 8, for the 74th Annual Meeting of the International Society of Electrochemistry.

After three years without a face-to-face annual meeting, and despite the uncertainty of the Covid-19 pandemic, we are now confident that this Annual Meeting will represent a lasting return to the usual ISE Meetings.

It is an honour for us to organize this congress in France since our country has a strong tradition in Electrochemistry, has a large number of ISE members, and has hosted this congress on several previous occasions: Lyon in 1982, Paris in 1997, which was the occasion of a joint meeting with the ECS and, more recently, in Nice in 2010. Thus, after more than 40 years, the congress returns to Lyon. Lyon is an exceptional city located at the crossroads of Europe, listed since 1998 in the UNESCO World Heritage register, recognised for its history and the beauty of its architectural monuments. It includes the districts of “vieux Lyon”, or old Lyon, one of the largest Renaissance districts in Europe after Venice, the Roman theatres built by Augustus in 15 BC, the Fourvière hill with the world’s two oldest and active funicular railway lines, the “presqu’ile” or peninsula, and the slopes of the Croix-Rousse with the world-famous formerly secret covered passageways known as “traboules”. Lyon is also known for its light festival, which draws more than 2 million visitors each year over four days in December. It is the birthplace of cinema, where the Lumière brothers invented the cinematograph, and the silk capital of France where 30,000 silk weavers lived in the 19th century. As the world capital of Gastronomy, Lyon hosts among the best restaurants in the world with 21 starred chefs including the famous Paul Bocuse Restaurant and over 4,000 restaurants and “bouchons” offering typical regional Lyon cuisine. Enjoy it fully!

About 1,800 participants have registered from all regions of the world. Thus, we trust that electrochemists will have the opportunity in Lyon for fruitful discussions in an atmosphere of friendly exchange.

We express our sincere thanks to Deborah Jones (Montpellier), Christophe Bucher (Lyon) and Bernard Tribollet (Paris) who actively participated in the Meeting organization. We would also like to gratefully acknowledge Raphael Berger and Gil Bourgeois, in Lausanne, for the administration and Conference organization, and warmly thank our student helpers, our plenary speakers and all of you who attend the Meeting.

Welcome to Lyon!

Nadine Pébère & Vincent Vivier

*Co-chairs of the Organizing Committee of the 74th ISE Annual Meeting*
Organizing Committee

Tim Albrecht, Birmingham, UK
Christophe Bucher, Lyon, France
Takayuki Homma, Tokyo, Japan
Deborah Jones, Montpellier, France
Katharina Krischer, Munich, Germany
Nadine Pébère, Toulouse, France (co-chair)
Andrea Russell, Southampton, UK
Bernard Tribollet, France
Vincent Vivier, Paris, France (co-chair)
Gunther Wittstock, Oldenburg, Germany
Exhibitor booths

Level FORUM (Floor -2)

Exhibition Hours

Monday: 09:30-20:00
Tuesday: 09:30-18:30
Wednesday: 09:30-12:00
Thursday: 09:30-18:00
Friday: 09:30-12:00
Exhibitors

BAS Inc.
Biologic
CATL
ECS - The Electrochemical Society
Electrochemistry Sensolytics
Gamry Instruments Europe
HTDS
Hiden
IKKEM
Ivium
LIQUIDLOOP GmbH
MADELECS SAS
MDPI AG
Metrohm
Origelys
Palmsens
Pyroscience GmbH
Quantum Design
Royal Society of Chemistry
Scribner Associates, Inc Spectro Inlets
Springer
ZAHNER

Sponsors

Chem Electro Chem
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Energy Material Advances
A SCIENCE PARTNER JOURNAL
Energy Material Advances
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Origelys
Palmsens
Pyroscience GmbH
Quantum Design
Royal Society of Chemistry
Scribner Associates, Inc Spectro Inlets
Springer
ZAHNER

Springer Verlag GmbH Zahner-Elektrik GmbH & Co. KG
Symposium Organizers

Symposium 1  **Electroanalytical chemistry: From fundamental research to day-to-day analysis**
Alain Walcarius (Coordinator), University of Lorraine - CNRS
Guy Denuault, University of Southampton
Damien Arrigan, Curtin University
Florence Geneste, University of Rennes 1

Symposium 2  **Bioelectrochemistry - From molecular to cellular scales**
Elisabeth Lojou (Coordinator), CNRS/Aix-Marseille University
Edmond Magner, University of Limerick
Ross Milton, University of Geneva
Daniel Murgida, University of Buenos Aires
Serge Cosnier, University Grenoble Alpes

Symposium 3  **From wearable to sustainable electrochemical sensing and biosensing**
Ilaria Palchetti (Coordinator), University of Florence
Elena Ferapontova, Aarhus University
Stefano Cinti, University of Naples Federico II
Carole Chaix, University of Claude-Bernard Lyon 1
Pierre Gros, Paul Sabatier University - Toulouse III

Symposium 4  **From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects**
Maria Rosa Palacin (Coordinator), Universitat Autònoma de Barcelona
Julia Maihach, Chalmers University of Technology
Naoki Yabuuchi, Yokohama National University
Laurence Crogue, University of Bordeaux

Symposium 5  **Fast storage processes: Super capacitors & high power systems**
Jon Ajuria (Coordinator), CIC energiGUNE
Etsuro Iwama, Tokyo University of Agriculture and Technology
Céline Merlet, Hamburg University of Technology
David Pech, University de Toulouse

Symposium 6  **Fuel cells, electrolysis and electrofuel synthesis**
Maria Assunta Navarra (Coordinator), Università di Roma La Sapienza
Jasna Jankovic, University of Connecticut
Carlo Santoro, University of Milano-Bicocca
Frédéric Jaouen, University of Montpellier

Symposium 7  **Corrosion science and technology: Towards more sustainable materials**
Carmen Perez (Coordinator), Universidade de Vigo
Hiroki Habazaki, Hokkaido University
Sungmo Moon, Korea Institute of Materials Science
Sabrina Marcelin, INSA Lyon

Symposium 8  **Coatings and electrochemical surface treatments**
Mikhail Zheludkevich (Coordinator), Helmholtz-Zentrum Hereon
Fatima Montemor, Universidade de Lisboa
Jean-Yves Hihn, University of Bourgogne-Franche-Comté
Delphine Veys-Renaux, IJL - University of Lorraine

Symposium 9  **Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes**
Tanja Vidakovic-Koch (Coordinator), Max Planck Institute
Monica Santamaria, Università di Palermo
Sergi Garcia-Segura, Arizona State University
Marian Chatenet, University Grenoble Alpes

Symposium 10  **Electrochemical systems and engineering for energy storage & resources recovery and sustainable environmental management**
Xiao Su (Coordinator), University of Illinois Urbana-Champaign
Simonetta Palmas, Università degli studi di Cagliari
Emmanuel Mousset, University of Lorraine
Carlos Ponce de León, University of Southampton
Symposium 11  New materials for electroanalysis  
Neso Sojic (Coordinator), University of Bordeaux  
Lugi Falciola, Università degli Studi di Milano  
Magdalena Hromadova, J. Heyrovsky Institute of Physical Chemistry  
Frédéric Kanoufi, University Paris Cité  

Symposium 12 Molecular electrochemistry – Mechanisms and models  
Jirí Ludvik (Coordinator), J. Heyrovsky Institute of Physical Chemistry  
Elodie Anxolabéhère-Mallart, University Paris Cité  
Carlos Frontana, Centro de Investigación y Desarrollo Tecnológico en Electroquímica  
Carlos Sanchez-Sanchez, Sorbonne Université  

Symposium 13 Physical electrochemistry of battery materials  
Mark Symes (Coordinator), University of Glasgow  
Dominic Rochefort, University of Montréal  
Toshihiro Kondo, Ochanomizu University  
Alejandro Franco, University of Picardie Jules Verne  

Symposium 14 Operando and in situ characterization of electrochemical interfaces  
Maria Escudero-Escribano (Coordinator), Catalan Institute of Nanoscience and Nanotechnology (ICN2)  
Bin Ren, Xiamen University  
Nagahiro Hoshi, Chiba University  
Lorenzo Stievano, Institute Charles Gerhardt Montpellier  

Symposium 15 Electrolyte effects in electrocatalysis and electrochemistry in non-conventional electrolyte  
Burcu Gurkan (Coordinator), Case Western Reserve University  
Jennifer L. Schaefer, University of Notre Dame  
Alexis Grimaud, Boston College  
Mireille Turmine, Sorbonne University  

Symposium 16 General session  
Marco Musiani (Coordinator), ICMATE-CNR  
Ana Maria Oliveira Brett, University of Coimbra  
Bernard Tribollet, Sorbonne University
Tutorial Lectures

Sunday, 3 September 2023

Tutorial 1

Room: Bellecour 2

13:30 to 16:45

Tutorial on Cyclic Voltammetry

Cyrille Costentin, Université Grenoble Alpes, France
Alexander Oleinick, Ecole Normale Supérieure, France

15:00 to 15:15 Coffee break (Level -2: Forum)

Tutorial 2

Room: Bellecour 1

13:30 to 16:45

Tutorial on Fundamentals on electrochemical engineering

Théo Tzedakis, Paul Sabatier University - Toulouse, France
Karel Bouzek, University of Chemistry and Technology, Prague, Czech Republic
Carlos Ponce De Leon Albarran, University of Southampton, UK

15:00 to 15:15 Coffee break (Level -2: Forum)

Monday, 4 September 2023

Workshop

Room: Trémie 4

14:45 to 15:45 Symposium 16 General Session

Electrochimica Acta Workshop

Robert Hillman, Editor in Chief Electrochimica Acta, University of Leicester, UK

Tuesday, 5 September 2023

Workshop

Room: Trémie 4

14:45 to 15:45 Symposium 16 General Session

Funding opportunities for researchers: European Research Council (ERC) info-session

Adela Isabel Carrillo Gomez (Physical Sciences and Engineering, European Research Council Executive Agency, Brussels, Belgium), Wolfgang Schuhmann, Sarinn David Pech
Plenary Lectures

Room: Amphithéâtre

Sunday, 3 September 2023
18:00 to 19:00
Alexei Kornyshev
(Imperial College, London, UK)
Beyond the mainstream: Electrochemical metamaterials
(Photonics - Mechanical energy harvesters - Molecular electronics)

Monday, 4 September 2023
08:15 to 09:15
Hiroyuki Uchida
(University of Yamanashi, Japan)
Fuel cell electrocatalysts: Towards high activity and high durability

Tuesday, 5 September 2023
08:15 to 09:15
Elzbieta Frackowiak
(Poznan University of Technology, Poland)
Progress and challenges for electrochemical capacitors

Wednesday, 6 September 2023
08:15 to 09:15
Mark Orazem
(University of Florida, USA)
Electrochemical engineering in service to society

Thursday, 7 September 2023
08:15 to 09:15
Alain Walcarius
(Lorraine University & CNRS, Nancy, France)
Electrogeneration of sol-gel films: Concept, development and applications

Friday, 8 September 2023
08:15 to 09:15
Susana Córdoba de Torresi
(Institute of Chemistry of the University of São Paulo (USP), Brazil.)
Controlled nanomaterials toward plasmon-enhanced electrocatalysis
ISE Prize Winners 2022

**Electrochimica Acta Gold Medal**

**Alexei Kornyshev, Imperial College, London, UK**

Sunday, 3 September 2023 - 18:00 to 19:00, Plenary, Amphithéâtre

**Beyond the mainstream: Electrochemical metamaterials (Photonics - mechanical energy harvesters - molecular electronics)**

The Electrochimica Acta Gold Medal was awarded to Alexei Kornyshev, in recognition of his theoretical contributions to the understanding of electrochemical interfaces, encompassing aspects of solvation, electron/proton transfers in complex environments, and the electrical double layer in ionic liquids, together providing significant theoretical maps to guide experiments in new areas of electrochemistry.

**Tajima Prize**

**Debbie Silvester-Dean, Curtin University, Perth, Australia**

Monday 4 September 2023 - 14:00-14:30, Keynote, Symposium 1, Gratte-Ciel 3

**How Ionic Liquids are Revolutionizing Electrochemical Sensors**

The Tajima Prize was awarded to Debbie Silvester-Dean, for her outstanding research achievements in the field of electrochemical sensing.

**ISE-Elsevier Prize for Experimental Electrochemistry**

**Bing Joe Hwang, National University of Science and Technology, Taipei City, Taiwan**

Monday 4 September 2023 - 09:30-10:00, Keynote, Symposium 14, Forum 4

**Electrochemical Energy Materials Investigated by In-situ Spectroscopic and Imaging Techniques**

The ISE-Elsevier Prize for Experimental Electrochemistry was awarded to Bing Joe Hwang, for his contribution to the development of in-situ spectroscopic and imaging analyses of Li ion batteries.

**ISE-Elsevier Prize for Green Electrochemistry**

**Ruggero Rossi, Pennsilvania State University, USA**

Thursday 7 September 2023 - 17:45-18:00, Invited, Symposium 10, Bellecour 3

**Enabling chemicals and energy production from low-grade water sources in (bio)electrochemical systems**

The ISE-Elsevier Prize for Green Electrochemistry was awarded to Ruggero Rossi, for his contribution on scaling up and increasing power of microbial fuel cells, microbial electrolysis cells, and water electrolyzers.

**ISE-Elsevier Prize for Applied Electrochemistry**

**Michelle Browne, Helmholtz Zentrum Berlin, Germany**

Monday 4 September 2023 - 14:00-14:15, Symposium 6, Amphithéâtre

**Developing New Metal Oxide/MXene Oxygen Evolution Catalysts**

The ISE-Elsevier Prize for Applied Electrochemistry was awarded to Michelle Browne, for the outstanding contribution in Applied Electrochemistry, particularly in the field in electrocatalysis.

**ISE Prize for Electrochemical Materials Science - Corrosion**

**Xiaopeng Lu, Northeastern University, Shenyang, China**

Friday 8 September 2023 - 10:00-10:15, Symposium 8, Tête d’Or 2

**Tuning Corrosion Performance of Mg Alloy by Inhibitor and PEO Coating**

The ISE Prize for Electrochemical Materials Science - Corrosion was awarded to Xiaopeng Lu, for excellent research in the field of materials for solar cells.

**ISE Prize for Electrochemical Materials Science**

**Kelsey Stoerzinger, Oregon State University, Corvallis, USA**

Cancelled Tuesday 5 September 2023 – 15:45-16:00, Symposium 9, Bellecour 2

**Fundamental Insights into the Oxygen Evolution Reaction from Epitaxial Oxide Thin Films**

The ISE Prize for Electrochemical Materials Science was awarded to Kelsey Stoerzinger, for excellent research in the field of materials for solar cells.
ISE Prize Winners 2022

Oronzio and Niccolò De Nora Foundation Young Author Prize

Sara Grecchi, University of Milan, Italy
Wednesday 6 September 2023 - 10:30-10:45, Symposium 15, Trémie 4
Exploring the Enantioselection Ability of Chiral Deep Eutectic Solvents
The De Nora Foundation Young Author Prize was awarded to Sara Grecchi for her paper: Natural-based chiral task-specific deep eutectic solvents: A novel, effective tool for enantiodiscrimination in electroanalysis, published in Electrochimica Acta. 380 (2021) 138189

Jaroslav Heyrovsky Prize for Molecular Electrochemistry

In memory of Diane Smith, San Diego State University, California, USA
Jaroslav Heyrovsky Prize winner for Molecular Electrochemistry

Early Career Analytical Electrochemistry Prize of ISE Division 1

Stefano Cinti, University of Rome Tor Vengata, Italy
Tuesday 5 September 2023 - 09:30-10:00, Keynote, Symposium 1, Gratte Ciel 3
Sustainable Electroanalytic Tools towards Personalized Detection of Circulating Nucleic Acids
The Early Career Analytical Electrochemistry Prize of ISE Division 1 was awarded to Stefano Cinti for the development of innovative electrochemical sensors applied to user-friendly analytical chemistry for applications in healthcare, clinical, pharmaceutical, environmental and agri-food sectors

Bioelectrochemistry Prize of ISE Division 2

Renata Bilewicz, University of Warsaw, Poland.
Wednesday 6 September 2023 - 09:30-10:00, Keynote, Symposium 2, Tête d’Or 2
Gold Nanocluster Doped Films at Electrodes: Preparation and Applications in Bioelectrochemistry
The Biochemistry Prize of ISE Division 2 was awarded to Renata Bilewicz, for use of lipidic cubic phase matrices for study of membrane proteins and innovative biofuel cell designs.

Zhaowu Tian Prize for Energy Electrochemistry

Volker Presser, Leibnitz Institute for New Materials, Saarbrücken, Germany
Wednesday 6 September 2023 - 09:30-10:00, Keynote, Symposium 4, Gratte Ciel 2
Electrochemical ion management and nanomaterial design for the energy/water research nexus
The Zhaowu Tian Prize for Energy Electrochemistry was awarded to Volker Presser, for his comprehensive contributions to energy nano-materials research.

Brian Conway Prize for Physical Electrochemistry

Scott Donne, University of Newcastle, UK
Friday 8 September 2023 - 09:30-10:00, Keynote, Symposium 14, Forum 4
Evaluation of the Electrified Interface in Electrochemical Capacitors
The Brian Conway Prize for Physical Electrochemistry was awarded to Scott Donne, for extensive fundamental studies to characterize the mechanism of carbon oxidation and catalysis for the development of the direct carbon fuel cell.
Electrochimica Acta and ISE Travel Awards for Young Electrochemists 2023

Juliana Brito, Brazil
Tianye Zheng, Hong Kong
Sheena Louisia, Netherlands
Caroline Sanz, Romania
Deng Fengxia, China
Georgios Bampos, Greece
Yaolin Xu, Germany
Luiza Zudina, Germany
Yan Vogel, Netherlands
Alessandro Piovano, Italy
Thaisa Aparecida Baldo, USA

Poster presentations session 1 - Monday

Level -2 : FORUM

Symposia: 1, 2, 3, 4, 5, 7, 8, 9

Poster set-up Monday: 09:00-11:00 (See plan of posters on page 264)

Poster Presentations: Monday, 4 September 2023: 11:00-12:30

Poster take-down: Tuesday

Poster presentations session 2 - Wednesday

Level -2 : FORUM

Symposia: 6, 10, 11, 12, 13, 14, 15, 16

Poster set-up Wednesday: 09:00-11:00 (See plan of posters on page 265)

Poster Presentations: Wednesday, 6 September 2023: 11:00-12:30

Poster take-down: Thursday
ISE Society Meetings

Sunday, 3 September 2023
Opening Ceremony
17:00 to 18:00 › Amphithéâtre

Monday, 4 September 2023
Division Officers Luncheon Meeting
12:40 to 13:40 › Tête d’Or 1

Regional Representatives Luncheon Meeting
12:40 to 13:40 › Tête d’Or 2

Tuesday, 5 September 2018
Council Meeting
12:45 to 13:45 › Salon Tête d’Or

Thursday, 7 September 2018
General Assembly
11:15 to 12:15 › Amphithéâtre

Division Meetings
12:40 to 13:40
Division 1 Analytical Electrochemistry › Gratte-Ciel 1
Division 2 Bioelectrochemistry › Gratte-Ciel 2
Division 3 Electrochemical Energy Conversion and Storage › Espace Prestige Gratte-Ciel
Division 4 Electrochemical Materials Science › Tête d’Or 1
Division 5 Electrochemical Process Engineering and Technology › Tête d’Or 2
Division 6 Molecular Electrochemistry › Gratte-Ciel 3
Division 7 Physical Electrochemistry › Salon Tête d’Or

Friday, 8 September 2018
Closing Ceremony
12:15 to 12:30 › Amphithéâtre

See room locations on pages 268-272
General Information

Publications
A special issue of the Society’s journal, Electrochimica Acta, is planned based on selected original contributions made at the Conference. The selection is made by an editorial Committee comprising the following Editors* and Guest Editors:
Vincent Vivier, Christophe Bucher, Deborah Jones*, and Nadine Pébère

and for each of the symposia in which the Meeting is articulated:

Symposium 1 - Guy Denuault, Symposium 2 - Elisabeth Lojou, Symposium 3 - Elena Ferapontova*,
Symposium 4 - Maria Rosa Palacin & Naoaki Yabuuchi, Symposium 5 - Jon Ajuria,
Symposium 6 - Frédéric Jaouen & Carlo Santoro, Symposium 7 - Carmen Perez, Symposium 8 - Delphine Veys-Renaux,
Symposium 9 - Monica Santamaria, Symposium 10 - Emmanuel Mousset & Carlos Ponce de León,
Symposium 11 - Neso Sojic, Symposium 12 - Carlos Frontana, Symposium 13 - Mark Symes, Symposium 14 - Bin Ren,

The Special Issues Editor, Sotiris Sotiropoulos co-ordinates the action of the editorial Committee and will be responsible for the review procedure. The Special Issue is planned to accommodate up to 200 papers.

Submission only on invitation of one of the Editors/guest Editors.
Submission of contributions: from July 01, 2023 to January 09, 2024.

Social Program

RECEPTIONS

Welcome Reception
Sunday, 3 September 2023, 19:00-20:00
in the Forum (Level -2)

Monday Reception
Monday, 4 September 2023, 19:00-20:00
in the Forum (Level -2)

Thursday Banquet
Thursday, 7 September 2023, 19:00-24:00
Les Terrasses du Parc
115 Boulevard stalingrad. 69100 Villeurbanne
https://lesterrassesduparc.fr

105 EUROS SOLD OUT: Places are limited. All tickets for the banquet must be pre-booked and are non-refundable.

EXCURSIONS

Wednesday, 6 September 2023

Guided tours : https://shop.visiterlyon.com/visites-guidees.html
Oral presentation program
Sunday 3 September 2023 - PM

Tutorial 1

Room: Bellecour 2

13:30 to 16:45

Tutorial on Cyclic Voltammetry

Cyrille Costentin, Université Grenoble Alpes, France
Alexander Oleinick, Ecole Normale Supérieure, France

15:00 to 15:15

Coffee break (in front of Bellecour rooms)

Tutorial 2

Room: Bellecour 1

13:30 to 16:45

Tutorial on Fundamentals on electrochemical engineering

Théo Tzedakis, Paul Sabatier University - Toulouse, France
Karel Bouzek, University of Chemistry and Technology, Prague, Czech Republic
Carlos Ponce De Leon Albarran, University of Southampton, UK

15:00 to 15:15

Coffee break (in front of Bellecour rooms)

Plenary

Room: Amphithéâtre

Chaired by: Plamen Atanassov

18:00 to 19:00

Electrochimica Acta Gold Medal

Alexei Kornyshev (Chemistry, Imperial College London, London, United Kingdom)

Beyond the mainstream: electrochemical metamaterials (Photonics - mechanical energy harvesters - molecular electronics)
Monday 4 September 2023 - AM

Plenary

**Room: Amphithéâtre**

*Chaired by: Deborah Jones*

08:15 to 09:15

**Hiroyuki Uchida** *(Clean Energy Research Center, University of Yamanashi, Kofu, Japan)*

_Fuel Cell Electrocatalysts: Towards High Activity and High Durability_

Symposium 2   Bioelectrochemistry - From molecular to cellular scales

**Room: Tête d’Or 2**

*Chaired by: Desmond Koomson, Elisabeth Lojou*

09:30 to 09:45

**Shelley Minteer** *(Chemistry, University of Utah, Salt Lake City, USA)*

_Bioelectrocatalysis for Nitrogen Reduction_

09:45 to 10:00

**Cécile Cadoux** *(Dep. of Inorganic and Analytical Chemistry, Universite of Geneva, Geneva, Switzerland)*

_Targeting oriented surface immobilization of nitrogenase for direct electrocatalysis_

10:00 to 10:15

**Umberto Contaldo** *(Laboratoire de Bioenergetique et d’Ingenierie des Protéines, CNRS, Marseille, France)*

_Copper as metal-cofactor, active site and substrate? The case of blue oxidases involved in bacterial copper resistance_

10:15 to 10:30

**Felipe Conzuelo** *(Institute for Chemical and Biological Technology (ITQB), Nova University Lisbon, Oeiras, Portugal)*

_Electrochemical Characterizations of the Aquifex aeolicus Metallo-oxidase McoA_

10:30 to 11:00

_Coffee Break_
**Symposium 4a** From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Gratte-Ciel 2

Chaired by: M Rosa Palacin

09:30 to 10:00 **Keynote**

**Atsuo Yamada** (Department of Chemical System Engineering, The University of Tokyo, Tokyo, Japan), Seongjae Ko, Norio Takenaka, Atsushi Kitada

Electrolyte Science, What’s Next?

10:00 to 10:15

**Sigita Trabesinger** (Battery Electrodes and Cells, Electrochemistry Laboratory, Forschungsstrasse III, Villigen PSI, Switzerland), Yuri Surace, Daniela Leanza, Marta Mirolo, Lukasz Kondracki, C.A.F. Vaz, Mario El Kazzi, Petr Novak, Sigita Trabesinger

Deciphering the True FEC Reduction Mechanism and its Implications to the Understanding of the SEI in Li-ion Batteries

10:15 to 10:30

**Célia Doublet** (MIEL, Université Grenoble Alpes - LEPMI, Grenoble, France), Laureline Lecarme, Julien Giboz, Marta Mirolo, Claire Villevieille

Investigating LiFePO₄ electrode degradation in water-in-salt electrolyte

10:30 to 11:00

Coffee Break

**Symposium 4b** From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel

Chaired by: Eric McCalla

09:30 to 09:45

**Fatma Sena Tunca** (Metallurgical & Materials Engineering, Sakarya University, Sakarya, Turkey), Samet Usta, Hatem Akbulut, Mahmud Tokur

Synthesis of NMC Cathode Inks for Screen-Printed Lithium-Ion Batteries

09:45 to 10:00

**Xilai Xue** (Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany), Jakob Asenbauer, Tobias Eisenmann, Angelo Mullaliu, Giovanni Lepore, Yueliang Li, Francesco d’Acapito, Johannes Biskupek, Ute Kaiser, Tatjana N. Parac-Vogt, Dominic Bresser

Elucidating the Lithium Storage Mechanism in (Metal-doped) Orthorhombic Niobium Oxide Anode

10:00 to 10:15

**Carlotta Francia** (DISAT, Politecnico di Torino, Turin, Italy), Roberto Colombo, Daniele Versaci, Julia Amici, Federico Bella, Silvia Bodoardo, Mihaela Buga

Innovative blending approach for hybrid LNMO/LFP cathodes for Li-ion batteries

10:30 to 11:00

Coffee Break
Symposium 5  Fast storage processes: Supercapacitors and high power systems

Room: Gratte-Ciel 1

Chairied by: Francesca Soavi

09:30 to 10:00  Keynote
Camelia Ghimbeu (Carbon and Hybrid Materials, Institute of Materials Science of Mulhouse, CNRS-UHA, Mulhouse, France), Anetta Platek, Sirine Zallouz, Jean-Marc Le Meins, Krzysztof Fic

Relationship between the carbon properties and performance in supercapacitors.

10:00 to 10:15
Kateryna Goloviznina (Physico-chimie des Électrolytes et Nanosystèmes Interfaciaux, Sorbonne Université & CNRS, Paris, France), Tobias Binninger, Alessandra Serva, Mathieu Salanne

Physically-Based Polarisable Force Field for Carbon-Carbon Supercapacitors.

10:15 to 10:30
Allan Lebreton (ST2E, Institut des matériaux de nantes, Nantes, France)

Influence of ionic implantation on the electrochemical properties of (Mn,Fe)$_2$O$_4$ thin films.

10:30 to 10:45  Invited
Wataru Sugimoto (Research Initiative for Supra-Materials, Shinshu University, Ueda, Japan), Nao Kobayashi, Keisuke Muramatsu, Bruce Dunn

Protected Anodes with Ionogel-buffer Layer for High-Voltage Aqueous Supercapacitors.

10:45 to 11:00  Coffee Break

Symposium 6a  Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre

Chairied by: Jaouen Frederic, Maria Assunta Navarra

09:30 to 10:00  Keynote
Lin Zhuang (College of Chemistry and Molecular Sciences, Wuhan University, Wuhan, China)

Progress and Challenge of Technologies Based on Alkaline Polymer Electrolytes.

10:00 to 10:15
Laura Titheridge (Chemical and Process Engineering, University of Canterbury, christchurch, New Zealand), Aaron Marshall

The Rationale for a Standardised Testing Protocol for Anion Exchange Membrane Water Electrolysers.

10:15 to 10:30
Abdulhai Faqeeh (School of Chemistry, University of Glasgow, Glasgow, United Kingdom), Mark Symes

A standard electrolyzer test cell design for evaluating catalysts and cell components for anion exchange membrane water electrolysis.

10:30 to 11:00  Coffee Break
Symposium 6b  Fuel cells, electrolysis and electrofuel synthesis

Room: Salon Tête d’Or

Chaired by: Santoro Carlo, Jasna Jankovic

09:30 to 09:45

Rak-Hyun Song (Hydrogen Energy Research Division, Korea Institute of Energy Research, Daejeon, Korea), Muhammad Zubair Khan, Seung-Bok Lee, Tak-Hyong Lim

Durability Study and Lifetime Prediction of Solid Oxide Fuel Cells

09:45 to 10:00

Fabien Rouillard (DRMP/S2CM, CEA Saclay, Gif sur Yvette, France), Antoine Casadebaigt, Mathilde Bouvier, Sophie Bosonnet, Frédéric Miserque, Théo Dejob, Karine Couturier, Jolan Bestautte

Durability and electrical performance of stainless steel interconnects for Solid Oxide Electrolyzer Cell

10:00 to 10:15

Josef Schefold (Low Carbon Hydrogen Systems, EIFER, European Institute for Energy Research, Karlsruhe, Germany), Aline Léon

Long-term Degradation of Electrolyte Supported Solid Oxide Cells in Steam Electrolysis and Comparison to SOFC Operation

10:15 to 10:30

Michail Tsampas (Solar fuels, Dutch Institute For Fundamental Energy Research, Eindhoven, Netherlands), Usman Mushtaq, Stefan Welzel, Mauritius C.M. van de Sanden

A Step-by-Step Approach to Overcome Fabrication and Design Challenges of Proton Conducting Electrochemical Ceramic Membrane Reactors for Efficient Carbon Dioxide Conversion to Methane

10:30 to 11:00

Coffee Break

Symposium 7  Corrosion science and technology: Towards more sustainable materials

Room: Tête d’Or 1

Chaired by: Hiroki Habazaki

09:30 to 10:00 Keynote

Bernard Normand (MATEIS, INSA Lyon, Villeurbanne, France)

Corrosion and Material Design: Contribution of electrochemistry

10:00 to 10:15 Invited

Koji Fushimi (Faculty of Engineering, Hokkaido University, Sapporo, Japan), Kanta Higa, Kai Oshimizu, Akihiro Fujimura, Sunao Shoji, Yuichi Kitagawa, Yasuchika Hasegawa

Passivity of Si-Mn Steel in Weakly Acidic Solutions
10:15 to 10:30

**Philippe Marcus** *(Institut de Recherche de Chimie Paris, CNRS-Chimie ParisTech PSL University, Paris, France)*, Xueying Wang, Shova Neupane, Antoine Seyeux, Sandrine Zanna, Dimitri Mercier

*The Key Role of Molybdenum for the Stability of Passive Films on Stainless Steel and Multi-Principal Element Alloys*

10:30 to 11:00

Coffee Break

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**Symposium 8**  Coatings and electrochemical surface treatments

**Room: Gratte-Ciel 3**

*Chaired by: Jan Macak, Delphine Renaux*

09:30 to 10:00 **Keynote**

**João Tedim** *(Materials and Ceramic Engineering, CICECO-Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal)*

*Development of coatings for detection of corrosion*

10:00 to 10:15 **Invited**

**Liang Wu** *(College of Materials Science and Engineering, Chongqing University, Chongqing, China)*, Gen Zhang, Yanning Chen, Yulong Wu, Wenhui Yao, Fusheng Pan

*Research Progress of Layered Double Hydroxide Active Protective Films on Magnesium Alloys*

10:15 to 10:30

**Mikhail Zheludkevich** *(Institutte of Surface Science, Helmholtz-Zentrum Hereon, Geesthacht, Germany)*, Tatsiana Shulha, Maria Serdechnova, Carsten Blawert

*Inhibited LDH conversion layers on Mg alloys: structure and performance*

10:30 to 10:45

**Deni Jero** *(CIRIMAT, Institut National Polytechnique de Toulouse, Toulouse, France)*, Nicolas Caussé, Thierry Buffeteau, Fabrice Chaussec, Amaury Buvignier, Marion Roy, Nadine Pëbère

*In Situ Adsorption Kinetics of Film-Forming Amines on Steel Surface as a Function of Temperature: an Impedance Study*

10:45 to 11:00

Coffee Break
Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes

Room: Bellecour 2

Chaired by: Karl Mayrhofer

09:30 to 10:00 Keynote Invited

Iryna Zenyuk (Chemical and Biomolecular Engineering, University of California Irvine, Irvine, USA), Arezoo Avid, Jesus Ochoa Lopez, Ying Huang, Yuanchao Liu, Plamen Atanassov

Integration of Ionic Liquids into Catalyst Layers for PEM Fuel Cells for Improved Activity and Durability

10:00 to 10:15 Invited

Jakub Drnec (Experiments Division, European Synchrotron Radiation Facility, Grenoble, France), Raphael Chattot, Isaac Martens, Michal Ronovsky

Utilizing Hard X-rays to Study the Full Lifecycle of Fuel Cell Catalysts

10:15 to 10:30

Shengli Chen (Chemistry, Wuhan University, Wuhan, China), Peng Li, Lixin Su, Wei Luo

The Roles of Interfacial Water Molecules and Hydrogen-Bonds in Electrocatalysis

10:30 to 10:45

Corinne Lagrost (Institut des Sciences Chimiques de Rennes, CNRS-Université de Rennes, RENNES, France), Quentin Lenne, Yann R. Leroux, Jonathan Hamon, Ludovic Trojan-Gautier, Ivan Jabin, Alice MattiuZzi

Are Surface-Ligands always Deleterious for the Electrocatalytic Activity of Nanomaterials?

10:45 to 11:00

Coffee Break

Symposium 10  Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

Room: Bellecour 3

Chaired by: Emmanuel Mousset

09:30 to 10:00 Keynote

Marian Chatenet (LEPMI, Grenoble INP, Saint Martin d’Hères, France), Lucile Magnier, Garance Cossard, Céline Pascal, Virginie Roche, Irina Shchedrina, Richard Bousquet, Valérie Parry, Eric Sibert, Marion Chatenet

Activation of industrial Ni-Fe alloys for alkaline oxygen evolution

10:00 to 10:15

Roman Nebel (Nanocatalysis, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic), Petr Krtíl, Tugce Kutlusoy, Jan Rossmesl

The next step in rational design of OER catalysts: theory meets the experiment.
10:15 to 10:30  
**Franky Esteban Bedoya Lora** *(Mechanical Engineering, EPFL - École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland)*, Isaac Holmes-Gentle, Sophia Haussener  
**Performance and Stability of BiVO4 Photoelectrodes for Water Splitting under Concentrated Irradiation.**

10:30 to 11:00  
*Coffee Break*

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**Symposium 12 Molecular electrochemistry - Mechanisms and models**  
**Room: Bellecour 1**

_In memory of Diane Smith_

_Chaired by: Elodie Anxolabéhere_

09:30 to 10:00  **Keynote**  
**Federico Polo** *(Molecular Sciences and Nanosystems, Ca’ Foscari University of Venice, Venice, Italy)*, Sabrina Antonello, Daniel Morales Martinez, Flavio Maran  
**Efficiency of Coreactant ECL of Bifunctional Organic Dyes. Think Different, Choose Wisely.**

10:00 to 10:15  **Invited**  
**Mun Hon Cheah** *(Department of Chemistry - Ångström Laboratory, Uppsala University, Uppsala, Sweden)*  
**Bridging the gap between cyclic voltammetry and infrared spectroelectrochemistry.**

10:15 to 10:30  
**Iuliia Voroshylova** *(Department of Chemistry and Biochemistry, LAQV@REQUIMTE, University of Porto, Porto, Portugal)*, Heigo Ers, Vladislav Ivaništšev, Natália Cordeiro  
**Competition of Ions on Screening Charged Surfaces in Ionic Liquids Mixtures: Molecular Dynamics Simulation.**

10:30 to 11:00  
*Coffee Break*
Symposium 14  Operando and in situ characterization of electrochemical interfaces

Room: Forum 4

Chaired by: María Escudero-Escribano

09:30 to 10:00

**ISE-Elsevier Prize for Experimental Electrochemistry**

Bing Joe Hwang (Department of Chemical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan)

*Electrochemical Energy Materials Investigated by In-situ Spectroscopic and Imaging Techniques*

10:00 to 10:15

Helmut Baltruschat (Clausius Institute for Physical and Theoretical Chemistry, Universität Bonn, Bonn, Germany), Inhee Park, Andreas Koellisch-Mirbach

*Atomic-Scale Tribology: Influencing Friction by Electrode Potential and Monolayers*

10:15 to 10:30

Sheena Louisia (Chemistry, Leiden University, Leiden, Netherlands), Rik Mom, Marc Koper

*Characterizing the Double Layer at a Single Crystal-Electrolyte Interface*

10:30 to 10:45

Marcel Risch (NWG Gestaltung des Sauerstoffentwicklungsmechanismus, Helmholtz-Zentrum Berlin, Berlin, Germany), Javier Villalobos

*Using X-Ray Absorption Spectroscopy to Understand Electrocatalysts*

10:45 to 11:00  Coffee Break

Symposium 16  General session

Room: Trémie 4

Chaired by: Ana Oliveira Brett, Sibel Okzan

09:30 to 10:00  Keynote

Herman Terryn (Research Group SURF, Department MACH, Vrije Universiteit Brussel, Brussel, Belgium), Negin Madelat, Benny Wouters, Mats Meeusen, Ehsan Jalilian, Guy Van Assche, Vincent Vangrunderbeek, Leonardo Bertolucci Coelho, Yves Van Ingelgem, Annick Hubin, Tom Hauffman

*Corrosion Protection of Metals by Coatings: Changes in Protection Strategies and Lifetime Prediction Tools over the last Decades*

10:00 to 10:15

Trung Nghia Nguyên Lê (UmR 6226, CNRS, ISCR, University of Rennes, Rennes, France), Kirill Kondratenko, Jean-Christophe Lebreton, Soraya Ababou-Girard, Dominique Vuillaume, Bruno Fabre

*Charge Transport of Electroactive Ferrocene-functionalized MoS2*

10:15 to 10:30

Dongping Zhan (Chemistry, Xiamen University, Xiamen, China), Quanfeng He, Wei Wang, Baodan Zhang, Lianhuan Han, Lan Geng

*Qualifying the kinetics of Surface Diffusion by Cycle Voltammetry of Surface Electrochemistry*

10:30 to 11:00  Coffee Break
**Monday 4 September 2023 - PM**

**Symposium 1**  
Electroanalytical chemistry: from fundamental research to day-to-day analysis

**Room: Gratte-Ciel 3**

*Chaired by: Guy Denuault, Rasa Pauliukaite*

14:00 to 14:30  
**Tajima Prize**

**Debbie Silvester-Dean** *(School of Molecular and Life Sciences, Curtin University, Perth, Australia)*  
*How Ionic Liquids are Revolutionizing Electrochemical Sensors*

14:30 to 14:45  
**Fabio La Mantia** *(Energy Storage and Energy Conversion Systems, University of Bremen, Bremen, Germany)*, John Mugisa, Richard Chukwu, Doriano Brogioli  
*How the supporting electrolyte influences the kinetics of electron transfer: beyond the Frumkin effect*

14:45 to 15:00  
**Alexander Kuhn** *(Institute of Molecular Science, University Bordeaux, Pessac, France)*, Tatjana Safarik, Aleksandar Karajic, Stephane Reculusa, Philip Bartlett, Nicolas Mano  
*Bottom-up Designed Porous Coaxial Twin-Electrodes for Efficient Redox Cycling*

15:00 to 15:15  
**Christian Schneemann** *(Technical Electro catalysis Laboratory, Technische Universität Braunschweig, Braunschweig, Germany)*, Jakob Traegner, Bo Tang, Andreas Dietzel, Juergen Koehler, Mehtap Oezaslan  
*Development of a Universal Analytical Model for the Limiting Current Characteristics in Impinging Jet Electrodes*

15:15 to 15:30  
**Zbigniew Stojek** *(Faculty of Chemistry, University of Warsaw, Warszawa, Poland)*, Klaudia Kaniewska, Kamil Marcisz, Maria Sawicka, Jan Romanski, Damian Jagleniec, Marcin Karbarz  
*Electrosensitive Microgel with Viologen Derivative. Volume Responses Modulated with Temperature, Ionic Strength and Potential*

15:30 to 15:45  
**Gisella Liliana Lucero Lucas** *(Electrochemistry and Electroplating Group, Technische Universität Ilmenau, Ilmenau, Germany)*, Andreas Bund  
*Electrochemical Determination of 2-Chlorophenol with PEDOT and PdAu/PEDOT composites*

15:45 to 16:15  
**Coffee Break**

16:15 to 16:30  
**Invited**

*Electropolymerisation of Conducting Polymers at a Polarised Liquid|Liquid Interface for Electroanalytical Applications*
16:30 to 16:45

Angelika Holzinger (Bernal Institute and Department of Chemical Sciences, University of Limerick, Limerick, Ireland), Talia J. Stockmann, Martin Jönsson-Niedziółka, Damien W. M. Arrigan, Micheál D. Scanlon

Investigation of Ion-Transfer at Nanochannel Arrays between two Immiscible Electrolyte Solutions

16:45 to 17:00

Łukasz Poltorak (Faculty of Chemistry, University of Lodz, Lodz, Poland), Karolina Sobczak, Paulina Borgul, Konrad Rudnicki, Karolina Kwaczynski, Slawomira Skrzypek

The challenges related to illicit drugs detection at the polarized liquid-liquid interface

17:00 to 17:15

Karolina Sobczak (Department of Inorganic and Analytical Chemistry, University of Lodz, Faculty of Chemistry, Lodz, Poland)

3D printing technology as an innovative tool to study electrochemical behaviour of bilirubin at µITIES

17:15 to 17:30

Martin Jönsson-Niedziółka (Department of Electrode Processes, Institute of Physical Chemistry, Polish Academy of Sciences, Warszawa, Poland), Weronika Rekiel, Marcin S Filipiak

Characterisation of an On-Chip Flow Injection System – Switching Time and the Issue of Adsorption of Ferrocenium on ITO

17:30 to 17:45

Laurent Thouin (Chemistry, UMR CNRS PASTEUR, Ecole normale superieure, Paris, France), Thomas Delahaye, Thomas Abadie, Christelle Souprrayen, Catherine Sella

Development of Electrochemical Detection Strategies in Droplet Microfluidics

17:45 to 18:00

Neus Vilà (LCPME, Université de Lorraine-CNRS, Nancy, France), Israël Mboemkallé, Pedro de Oliveira

Mass Transport of Polyoxometalates through Vertically Oriented Nanoporous Silica Membranes on Electrode: Effect of pH, Pore Size and Probe Charge

18:00 to 18:15

Maria Isabel González Sánchez (Physical Chemistry, Universidad de Castilla-La Mancha, Albacete, Spain), Rebeca Jiménez Pérez, Jesús Iniesta, Edelmira Valero

Mesoporous Carbon-Cobalt Phthalocyanine based Screen-Printed Electrochemical Sensors for Glucose Measurement in Saliva

18:15 to 18:30

Edelmira Valero (Physical Chemistry, Universidad de Castilla-La Mancha, Albacete, Spain), Rebeca Jimenez-Perez, Maria-Isabel Gonzalez-Sanchez, Alicia Gomis-Berenguer, Jesus Iniesta, Maria-Teresa Baeza-Romero, Edelmira Valero

One-Pot Synthesis of Porous 3D PtNi-Conjugated Polymer Nanocomposite for Hydrogen Peroxide Determination

18:30 to 18:45

Serge Mbokou Foukmeniok (Chemistry, Angers University, Angers, France), Jean-Philippe Silga, Yibor Fabrice Bako, Issa Tapsoba, Maxime Pontie

Elaboration of a Micsensor Based on Molecularly Imprinted Polymer (MIP) for the Electroanalysis of 3-methyl-4-nitrophenol (MNP): Application to the MNP Biodegradation Study in a Fungal Biofuel Cell
Symposium 2  Bioelectrochemistry - From molecular to cellular scales  
Room: Tête d’Or 2

Chaired by: Alan Le Goff, Shelley Minteer, Ross Milton

14:00 to 14:30 Keynote

**Julea Butt** (School of Chemistry and School of Biological Sciences, University of East Anglia, Norwich, United Kingdom)

Understanding and Repurposing Biology’s Redox Catalysts: Insights from Bioelectrochemistry

14:30 to 14:45

**Jonas Englhard** (Department of Chemistry and Pharmacy, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany), Rebecca Bährle, Stefanie Böhnke, Mirjam Perner, Julien Bachmann

Tools for investigating carbon monoxide dehydrogenase activity for the electrocatalytic reduction of CO$_2$ to CO

14:45 to 15:00

**Desmond Koomson** (Chemistry, King’s College London, London, United Kingdom), Jake Nicholson, Alex Brogan, Leah Aldous

Exploring Novel Viologens as Redox Mediators for Electrochemically-driven Enzymatic Reactions

15:00 to 15:15

**Noya Loew** (Department of Pure and Applied Chemistry, Tokyo University of Science, Noda, Japan), Chiaki Sawahara, Chika Miura, Saki Otobe, Taku Ogura, Yuichi Takasaki, Hikari Watanabe, Isao Shitanda, Masayuki Itagaki

Combining Electrochemistry with Small Angle X-Ray Scattering for the Investigation of Structural Changes in Common Redox Enzymes

15:15 to 15:30

**Julia Alvarez-Malmagro** (Physical Chemistry, University of Seville, Sevilla, Spain), Francisco Prieto, Manuela Rueda

ATR-SEIRAS Study of Guanine Adsorption on Gold electrodes: Co-adsorption with Cytosine

15:30 to 15:45

**Nicolas Plumere** (Campus Straubing for Biotechnology and Sustainability, Technical University Munich, Straubing, Germany)

Protecting Hydrogenase under intermittent H$_2$ production

15:45 to 16:15

Coffee Break

16:15 to 16:30 Invited

**Alan Le Goff** (Departement de Chimie Moleculaire, CNRS/Université Grenoble Alpes, grenoble, France)

Functionalizing carbon nanotubes with Ni enzymes and models for reversible electrocatalytic conversion of H$_2$ and CO$_2$.

16:30 to 16:45

**Arthur Langlard** (CEISAM UMR-CNRS 6230, Nantes Université, Nantes, France), Christine Thobie, Mohammed Boujtita, Estelle Lebègue

16:45 to 17:00

**Lin Zhang** *(Engineering Research Center for Nanomaterials, Henan University, Kaifeng, China)*, Chunhua Zhang, Alexander Kuhn

**Bulk Electroenzymatic Synthesis with Bipolar Electrochemistry**

17:00 to 17:15

**Fred Lisdat** *(Biosystems Technology, Technical University Wildau, Wildau, Germany)*, Sascha Morlock, Matthias Schenderlein, Kenji Kano, Athina Zouni

**Photobioelectrodes based on photosystem I and their coupling to an enzymatic reaction exploiting the generated photoelectrons**

17:15 to 17:30

**Marcos Pita** *(Instituto de Catálisis y Petroleoquímica, Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain)*, Mihai-Cristian Fera, Rita R. Manuel, Inês A. C. Pereira, José María Abad, Antonio L. De Lacy

**Carbon Nanotubes – Formate Dehydrogenase Nano-Biointerface for the Specific Bioelectrochemical Reduction of CO2 to Formate**

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

**Alina Sekretareva** *(Department of Chemistry-Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Helena Marthe Wagner, Ziwen Zhao

**Powering Up: Exploring Electron Transfer and Heterogeneous Catalysis in Multicopper Oxidases**

17:45 to 18:00

**Dan Bizzotto** *(Chemistry, University of British Columbia, Vancouver, Canada)*, Tianxiao Ma, Adrian Grzedowski, Daina Baker, Geyang Zhou

**Characterizing ground state charge transport through dsDNA SAMs using ideally smooth gold electrodes and spectroelectrochemical measurements**

18:00 to 18:15

**Vincent Friebe** *(Campus for Biotechnology and Sustainability, TUM, Straubing, Germany)*, Wojciech J. Nawrocki, Michael R. Jones, Raoul N. Frese, Roberta Croce, Vincent M. Friebe

**In situ Time-Resolved Spectroelectrochemistry Reveals Limitations of Biohybrid Photoelectrode Performance**

18:15 to 18:30

**Sanela Martic** *(Forensic Science, Environmental and Life Science, Trent University, Peterborough, Canada)*

**Intrinsically Disordered Proteins on Au Surfaces**

18:30 to 18:45

**Matteo Grattieri** *(Chemistry, Università degli Studi di Bari Aldo Moro, Bari, Italy)*, Pierluigi Lasala, Jefferson H. Franco, Roberto S. Volpicella, Aurora Iacobone, Lilian D. de Moura Torquato, Angela Agostiano, Gianluca M. Farinola, Massimo Trotta, M. Lucia Curri, Elisabetta Fanizza

**Surface-Engineered Gold Nanoparticles Modified Photosynthetic Bacteria for Enhanced Biophotoelectrodes**

18:45 to 19:00 **Invited**

**Alexandre Gomila** *(Nanoprobes and Nanoswitches, IBEC, Barcelona, Spain)*, Gonzalo Pérez-Mejías, Alba Nin-Hill, Alejandra Guerra-Castellano, Laura Casas-Ferrer, Sthefany Ortiz-Tescari, Antonio Díaz-Quintana, Josep Samitier, Carme Rovira, Miguel A. De la Rosa, Irene Díaz-Moreno, Pau Gorostiza, Marina I. Giannotti, Anna Lagunas

**Phosphorylation disrupts long-distance electron transport in Cytochrome c**
Symposium 4a  From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Gratte-Ciel 2

Chairied by: Sigita Trabesinger, Atsuo Yamada

14:00 to 14:15 Invited

Guiomar Hernández (Department of Chemistry – Ångström Laboratory, Uppsala University, Uppsala, Sweden)

Solid Polymer Electrolytes: Promises and Challenges.

14:15 to 14:30

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

Multi-functionalized high ionic conductive soft matter for solid state lithium-ion battery

14:30 to 14:45

Claudio Gerbaldi (Department of Applied Science and Technology - DISAT, Politecnico di Torino, Turin, Italy), Marisa Falco, Gabriele Lingua, Silvia Porporato, Ying Zhang, Mingjie Zhang, Matteo Gastaldi, Francesco Gambino, Elisa Maruccia, Sofia Saffirio, Matteo Milanesi, Hamideh Darjazi, Alessandro Piovano, Giuseppina Meligrana, Giuseppe A. Elia, Claudio Gerbaldi

An Overview on Polymer-based Electrolytes with High Ionic Mobility for Safe Operation of Solid-State Batteries

14:45 to 15:00

Xu Dong (Department of Chemistry and Biosciences, Karlsruhe Institute of Technology, Karlsruhe, Germany), Alexander Mayer, Xu Liu, Stefano Passerini, Dominic Bresser

Single-Ion Conducting Multi-Block Copolymer Electrolyte for Lithium-Metal Batteries with High Mass Loading NCM811 Cathodes

15:00 to 15:15

Patrice Rannou (UMR5279-LEPMI (CNRS/Grenoble-INP/UGA/USMB), CNRS, Saint-Martin-d‘Hères, France), Patrice Rannou, Philip Overton, Lionel Picard

Polymer End-Group Modifications Meet Post-Lithium-Ion Solid-State Batteries: A 2.0 Blueprint towards Single-Ion Polymer Electrolytes for Next Generation Electrochemical Energy Storage Devices

15:15 to 15:30

Ernest Ahiavi (LEPMI UMR-5279, University of Grenoble Alpes, Grenoble, France), Trang Phan, Fabrice Cousin, Renaud Bouchet, Didier Devaux

Effect of lithium polysulfides on the thermodynamical and transport properties of polymer electrolytes

15:30 to 15:45

James Alfred Isaac (Li2, Blue Solutions, Grenoble, France), Didier Devaux, Renaud Bouchet

Conductivity of dispersed composite polymer/ceramic electrolytes

15:45 to 16:15

Coffee Break
16:15 to 16:30 Invited

John Abou-Rjeiliy (Research and Development / Project Management, TIAMAT Energy, Amiens, France)
TIAMAT: From academic research to proof of concept and commercialization.

16:30 to 16:45

Gaël Minart (ICMCB, University of Bordeaux - CNRS, Pessac, France), Laurence Croguennec, Jacob Olchowka
Polyanionic Electrode Materials for Na-ion Batteries Obtained by Topochemical Reaction in Ionic Liquid.

16:45 to 17:00

Yuliia Kravets (Department of Chemistry, Humboldt University of Berlin, Berlin, Germany), Philipp Adelhelm
Sn-Based Multi-Element Alloys as Anodes for Sodium-Ion Batteries.

17:00 to 17:15

Ignacio Cameán (MATENERCAT, INCAR-CSIC, Oviedo, Spain), Belén Lobato, Nuria Cuesta, Ignacio Cameán, Samantha L. Flores-López, Natalia Rey-Raap, Ana Arenillas, Ana B. García
Performance of carbon xerogels as anodes for sodium dual-ion batteries.

17:15 to 17:30

Laure Monconduit (Chemistry, ICGM, University of Montpellier, Montpellier, France), Lorenzo Stievano, Patrik Johansson, Carmelia Matei Ghimbeu, Lénaïc Madec, Louiza Larbi, Badre Larhrib, Phuong Nam Le Pham
Advancements in carbon-based negative electrodes for potassium-ion batteries: mechanisms and performance.

17:30 to 17:45

Seyedabolfazl Mousavihashemi (Flexible sensors and devices, VTT Technical Research Centre of Finland, Espoo, Finland), Olli Sorsa
Lignin-Based Carbon Materials for Energy Storage Applications.

17:45 to 18:00

Hippolyte Houisse (UET-DEA IREB Batteries, Renault Group, Guyancourt, France), Victor Chaudoy, Christian Carrot, Renaud Bouchet
Development of a hybrid ceramic/polymer electrolyte for all-solid-state batteries.

18:00 to 18:15

Yunfan Shao (LEPMI, Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble, France), Fannie Alloin, Dominic Bresser, Cristina Iojoiu

18:15 to 18:30

Rafael Trocoli (Inorganic Chemistry and Engineering Chemistry, University of Cordoba, Cordoba, Spain), Victoria Carnero, Fabio La Mantia
Prussian Blue analogues as an intercalation material for multiple battery chemistries and applications.

18:30 to 18:45

Markus Kwakernaak (Storage of Electrochemical Energy, Delft University of Technology, Delft, Netherlands)
Alginates as Renewable and Cheap Materials for the Next Generation Large Scale Batteries.
Symposium 4b From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel
Chaired by: Jan Bitenc, Yabuuchi Naoki

14:00 to 14:30 Keynote
   Jean-Marie Tarascon (Chimie du solide et de l’énergie (CSE), Collège de France, Paris, France)
   Better Li(Na)-ion batteries via the help of sensing and self-healing functionalities

14:30 to 14:45
   Mohamed Raghibi (MIEL team, LEPMI Laboratory, Grenoble University, Grenoble, France), Renaud Bouchet, Didier Devaux, Laureline Lecarme
   Analysis of Limiting Processes of Power Performance Within Li-ion Batteries

14:45 to 15:00
   Dongni Zhao (Chemistry Department, Lancaster University, Lancaster, United Kingdom), Stijn Mertens
   Real-Time Speciation of Dissolving Mn from a Li-ion Battery Cathode

15:00 to 15:15
   Franziska Jach (Energy materials and test devices, Fraunhofer IISB, Erlangen, Germany), Max Bamberg, Martin Eckert, Felix Fuhrmann, Maximilian Wassner, Gero Frisch, Ulrike Wunderwald
   Aluminium-Graphite Batteries: Insights into Self-Discharge Processes

15:15 to 15:30
   Oi Man Leung (Zepler Institute, University of Southampton, Southampton, United Kingdom), Theresa Schoetz, Leo Gordon, Themis Prodromakis, Julian Wharton, Robert J. Messinger, Carlos Ponce de Leon
   Elucidating the Improved Performance of Rechargeable Al-Graphite Batteries with EMImCl-AlCl$_3$-based Polymer Electrolytes

15:30 to 15:45
   Wenchong Zhou (Center for Green Research on Energy and Environmental Materi, National Institute for Materials Science, Tsukuba, Japan), Wenchong Zhou, Chenchao Xu, Bo Gao, Masanobu Nakayama, Shunsuke Yagi, Yoshitaka Tateyama
   Glyme Solvent Decomposition on Spinel Cathode Surface in Magnesium Rechargeable Battery: An Ab-initio Study

15:45 to 16:15
   Coffee Break

16:15 to 16:30 Invited
   Jan Bitenc (Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia), Olivera Luzanin, Joze Moskon, Tjasa Pavcnik, Alen Vizintin, Robert Dominko
   Multivalent Batteries: Alternative Path of Development through Application of Organic Cathodes

16:30 to 16:45
   Paloma Almodovar (R&D, Albufera Energy Storage, Madrid, Spain)
   years of aluminum ion battery research: From lab scale to first commercial cells
16:45 to 17:00

**Toshihiko Mandai** *(GREEN, National Institute for Materials Science, Tsukuba, Japan)*

Specific Combination of [B(HFIP)$_4$]- with Mg$^{2+}$ as A Metal Anode Battery Electrolyte

17:00 to 17:15

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

Investigating the Role of Water traces on the Electrochemical behavior of Hydrophobic ionic liquids for Magnesium-ion electrolytes

17:15 to 17:30

**Sven Daboss** *(Institute of Analytical and Bioanalytical Chemistry, Ulm University, Ulm, Germany)*, Krishnaveni Palanisamy, Gregor Neusser, Christine Kranz

Scanning Electrochemical Probe Microscopy: Nanoscale Studies of Polycrystalline Aluminium Anodes

17:30 to 17:45

**Xiatong Ye** *(Ichitsubo Laboratory, Institute for Materials Research (IMR), Tohoku University, Sendai, Japan)*, Hongyi Li, Kohei Shimokawa, Takuya Hatakeyama, Tetsu Ichitsubo

Development of MnO$_2$-based Cathode Materials for Rechargeable Magnesium Batteries

17:45 to 18:00

**Tianye Zheng** *(Electrical Engineering, The Hong Kong Polytechnic University, Hong Kong, China)*, Jia Zhang, Xiaoyang Guo, Wei Jin, Steven Boles

Unlocking Room Temperature Formation of Li-Rich Phases in Aluminum Anodes for Li-ion Batteries

Symposium 5 Fast storage processes: Supercapacitors and high power systems

**Room: Gratte-Ciel 1**

Chaired by: Camelia Ghimbeu

14:00 to 14:30 **Keynote**

**Francesca Soavi** *(Department of Chemistry “Giacomo Ciamician”, Alma Mater Studiorum University of Bologna, Bologna, Italy)*, Elisabetta Petri, Monica Giovannucci

Boosting Power of Energy Harvesters and Batteries by Tailored-designed Supercapacitors

14:30 to 14:45

**Maciej Tobis** *(Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland)*, Elzbieta Frackowiak

Covalent functionalization of layered MoS$_2$ with redox species as electrode materials for supercapacitors

14:45 to 15:00

**Marcelo A. Andrade** *(ST2E Stockage et Transformation Electrochimique de l’Energie, IMN - Institut des Materiaux de Nantes, Nantes, France)*, Olivier Crosnier, Thierry Brousse

Recycling Heavy Metals-Containing Wastewater Absorbents for High-Power Energy Storage
15:00 to 15:15
Philippe Banet (*LPPI, CYU, Cergy, France*), Corentin Querne, Mathieu Pinault, Martine Mayne-L’Hermite, Pierre Henri Aubert
High-Energy Ultracapacitors based on Nitrogen and Oxygen Doped Vertically Aligned Carbon Nanotubes (VACNT).

15:15 to 15:30
Sara Azmi (*LMGC & ICGM, CNRS, Montpellier, France*), Fairouz Touati, Frederic Favier, Katerina Ioannidou

15:30 to 15:45
Fatima Montemor (*Centro de Quimica Estrutural, Instituto Superior Tecnico, Lisboa, Portugal*), Catarina Alves, Mario Almeida, Carlos Baleizao, Luisa Chiavassa, Teresa Silva, Maryna Taryba
On the development of a self-healing composite for supercapacitor electrodes.

15:45 to 16:15
Coffee Break

16:15 to 16:30
Elisabetta Petri (*Department of Chemistry, Alma Mater Studiorum - Università di Bologna, Bologna, Italy*), Monica Giovannucci, Alessandro Brillon, Francesca Soavi
Strategies to increase the specific energy of green supercapacitors.

16:30 to 16:45
Charlotte Bodin (*Electrochemical Energy Storage and Transformation, Institut des Matériaux de Nantes, Nantes, France*), Olivier Crosnier, Thierry Brousse
Hydrophobic Grafting for Carbon Electrodes with Enlarged Potential Window Operation.

16:45 to 17:00
Chloe Balhatchet (*Yusuf Hamied Department of Chemistry, University of Cambridge, Cambridge, United Kingdom*), Jamie Gittins, Shivani Sharma, Alexander Forse
Investigating the Charging Mechanisms of Metal-Organic Framework (MOF) Supercapacitors by Solid-State NMR.

17:00 to 17:15
Krzysztof Fic (*Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland*), Paulina Bujewska, Przemyslaw Galek
Ionic Fluxes at Capacitive Carbon Electrode/Aqueous Electrolyte Interface Monitored by Electrochemical Dilatometry.

17:15 to 17:30
Jamie W. Gittins (*Yusuf Hamied Department of Chemistry, University of Cambridge, Cambridge, United Kingdom*), Kangkang Ge, Chloe J. Balhatchet, Pierre-Louis Taberna, Patrice Simon, Alexander C. Forse

17:30 to 17:45 Invited
Dominic Rochefort (*Chemistry, Universite de Montreal, Montreal, Canada*), Jensheer Shamsudeen Seenath, David Pech
Increasing Energy of Metal Oxide Microsupercapacitors with Ionic Liquid Electrolytes.
17:45 to 18:00

Sandesh Darlami Magar (Institute for Technical and Environmental Chemistry, Friedrich Schiller University, Jena, Germany), Miriam Sanders, Lars Borchadt, Andrea Balducci

“In situ electrolyte” for Electrochemical Capacitors.

18:00 to 18:15

Anetta Platek-Mielczarek (Department of Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland), Muriel Scherer, Thomas M. Schützius

Towards Hydrogel Electrolytes as Hygro-Responsive Components in Electrochemical Capacitors.

18:15 to 18:30

Imgon Hwang (Department of Chemistry, University of Manchester, Manchester, United Kingdom), Mantas Leketas, Kieran Griffiths, Ryan Bragg, John Griffin, Robert Dryfe

Effect of Salt Concentration in Water-in-Salt Electrolytes for Supercapacitor Applications.

18:30 to 18:45

Sylwia Sroka (Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland), Krzysztof Fic, Jakub Menzel

Ageing of Carbon Electrodes in Organic-Based Electrochemical Capacitors: Does Oxygen Content Play a Role?

18:45 to 19:00

Babak Rezaei (National Centre for Nano Fabrication and Characterization, Danish Technical University (DTU), Lyngby, Denmark), Mohammad Hossein Mirmusavi, Anjali Achazhiyath Edathil, Kristoffer Almdal, Chunlei Wang, Stephan Sylvest Keller


Symposium 6a  Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre

Chaired by: Michelle Philippa Browne, Anthony Kucernak, David Sebastián, Evelina Slavcheva

14:00 to 14:15

ISE-Elsevier Prize for Applied Electrochemistry

Michelle Philippa Browne (Electrocatalysis: Synthesis to Devices, Helmholtz Zentrum Berlin, Berlin, Germany)

Developing New Metal Oxide/MXene Oxygen Evolution Catalysts.

14:15 to 14:30

Ahyoun Lim (Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany), Ioannis Spanos, Marc Tesch, Robert Schlägl

The impact of operando analysis in the understanding of oxygen evolution reaction ranging from intrinsic to technical scales.

14:30 to 14:45

Onno van der Heijden (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Sunghak Park, Jordy Eggebeen, Marc Koper

Non-Kinetic Effects Convolute Activity and Tafel Analysis for the Alkaline Oxygen Evolution Reaction on NiFeOOH Electrocatalysts.
14:45 to 15:00 Invited

Evelina Slavcheva (Hydrogen Energy Systems, Institute of Electrochemistry and Energy Systems, Sofia, Bulgaria), Katerina Maximova, Borislava Mladenova, Galin Borisov

Composite Co-Magnelli Phase Titania OER Catalyst for Alkaline Water Electrolysis

15:00 to 15:15

Casey Beall (Electrochemistry Laboratory, Paul Scherrer Institut, Villigen, Switzerland), Emiliana Fabbri, Adam H. Clark, Vivian Meier, Nur Sena Yüzbasi, Dino Aegeter, Natasa Diklic, Thomas Graule, Thomas J. Schmidt

The Reversible and Irreversible Changes in Perovskite Catalysts While Alternating Between the Oxygen Reduction and Evolution Reactions in Alkaline Environment

15:15 to 15:30

David Sebastián (Instituto de Carboquímica, Consejo Superior de Investigaciones Científicas, CSIC, Zaragoza, Spain), Juan Carlos Ruiz, María Victoria Martínez Huerta, María Jesús Lázaro

Strategies to Improve the Electrocatalytic Performance of Metal Oxides from Groups 4 and 5 in Oxygen Evolution/Reduction Reactions

15:30 to 15:45

Sayed M. Elrefaei (Heterogeneous Reactions, Max-Planck-Institut für Chemische Energiekonversion, Mülheim an der Ruhr, Germany), Justus Masa, Ioannis Spanos

Ni-Xides (B, S, and P) for Alkaline OER: Shedding Light on Reconstruction Processes and Interplay with Incidental Fe Impurities as Synergistic Activity Drivers

15:45 to 16:15

Coffee Break

16:15 to 16:30

Anthony Kucernak (Chemistry, Imperial College London, London, United Kingdom), Anthony Kucernak, Colleen Jackson

High Performance, Ultralow Loading PEMFC Catalyst Layers: Preparation and Activity

16:30 to 16:45

Iosif Mangoufis-Giasin (MEA Development, Freudenberg Fuel Cell e-Power Systems GmbH, Munich, Germany), Farah Mirzayeva, Katharina Hengge, Tilman Jurzinsky, Thomas Burger

Effect of NaOH/Pt Precursor Molar Ratio in the Water-Assisted Polyl Synthesis of Pt/C PEMFC Electro catalysts

16:45 to 17:00

Quentin Labarde (Interfacial Electrochemistry and processes, LEPMI, Grenoble, France), Laetitia Dubau, Fabrice Micoud, Marian Chatenet

Carbon-capped PtNi-alloy cathodic electrocatalysts for PEMFC

17:00 to 17:15

Hassan Javed Nagra (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)

A Structural Model For Transient Pt Oxidation During Fuel Cell Start-Up Using Electrochemical X-Ray Photoelectron Spectroscopy

17:15 to 17:30

Tina Dukic (Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia), Léonard Jean Moriau, Iva Klofutar, Martin Sala, Matija Gatalo, Nejc Hodnik

Towards a Better Understanding of the Stability of Pt-alloy Nanoparticles as Oxygen Reduction Reaction Electrocatalysts
17:30 to 17:45

Xiashuang Luo (School of Mechanical Engineering, Institute of Fuel Cells, Shanghai Jiao Tong University, Shanghai, China), Cehuang Fu, Shuiyun Shen, Liuxuan Luo, Junliang Zhang

*A Chemical Dealloying Synthetic Protocol for PtCu Porous Hollow Nanospheres as Bifunctional Electrocatalysts.*

17:45 to 18:00

Hiroshi Fukunaga (Department of chemistry and materials, Shinshu University, Ueda, Japan)

*Overpotential Evaluation of Carbon-free Ionomer-free Pt Cathode for PEFC.*

18:00 to 18:15

Sven Nösberger (Department of Chemistry, Biochemistry, and Pharm. Sciences, University of Bern, Bern, Switzerland), Gustav K.H. Wiberg, Matthias Arenz

*Effects of temperature and relative humidity on CO-stripping measurements on a commercial Pt/C ORR catalyst.*

18:15 to 18:30

Peter M. Schneider (Department of Physics, Technical University of Munich (TUM), Garching bei München, Germany), Theophilus K. Sarpey, Aliaksandr S. Bandarenka

*Facile and Surfactant-Free Top-Down Synthesis of Highly ActivePtxCu/C Electrocatalysts for the Oxygen Reduction Reaction.*

18:30 to 18:45

Carsten Korte (Institute of Energy and Climate Research (IEK-14), Research Centre Jülich, Jülich, Germany), Yangpeng Suo, Klaus Wippermann, Christian Rodenbücher


18:45 to 19:00

Viktor Colic (Electrochemistry for Energy Conversion, Max-Planck-institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany), Ricardo Martínez-Hincapié

*Electrocatalytic Benchmarking of Complex Solid Solutions: Experimental Challenges.*

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**Symposium 6b Fuel cells, electrolysis and electrofuel synthesis**

*Room: Salon Tête d’Or*

*Chaired by: Alexander Bagger, Julia Kunze-Liebhäuser, Kirk Smith, Adam Weber*

14:00 to 14:15 Invited

Julia Kunze-Liebhäuser (Physical Chemistry, University of Innsbruck, Innsbruck, Austria)

*CO electroreduction on modified Cu electrodes.*

14:15 to 14:30

SiddhARTH Gupta (Electrochemical Conversion, Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany), GumaA A El-Nagar, Zhaoli Zhu, ChaoquN Ma, Yu Lin Tsai, Matthew T Mayer

*Electrochemical CO reduction in zero gap electrolyzers necessitates careful water management.*

14:30 to 14:45

Quentin Lenne (ITODYS, Université Paris Cité, Paris, France), Marc Koper

*Deliberate Functionalization of Gold Surfaces to Tune their Activity towards the Dioxide Reduction Reaction.*
14:45 to 15:00

**Lydia Weseler** (*Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Clausthal-Zellerfeld, Germany*), Marco Lößelholz, Jens Osiewacz, Thomas Turek

Assessing Electrochemical CO$_2$ Reduction at Gas Diffusion Electrodes in Flow Cell Setups

15:00 to 15:15

**Sophia Weng** (*Chemistry, Massachusetts Institute of Technology, Cambridge, USA*), Wei Lun Toh, Yogesh Surendranath

Organic Cations Enable CO$_2$ Reduction in the Absence of Alkali Metal Cations

15:15 to 15:30

**Marco Lößelholz** (*Institute of Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany*), Jens Osiewacz, Lydia Weseler, Thomas Turek

Enhancing Carbon Efficiency in Electrochemical CO$_2$ Reduction at Silver Gas Diffusion Electrodes – The Effect of Electrolyte pH Explained Via Mathematical Modeling

15:30 to 15:45

**Debanjan Das** (*Analytical Chemistry – Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany*), Anirudha Shekhawat, Stefan Dieckhöfer, João R. C. Junqueira, Xin Wang, Sabine Seisel, Nivedita Sikdar, Wolfgang Schuhmann

Electroethylation of CO$_2$ over a Copper-organic Framework at High Current Densities

15:45 to 16:15

Coffee Break

16:15 to 16:30 Invited

**Adam Weber** (*Energy Conversion Group, Lawrence Berkeley National Laboratory, Berkeley, USA*), Justin Bui, Alexis Bell

Understanding Bipolar-Membrane Operation for Electrochemical Energy Conversion

16:30 to 16:45

**Thomas Mairegger** (*Department of Physical Chemistry, University of Innsbruck / Net Zero Emissions Labs GmbH, Innsbruck, Austria*), Julia Kunze-Liebhäuser, Alexander Beck

Electroreduction of cement-based CO$_2$ to formic acid in an acid based electrolyzer cell

16:45 to 17:00

**Gumaa El-Nagar** (*Helmholtz Young Investigator Group: Electrochemical Conversion, Helmholtz-Zentrum Berlin, Berlin, Germany*), Flora Haun, Siddharth Gupta, Matthew T. Mayer

Impacts of the local environments on the operation of different CO$_2$ electrolyzers: Cations and Hydrophobicity

17:00 to 17:15

**Junming Shao** (*Laboratoire d’Electrochimie Moléculaire, Université Paris Cité, Paris, France*), Junming Shao, Marc Robert

CO$_2$ Cascade Electroreduction with 6 Electrons and 6 Protons. Why Can Co Phthalocyanine Catalyze the Reduction of CO to Methanol, while Using CO$_2$ as Substrate it Mainly Affords CO?

17:15 to 17:30

**Adriano Sacco** (*Center for Sustainable Future Technologies @POLITO, Istituto Italiano di Tecnologia, Torino, Italy*), Matteo Agliuzza, Alessio Mezza

Solar-Driven Integrated Carbon Capture and Utilization
17:30 to 17:45
Alessandro Senocrate (Materials for Energy Conversion, Swiss Federal Laboratories for Materials Science, Duebendorf, Switzerland), Francesco Bemascioni, Corsin Battaglia
The Importance of Substrate Pore Size and Hydrophobicity in Gas Diffusion Electrodes for CO₂ Reduction.

17:45 to 18:00
Alexander Bagger (Department of Physics, Technical University of Denmark, Lyngby, Denmark)
Reduction Reactions versus Hydrogen.

18:00 to 18:15
Sam Van Daele (Research group Applied Electrochemistry and Catalysis, University of Antwerp, Wilrijk, Belgium), Saskia Hoekx, Barbara Bohlen, Lieven Hintjens, Sander Neukermans, Nick Daems, Jonas Hereijgers, Tom Breugelmans
The impact of flue gas impurities on the electrochemical conversion of carbon dioxide to carbon monoxide and formic acid.

18:15 to 18:30
Alexander Reynell Heenan (Department of Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand), Aaron Timothy Marshall
Turning Copper into Gold – Novel Gas Diffusion Electrode Catalyst for the Efficient Conversion of CO₂ to C₂H₄ or CO.

18:30 to 18:45
Kirk Smith (DRF/IRAMIS/NIMBE/LCMCE, CEA Paris-Saclay, Gif-sur-Yvette, France), Nathan de Riggi, Florian Lhostis, Ngoc-Huan Tran, Emmanuel Nicolas, Marc Fontecave, Thibault Cantat
Coupling Electro- and Thermocatalysis: Prototyping Methanol and Methane Production from CO₂ via Formic Acid at Applied Pressure and Potential.

18:45 to 19:00
Ian Brewis (Faculty of Engineering and Environment, Northumbria University, Newcastle Upon Tyne, United Kingdom), Abdesslem Jedidi, Shahid Rasul
Discovery and Design of Tri-Metallic Electrocatalysts for Prompting C-C Bond Formation during Electrochemical Reduction of CO₂.

Symposium 7  Corrosion science and technology: Towards more sustainable materials

Room: Tête d’Or 1
Chaired by: Hercilio Gomes de Melo

14:00 to 14:30 Keynote
Achim Walter Hassel (Institut of Chemical Technology of Inorganic Materials, Johannes Kepler University Linz, Linz, Austria)
Combinatorial Passivity Studies in Aluminium - Rare Earth Element Material Libraries.

14:30 to 14:45
Mireille Turmine (Laboratoire de Réactivité de Surface, Sorbonne Université, Paris, France), Abdelmoheiman Zakaria Benbouzid, Oumaïma Gharbi, Mai T.T. Tran, Vincent Vivier
Aluminum Stability in EMISE Ionic Liquid and Water Mixtures.
14:45 to 15:00 Invited

**Lis G. Zschach** *(Chair for Laser-based Manufacturing, Technische Universität Dresden, Dresden, Germany)*, Robert Baumann, Claudia M. Méndez, Andrés F. Lasagni

Correlation of Corrosion Rate and Wettability Properties of Laser Functionalized Aluminum 2024

15:00 to 15:15

**Viacheslav Shkirskiy** *(ITODYS - CNRS UMR 7086, Université Paris Cité, Paris, France)*, Rui Li, Aleksei Makogon, Tatiana Galochkina, Jean-François Lemineur, Frédéric Kanoufi

Unsupervised Identification of Reactivity Patterns in Al6061 Alloy through Reflectance Microscopy

15:15 to 15:30

**Sigrid Benfer** *(Materials and Corrosion Division, DECHEMA-Forschungsinstitut, Frankfurt am Main, Germany)*, Wolfram Fürbeth, Jörg Hübscher

Influence of Grinding Parameters and Surface Treatment on the Formed Beilby Layer and Filiform Corrosion of Ground Aluminum Surfaces

15:30 to 15:45 Invited

**Ana Martinez Ibernon** *(IDM, Universitat Politècnica de València, Valencia, Spain)*, Isabel Gasch, Valcuende Manuel, José Manuel Gandía Romero, Josep R. Lliso Ferrando, Juan Soto

Electronic tongues for the control of reinforcement concrete structures durability

15:45 to 16:15

Coffee Break

16:15 to 16:30

**Sebastien Caes** *(R&D Waste Packages, SCK CEN, Mol, Belgium)*, Alfred Gurning, Xiang Li, Valdir de Souza, Bruno Kursten

Corrosion of Aluminium in Ordinary Portland Cement Paste: Influence of Matrix Porosity and the Presence of LiNO₃ Corrosion Inhibitor

16:30 to 16:45 Invited

**Gwinner Benoit** *(CEA, University of Paris-Saclay, Gif-sur-Yvette, France)*

How Electrochemistry Helps to Investigate Corrosion Processes in Nitric Acid?

16:45 to 17:00

**Sylvie Delpech** *(IJCLab, CNRS, ORSAY, France)*, Davide Rodrigues, Gabriela Duran-Klie, Alexandre Chmakoff, Charly Carrière, Céline Cannès

Corrosion mitigation in molten salts

17:00 to 17:15

**Clément Pierre** *(CEA, Université Paris-Saclay, Gif-sur-Yvette, France)*, Christian Bataillon, Benoit Gwinner, Bernard Normand

Influence of Passive Films on the Charge Transfer Kinetics on Stainless Steels

17:15 to 17:30

**Vasil Karastoyanov** *(Physical Chemistry, UCTM, Sofia 1756, Bulgaria)*

Oxidation of stainless steel and Alloy 690 in simulated nuclear reactor primary coolant – experiments and modeling

17:30 to 17:45

**Soren Scott** *(Materials, Imperial College London, London, United Kingdom)*, Jiaze Sun, Robert Armer, Jameel Rogers, Guangmeimei Yang, Caiwu Liang, Reshma Rao, Ifan Stephens

Decoupling corrosion and O₂ evolution activity on rutile oxides in acid
17:45 to 18:00
**Beatriz Puga** *(S2CM, Université Paris-Saclay, CEA, Gif-sur-Yvette, France)*, Alexis Fouchereau, Hicham Maskrot, Fernando Lomello, Mireille Turmine, Oumaïma Gharbi, Vincent Vivier

*Relationships Between the Feedstock Powders Reactivity and the Electrochemical Properties of 316L Stainless Steel Obtained by Laser Powder Bed Fusion*

18:00 to 18:15
**Virginie Roche** *(LEPMI, University Grenoble Alpes, CNRS, Grenoble INP, Grenoble, France)*, A.M Zemanate, A. Moreira Jorge Jr, G.F. de Lima Andreani, K.R. Cardoso

*Corrosion behavior of AlCoCrFeNix high entropy alloys*

18:15 to 18:30
**Bernard Tribollet** *(LISE UMR8235, CNRS-Sorbonne University, Paris, France)*, Benoît Ter-Ovanessian, Sabrina Marcelin, Bernard Normand

*Impedance Model of Oxide Layers Composed of an Inner and an Outer Layer*

18:30 to 18:45
**Federico Bertin** *(Electrochemistry and materials, IFP Energies Nouvelles, Solaize, France)*, Gaurav Joshi, Jean Kittel, François Ropital, Cedric Bosch, Krzysztof Wolski

*Evaluation of surface corrosion and stress corrosion cracking of 13Cr stainless steel in presence of calcium carbonate scales in simulated geothermal environment containing CO2−*

18:45 to 19:00
**Hüseyin Zengin** *(Institute of Chemical Technology of Inorganic Materials (TIM, Johannes Kepler University Linz, Linz, Austria), Manuel Hofinger, Maria del Rosario Silva Campos, Maria Nienaber, Safa Polat, Carsten Blawert, Jan Bohlen, Mikhail Zheludkevich, Achim Walter Hassel*

*A Comparative Study on the Corrosion Rate of Biodegradable Mg-Zn-Mn-Ce, Mg-Zn-Ca-Ce and Mg-Zn-Ca-Mn Quaternary Magnesium Alloys Using Electrochemical Measurements, Weight Loss, Hydrogen Evolution and ICP-OES*

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**Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes**

**Room: Bellecour 2**

*Chaired by: Marian Chatenet*

14:00 to 14:15 **Invited**

**Tristan Asset** *(ICPEES, UMR 7515 CNRS-ECPM-Université de Strasbourg, Strasbourg, France)*, Antoine Bonnefont, Kirill Dosaev, Kate Fraser, Steven Holdcroft, Julien Massue, Benjamin Rotonnelli, Elena Savinova, Timothée Stoerkler, Jules Wolff

*Understanding the Electrochemical Interface in Alkaline Environment*

14:15 to 14:30 **Andrea Zaffora** *(Department of Engineering, University of Palermo, Palermo, Italy)*, Francesco Di Franco, Davide Pupillo, Barbara Seminara, Giada Tranchida, Monica Santamaria

*Functionalized Cathodic Porous Electrodes for Zero Gap Water Alkaline Electrolyzers*

14:30 to 14:45 **Giovanni Ferro** *(Chemical and Biomolecular Engineering, University of California, Irvine, Irvine, USA)*, Jiazhe Loki Chen, Joseph Kalaus, Lawrence Kulinsky, Plamen Atanassov

*Nickel-Molybdenum HER and HOR Bifunctional Electrocatalyst obtained by Electrospinning*
14:45 to 15:00

**Steffen Hardt** (Energy and Sustainability - Catalysis and Surface Chemistry, Leiden University - Leiden Institute of Chemistry, Leiden, Netherlands), Dawit Tedros Filmon, Michelle Judaeva, Anna Czepull, Oliver Trost, James Birrell, Vincent Fourmond, Christophe Léger, Nicolas Plumeré

*Bidirectional Catalysis for Protecting [FeFe] Hydrogenase from O₂ in Redox Hydrogels under Conditions of Intermittent Hydrogen Evolution*

15:00 to 15:15

**Marco Altomare** (PhotoCatalytic Synthesis PCS group, University of Twente, Enschede, Netherlands), Shreyas Harsha, Rakesh K. Sharma, Martin Dierner, Andrea Casanova, Christoph Baeumer, Igor Makhotkin, Guido Mul, Paolo Ghigna, Johannes Will, Erdmann Spiecker

*Structure-activity relationship of dewetted Pt nanoparticles for electrochemical hydrogen evolution*

15:15 to 15:30

**Karthish Manthiram** (Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, USA)

*Lithium-mediated ammonia synthesis at ambient conditions*

15:30 to 15:45


*Tuning the Solid Electrolyte Interphase in Lithium-Mediated Electrochemical Nitrogen Reduction: A Multi-Pronged Characterization Approach*

15:45 to 16:15

Coffee Break

16:15 to 16:30

**Sara Garcia Ballesteros** (Department of applied sciences and technology, Politecnico di Torino, Torino, Italy), Noemi Pirrone, Anna Magini, Lucia Fagiolari, Simelys Hernandez, Federico Bella

*Electrochemical Nitrogen Reduction Reaction on a MoS₂ Catalyst: Exploring Aqueous Electrolytes*

16:30 to 16:45

**Árni Björn Höskuldsson** (Science Institute, University of Iceland, Reykjavík, Iceland), Yasufumi Sakai, Thang Dang, Egill Skúlason

*High-throughput Screening of Alloyed Ceramics for Electrochemical Ammonia Synthesis*

16:45 to 17:00

**Ricardo Urrego-Ortiz** (Departament de Ciència de Materials i Química Física, Universitat de Barcelona, Barcelona, Spain), Federico Calle-Vallejo

*Effects of the DFT Gaseous Errors on the Nitrogen Cycle Electrocatalysis*

17:00 to 17:15

**Minyoung Shim** (Chemistry, KAIST, Daejeon, Korea), Yohan Kim, Hye Ryung Byon

*Effects of Cation Electrolytes on Electrochemical Nitrate Reduction Processes*

17:15 to 17:30

**Yohan Kim** (Chemistry, KAIST, Daejeon, Korea), Minyoung Shim, Hye Ryung Byon

*Electrochemical Nitrate Reduction to Ammonia on Polycrystalline Copper Electrodes*

17:30 to 17:45

**Gabriel Cerron-Calle** (School of Sustainable Environment and the Built Environment, Arizona State University, Tempe, USA), Ana S. Fajardo, Carlos M. Sánchez-Sánchez, Sergi Garcia-Segura

*Sustainable Ammonia Production: Earth-Abundant Multimetallic Electrodes for Electrochemical Reduction of Nitrate*
17:45 to 18:00  
**Qing Qin** (College of Chemistry and Materials Science, Anhui Normal University, Wuhu, China), Mengmiao Sun, Guanzheng Wu

*Rational design of efficient electrocatalysts for nitrate reduction and its coupling with \( \text{CO}_2 \)-

18:00 to 18:15  
**Vladislav Mints** (Chemistry, Biochemistry and Pharmaceutical Sciences, University of Bern, Bern, Switzerland), Jack Pedersen, Katrine Svane, Gustav Wiberg, Jan Rossmeisl, Matthias Arenz

*Learning in Higher Dimensions: A Strategy for Alloy Catalyst Discovery*

18:15 to 18:30  
**Elena Gubanova** (Department of Physics, Technische Universität München, Garching bei München, Germany), Elena L. Gubanova, Christian M. Schott, Kais Sadraoui, Batyr Garlyyev, Sebastian A. Watzele, Johannes Fichtner, Jan Michalicka, Jan M. Macak, Arnaud Viola, Frédéric M. Maillard, Aliaksandr S. Bandarenka

*Size and Shape Controlled Synthesis of Pt and Pd Nanoparticles by a Top-Down Approach*

18:30 to 18:45  
**Karen Esquivel** (Facultat de Química, Secció de Química Física, Universitat de Barcelona, Barcelona, Spain), José A. Padilla, Pere L. Cabot, Ignasi Sirés

*Organic Fraction of Municipal Solid Waste as Biocarbon Source for Electrochemical Production of \( \text{H}_2\text{O}_2 \) in Water Treatment*

18:45 to 19:00  
**Erika Bustos** (Science, CIDETEQ, Pedro Escobedo, Mexico), Jorge Adrián Castro, José Trinidad López, Jesús Cárdenas, Fernando Felipe Rivera

*Electrochemical Degradation of Amoxicillin using an Electrochemical Reactor at Pilot-Level*

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**Symposium 10**  
Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

**Room:** Bellecour 3

*Chaired by:* Sotirios Mavrikis, Carlos Ponce de Leon, Jelena Radjenovic

14:00 to 14:30 **Keynote**  
**François Lapicque** (Reactions and Chemical Engineering Laboratory, CNRS - Université de Lorraine, Nancy, France), Caroline Bonnet, Stéphane Raël, Melika Hinaje, Marie-Noëlle Pons, Olivier Dufaud, Ye-Qiong Song, Vincent Chevrier, Marie-France Agnoletti

*Low demand solution for (sub)urban personal transport by a direct hybrid (fuel cell–supercapacitors) source*

14:30 to 14:45  
**Majid Shahsanaei** (Chemistry and structure of novel materials, University of Siegen, Siegen, Germany), Nastaran Farah Bakhsh, Sina Hejazi, Shiva Mohajernia, Manuela S. Killian

*Effect of Light-Induced and Photo Deposit Pt Single Atom Assemblies on Photocatalytic \( \text{H}_2 \)-Generation in \( \text{TiO}_2 \)-Nanosheet*
14:45 to 15:00

**Carlos Pereira** *(Chemistry and Biochemistry, Porto University - FCUP, Porto, Portugal)*, Ana Brandão, Sabrina State, Renata Costa, Pavel Potorac, José Vázquez, Jesus Valcarcel, Fernando Silva, Liana Anicai, Marius Enachescu


15:00 to 15:15 Invited

**Luis Fernando Arenas** *(Institute of Chemical & Electrochemical Process Engineering, Clausthal University of Technology, Goslar, Germany)*, Lavrans Söffker, Thomas Turek

*Applying industrial redox mediators to semi-organic flow batteries: A trade-off of membranes.*

15:15 to 15:30

**Sai Venkata Akhil Kumar Challuri** *(Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Pfinztal, Germany)*, Jens Noack


15:30 to 15:45

**Thorsten Struckmann** *(Mechanical Engineering, Hamburg University of Applied Sciences, Hamburg, Germany)*, Fabian Brandes, Armin Laube

*Development of Tubular Cells for PEM Water Electrolysers and Redox Flow Batteries.*

16:15 to 16:30

**Lars Henry Fischer** *(Institute for Chemical and Electrochem. Process Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany), Luis Fernando Arenas, Torben Lemmermann, Ulrich Kunz, Thomas Turek*

*Characterization of an Organic Aqueous Alkaline All-Iron Flow Battery at Various Operating Parameters under a Scalable Test Bench System.*

16:30 to 17:00

**Claudia Weidlich** *(Applied Electrochemistry, DEHEMA-Forschungsinstitut, Frankfurt, Germany)*, Matthias Wieland, Felix Lulay, Meiser Valencia


17:00 to 17:15

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

*High-Voltage Aqueous Dual-Ion Batteries Based on Water-In-Salt Electrolytes.*

17:00 to 17:15

**Breno Luiz de Souza** *(Fundamental Chemistry, Chemistry Institute - University of São Paulo, São Paulo, Brazil)*, Breno Luiz de Souza, Sebastian Risse, Rafael Müller, Eneli Häärik, Nikolay Kardjilov, André Hilger, Paulo Filho Marques de Oliveira, Roberto Manuel Torresi

*Investigating Porous Electrode Systems in Lithium/Sulfur Batteries by In-situ and Operando Techniques.*
17:15 to 17:30
Alessandro Piovano (Department of Applied Science and Technology, Polytechnic of Torino, Torino, Italy), Alessandro Piovano, Silvia Porporato, Elisa Maruccia, Mattia Bartoli, Giuseppina Meligrana, Giuseppe A. Elia, Claudio Gerbaldi
Sustainable and high-performing materials for next-generation secondary batteries: improving the whole value chain.

17:30 to 17:45 Invited
Theresa Schoetz (Chemical Engineering, The City College of New York, New York, USA), Brendan Hawkins, Jonah Wang, Surabh KT, Leo Gordon, Jeffrey Xu, Robert Messinger
Engineering Sustainable Aluminum and Zinc Metal Batteries for Low-Temperature Energy Storage.

17:45 to 18:00
Noah Al-Shamery (School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore), Noah Al-Shamery, Xuefei Gong, Carsten Dosche, Matthew Wei Ming Tan, Jun Wei Phua, Pool See Lee

18:00 to 18:15
Hans Flandorfer (Inorganic Chemistry - functional Materials, University of Vienna, Wien, Austria), Mahmoud Reda, Albina Glibo, Damian M. Cupid
Si/SnS₂ composite electrodes for Li-ion battery anodes.

18:15 to 18:30
Ekaterina Kurchavova (Faculté des Sciences et Ingénierie, Sorbonne Université, Paris, France), Julie Chan, Junxian Zhang, Fermin Cuevas, Mickaël Mateos, Judith Monnier, Vincent Vivier, Mireille Turmine
A new concept of a proton battery based on protic ionic liquids.

18:30 to 18:45
Milda Petruleviciene (Chemical engineering and technology, Center for physical science and technology, Vilnius, Lithuania), Irena Savickaja, Jurga Juodkazyte, Arunas Ramanavicius
Investigation of n-type WO₃, BiVO₄ and heterostructured Photoanodes for Artificial Photosynthesis.

18:45 to 19:00
Michael Bosch (Chemistry and Pharmacy, FAU Erlangen-Nürnberg, Erlangen, Germany), Julien Bachmann
Valence Isomers for Energy Conversion and Storage.
Symposium 12 Molecular Electrochemistry - Mechanisms and Models

Room: Bellecour 1

Chaired by: Jiri Ludvik

14:00 to 14:30 Keynote
Marc Robert (Laboratoire Electrochimie Moléculaire, Université Paris Cité, Paris, France)
Molecular (photo)Electrochemical Reduction of CO₂ to C₁ Products with 2 to 8 Electrons. From Mechanistic Studies to Hybrid Systems and Devices

14:30 to 14:45 Invited
Jose H. Zagal (Chemistry of Materials, University of Santiago de Chile, Santiago, Chile), Ingrid Ponce, Ricardo Venegas, Laura Scarpetta-Pizo, Nayareth Vilches-Labbé, Luis Acuña, Lisa Muñoz
Reactivity Descriptors and Reactivity Trends for Electrochemical Reactions Promoted by MN₄ Molecular Catalysts and Similarities with Those of Metallic Electrodes

14:45 to 15:00
Irena Hoskovcová (Department of Inorganic Chemistry, University of Chemistry and Technology Prague, Prague, Czech Republic)
How is the redox behaviour of Fischer carbene complexes related to their composition and structure?

15:00 to 15:15
Reza Khakpour (Chemistry and Material Science, Aalto University, Espoo, Finland), Kaveh Farshadfar, Kari Laasonen, Michael Busch
What is the mechanism for CO₂ Reduction to C₂ and C₃ Products over Fe Phthalocyanine complexes? - Insights from First Principles Modeling

15:15 to 15:30
Miftahussurur Hamidi Putra (Institute of Theoretical Chemistry, Ulm University, Ulm, Germany), Michael Busch, Axel Groß
First Principle Investigation of Photoelectrochemical Hydrogen Evolution Reaction on Two Metal Center Photochemical Molecular Devices

15:30 to 15:45
Charles H. Devillers (Université de Bourgogne, Institut de Chimie Moléculaire de l’Université de Bourgogne, Dijon, France), Asmae Bousfiha, Fatima Akhssas, Abdou K. D. Dimé, Julie Echaubard, Mathieu Berthelot, Amelle.M. Mankou-Makaya, Julien Roger
Two-Step One-Pot Amination of Porphyrins via Ring-Opening of Electrogenerated Pyridinium Precursors

15:45 to 16:15
Coffee Break

16:15 to 16:30
Joaquin Gonzalez (Química Física, Universidad de Murcia, Murcia, Spain), Jose-Víctor Hernández-Tovar, Manuela López-Tenés, Francisco Martínez-Ortiz
Analysis of the Performance and Efficiency of Surface Confined Multi-Redox Molecular Electrocatalysts

16:30 to 16:45
Jean-Marc Noël (Laboratoire ITODYS, Université Paris Cité, Paris, France), Nikolaos Kostopoulos, Viacheslav Shkirskiy, Catherine Combellas, Frédéric Kanoufi, Tony Breton
Aryldiazonium reduction mechanism deciphered by scanning electrochemical microscopy through an EC’ process.
16:45 to 17:00

Lorenzo Ripani (Department of Chemistry Giacomo Ciamician, University of Bologna, Bologna, Italy), Eugenio Giovannetti, Nelsi Zaccheroni, Daniele Fazzi, Fabrizia Negri, Peter Ehlers, Peter Langer, Massimo Marcaccio

**Electrochemiluminescence of Azapyrenes with a non-trivial excimer formation by co-reactant ECL**

17:00 to 17:15

Foffié Thiery Augsute Appia (Laboratoire de Constitution et Réaction de la Matière, Université Félix Houphouët-Boigny, Abidjan, Cote d’Ivoire), Shahid Iqbal, Kisacik Izzet, Ernst Siegfried, Helmut Baltruschat

**Mechanistic Aspects of the Electrochemical Oxidation of Small Organic Molecules at BDD**

17:15 to 17:30

Mahdi Saad (UMR 6521, Laboratoire CEMCA, UMR 6521 CNRS, University of Brest, 29238, BREST, France)

**Electrocatalytic Reduction of CO₂ by Copper Molecular Catalysts**

17:30 to 17:45

Corentin Calvet (Laboratoire d’Electrochimie Moléculaire UMR 7591, Université Paris Cité, Paris, France), Benoît Limoges, François Mavré, Mathieu Branca

**Electrochemically-Driven Autocatalytic Molecular Reaction**

17:45 to 18:00

Steen Uttrup Pedersen (Chemistry, Langelandsgade 140, Aarhus, Denmark), Kim Daasbjerg, Wanwan Hong

**Product Selectivity in Electrochemical CO₂ Reduction Employing Manganese Bipyridine Complexes**

18:00 to 18:15

Laurent Bouffier (ISM, Univ. Bordeaux, CNRS, Bordeaux INP, Talence, France), Slivia Voci, Haidong Li, Catherine Adam, Alice Dauphin, Francesco Zinna, Clément Cabanatos, Jérôme Lacour, Lorenzo di Bari, Neso Sojic

**Molecular Aspects of Electrogenerated Chemiluminescence: From Novel Active Dyes to Chiroptical Probes**

18:15 to 18:30

Yann Leroux (CNRS - Université de Rennes, Institut des Sciences Chimiques de Rennes, Rennes, France), Max Taras, Corinne Lagrost

**Origin of the Surface Interaction Leading to Catalyzed Reduction Process During Aryl Diazonium Electroreduction on Carbon surfaces**

18:30 to 18:45

Abdirisak Ahmed Isse (Department of Chemical Sciences, University of Padova, Padova, Italy), Enrico Tognella, Elia Calore, Angelika Macior, Marco Fantin

**Effects of Solvent and Monomer on the Kinetics of Radical Generation in Atom Transfer Radical Polymerization**
Symposium 14 Operando and in situ characterization of electrochemical interfaces

Room: Forum 4

Chaired by: Maria Escudero-Escribano, Mariana Monteiro

14:00 to 14:15 Invited

Mariana Monteiro (Department of Interface Science, Fritz Haber Institute of the Max Planck Society, Berlin, Germany)

Probing electrode-electrolyte interactions under operando conditions.

14:15 to 14:30

Julia Fernández Vidal (Chemistry, Leiden University, Leiden, Netherlands), Marc T.M. Koper

Cation effect on hydrogen-hydroxyl co-adsorption.

14:30 to 14:45

Valentin Briega-Martos (Helmholtz Institute Erlangen-Nürnberg for Renewable Energy, Forschungszentrum Jülich GmbH, Erlangen, Germany), Timo Fuchs, Jakub Drnec, David A. Harrington, Olaf M. Magnussen, Serhiy Cherevko

Towards Understanding of Pt Dissolution Mechanism Using Well-Defined Surfaces.

14:45 to 15:00

Jon Ustarroz (ChemSIN - Chemistry of Surfaces, Interfaces and Nanomaterial, Université libre de Bruxelles, Brussels, Belgium), Miguel Bernal, Leonardo Bertolucci Coelho, Suzanne Delfosse, Daniel Torres, Sorour Semsari Parapari, Saso Sturm

Electrodissolution of Pre-Deposited Single Nanoparticles Studied by Local Electrochemistry and In-Situ Transmission Electron Microscopy.

15:00 to 15:15

Frédéric Maillard (LEPMI, CNRS, Saint Martin d’Hères, France), Clément Atlan, Corentin Chatelier, Isaac Martens, Maxime Dupraz, Arnaud Viola, Steven Leake, Tobias Schülli, Joël Eymery, Marie-Ingrid Richard

Imaging the evolution of strain in platinum nanoparticles under electrochemical control.

15:15 to 15:30

Michael Bron (Institute of Chemistry, Martin Luther University Halle-Wittenberg, Halle, Germany), Matthias Steimecke, Emil Dieterich, Simon-Johannes Kinkelin, Ana María Araújo-Cordero, Lukas Herrmann

Unraveling activity and selectivity of Cu and Au catalysts for CO₂ electroreduction using scanning electrochemical microscopy.

15:30 to 15:45

Jaxiry Shamara Barroso Martínez (NanoElectrocatalysis and Sustainable Chemistry, Institut Català de Nanociència i Nanotecnologia, Bellaterra, Spain), Jaxiry S. Barroso-Martínez, Adolfo Barros, Sanja Pudar, Erika Bustos, Joaquin Rodríguez-López

In Situ Detection of Hydroxyl Radicals at Operating Electrodes Using Scanning Electrochemical Microscopy.

15:45 to 16:15

Coffee Break
16:15 to 16:30 Invited
Magali Lingenfelder (IPHYS, EPFL, Lausanne, Switzerland)
Tracking dynamic processes at the solid/liquid interface by electrochemical scanning probe microscopy.

16:30 to 16:45
Inhee Park (Institute of Energy and Climate Research, IEK-9, Forschungszentrum Jülich GmbH, Juelich, Germany), Kirri Henke, Henning Weinrich, L.G.J. (Bert) de Haart, Hermann Tempel, Rüdiger A. Eichel, Florian Hausen

16:45 to 17:00
Andrea Auer (Institute of Experimental and Applied Physics, University of Regensburg, Regensburg, Germany), Bernhard Eder, Franz J. Giessibl
Direct Visualization of Water Structures Formed at Electrochemical Interfaces Using Frequency-Modulation AFM.

17:00 to 17:15
Veronica Celorrio (Spectroscopy Group, Physical Sciences, Diamond Light Source Ltd., Didcot, United Kingdom), Veronica Celorrio, Andrew S. Leach, Haoliang Huang, Shusaku Hayama, David J. Fermin, Andrea E. Russell
Relationship between Mn Oxidation State Changes and Oxygen Reduction Activity in (La,Ca)MnO$_2$-Probed by In-Situ XAS and XES.

17:15 to 17:30
Raul Garcia-Diez (Interface Design, Helmholtz-Zentrum Berlin, Berlin, Germany), Elmar Kataev, Wilson Quevedo, Marianne van der Merwe, Romualdus Enggar Wibowo, Marcus Bär
High-valent intermediates observed in a Cu-based OER electrocatalyst by operando x-ray absorption spectroscopy.

17:30 to 17:45
Kaoruho Sakata (Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Japan), Kenta Amemiya
Real-time and Operando Observation of Co Oxide Catalyst during the Electrochemical Oxygen Evolution Reaction using Wavelength-Dispersive Soft X-ray Absorption Spectroscopy.

17:45 to 18:00
Daniel Winkler (Physical Chemistry, University of Innsbruck, Innsbruck, Austria), Matthias Leitner, Christoph Griesser, Matthias Huber, Martin Tollinger, Julia Kunze-Liebhäusser
Steering the ethanol selectivity of the CO electroreduction on Cu electrodes.

18:00 to 18:15
Lichen Bai (Department of Interface Science, Fritz-Haber-Institute of the Max-Planck-Society, Berlin, Germany), Federico Franco, Janis Timoshenko, Fabian Scholten, Hyo Sang Jeon, Aram Yoon, Martina Rüscher, Antonia Herzog, Felix T. Haase, Stefanie Kühl, See Wee Chee, Arno Bergmann, Beatriz Roldan Cuена
Electrocatalytic Nitrate and Nitrite Reduction towards Ammonia Using Cu$_2$O Nanocubes: Active Species and Reaction Mechanisms.

18:15 to 18:30
Marius Muhle (Institute of Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany), Bastian Krueger, Luis Balboa, Monika Wilamowska-Zawlocka, Gunther Wittstock
In-situ and Operando Studies of Battery Interfaces and Interphases by Scanning Electrochemical Microscopy.
18:30 to 18:45

**Maren-Kathrin Heubach** *(Institute of Electrochemistry, Ulm University, Ulm, Germany), Fabian M. Schuett, Ludwig A. Kibler, Areeg Abdelrahman, Toni Moser, Julia Kunze-Liebhäuser, Timo Jacob*

*Alkali Metal Deposition on Au(111) from an Ionic Liquid: Comparing Initial Stages and Bulk Deposition of Lithium and Sodium*

18:45 to 19:00

**Francesc Valls Mascaró** *(Chemistry, Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Marc Koper, Marcel Rost*

*Step Bunching and Meandering Instabilities on Stepped Platinum Surfaces*

### Symposium 16 General Session

**Room: Trémie 4**

*Chaired by: Francesco Paolucci, Herman Terryn*

14:00 to 14:30 **Keynote**

**Marília Goulart** *(Institute of Chemistry and Biotechnology, Universidade Federal de Alagoas, Maceio, Brazil), Thaissa Silva, Fabricia Ferreira, Fabiane Galdino, Jardiane Xavier, Antonio Santana, Danyelle Santos, Eufranio da Silva Jr., Renata Almeida, Christian Amatore*

*Quinones: Electrochemically-paved Pathways toward their Future in Health Science*

14:30 to 14:45

**Banyong Suwankaisorn** *(Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology, Rayong, Thailand), Gerado Salinas, Chularat Wattanakit, Alexander Kuhn*

*Lorentz Force-Assisted Heterogeneous Enantioselective Synthesis with Chiral Encoded Mesoporous Electrodes*

14:45 to 15:45  
**Electrochimica Acta workshop**

**Robert Hillman** *(Editor in Chief Electrochimica Acta, University of Leicester, UK)*

15:45 to 16:15  
**Coffee Break**

16:15 to 16:45 **Keynote**

**Sibel A. Ozkan** *(Analytical Chemistry., Ankara University, Faculty of Pharmacy, Yenimahalle, Turkey)*

*An Overview of Electrochemical Carbon-Based Sensors for Sensitive Monitoring of Drug-Active Compounds*

16:45 to 17:00  
**Frankie James Rawson** *(Bioelelectronics Laboratory, School of Pharmacy, University of Nottingham, Nottingham, United Kingdom)*

*Electrochemical Therapeutics for the Treatment of Cancer*

17:00 to 17:15  
**Yaovi Holade** *(IEM Montpellier, IEM Montpellier, Montpellier, France), Hazar Guesmi, Jean-Sebastien Filhol, Emmanuel Maisonhaute, Karine Servat, Sophie Tingly, David Cornu, K. Boniface Kokoh, Teko W. Napporn, Shelley D. Minteer*

*Decoding the Electrocatalytic Reactivity of Glucose Anomers*
17:15 to 17:30

**Carine Michel** *(Laboratoire de Chimie, CNRS-ENS de Lyon, Lyon, France)*, Fabio Loprete, Patricia Benito, Ivan Rivalta, Stephan Steinmann

Mechanistic Study of selective Electrochemical Reduction of Hydroxymethyl Furfural using Grand-Canonical DFT.

17:30 to 17:45

**Juliana Díaz Reyes** *(The Bernal Institute and Department of Chemical Sciences, University of Limerick, Limerick, Ireland)*, Nicolás Rojas Sanabria, Michele Scanlon, Marco F. Suárez Herrera

Modelling the Capacitance of Polarized Aqueous 1,1,1-Trifluorotoluene (TFT) Interfaces.

17:45 to 18:00

**Miaoxia Liu** *(Institute of Molecular Sciences, University of Bordeaux, Pessac, France)*, Gerardo Salinas, Jing Yu, Antoine Cornet, Alexander Kuhn, Neso Sojic

Wireless Multimodal Light-Emitting Devices.

18:00 to 18:15

**Yuliana Pérez Sánchez** *(Analytical Chemistry, Physical Chemistry and Inorganic, Sao Paulo State University, Araraquara, Brazil)*, Paulo Roberto Bueno, Adriano dos Santos

The Quantumness of Diffusionless Charge Transfer and the Meaning of the Charge Transfer Resistance.

18:15 to 18:30

**Eduardo Laborda** *(Departamento de Química Física, Universidad de Murcia, Murcia, Spain)*, Javier Lopez-Asanza, Angela Molina

Theoretical Treatment of Closed Bipolar Cells under Homogeneous Molecular Catalysis at One of the Poles.

18:30 to 18:45

**Christine Heume** *(Fundamental Electrochemistry, Institute of Energy and Climate Research, Jülich, Germany)*, Krzysztof Dzieciol, Rüdiger-A. Eichel

Three-dimensional XCT characterization of large membrane electrode assemblies – from acquisition to statistical analysis of delineated morphology.
Tuesday 5 September 2023 - AM

Plenary

**Room: Amphithéâtre**

*Chaired by: Thierry Brousse*

08:15 to 09:15

Elzbieta Frackowiak *(Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland)*

**Progress and Challenges for Electrochemical Capacitors**

Symposium 1  Electroanalytical chemistry: from fundamental research to day-to-day analysis

**Room: Gratte-Ciel 3**

*Chaired by: Luigi Falciola, Sophie Griveau*

09:30 to 10:00

**Early Career Analytical Electrochemistry Prize of ISE Division 1**

Stefano Cinti *(Department of Pharmacy, University of Naples Federico II, Naples, Italy)*

**Sustainable Electroanalytical Tools towards Personalized Detection of Circulating Nucleic Acids**

10:00 to 10:15

Daniel Mandler *(Institute of Chemistry, Hebrew University, Jerusalem, Israel)*, Din Zelikovich, Pavel Savchenko, Hila Sagi, Linoy Dery

**Engineered Nanoparticles: Friend or Foe? Detection Tools for Nanomaterials**

10:15 to 10:30

Rosaceleste Zumpano *(Department of Chemistry and Drug Technologies, Sapienza University of Rome, Rome, Italy)*, Federica Simonetti, Franco Mazzei, Gabriele Favero, Giulia Simonetti, Lorenzo Massimi

**Direct Electrochemical Detection of the Oxidative Potential in Particulate Matter through Star-Shaped Gold Nanoparticles/Cytochrome c Interfaces**

10:30 to 11:00

**Coffee Break**

11:00 to 11:15

Elisabeth Lojou *(BIP, CNRS - AMU, Marseille, France)*, Vita Saska, Umberto Contaldo, Ievgen Mazurenko, Anne de Poulpiquet

**High electrolyte concentration effect on enzymatic oxygen reduction**

11:15 to 11:30

Renata Costa *(Departamento de Química e Bioquímica, Faculdade de Ciências da Universidade do Porto, Porto, Portugal)*, Renata Costa, Joana Costa, Isabel Mafra, Patrícia Moreira, Catarina Dias, Daniela Fernandes, Ana T.S.C. Brandão, A. Fernando Silva, Carlos M. Pereira

**Biosensors targeting the thermostable and digestive-resistant allergenic Cor a 14 allergen from hazelnut**
11:30 to 11:45
Ana C. Tavares (Centre Énergie Matériaux Télécommunications, Institut National de la Recherche Scientifique, Varennes, Canada), Yuting Lei, Benjamin Diby Ossonon, Pierre-Luc Trahan, Jiyun Chen, Jonathan Perreault
Graphene-type materials for simple fabrication of electrochemical aptasensors.

11:45 to 12:00
Priscilla Baker (Chemistry, University of the Western Cape, Bellville, South Africa), Clementine Louw
Integrated analytical systems for the early detection of cardiac troponin I, a heart disease biomarker.

12:00 to 12:15
Stephane Bastide (ICMPE, CNRS, Thiais, France), Lamia Rebiai, Raihana Benyahia, Encarnacion Torralba, Kadiatou Bah, Christine Cachet-Vivier
Principle of a Urea Sensor Based on Ni(OH)₂/NiOOH Electrochromic Properties.

12:15 to 12:30
Sonal Bajpai (Chemistry, Lancaster University, Lancaster, United Kingdom), Kathryn Toghill
Non-Enzymatic Sensing of Creatinine for Early Detection of Chronic Kidney Disease.

Symposium 2  Bioelectrochemistry - From molecular to cellular scales
Room: Tête d’Or 2
Chaired by: Justin Gooding, Arthur Langlard

09:30 to 10:00 Keynote
Ismael Diez Perez (Chemistry, Kings College London, London, United Kingdom), Kavita Garg, Abert C. Aragones, Guilherme Vilhena, Julea Butt, Jochen Blumberger
Electrochemically-Controlled Single-Protein Electronics.

10:00 to 10:15
Andrés Felipe Quintero Jaime (Chemical Sciences, University of Limerick, Limerick, Ireland), Kamil Cywinski, Micheál D. Scanlon
Electrochemical Regeneration of Enzymatic Cofactors by Interfacial Electron Transfer at a Polarisated Liquid/Liquid Interface.

10:15 to 10:30
Hiroki Sakae (Faculty of Chemistry, Institute of Science and Engineering, Kanazawa University, Kakuma, Kanazawa, Ishikawa, Japan), Yamato Takeuchi, Chitose Maruyama, Yoshimitsu Hamano, Yoshio Nishiyama, Hirohsa Nagatani
Interfacial Behavior of Fluorescence-Labeled Cell-Penetrating Peptides at Liquid/Liquid Interfaces.

10:30 to 11:00
Coffee Break.

11:00 to 11:15 Invited
Lars Jeuken (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Yoshio Nakatani, Tijn van der Velden, Rosa Catania
The activity of antibiotics and inhibitors on respiratory membrane enzymes on membrane-modified electrodes.
11:15 to 11:30

**Aruã Da Silva** (Department of Automatic Control and Systems Engineering, University of Sheffield, Sheffield, United Kingdom), Ivan Minev

Spatially-Controlled Electro-Assisted Assembly of Conductive and Soft Hydrogels for Bioelectronics.

11:30 to 11:45

**Katarzyna Krukiewicz** (Department of Physical Chemistry and Technology of Polymers, Silesian University of Technology, Gliwice, Poland), Taral Patel, Malgorzata Skorupa

Electrochemically Grafted Monolayers as Pro-adhesive Coatings for Bioelectronic Devices.

11:45 to 12:00

**Shekemi Denuga** (Chemistry, University College Dublin, Belfield, Ireland)

A Nanopore Sensor for the Detection of SARS-CoV-2 based on Ion Current Rectification.

12:00 to 12:15


Electrochemical Capillary-Flow Immunoassay for Detecting SARS-CoV-2 in patient samples at the point-of-care.

12:15 to 12:30 Invited

**Keisei Sowa** (Division of Applied Life Sciences, Graduate School of Agri., Kyoto University, Kyoto, Japan)

Bioelectrochemistry of Direct Electron Transfer-type Membrane-bound Dehydrogenases with Cryo-electron Microscopy.

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**Symposium 4a From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects**

Room: Gratte-Ciel 2

Chaired by: Simon Fleischmann, Julia Maibach

09:30 to 09:45 Invited

**Robert Weatherup** (Materials, University of Oxford, Oxford, United Kingdom)

Revealing Interfacial Reactions in Li-ion Batteries with X-ray Spectroscopies.

10:15 to 10:30

**Mouna Ben Yahia** (Chimie Physique Théorique & Modélisation, Institut Charles Gerhardt-UMR 5253, Montpellier, France), Marie-Liesse Doublet, Aurélie Falcone

Raman spectroscopy to rationalize the electrochemical mechanisms of the positive electrodes in Li-ion batteries.

09:45 to 10:00

**Willy Porcher** (CEA-Liten, Univ Grenoble Alpes, Grenoble, France), Delphine Vidal, Theo Boivin, Jacob Locke, Michał Tulodziecki, Benoit Mathieu, Olivier Gillia

Operando swelling measurement of Si-C/G based anode in pouch cell.
10:30 to 10:45

**Hao Yan** *(Department of Chemistry, Xiamen University, Xiamen, China), Hao Yan, Wei-Wei Wang, Yu Gu, Kai-Xuan Li, Jia-Wei Yan, Bing-Wei Mao*

*Revealing the Rate-Related Efficient Reaction Sites for Li2O2 Decomposition in Lithium-Oxygen Batteries by In-Situ AFM*

10:45 to 11:00

**Coffee Break**

11:00 to 11:15

**Yaolin Xu** *(Department for Electrochemical Energy Storage, Helmholtz-Zentrum Berlin für Materialien und Energie (HZB), Berlin, Germany), Zdravko Kochovski, Yan Lu*

*Deciphering Li deposition and solid-electrolyte-interphase (SEI) with cryogenic transmission electron microscopy and tomography*

11:15 to 11:30

**Karsten Voigt** *(Professur für Anorganisch-Nichtmetallische Werkstoff, Technische Universität Dresden, Dresden, Germany)*

*Electrochemical Characterization of Li-ion Battery Electrodes Fabricated by Solvent Reduced Direct Extrusion*

11:30 to 11:45

**Benjamin Mercier-Guyon** *(MIEL, UGA LePMI, Grenoble, France), Corentin Renais, Maxime Servajon, Morian Sonnet, David Wasylowski, Sandrine Lyonnard, Claire Villevieille*

*Multi-technique analysis, correlation between ultrasound and x-ray diffraction on commercial cells*

11:45 to 12:00

**Nathan Reydet** *(LEPMI, Institut nationale polytechnique INP, Grenoble, France), Sofia Sofia Perticarari, Marc Deschamps, Eric Maire, Renaud Bouchet*

*Impact of lithium metal impurities on the end-of-life of batteries: coupled electrochemical and X-ray tomography studies*

12:00 to 12:15

**Carla Santana Santos** *(Analytical Chemistr, Faculty of Chemistry and Biochemistry, Ruhr-Universität Bochum, Bochum, Germany), Martina Romio, Yuri Surace, Edgar Ventosa, Wolfgang Schuhamm*

*Disclosing the Electronic Properties of the Native Solid Electrolyte Interface in Mg-Ion Batteries by Means of Scanning Electrochemical Microscopy*

12:15 to 12:30

**Mewin Vincent** *(Biological and Chemical Research Centre, University of Warsaw, Warsaw, Poland), Sandra Sajeev, Damian Kowalski*

*In-situ Raman study of charge storage in anodic TiO2 nanotubes*
Symposium 4a From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel

Chaired by: Hye Ryung Byon, Laure Monconduit

09:30 to 09:45
Yu-Ting Weng (Advanced Research Center for Green Materials Science and Tec, National Taiwan University, Taipei, Taiwan), Nae-Lih Wu

Fast-charging Lithium-Ions Batteries via Easy Interfacial Modifications

09:45 to 10:00
Ngoc Tran Phung (Laboratoire PMC, CNRS, Ecole polytechnique, Institut polytechnique de Paris, Palaiseau, France), Ngoc Tran Phung, Yue Feng, Theodore Poupardin, Catherine Henry-de-Villeneuve, Francois Ozanam

Impact of boron doping of methylated amorphous silicon on its performance as an anode in Li-ion batteries

10:00 to 10:15
Xiangdong Xu (Chemistry, University of Warwick, COVENTRY, United Kingdom), Daniel Martin-Yerga, Nicholas Grant, Geoff West, Sophie Pain, Minkyung Kang, Marc Walker, John Murphy, Patrick Unwin

Interfacial Chemistry Effects in the Electrochemical Performance of Silicon Electrodes under Lithium-ion Battery Conditions

10:30 to 11:00
Coffee Break

11:00 to 11:15 Invited
Rebeca Marcilla (Electrochemical Processes Unit, IMDEA Energy, Móstoles, Spain), Eduardo Pedraza, Andreas Mavrantonakis, Carlos de la Cruz, S.T. Senthilkumar, Santiago E. Ibáñez, Paula Navalpotro

Towards Totally Aqueous Membrane-free Flow Batteries: Fundamentals and Challenges

11:15 to 11:30
Karim Boutamine (ICGM, Université de Montpellier, CNRS, ENSCM, Montpellier, France), Patricia Bassil, Frédéric Favier, Olivier Ouart, Steven Le Vot

Improving the performance of organic catholytes for aqueous redox flow batteries

11:30 to 11:45
Rohit Rungta (Department of Engineering Science, University of Oxford, Oxford, United Kingdom), Charles Monroe

Crossover Estimation During Membrane Fouling in the Non-aqueous Vanadium Acetylacetonate Redox Flow Battery

11:45 to 12:00
Vikram Singh (Natural Science Research Institute, Korea Advanced Institute of Science and Technology, Daejeon, Korea), Seongyeon Kwon, Yunseop Choi, Seognmo Ahn, Gyumin Kang, Yelim Yi, Mi Hee Lim, Jongcheol Seo, Mu-Hyun Baik, Hye Ryung Byon

Design of Naphthalene Diimide for Highly Soluble and Stable Negolyte in Neutral Aqueous Organic Redox Flow Batteries
12:00 to 12:15  
**Edgar Ventosa** (Chemistry, University of Burgos, Burgos, Spain), Teresa Paez, Gimena Marin-Tajadura, Rubén Rubio-Presa, Roberto Sanz, Jesus Palma  
The Redox-Mediated Nickel–Metal Hydride Flow Battery Enables Decoupling of Energy and Power for a Traditional Battery Chemistry.

12:15 to 12:30  
**Monalisa Chakraborty** (Chemical Engineering, KTH Royal Institute of Technology, Stockholm, Sweden), Mariona Battestini Vives, Omar Abdelaziz, Christian Hulteberg, Rakel Wreland Lindström, Amirreza Khataee  
Lignin-based organic electrolyte for redox flow batteries.
11:30 to 11:45

**Jakub Menzel** *(Institute of Chemistry and Technical Electrochemistry, Poznań University of Technology, Poznań, Poland)*, Sylwia Sroka, Bénédicte Réty, Camélia Ghimbeu, Krzysztof Fic

*Factors affecting the energy fading in lithium-ion hybrid capacitors; the ageing mechanisms of the carbon electrode.*

11:45 to 12:00

**Aleksandra Mroziewicz** *(Department of Chemistry, University of Warsaw, Warsaw, Poland)*, Magdalena Skunik-Nuckowska, Paweł Świerzbiński, Paweł Kulesza

*Self-Discharge in Iodide Electrolyte-Based Hybrid Supercapacitors and Its Suppression Using Gel Polymer Electrolytes.*

12:00 to 12:15

**Miguel Granados-Moreno** *(Prototyping: Metal-ion Capacitors, CIC energiGUNE, Vitoria-Gasteiz, Spain)*, Miguel Granados-Moreno, Rosalía Cid, Maria Arnaiz, Eider Goikolea, Jon Ajuria

*Lithium-ion capacitors pre-lithiated with dilithium squarate sacrificial salt: SEI analysis by means of XPS.*

12:15 to 12:30

**Naohisa Okita** *(Applied Chemistry, Tokyo University of Agriculture and Technology, Koganei, Japan)*, Naohisa Okita, Yuta Harada, Masaya Nakagawa, Etsuro Iwama, Wako Naoi, Katsuhiko Naoi

*Prolonged Cycle Life for Ultrafast Li$_4$Ti$_5$O$_{12}$/Ti-doped Li$_3$V$_2$(PO$_4$)$_3$ SuperRedox Capacitor*

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### Symposium 6a Fuel cells, electrolysis and electrofuel synthesis

**Room: Amphithéâtre**

*Chaired by: Santoro Carlo, Maria Assunta Navarra*

09:30 to 10:00 **Keynote**

**Radenka Maric** *(Office of the President, University of Connecticut, Storrs, USA)*

*Innovative Membrane Electrode Assemblies for Next-Generation Proton Exchange Membrane Water Electrolyzers.*

10:00 to 10:15

**Anastasiia Voronova** *(Hydrogen and Fuel Cell Research Center, Korea Institute of Science and Technology, Seoul, Korea)*, Sol Kim, Hee-Young Park, Jong Hyun Jang, Bora Seo

*Comprehensive Study for Degradation Patterns in Solar Energy-Powered Proton Exchange Membrane Water Electrolysis.*

10:15 to 10:30

**Florian Kessler** *(Electrochemistry, Siemens Energy, Erlangen, Germany)*, Andrei Ghicov, Nina Weineck, Ladislaus Dobrenzki, Marc Hanebuth

*Evaluation of uncoated titanium and stainless-steel as bipolar plate material for proton exchange membrane water electrolysis (PEMWE).*

10:30 to 11:00 **Coffee Break**

11:00 to 11:15 **Invited**

**Isabella Nicotera** *(Chemistry and Chemical Technologies, Università della Calabria, Rende (CS), Italy)*, Isabella Nicotera, Cataldo Simari, Mohamed Habib Ur Rehman, Angela Capri, Irene Gatto, Vincenzo Baglio

*Development of Efficient Hybrid Anion Exchange Membranes for Water Electrolyzers.*
11:15 to 11:30
**Felix Lohmann-Richters** *(IEK-14, Forschungszentrum Jülich, Jülich, Germany), Lukas Ritz, Cinar Karacan, Sharon Pape, Martin Müller*

*Benchmarking and crossover in Alkaline Water Electrolysis*

11:30 to 11:45
**Wouter L. van der Does** *(Process & Energy, Technische Universiteit Delft, Delft, Netherlands), Nicolás Valle, Johannes W. Haverkort*

*Multiphase Zero-gap Electrode Simulations for Alkaline Water Electrolysis*

11:45 to 12:00 Invited
**Elena Baranova** *(Chemical and Biological Engineering, University of Ottawa, Ottawa, Canada), Ashwini Reddy Nallayagari, Frédéric Murphy, Emily Cossar, Maria Luisa Di Vona*

*Ionomer Selection for Anion Exchange Membrane Water Electrolysis*

12:00 to 12:15
**Pradipkumar Leua** *(Department of Energy Conversion and Storage, Technical University of Denmark (DTU), Lyngby, Denmark), Mikkel Ryker Kraglund, Christodoulos Chatzichristodoulou*

*Analysis of Overpotentials and Ionic Transport Losses Across the Anode, Cathode, and Separator in Zero-Gap Alkaline Electrolysis Cells Using Multiple Reference Electrodes*

12:15 to 12:30
**Mengmeng Lao** *(Solar Fuels, Dutch Institute for Fundamental Energy Research, Eindhoven, Netherlands), Mengmeng Lao, Ameya Ranade, Mihalis N. Tsampas*

*Exsolution Concept of Perovskite Oxides Brings New Opportunities to Anion Exchange Membrane Water Electrolyzers*

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**Symposium 6b Fuel cells, electrolysis and electrofuel synthesis**

**Room: Salon Tête d’Or**

*Chaired by: Marta Costa Figueiredo, Sang Hoon Joo, Mathieu Prévot*

09:30 to 09:45 Invited
**Marta Costa Figueiredo** *(Chemical Engineering and Chemistry, Eindhoven University of technology, Eindhoven, Netherlands)*

*Electrocatalytic synthesis of urea*

09:45 to 10:00
**Boaz Izelaar** *(Process & Energy, Faculty of 3mE, Delft University of Technology, Delft, Netherlands), Shilong Fu, Nandalal Girichandran, Fokko M. Mulder, Ruud Kortlever*

*High Pressure Electrochemical N2 Reduction using Lithium as a Mediator: the Effect of Solvents*

10:00 to 10:15
**Santosh K. Singh** *(Chemistry, Shiv Nadar Institution of Eminence (SN-IoE), Greater Noida, India)*

*Designing of Intrinsic Activity Modulated Electrocatalyst for Nitrate to Ammonia Synthesis*

10:15 to 10:30
**Mathieu Prévot** *(National Institute of Chemistry, CNRS-IRCELYON, Villeurbanne, France), Maxime Nouaille-Degorce, Loïc Pendu, Luis Cardenas*

*Electrocatalytic valorization of biomass-derived furfural on structured Cu electrodes*
10:30 to 11:00
Coffee Break

11:00 to 11:15 Invited

Sang Hoon Joo (Department of Chemistry, Seoul National University, Seoul, Korea)
Designing Atomically Dispersed Metal Catalysts for Promoting Selective Electrocatalysis of Commodity Chemical Production

11:15 to 11:30

Hansaem Choi (School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea)
X and Nitrogen Bridged Mn Single Atom Catalyst for Electrochemical $\text{N}_2$ Reduction Reaction

11:30 to 11:45

Seokmin Shin (Energy and Chemical Engineering, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea), Seokmin Shin, Youngkook Kwon
Copper with an Atomic-scale Spacing for Efficient Electrocatalytic Co-reduction of Carbon Dioxide and Nitrate to Urea

11:45 to 12:00

Sangaraju Shanmugam (Energy Science & Technology, DGIST, Dalseong-gun, Daegu, Korea)
Electrochemical Synthesis of Sustainable Carbon-Free Fuels

12:00 to 12:15

Sohan Phadke (Mechanical Engineering, Delft University of Technology, Delft, Netherlands), Willem Haverkort, Wiebren de Jong
Improving the Mass Transfer of Anodic H2O2 in Alkaline Water Electrolysis

12:15 to 12:30

Gabriel Alemany-Molina (Materials Institute of Alicante, University of Alicante, Alicante, Spain), Javier Fernández-Català, Wei Cao, Emilia Morallón, Diego Cazorla-Amorós
Over 90% faradaic efficiency cathodic H2O2 production by a metal tellurate / carbon black electrocatalyst

Symposium 7  Corrosion science and technology: Towards more sustainable materials

Room: Tête d’Or 1

Chaired by: Annick Hubin

09:30 to 10:00 Keynote

Hercilio G. de Melo (Metallurgical and Materials Engineering, University of Sao Paulo, Sao Paulo, Brazil), Patricia H. Suegama, Thassia F Almeida, Oscar M. Prada-Ramirez
Strategies to improve the corrosion resistance of porous aluminum oxide layers

10:00 to 10:15 Invited

Belén Díaz (Materials Science, University of Vigo, Vigo, Spain), Iria Feijoo, Ramón Nóvoa, Carmen Pérez, Sheila Silva-Fernández
Effect of the Ultrasonic Vibration on the Performance of Zn Phosphate Conversion Coatings Developed on High Strength Steels
10:15 to 10:30
Song-Zhu Kure-Chu (Department of Materials Function and Design, Nagoya Institute of technology, Nagoya, Japan), Masato Hino, Jiacheng Liu, Yoko Sakurai, Takashi Matsubara
Fabrication and High-Temperature Characteristics of Super-Hard Ni-W-Mo/TiO$_2$-TiN Composite Films on Titanium by Anodization and Electrodeposition.

10:30 to 11:00
Coffee Break

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Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes

Room: Bellecour 2
Chaired by: Iryna Zenyuk

09:30 to 10:00  Keynote
Laetitia Dubau (LEPMI CNRS, Université Grenoble Alpes, Grenoble, France), Camille Roiron, Raphaël Riasse, Vincent Martin, Kavita Kumar, Raphaël Chattot, Marian Chatenet, Masuma Sultana Ripa, Sylvain Brimaud, Lisa Pierinet, Jakub Drnec, Frédéric Maillard
Preferentially-shaped PtNi/C ORR nanocatalysts – Challenges towards their integration in MEA

10:00 to 10:15
Federico Calle-Vallejo (Polymers and Advanced Materials, University of the Basque Country, San Sebastián - Donostia, Spain)
Alloy-Sensitive Generalized Coordination Numbers to Design Active Catalysts for Oxygen Reduction.

10:15 to 10:30
Optimal ionomer interaction resolved by operando X-ray Absorption Spectroscopy and gas sorption analysis.

10:30 to 10:45
Olga Krysiak (Analytical Chemistry – Centre for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany), Lars Banko, Ieva Cechanaviciute, Valerie Strotkötter, Alfred Ludwig, Wolfgang Schuhmann
From High-throughput Screening of Multi-element Thin-films to Powder Electrocatalysts and Electrodes.

10:45 to 11:00
Coffee Break
Symposium 10  Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

Room: Bellecour 3

Chaired by: Luis Fernando Arenas Martinez, Chi-Chang

09:30 to 10:00 Keynote

Karine Groenen Serrano (Laboratoire de Génie Chimique, Université Toulouse 3 Paul Sabatier, Toulouse, France)

Years of Advancements in Electrochemical Processes: From Advanced Direct Oxidation to Hybridization for Wastewater Treatment

10:00 to 10:15

Xie Quan (School of Environmental Science and Technology, Dalian University of Technology, Dalian, China), Peike Cao

Heterogeneous Electro-Fenton — An Emerging Environmentally-Friendly Technology for Advanced Water Treatment and Purification

10:30 to 11:00 Coffee Break

11:00 to 11:15 Invited

Florence Fourcade (Université de Rennes, Rennes, France), Hélios Yasmine, Océane Turquetil, Catherine Couriol, Fares Zouaoui, Pierre-François Biard

Feasability and interest of electrooxidation coupled to ozonation for organic pollutant removal

11:15 to 11:30

Màxim Gibert-Vilas (Laboratoire Géomatériaux et Environnement, Université Gustave Eiffel, Champs-sur-Marne, France), Màxim Gibert-Vilas, Yoan Pechaud, Nihal Oturan, Théo Isigkeit, Laurent Gautron, Mehmet A. Oturan, Clément Trellu

Hydrodynamics, mass transport and reactivity within a continuous electrochemical baffled reactor for removal of organic compounds

11:30 to 11:45

Davide Clematis (Department of Civil Chemical and Environmental Engineering, University of Genoa, Genoa, Italy), Clément Cid, Antonio Barbucci, Marco Panizza

Machine Learning to Optimize Electrochemical Advanced Oxidation Processes for Low Conductive Solution – Performance and Economical Analysis

11:45 to 12:00

Guillaume Hopsort (Laboratoire de Génie Chimique, Université de Toulouse, CNRS, INPT, UPS, Toulouse, France), Laure Latapie, Karine Groenen Serrano, Karine Loubière, Théodore Tzedakis

New insights into the urea electrochemical oxidation on nickel anode

12:00 to 12:15

Jing Ding (School of Environment, Harbin Institute of Technology, Harbin, China)

Exploring the Synergism of Sunlight and Electrooxidation on Persulfate Activation for Efficient Degradation of Bisphenols

12:15 to 12:30

Mojtaba Mohseni (Chemical Process Engineering, forckenbeck strasse, 51, Aachen, Germany), Daniel Felder, Maximilian Thönes, John Linkhorst, Robert Keller, Matthias Wessling

A Novel Flow-through Module Using Microtubular Gas Diffusion Electrodes for Micropollutants Removal from Water
Symposium 13  Physical Electrochemistry of Battery Materials

Chair by: Dominic Rochefort

09:30 to 10:00  Keynote
Robert Kostecki (Energy Storage and Distributed Resources Division, Lawrence Berkeley National Laboratory, Berkeley, USA)
Nanospectroscopy of Local Processes at Electrode/Electrolyte Interfaces in Rechargeable Batteries

10:00 to 10:15  Invited
Shuji Nakanishi (Research Center for Solar Energy Chemistry, Osaka University, Toyonaka, Japan)
Novel Electrolytes Reducing the Charging Voltage of Li-O2 Batteries

10:15 to 10:30
Bing-Wei Mao (Chemistry Department, Xiamen University, Xiamen, China), Yu Gu, Hao Yan, Wei-Wei Wang, X.-G Zhang, Jia-Wei Yan, Bing-Wei Mao
Understanding Influencing Mechanism of Li-Ion Transport through Solid-Electrolyte-Interphase on Li Metal Deposition

10:30 to 11:00  Coffee Break

11:00 to 11:15  Invited
Hirotomo Nishihara (Advanced Institute for Materials Research, Tohoku University, Sendai, Japan)
Porous and Durable Graphene Mesosponge for Battery Cathodes

11:15 to 11:30
Aigerim Omirkhan (Materials, Imperial College London, London, United Kingdom), Oriol Gavalda-Diaz, Siyang Wang, Finn Giuliani, Mary Ryan
Investigating Battery Cathode Materials’ Degradation Using In Situ Micromechanical Testing

11:30 to 11:45
Pouya Partovi-Azar (Institute for Chemistry, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany), Rana Kiani, Matthias Steimecke, Marah Alqaisi, Michael Bron, Daniel Sebastiani, Pouya Partovi-Azar
Raman spectroscopic fingerprints of sulfur/carbon copolymer cathodes for Li-S batteries

11:45 to 12:00
Xinhua Zhu (Department Materials and Chemistry, Vrije Universiteit Brussel, Ixelles, Belgium), Giulia Serafino, Reynier I. Revilla, Annick Hubin
Visualization and Quantification of Inhomogeneous Charge State within Polycrystalline NMC Cathode Particles by Kelvin Probe Force Microscopy

12:00 to 12:15
Dino Tonti (Institut de Ciencia de Materials de Barcelona (ICMAB), Consejo Superior de Investigaciones Científicas (CSIC), Bellaterra, Spain), Cheng Liu, Wenhai Wang, Ashley P Black, Vlad Martin Diaconescu, Lorenzo Steivano, Laura Simonelli, Dino Tonti
In operando X-ray studies on the cathode mechanism of rechargeable aqueous Zn-MnO2 batteries

12:15 to 12:30
Alicja Głaszczka (Chemistry, University of Warsaw, Warsaw, Poland), Sai Rashmi Manippady, Dominika Buchberger, Andrzej Czerwiński
Comprehensive ex situ study of the phenomena occurring during an operation of nickel-rich NMC
Symposium 14 Operando and in situ characterization of electrochemical interfaces

Room: Forum 4

Chaired by: Bin Ren

09:30 to 10:00 Keynote

**Jian-Feng Li** (Chemistry, Xiamen University, Xiamen, China)

*In situ Raman Spectroscopy Study of Electrochemical Reactions*

10:00 to 10:15

**Katrin F. Domke** (Department of Chemistry, University of Duisburg-Essen, Essen, Germany), Daniel Ohm, Yawei Li, Jinggang Lan

*Molecular insights into catalyst poisoning during formic acid oxidation on 2D Pd nano-islands from EC-TERS and ab initio MD*

10:15 to 10:30

**Christian Durante** (Chemical Sciences, Università degli Studi di Padova, Padova, Italy), Alessandro Facchin, Francesco Cazzadori

*Exploring Oxygen Reduction Reaction at Metal Porphyrins Using Electrochemical Scanning Tunneling Microscopy: A Fresh Look at the Volcano Plot!*

10:30 to 11:00  **Coffee Break**

11:00 to 11:15 Invited

**Yu Katayama** (Department of Energy and Environmental Materials, SANKEN, Osaka University, Ibaraki, Japan)

*Operando Spectroscopy to Probe Electrolyte-Electrode Interface: Role of Electrolyte-Adsorbate Interaction*

11:15 to 11:30

**Wen-Bin Cai** (Department of Chemistry, Fudan University, Shanghai, China), Wen-Bin Cai, Xian-Yin Ma

*Electrolyte-Layer Tunable ATR-SEIRAS for Simultaneous Detection of Adsorbed and Dissolved Species in Electrocatalysis*

11:30 to 11:45

**Ward van der Stam** (Inorganic Chemistry and Catalysis, Utrecht University, Utrecht, Netherlands), Jim de Ruiter, Shuang Yang, Hongyu An, Bert M. Weckhuysen

*Probing the dynamics of CO$_2$ electrolysis with X-rays and Raman spectroscopy*

11:45 to 12:00

**Rik Mom** (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)

*The chemistry of interfacial ions: In situ XPS and XAS*

12:00 to 12:15

**Arno Bergmann** (Department of Interface Science, Fritz-Haber-Institute of the Max-Planck-Society, Berlin, Germany), Antonia Herzog, Travis Jones, Clara Rettenmaier, Hyo Sang Jeon, Felix T. Haase, Jing Tian, Canrong Qiu, Reihaneh Amirbeigiarab, Olaf Magnussen, Beatriz Roldan Cuenda

*Operando Investigations of the Cu Solid-Liquid Interface under Stationary and Pulsed CO$_2$RR Conditions*

12:15 to 12:30

**Yu Ye J. Tong** (Chemistry, Georgetown University, Washington, USA), Kaitlyn M. Frankenfield, Dejun Chen

*Evidence of monodentate formate as the active intermediate for formic acid oxidation reaction on both Pd and Pt electrocatalysts as seen by in situ ATR-SEIRAS*
Symposium 16 General Session

Room: Trémie 4

Chaired by: Marilia Goulart, Marco Musiani

09:30 to 10:00 Keynote
Francesco Paolucci (Department of Chemistry, Alma Mater Studiorum - University of Bologna, Bologna, Italy), Claudio I. Santo, Chiara Mariani, Massimo Marcaccio, Giovanni Valenti

Recent Advances and Perspectives in Electrochemiluminescence

10:00 to 10:15
Yan B. Vogel (Chemical Engineering, TU Delft, Delft, Netherlands), Arjan J. Houtepen

Band-Edge Modification in Quantum Dots by Solvation

10:15 to 10:30
Yang Ming (School of Fashion and Textiles, The HongKong Polytechnic University, Hong Kong, China)

Strongly coupled heterojunctions between NiCo layered double hydroxides (NiCo-LDHs), nanosheets and Cd$_{0.75}$Zn$_{0.25}$S particles for enhanced photocatalytic H$_2$ evolution

10:30 to 11:00
Coffee Break

11:00 to 11:30 Keynote
Claude Lamy (Chemistry, ICGM-UMR CNRS 5253, University of Montpellier, Montpellier, France)

Water Electrolysis and H$_2$ Fuel Cells as Key Technologies for Zero Emission Energy: Historical Surveys and Recent Developments

11:30 to 11:45

What activates Fe-doped Nickel-based oxides for the oxygen evolution reaction?

11:45 to 12:00
Sagar Ganguli (Department of Chemistry, Uppsala University, Uppsala, Sweden), Ziwen Zhao, Onur Parlak, Yocef Hattori, Jacinto Sa, Alina Sekretareva


12:00 to 12:15
Siming Wu (Department of Materials Science, University of Erlangen-Nuremberg, Erlangen, Germany), Patrik Schmuki

Fluorine Stabilized Pt Single Atoms (SAs) on TiO$_2$ for Efficient Photocatalytic Water Splitting

12:15 to 12:30
Jeanne N’Diaye (Chemistry, Beckman Institute for Advanced Science, University of Illinois at Urbana-Champaign, Urbana, USA), Abdur-Rahman Siddiqui, Kristin Martin, Armando Santiago Carboney, Monilson Pinheiro dos Reis, Joaquín Rodríguez-López

Study of In-situ Changes of Adsorbed Species at Electrode Interface for Electrochemical CO$_2$ Capture and Release.
Tuesday 5 September 2023 - PM

Symposium 1  Electroanalytical chemistry: from fundamental research to day-to-day analysis

Room: Gratte-Ciel 3

Chaired by: Karolien De Wael, Lukasz Poltorak

14:00 to 14:15 Invited
Karolien De Wael (Bioscience Engineering Department, University of Antwerp, Antwerp, Belgium)

Singlet Oxygen-Based Photoelectrochemical Nucleic Acid Sensing

14:15 to 14:30 Invited
Valentina Pifferi (Chimica, Università degli Studi di Milano, Milan, Italy), Daniele Fumagalli, Silvia Comis, Luigi Falciola

Photoelectrochemical Analysis: the Role of Titania Based Heterojunctions

14:30 to 14:45
Alvaro Colina (Chemistry, Universidad de Burgos, Burgos, Spain), Sheila Hernandez, Martin Perez-Estebanez, William Cheuquepan, Juan V. Perales-Rondon, Aranzazu Heras

Unveiling the Origin of the Raman Enhancement During the Oxidation of Metal Electrodes.

14:45 to 15:00
Zhengke Tu (Department of Advanced Science and Engineering, Waseda University, Tokyo, Japan), Masahiro Kunimoto, Masahiro Yanagisawa, Takayuki Homma

Fabrication of SERS Plasmonic Sensor for Electrochemical Analysis Using Electroless Deposition Process

15:00 to 15:15
Sara Knezevic (ISM Bordeaux, University of Bordeaux, Bordeaux, France), Sara Knezevic, Emily Kerr, Bertrand Goudeau, Giovanni Valenti, Francesco Paolucci, Paul S. Francis, Frédéric Kanoufi, Neso Sojic

Bimodal enhanced electrochemiluminescence microscopy of single entities

15:15 to 15:30
Bastien Doumèche (ICBMS UMR 5246 CNRS, Université Lyon 1, Villeurbanne, France), Jean-François Chateaux, Numa-Rainier Georges, Florian Bianco, Nathan Montmailler, Franck Charamantray, Béatrice Leca-Bouvier, Guillaume Octobre

Electrochemical Device for 96-Well Electrochemistry: Amperometry and Electrochemiluminescence

15:30 to 15:45
Steven Linfield (Department of Electrode Processes, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland), Sylwester Gawinkowski, Wojciech Nogala

Luminescent reporting of charge transfer processes below the conventional detection limit of an electrochemical workstation

15:45 to 16:15
Coffee Break
16:15 to 16:30  
**Tim Albrecht** *(School of Chemistry, University of Birmingham, Birmingham, United Kingdom)*, Oliver J Irving, Lauren Matthews, Cengiz Khan, Jenna Seal, Nicolas Poffley, Vasile-Dan Hodoroaba, Robert K Neely, Melissa M Grant  
*Carrier-Enhanced Nanopore Sensing as a Versatile Tool for Multiplexed Biomarker Detection*

16:30 to 16:45  
**Hui Ma** *(School of Chemistry & Chemical Engineering, Nanjing university, Nanjing, China)*, Yi-Tao Long  
*Study on the dynamic behavior of single entities at confined electrochemical interfaces*

16:45 to 17:00  
**Yi-Lun Ying** *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)*, Linlin Zhang, Chengbing Zhong, Yi-Tao Long  
*A High Throughput and Miniaturized Electrochemical Instrument for Single Peptide Sensing and Sequencing*

17:00 to 17:15  
**Tomas Sabirovas** *(Biochemistry Institute, Vilnius University, Vilnius, Lithuania)*, Tomas Raila, Tadas Meskauskas, Gintaras Valincius  
*Local Electrochemical Impedance Spectroscopy for Pore Characterization in Tethered Bilayer Lipid Membranes*

17:15 to 17:30  
**Alexander Oleinick** *(UMR 8640 PASTEUR, CNRS - ENS, PSL - Sorbonne University, Paris, France)*, Reina Dannaoui, Xiao-Ke Yang, Wei-Hua Huang, Irina Svir, Christian Amatore, Alexander Oleinick  
*Modelling Glutamate Vesicular Release Monitored with Cylindrical Enzymatic Nanoelectrodes*

17:30 to 17:45  
**Guilhem Pignol** *(Institut des Sciences Chimiques de Rennes, Université de Rennes 1, Rennes, France)*, Patricia Bassil, Jean-Marie Fontmorin, Didier Floner, Florence Geneste, Philippe Hapiot  
*Electrochemical Properties of Carbon Fibers*

17:45 to 18:00  
**Valdomiro Conceição** *(Fundamental Chemistry, Institute of Chemistry - University of São Paulo (IQ-USP), São Paulo, Brazil)*, Valdomiro Conceição, Douglas Saraiva, Mauro Bertotti  
*Calibration-free Measurements with a Carbon Fiber Microelectrode: Ascorbate Detection as a Proof of Concept*

18:00 to 18:15  
*Application of Chemosensors with Molecularly Imprinted Polymers as Recognition Units for Determination of the Selected Drug Substances in Body Fluids*

18:15 to 18:30  
**Sophie Griveau** *(iCLeHS - SEISAD, Chimie ParisTech - PSL, Paris, France)*, Brenda Da Castro, Fanny d’Orlyé, Fethi Bedioui, Anne Varenne, José Alberto Fracassi Da Silva  
*Design of microfluidic electrophoretic device by additive manufacturing technology: integration of carbon-based microelectrodes for electrochemical detection*

18:30 to 18:45  
**S. Irem Kaya** *(Department of Analytical Chemistry, University of Health Sciences, Gulhane Faculty of Pharmacy, Ankara, Turkey)*, Nurgul K. Bakirhan, Mehmet Emin Corman, Lokman Uzun, Sibel A. Ozkan  
*New Electrochemical Approaches for the Determination of Regorafenib Using Different Polymerization Techniques*
Program of the 74th Annual Meeting of the International Society of Electrochemistry

Symposium 2  Bioelectrochemistry - From molecular to cellular scales
Room: Tête d’Or 2
Chaired by: Jonas Englhard, Omer Yehezkeli

14:00 to 14:30  Keynote

Petra Hellwig (Bioelectrochimie et spectroscopie, UMR 7140, University of Strasbourg, Strasbourg, France), Iryna Makarchuk, Jan Kaegi, Frédéric Melin, Thorsten Friedrich

Electrocatalytic and Spectroscopic Studies on Cytochrome bd Oxidase, a Highly Diverse Bacterial Membrane Protein

14:30 to 14:45

Olivier Buriez (CNRS, Ecole Normale Superieure, Paris, France), Fatma Ben Trad, Vincent Wieczny, Jérôme Delacote, Mathieu Morel, Manon Guille-Collignon, Stéphane Arbault, Frédéric Lemaître, Fabienne Burlina, Neso Sojic, Eric Labbé, Olivier Buriez

Electrochemiluminescence Imaging of the Permeabilization of Single Giant Liposomes

14:45 to 15:00

Kaoru Hiramoto (Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Sendai, Japan), Kosuke Ino, Ayumi Hirano-Iwata, Hitoshi Shiku

Development of Electrochemiluminescence Imaging Method for the Study of Supported Lipid Bilayers

15:00 to 15:15

Justin Gooding (School of Chemistry, University of New South Wales, Sydney, Australia), Ying Yang, Yuanqing Ma, Sanjun Fan, Richard Tilley, Katharina Gaus

From electrochemically modulating single molecule fluorescence towards detecting single proteins

15:15 to 15:30

Si-Min Lu (School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)

Confinement-Controlled Nanoelectrochemistry: Study One Entity at A Time

15:30 to 15:45 Invited

Xinxin Xiao (Department of Chemistry and Bioscience, Aalborg University, Aalborg, Denmark), Henrik Bohr, Irene Shim, Jens Ulstrup

Conformational triggering in voltammetry and single-molecule conductivity of complex biomolecules

15:45 to 16:15  Coffee Break

16:15 to 16:30 Invited

Omer Yehezkeli (Faculty of Biotechnology and Food Engineering, Technion, Haifa, Israel)

Light-Driven, Bias-Free Direct Conversion of Cellulose To Electrical Power

16:30 to 16:45

Caroline G. Sanz (Laboratory of Multifunctional Materials, National Institute of Materials Physics (NIMP), Magurele, Romania), Anca Aldea, Daniel C. Crisan, Melania Onea, Ricardo J. B. Leote, Daniela Oprea, Adrian T. Enache, Madalina M. Barsan

Conductive Polymeric Scaffolds for the Electrochemical Screening of Chemically Induced Cell Stress
16:45 to 17:00
Meritxell Rovira (IMB-CNIM, CSIC, Cerdanyola del Vallès, Spain), Meritxell Rovira, Eleni Chatzilakou, Cecilia Jimenez-Jorquera, César Fernández-Sánchez
Aptamer-field-effect transistor for Cortisol Detection

17:00 to 17:15
Cecilia Cristea (Department of Analytical Chemistry, University of Medicine and Pharmacy Iuliu Hatieganu, Cluj-Napoca, Romania), Iulia Rus, Mihaela Tertis, Ionel Fizesan, Diana Bogdan, Victor Diculescu, Robert Sandulescu
The development of a new aptasensor for the detection of hematologic tumors cells

17:15 to 17:30
Donal Leech (Analytical Chemistry - Center for Electrochemical Science, Ruhr University Bochum, Bochum, Germany), Kavita Jayakumar, Anna Lielpetere, Wolfgang Schuhmann
Design of anti-interference layers for the protection of electrochemical glucose biosensors

17:30 to 17:45
James Behan (Institut des Sciences Chimiques de Rennes, Université de Rennes, Rennes, France), Frédéric Barrière, Timothé Philippon, Fatima-Zahra Ait-Ito, Alicia Monfort
Modulation of extracellular electron transfer in anodic biofilms dominated by bacteria of the genus Pelobacter by Fe(III) oxide microparticles.

17:45 to 18:00
Oriya Belous Maruani (Chemistry, Ben-Gurion University of the Negev, Beer Sheva, Israel), Anat Milo, Hadar Ben-Yoav
Novel Microfluidic Microelectrode Arrayed Platform for Biofilm Electrochemical and Optical Investigation

18:00 to 18:15
Eric Raspaud (Laboratoire de Physique des Solides, Université Paris-Saclay, Orsay, France), Marion Lherbette, Christian Marliere, Christophe Regeard
When the electroactive bacteria, Shewanella Oneidensis, are in contact with iron nanolayers

18:15 to 18:30
Stephane Marinesco (Lyon Neuroscience Research Center, Universite Claude Bernard Lyon I, Lyon, France), Cedric Chaveroux, Cedric Duret, Andrei Sabac
Minimally-invasive intra-tumoral oxygen pressure monitoring using beveled carbon-disk microelectrodes

18:30 to 18:45
Boris Tartakovsky (EME, National Research Council of Canada, Montreal, Canada), Emmanuel Nwanebu, Guillaume Bruant, Marie-Josée Levesque
The Impact of Cathode Materials, Microbial Populations and pH on CO₂ Conversion to Carboxylic Acids and CH₄ in a Continuous Flow Microbial Electrosynthesis Cell

18:45 to 19:00
Keke Hu (Chemistry and chemical engineering, Xiamen University, Xiamen, China), Kim Long Le Vo, Fan Wang, Xin Zhang, Ning Fang, Nhu T. N. Phan, Andrew Ewing
Micro/nano scale electrochemical methodology and Raman spectroscopy for single cell analysis
Symposium 4a  From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Gratte-Ciel 2

Chaired by: Guiomar Hernández, Jelena Popovic-Neuber, Robert Weatherup

14:00 to 14:15
Simon Fleischmann (Helmholtz Institute Ulm, Karlsruhe Institute of Technology (KIT), Ulm, Germany)  
Lithium intercalation mechanisms at nanoconfined electrochemical interfaces

14:15 to 14:30
Rakel Wreland Lindström (Chemical Engineering, KTH Royal Institute of Technology, 10400, Sweden)  
Heterogeneous Lithium Plating in Commercial Lithium ion Batteries Mapped by NMR

14:30 to 14:45
Guillaume Navallon (IRIG-SyMMES-STEP, CEA, Grenoble, France), Federico Monaco, Quentin Berrod, Jacques Ollivier, Markus Appel, Lionel Picard, Sandrine Lyonnard  
Combining Neutron Scattering and Synchrotron Tomography to Clarify the Beneficial Effect of Fillers Inside Polymer Electolyte

14:45 to 15:00
Sphumelele Nomnotho Jiyane (Chemie und Biochemie, Ruhr Universität Bochum, Bochum, Germany), Sphumelele Nomnotho Jiyane, Enrique García-Quismondo, Edgar Ventosa, Wolfgang Schuhmann, Carla Santana Santos  
Accelerated Evaluation of the Integrity of the Solid-Electrolyte Interphase on Silicon-Graphite Electrodes during Charge-Discharge Cycles by means of SECM

15:00 to 15:15
Koji Hiraoka (Applied Chemistry and Chemical Engineering, Kogakuin University, Hachioji, Japan), Kazuo Yamamoto, Takeshi Kobayashi  
Multi-Scale Analysis for Oxide-type All-Solid-State Na Batteries by Operando Spectroscopy / Elemental Measurement

15:15 to 15:30
Thibaut Jousseaume (DEPHY (Nanophysique), CEA Grenoble, Grenoble, France), Jean-François Colin, Marion Chandesris, Sandrine Lyonnard, Samuel Tardif  
One Mechanism to Rule Them All: A Single Structural Model for Ni-Rich Cathode Layered Materials May Explain Their Ageing

15:45 to 16:15  
Coffee Break

16:15 to 16:45 Keynote
Jelena Popovic-Neuber (Department of Energy and Petroleum Engineering, University of Stavanger, Stavanger, Norway)  
Ion transport in Battery Electrolytes and Related Interphases
16:45 to 17:00  
**Leonie Wildersinn** *(IAM-ESS, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Fabian Jeschull, Mahir Hashimov, Andreas Hofmann, Julia Maibach  
*Synergies and differences at the alkali metal/electrolyte interface*

17:00 to 17:15  
**Tanja Kallio** *(Department of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Zahra Ahaliabadeh, Ville Miikkulainen, Miia Mäntymäki  
*Coatings for Engineering LiNi$_{0.8}$Mn$_{0.1}$Co$_{0.1}$O$_2$ Properties*

17:15 to 17:30  
**Henry Adenusi** *(Chemistry, Hong Kong Quantum AI Lab, Hong Kong, China)*, Henry Adenusi, Gregory A Chass, Stefano Passerini, Kun V Tian, Guanhua Chen  
*Evolution of the Solid Electrolyte Interphase (SEI) in Lithium Batteries*

17:30 to 17:45  
**Bernard Lestriez** *(Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes Université, Nantes cedex 3, France)*, Lucas Huet, Hippolyte Houisse, Natalie Herkendaal, Philippe Moreau, Nicolas Dupré, Thomas Devic, Lionel Roué  
*Coordinatively Cross-Linked Binders for Silicon-Based Electrodes for Li-Ion Batteries: Beneficial Impact on Mechanical Properties and Electrochemical Performance, and Nanoscale Morphological Characterization*

17:45 to 18:00  
**Jonas Schlaier** *(Institute of Materials Science, Technical University, Dresden, Germany)*, Sahin Cangaz, Oliver Lohrberg, Michael Schneider, Alexander Michaelis, Christian Heubner  
*Electrochemical modification of current collectors for next generation Li-based batteries*

18:00 to 18:15  
**Annika Regitta Schuer** *(Helmholtz-Institute Ulm, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany)*, Susan Sananes-Israel, Iratxe de Meatza, Matthias Kuenzel, Florian Klein, Peter Axmann, Margret Wohlfahrt-Mehrens, Stefano Passerini  
*Guar Gum as a Sustainable Binder for Aqueous-based Li-rich Layered Oxides Electrodes*

18:15 to 18:30  
**Mesfin Haile Mamme** *(Surface and Electrochemical Engineering Research group, Vrije Universiteit Brussels (VUB), Brussels, Belgium)*, Lieven Bekael, Tewelde Hailay Gebregeorgis, Nicolas Lannoy, Xinhua Zhu, Frank De Proft, Annick Hubin  
*Understanding and (re-)Designing of Solid-Electrolyte/Electrode Interfaces of All-Solid-State Batteries through Multiscale Approach*

18:30 to 18:45  
**Shinji Matsumoto** *(Kogakuin University, University, Hachioji, Japan)*, Tamotsu Sawahashi, Shiro Seki  
*Investigation of measurement conditions for single-particle electrochemical measurements and evaluation of the influence of the active material/electrolyte interface on the in-situ introduction of additives*
Symposium 4b From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel

Chaired by: Emmanuel Baudrin, Rebeca Marcilla, Nae-Lih Nick Wu

14:00 to 14:15 Invited

Hye Ryung Byon (Chemistry, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea), Seongmo Ahn, Mina Son, Mu-Hyun Baik


14:15 to 14:30

Paula Navalpotro (Electrochemical Processes Unit, IMDEA Energy, Mostoles, Spain), Eduardo Pedraza, Carlos de la Cruz, Andreas Mavrandonakis, Edgar Ventosa, Rubén Rubio-Presa, Roberto Sanz, S.T. Senthilkumar, Rebeca Marcilla

Non-functionalized TEMPO-based Aqueous Catholyte for High Capacity Aqueous Redox Flow Batteries.

14:30 to 14:45

Coumba Fall (Hérault, Institut charles gerhardt de montpellier, Montpellier, France), Coumba Fall, Steven Le vot, Frederic Favier, Pierre Louis Taberna, Patrice Simon

Smart Interfaces For Improved Redox Flow Batteries.

14:45 to 15:00

Florence Geneste (Rennes Institute of Chemical Sciences, University of Rennes, Rennes, France), Inès Ozouf, Jean-Marie Fontmorin, Raphaël Lebeuf, Gaël Mathieu, Solène Guiheneuf, Guillaume Ozouf, Thibault Godet-Bar, Didier Floner, Jean-Marie Aubry


15:00 to 15:15

Emmanuel Baudrin (LRCS, Université de Picardie Jules Verne, Amiens, France), Théo Lotenberg, Cédric Samuel, Dominique Larcher, Julien Bossu, Guillaume Potier, Jérémie Soulestin

Porous LiFePO4/PVDF composites for aqueous redox-targeting flow batteries: reducing the gap between Metal-Ion and Flow Batteries.

15:15 to 15:30

Mikhail Vorotyntsev (Frunklin Institute of Physical Chemistry and Electrochemistry, Russian Academy of Sciences, Moscow, Russia), Dmitry Konev, Olga Istakova, Evgeny Ruban


15:30 to 15:45

Debora Ruiz-Martinez (Electrochemical Processes Unit, IMDEA Energy, Mostoles, Spain), Rebeca Marcilla


15:45 to 16:15

Coffee Break
16:15 to 16:30

**Oliver Lohrberg** *(Institute of Materials Science, TU Dresden, Dresden, Germany)*, Jonas Schlaier, Christian Heubner, Alexander Michaelis

*Characterization of Li-Plating Behavior on Lithiophilic Layers in Zero-Excess Li-Metal Batteries*

16:30 to 16:45

**Ivan Genov** *(Electrochemistry and Electroplating Group, Technische Universität Ilmenau, Ilmenau, Germany)*, Alexander Tesfaye, Svetlozar Ivanov, Mario Kurniawan, Andreas Bund

*Influence of the Substrate on Lithium Deposition and Dissolution for “Anode Free” Li-Metal Batteries*

16:45 to 17:00

**Samantha Southern** *(Department of Chemical Engineering, Imperial College London, London, United Kingdom)*, Heather Au, Rhodri Jervis, Magdalena Titirici

*Lithiophilic Carbon Host for Anode-less Lithium Metal Batteries*

17:00 to 17:15

**Nae-Lih Nick Wu** *(Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan)*

*Enhancing Li-Ion Battery Safety by Engineering Intrinsically Li-Dendrite-Free Anode Surfaces*

17:15 to 17:30

**Zhen Chen** *(School of Electrical and Electronic Engineering, Harbin University of Science and Technology, Harbin, China)*, Xi Wang, Minghua Chen

*A Dual Conductivity-Lithiophilic Gradient Scaffold for Stable Lithium Metal Anode*

17:30 to 17:45

**Julius Weinmiller** *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Ulm, Germany)*, Martin P. Lautenschlaeger, Benjamin Kellers, Timo Danner, Arnulf Latz

*Impact of Solid Precipitate on the Morphology and Performance of Lithium-Sulfur Battery Cathodes*

17:45 to 18:00

**Roberto Colombo** *(DISAT, Politecnico di Torino, Turin, Italy)*, Nadia Garino, Marco Laurenti, Daniele Versaci, Carlotta Francia, Silvia Bodoardo, Julia Amici, Federico Bella

*Microwave Synthesis of rGO/ZnS Nanocomposite as Cathodic Material for Li-S batteries*

18:00 to 18:15

**Kento Okanishi** *(Kogakuin University, University, Hachioji, Japan)*, Uran Tsunoda, Masayoshi Watanabe, Shiro Seki

*Development of Accelerated Calendar-life Evaluation Method for Lithium-Sulfur Batteries*

18:15 to 18:30

**Yuan Yang** *(School of Materials Science and Engineering, Shandong University, Jinan, China)*, Pengchao Si, Rui Song

*Modulating Surface Cation Vacancies of Nickel-Cobalt Oxides as Efficient Catalysts for Lithium-Oxygen Batteries*

18:30 to 18:45

**Junjie Niu** *(Materials Science and Engineering, University of Wisconsin, Milwaukee, Milwaukee, USA)*, Mingwei Shang, Osman Goni Shovon, Francis En Yoong Wong

*A MXene-modified Dual-Layer Lithium Metal Anode*

18:30 to 18:45

**Micha Philip Fertig** *(Stationary Energy Storage, Fraunhofer Institute for Ceramic Technologies and Systems, Hermsdorf, Germany)*, Cornelius Dirkse, Karl Skadell, Matthias Schulz, Michael Stelter

*Modulating the Cathode Interface in Sodium-Beta Alumina-based Solid-State Sodium Cells*
Symposium 5  Fast storage processes: Supercapacitors and high power systems
Room: Gratte-Ciel 1

Chaired by: Katsuhiko Naoi

14:00 to 14:30 Keynote
Ho Seok Park (Chemical Engineering, Sungkyunkwan University, Suwon-si, Gyeonggi-do, Korea)
D pseudocapacitive oxidized black phosphorus nanosheets.

14:30 to 14:45 Invited
Sonia Dsoke (Institute for Applied Materials, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany), Qiang Fu, Tolga Akcay, Angelina Sarapulova
Metal-phosphate-based materials for potential applications in high-power devices.

14:45 to 15:00
Thierry Brousse (Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes Université, CNRS, Nantes, France), Etienne Le Calvez, Julio Cesar Espinosa-Angeles, Camille Douard, Nicolas Dupré, Eric Gautron, Eric Quarez, Olivier Crosnier
Revisiting Tunnel-Type Multicationic Oxides as Negative Electrodes for High-Power Batteries and Hybrid Devices.

15:00 to 15:15
Metin Orbay (Institute for Technical Chemistry, Friedrich-Schiller-University Jena, Jena, Germany), Abbas Khan, Olivier Crosnier, Thierry Brousse, Andrea Balducci
Anomalous high Li+ storage behavior of AgNbO3: Understanding electrochemical activation and charge storage mechanisms.

15:15 to 15:30
Keisuke Matsumura (Global Innovation Research Organization, Tokyo University of Agriculture & Technology, Tokyo, Japan), Etsuro Iwama, Naoki Hashizume, Kensuke Ishimura, Wako Naoi, Katsuhiko Naoi
Vanadium-Catalyzed Graphitization in Spray-Dry Synthesis for γ-Li2V0.8Si0.2O4/C Composites with Core/Shell Architecture.

15:30 to 15:45
Jaehoon Choi (Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany), Simon Fleischmann
Understanding the influence of interlayer distance and particle size on lithium intercalation kinetics in MoS2.

15:45 to 16:15
Coffee Break

16:15 to 16:45 Keynote
Alessandra Serva (PHENIX Laboratory, Sorbonne Université - CNRS, Paris, France), Roxanne Berthin, Camille Bacon, Mathieu Salanne
Towards complex electrolytes for supercapacitors: insights from constant potential and polarizable molecular dynamics.
16:45 to 17:00 **Invited**

**Olivier Fontaine** *(Chemistry, Vistec, Rayong, Thailand)*

An inclusive mathematical model for Faradaic Electrode Materials in electrochemical energy storage.

17:00 to 17:15 **Invited**

**Alexander Forse** *(Department of Chemistry, University of Cambridge, Cambridge, United Kingdom)*

Advancing Electrochemical Energy Storage and Carbon Dioxide Capture in Supercapacitors.

17:15 to 17:30 **Invited**

**Wan-Yu Tsai** *(Chemical Science Division, Oak Ridge National Laboratory, Oak Ridge, USA), Nina Balke*

Probing Local Ion Insertion Through Strain-Current Correlation.

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

**Robert Meißner** *(Institute of Polymers and Composites, Hamburg University of Technology, Hamburg, Germany), Céline Merlet, Mathijs Janssen, Shern Tee*

Elucidation of Curvature-Capacitance Relationships in Carbon-based Supercapacitors from Atomistic Simulations.

17:45 to 18:00

**Hicham Jabraoui** *(Gestion de l’énergie, groupe NEO, LAAS CNRS, Toulouse, France), Alain Estève, Carole Rossi, David Pech*

Ab initio studies of amorphous low-density hydrous RuO$_2$: insight into proton confinement and migration mechanisms for pseudocapacitive charge storage.

18:00 to 18:15

**Mathijs Janssen** *(Faculty of Science and Technology, Institute of Physics, Norwegian University of Life Sciences, Ås, Norway), Christian Pedersen, Aslyamov Timur*

Continuum and equivalent circuit modelling for porous electrode charging.

18:15 to 18:30

**Gaudy Nicolas** *(Theoretical physical chemistry, Paul Sabatier University, Toulouse, France)*

Molecular Simulations Study of the Adsorption Dynamics of Ions on Carbon Electrodes.

18:30 to 18:45

**Giovanni Pireddu** *(PHENIX, CNRS, Sorbonne Université, Paris, France), Giovanni Pireddu, Benjamin Rotenberg*

Frequency-dependent impedance of nanocapacitors from electrode charge fluctuations as a probe of electrolyte dynamics.

18:45 to 19:00 **Invited**

**Minshen Zhu** *(Research Center MAIN, TU Chemnitz, Chemnitz, Germany)*

Sub-Millimeter Batteries for Dust-Sized Smart Devices.
Symposium 6a Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre

Chaired by: Elena Baranova, Jaouen Frederic, Ulrike Kramm, Isabella Nicotera

14:00 to 14:15

Eleonora Romeo (Department of Materials Science and Chemical Physics, IQTCUB, University of Barcelona, Barcelona, Spain), Francesc Illas, Federico Calle-Vallejo

Electrochemical Symmetry as a Quantitative Metric to Distinguish between Active and Inactive Electro catalysts for the OER

14:15 to 14:30

Tong Li (Institute for Materials, Ruhr University Bochum, Bochum, Germany)

Atomic-scale insights into the Co-based (oxy)hydroxides and spinel oxides for oxygen evolution reaction

14:30 to 14:45

Katerina Min havá Macounová (Department of Nanocatalysis, J. Heyrovský Institute of Physical Chemistry of the AS CR, Prague 8, Czech Republic), Catalina Astudillo, Roman Nebel, Petr Krtíl

Tuning Selectivity of Ruthenium Based Oxides in Sea Water Electrolysis

14:45 to 15:00

Tobias Binninger (Theory and Computation of Energy Materials (IEK-13), Forschungszentrum Jülich, Jülich, Germany), Michael Eikerling

*OO··OO* Association Mechanism of the Oxygen Evolution Reaction and Critical Pitfalls in Conventional Computational Approaches

15:00 to 15:15

Melanie Colet-Lagrille (Dept. Chemical Engineering, Biotechnology and Materials, Universidad de Chile, Santiago, Chile), Melanie Colet-Lagrille, Sergio González-Poggini, Bruno Sánchez, David Fermin

Rare Earth and Alkaline Earth Elements as Dopants in Copper Tungstate Photoanodes for the Oxygen Evolution Reaction

15:15 to 15:30

Masatsugu Morimitsu (Dept. of Science of Environment and Mathematical Modeling, Doshisha University, Kyoto, Japan), Sachi Matsuura, Kentaro Kozasa, Hayato Suzuki

Highly Catalytic and Durable Pyrochlore Oxide for OER in Alkaline Water Electrolysis

15:30 to 15:45

Laura Donk (Chemical Engineering and Chemistry, Eindhoven University of Technology, Eindhoven, Netherlands), Philip Pop, Emiel J.M. Hensen, Marta Costa Figueiredo

Magnetic field enhancement of CoxFeyOz compounds for alkaline OER

15:45 to 16:15 Coffee Break

16:15 to 16:30 Invited

Chang Hyuck Choi (Department of Chemistry, Pohang University of Science and Technology (POSTECH), Pohang, Korea)

Online Monitoring of Fe-N-C Degradation in Acidic Conditions

16:30 to 16:45

Nicolas de Andrade Ishiki (LEPMI, Université Grenoble Alpes, Saint Martin d’Hères, France), Keyla Teixeira Santos, Kavita Kumar, Hongxin Ge, Nicolas Bibent, Laetitia Dubau, Frederic Jaouen, Sandrine Berthon-Fabry, Edson Antonio Ticianelli, Frederic Maillard

Unveiling the Influence of Different Experimental Parameters on the Degradation Kinetics of Fe–N–C Oxygen Reduction Reaction Catalysts
16:45 to 17:00

**Angus Pedersen** *(Department of Materials, Imperial College London, London, United Kingdom)*, Kavita Kumar, Yu-Ping Ku, Vincent Martin, Laetitia Dubau, Keyla Teixeira Santos, Jesús Barrio, Andreas Hutzler, Maria Magdalena Titirici, Ian Stephens, Serhiy Cherevko, Frédéric Maillard


17:00 to 17:15 **Invited**

**Ulrike Kramm** *(Chemistry, Technical University of Darmstadt, Darmstadt, Germany)*, Vladislav Gridin, Markus Kübler, Tamara Hanstein, Nils Heppe, Nicole Segura Salas, Pascal Theis, Hofmann Kathrin

*Influence of Nanoparticle Modification of an FeNC catalyst on Oxygen Reduction Reaction Activity, Selectivity and Stability*

17:15 to 17:30

**Kaido Tammeveski** *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Jaana Lilloja, Elo Kibena-Pöldsepp, Ave Sarapuu, Maike Käärik, Jekaterina Kozlova, Päärn Paiste, Arvo Kikas, Alexey Treshchakov, Jaan Leis, Aile Tamm, Vambola Kisand, Steven Holdcroft, Kaido Tammeveski

*Mesoporous Transition Metal and Nitrogen-containing Carbons as Cathode Catalysts for Anion-Exchange Membrane Fuel Cells*

17:30 to 17:45

**Wenjamin Moschkowitsch** *(ICGM, University of Montpellier, Montpellier, France)*, Wenjamin Moschkowitsch, Sara Cavaliere, Frédéric Jaouen

*Conductive Non-Carbon Material as Support for PGM-free cathode catalysts in PEMFC*

17:45 to 18:00

**Mohsin Muhyuddin** *(Materials Science, University of Milano Bicocca, Milan, Italy)*, Mohsin Muhyuddin, Alessandro Lavacchi, Laura Capozzoli, Enrico Berretti, Eamonn Murphy, Shengyuan Guo, Plamen Atanassov, Carlo Santoro

*Evolution of Fe-N-C Oxygen Reduction Reaction Electrocatalyst during Pyrolysis: A Processing-Structure-Performance Relationship*

18:00 to 18:15

**Marco Mazzucato** *(Chemical Science, University of Padova, Padova, Italy)*, Gian Andrea Rizzi, Andrea Zitolo, Christian Durante

*Effect of Sn (or Sb) Precursor in Fe-Nx Site Formation and Activity in Fe-N-C Catalyst for ORR*

18:15 to 18:30 **Invited**

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

*Employing Fourier Transformed Alternating Current Voltammetry to Quantify FeNC Active Sites and Study the ORR Mechanism*

18:30 to 18:45

**Mariangela Longhi** *(Dipartimento di Chimica, Universita’ degli Studi di Milano, Milano, Italy)*, Aurora Vassena, Alberto Vertova, Mariangela Longhi

*Methanol-Tolerant Pt-Free Materials for ORR in DMFC*

18:45 to 19:00

**Georgios Charalamopoulos** *(Institute of Chemical Engineering Sciences, ICEHT, Foundation of Research and Technology Hellas FORTH, Platani Rion, Greece)*, Ilias Maniatis, Maria Daletou

*Non-PGM Cathode Electrocatalysts for PEM Fuel Cells*
Symposium 6b Fuel cells, electrolysis and electrofuel synthesis

Room: Salon Tête d’Or

Chaired by: Marian Chatenet, Alessandro Lavacchi, Dusan Strmcnik

14:00 to 14:15

Yun Jeong Hwang (Department of Chemistry, Seoul National University, Seoul, Korea), Hyewon Yun

Understanding New Opportunities for Electrochemical CO₂ Reduction Reaction Using Ni-N-C Catalyst

14:15 to 14:30

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

Hydrogen as a Byproduct from the Electrocatalytic Conversion of Glucose into Value Added Compounds

14:30 to 14:45

Georgios Bampos (Chemical Engineering, University of Patras, Patras, Greece), Aristovoulos Spiliopoulos, Symeon Bebelis

Pt-based Bimetallic Electrocatalysts for Hydrogen Oxidation Reaction in Alkaline Medium

14:45 to 15:00

Ricardo Sgarbi (LEPMI, Univ. Grenoble Alpes, Grenoble, France), Huong Doan, Quentin Labarde, Marian Chatenet

One-Pot Synthesis of Tailored Carbon-Coated Metal Nanoparticles for Durable Alkaline Hydrogen Oxidation Reaction Electrocatalysis

15:00 to 15:15

Viktoriya Berova (Electrode & Catalyst Development, Freudenberg Fuel Cell e-Power Systems GmbH, München, Germany), Katharina Hengge, Thomas Burger, Christina Scheu, Tilman Jurzinsky

Accelerated Stress Test Study on PtRu Anode Catalysts for Reformate PEMFCs: Influence of Upper Potential Limit on Stability

15:15 to 15:30

Piyush Kumar (Electrochemical Reaction Engineering (AVT ERT), RWTH Aachen University, Aachen, Germany), Anna K. Mechler

Hydrogen Oxidation for Gas Separation and Compression from the Natural Gas Grid

15:30 to 15:45

Almina Sharaeva (ICG Montpellier, Univ. Montpellier, CNRS, Montpellier, France), Frédéric Jaouen, Deborah Jones

Selective Platinum Catalysts for Hydrogen Oxidation Reaction

15:45 to 16:15 Coffee Break

16:15 to 16:30 Invited

Alessandro Lavacchi (ICCOM, CNR, Sesto Fiorentino, Italy), Francesco Bartoli, Marco Bellini, Enrico Berretti, Laura Capozzoli, Jonathan Filippi, Hamish Miller, Maria Vincenza Pagliaro, Francesco Vizza

D Arrays of Titania Nanotubes as a Support for the Hydrogen Evolution Reaction

16:30 to 16:45

Ragne Pärnamäe (Sustainable Carbon Cycle, Wetsus, Leeuwarden, Netherlands), Michele Tedesco, Philipp Kuntke, Hubertus V. M. Hamelers

Effect of Electrolyte Flow on The Performance of Pillared Electrodes for Hydrogen Gas Evolution
16:45 to 17:00  
**Dusan Strmcnik** (*Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia*), Milena Martins, Pedro Farinazzo Bergamo Dias Martins, Dževad K. Kozlica, Maris M. Mathew, Matjaž Finšgar, Boštjan Genorio  
*Solid Electrolyte Interphase – From Li-ion Battery to Alkaline Water Electrolyzers*

17:00 to 17:15  
**Fatma Aras** (*Chemical Metals Science, Max-planck-Institute Chemical Physics od Solids, Dresden, Germany*), Ulrich Burkhardt, Marcus Schmidt, Gudrun Auffermann, Simone Altendorf, Yuri Grin, Iryna Antonyshyn  
*Ternary compounds Mo$_2$TMB$_2$ (TM: Fe, Co, Ni) under oxygen and hydrogen evolution reactions*

17:15 to 17:30  
**Jaromir Hnat** (*Department of inorganic technology, University of chemistry and technology Prague, Prague, Czech Republic*), Martin Durovic, Magdalena Streckova, Karel Bouzek  
*Phosphide Based Catalyst Embedded in Carbon Fibres for Hydrogen Evolution Reaction in Alkaline Membrane Water Electrolysis*

17:30 to 17:45  
**Maris Minna Mathew** (*Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia*), Dževad K. Kozlica, Pedro Farinazzo Bergamo Dias Martins, Dušan Strmčnik, Boštjan Genorio  
*Exploring HER and ORR Catalysis using Nickel Single Atom Catalysts*

17:45 to 18:00  
**Vincenzo Baglio** (*Istituto di Tecnologie Avanzate per l’Energia (ITAE), CNR, Messina, Italy*), Angela Capri, Irene Gatto, Carmelo Lo Vecchio  
*Optimization of Nickel-Iron-Oxide Catalysts for Application in Anion-Exchange Membrane Electrolyzers*

18:00 to 18:15  
**Chuan Zhao** (*School of Chemistry, University of New South Wales, Sydney, Australia*)  
*Challenges and Opportunities for Green Hydrogen Production from Water Electrolysis: A Catalyst Perspective*

18:15 to 18:30  
**Raphaël Riasse** (*LEPMI, Université Grenoble Alpes, Grenoble, France*), Jérôme Dillet, Julien Durst, Laetitia Dubau, Gaël Maranzana, Marian Chatenet  
*Degradation study of Pt$_3$Co catalytic layers in 25 cm$^2$ Proton Exchange Membrane Fuel Cell setup - A segmented cell and material study*

18:30 to 18:45  
**Christoph Jung** (*Helmholtz Institut Ulm, KIT, Eggenstein-Leopoldshafen, Germany*), Timo Jacob  
*Insights into Catalyst Behavior in Fuel Cells: A Molecular Dynamics and Density Functional Theory Study*

18:45 to 19:00  
**Stephan Steinmann** (*Laboratoire de Chimie, ENS de Lyon, Lyon, France*), Audrey Bonduelle-Skrzypczak, Nawras Abidi  
*GC-DFT Modelling of the Hydrogen Evolution Reaction over MoS$_2$: Substitutional Doping and Potential-Dependent Activation Energies*
Symposium 7  Corrosion science and technology: Towards more sustainable materials

Room: Tête d’Or 1

Chaired by: Achim Walter Hassel

14:00 to 14:30 Keynote
Annick Hubin (Chemistry and Materials, Vrije Universiteit Brussel, Brussels, Belgium), Negin Madelat, Noel Hallemans, Benny Wouters, Mats Meeusen, John Lataire, Tom Hauffman, Herman Terryn
Towards more sustainable materials through a combined finite element modelling and operando experimental approach

14:30 to 14:45 Invited
Francesco Di Franco (Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy), Andrea Zaffora, Davide Pupillo, Leonardo Iannucci, Sabrina Grassini, Monica Santamaria
The effect of electronic properties of anodized and hard anodized Ti and Ti6Al4V on their reactivity in Simulated Body Fluid

14:45 to 15:00
Mercedes Paulina Chávez Díaz (Physics, Centro de Estudios Científicos y Tecnológicos No. 7 del IPN, Mexico City, Mexico), Román Cabrera Sierra, Jorge Gabriel Vázquez Arenas
Ti6Al4V Alloy Microstructures for Medical Applications

15:00 to 15:15
Zhenlun Song (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China)
Influence of Enzymes on the In Vitro Degradation Behavior of Pure Zn in Simulated Gastric and Intestinal Fluids

15:15 to 15:30
Takumi Haruna (Department of Chemistry and Materials Engineering, Kansai University, Suita, Japan), Mizuho Hayakawa, Youhei Hirohata
Effect of Air Exposure on Susceptibility of Hydrogen Embrittlement of Hydrogen-Charged TiNi Alloy

15:30 to 16:15 Coffee Break

16:15 to 16:30
Ekemini Akpan (Centre for Materials Science, CSET, University of South Africa, Florida, South Africa), Eno E. Ebenso
Mitigating mild steel corrosion using environmentally benign Formamidine-based thiram disulfides as inhibitors: Electrochemical, surface and theoretical studies.

16:30 to 16:45
Romain Haeffele (MATEIS - INSA de Lyon, INSA LYON, Villeurbanne, France), Sabrina Marcelin, Lucile Broussous, Philippe Kowalczyk, Bernard Normand
Copper Pad Corrosion Resistance for microelectronic devices: Evaluation of Silicon nitrides PECVD thin films.
16:45 to 17:00

Jamie A. Trindell (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Marc Koper
Using EC-AFM Analysis to Investigate the Effects of Organic Cations During Cathodic Corrosion of Pt(100) Electrodes.

17:00 to 17:15 Invited

Junsoo HAN (Laboratoire Interfaces et Systèmes Electrochimiques (LISE), Sorbonne Université, Paris, France), Borhan Bin Mohamad Sultan, Kevin Ogle
Quantitative analysis of surface pretreatment by in situ elemental-resolved electrochemistry and electrogravimetry.

17:15 to 17:30

Divino Salvador Ramírez-Rico (Laboratoire de Réactivité de Surface, Sorbonne Université, Paris, France), Stéphane Heurtault, Julien Said, Vincent Vivier
Galvanic Corrosion in Overhead Lines from the XXth century: Al-Steel.

17:30 to 17:45

Daniel J Blackwood (Materials Science & Engineering, National University of Singapore, Singapore, Singapore), Kai Xiang Kuah, Man Fai Ng
Oxide Inclusions as Potential Cathodes for Driving Accelerated Corrosion in Additive Manufactured Magnesium Alloys.

17:45 to 18:00

Julie Dubuit (Bioprocesses and Microbial Systems, Laboratoire de Génie Chimique INPT Toulouse, Toulouse, France), Julie Dubuit, Alexandra Bertron, Fabrice Deby, Stéphane Laurens, David Garcia, Luc Etcheverry, Benjamin Erable
A New Technology for the Cathodic Protection of Reinforced Concrete Structures Exposed to a Marine Environment Using Anodic Current Generated by Sedimentary Electroactive Microorganisms.

18:00 to 18:15

Andrei Nazarov (Atmospheric Corrosion, French Corrosion Institute, BREST, France), Varvara Helbert, Flavien Vucko
Scanning Kelvin Probe for Local Detection of Stress and Hydrogen in High Strength Steels.

18:15 to 18:30

Weverson Capute Batalha (LEPMI, Grenoble-INP, Grenoble, France), Virginie Roche, Yannick Champion, Marc Mantel, Alberto Moreira Jorge Junior
Passive film characterization of a novel FeCrMoNbB alloy by combined EIS and XPS.

18:30 to 18:45

Benoît Ter-Ovanessian (MATEIS, INSA LYON, Villeurbanne, France), Zhiheng Zhang, Jules Galipaud, Bernard Normand
Role of the chemical composition and microstructure on the passive and transpassive behavior of alloy 600.

18:45 to 19:00 Invited

Mamié Sancy (Civil Construction School, Pontificia Universidad Católica de Chile, Santiago, Chile), Carlos Sepúlveda, Lisa Muñoz, Carolina Guerra
Use of industrial wastes as supplementary cementitious materials: A mechanical and electrochemical analysis.
Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes

Room: Bellecour 2

Chaired by: Tanja Vidakovic-Koch

14:00 to 14:15 Invited

**Fabio Lima** (Physical Chemistry, University of São Paulo, São Carlos, Brazil), Rafael Romano, Antonio Roveda, Maykon Souza

*Copper Complexes with Controlled Dynamic Behavior as Selective and Stable Electrocatalysts for Carbon Dioxide Reduction*

14:15 to 14:30

**Mohamed M. Elnagar** (Institute of Electrochemistry, Ulm University, Ulm, Germany), Mohamed M. Elnagar, Pramod V. Menezes, Walter A. Parada, Yannick Mattausch, Karl J.J. Mayrhofer, Ludwig A. Kibler, Timo Jacob

*Rational Design of Cu Electrodes through In-Liquid Plasma in Phosphorus-Based Electrolytes for Enhanced Electroreduction of CO₂ to Hydrocarbons*

14:30 to 14:45

**Siqi Zhao** (Department of Chemistry, Aarhus University, Aarhus, Denmark)

*Steering Carbon Dioxide Reduction Toward C–C Coupling Using Copper Electrodes Modified with Porous Molecular Films*

14:45 to 15:00

**Jonas Weidner** (Analytical Chemistry – Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany), Marco Löffelholz, Jan Hartmann, Hesam Ostovari, Jens Osiewacz, Stefan Engbers, Barbara Ellendorff, João R. C. Junqueira, Katja Weichert, Niklas von der Assen, Thomas Turek, Wolfgang Schuhmann

*Scalable Boron-doped Copper Catalyst for Electrochemical CO₂ Reduction to Ethylene with Significantly Reduced Carbon Footprint*

15:00 to 15:15

**Ahmed Mohsen Ismail** (Process and Energy, Delft University of Technology, Delft, Netherlands), Ruud Kortlever

*Morphology-Controlled Electrodeposition of Copper Gas Diffusion Electrodes for CO₂ Reduction in a Hybrid-Type Electrolyser*

15:15 to 15:30

**Jie Zhang** (School of Chemistry, Monash University, Clayton, Australia)

*Electrochemical Reduction of Carbon Dioxide*

15:30 to 15:45

**Ignacio Sanjuán Moltó** (Technical Chemistry III, University of Duisburg-Essen, Duisburg, Germany), Vimanshu Chanda, Vaihbay Kumbar, Raíssa Ribeiro Lima Machado, Bright Nsoleba Jaato, Michael Braun, Faria Huq, Corina Andronescu

*Unraveling Key Factors in CO₂ Electroreduction: Tuning Gas Diffusion Electrodes to Achieve Industrially-Relevant Current Densities*

15:45 to 16:15

*Coffee Break*
Program of the 74th Annual Meeting of the International Society of Electrochemistry

15:45 to 16:00  Cancelled

**ISE Prize for Electrochemical Materials Science**

**Kelsey Stoerzinger** *(School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, USA)*

*Fundamental Insights into the Oxygen Evolution Reaction from Epitaxial Oxide Thin Films*

16:15 to 16:30

**Jāri Van den Hoek** *(Applied Engineering, University of Antwerp, Wilrijk, Belgium)*, Nick Daems, Saskia Hoexs, Tom Breugelmans

*Tackling Stability Issues of Silver Nanoparticles by Anchoring in NOMC Structures for eCO₂RR to CO*

16:30 to 16:45

**Hyewon Yun** *(Department of Chemistry, Seoul National University, Seoul, Korea)*

*Understanding cation effect and mechanisms of electrochemical CO₂ reduction and Hydrogen evolution reaction in acidic media*

16:45 to 17:00

**Johan Hamonnet** *(Chemical Engineering, University of Canterbury, Canterbury - Christchurch City, New Zealand)*, Michael S. Bennington, Sally Brooker, Vladimir Golovko, Aaron T. Marshall

*Efficient and Selective Electroreduction of CO₂ on pyrolyzed cobalt based materials*

17:00 to 17:15

**Michael Busch** *(Institute for Theoretical Chemistry, Ulm University, Ulm, Germany)*, Florian Keller, Johannes Döhn, Axel Groß

*Exploring the Mechanism of the Electrochemical Polymerization of CO₂ over CeO₂(110)*

17:15 to 17:30

**Fengxia Deng** *(School of Environment, Harbin Institute of Technology, Harbin, China)*

*How coordination number regulate the H₂O₂ generation via ORR in the electro-Fenton process?*

17:30 to 17:45

**Lele Zhao** *(Facultat de Química, Secció de Química Física, Universitat de Barcelona, Barcelona, Spain)*, Christian Durante, Sonia Lanzalaco, Abdirisak A. Isse, Marco Mazzucato, Pere L. Cabot, Ignasi Sirés

*Selective Electrocatalytic Oxygen Reduction to H₂O₂ Using N-Doped Tin-Based Catalysts at Neutral pH*

17:45 to 18:00

**Andrew Akbashev** *(Division for Research with Neutrons and Muons, Paul Scherrer Institute, Villigen, Switzerland)*

*Surface and Bulk Evolution of Oxide Materials during Electrochemical Oxygen Evolution Reaction*

18:00 to 18:15


*Robotics-assisted catalyst layer fabrication and characterization - Steps towards a self-driving electrocatalysis laboratory*

18:15 to 18:30

**Sina Haghverdi Khamene** *(Applied Physics and Science Education, Eindhoven University of Technology, Eindhoven, Netherlands)*, Cristian van Helvoirt, Mihalis Tsampas, Mariadriana Creatore

*Tuning Nickel Oxide Film Properties via Atomic Layer Deposition for Enhanced O₂ Evolution Reaction*
18:30 to 18:45
Têko W. Napporn (IC2MP, University of Poitiers, Poitiers, France), Paula Barione Perroni, Hamilton Valera, Têko W. Napporn
Growth of NiCo Oxides Anode on Stainless Steel for Water Splitting

18:45 to 19:00
Yun-Hyuk Choi (Department of Advanced Materials and Chemical Engineering, Daegu Catholic University, Gyeongsan, Korea), Kyeong-Ho Kim, Daehyun Hong, Myeong Gyu Kim, Wooson Choi, Taewon Min, Young-Min Kim
Remarkable improvement of water-splitting activity of MoO₃ by incorporation of Li⁺ ions

Symposium 10  Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

Room: Bellecour 3

Chaired by: Karel Bouzek, Robert Hillman

14:00 to 14:15
Zhihong Ye (College of Environment and Ecology, Chongqing University, Chongqing, China), Pan Xia, Ignasi Sirés
Tailoring Atomically Dispersed Metal-Nitrogen Sites to Boost the Performance of Electro-Fenton Treatment of Micropollutants

14:15 to 14:30
Jesús David Ramírez Páez (Laboratoire Ampère, École Centrale de Lyon, Écully, France), Naoufel Haddour, Arnaud Breard, Pascal Fongarland, David Edouard, Jesús David Ramírez Páez
Fabrication and implementation of a biosourced electrode material for micropollutant degradation with the Galvano-Fenton technology

14:30 to 14:45
Magdalena Skompska (Faculty of Chemistry, University of Warsaw, Warszawa, Poland), Tomacz Lecki, Kamila Zarebska, Ewelina Wierzynska, Hesham Hamad
Mechanism of Photocatalytic and Photoelectrocatalytic Degradation of Organic Pollutants with the use of BiVO₄

14:45 to 15:00
M. Pilar Castro (Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain), Ismael F. Mena, Miguel A. Montiel, Cristina Sáez, Manuel A. Rodrigo
Disinfection and reduction of pharmaceutical CECs in real treated wastewater using electrogenerated persulfates.

15:00 to 15:15
Laura Mais (Dipartimento di Ingegneria Meccanica, Chimica e dei Material, Università degli studi di Cagliari, Cagliari, Italy), Laura Mais, Michele Mascia, Nicola Melis, Simonetta Palmas, Annalisa Vacca
Photoelectrochemical Oxidation of Polyethylene-terephthalate with Nanostructured TiO₂ Electrodes under Solar Light Irradiation
15:15 to 15:30
Daniel Scherson (Chemistry, Case Western Reserve University, Cleveland, USA), Jonathan Strobl
Mechanistic and Kinetic Aspects of Selenate Reduction on Cu(UPD) on Au Electrodes

15:30 to 15:45
Ismael F. Mena (Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain), Leticia M. da Silva, Miguel A. Montiel, Cristina Sáez, Arthur J. Motheo, Manuel A. Rodrigo
Can be used gaseous electrogenerated oxidants such as ozone and chlorine dioxide in the treatment of polluted soils?

15:45 to 16:00
Alvaro Ramírez-Vidal (Department of Chemical Engineering, Universidad de Castilla-La Mancha, Ciudad Real, Spain), Martín Muñoz-Morales, Lidia Villa, Jorge Adrián Castro, Erika Bustos, Javier Llanos
Influence of Anode Material in the Accumulation of Hydrogen Peroxide Produced by the 2e- Oxygen Reduction Reaction

16:00 to 16:15
Coffee Break

16:15 to 16:30
Juan Manríquez (Department of Science, CIDETEQ, Sanfandila, Pedro Escobedo, Mexico), Laura-Lupita Martínez-Rodríguez, Heidi-Belén Reséndiz, Jesús-Israel Valdez-Nava, Erika Bustos, José-Alberto García-Melo, Juan Manríquez
Photo-chemical sucralose degradation in an aqueous medium using a photo-Fenton system equipped with stainless steel mesh cathodes modified by nanostructured TiO_2- and C|TiO_2-based films for continuously electro-generation of H_2O_2

16:30 to 16:45 Invited
Sotirios Mavrikis (Biobased Products (BBP) - Sustainable Chemistry, Wageningen Food and Biobased Research (WFBR), Wageningen, Netherlands), Roel Bisselink, Rajeesh Pazhavelikkakath Purushothaman
Design and Optimisation of Carbonaceous Catalysts for the High-Rate Electrochemical Production of Hydrogen Peroxide via Oxygen Reduction in a Solid Electrolyte Flow Reactor

16:45 to 17:15 Award Winning lecture - 2021 ISE Elsevier Prize for Green Electrochemistry
Xiao Su (Chemical and Biomolecular Engineering, University of Illinois Urbana-Champaign, Urbana, USA)
Molecularly-selective electrochemical separations for sustainable chemical manufacturing, materials recycling, and environmental remediation

17:15 to 17:30 Invited
Jelena Radjenovic (Technology and Evaluation Area, Catalan Institute for Water Research (ICRA), Girona, Spain), Elisabeth Cuervo-Lumbaque, Natalia Sergienko, Luis Baptista-Pires, Giannis Florjanc-Norra, Nick Duinslaeger, Natalia Ormeño-Cano, Anna Segues Codina
Design and application of nanostructured electrodes for electrochemical water treatment and resource recovery

17:30 to 17:45
Carlos Alberto Martínez-Huitle (Institute of Chemistry, Federal University of Rio Grande do Norte, Natal, Brazil), Mateus C. Medeiros, Suely S. L. Castro, José Eudes Lima Santos, Elisama V. dos Santos, Manuel A. Rodrigo, Carlos A. Martínez-Huitle
Electro-refinery in organics: Selective electroproduction of high value-added products from electrochemical wastewater treatment
17:45 to 18:00
 **Erez Ruck** *(Faculty of Civil and Environmental Engineering, Technion-Israel Institute of Technology, Haifa, Israel)*, Youri Gendel

*Program of the 74th Annual Meeting of the International Society of Electrochemistry*

**A Novel Electrocatalytic Process for the Recovery of Metals and Water Treatment**

18:00 to 18:15
 **Calogera Bertoloni** *(Institut Jean Lamour, Université de Lorraine CNRS, Metz, France)*, François Lapicque, Eric Meux, Sophie Legeai

**Recovery of precious metals from WEEE in deep eutectic solvents by electro-leaching and electrodeposition: a mechanistic and kinetic study**

18:15 to 18:30
 **Lenka Svecova** *(LEPMI, Grenoble INP, Saint Martin d’Hères, France)*, François Guillet, Marian Chatenet, Florence Druart, Laetitia Dubau

**Is electrochemical leaching of PEMFC platinum-based catalysts feasible?**

18:30 to 18:45
 **Molly Keal** *(Chemical Engineering, University of Birmingham, Birmingham, United Kingdom)*, Emily Roberts, Lydia Clewlow, Neil Rees

**Electrochemical Recycling of Ruthenium Via Nano-Impacts**

18:45 to 19:00
 **Maria del Mar Cerrillo Gonzalez** *(Chemical Engineering, University of Malaga, Malaga, Spain)*, Maria Villen-Guzman, Juan Manuel Paz-Garcia, Jose Miguel Rodriguez-Maroto

**Production of HCl and LiOH from Lithium-ion Batteries Leaching Solution by Electrodialysis**

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**Symposium 12 Molecular Electrochemistry - Mechanisms and Models**

**Room: Bellecour 1**

_Chaired by: Carlos SANCHEZ_

14:00 to 14:30 **Keynote**

 **Juan Victor Perales Rondón** *(Chemistry department, University of Burgos, Burgos, Spain)*, Luis Romay, Maria Huidobro, Elena Bujedo, Aranzazu Heras, Alvaro Colina

**UV/Vis absorption spectroelectrochemistry to study electrochemical nitrate to ammonia conversion: possibilities and perspectives**

14:30 to 14:45 **Invited**

 **Benedikt Lassalle** *(LUCIA Beamline, Synchrotron SOLEIL, Saint-Aubin, France)*

**In Situ X-ray Absorption Spectroscopy : a Complementary Tool for Molecular Electrochemistry**

14:45 to 15:00 **Ludmila Simková** *(Department of Molecular Electrochemistry and Catalysis, J. Heyrovský Institute of Physical Chemistry of CAS v.v.i., Prague, Czech Republic)*, David Gabaj, Karol Lušpai, Karolína Salvadori, Jíří Ludvík

**Spectro) Electrochemical Properties of Derivatives of 1,3-Diphenylisobenzofuran - Potential Chromophores for Singlet Fission**
15:00 to 15:15  
**Aranzazu Heras** *(Chemistry, Universidad de Burgos, Burgos, Spain)*, Fabiola Olmo, Natalia Perez, Pello Nuñez-Marinero, Francisco Javier del Campo, Alvaro Colina  
**Spectroelectrochemistry of the fluoroquinolone family**

15:15 to 15:30  
**Francisco Montilla** *(Dept. Química Física, Universidad de Alicante, Alicante, Spain)*, Ricardo Mallavia, Salma Hafed-Khatiri, Francisco Huerta, Andrés F. Quintero-Jaime, David Salinas-Torres  
**In situ Electrochemical Fluorescence Spectroscopy: The Path from Molecular Photophysics to Chemical Applications**

15:30 to 15:45  
**Manuela López-Tenés** *(Departamento de Química Física, Universidad de Murcia, Murcia, Spain)*, Joaquín González, Eduardo Laborda, Angela Molina  
**Disentanglement of the Cyclic Voltammetry of Surface-Bound Redox Species in Two-Electron Transfers: Influences of Reversibility and Ordering of Formal Potentials**

15:45 to 16:15  
**Coffee Break**

16:15 to 16:45  
**Keynote**  
**Louise Berben** *(Chemistry, University of California, Davis, USA)*  
**Pre-equilibrium reaction mechanism as a strategy to enhance rate and lower overpotential in electrocatalysis**

16:45 to 17:00  
**Invited**  
**Marco Fantin** *(Department of Chemical Sciences, University of Padova, Padova, Italy)*, Giovanni Lissandrini, Francesca Lorandi, Abdirrisak Isse  
**Transforming Electrons into Radicals to Trigger a Controlled Radical Polymerization**

17:00 to 17:15  
**Ingrid Ponce** *(Department of Environmental Sciences, University of Santiago, Chile, Santiago, Chile)*, Laura Scarpetta, Nayareth Vilches, Karina Muñoz-Becerra, José H. Zagal, Ana María Méndez, Ricardo Venegas, Alexis Aspee, Francisco Mura, Pablo Barrias, Rubén Oñate  
**Spin-selection control to improve the Electrocatalysis for the Oxygen Reduction Reaction in chiro-self-assembled FePc systems**

17:15 to 17:30  
**Christophe Léger** *(Bioenergetics and Engineering of Proteins, CNRS / AMU, Marseille, France)*  
**Combining electrochemistry and protein engineering to elucidate outer-sphere effects in hydrogenase catalysis**

17:30 to 17:45  
**Théo Personeni** *(Laboratoire Hétérochimie Fondamentale et Appliquée, Université Toulouse 3 Paul Sabatier, Toulouse, France)*, Théo Personeni, Soukaina Bennaamane, Nicolas Mézailles, Christophe Bucher  
**Nitrogen electroreduction in aminoboranes electrocatalyzed by a molybdenum coordination complex**

17:45 to 18:00  
**Rana Deeba** *(DCM, Université grenoble alpes, Grenoble, France)*, Cyrille Costentin, Sylvie Chardon-Noblat  
**A ligand Exchange Route which Decelerates Catalysis: Mechanistic Studies of the Electrochemical Reduction of Nitrous Oxide with Rhenium Bipyridyl Carbonyl Complexes**
18:00 to 18:15

**Claire Fave** (Chemistry, Laboratoire d’Electrochimie Moléculaire - UPCité, Paris, France), Nikolaos Kostopoulos, Léonie Berthonnaud, Frédéric Banse, Elodie Anxolabéhère Mallart

*In-situ generation of highly activate porphyrin intermediate via electrocatalytic O₂ Activation for oxidation reactions.*

18:15 to 18:30

**Shuai Liu** (College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China), Guilhem Pignol, Corinne Lagrost, Jiawei Yan, Bingwei Mao, Philippe Hapiot


18:30 to 18:45

**Massimo Marcaccio** (Dipartimento di Chimica, Università di Bologna, Bologna, Italy), Lorenzo Ripani, Lawrence T. Scott, Marina A. Petrukhina, Francesco Paolucci

*Electrochemical Reactivity of Polyaromatic Hydrocarbons and Carbon Nanostructures*

18:45 to 19:00

**Magdalena Hromadova** (Electrochemistry at the Nanoscale, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic), Magdalena Hromadova, Philippe P Laine, Stepánka Nováková Lachmanová, Alexis Gosset, Eva Vaněčková, Romana Sokolová, Lubomír Pospíšil, Christian Perruchot, Ilaria Ciofini, Eric Brémont

*Potential Inversion and Electron Storage in Chemical Bonds.*

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**Symposium 14 Operando and in situ characterization of electrochemical interfaces**

**Room: Forum 4**

*Chaired by: Nagahiro Hoshi, Yu Katayama*

14:00 to 14:15 Invited

**Enrique Herrero** (Instituto de Electroquímica, Universidad de Alicante, Alicante, Spain), Rubén Rizo, Julia Fernández-Vidal, Laurence J. Hardwick, Gary A. Attard, Victor Climent, Juan M. Feliu

*On the OH adsorption on platinum surfaces*

14:15 to 14:30

**Alessandro Facchin** (Chemistry, Technical University of Munich, Munich, Germany), Francesco Cazzadori, Mattia Cattelan, Lucio Litti, Christian Durante

*Origin of the Synergistic Effect of Nucleation of Pt Clusters in Presence of Au: Implications towards Oxygen Reduction Reaction explored by EC-STM*

14:30 to 14:45

**Connor Sherwin** (Department of Chemistry, University of Southampton, Southampton, United Kingdom), Veronica Celorrio, Katie Rigg, Andrea Russell, Chris Zalitis

*Operando X-ray Studies of Gas Evolving and Consuming Electrocatalysts*

14:45 to 15:00

**Fouad Maroun** (Laboratoire PMC, CNRS Ecole Polytechnique, Palaiseau, France), Mathilde Bouvier, Ivan Pacheco, Philippe Allongue, Canrong Qiu, Tim Wiegmann, Jochim Stettner, Olaf Magnussen

*Combined operando SXRD and XAS studies of model cobalt oxide and cobalt iron oxide electrocatalysts for water splitting*
15:00 to 15:15
**Bruna Ferreira Gomes** *(Department of Electrochemical Process Engineering, University of Bayreuth, Bayreuth, Germany)*, Wulyu Jiang, Michael Haumann, Holger Dau, Rameshwori Loukrakpam, Meital Shviro, Christina Roth

*In-situ X-ray Absorption Spectroscopy to Study NiFe Layered Double Hydroxide Catalysts for Water Electrolyzers*

15:15 to 15:30
**Yuzu Kobayashi** *(Department of Advanced Materials Science, The Univ. of Tokyo, Kashiwa, Kashiwa, Japan)*, Raymond Wong, Misun Hong, Yasuyuki Yokota, Jun Takeya, Yousoo Kim

*Single-Molecule Measurement under Electrochemical Environment: Tracking of Redox Reactions and Development of New Methods*

15:30 to 15:45
**Leo Sahaya Daphne Antony** *(Light Management and Photovoltaics, AMOLF, Amsterdam, Netherlands)*, Loriane Monin, Mark Aarts, Igor Siretanu, Frieder Mugele, Esther Alarcon Llado

*In-situ Probing of Adhesion Forces at the Solid-Liquid Interface*

15:45 to 16:15
*Coffee Break*

16:15 to 16:30
**Cindy Tseng** *(Materials, Imperial College London, London, United Kingdom)*, Benjamin Moss, Reshma Rao, Ifan Stephens, James Durrant

*Probing the Effects of Doped Iridium Oxide on Oxygen Evolution Reaction Using Operando Spectroelectrochemical Techniques*

16:30 to 16:45
**Takeshi Nishimoto** *(Department of Chemical System Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, Japan)*, Yuke Yang, Keisuke Obata, R. Kramer Campen, Yujin Tong, Kazuhiro Takanabe

*Vibrational Sum Frequency Generation Analysis to Investigate Electrode/Electrolyte Interface during Oxygen Evolution*

16:45 to 17:00
**Johanna Schroeder** *(Chemical Engineering, Stanford University, Stanford, USA)*, José A. Zamora Zeledón, Gaurav A. Kamat, Melissa E. Kreider, Lingze Wei, Aniket Mule, Dimosthenis Sokaras, Kyra Yap, Alessandro Gallo, Michaela Burkes Stevens, Thomas F. Jaramillo

*Operando X-ray absorption near-edge spectroscopy to track the surface dynamics of a Ag-MnOx oxygen reduction catalyst*

17:00 to 17:15
**Nathaly Ortiz Peña** *(Physics, Université Paris Cité - ITODYS - CNRS, Paris, France)*, Louis Godeffroy, Jean-François Lemineur, Frédéric Kanoufi, Damien Alloyeau, Jean-Marc Noël

*Correlative Multi-Microscopies Study Of Electrodeposited Pt Nano-Assemblies As Precipitation Platforms For Ni(OH)₂*

17:15 to 17:30
**Tianxiao Ma** *(Chemistry, University of British Columbia, Vancouver, Canada)*, Adrian Grzedowski, Thomas Doneux, Dan Bizzotto

*Redox-Controlled Energy Transfer Quenching of Fluorophore-Labeled DNA SAMs Enables In Situ Study of These Complex Electrochemical Interfaces*
17:30 to 17:45

Adrian Grzedowski (Chemistry, The University of British Columbia, Vancouver, Canada), Geyang Zhou, Amita Mahey, Rachel Fernandez, Dan Bizzotto

**DNA Nano-Cube Modified Electrode Surfaces for Precise Control of DNA Arrangement**

17:45 to 18:00

Krzysztof Dzieciol (IEK-9, Forschungszentrum Jülich, Jülich, Germany), Yasin Emre Durmus, Hermann Tempel, Hans Kungl, Rüdiger-A. Eichel

**Operando investigation of zinc plating and stripping in various environments using laboratory XCT**

18:00 to 18:15

Harpreet Singh (LCPME, CNRS-Université de Lorraine, Nancy, France), Shaohua Chen, Pooi See Lee, Liang Liu, Mathieu Etienne

**Study of electrochemical actuation of functionalized Ti$_2$C$_{2-x}$Tx Mxene by in-situ measurements at microscale.**

18:15 to 18:30

Syeda Ramin Jannat (Materials, Imperial College London, London, United Kingdom), Mary Ryan, Baptiste Gault, Ifan Stephens, Bethan Davies

**The Nucleation of Dendrites in Lithium-Ion Batteries**

18:30 to 18:45

Luca Cressa (MRT, Luxembourg Institute of Science and Technology, ESCH-SUR-ALZETTE, Luxembourg)

**Operando Analysis of Solid-State Batteries Using Correlative Secondary Ion Mass Spectrometry Imaging**

18:45 to 19:00

Moritz Josef Feil (TUM School of Natural Sciences, Technical University of Munich, Garching bei München, Germany), Thomas Lorenz Maier, Matthias Golibrzuch, Andrea Christine Sterr, Malo Duportal, Markus Becherer, Katharina Krischer

**Adsorption Isotherms via Differential Cyclic Plasmo-Voltammetry**

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**Symposium 16 General Session**

**Room: Trémie 4**

*Chaired by: Claude Lamy, Bernard Tribollet*

14:00 to 14:30 **Keynote**

Fethi Bedioui (Institute of Chemistry for Life and Health Sciences i-CLeHS, Chimie ParisTech-PSL/ CNRS, Paris, France)

**Electrochemical detection of nitric oxide (NO) in-vivo: an overview of significant examples**

14:30 to 14:45 **Jonathan Hedley** (Chemistry, Imperial College London, London, United Kingdom), Hélène Berthoumieux, Alexei Kornyshev

**The Dramatic Effect of Water Structure on Hydration Forces and the Electrical Double Layer**

14:45 to 15:45 **Adela Isabel Carrillo Gomez** (Physical Sciences and Engineering, European Research Council Executive Agency, Brussels, Belgium), Wolfgang Schuhmann, Sarinn David Pech

**Funding opportunities for researchers: European Research Council (ERC) info-session**
15:45 to 16:15
Coffee Break

16:15 to 16:45 **Keynote**

**Jean Gamby** *(Centre de Nanosciences et de Nanotechnologies, CNRS and Paris-Saclay University, Palaiseau, France)*, Claire Poujouly, Martina Freisa, Marie-Charlotte Horny, Pedro Gonzalez-Losada, Jérémy Le Gall, Jihed Khemir, Djamila Kechkeche, David Bouville

*Electrochemistry in Microfluidics*

16:45 to 17:00

**Anna Nykiel** *(LCPME, Université de Lorraine, Nancy, France)*, Malgorzata Kac, Alain Walcarius

*Influence of template-assisted electrodeposition parameters on the properties of FeCoNi nanowires*

17:00 to 17:15

**Enrico Verlato** *(ICMATE, National Research Council of Italy, Padova, Italy)*, Nicola Comisso, Luca Mattarozzi, Marco Musiani, Lourdes Vazquez Gomez

*New Evidence on the Mechanism of Cathodic Electroprecipitation of Metal Oxides*

17:15 to 17:30

**Juan Reyna-González** *(School of Engineering and Sciences, Tecnologico de Monterrey, Mexico, Mexico)*, Anaïd Cano, Alejandro Gutiérrez, Carolina López

*Copper(II) Microextraction from Real Wastewater with a Pyridinium-Based Ionic Liquid Monitored in situ by Cyclic Voltammetry*

17:30 to 17:45

**Céline Cannes** *(Pôle Energie & Environnement, IJCLab, Orsay, France)*, Pauline Bouhier, David Lambertin, Christian Grisolia, Davide Rodrigues, Sylvie Delpech

*Can Al represent a good analogue of Be to understand its reactivity in aqueous solution and cementitious matrices?*

17:45 to 18:00

**Lianhuan Han** *(Department of Mechanical and Electrical Engineering, Xiamen University, Xiamen, China)*, Dongping Zhan

*Electrochemical Nanomachining Directly on Semiconductor Wafer*

18:00 to 18:15

**Yiran Zhao** *(CNRS, ISCR-UMR 6226, University of Rennes, RENNES, France)*, Julie Descamps, Yoan Léger, Lionel Santinacci, Neso Sojic, Gabriel Loget

*Anti-Stokes Photoinduced Electrochemiluminescence at Metal-Insulator-Semiconductor Photoanodes*

18:15 to 18:30

**Mitsuhiro Matsumoto** *(Department of Chemical Engineering, National Institute of Technology, Nara College, Nara, Japan)*, Kazuki Takeuchi, Shoki Nawate, Yohtaro Inoue, Katsuhiko Tsunashima, Hirohisa Yamada

*Spectroscopic Analysis for Phosphonium Ionic Liquids with Different Alkyl Chain Structures*
Wednesday 6 September 2023 - AM

Plenary

Room: Amphithéâtre

Chaired by: Bernard Tribollet

08:15 to 09:15

Mark Orazem (Department of Chemical Engineering, University of Florida, Gainesville, USA)

Electrochemical Engineering in Service to Society

Symposium 1   Electroanalytical chemistry: from fundamental research to day-to-day analysis

Room: Gratte-Ciel 3

Chaired by: Alain Walcarius

09:30 to 10:00  Keynote

Eric Bakker (Department of Inorganic and Analytical Chemistry, University of Geneva, Geneva, Switzerland)

Conceptual and Materials Advances for Electrochemical Ion Sensors

10:00 to 10:15

Klaus Mathwig (OnePlanet Research Center, imec, Wageningen, Netherlands), Francesca Leonardi, Aniek Even, Ria Sijabat, Rachel Armstrong, Klaus Mathwig, Sonja de Vries, Tom Torfs, Nick van Helleputte, Annelies Goris, Chris van Hoof

Unravelling Gut Health: Ingestible Electrochemical Sensing for Continuous Non-invasive Monitoring

10:15 to 10:30

Julia van Drunen (R&D Applications Laboratory, Metrohm Applikon, Schiedam, Netherlands), Jakub Tymoczko

Mercury-Free Sensors for Automated Voltammetric Analysis

10:30 to 11:00

Coffee Break

Symposium 2   Bioelectrochemistry - From molecular to cellular scales

Room: Tête d’Or 2

Chaired by: Umberto Contaldo, Edmond Magner

09:30 to 10:00

Bioelectrochemistry Prize of ISE Division 2

Renata Bilewicz (Chemistry, University of Warsaw, Warsaw, Poland)

Gold Nanocluster Doped Films at Electrodes. Preparation and Applications in Bioelectrochemistry
10:00 to 10:15

**Wolfgang Schuhmann** (Analytical Chemistry - Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany), Svetlana Shachneva, Anna Lielpetere

*A Novel Catalytic Equilibrium Biosensor Concept for Long-Term Implantable Glucose Sensors*

10:15 to 10:30

**Frederic Lemaitre** (Chemistry, Sorbonne Université / Ecole Normale Supérieure, Paris, France), Lena Beausamy, Julien Derr, Manon Guille-Collignon, Jérôme Delacotte, Kenya Tanaka, Shuji Nakanishi, Francis-André Wollman, Benjamin Bailleul

*Electron Harvesting from Quinones-Algae Suspensions: Analyses and Modelings from Fluoroelectrochemical Measurements*

10:30 to 10:45

**Kumi Y. Inoue** (Center for Basic Education, Faculty of Engineering, University of Yamanashi, Kofu, Japan), Ayane Endo, Koki Kubota, Mayo Komatsu, Tomoki Iwama

*Bipolar Electrode Array for Dopamine Imaging Using Cathodic Luminophore for Electrochemiluminescence*

10:45 to 11:00

*Coffee Break*

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**Symposium 3  From wearable to sustainable electrochemical sensing and biosensing**

**Room: Tête d’Or 1**

*Chaired by: Stefano Cinti, Ilaria Palchetti*

09:30 to 10:00 **Keynote**

**Ciara K. O’ Sullivan** (Chemical Engineering, Universitat Rovira i Virgili, Tarragona, Spain), Mayreli Ortiz, Miriam Jauset Rubio, David Kodr, Anna Simonova, Michal Hocek

*Solid-phase isothermal primer elongation using ferrocene-labelled dNTPs for the electrochemical detection of single nucleotide polymorphisms*

10:00 to 10:15

**Elena Ferapontova** (iNANO, Aarhus University, Aarhus, Denmark)

*Electrocatalytic Biosensors Using O2 Reactivity of the Covalent G4-Hemin DNAzyme for Signal Amplification*

10:15 to 10:30

**Ana Diaz-Fernandez** (Department of Chemical Science and Technologies, University of Rome Tor Vergata, Rome, Italy), Simona Ranallo, Francesco Ricci

*Rapid Multiplex DNA Circuit Supports Electrochemical Detection of Clinically Relevant Antibodies*

10:30 to 10:45

**Abhishek Kumar** (ICMUB UMR 6302, University of Burgundy, DIJON, France), Rita Meunier-Prest, Marcel Bouvet

*Electrografting of low conducting aryl films for organic heterostructure development: Application to redox gas sensing*

10:45 to 11:00

*Coffee Break*
Symposium 4a  From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Gratte-Ciel 2

Chaired by: Laurence Croguennec

09:30 to 10:00

Zhaowu Tian Prize for Energy Electrochemistry

Volker Presser (Energy Materials, Saarland University, Saarbrücken, Germany)

Electrochemical ion management and nanomaterial design for the energy/water research nexus

10:00 to 10:15 Invited

Eric McCalla (Chemistry, McGill University, Montreal, Canada), Eric McCalla, Shipeng Jia, Antranik Jonderian

Accelerating the Design of Cathodes for Li- and Na-ion Batteries

10:15 to 10:30

Magda Reuter (LEPMI, UGA, Verkor, Grenoble, France), Céline Barchasz, Bruno Delobel, Fannie Alloin, Claire Villevielle

Towards high power and high energy LIBs: investigation and optimization of NMC electrodes

10:30 to 11:00

Coffee Break

Symposium 4b  From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel

Chaired by: M Rosa Palacin

09:30 to 10:00 Keynote

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

Enabling High Areal Capacity and Long Stability of Cathodes in All-Solid State Li Batteries

10:00 to 10:15 Invited

Felix H. Richter (Physical chemistry, Center for materials research, Justus-Liebig-University Gießen, Gießen, Germany)

Strategies to Mitigate Contact Loss at Solid-State Battery Interfaces

10:15 to 10:30

Timothée Fabre (MIEL, LEPMI - Grenoble-INP, Grenoble, France), Marie Lachal, Hari Raj, Valérie Pralong, Jean-Marc Chaix, Didier Bouvard, César Steil, Renaud Bouchet

Electrochemical Flash Sintering: An innovative process to build All-Solid-State Battery systems in few seconds

10:30 to 11:00

Coffee Break
Symposium 5  Fast storage processes: Supercapacitors and high power systems

Room: Gratte-Ciel 1

Chaired by: David Pech

09:30 to 10:00 Keynote

Christophe Lethien (IEMN / RS2E / IUF, Avenue Poincaré, Villeneuve d’Ascq, France)
Tuning the properties of (pseudo)capacitive films: from the fundamental understanding to the fabrication of solid-state microdevices

10:00 to 10:15

Khac Huy Dinh (IEMN, University of Lille, Lille, France), Christophe Lethien, Pascal Roussel
Ternary Vanadium Tungsten Nitride Films for Micro-supercapacitor Electrode

10:15 to 10:30 Invited

Patrice Simon (Materials Science, Université Toulouse III Paul Sabatier, Toulouse, France)
Electrochemical characterizations of materials for high power energy storage devices

10:30 to 11:00

Coffee Break

Symposium 6a  Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre

Chaired by: Santoro Carlo, Chang Hyuck Choi

09:30 to 10:00 Keynote

Marc Koper (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)
Electrolyte effects in CO₂ electrolysis

10:00 to 10:15

Haesol Kim (Department of Chemistry, Pohang University of Science and Technology, Pohang, Korea), Chang Hyuck Choi
Cation effect on the electrochemical platinum dissolution

10:15 to 10:30

Federico Tasca (Material Chemistry, University of Santiago of Chile, Santiago of Chile, Chile), Walter Orellana, Cesar Zuñiga, Soledad Ureta, Angelica Gatica, Jose Zagal
Oxygen Reduction Reaction at Fe Phthalocyanine Modified Electrodes. The Effect of Ligands (-F, -Cl, -Br, -I), Ions, and pH on the Electrocatalysis. Ab initio Molecular Dynamics Simulations in Electrolyte Media and Experimental Analysis

10:30 to 11:00

Coffee Break
Symposium 6b  Fuel cells, electrolysis and electrofuel synthesis

Room: Salon Tête d’Or

Chaired by: Jasna Jankovic

09:30 to 09:45

Toshinori Motegi (Takasaki Advanced Radiation Research Institute, National Institutes for Quantum Science and Technology (QST), 1233 Watanuki, Takasaki, Japan), Masataka Abe, Yue Zhao, Toshihiro Kawakatsu, Yasunari Maekawa

A Combination of Structural Analysis and Simulation for Functional Prediction of Graft-type Polymer Electrolyte Membranes.

09:45 to 10:00

Carlos Gomez Rodellar (Interface Science Department, Fritz Haber Institute of the Max Planck Society, Berlin, Germany), Beatriz Roldan Cuenya, Sebastian Z. Oner

Interfacial Water Dissociation and Water Formation Catalysis in Bipolar Membranes.

10:00 to 10:15

Kenji Sakamaki (Department of Applied Chemistry and Biochemistry, Fukushima College, National Institute of Technology, Iwaki, Fukushima, Japan)

Hydrogen Generation Derived from Water Dissociation (29).

10:15 to 10:30

Yan Xiang (School of Space and Environment, Beihang University, Beijing, China), Shanfu Lu, Jin Zhang, Haining Wang, Yunqi Li, Yiyang Liu

R & D and Industrialization of High-Temperature PEM Fuel Cell.

10:30 to 11:00

Coffee Break

Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes

Room: Bellecour 2

Chaired by: Ulrike Krewer

09:30 to 10:00 Keynote

Karl Mayrhofer (Helmholtz-Institute Erlangen-Nürnberg, Forschungszentrum Jülich, Erlangen, Germany), Karl Mayrhofer, Serhiy Cherevko, Dominik Dworschak, Konrad Ehlebe

Can we be both fast and significant? High-throughput characterization of complex catalyst interfaces in electrodes.

10:00 to 10:15

Christian Marcks (Electrochemical Reaction Engineering, RWTH Aachen University, Aachen, Germany), Adarsh Jain, Vineetha Vinayakumar, Doris Segets, Anna K. Mechler

Optimized Characterization of Powder-Based Catalysts for the Oxygen Evolution Reaction in Alkaline Media.
10:15 to 10:30
**Rameshwori Loukrakpam** *(Electrochemical Process Engineering, Universität Bayreuth, Bayreuth, Germany)*, Timon Elias Günther, Bruna Ferreira Gomes, Christina Roth

*Oxygen reactions and accelerated stress tests on 3-D gas diffusion electrodes in half-cell setup*

10:30 to 10:45
**Clement Trellu** *(Laboratoire Geomateriaux et Environnement, University Gustave Eiffel, Champs-sur-Marne, France)*, Clement Trellu, Jing Ma, Nihal Oturan, Stephane Raffy, Mehmet A. Oturan

*Influence of the porous structure of TiOx electrodes for application in the removal of organic compounds from water*

10:45 to 11:00
*Coffee Break*

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**Symposium 10 Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management**

*Room: Bellecour 3*

*Chaired by: Xiao Su*

09:30 to 10:00 **Keynote**

**Robert Hillman** *(School of Chemistry, University of Leicester, Leicester, United Kingdom)*, Asuman Unal, Salih Cihangir, Abdulcabbar Yavuz, Karl Ryder

*Electrochemical Fluoride Remediation of Water Using Aniline-Based Polymer Films*

10:00 to 10:15

**Zhongkai Li** *(Department of Chemistry, University of Bath, Bath, United Kingdom)*, Frank Marken

*Driving Electrochemical Membrane Processes with Coupled Ionic Diode*

10:15 to 10:30 **Invited**

**Chi-Chang Hu** *(Department of Chemical Engineering, National Tsing Hua University, Hsin-Chu city, Taiwan)*, Hung-Yi Huang, Yi-Heng Tu, Yu-Hsiang Yang, Yi-Ting Lu

*A High Performance Low Energy Consumption Electrochemical Deionization System Using Polypyrrole on Both electrodes*

10:30 to 10:45

**Tomasz Lecki** *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Kamila Zarebska, Ewelina Wierzynska, Magdalena Skompska

*The photocatalytic and photoelectrocatalytic working mechanism of BiVO$_4$/Au/g-C$_3$N$_4$ system: Z-scheme or cascade pathway?*

10:45 to 11:00

*Coffee Break*
Symposium 13 Physical Electrochemistry of Battery Materials

Room: Bellecour 1

Chaired by: Nuria Garcia-Araez

09:30 to 10:00 Keynote

Kohei Uosaki (Fellow, National Institute for Materials Science, Tsukuba, Japan), Yanan Gao, Hidenori Noguchi

Structural and Mass Spectroscopic Approaches for the Degradation Mechanism of Lithium Oxygen Battery

10:00 to 10:15

Sarat Alabidun (Chemical Engineering, Imperial College, London, South Kensington, London, United Kingdom), Bethan J.V Davies, Maria Crespo-Ribadeynera, Mary P. Ryan, Ifan E.L Stephens, Magda Titirici

Probing Degradation Mechanisms and Gas Evolution in Sodium Ion Batteries

10:15 to 10:30

Utkarsh Vijay (Laboratoire de Réactivité et Chimie des Solides (LRCS), Université de Picardie Jules Verne, Amiens, France), Jiahui Xu, Diana Zapata Dominguez, Mohammed Alabdali, Franco M. Zanotto, Alejandro A. Franco

LiFePO₄ Electrode Manufacturing Optimization via Coarse-Grained Particle Dynamics Simulations

10:30 to 10:45

Shoichi Matsuda (Center for Green Research on Energy and Environmental Materi, National Institute for Material Science, Tsukuba, Japan)

Chemical Crossover Accelerates Degradation of Lithium Electrode in High Energy Density Rechargeable Lithium-Oxygen Batteries

10:45 to 11:00

Coffee Break

Symposium 14 Operando and in situ characterization of electrochemical interfaces

Room: Forum 4

Chaired by: Nagahiro Hoshi

09:30 to 10:00 Keynote

Olaf Magnussen (Institute of experimental and applied physics, Kiel University, Kiel, Germany)

Atomic-scale Structural Dynamics at Copper and Silver electrodes: From Fundamental Adsorbate Dynamics to Restructuring under Reduction Conditions

10:00 to 10:15

Johannes M. Hermann (Institute of Electrochemistry, Ulm University, Ulm, Germany), Felix M. Matzik, Areeg Abdelrahman, Timo Jacob, Ludwig A. Kibler

Electrocatalytic Reactions as Probes for Monitoring Dynamics of Well-Defined Surfaces
10:15 to 10:30  
**Johannes Novak Hartmann** (*R&D dep., Spectro Inlets, Copenhagen, Denmark*), Anna Winiwarter  
Detection and Quantification of Volatile Products for Electrocatalysis and Batteries with Real-Time Electrochemistry - Mass Spectrometry

10:30 to 10:45  
**Ayman A. El-Zoka** (*Department of Materials, Imperial College London, London, United Kingdom*), Baptiste Gault, Roger C. Newman, Mary P. Ryan  
Enhanced In-situ Characterization of Nanoporous Metal Formation using Cryo-Atom Probe Tomography

10:45 to 11:00  
Coffee Break

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**Symposium 15** Electrolyte effects in electrocatalysis and electrochemistry in non-conventional electrolyte

**Room: Trémie 4**

*Chaired by: Angel Cuesta, Alexis Grimaud, Barcu Gurkan, Jennifer Schaefer, Mireille Turmine*

09:30 to 10:00 **Keynote**  
**Angel Cuesta** (*School of Natural and Computing Sciences, University of Aberdeen, Aberdeen, United Kingdom*), Laura Perez-Martinez, Marco Papasizza, Jiabo Le, Xiaohui Yang, Pavithra Gunasekaran, Alan J. Gibson, Andrew Burley, Nandita Mohandas, Tharangattu N. Narayanan, Jun Cheng  
The interfacial structure and dynamics of aqueous and non-aqueous electrolytes and effects of the electrolyte composition on electrocatalytic reactions

10:00 to 10:15 **Invited**  
**Andrea Balducci** (*Institute for Technical Chemistry & Environmental Chemistry, Friedrich-Schiller University Jena, Jena, Germany*), Timo Stettner  
Influence of water on the properties of protic ionic liquids and on their application in energy storage devices

10:15 to 10:30  
**Helene Pung** (*IRIG-SyMMES, Univ. Grenoble Alpes, CNRS, CEA, Grenoble, France*), Celso Yassuo Okada-Junior, Mirella Simoes Santos, Sebastien Livi, Jannick Duchet-Rumeau, Agilio Padua, Patrice Rannou, Manuel Marechal  
Thermotropic Ionic Liquid Crystals: Structure/ion transport correlation within stimuli-responsive electrolytes for energy

10:30 to 10:45  
**Oronzio and Niccolò De Nora Foundation Young Author Prize**  
**Sara Grecchi** (*Chemistry, Università degli Studi di Milano, Milano, Italy*), Serena Arnaboldi, Elisa Emanuele, Lorenzo Guazzelli, Fabiana Arduini, Laura Micheli, Patrizia R. Mussini  
Exploring the Enantioselection Ability of Chiral Deep Eutectic Solvents

10:45 to 11:00  
Coffee Break
Thursday 7 September 2023 - AM

Plenary

Room: Amphithéâtre

Chaired by: Nadine Pechere

08:15 to 09:15


Electrogeneration of Sol-Gel Films: Concept, Development and Applications

Symposium 1  Electroanalytical chemistry: from fundamental research to day-to-day analysis

Room: Gratte-Ciel 3

Chaired by: Daniel Mandler

09:30 to 10:00 Keynote

Janine Mauzeroll (Chemistry, McGill University, Montreal, Canada)

The Good, The Bad and the Ugly: A Tale of Microscale Corrosion

10:00 to 10:15

Liang Liu (LCPME, CNRS, Université de Lorraine, Villers-les-Nancy, France)

Scanning Gel Electrochemical Microscopy: On the Way to the Quantitative Analysis

10:15 to 10:30

Daniel Torres (Faculté des Sciences, Université libre de Bruxelles, Brussels, Belgium), Miguel Bernal Lopez, Jon Ustarroz

New Perspective of Electrochemical Nucleation and Growth Based on Local Electrochemistry: A Multi-microscopy Approach

10:30 to 11:00

Coffee Break
Symposium 3  From wearable to sustainable electrochemical sensing and biosensing

Room: Tête d’Or 1

Chaired by: Stéphane Arbault, Elena Ferapontova

09:30 to 09:45 Invited
Danny O’Hare (Bioengineering, Imperial College, London, United Kingdom), Yi-Chih Chen, Shulin Zhsang, Damien Ming, David Freeman, Sally Gowers, Tony Cass, Alison Holmes
Minimally-invasive electroanalysis in biomedical and clinical investigations

09:45 to 10:00
Ana-Maria Dragan (Analytical Chemistry, “Iuliu Hatieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania), Ana-Maria Dragan, Marc Parrilla, Cecilia Cristea, Karolien De Wael
Development of a Wearable Electrochemical Microneedle Sensor: Towards the Screening and Monitoring of MDMA in Interstitial Fluid

10:00 to 10:15
Zhanna A. Boeva (Sensor, GlucoModicum Ltd., Helsinki, Finland), Emily Kemp, Tommi Palomäki, Ida A. Ruuth, Teemu A. Nurminen, Risto T. Vänskä, Laura K. Zschaechner, Alejandro García Pérez, Tuuli A. Hakala, Melissa Wardale, Edward Haeggström, Johan Bobacka
Influence of enzyme immobilization and skin-sensor interface on non-invasive glucose determination from interstitial fluid obtained by magnetohydrodynamic extraction

10:15 to 10:30
Stephan Sylvest Keller (DTU Nanolab, Technical University of Denmark, Kongens Lyngby, Denmark), Long Nguyen Quang, Gerardo Zavaleta, Filip Patrick Angelov, Jesper Yue Pan, Stephanie Ingemann Bisgaard, Katrine Lindholm Bøgh, Arto Heiskanen, Jenny Emnéus, Yi Sun
Exploring Pyrolytic Carbon for Fabrication of Microneedle-based Electrochemical Sensors

10:30 to 11:00
Coffee Break

Symposium 4a  From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Gratte-Ciel 2

Chaired by: Rafael Troccoli

09:30 to 09:45 Invited
Masashi Okubo (Department of Electrical Engineering and Bioscience, Waseda University, Tokyo, Japan)
Development of electrode materials for aqueous batteries

09:45 to 10:00
Amr Abdelkader Ahmed Sadek Elgendy (Chemistry, University of Manchester, Manchester, United Kingdom), Prof. Robert Dryfe, Dr. David Lewis
Unraveling the Phase Transformations in Nanosized Chevrel Phase Mo₆S₈ for Dendrite-Free Zinc-Ion Hybrid Energy Storage Devices
10:00 to 10:15
Volodymyr A. Yartys (Batteries, Institute for Energy Technology, Kjeller, Norway), Jean Nei
Metal hydride battery anodes. Status and recent developments.

10:15 to 10:30
Dario Gomez Vazquez (Mechanical engineering, ETH Zürich, Zurich, Switzerland), Travis P. Pollard, Julian Mars, Jimun Yoo, Hans-Georg Steinrück, Sharon E. Bone, Olga V. Safonova, Michael F. Toney, Oleg Borodin, Maria R. Lukatskaya
Electrolyte engineering for Zn-ion batteries: Concentration-dependent Zn$^{2+}$ coordination structure and its implication on Zn metal anode reversibility.

10:30 to 11:00
Coffee Break

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Symposium 4b From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel
Chaired by: Yuan Yang

09:30 to 09:45
Kei Tsunoda (Development Div., Research & Development Gr., Nippon Electric Glass Co., Ltd, 7-1 Seiran 2-chome Otsu, Japan), Masahiro Yamatani, Ayumu Tanaka, Junichi Ikejiri, Hideo Yamauchi, Noriaki Masuda
Oxide-Based All-Solid-State Na-Ion Battery Using Glass-Ceramic

09:45 to 10:00
Lucas Trassart (MIEL, Arkema/LEPMI, Grenoble, France), Lauréline Marchal, Fannie Alloin, Claire Villevieille
On the Impact of Binder on Electrochemical Properties of Sulphide-based Electrolyte

10:00 to 10:15
Jinsong Zhang (Electrochemistry Laboratory, Paul Scherrer Institut, Villigen, Switzerland), Thomas Justus Schmidt, Mario El Kazzi
Impacts of Cell Physical Parameters on the Cycling of Metallic Lithium in Sulfide-based All-Solid-State Batteries

10:15 to 10:30
Seong Geun Kim (Department of Chemical Engineering, Hanyang University, Seoul, Korea), Ji-Ho Cha, Dong-Won Kim
Highly Conductive Dry-Processed Composite Cathode using Ionomer Binder for Sulfide-Based All-Solid-State Lithium Batteries

10:30 to 11:00
Coffee Break
Symposium 6a Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre

Chaired by: Sara Cavaliere, Carlo Santoro

09:30 to 10:00 Keynote

Svitlana Pylypenko (Chemistry, Colorado School of Mines, Golden, USA)
Characterization of Catalyst Layers in Polymer Electrolyte Membrane Fuel Cell and Electrolyzer Devices

10:00 to 10:15

Raphaël Chattot (Chemistry of Materials, Singularities in Testing the Activity and Stability of Fuel, Montpellier, France), Amir Gasmi, Kavita Kumar, Laetitia Dubau, Frédéric Maillard, Jakub Drnec
Singularities in Testing the Activity and Stability of Fuel Cell Nanocatalysts Revealed by In Situ and Operating X-ray Diffraction

10:15 to 10:30

Celine H. Chen (Department of Chemical and Biomolecular Engineering, University of California, Irvine, Irvine, USA), Yu Morimoto, Plamen Atanassov, Jonathan Braaten, Bjoern Stuehmeier, Lei Cheng, Christina Johnston, Iryna V. Zenyuk
Understanding of Pt-Co Catalyst Degradation in Polymer Electrolyte Fuel Cell

10:30 to 11:00 Coffee Break

Symposium 6b Fuel cells, electrolysis and electrofuel synthesis

Room: Salon Tête d’Or

Chaired by: David Eisenberg

09:30 to 09:45

Marina Medina (Chemistry, Federal University of São Carlos, São Carlos, Brazil), Andreas Glüsen, Lucia Helena Mascaro
Integrated cathode design with MoS$_2$ as an electrocatalyst for proton exchange membrane water electrolyzers

09:45 to 10:00

Chinkit Tyagi (Institut des Sciences Chimiques de Rennes (UMR CNRS 6226), University of Rennes, Rennes, France), Corinne Lagrost, Vincent Dorcet, Franck Tessier, Bruno Fabre
Rational Design of Carbon-Supported Tungsten Carbide Electrocatalysts for pH-Universal Hydrogen Evolution Reaction

10:00 to 10:15

Keyla Teixeira Santos (Laboratoire d’Electrochimie et de Physico-chimie-LEPMI, Université Grenoble Alpes, Saint Martin D’Heres, France), Keyla Teixeira Santos, Luz A. Zavala, Kavita Kumar, Vincent Martin, Frédéric Maillard, Laetitia Oliviero, Laetitia Dubau
Enhancement of HER activity and stability of MoS$_2$/C catalysts by doping with Co or Pt,Co single atoms

10:15 to 10:30

Sunghak Park (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Luhao Liu, Cayan Demirkir, Onno van der Heijden, Detlef Lohse, Dominik Krug, Marc T.M. Koper
Anion dependent coalescence and solutal Marangoni effect determines bubble dynamics during electrocatalytic hydrogen evolution

10:30 to 11:00 Coffee Break
Symposium 8  Coatings and electrochemical surface treatments

Room: Tête d’Or 2
Chaired by: Fatima Montemor, João Tedim

09:30 to 10:00 Keynote
Jan Macak (Center of Materials and Nanotechnologies, University of Pardubice, Pardubice, Czech Republic)
Protection of Electrochemically Active Surfaces by Ultrathin Barrier Layers Using Atomic Layer Deposition

10:00 to 10:15 Invited
Véronique Vitry (Metallurgy, UMONS, Mons, Belgium), Sepehr Yazdani
Effect of nanodiamond on the localized and pitting corrosion behavior of electroless Ni-B-nanodiamond coatings

10:15 to 10:30
Clara Linder (Corrosion, Research Institute of Sweden (RISE), Stockholm, Sweden), Smita G Rao, Robert Boyd, Arnaud le Febvrier, Per Eklund, Sara Munktell, Emma M Björk
Corrosion resistance and catalytic activity towards oxygen reduction reaction of CoCrFe_{2}Ni (0 ≤ x ≤ 0.7) thin films

10:30 to 10:45 Invited
Stanko Brankovic (ECE, University of Houston, Houston, USA), Summer Dalgamouni
Electroless Cu and Ag Monolayer Deposition – Advancing the Opportunities for Catalyst Monolayer Synthesis via Surface Limited Redox Replacement Reaction

10:45 to 11:00 Coffee Break

Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes

Room: Bellecour 2
Chaired by: Laetitia Dubau

09:30 to 10:00 Keynote
Ulrike Krewer (Institute for Applied Materials - Electrochem. Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany), Philipp Roese, Inga Dorner, Niklas Oppel
Revealing Reaction Kinetics and Transport Effects at Electrodes via Kinetic Modeling

10:00 to 10:15
Chuhong Lin (School of Chemistry, Chemical Engineering and Biotechnology, Nanyang Technological University, Singapore, Singapore)
Kinetics Modelling for Nano-Electrocatalysis: Exploring the Impact of Mass Transport on Reactivity and Selectivity
10:15 to 10:30
Nejc Hodnik (Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia), Leonard Moriia, Anja Loncar, Ozbej Vodeb, Armin Hrnjic, Ana Rebeka Kamsek, Francisco Ruiz Zepeda, Goran Drazic, Primoz Jovanovic, Marjan Bele

Supporting Iridium Nanoparticles with TiON for Oxygen Evolution Reaction

10:30 to 10:45
Philippe Vernoux (Ircelyon, CNRS, Villeurbanne, France), Nicolas Grimaldos-Osorio, Jesus Gonzalez-Cobos, Fabricio Sordello, Monica Passananti, Essyllt Louarn, Vincent Monteil, Angel Caravaca

Electrooxidation of polyethylene glycol in a PEM electrolyser

10:45 to 11:00
Coffee Break

Symposium 10  Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

Room: Bellecour 3

Chaired by: Xiao Su

09:30 to 10:00 Keynote
T. Alan Hatton (Chemical Engineering, Massachusetts Institute of Technology, Cambridge, USA)

Selective CO₂ Removal Through Electrochemistry

10:00 to 10:15
Jinqiu Zhang (Department of Electrochemical Engineering, Harbin Institute of Technology, Harbin, China), Shiji Zhang, Hua Bin, Yueping Xiong, Peixia Yang, Maozhong An

Cu-Ag Tandem Nanowires Catalyst for Carbon Dioxide Converting to Ethylene by Electroreduction Reaction

10:15 to 10:30
Emmanuel Mousset (Laboratoire Réactions et Génie des Procédés (LRGP), CNRS, Nancy, France), Saad Diris, Marie-Noëlle Pons

Influence of Cathode Materials on the Selectivity and Efficiency of Carbon Dioxide Electro-Conversion Processes for Value-Added Compound Production from Wastewater Mineralization

10:30 to 10:45
Stuart Licht (Chemistry, George Washington University, Washington, USA)

The Genesis Device®: A Revolution in Large Scale Decarbonization

10:45 to 11:00
Coffee Break
Symposium 11  New materials for electroanalysis

Room: Gratte-Ciel 1

Chaired by: Neso Sojic

09:30 to 10:00  Keynote

Dechen Jiang (School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)

10:00 to 10:15  Invited

Grégoire Herzog (LCPME, Université de Lorraine - CNRS, Nancy, France), Madjid Tarabet, Nataley Rey-Munoz, Micheal Scanlon, Manuel Dossot
Free-floating assemblies of Au nanoparticles for SERS applications at soft polarized interfaces.

10:15 to 10:30

Joohoon Kim (Department of Chemistry, Kyung Hee University, Seoul, Korea), Taehoon Cho, Youngwon Ju, Hyein Lee
Synthesis of Pt Nanoparticles for Their Uses as Enzyme Mimics via Galvanic Replacement Reactions Coupled with Chemical Reduction.

10:30 to 10:45

Fabien Miomandre (PPSM, ENS PARIS-SACLAY, Gif sur Yvette, France), Jean-Frédéric Audibert, Galina Dubacheva, Laetitia Legras
Analysis of the mechanism involved in the electrochemical conversion of light emission by combining time-resolved fluorescence and SECM.

10:45 to 11:00  Coffee Break

Symposium 13  Physical Electrochemistry of Battery Materials

Room: Bellecour 1

Chaired by: Mark Symes

09:30 to 10:00  Keynote

Nuria Garcia-Araez (Chemistry, University of Southampton, Southampton, United Kingdom), Bernardine L. D. Rinkel, J. Padmanabhan Vivek, Antonia Kotronia, Liam Lu, Clare P. Grey
Disentangling individual electrode’s reactions and cross-talk effects in graphite/NMC cells with operando gas analysis measurements combined with advanced NMR characterization.

10:00 to 10:15

Marta Mirolo (ID31 - Experimental Division, ESRF, Grenoble, France), Marta Mirolo, Maxime Servajon, Willy Porcher, Isaac Martens, Jakub Drnec, Claire Villevieville, Sandrine Lyonnard
Quasi-simultaneous operando WAXS and SAXS investigation of the charge dynamics between graphite and SiO_x particles.

10:15 to 10:30

Benjamin W. Schick (Institute of Electrochemistry, Ulm University, Ulm, Germany), Xu Hou, Viktor Vanoppen, Matthias Uhl, Matthias Kruck, Erik J. Berg, Timo Jacob
Revealing the Structure of the Formed Electrode/Electrolyte Interphase during Magnesium Plating and Stripping operando.

10:30 to 11:00  Coffee Break
Symposium 14  Operando and in situ characterization of electrochemical interfaces

Room: Forum 4

Chaired by: Antonella Iadecola

09:30 to 10:00  Keynote
Vanessa Peterson (Australian Centre for Neutron Scattering, Australian Nuclear Science and Technology Organisation, Lucas Heights, Australia), Christophe Didier, Jitendra Mata, Elliot Gilbert, Stephen Holt, Steven DeCaluwe

Multi-Scale In Situ and In Operando Neutron Characterization of Li Metal Batteries

10:00 to 10:15
Robert Temperton (MAX IV Laboratory, Lund University, Lund, Sweden), Robert Temperton, Suyun Zhu, Mattia Scardamaglia, Andrey Shavorskiy

Soft X-Ray Operando Characterization of Electrochemical Interfaces

10:15 to 10:30
Kriti Choudhary (Chemistry, LRCS UPJV, Amiens, France), Jean Noel Chotard, Vincent Seznec

Operando X-ray Diffraction from Tape casted electrodes to All-Solid-State Batteries

10:30 to 11:00
Coffee Break

Symposium 15  Electrolyte effects in electrocatalysis and electrochemistry in non-conventional electrolyte

Room: Trémie 4

Chaired by: Alexis Grimaud, Burcu Gurkan, Amy Marschilok, Mireille Turmine

09:30 to 10:00  Keynote
Amy Marschilok (Institute of Energy: Sustainability, Environment and Equity, Stony Brook University, Stony Brook, USA), Esther Takeuchi, Kenneth Takeuchi

Complementary Characterization Approaches to Understand Complex Electrode-Electrolyte Interactions

10:00 to 10:15
Rossukon Jommongkol (Energy Science and Engineering(ESE), Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand), Siraprapha Deebansok, Olivier Fontaine

Revealing the Dynamic Solid Electrolyte Interphase Formation of Li-Based Water-in-Salt Electrolyte under Optical Observation

10:15 to 10:30
Robert Dryfe (Chemistry, University of Manchester, Manchester, United Kingdom)

Water-in-salt applications for Biphasic electrochemistry

10:30 to 11:00
Coffee Break
Thursday 7 September 2023 - PM

Symposium 1  Electroanalytical chemistry: from fundamental research to day-to-day analysis

Room: Gratte-Ciel 3

Chaired by: Florence Geneste, Alexander Kuhn

14:00 to 14:15 Invited

Thiago Regis Longo Cesar da Paixão (Department of Chemistry, Institute of Chemistry, University of São Paulo, São Paulo, Brazil)

- Low-cost electrochemical sensors for day-to-day analysis

14:15 to 14:30

Rasa Pauliukaitė (Department of Nanoengineering, FTMC, Vilnius, Lithuania), Justina Gaidukevic, Ruta Aukstakojyte, Jurgis Barauskas, Vytautas Zutautas, Romualdas Trusovas, Aivaras Sartanavičius

- Differently Functionalized Graphene Oxide for Sensing Applications

14:30 to 14:45

Caroline Keller (LISE UMR 8235, Sorbonne Université, CNRS, Paris, France), Ozlem Sel, Hubert Perrot

- Ionic transfers at reduced Graphene Oxide-Nafion bilayers/electrolyte interfaces studied by electrogravimetry methods

14:45 to 15:00

Gerd-Uwe Flechsig (Dept. of Applied Sciences, Coburg University of Applied Sciences and Arts, Coburg, Germany), Sarasi Galagedera

- An Amplified Voltammetric H/D Isotope Effect Observed with DNA Self-Assembled Monolayers on Gold Electrodes

15:00 to 15:15

Juliana Gongoni (Department of Fundamental Chemistry, Institute of Chemistry, University of Sao Paulo, Sao Paulo, Brazil), Thiago Paixão, Carlos Garcia

- From cardboard to biosensors: Development of carbon electrodes modified with metallic nanoparticles using laser engraving

15:15 to 15:30

Karolina Kwaczynski (Department of Inorganic and Analytical Chemistry, University of Lodz, Lodz, Poland), Olga Szymaniec, Lukasz Poltorak

- Solvent-activated 3D-printed electrodes and their electroanalytical potential

15:30 to 15:45

Cong-Cong Huang (Department of Materials Science and Engineering, University of Science and Technology of China, Hefei, China)

- Enhanced As(III) Detection Under Near-neutral Conditions: Synergistic Effect of Boosted Adsorption by Oxygen Vacancies And Valence Cycle over Activated Au NPs Loaded on FeCoOx Nanosheets

15:45 to 16:15 Coffee Break
16:15 to 16:30 Invited
Estelle Lebègue (CEISAM UMR CNRS 6230, Nantes Université, Nantes, France), Hassiba Smida, Arthur Langlard, Dorine Ameline, Christine Thobie, Mohammed Boujtitia
Electrochemistry of Single Impacts for Bacterial Sensing

16:30 to 16:45
Kannasoot Kanokkanchana (Electrobiotechnology, Technical University of Munich, Straubing, Germany), Kristina Tschulik
Understanding Distorted Signals in Single-Entity Electrochemical Experiments Via Electronic Circuit Simulations

16:45 to 17:00
Anna Dettlaff (Faculty of Chemistry, Gdańsk University of Technology, Gdańsk, Poland), Iwona Kaczmarzyk, Paweł Rutecki, Juliusz Walczak, Michał Sobaszek, Piotr Prasula
High Sensitivity Electrochemical Detection of Nitroaromatic Explosive Compounds for Environmental Monitoring

17:00 to 17:15
Christelle Virolle (Procédés Electrochimiques, Laboratoire de Génie Chimique, Toulouse, France), David Evrard, Olivier Reynes
Pesticide sensing: a new electrode functionalization for the detection of p-nitrophenol

17:15 to 17:30
Dionysios Soulis (Chemistry, National and Kapodistrian Univ. of Athens, Athens, Greece), Aikaterini Kousseri, Eirini Panagiotopoulou, Christos Kokkinos, Mamantos Prodromidis, Anastasios Economou
Development of a “Green” Paper-Based Voltammetric Platform for On-Site Assay of Tl(I)

17:30 to 17:45
Lorenzo Quadrini (Department of Chemistry Ugo Shiff, University of Florence, Sesto Fiorentino, Italy), Lorenzo Quadrini, Emma Salvadori, Serena Laschi, Andrea Cagnini, Ilaria Palchetti
Electroanalytical Characterization of Bronze Artefacts

17:45 to 18:00
Teodora Lupoi (Rennes Institute of Chemical Sciences, University Rennes 1, Rennes, France), Yann R Leroux, Bogdan Feier, Cecilia Cristea, Florence Geneste
Click-chemistry Generated Electrochemical Aptasensors for Pharmaceutical Pollutants Detection

18:00 to 18:15
Gilberto J. Silva Junior (Fundamental Chemistry, University of São Paulo (Institute of Chemistry), São Paulo, Brazil), Laura N. Fernandez Solis, Maria A. Ferroni Martini, Sirley Pereira, Martín A. Fernández-Baldo, Matías Regiart, Mauro Bertotti
Electrochemical Microfluidic Immunosensor with Graphene-decorated Gold Nanoporous for Mycotoxin Detection
Symposium 3  From wearable to sustainable electrochemical sensing and biosensing

Room: Tête d’Or 1

Chaired by: Stefano Cinti, Maria Cuartero, Ciara O’sullivan, Danny Ohare

14:00 to 14:15 Invited

Maria Cuartero (Department of Chemistry, KTH & UCAM-SENS, Stockholm, Sweden)
Towards Reliability in Decentralized Electrochemical (Bio)Sensors

14:15 to 14:30

Wlodzimierz Kutner (Thematic team 23, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland), Katarzyna Bartold, Zofia Iskierko, Pawel Borowicz, Krzysztof R. Noworyta, Hung-Yin Lin, Piyush Sindhu Sharma
Rapid, Selective, and Sensitive Determination of MMP-1 and SP-A Protein Biomarkers of Idiopathic Pulmonary Fibrosis (IPF) Using Molecularly Imprinted Polymers (MIPs) Recognition Unit Containing Extended-Gate Field-Effect Transistor (EG-FET) Chemical Sensors

14:30 to 14:45

Antonio De Lacey (Instituto de Catálisis y Petroeloquímica, CSIC, Madrid, Spain), Carina Figueiredo, Tanushree Mandal, Anna Lielpetere, Carolin Psotta, Denise Demurtas, Fadia Cervantes, Donal Leech, Wolfgang Schuhmann, Sergey Shleev, Edmond Magner, Francisco Plou, Marcos Pita
Amperometric galactose biosensor based on galactose oxidase co-immobilized with an Os-based redox polymer

14:45 to 15:00

Anca Aldea (Functional Nanostructures, National Institute of Materials Physics, Magurele, Romania), Daniel Crisan, Melania Onea, Anca Aldea
Ionophores Embedded in Lipid Membranes for Sweat Analysis

15:00 to 15:15

Gyeongho Kim (Department of Chemistry, Pusan National University, Busan, Korea), Haesik Yang
Wash-Free, Sandwich-Type Thrombin Detection Using Direct Electron Transfer and Catalytic Signal Amplification of Multiple Redox Labels

15:15 to 15:30

Roshan Khadka (Molecular Sensing, Plant and Food Research, Auckland, New Zealand), Colm Carraher, Andrew Kralicek, Jadranka Travas-Sejdic
Biosensors Using Insect Olfactory Receptors

15:30 to 15:45

Jie Sun (Institut I-CLeHS Institute of Chemistry for Life and Health, Chimie ParisTech – Université PSL - CNRS UMR 8060, PARIS, France), Jie Sun, Christian-Sebastiano Toppi, Sophie Griveau, Yvette Tran, Dimitri Mercier, Armelle Ringuede, Cyrine Slim
Novel polymer-modified electrode for improvement bio-receptors immobilization and electrochemical detection of emerging pollutants

15:45 to 16:15 Coffee Break

16:15 to 16:30 Invited

Stéphane Arbault (CBMN, CNRS UMR5248, University of Bordeaux, Pessac, France)
Developing Spectro-Electrochemical Sensors to Study the Physio-pathology of Mitochondria
16:30 to 16:45
**Ievgen Mazurenko** (BIP, CNRS, Aix-Marseille University, Marseille, France), Tetyana Kyrpel, Vita Saska, Anne de Poulpiquet, Mathieu Luglia, Audrey Soric, Magali Roger, Oksana Tananaiko, Marie-Thérèse Giudici-Orticoni, Elisabeth Lojou

*Enzymatic Electrode for Hydrogen Detection in a Fermentation Bioreactor*

16:45 to 17:00
**Paolo Bollella** (Chemistry, University of Bari A. Moro, Bari, Italy), Angelo Tricase, Verdiana Marchianò, Nicoletta Ditaranto, Eleonora Macchia, Cinzia Di Franco, Luigi Gentile, Dónal Leech, Reshma Kidawayeitil, Gaetano Scamarcio, Luisa Torsi

*Water-based Ink Formulation for Stencil-Printing Electrodes: Printing Enzymes and Nanomaterials*

17:00 to 17:15
**Rodrigo Alejandro Abarza Muñoz** (Institute of Chemistry, Federal University of Uberlândia, Uberlândia, Brazil), Silvia V. F. Castro, Lucas V. de Faria, Wallans T. P. dos Santos, Mário H. P. Santana, Luciano C. Arantes, Eduardo M. Richter

*Three-dimensional printed electrodes for forensic electrochemistry*

17:15 to 17:30
**Nga Dau** (ITODYS, Université Paris Cité, Paris, France), Benoît Piro, Thu Vu, Giorgio Mattana

*A Non-Enzymatic Ascorbic Acid Sensor obtained by Printing of a AuNP-based Ink for Monitoring Vitamin C in Sweat*

17:30 to 17:45
**Talita Mazon** (DINAM, Center for Information Technology Renato Archer, CTI, Campinas, Brazil), Noemí A V Roza, Aline Macedo Faria, Agnes N Simões

*New Insights into the Electrochemical Detection of Cardiac Troponin I using Biochar: ZnO NRs Composites*

17:45 to 18:00
**Victor Diculescu** (Laboratory of Functional Nanostructures, National Institute of Materials Physics, Magurele, Romania), Daciana Botta, Mihaela Beregoi, Alexandru Evangelidis, Anca Aldea, Ricardo Branco-Leote, Elena Matei, Ionut Enculescu

*Electrospun Fibers on 3D Patterned Substrates for Point-of-Care Applications*

18:00 to 18:15
**Pallavi Dutta** (Chemistry, University College Dublin, Dublin 4, Ireland), Dominik Duleba, Shekemi Denuga, Robert Johnson

*Developing Highly Sensitive and Selective Biosensors Utilizing Ion Current Rectification in Conical Nanopipettes*

18:15 to 18:30
**Robin Nussbaum** (Department of Inorganic and Analytical Chemistry, University of Geneva, Geneva, Switzerland), Andrea Nonis, Stéphane Jeanneret, Thomas Cherubini, Eric Bakker

*Enhanced Reproducibility for Constant Potential Coulometry Towards Ultra-Sensitive in Situ pH Sensing*

18:30 to 18:45
**Kuan-Jiuh Lin** (Chemistry, National Chung Hsing University, Taichung, Taiwan), Wen-Yi Ko, Shin-Chwen Yeh

*High-porosity Hybrid Bilayer Enabled a Portable LED Plasmonic Biosensing*

18:45 to 19:00
**Ludmila Moranova** (Research Centre for Applied Molecular Oncology, Masaryk Memorial Cancer Institute, Brno, Zluty kopec 7, Czech Republic), Johana Strmiskova, Nasim Izadi, Ravery Sebuyoya, Martin Bartosik

*Electrochemical bioassays in cancer diagnostics*
Symposium 4a From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Gratte-Ciel 2

Chaired by: Jean-Sébastien Filhol, Masashi Okubo, Magda Titirici

14:00 to 14:15

Arantzazu Letona-Elizburu (CIC energiGUNE, CIC energiGUNE, Vitoria, Spain), Marina Enterría, Domenico Frattini, Nagore Ortiz-Vitoriano

Screening natural biomolecules as bifunctional electrocatalysts for metal-air battery cathodes

14:15 to 14:30

Giorgia Zampardi (Energy storage and energy conversion systems, University of Bremen, Bremen, Germany), Michele Tribbia, Fabio La Mantia

Metallic Substrates for Highly Efficient Zn Electrodeposition in Aqueous Zinc-Ion Batteries

14:30 to 14:45

Darya Snihirova (Institute of Surface Science, Helmholtz-Zentrum Hereon, Geesthacht, Germany), Linqian Wang, Min Deng, Bahram Vaghefinazari, Yulong Wu, Tim Würger, Robert Meißner, David Winkler, Christian Feiler, Daniel Höche, Sviatlana Lamaka, Mikhail Zheludkevich

Tailoring electrolyte additives for aqueous Mg-air battery: mechanistic study and data-driven selection

14:45 to 15:00

Marcel Kaltenberg (Functional Materials and Components, FZ Juelich - Institute of Energy and Climate Research, Juelich, Germany), Yasin Emre Durmus, Henning Weinrich, Hans Kungel, Hermann Tempel, Rüdiger-A. Eichel

A comparative study on the influencing factors of 2D Ni-mesh and 3D Ni-foam inlays as current collectors in cold-pressed carbonyl iron pellets for iron-air batteries.

15:00 to 15:15

Cinthia Alegre (Instituto de Carboquímica, Consejo Superior de Investigaciones Científicas, CSIC, Zaragoza, Spain), Nicolás I. Villanueva-Martínez, Ilígú Martínez-Visus, María J. Lázaro

Iron-doped Manganese Oxide Nanowires Combined with Carbon Nanostructures as Bifunctional Oxygen Electrocatalysts

15:15 to 15:30

Véronique Balland (Laboratoire d’Electrochimie Moléculaires, Université Paris Cité, Paris, France), Benoît Limoges

On the unsuspected reactivity of multivalent soluble cations in mild aqueous rechargeable batteries

15:30 to 15:45

Lea Celine Meyer (Institute for Technical and Environmental Chemistry, Friedrich-Schiller-Universität Jena, Jena, Germany), Patrik Johansson, Andrea Balducci

Impact of glyoxal-based electrolytes on potassium intercalation into graphite

15:45 to 16:15

Coffee Break
16:15 to 16:30
Jean-Sébastien Filhol (D5/ICGM, Université de Montpellier, Montpellier, France), Long Hoang Bao Nguyen, Anja Kopac Lautar, Arthur Hagopian, Marie-Liesse Doublet
Ab initio investigation of potential dependent electrochemical processes at metal anodes in batteries.

16:30 to 16:45
Zizhen Zhou (Advanced Science and Engineering, Waseda University, Tokyo, Japan), Claudio Cazorla, Bo Gao, Luong Huu Duc, Toshiyuki Momma, Yosihita Tateyama
First-Principles Study on the Interplay of Strain and State-of-Charge with Li-ion Diffusion in Battery Cathode Material LiCoO₂.

16:45 to 17:00
Julian Holland (Faculty of Engineering and Physical Sciences, University of Southampton, Southampton, United Kingdom), Tom Demeyere, Arihant Bhandari, Felix Hanke, Milman Victor, Chris-Kriton Skylaris
Modelling LLZO: Limiting Structures in a Near-unlimited Configuration Space.

17:00 to 17:15
Mohammed Bin Jassar (Thermodynamics and Molecular Simulation, IFP Energies nouvelles, Rueil-Malmaison, France), Carine Michel, Sara Abada, Theodorus De Bruin, Sylvain Tant, Carlos Nieto-Draghi, Stephan Steinmann
A Joint DFT-kMC Study to Model Ethylene Carbonate Decomposition Reactions: SEI Formation, Growth, and Capacity Loss during Calendar Aging of Li-Metal Batteries.

17:15 to 17:30
Esther Kezia Simanjuntak (Department Computational Electrochemistry, German Aerospace Center (DLR), Ulm, Germany), Timo Danner, Arnulf Latz
Simulation Study of Sulfurized Polyacrylonitrile (SPAN) as Cathode Material for Li-Sulfur Batteries: Guidelines for Electrode and Cell Design.

17:30 to 17:45
Pekka Peljo (Department of Mechanical and Materials Engineering, University of Turku, Turku, Finland), Gabriel Gonzalez, Eduardo Martinez, Qiujun Li, Jenna Hannonen, Ulrika Mattinen, Andrea Hamza, Adam Madarasz, Flora Nemeth, Anton Nechaev, Petri Pihko
High-throughput screening of molecules for flow batteries.

17:45 to 18:00
Jerzy Jasielec (Mechanical and Materials Engineering, Turun Yliopisto, TURKU, Finland), Jerzy Jasielec, Pekka Peljo
Limitations of Fast Charging of High Energy NMC-based Li-Ion Batteries, Numerical Study.

18:00 to 18:15
Moritz Clausnitzer (Institute of Engineering Thermodynamics, DLR (German Aerospace Center), Ulm, Germany), Simon Hein, Robert Mücke, Martin Finsterbusch, Timo Danner, Arnulf Latz
Identifying Limiting Processes in the Composite Cathode of All-Solid-State-Batteries by Structure-Resolved Simulations.
Symposium 4b From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects

Room: Espace Prestige Gratte-Ciel

Chaired by: Yabuuchi Naoaki, Felix H. Richter, Jennifer Schaefer

14:00 to 14:15

Thomas Basso-Bert (LEPMI, Université Grenoble Alpes - Grenoble INP, Saint Martin D’Hères, France), Renaud Bouchet, Didier Devaux, Margaud Lécuyer, Jonathan Szymczak, Marc Deschamps

Composite polymer/ceramic membrane: Towards a new concept of electrolytic separator for all-solid-state Lithium metal batteries.

14:15 to 14:30

Adrien Fauchier Magnan (Grenoble INP, LEPMI, Saint Martin d’Hères, France), Lauréline Lecarme, Sylvain Franger, Claire Villevieille

Fundamental Understanding of the Mixing of NMC with Sulphur Electrolyte for All Solid-State Batteries.

14:30 to 14:45

Yan Yao (Electrical and Computer Engineering, University of Houston, Houston, USA)

Understanding the Role of Mixed Ionic-Electronic Conductor Interlayer in All-Solid-State Lithium-Metal Batteries.

14:45 to 15:00

Francesco Piccolo (Chemical Energy, Helmholtz Zentrum Berlin, Berlin, Germany), Philipp Adelhelm

Titanium sulfide-based ternary compounds as cathode active materials for solid-state batteries.

15:00 to 15:15

Seunggu Kim (Chemistry, Korea Advanced Institute of Science and Technology (KAIST), Daejoen, Korea), Yunseop Choi, Mukarram Ali, Jaedong Kim, Hyerim Kim, Jongcheol Seo, Yoon-Cheol Ha

Mechanistic Study on the One-Pot Wet Synthesis of Argyrodite Solid-State Electrolyte.

15:15 to 15:30

Yong-Jin Jang (Material and Engineering science, Kookmin University, Seoul, Korea), Hyungeun Seo, Young-Su Lee, Sora Kang, Woosuk Cho, Young Whan Cho, Jae-Hun Kim

Argyrodite-type sulfide-based solid electrolytes by borohydride substitution.

15:30 to 15:45

Sundeep Vema (Department of Chemistry, University of Cambridge, Cambridge, United Kingdom), Clare Grey

Clarifying local structure of dopants in LLZO garnet solid electrolytes using solid-state NMR.

15:45 to 16:15

Coffee Break
16:15 to 16:30 **Invited**
Jennifer Schaefer *(Department of Chemical and Biomolecular Engineering, University of Notre Dame, Notre Dame, USA)*, Lingyu Yang

*Water-Facilitated Ion Transport in Solid-State, Charge-Transfer Complex Electrolytes*

16:30 to 16:45

16:45 to 17:00 **Pierre Lannelongue** *(CIC Energigune, CIC Energigune, Vitoria-Gasteiz, Spain)*, Pierre Lannelongue, Elena Gonzalo, Thomas Marchandier, Simon Lindberg, Pedro López-Aranguren

*Stability and Electrochemical Performances of (Li, Y) Halide Solid State Electrolyte with Lithium Metal Electrodes*

17:00 to 17:15 **Tewelde Hailay Gebregeorgis** *(Electrochemical and Surface Engineering Research Group, Vrije Universiteit Brussel (VUB), Brussels, Belgium)*, Joan Roca Busacker, Xinhua Zhu, Annick Hubin, Mesfin Haile Mammé

*An Electro-Chemo-Mechanical Investigation of Interfacial Evolution in All-Solid-State Lithium-Ion Batteries through Multiphysics Multiscale Modeling*

17:15 to 17:30 **Priya Ganesan** *(Karlsruhe Institute of Technology, Helmholtz Institute Ulm, ulm, Germany)*

*To improve the anodic stability of halide based solid electrolytes*

17:30 to 17:45 **Benjamin Hennequart** *(Chaire Chimie du Solide et Energie, Collège de France, Paris, France)*, Tuncay Koç, Elisa Quemin, Romain Dugas, Ronan Chometon, Christophe Lethien, Jean-Marie Tarascon

*Sub-MPa Pressure Cycling and High Areal Capacity All-Solid-State Batteries enabled by Halide-based Solid Electrolyte*

17:45 to 18:00 **William Berthou** *(DRT/CTREG/DNAQ/Batterie, CEA, Pessac, France)*, Maxime Legallais, Vincent Motto-Ros, Brigitte Pecquenard, Frédéric Le Cras

*Combinatorial Synthesis & High Throughput Screening of LiPO(N) Solid Electrolyte as a Study Case for Methodology Validation*

18:00 to 18:15 **Aycan Kutlu** *(Applied Materials Physics, Karlsruher Institut für Technologie, Eggenstein-Leopoldshafen, Germany)*, Dorit Nötzel, Ijaz Mohsin, Carlos Ziebert, Hans Seifert

*Microstructural and electrochemical investigations of 3D printed solid-state electrolyte materials using Fused Filament Fabrication*
Symposium 6a  Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre

Chaired by: Raphaël Chattot, Valerio C.A. Ficca, Jasna Jankovic, Federico Tasca

14:00 to 14:15 Invited

Sara Cavaliere (Institut Charles Gerhardt Montpellier, Université de Montpellier, Montpellier, France), Ignacio Jiménez-Morales, Deborah Jones, Jacques Rozière

Lowering Noble Metal Loading for PEM Water Electrolysis: Advances in Electrodes and Membranes

14:15 to 14:30

Hong Nhan Nong (Department of Chemistry, Technische Universität Berlin, Berlin, Germany), Hoang Phi Tran, Ping Yang, Jessica Hübner, Benjamin Paul, Matej Zlatar, Daniel Escalera-López, Mauricio Prieto, Aarti Tiwari, Liviu Tănase, Lucas de Souza Caldas, Thomas Schmidt, Serhiy Cherevko, Peter Strasser

Catalyst-Support Interactions in Ir-TiO$_2$ Model Electro catalysts for Acidic Oxygen Evolution

14:30 to 14:45

Maria Retuerto (EQS, CSIC, Madrid, Spain), Dmitry Galyamin, Jorge Torrero, Isabel Rodriguez, Marc Kolb, Pilar Ferrer, Laura Pascual, Daniel Garcia-Sanchez, Aldo Gago, Jose Antonio Alonso, Federico Calle-Vallejo, Sergio Rojas

R$_x$MnRuO$_y$ with RuMnO$_x$ surface layers: active and durable pyrochlores with low Ru content for acidic oxygen evolution

14:45 to 15:00

Lu An (Institute of Fuel Cells, School of Mechanical Engineering, Shanghai Jiao Tong, Shanghai, China)

Mechanism study on durability and activity of Ru-based electrocatalyst for Water Oxidation in Acid

15:00 to 15:15

Anja Loncar (Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia), Primož Jovanovič, Nejc Hodnik, Miran Gaberscek

Anomalies in the determination of electroactive surface area of supported Ir-based oxygen evolution reaction catalysts using impedance spectroscopy: impact of catalyst loading

15:15 to 15:30

Cédric Tard (Laboratoire de Chimie Moléculaire, Ecole Polytechnique, Palaiseau, France), Silvia Duran, Marine Elmaalouf, Andrea Zitolo, Benedikt Lassalle-Kaiser, Cédric Boissière, Marco Faustini, Marion Giraud, Jennifer Peron

Electrochemical Activity of Iridium Oxides for OER: Porosity, Crystallinity, and Nanocages

15:30 to 15:45

Amir Gasmi (Institut Charles Gerhardt, Montpellier University, Montpellier, France), Deborah Jones, Raphaël Chattot

Promoting Surface Distortion for Oxygen Electrocatalysis

15:45 to 16:15

Coffee Break
16:15 to 16:30 Invited
Sanjeev Mukerjee (Chemistry and Chemical Biology, Northeastern University, Boston, USA), Parisa Nematollahi, Benjamin Kaufold, Bernardo Barbiellini, Sijia Dong, Dirk Lamoen
Plasmonic Enhancement of Electrochemical Reactions using LSPR Phenomenon

16:30 to 16:45
Ieva Agne Cechanaviciute (Faculty of Chemistry and Biochemistry, Ruhr University Bochum, Bochum, Germany), Ieva A. Cechanaviciute, Rajini P. Antony, Olga A. Krysiak, Wolfgang Schuhmann
Scalable Synthesis of Multi-Metal Electrocatalyst Powders and Electrodes and their Application for Energy Conversion Reactions

16:45 to 17:00
Iryna Antonyshyn (Chemical Metal Science, Max-Planck-Institut fuer Chemische Physik fester Stoffe, Dresden, Germany), Sylvain Le Tonquesse, Yuri Grin
Intermetallic compound ZrCo as anode in water electrolysis

17:00 to 17:15
Gwénaëlle Kéranguéven (ICPEES UMR 7515, University of Strasbourg, Strasbourg, France)
Alternative supports for electrocatalysts of the oxygen evolution reaction

17:15 to 17:30
Anna K. Mechler (Electrochemical Reaction Engineering (AVT.ERT), RWTH Aachen University, Aachen, Germany), Sabita Bhandari, Roland Schierholz, Rüdiger A. Eichel, Ana Laura Luna, Anna K. Mechler
Modification of Ni- and Co-Oxides for the Alkaline Oxygen Evolution Reaction by Ball-Milling

17:30 to 17:45
Mario García-Rodríguez (Materials Institute of Alicante, University of Alicante, Alicante, Spain), Jhony Xavier Flores-Lasluisa, Diego Cazorla-Amorós, Emilia Morallón
La$_{1-x}$Sr$_x$Mn$_{0.7}$Co$_{0.3}$O$_3$ perovskites as electrocatalysts for the rechargeable Zn-air battery

17:45 to 18:00 Invited
Activation of Ni fractal surface for the oxygen evolution reaction through the Ir galvanic replacement reaction

18:00 to 18:15
José Luis Olloqui-Sariego (Physical Chemistry, Universidad de Sevilla, Sevilla, Spain), Inmaculada Márquez, Silvia Gutiérrez-Tarriño, Arismendy Portorreal-Bottier, Susana Trasobares, Emilio Roldán, Rafael Andreu, Juan José Calvente, José J. Calvino, Pascual Oña-Burgos
Insight into Electrochemically Induced Reconstruction of a Cobalt-MOF for an Efficient Electrocatalytic Platform

18:15 to 18:30
Renáta Orinaková (Department of Physical Chemistry, Institute of Chemistry, Pavol Jozef Safárik University in Košice, Košice, Slovakia), Alexandra Gubóová, Magdaléna Strecková, Mária Paracková
Transition Metal Foam Catalysts for Oxygen Evolution Reaction
Symposium 6b Fuel cells, electrolysis and electrofuel synthesis

Room: Salon Tête d’Or

Chaired by: Julien Durst, Amanda Garcia, Mariangela Longhi

14:00 to 14:15 Invited

David Eisenberg (Schulich Faculty of Chemistry, Technion - Israel Institute of Technology, Haifa, Israel), Tomer Burshtein, Eliyahu Farber, Yair Shahaf

Hydrazine Oxidation Electrocatalysis: Who Does What?

14:15 to 14:30

Fritz Huguenin (Química, Universidade de São Paulo, Ribeirão Preto, Brazil), Bianca Ferreira

Enhancing the Kinetic Investigation of MoS2 Catalysts for Hydrogen Evolution Reaction through Electrochemical Impedance Spectroscopy

14:30 to 14:45

Amanda Garcia (HIMS, University of Amsterdam, Amsterdam, Netherlands), Cássia Santana, Elvisona Gjonaj

The Effect of Iron-Impurities in the C-C Cleavage during Electrochemical Oxidation of Glycerol on Ni(OH)2/NiOOH electrode

14:45 to 15:00

Paulo Olivi (Chemistry, Universidade de São Paulo, Ribeirão Preto, Brazil), Farlon Xavier, Alexandre Cunha, Teko Napporn

Glycerol electrolysis on Rh modified Ni(OH)2/C as anodic reaction for hydrogen production

15:00 to 15:15

Jesus Gonzalez-Cobos (IRCELYON, CNRS, Villeurbanne, France), Rohib Rohib, Essylt Louarn, Antoinette Boreave, Valérie Meille, Mathieu Prévot, Philippe Vernoux

Investigations of isopropanol electrooxidation on Pt-based catalysts

15:15 to 15:30

Dulce M. Morales (Engineering and Technology Institute Groningen, University of Groningen, Groningen, Netherlands), Eleazár Castañeda Morales, Arturo Manzo Robledo

Alcohol Oxidation in Hybrid Water Electrolysis: Activity versus Selectivity on Transition Metal Oxide-Based Catalysts

15:30 to 15:45

Xinsheng Zhang (Chemical Engineering, East China University of Science and Technology, Shanghai, China)

Polarization-induced Electric Field Promotes Formic Acid Oxidation on Palladium

15:45 to 16:15

Coffee Break

16:15 to 16:30

Thibault Rafaideen (Catalyse et Milieux Non-Conventionnels, IC2MP - Université de Poitiers, Poitiers, France)

Electroreforming of Glucose/Xylose Mixtures On PdAu Based Nanocatalysts
16:30 to 16:45
Andre H B Dourado (Instituto de Química, UNESP, Araraquara, Brazil), Matheus Santos, Anronio A S Curvelo, Varela Hamilton
Lignin Oxidation on CuO: (Electro)chemical Approaches.

16:45 to 17:00
Ines Belhaj (Chemical engineering, Instituto Superior Técnico, Lisbon, Portugal), Alexander Becker, Filipe M.B Gusmão, Biljana Sljukic, Miguel Chaves, Salete S Balula, Luís Cunha Silva, Diogo M. F Santos
Enhanced borohydride oxidation kinetics on Au-based MOF electrocatalysts and their potential as anodic electrocatalysts for borohydride fuel cells.

17:00 to 17:15
Vito Di Noto (Department of Industrial Engineering, University of Padova, Padova, Italy), Soufiane Boudjelida, Angeloclaudio Nale, Keti Vezzù, Gieole Pagot, Enrico Negro
Interplay between Physicochemical Properties of Precursors and “Core-Shell” Hierarchical Carbon Nitride Electrocatalysts for the Oxygen Reduction Reaction.

17:15 to 17:30 Invited
Julien Durst (R&I, SYMBIO, Vénissieux, France)
Materials requirements at MEA level for PEMFC to achieve targets for heavy duty application.

17:30 to 17:45
Patrick Schneider (Fuel Cell Systems, Fraunhofer Institute for Solar Energy Systems, Freiburg, Germany), Anne-Christine Scherzer, Brian Storey, Matthias Klingele, Nada Zamel, Dietmar Gerteisen
Investigating the effect of I/C ratio and relative humidity on cathode catalyst degradation in PEM fuel cells.

17:45 to 18:00
Elena Colombo (Department of Energy, Politecnico di Milano, Milano, Italy), Andrea Casalegno, Thomas Jahnke, Laure Guetaz, Andrea Baricci

18:00 to 18:15
Hassan Moydien (HySA Catalysis, Department of Chemical Engineering, University of Cape Town, Cape Town, South Africa), Pieter Levecque, Darija Susac
Experimental Study of Performance and Water Management of Titanium Fibre Felts as Versatile Gas Diffusions Layers for PEMFCs.

18:15 to 18:30
Felix Haimerl (Department of Physics, Technical University of Munich, Garching, Germany), Aliaksandr Bandarenka
Symposium 8  Coatings and electrochemical surface treatments
Room: Tête d’Or 2
Chaired by: Marie-Laure Doche, Thomas Doneux, Jean-Yves Hihn, Giovanni Zangari

14:00 to 14:30 **Keynote**

*Thomas Doneux* (Chemistry of Surfaces, Interfaces and Nanomaterials, Université libre de Bruxelles (ULB), Bruxelles, Belgium)

Electrodeposition in Deep Eutectic Solvents: the Obvious, the Unexpected and the Wonders

14:30 to 14:45 **Invited**

*Giovanni Zangari* (Materials Science and Engineering, University of Virginia, Charlottesville, USA)

Electrodeposition of near-equiaatomic CuNiFeCo films from citrate-glycine bath

14:45 to 15:00

*Dongyoon Shin* (Department of Nuclear Engineering, Seoul National University, Seoul, Korea), Richard I. Foster, Wonseok Yang, Shuang Liu, Woohyun Lim

Electrodeposition of Aluminum Coating on Copper Substrates Using a Deep Eutectic Solvent (DES) Electrolyte in Air

15:00 to 15:15

*Jean Dematos* (R&T Special Processes, Radiall, Voreppe, France), Marie-Pierre Gigandet, Jean-Yves Hihn

Organic Additive Free Copper Plating

15:30 to 15:45

*Ehsan Shafahian* (ECAT, imec, Leuven, Belgium), Punith Kumar Mudigere Krishne Gowda, Zaid El-Mekki, Aleksandar Radisic, Jaber Derakhshandeh, Herbert Struyf, Philippe M. Vereecken

Electrochemical Deposition of Indium on Superconductive Substrates

16:00 to 16:15

Coffee Break

15:45 to 16:00

*Julymar Rodriguez* (UMR 6213 CNRS Univ. Bourgogne Franche Comte, UTINAM Institut, Besançon, France), Marie-Laure Doche, Jean-Yves Hihn

Cyanide-Free Electrolytes for Gold Electropolishing

16:15 to 16:30

*Harold Philipsen* (STS-APPM-UPM-ECAT, Imec, Leuven, Belgium), Soobin Park, Youjung Kim, Prisca Viviani, Bongyoung Yoo

Metal Deposition for Advanced Semiconductor Technology Nodes: Electroless and Electrodeposition of Rhodium

16:30 to 16:45

*Charles Petit* (Institut Jean Lamour, Université de Lorraine CNRS, METZ, France), Sébastien Diliberto, Alexandre Antoine, Nicolas Stein, Clotilde Boulanger

Mechanism of zinc and zinc-nickel alloy electrodeposition with glycine and polyethylene glycol additives on steel substrate in acid electrolytes
16:45 to 17:00

**Jelena Bajat** (Physical Chemistry and Electrochemistry, University of Belgrade, Beograd, Serbia), Marija Mitrovic

*The influence of Ce source on the self-healing ability of Zn-Co-Ce composite coatings.*

17:00 to 17:15

**Felix Plamper** (Institute of Physical Chemistry, TU Bergakademie Freiberg, Freiberg, Germany), Sophie Gersdorf

*Principles of Polyelectrolyte Electrodeposition.*

17:15 to 17:30

**Frank Uwe Renner** (Institute for Materials Science IMOMEC, Hasselt University, Diepenbeek, Belgium), Andrea Valencia Ramirez

*Microcontact Printing of Corrosion Inhibitors on Copper Surfaces.*

17:30 to 17:45

**Alexandre Seurot** (Univ. Grenoble Alpes, CEA-LETI, Grenoble, France), Antoine Hoang, Vincent Jousseaume, Paul-Henri Haumesser

*Toward Thin Dielectric Films of Polyetherimide Electrodeposited from Aqueous Emulsion of the Polymer.*

17:45 to 18:00

**Fetah Podvorica** (Chemistry, University of Prishtina, Prishtina, Albania), Catherine Combellas, Frederic Kanoufi, Jean Pinson, Melissa Stanfield, David Hayne, Filip Stojcevski, Luke Henderson

*Polymer Grafting to Carbon and Metallic Surfaces.*

18:00 to 18:15 **Invited**

**Nicolas Caussé** (CIRIMAT Physique des Polymères, Toulouse INP, CNRS, Université de Toulouse, Toulouse, France), Mélissa Bonnet, Nathalie Le Bozec, Dominique Thierry, Aurélien Roggero, Nadine Pèbère

*Electrochemical impedance spectroscopy analysis of the ageing of coil-coated systems.*

18:15 to 18:30

**Andrea Olietti** (Research & Development, STMicroelectronics, Cornaredo, Italy), Simone Antonio Sala, Sonia Morin, Luca Cecchetto, Lorenzo Cerati

*Water uptake evaluation in plastic packages: FEM simulation modeling and data comparison with Electrochemical Impedance Spectroscopy experimental approach.*
### Symposium 9  
**Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes**

**Room: Bellecour 2**

*Chaired by: Fabio Lima*

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<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tr>
<td>14:00 to 14:15</td>
<td><strong>Invited</strong> Maria Escudero-Escribano (ICREA, Catalan Institute of Nanoscience and Nanotechnology (ICN2), Bellaterra, Barcelona, Spain)</td>
<td>Active Site Engineering to Tune Selectivity of Sustainable Electrocatalytic Oxidation Reactions</td>
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<tr>
<td>14:15 to 14:30</td>
<td><strong>Maria Paula Salinas-Quezada</strong> (Chemistry, University of Copenhagen, København Ø, Denmark), Paula Sebastián-Pascual, Jack, K. Pedersen, Krishanu Biswas, Jan Rossmel, Maria Escudero-Escribano</td>
<td>Toward Understanding CO Oxidation and Structure-Property Relations on High-Entropy Alloy Electrocatalysts</td>
</tr>
<tr>
<td>14:30 to 15:15</td>
<td><strong>Gunther Wittstock</strong> (Institute of Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany), Alex Ricardo Silva Olaya, Franziska Kühling</td>
<td>Manipulation of the Surface Concentration of Ag to tune the Electrooxidation of C1 Compounds</td>
</tr>
<tr>
<td>15:00 to 15:15</td>
<td><strong>Sorasak Klinyod</strong> (School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology, Wang-chan, Thailand), Mai Thanh Nguyen, Supawadee Namuangruk, Nuttapon Yodsin, Sunpet Assavapanumat, Marisa Ketkaew, Tetsu Yonezawa, Chularat Wattanakit</td>
<td>Reinvestigating the Electrocatalytic Pathway of HMF Transformation to FDCA over Different Reconstructed Nickel Surfaces</td>
</tr>
<tr>
<td>15:15 to 16:15</td>
<td><strong>Isobel Khalek</strong> (Chemistry, University of Bristol, Bristol, United Kingdom), Isobel Khalek, Benjamin Howchen, Veronica Celorio, David Fermin</td>
<td>Investigating the Activity of La_{2-x}Sr_xCoO_3 Perovskite Catalysts Towards the Electrosynthesis of 2,5-Furandicarboxylic Acid</td>
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<tr>
<td>15:30 to 15:45</td>
<td><strong>Olaf Brummel</strong> (Interface Research and Catalysis, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany), Juntao Yang, Tian Yang, Evanie Franz, Xin Deng, Lukas Fromm, Nicola Taccardi, Zhi Liu, Andreas Görling, Peter Wasserscheid, Jörg Libuda</td>
<td>Controlling Selectivity in Electrocatalysis by Ionic Liquids: Oxidation of 2,3-Butanediol on Pt(hkl) Electrodes Modified by [C_2C_1Im][OTf]</td>
</tr>
<tr>
<td>15:45 to 16:15</td>
<td><strong>Alejandra Medrano Banda</strong> (Electrochemistry and Energy Conversion, ICPEES - Université de Strasbourg, Strasbourg, France), Gwenaëlle Kerangueven, Alexandr Oshchepkov, Antoine Bonnefont, Elena Savinova</td>
<td>Insights into the Glucose Electrooxidation Reaction on Ni-based Catalysts in Alkaline Media</td>
</tr>
</tbody>
</table>
16:15 to 16:30

**Alexandr Oshchepkov** *(Electrochemistry and Energy Conversion, ICPEES UMR 7515-CNRS-Université de Strasbourg, Strasbourg, France)*, Corinne Bouillet, Jing Sun, Vasilica Badets, Elena Savinova

**Electrochemical Oxidation of Glucose into Value-Added Products on Core-Shell NiAu Nanoparticles: an Impact of the Surface Composition**

16:30 to 16:45

**Evgeniia Vorms** *(Electrochimie et conversion d’énergie, ICPEES, Strasbourg, France)*, Théo Faverge, Marian Chatenet, Antoine Bonnefont, Alexandr Oshchepkov, Elena Savinova

**The Influence of Superficial Oxides on the Activity of Ni Electro catalysts in the Hydrazine Electrooxidation Reaction**

16:45 to 17:00

**Sophia Akkari** *(Chemistry Department, Sorbonne University - LISE, Paris, France)*, Vincent Vivier, Carlos M. Sánchez Sánchez

**Uncovering the Impact of Urea Electro-Oxidation By-products by Operando Electrochemical Impedance Spectroscopy**

17:00 to 17:15

**Maximilian Dierner** *(Chemistry and Pharmacy, Friedrich-Alexander Universität Erlangen-Nürnberg, Erlangen, Germany)*, Julien Bachmann

**Nanostructured Ni-based catalysts for urea oxidation reaction**

17:15 to 17:30

**Youness Boukarkour** *(Institut Sciences Moléculaires, University of Bordeaux, PESSAC, France)*, Yann Couturieux, Gerardo Salinas, Neso Sojic, Stéphane Reculusa, Alexander Kuhn

**Magnetic field enhanced electrochemical water splitting**

17:30 to 17:45

**Hiroki Habazaki** *(Faculty of Engineering, Hokkaido University, Sapporo, Japan)*

**High OER Activity and Durability of FeNi Alloys Covered With Anodic Films**

17:45 to 18:00

**Jeoffrey Tourneur** *(ISCR, University of Rennes, RENNES, France)*, Loic Perrin, Stéphane Paul, Bruno Fabre

**SLM 3D printed industrial electrodes for alkaline water splitting**

18:00 to 18:15

**Lejing Li** *(Faculty of Chemistry and Biochemistry, Ruhr University Bochum, Bochum, Germany)*

**Hydrogen Peroxide Generation on a Zinc Gallium Oxide Anode and its Spectroscopic and Microscopic Characterizations**

18:15 to 18:30

**Munetaka Oyama** *(Department of Material Chemistry, Kyoto University, Kyoto, Japan)*

**Noble Metal Nanoelectrocatalysts Deposited on Nickel Materials via Galvanic Replacement Reactions**
Symposium 10  Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

Room: Bellecour 3
Chaired by: Maik Becker, Theresa Schoetz

14:00 to 14:15
Daniël van den Berg (Process & Energy, Delft University of Technology (TU Delft), Delft, Netherlands), Ruud Kortlever
Rapid Quantitative Screening of Bimetallic CO₂ Electrocatalysts.

14:15 to 14:30
Hilmar Guzmán (DISAT, Politecnico di Torino, Turin, Italy), Federica Zammillo, Roger Miró, Alberto Lopera, Adrianna Nogalska, María J. López-Tendero, Miriam Díaz de los Bernardos, Simelys Hernández
Syngas production through an intensified process: Coupling of CO₂ capture and electrochemical conversion.

14:30 to 14:45
Onofrio Scialdone (Engineering Department, University of Palermo, Palermo, Italy), Chiara Miceli, Riccardo Rinicella, Federica Proietto, Alessandro Galia
Electrochemical CO₂ Conversion into Formic Acid: Microelectrochemical Reactors and Pressurized Systems.

14:45 to 15:00
Thérèse Cibaka (Institute of Energy and Climate Research IEK-5 Photovoltaics, Forschungszentrum Jülich, Jülich, Germany), Thérèse Cibaka, Tsvetelina Merdzhanova, Oleksandr Astakhov, Hannah Hengstler, Ameerah Abioro, Sergey Shcherbachenko, Ugochi Chime, Liu Guangxin, Pham Chuyen, Uwe Rau, Peter Strasser

15:00 to 15:15
Pooya Hosseini-Benhangi (Agora Energy Technologies Ltd., Agora Energy Technologies Ltd., Vancouver, Canada)

15:15 to 15:30
Florian Schwarz (Electrochemical Reaction Engineering, RWTH Aachen University, Aachen, Germany), Elizabeth Larenz, Nils Kurig, Anna K. Mechler
Investigation of the Electrochemical Dehydrogenation of Anhydrous Methanol to Formaldehyde.

15:30 to 15:45
Cintia Correa (Chemistry, ENS de Lyon, Lyon, France), Margarida Costa Gomes
Porous Ionic Liquids for Electro-reduction of Gases.

15:45 to 16:15
Coffee Break
16:15 to 16:30

Shun Lu (Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing, China), Hongxing Jia, Xingqun Zheng, Hong Liu


16:30 to 16:45

Mark Symes (School of Chemistry, University of Glasgow, Glasgow, United Kingdom)

Selective Electrocatalytic Reduction of Nitroarenes to Anilines using Redox Mediators.

16:45 to 17:00

Robert Keller (Chemical Process Engineering (CVT), RWTH Aachen University, Aachen, Germany), Maria Padligur, Franziska Bertram, Daniel Roth, Andreas Jupke, Matthias Wessling, Tobias Harhues

Integrated Biphasic Electrochemical Oxidation of HMF to FDCA.

17:00 to 17:15

Vladyslav Mishyn (Fractionnement des Agro-Ressources et Environnement, Université de Reims Champagne-Ardenne, Reims, France), David P. Hickey, Sofiene Abdellaou

Bio-electrorefinery of lignins.

17:15 to 17:30

Ann Cathrin Brix (Analytical Chemistry - Center for Electrochemical Sciences, Ruhr-Universität Bochum, Faculty of Chemistry & Biochemistry, Bochum, Germany), Ann Cathrin Brix, Olga A. Krysiak, Ieva A. Cechanavičiutė, Wolfgang Schuhmann

Towards Value-added Product Generation from Lignin Using Electrocatalyst-modified Ni Foam Anodes.

17:30 to 17:45

Marti Molera (Materials Science and Physical Chemistry, Universitat de Barcelona, Barcelona, Spain), Teresa Andreu, Maria Sarret

Photoelectrochemical valorization of glycerol.

17:45 to 18:00

ISE-Elsevier Prize for Green Electrochemistry

Ruggero Rossi (Environmental Health and Engineering, Johns Hopkins University, Baltimore, USA)

Enabling chemicals and energy production from low-grade water sources in (bio)electrochemical systems.

18:00 to 18:15

Raihana Benyahia (Metallurgy and Inorganic Materials, Université Paris Est, ICMPE (UMR 7182), CNRS, UPEC, Thiais, France), Raihana Benyahia, Christine Cachet-Vivier, Stéphane Bastide, Lamia Rebiai, Diane Bouvet-Muller, Kadiatou Bah, Encarnacion Torralba, Melissa Lopez Viveros, Sam Azimi, Vincent Rocher

Nanostructured Nickel-based Electrode for Urea Degradation and Hydrogen Production.
Symposium 11  New materials for electroanalysis

Room: Gratte-Ciel 1

Chaired by: Jeffrey Dick, Luigi Falciola, Dechen Jiang

14:00 to 14:30 Keynote
  Simone Ciampi (Chemistry, Curtin University, Bentley, Australia)
  Dielectrics on Electrodes: Inactive Blocking Entities?

14:30 to 14:45 Invited
  F. Javier del Campo (Micro- and nanodevices, BCMaterials, Basque Center for Materials, applications and nan, Leioa, Spain), Jon Velasco, Alaine Sánchez, Idoia Ruiz-de-Larramendi, Ainara Ateka
  Metal oxide-based functional screen-printing inks: applications in electroanalysis, electrochromism and electrocatalysis.

14:45 to 15:00
  Giovanni Valenti (Chemistry Ciamician, University of Bologna, Bologna, Italy), Claudio Ignazio Santo, Chiara Mariani, Sara Rebecanni, Andrea Fiorani, Francesco Paolucci, Neso Sojic, Giovanni Valenti
  Spatially Resolved Electrochemiluminescence Microscopy

15:00 to 15:15
  Salma Hafed Khatiri (Physical Chemistry, University of Alicante, Alicante, Spain), Andrés Felipe Quintero Jaime, David Salinas Torres, Francisco Montilla
  Electrofluorochromism: A Promising Phenomenon for Enhancing Chemical Sensors Performance

15:15 to 15:30
  Ehren Dixon (Electrochemical Materials & Energy, Tyndall National Institute, University College Cork, Cork, Ireland), James, F. Rohan
  Nanoporous copper modified microelectrode array for glucose sensing.

15:30 to 15:45
  Silvia Comis (Chemistry, University of Milan, Milan, Italy), Daniele Fumagalli, Mariangela Longhi, Valentina Pifferi, Luigi Falciola
  Photoelectrochemical Detection of Ciprofloxacin Using AuNPs+TiO$_2$ Hybrid Electrodes.

15:45 to 16:15
  Coffee Break

16:15 to 16:30 Invited
  Chularat Wattanakit (School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand), Sopon Butcha, Sunpet Assavapanumat, Supatra Somsri, Marisa Ketkaew, Wattinee Nunthakitgoson, Bhavana Gupta, Gerardo Salinas, Alexander Kuhn
  Elaboration of Molecularly Encoded Metal Surfaces for Selective Recognition of Enantiomers/Isomers

16:30 to 16:45 Invited
  Dmitry Momotenko (Department of Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany)
  The Hitchhiker’s Guide to the Micro- and Nanoscale Electrochemical Additive Manufacturing
16:45 to 17:00
Frank Marken *(Department of Chemistry, University of Bath, Bath, United Kingdom)*
Intrinsically Microporous Polymer Materials in Electroanalysis.

17:00 to 17:15
Patrick Severin Sfragano *(Department of Chemistry Ugo Schiff, University of Florence, Sesto Fiorentino (FI), Italy)*, Elisabetta Orsillo, Serena Laschi, Michelangelo Fichera, Massimo Del Bubba, Ilaria Palchetti
Characterization of Biochar-based Electrochemical Sensors obtained through the thermoconversion of Sewage Sludges.

17:15 to 17:30
Christopher Brett *(Department of Chemistry, University of Coimbra, Coimbra, Portugal)*, Joseany Almeida, Lucia Abad-Gil, Xizhen Liang, Yueming Zhou

17:30 to 17:45
Jean-François Lemineur *(Chemistry, Université Paris Cité, Paris, France)*, Paolo Ciocci, Yinan Fan, Puvaneswari Teluchina-Appadu, Jean-Marc Noël, Caroline Salzemann, Alexa Courty, Frédéric Kanoufi
Imaging and Quantifying the Electrochemical Production of Single Nanobubbles by Operando Optical Microscopy.

17:45 to 18:00
Jian Zhang *(Analytical Chemistry—Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany)*, Jian Zhang, Wenhui He, Thomas Quast, Joao R. C. Junqueira, Sascha Saddeler, Stephan Schulz, Wolfgang Schuhmann
Single-entity Electrochemistry Unveils Dynamic Transformation during Tandem Catalysis of Cu$_2$O and CO$_3$O$_4$ for Converting NO$_3^-$ to NH$_3$.

18:00 to 18:15
Dimitrios Valavanis *(Department of Chemistry, University of Warwick, Coventry, United Kingdom)*, Paolo Ciocci, Marlene H. Hill, Ian J. MacPherson, Gabriel N. Meloni, Jean-François Lemineur, Frédéric Kanoufi, Patrick R. Unwin

18:15 to 18:30
William Cheuquepan *(Bernal Institute, Chemical Science, University of Limerick, Limerick, Ireland)*, Andres Felipe Quintero Jaime, Angelika Holzinger, Alonso Gamero-Quijano, Micheal D Scanlon
Ag Nanoparticle@PEDOT Nanocomposite Electrosynthesis at a Polarised Liquid|Liquid Interface.
Symposium 13  Physical Electrochemistry of Battery Materials

Room: Bellecour 1

Chaired by: Mark Symes

14:00 to 14:15
Zhong-Qun Tian (Chemistry Department, Xiamen University, Xiamen, China), Yu Gu, En-Ming You, Jian-De Lin, Jun-Hao Wang, Ru-Yu Zhou, Jian-Feng Li, Jia-Wei Yan, Rong Xu, Bing-Wei Mao, Yi Cui, Zhong-Qun Tian

In-situ Depth-Sensitive Plasmon-Enhanced Raman Spectroscopy (DS-PERS) for Lithium Batteries: from Interface to Interphase

14:15 to 14:30
Sanatou TOE (Electrochemical Process, UNIV-PAUL-SABATIER, Laboratoire de Genie chimie, Toulouse, France), Sanatou Toe, Jean-Christophe Remigy, Lucie Leveau, Fabien Chauvet, Youcef Kerdja, Theodore Tzedakis

State PEO-LiTFSI polymer electrolyte for Lithium-based batteries: Study by DSC technique

14:30 to 14:45
Ellen Vollmer (Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany), Ellen Vollmer, Simon Fleischmann

Electrochemistry under confinement: Lithium-ion storage mechanisms of anthraquinone functionalized metal oxides

14:45 to 15:00 Invited
Svetlana Menkin (Yusuf Hamied Department of Chemistry, University of Cambridge, Cambridge, United Kingdom), Jana B. Fritzke, Rebecca Larner, Darren M. C. Ould, Abhoy Karmakar, Alice Beardmore, Avishek Dey, Robert Palgrave, Dominic S. Wright, Clare P. Grey

Interface stability and metal plating in lithium and sodium anode-free batteries

15:00 to 15:15
Nikita Vostrov (ID01 beamline, ESRF, Grenoble, France), Isaac Martens, Mattia Colalongo, Edoardo Zatterin, Steven Leake, Xiaobo Zhu, Marie-Ingrid Richard, Tobias Schulli

Self-healing reorganization of misoriented domains during phase transitions in LiNi0.5Mn1.5O4 single crystals

15:15 to 15:30 Invited
Esther Takeuchi (Chemistry; Materials Science and Chemical Engineering, Stony Brook University, Stony Brook, USA), David Bock, Amy Marschilok, Kenneth Takeuchi

Consequences of Expanding Application Use Profiles of Lithium Ion Batteries on Capacity Retention

15:30 to 15:45
Florian Hausen (Institute of Energy and Climate Research, IEK-9, Forschungszentrum Jülich, Jülich, Germany), Niklas Scheer, Bixian Ying, Karin Kleiner

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

15:45 to 16:15 Coffee Break
16:15 to 16:30 Invited

Jia-Jia Chen (Chemistry, Xiamen University, Xiamen, China)
The Design of Polyoxometalates for Energy Electrochemistry

16:30 to 16:45

Youssef Kharchouf (Physique Chimie, Sorbonne Université, Paris, France), Adil Chahboun, Mustapha Diani, Kieu Ngo, Mireille Turmine, Vincent Vivier
Development of a Microfluidic Redox Flow Battery: Combining theoretical and experimental methods

16:45 to 17:00

Feng Wang (College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China), Jun Cheng
Switching of Redox Levels Leads to High Reductive Stability in Water-in-Salt Electrolytes

17:00 to 17:15

Iwona A. Rutkowska (Faculty of Chemistry, University of Warsaw, Warsaw, Poland), Pawel J. Kulesza
Microelectrode-Based Approaches to Diagnose Utility of Concentrated Redox Electrolytes for Application in Flow Batteries

17:15 to 17:30

Luiza Zudina (RWTH, RWTH Aachen University, Aachen, Germany), Georgii Sokolsky, Anna K. Mechler
Doping of Mn-Oxides by $\text{NH}_4^+$, $\text{Co}^{2+}$, $\text{Fe}^{2+}$ and their OER Characteristics in Alkaline and Neutral Aqueous Electrolytes

17:30 to 17:45

Sophie McArdle (Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand), Holger Fiedler, Jérôme Leveneur, John Kennedy, Aaron T. Marshall
Novel Ion Beam Implantation of Felt Electrodes for the Vanadium Flow Battery: Role of Nitrogen Groups for the $\text{VO}^{2+}$/VO²⁺ Redox Reaction

17:45 to 18:00

Manuel Dillenz (Institute of Theoretical Chemistry, Ulm University, Ulm, Germany), Cornelius Gauckler, Lukas Fridolin Pfeiffer, Mohsen Sotoudeh, Holger Euchner, Peter Axmann, Mario Marinaro, Axel Groß
Origin of the Improved Electrochemical Performance in $\text{P}_2\text{Na}_{2/3}\text{Mn}_{1/3}\text{Ni}_{1/4-\text{MgyO}}$₂

18:00 to 18:15

Varsha Sasikumar S P (Department of Electrical and Electronic Engineering, Technological University of the Shannon, Limerick, Ireland), Varsha Sasikumar S P, Robert P. Lynch, Maria Al-Hajji Safi, Maria Rybalchenko, D. Noel Buckley, Andrea Bourke
Effect of Electrochemical Treatment and Electrolyte pH on VII-VIII Electrode Kinetics in Vanadium Flow Batteries

18:15 to 18:30

Mahdi Moghaddam (ITODYS, Université Paris Cité, Paris, France), Frederic Kanoufi, Louis Godeffroy, Jerzy Jasielec, Jean-Marc Noël, Jean-François Lemineur, Pekka Peljo
Imaging the Conversion Dynamics of Single Solid Booster Microparticles for Redox Flow Batteries
Symposium 14 Operando and in situ characterization of electrochemical interfaces

Room: Forum 4

Chaired by: Laure Monconduit, Lorenzo Stievano

14:00 to 14:15 Invited
Antonella Iadecola (RS2E, CNRS, Amiens, France), Federico Capone, Rémi Dedryvère, Alexis Grimaud, Jean-Pascal Rueff
Direct Observation of the SEI Formation in Li-Ion Batteries Using In Situ NAP-XPS

14:15 to 14:30
Lucy Walters (Chemistry, University of Liverpool, Liverpool, United Kingdom), Lucy Walters, Alex R Neale, Richard J Nichols, Laurence J Hardwick
Operando Surface Enhanced Infrared Spectroscopic Investigations of Interfacial Processes in Electrochemical Systems for Batteries

14:30 to 14:45
Katherine Mazzio (Chemistry, Humboldt University of Berlin, Berlin, Germany), Katherine Mazzio, Yanan Sun, Yongchun Li, Guillermo Alvarez Ferrero, Philipp Adelhelm
Operando Analysis of Battery Electrode Materials Using X-Rays

14:45 to 15:00
Xiufang He (Department of Chemistry, Università degli Studi di Milano, Milano, Italy), Xiufang He, Martina Fracchia, Paolo Ghigna, Francesco D’Acapito, Alessandro Minguzzi, Alberto Vertova
Operando and Time-Resolved X-Ray Absorption Spectroscopy for Photoelectrochemical Water Splitting over Copper Oxide-based Photocathodes

15:00 to 15:15
Francesco Carla (I07 beamline, Diamond Light Source, Didcot, United Kingdom)
Investigating Surface Structure and Reactivity Relations in Microcrystals With Surface X-ray Diffraction

15:15 to 15:30
Alex Neale (Stephenson Institute for Renewable Energy, University of Liverpool, Liverpool, United Kingdom), Alex Neale, David Costa Milan, Thukshan Samarakoon, Filipe Braga, Igor Sazanovich, Laurence Hardwick
Kerr gated Raman spectroscopy as a diagnostic tool for probing high states of electrochemical lithium intercalation in graphitic electrodes

15:30 to 15:45
Rafael Vicente (Physical Chemistry, State University of Campinas, Campinas, Brazil), Swathi Raju, Itamar Neckel, Pablo Fernandez
Spatially resolved analysis of electrocatalysts combining vibrational spectroscopy and synchrotron x-rays

15:45 to 16:15
Coffee Break
16:15 to 16:30 **Invited**

**Guilhem Paradol (IRIG/SyMMES, CEA, Grenoble, France), Caroline Keller, Patrice Perrenot, Gilbert Chahine, Niels Blanc, Cédric Haon, Samuel Tardif, Pascale Chenevier, Sandrine Lyonnard**

The role of silicon-graphite composite architecture on (de)lithiation mechanisms investigated by operando wide and small angle x-ray scattering.

16:30 to 16:45

**Michail Gerasimov (Institute for Applied Materials-Electrochemical Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany), Maik Stamm, Florian Baakes, Leon Schmidt, Jorge Valenzuela, Lars Bläubaum, Martin Winter, Ulrike Krewer**

Understanding Processes of High-Temperature Induced Degradation of the Solid Electrolyte Interphase in Li-ion Batteries.

16:45 to 17:00

**Christoph Griesser (Department of Physical Chemistry, University of Innsbruck, Innsbruck, Austria), Daniel Winkler, Toni Moser, Matthias Leitner, Julia Kunze-Liebhäuser**

Laboratory based NAP-XPS for probing the electrified solid-liquid interface.

17:00 to 17:15

**Raphaël Praud (CEMHTI, CNRS/Renault, Orleans, France), Vincent Sarou Kanian, David Sicsic, Michaël Deschamps, Elodie Salager**

Development of a NMR device adapted to operando analysis of electrochemical commercial cells.

17:15 to 17:30

**Evan Wenbo Zhao (Magnetic Resonance Research Center, Radboud University, Nijmegen, Netherlands), Ruipeng Luo, Anna Bergljót Gunnarsdóttir**

Operando NMR Reveals the Electrochemical Deposition and Dissolution of Metallic Lithium for Ammonia Synthesis.

17:30 to 17:45

**Benjamin Rotonnelli (ICPEES, Université de Strasbourg, Schiltigheim, France), Tristan Asset, Jean-Jacques Gallet, Fabrice Bournel, Elena Savinova**

Dip and Pull X-ray photoelectron spectroscopy for operando analysis of electrochemical systems.

17:45 to 18:00

**Mario Löw (Institute of Theoretical Chemistry, Universität Ulm, Ulm, Germany), Holger Euchner, Matthias M. May**

Operando investigation of anodes for rechargeable magnesium metal batteries by reflection anisotropy spectroscopy.

18:00 to 18:15

**Khashayar Bagheri (CNRS-CEMHTI, University of Orleans, Orleans, France), Michael Deschamps, Elodie Salager**

Novel Operando Nuclear Magnetic Resonance Approach for Tracking the Electrode State of Charge in Li/Na-ion Batteries.

18:15 to 18:30

**Noël Hallemans (ELEC, Vrije Universiteit Brussel, Brussels, Belgium), Widanalage Dhammika Widanage, Xinhua Zhu, Annick Hubin, John Lataire**

Operando EIS applied to Li-ion batteries.
Symposium 15 Electrolyte effects in electrocatalysis and electrochemistry in non-conventional electrolyte

Room: Trémie 4

Chaired by: Alexis Grimaud, Burcu Gurkan, Katharina Krischer, Jennifer Schaefer, Mireille Turmine, Yong Zhang

14:00 to 14:15 Invited

Yong Zhang (Department of Chemical and Biomolecular Engineering, University of Notre Dame, Notre Dame, USA), Edward Maginn

Understanding Structure-Property Relationship in Non-conventional Electrolytes: A Molecular Simulation Perspective

14:15 to 14:30

Arthur Hagopian (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Jinwen Liu, Julien Renaudeau, Katharina Doblhoff-Dier, Marc Koper

Fundamental Understanding of the Electrochemical Double Layer Properties in Aqueous Electrocatalysis: A Potential-Dependent Ab Initio Molecular Dynamics Approach

14:30 to 14:45

Katharina Krischer (Physics Department, Technical University of Munich, München, Germany), Thomas Maier, Matthias Golibrzuch, Tina Angerer, Markus Becherer

How Heterogenous Interfaces Alter Properties of the Electrochemical Double Layer and Improve Reaction Kinetics

14:45 to 15:00

Jun Huang (IEK-13, Forschungszentrum Jülich, Jülich, Germany), Weiqiang Tang

Origin of Solvent Effects on Potential of Zero Charge of Au(111)

15:00 to 15:15

Botao Huang (Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, USA), Yirui Zhang, Yang Shao-Horn

Controlling interfacial hydrogen bonding network for (proton coupled) electron transfer kinetics

15:15 to 15:30

Xinwei Zhu (Theory and Computation of Energy Materials (IEK-13), Forschungszentrum Jülich, Jülich, Germany), Jun Huang, Michael Eikerling

pH effects in a model electrocatalytic reaction disentangled

15:30 to 15:45

Ricardo Martinez Hincapie (Elektrochemie für Energieumwandlung, Max Planck Institut für Chemische Energiekonversion, Mülheim an der Ruhr, Germany), Viktor Colić

The Influence of Ions Present and pH of the Electrolyte on the Electrochemical Oxygen Reduction to Hydrogen Peroxide in Carbon Electrodes

15:45 to 16:15

Coffee Break
16:15 to 16:30
Katharina Doblhoff-Dier (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Jia-Xin Zhu, Justina Moss

... And the Interfacial Dielectric Constant is 6: Scrutinizing This and Other Pieces of Wisdom.

16:30 to 16:45
Aleksandar Zeradjanin (Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)


16:45 to 17:00
Jinwen Liu (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Arthur Hagopian, Ian McCrum, Katharina Doblhoff-Dier, Marc Koper

How do hydrogen adsorbates interact on platinum single-crystal electrodes?

17:00 to 17:15
Jessica Hübner (Department of Chemistry, Chemical Engineering Division, Technical University of Berlin, Berlin, Germany), Lanna Luccetti, Benjamin Paul, Matthias Kroschel, Jiaqi Kang, Detre Treschner, Hong Nhan Nong-Reier, Zita Brejwo, Florian Pietschmann, Gina Ruland, Axel Knop-Gericke, Samira Siahrostami, Peter Strasser

The cationic enhancement effect on the two-electron oxygen reduction reaction towards hydrogen peroxide in acidic conditions at carbon-based cathodes.

17:15 to 17:30
Nipon Deka (Leiden Institute of Chemistry, Leiden University, LEIDEN, Netherlands), Rik V. Mom

Probing of near-surface cations during the oxygen evolution reaction (OER) using operando XAS.

17:30 to 17:45
Xuan Liu (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Marc Koper

Modulating the Interfacial Reaction Environment of CO₂ Electroreduction to CO in Mildly Acidic Media.

17:45 to 18:00
Sunmoon Yu (Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, USA), Hiroki Yamauchi, Yang Shao-Horn

Effect of Cations on Electrocatalytic CO₂-to-Methanol Conversion by Heterogenized Molecular Cobalt Catalyst.

18:00 to 18:15
Romain Tort (Department of Chemical Engineering, Imperial College London, London, United Kingdom), Alexander Bagger, Yasuyuki Kondo, Artem Khobnya, Mary P. Ryan, Maria-Magdalena Titirici, Ifan E. L. Stephens

Ambient Nitrogen Reduction to Ammonia: What Makes Lithium so Unique?

18:15 to 18:30
Katarzyna Dusilo (Department VII, Institute of Physical Chemistry Polish Academy of Sciences, Warsaw, Poland), Marcin Opallo

Voltammetry in microemulsion formed by electron donor solution in organic solvent/ionic liquid microdroplets in aqueous electrolyte.
Friday 8 September 2023 - AM

Plenary

Room: Amphithéâtre

Chaired by: Christophe Bucher

08:15 to 09:15

Susana Córdoba de Torres (Institute of Chemistry of the University of São Paulo (USP), Brazil).

Controlled nanomaterials toward plasmon-enhanced electrocatalysis

Symposium 3  From wearable to sustainable electrochemical sensing and biosensing

Room: Tête d’Or 1

Chaired by: Pierre Gros, Ilaria Palchetti

09:30 to 09:45 Invited

Fabiana Arduini (Department of Chemical Science and Technologies, University of Rome Tor Vergata, RM, Italy)

Electrochemical paper-based devices for overcoming the limitation of electrochemical polyester/ceramic-based printed sensors

09:45 to 10:00

Zahra Lotfibakalani (Biomedical Engineering, The University of Sydney, Sydney, Australia), Monalisha Ghosh Dastidar, Thanh Tran-Phu, Krish Murugappan, Buddini Karawdeniya, Eleonora Pargoletti, Parisa Moazzam, Adam Damry, David Nisbet, Antonio Tricoli

Development of a DNA-based Electrochemical Biosensor for monitoring immunotherapy Responses

10:00 to 10:15

Andrew Gross (Department of Molecular Chemistry, CNRS-Grenoble Alps University, Grenoble, France), Bastien Darmau, Isabelle Texier

Design and Integration of Porous Frameworks at Bioelectrodes for Transdermal Sensing and Energy

10:15 to 10:30

Hong Chul Lim (Department of Pharmaceutics and Biopharmacy, Sangji University, Wonju-Si, Korea), Tae Hyun Kim

Preparation and characterization of Graphene Quantum Dot Doped PEDOT Electrodeposited Thin Films as Electro-Active Materials for Simultaneous Determination of Ascorbic Acid, Dopamine, and Uric Acid

10:30 to 11:00

Coffee Break
11:00 to 11:15 **Invited**

**Yuanyuan Guo** *(Frontier Research Institute for Interdisciplinary Science, Tohoku University, Sendai, Japan)*

Microelectronic fiber-based multimodal bio-interface

11:15 to 11:30

**Eleonora Pargoletti** *(Chemistry, University of Milan, Milan, Italy)*, Francesca Tessore, Mario Italo Trioni, Gabriele Di Carlo, Raffaella Soave, Giuseppe Cappelletti

Insights into Acetone Sensing by SnO$_2$-Porphyrin Nanocomposite Chemosensors

11:30 to 11:45

**Nadia Moukri** *(Engineering Department, University of Palermo, Palermo, Italy)*, Bernardo Patella, Chiara Cipollina, Elisabetta Pace, Alan O’Riordan, Rosalinda Inguanta

Prussian Blue Nanoparticles as labels in a Sandwich-type Nanostructured Immunosensor to detect Immunoglobulin G

11:45 to 12:00

**Paulo Henrique Maciel Buzzetti** *(Département de Chimie Moléculaire, Université Grenoble-Alpes, Grenoble, France)*, Marrie Carrière, Monica Brachi, Fabien Giroud, Karine Gorgy, Muhammad Mumtaz, Redouane Borsali, Serge Cosnier

Organic β-Cyclodextrin Nanoparticles: An Efficient Building Block Between Functionalized Poly(Pyrrole) Electrodes And Enzymes

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**Symposium 4a From Lithium ion to post-Li ion batteries:**

**Fundamental understanding and application aspects**

**Room: Gratte-Ciel 2**

**Chaired by:** Andrew J. Naylor, M Rosa Palacin

09:30 to 10:00 **Keynote**

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

Sustainable Batteries beyond Li ion: insights on Na and Al based systems

10:00 to 10:15

**Ijaz Ul Mohsin** *(Institute of Applied Materials – Applied Materials Physics, Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen, Germany)*, Carlos Ziebert

Thermal and Calorimetric Studies on the Safety of Post-Lithium Batteries

10:15 to 10:30

**Andrew J. Naylor** *(Department of Chemistry – Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Andrew J. Naylor, Lars O. S. Colbin, Jonas Welch, Florian Gebert, Matilde Longhini, Fosca Conti, Reza Younesi

Addressing Interfacial Challenges in Next-Generation Rechargeable Batteries

10:30 to 11:00

Coffee Break
11:00 to 11:15
Reio Praats (Energy technologies, Institute of Chemical Physics and Biophysics, Tallinn, Estonia), Kerli Liivand, Alexander Chernyaev, Jani Sainio, Mari Lundström, Ivar Kruusenberg
Supporting Critical Raw Material Circularity – Graphite from waste LIBs to Zn-air batteries

11:15 to 11:30
Fannie Alloin (LEPMI, Université Grenoble Alpes - CNRS, Saint Martin d’Hères, France), Régis Porhiel, Cristina Iojoiu, Stéphanie Belin, Katia Guérin
Iron fluorides as positive electrode materials for solid state lithium batteries

11:30 to 11:45
Krishnaveni Palanisamy (Institute of Analytical and Bioanalytical Chemisrty, Ulm University, Ulm, Germany), Sven Daboss, Jan Romer, David Schäfer, Jackson Flowers, Marcus Rohnke, Helge-Sören Stein, Christine Kranz
Investigation of the Solid Electrolyte Interphase on Hard Carbon Electrode

Symposium 4b From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects
Room: Espace Prestige Gratte-Ciel
Chaired by: Bernard Lestriez, Steen Schougaard

09:30 to 09:45 Invited
Steen Schougaard (Département de Chimie and NanoQAM, UQAM, Montréal, Canada)
Primary and Operando Transport of the Electrolyte Within Composite Electrodes

09:45 to 10:00
Elena Sánchez-Ahijón (Multifunctional Nanocomposites Group, IMDEA Materiales, Getafe, Spain), Afshin Pendashteh, Juan José Vilatela García
Self-Standing Silicon Nanotextile for Solid-State Lithium-Ion Batteries

10:00 to 10:15
Romain Mathieu (Electrochemistry and materials, IFP Energies Nouvelles, Solaize, France), Vivien Esnault, Virgile Rouchon, Olga Burchak, Julien Bernard
Investigation of a Silicon Nanoparticles and Graphite Composite as Negative Material for Higher Energy Density Lithium-Ion Batteries

10:15 to 10:30
Lioba Boveleth (Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Helmholtz Institut Ulm für Elektrochemische Energiespeicher, Ulm, Germany), Marius Flügel, Christin Hogrefe, Marius Bolsinger, Ivana Pivarnikova, Neelima Paul, Thomas Waldmann, Christian Weisenberger, Timo Danner, Margret Wohlfahrt-Mehrens, Volker Knoblauch, Ralph Gilles, Arnulf Latz
Simulation of Li Plating in Si/Graphite Composite Electrodes

10:30 to 11:00
Coffee Break
11:00 to 11:15
Luca Bargnesi (Department of chemistry Giacomo Ciamician, University of Bologna, Bologna, Italy), Giampaolo Lacarbonara, Catia Arbizzani
Sustainable Separators for Lithium-Ion and Lithium-Metal Batteries

11:15 to 11:30
Soumyadip Mondal (Institute of Science and Technology Austria (ISTA), Klosterneuburg, Austria), Christian Prehal, Bhargavi Pant, Stefan A Freunberger
Surface Electrochemistry with Insulating Li2O2 and Triplet vs Singlet Oxygen Formation

11:30 to 11:45
Sungmin Na (Department of Mechanical Engineering, Gachon university, Gyeonggi-do, Sungnam Si, Korea), Kwangjin Park
Impact of LFP coating and blending on the electrochemical performance and gas evolution of Ni-rich NCM Cathodes

11:45 to 12:00
ChanJoo Park (Next Generation Smart Energy System Convergence, Gachon University, Seongnam-si, Korea), Kwangjin Park
Investigating Double-Layer Electrode Designs for High Energy Density Li Ion Batteries

Symposium 6a Fuel cells, electrolysis and electrofuel synthesis

Room: Amphithéâtre
Chaired by: Santoro Carlo, Gwénaëlle Kéranguéven, Sanjeev Mukerjee, Kaido Tammeveski

09:30 to 09:45
Muhammad Mehdi (Energy Engineering, University of Science and Technology, Daejeon, Korea), Byeong-Seon An, Byung-Hyun Kim, Chang-Hyuck Choi, Sechan Lee, Changsoo Lee, MinJoong Kim, Hyun-Seok Cho

09:45 to 10:00
David Ríos Ruiz (Institute of Catalysis and Petrochemistry, Spanish National Research Council (CSIC), Madrid, Spain), Jesús Cebolada Borao
Constructing Ni2P/Fe2P active sites in N, P co-doped carbon nanocomposites for efficient alkaline water electrolysis

10:00 to 10:15
Valerio C.A. Ficca (Dept. of Physics, Sapienza University of Rome, Rome, Italy), Carlo Santoro, Ernesto Placidi, Alexey Serov, Plamen Atanassov, Barbara Mecheri
Discriminating the Poisoning of Primary and Secondary Active Sites of Iron-based Platinum-Group-Metal-Free Electrocatalysts for the Oxygen Reduction Reaction

10:15 to 10:30
Yun Wu (Materials Science and Engineering, Guangdong University of Petrochemical Technology, Maoming, China), Azhagumuthu Muthukrishnan, Shinsuke Nagata
Calculation of kinetic rate constants of oxygen reduction reaction pathways over Pt-free electrocatalysts and its application in Tafel slope evaluation

10:30 to 11:00
Coffee Break
11:00 to 11:15

Ivar Kruusenberg (Energy Technologies Laboratory, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia), Kätlin Kaare, Robert Palgrave, Masahiko Tsujimoto, Anton Kuzmin, Bagrat Shainyan

Oxygen Reduction Reaction Catalyzed by Silicon and Nitrogen Co-Doped Carbon

11:15 to 11:30

Silvia Favero (Chemical Engineering, Imperial College London, London, United Kingdom), Alain Li, Mengnan Wang, Matthew Bidwell, Magda Titirici

The Role of the Catalyst Ionomer in Preventing Iron Aggregation

11:30 to 11:45

Kaarel Kisand (Institute of Chemistry, University of Tartu, Tartu, Estonia), Ave Sarapuu, John Douglin, Arvo Kikas, Alexey Treshchalov, Maike Käärik, Helle-Mai Piirsoo, Päärn Paiste, Jaan Aruväli, Vambola Kisand, Jaan Leis, Aile Tamm, Dario R. Dekel, Kaido Tammeveski

Synthesis of Mesoporous Nitrogen-, Iron-, and Cobalt-Doped Nanocarbon from Alkylresorcinol Mixture and MgO Template for Application in Anion-Exchange Membrane Fuel Cells

11:45 to 12:00

Hideshi Ooka (CSRS, RIKEN, Wako, Japan), Marie E. Wintzer, Ryuhei Nakamura

Predicting the Operational Lifetime of Electrocatalysis

Symposium 6b Fuel cells, electrolysis and electrofuel synthesis

Room: Salon Tête d’Or

Chaired by: Ana Marija Damjanovic, Jasna Jankovic

09:30 to 09:45

Tuan Anh Dao (EA-730, BMW Group, München, Germany), Tuan Anh Dao, Thomas Kadyk, Olav Finkenwirth, Michael Eikerling

Investigation of localized hydrogen starvation in PEMFC with dynamic electrochemical impedance spectroscopy

09:45 to 10:00

Ana Marija Damjanovic (Development Cell Components, EKPO Fuel Cell Technologies GmbH, Dettingen an der Erms, Germany), Markus Eckardt, Michael T. Y. Paul, Jürgen Kraft

In-situ Electrochemical Characterization Method for Industrial-Scale Proton-Exchange-Membrane Fuel Cell Stacks

10:00 to 10:15

Masuma Sultana Ripa (Fuel Cell Fundamentals (ECG), Centre for Solar Energy and Hydrogen Research (ZSW), Ulm, Germany), Ludwig Jörissen, Sylvain Brimaud

Influence of cathode catalyst ink solvent composition on the polymer electrolyte membrane fuel cell (PEMFC) performance at high current densities and catalyst layer structure

10:15 to 10:30

Maria I. León Sotelo (Department of Geomatics and Hydraulics Engineering, University of Guanajuato, Guanajuato, Mexico), Tatiana Romero, José L. Nava

Exchange Current Density Measurement for Anode and Cathode Reactions Within an Anionic Exchange Membrane Fuel Cell Through the Distribution of Relaxation Times

10:30 to 11:00 Coffee Break
11:00 to 11:15
Charalampos Neofytidis (Institute of Chemical Engineering Sciences, ICEHT, Foundation of Research and Technology Hellas FORTH, Platani Rion, Greece), Fotios Paloukis, Nikolaos Athanasopoulos, Maria Daletou, Stylianos Neophytides
Efficient high temperature PEMFC metallic stack with innovative two-phase liquid cooling

11:15 to 11:30
Hosni Elwan (School of Engineering, Merz court, Chemical Engineering, Newcastle University, Newcastle upon Tyne, United Kingdom), Mohamed Mamlouk, Mark Geoghegan, Keith Scott
Exploring the Potential of Protic Ionic Liquid Electrolytes for High-Temperature Proton Exchange Membrane Fuel Cells: Electrochemical Characterization and Incorporation in Ion Gels

11:30 to 11:45
Guillaume Soubeyran (LITEN, CEA, Grenoble, France), Jean-Philippe Poirot-Crouvezier, Magali Reytier, Benoît Morin, Fabrice Micoud
Innovative operating strategies for the optimization of PEMFC system performance

11:45 to 12:00
Jesús Serrano-Jiménez (Department of Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain), Antonio de Lucas-Consuegra, Paula Sánchez, Amaya Romero, Ana Raquel de la Osa
Electrochemical Reforming of Molecules Derived from Biomass or Industrial By-products Streams for Renewable Hydrogen Production

**Symposium 8  Coatings and electrochemical surface treatments**

Room: Tête d’Or 2

Chaired by: Monica Santamaria, Mikhail Zheludkevich

09:30 to 10:00 **Keynote**
Marie-Laure Doche (UTINAM UMR CNRS 6213, Université de Franche-Comté, Besançon, France), Jean-Yves Hihn, Estelle Drynski, Jason Rollet, Jeoffrey Tardelli
Electropolishing Stainless Steel parts Elaborated by Selective Laser Melting: The Challenge of Maintaining Geometry by Removing Strong Roughness

10:00 to 10:15 **ISE Prize for Electrochemical Materials Science - Corrosion**
Xiaopeng Lu (Shenyang National Laboratory for Materials Science, Northeastern University, Shenyang, China), Qianqian Chen, Yuxin Zhou, Yan Li, Fuhui Wang
Tuning Corrosion Performance of Mg Alloy by Inhibitor and PEO Coating

10:15 to 10:30
Andrei Ionut Mardare (Institute of Chemical Technology of Inorganic Materials, Johannes Kepler University Linz, Linz, Austria)
Electrochemically induced defect engineering for composite anodic memristors

10:30 to 10:45
Hanna Sopha (Center of Materials and Nanotechnologies, University of Pardubice, Pardubice, Czech Republic), Marcela Sepúlveda, Jan M. Macak
TiO$_2$ Nanotube Layers: Preparation Using Wireless Anodization

10:45 to 11:00 **Coffee Break**
11:00 to 11:15
**Monica Santamaria** *(Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy)*, Francesco Di Franco, Riccardo Miranda, Antonino Valenza

*Electrochemical surface treatments on different metal alloys to enhance the adhesion with fiber reinforced composites.*

11:15 to 11:30
**Damian Kowalski** *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Patrycja Henkiew, Mewin Vincent, Lina M. Sepulveda, Hiroki Habazaki

*Modification of Anodic TiO$_2$ Nanotubes with Au and Metalloids.*

11:30 to 11:45
**Ana Gasco-Owens** *(Département Chimie et Physique des Solides et des Surfaces, Université de Lorraine - Institute Jean Lamour, Nancy, France)*, Delphine Veys-Renaux, Emmanuel Rocca

*Unipolar pulse anodizing of pure Al and AA2024 alloy in H$_2$SO$_4$: design and application.*

11:45 to 12:00
**Virginie Moutarlier** *(Surface Reactivity and Sonochemistry, UTINAM Institute, Besançon, France)*, Jeremy Daval, Remy Viennet, Laurence Ricq, Jean-Yves Hihn

*Anodic layer growth on 2024 aluminum alloy in presence of etidronic acid : structure and morphology.*

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**Symposium 9 Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes**

**Room: Bellecour 2**

*Chaired by: Monica Santamaria*

09:30 to 09:45
**Debashrita Sarkar** *(Department of Chemistry, Université Paris Cité, Paris, France)*, Hichem Ichou, Stéphane Diring, Thamer Aloui, Léo Choubrac, Nicolas Barrea, Fabrice Odobel, Marc Robert

*Molecular Photoelectrodes For Artificial Photosynthesis: CO$_2$ Catalytic Reduction With Non Noble Elements.*

09:45 to 10:00
**Giada Caniglia** *(Institute of Analytical and Bioanalytical Chemistry, Ulm University, Ulm, Germany)*, Eva Oswald, Giada Caniglia, Anna-Laurine Gaus, Max Von Delius, Alexander K. Mengele, Sven Rau, Christine Kranz

*Studying Light-Driven Molecular Catalysis via Scanning Electrochemical Probe Microscopy*

10:00 to 10:15
**Ramunas Levinas** *(Department of Catalysis, Center for Physical Sciences and Technology, Vilnius, Lithuania)*, Loreta Tamasauskaite-Tamasuinaite, Eugenijus Norkus

*Electrochemical synthesis of TiO2/Cu&/#8339;O multi-functional heterostructures for photoelectrochemical applications.*

10:15 to 10:30
**Janak Preet Kaur** *(Chemical Engineering, Monash University Malaysia, Bandar Sunway, Malaysia)*, Meng Nan Chong

*Novel self-assembled bismuth vanadate (001) exposed facet nanowires enriched with iron vanadate for highly efficient photoelectrochemical water oxidation.*
10:30 to 10:45

Juliana Brito (Department of Analytical, Inorganic and Physical-Chemistry, Institute of Chemistry - UNESP Araraquara, Araraquara, Brazil), Marcos Andrade Jr., Mileny Araujo, Marina Medina, Hugo Santos, Lucia Helena

Multi-layers Kesterite-based Photocathodes for NH₃ Photoelectrosynthesis from N₂ Reduction Reaction

10:45 to 11:00

Coffee Break

11:00 to 11:15

Claudio Maria Pecoraro (Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy), Claudio Maria Pecoraro, Francesco Di Franco, Marianna Bellardita, Vittorio Loddo, Monica Santamaria

H₂ production and biomass valorization in PGM-free photoelectrochemical cells by glycerol photo-oxidation

11:15 to 11:30

Maria Valnice Boldrin Zanoni (analyticla chemistry, University of São Paulo State - UNESP, Araraquara, Brazil), Maria Valnice Boldrin Zanoni, João A.L. Perini, Lilian D.M. Torquato, Lucas D. Germano, Susana I. C Torresi

CO₂ Photoelectroreduction under solar simulator at TiO₂ Nanotubes Electrodes Decorated with Cu₂O Nanostructures and Gold

11:30 to 11:45

Giulia Cuatto (Dipartimento di Scienza Applicata e Tecnologia - DISAT, Politecnico di Torino, Turin, Italy), Mario Gallone, Maddalena Zoli, Micaela Castellino, Hilmar Guzmán, Simelys Hernández

Standardization of Cu₂O nanocubes synthesis for the CO₂ photoelectrochemical reduction

11:45 to 12:00

Encarnacion Torralba (Metallurgy and Inorganic Materials, East-Paris Institute of Chemistry and Materials, Thiais, France), Harsh Chaliyawala, Stephane Bastide, Anffane Djoumoi, Diane Muller-Bouvet, Christine Cachet-Vivier, Sylvain Le Gall, Frederic Marty, Tarik Bourouina

Ag, Cu₁₀₀₋ₓDecorated Si Micropillar Arrays as Advanced Photocathodes for Light Assisted CO₂ Conversion

Symposium 10 Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

Room: Bellecour 3

Chaired by: Emmanuel Mousset, Carlos Ponce de Leon

09:30 to 10:00 Keynote

Karel Bouzek (Department of Inorganic Technology, University of Chemistry and Technology, Prague, Prague, Czech Republic), Jaromír Hnát

Alkaline Water Electrolysis – Separator, MEA, Cell and Stack

10:00 to 10:15

Hamid Palamadathil Kannattil (Laboratoire d’Electrochimie Moléculaire, Université Paris Cité, Paris, France), Hamid Palamadathil Kannattil, Benoît Limoges, Véronique Ballard

Bi-functional Smart Windows for Greener Buildings
10:15 to 10:30
Andrea Nataly Arias Sanchez (Department of Chemical Engineering, University of Castilla La Mancha, Ciudad Real, Spain), Inalmar Barbosa Segundo, Elisama V. dos Santos, Carlos Martinez-Huitle, Justo Lobato Bajo, Manuel Andres Rodrigo Rodrigo

**Valorisation of Gaseous Streams Polluted with H₂S Through Electrochemical Technologies**

10:30 to 11:00
Coffee Break

11:00 to 11:15
Plamen Atanassov (Chemical & Bimolecular Engineering, University of California Irvine, Irvine, USA), Eamonn Murphy, Yuanchao Liu, Ivana Matanovic

**Atomically Dispersed Transition Metal-Nitrogen-Carbon Electrocatalysts: Reactivity in Ammonia Synthesis**

11:15 to 11:30
Pierre Bléteau (Chemistry, Université Paris Cité, Paris, France), Sarra Gam-Derouich, Jean-Christophe Lacroix

**Organic Plasmonic: PEDOT with Secondary Doping is Getting Closer to the Visible Range**

11:30 to 11:45
Saskia Hoekx (Applied Electrochemistry and Catalysis (ELCAT), University of Antwerp, Antwerp, Belgium), Nick Daems, Tom Breugelmans, Sara Bals

**Unravelling the evolution of Cu NP morphology and size during the NO₃ RR and its effect on ammonia production**

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**Symposium 11 New materials for electroanalysis**

**Room: Gratte-Ciel 1**

*Chaired by: Simone Ciampi, Magdalena Hromadova*

09:30 to 10:00 **Keynote**
Jeffrey Dick (Chemistry, Purdue University, West Lafayette, USA)

**Electroanalysis in Single Liquid Droplets**

10:00 to 10:15 **Invited**
Serena Arnaboldi (Department of Chemistry, University of Milan, Milan, Italy), Gerardo Salinas, Tiziana Benincori, Roberto Cirilli, Sébastien Gounel, Nicolas Mano, Alexander Kuhn

**Enantioselective Dynamic Systems**

10:15 to 10:30
Martín Pérez Estébanez (Química analítica / Analytical chemistry, Universidad de Burgos, Burgos, Spain), Maria Huidobro, Pello Nuñez-Marinero, Francisco Javier del Campo, Aránzazu Heras, Alvaro Colina

**New strategies for the electrosynthesis of dielectric-based SERS substrates. An approach based on disposable Cu electrodes**
10:30 to 10:45

**Andisiwe Ngwekazi** *(Chemical Science Department, University of the western Cape, Cape Town, South Africa)*, Priscilla Baker, Christopher Arendse

*Electrochemical sensing of dopamine and histamine at CB [7] modified electrodes.*

10:45 to 11:00

**Coffee Break**

11:00 to 11:15 Invited

**Minkyung Kang** *(School of Chemistry, the University of Sydney, Sydney, Australia)*

*High Throughput Correlative Electrochemistry-Microscopy Analysis on Complex Electrodes*

11:15 to 11:30

**Julie Descamps** *(ISM, Université de Bordeaux, Pessac, France)*, Yiran Zhao, Bertrand Goudeau, Julie Le Poulquen, Karine Tavernier, Yoan Léger, Lionel Santinacci, Gabriel Loget, Neso Sojic

*Localized Photoinduced Electrochemiluminescence on Metal-Insulator-Semiconductor (MIS) Anodes*

11:30 to 11:45

**Claudio Ignazio Santo** *(Department of chemistry G.Ciamician, University of Bologna, BOLOGNA, Italy)*, Andrea Fiorani, Yasuaki Einaga, Giovanni Valenti, Francesco Paolucci

*Innovative electrode material for raising electrochemiluminescence in beads-based immunoassay biosensors.*

11:45 to 12:00

**Svenja Speldrich** *(Institute of Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany)*, Laura Gronewold, Michael Wark, Gunther Wittstock

*A Combinatorial Study of Doped Cu-W-Oxides for Photoelectrochemical Oxygen Evolution*

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**Symposium 13  Physical Electrochemistry of Battery Materials**

**Room: Bellecour 1**

*Chaired by: Jia-Jia Chen*

09:30 to 10:00 Keynote

**Miran Gaberscek** *(Chemistry of Materials, National Institute of Chemistry, Ljubljana, Slovenia)*, Sara Drvaric Talian, Robert Dominko, Joze Moskon

*Interpretation of Measured Impedance Spectra of Batteries Using Physics Based Transmission Lines*

10:00 to 10:15

**Eric Woillez** *(DEHT, CEA-LITEN, Grenoble, France)*, Marion Chandesris

*Insight into LIB diffusion phenomena using analytical impedance models*

10:15 to 10:30 Invited

**Muhammed Musthafa Ottakam Thotiyil** *(Department of Chemistry, Indian Institute of Science Education and Research Pune, Pune, India)*

*Structural Isomerism Directed Energy Storage at the Electrical Double Layer*

10:30 to 11:00

**Coffee Break**
11:00 to 11:15

**Lukas Köbbing** *(Helmholtz Institute Ulm (HIU), German Aerospace Center (DLR), Ulm, Germany), Arnulf Latz, Birger Horstmann*

*Continued SEI Growth and its Impact on the Silicon Potential Hysteresis*

11:15 to 11:30

**Zengming Zhang** *(IEK-13, Forschungszentrum Jülich GmbH, Jülich, German, Germany)*

*Physical Modelling of Impedance Response of Nanoscale Solid Electrolytes*

11:30 to 11:45

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

*Synthesis and electrochemical Characterization of SiC μ-Fibers*

11:45 to 12:00

**Martin Sjödin** *(Dept. of Materials Science and Engineering, Uppsala University, Uppsala, Sweden), Rikard Emanuelsson, Christian Strietzel, Huan Wang, Maria Strømme*

*Conducting Redox Polymers as Active Materials in Secondary Batteries*

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**Symposium 14  Operando and in situ characterization of electrochemical interfaces**

**Room: Forum 4**

*Chaired by: Vanessa Peterson*

09:30 to 10:00

**Brian Conway Prize for Physical Electrochemistry**

**Scott Donne** *(Chemistry, University of Newcastle, Callaghan, Australia)*

*Evaluation of the Electrified Interface in Electrochemical Capacitors*

10:00 to 10:15

**Catia Arbizzani** *(Chemistry “Giacomo Ciamician”, University of Bologna, Bologna, Italy), Giampaolo Lacaronara, Dario Di Cillo, Luca Bargnesi, Josef Rizell, Matthew Sadd, Aleksandar Matic*

*Operando and In Situ Investigations for Deciphering Lithium Metal-Electrolyte Interphase Modification by Unconventional Additives*

10:15 to 10:30

**Yu Gu** *(Department of Chemistry, Xiamen University, Xiamen, China), Wei-Wei Wang, Hao Yan, Ru-Yu Zhou, Xiao-Ting Yin, Jun-Hao Wang, Jia-Wei Yan, Jian-Feng Li, Zhong-Quan Tian, Bing-Wei Mao*

*In Situ Electrochemical and Spectroscopic Study on Ion Desolvation at SEI/Electrolyte Interfaces of Alkali Metal Anodes*

10:30 to 11:00

*Coffee Break*
11:00 to 11:15

**Andy Wain** *(Electrochemistry Group, National Physical Laboratory, Teddington, United Kingdom)*, Rudra Samajdar, Sofia Marchesini, Scott Brown, Stuart Robertson, Keith Paton, Andrew Pollard

Investigating Transport and Interfacial Processes in Magnesium Battery Electrolytes using Operando Vibrational Spectroscopy

11:15 to 11:30

**Chaoyu Li** *(School of Materials Science and Engineering, Tongji University, Shanghai, China)*, Jian-Feng Li, Zhong-Qun Tian

Probing electrode-electrolyte interface with operando/in situ plasmon-enhanced Raman spectroscopy

11:30 to 11:45

**Lara Lubián** *(Department of Chemistry, Universidad de Burgos, Burgos, Spain)*, Rubén Rubio-Presa, Roberto Sanz, Aránzazu Heras, Alvaro Colina, Edgar Ventosa

Operando Raman Spectroscopy for Electrochemical Flowing Systems

11:45 to 12:00

**Xiang Wang** *(Department of Chemistry, Xiamen University, Xiamen, China)*, Teng-Xiang Huang, Xin Cong, Si-Si Wu, Yi-Fan Bao, Mao-Feng Cao, Liwen Wu, Miao-Ling Lin, Ping-Heng Tan, Bin Ren

Revealing the Structural Evolution of Active Sites during Electrocatalytic Reactions with Electrochemical Tip-enhanced Raman Spectroscopy

Symposium 15 Electrolyte effects in electrocatalysis and electrochemistry in non-conventional electrolyte

Room: Trémie 4

Chaired by: Alexis Grimaud, Burcu Gurkan, Maria Lukatskaya, Jennifer Schaefer, Mireille Turmine

09:30 to 10:00 Keynote

**Maria Lukatskaya** *(Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland)*

Engineering Local Chemical Environments in Electrolytes for Efficient Aqueous Batteries

10:00 to 10:15

**Maria Gomez Mingot** *(Laboratoire de Chimie des Processus Biologiques, College de France, Paris, France)*, Elli Vichou, Marc Fontecave, Carlos Sanchez Sanchez

Electrolyte Engineering in Model Molecular Electrocatalysis for CO₂ conversion

10:15 to 10:30

**Ji Mun Yoo** *(Department of Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland)*, Katharina Trapp, Maria R. Lukatskaya

Operando Observation of Electrolyte Engineering Effect in CO₂ Electroreduction Reaction Selectivity

10:30 to 11:00

Coffee Break

11:00 to 11:15 Invited

**Jean-Yves Hihn** *(Utinam Umr 6213 CNRS UFC, University of Franche-Comte, Besancon, France)*, Marie-Laure Doche, Florian Roy, Martin Marcelet, Jason Rolet, Joffrey Tardelli

Electropolishing of TA6V Parts Elaborated by Additive Manufacturing: Use of Pulsed Potentials in Deep Eutectic Solvent
11:15 to 11:30

**Naoya Nishi** (*Department of Energy and Hydrocarbon Chemistry, Kyoto University, Kyoto, Japan*), Naohiro Yoshida, Yishan Zhou, Yuko Yokoyama, Tetsuo Sakka

*Electrochemical liquid/liquid interface of ionic liquids for electroless reductive deposition of base metal nanostructures*

11:30 to 11:45

**Shota Higashino** (*Graduate School of Engineering, Osaka Metropolitan University, Osaka, Japan*), Takashi Yamamoto, Masaki Yamagami, Masao Miyake, Takumi Ikenoue, Tetsuji Hirato

*Impact of Oxygen on Aluminum Electrodeposition using a 1-Ethyl-3-Methylimidazolium Chloride–AlCl₃ Ionic Liquid and an Acetamide–AlCl₃ Deep Eutectic Solvent*

11:45 to 12:00

**Veronika Zinovyeva** (*Chemistry Department, IJCLab, Paris-Saclay University, Orsay, France*), Thomas Salez, Michel Beaughon, Selma Bouguila, Kakoli Bhattacharya, Vladimir Sladkov, Marco Bonetti, Sawako Nakamae

*Low-Grade Waste Heat Energy Harvesting in Ionic Liquids Containing Lanthanide Redox Couples*
Poster presentation program
Symposium 1  Electroanalytical chemistry: From fundamental research to day-to-day analysis

S01-P-001
Muhammad Abd Elhamied (Institute of Analytical and Bioanalytical Chemistry, Ulm University, Ulm, Germany), Boris Mizaikoff, Christine Kranz
Application of Molecularly Imprinted Polymer/Peptide Nucleic Acid as a Novel Hybrid Receptor for miRNA 21

S01-P-002
Rosa M. Aran-Ais (Institute of Electrochemistry, University of Alicante, San Vicente del Raspeig, Spain), Gabriel Melle, Pepe Jorda-Faus, Fabian Scholten, Juan M. Feliu, Beatriz Roldan-Cuenya, Enrique Herrero
Unraveling the Interfacial Properties of Platinum–Palladium Bulk Alloy Single Crystals

S01-P-003
Rosa M. Aran-Ais (Institute of Electrochemistry, University of Alicante, San Vicente del Raspeig, Spain), Lorena Chico Mesa, Enrique Herrero
Surface Structure Effects on Furfural and Hydroxymethylfurfural Electro-oxidation on Gold

S01-P-004
Iana Arantes (Institute of Chemistry, University of São Paulo, São Paulo, Brazil), Iana Arantes, Matthew Whittingham, Robert Crapnell, Evelyn Sigley, Thiago Paixão, Craig Banks
Compact and Versatile Additively Manufactured Flow Cell Coupled with a Portable Electrochemical Apparatus for Atropine Determination in Beverage Samples

S01-P-005
Maisa Azevedo Beluomini (Institute of Chemistry, São Paulo State University (UNESP), Araraquara, Brazil), Nelson Ramos Stradiotto, Maria Valnice Boldrin Zanoni
Simultaneous analysis of hesperidin and narirutin in wastewater from citrus industry using a screen-printed electrode modified with 3D-nanoporous platinum.

S01-P-006
Je Hyun Bae (Graduate School of Analytical Science and Technology (GRAST), Chungnam National University, Daejeon, Korea), Hyun Ju Yang, Jinju Kim
Relationship between Constant Phase Element and Ion Transport in Nanoporous Electrodes

S01-P-007
Philippe Banet (LPPI, CYU, Cergy, France), Maria Kandily, Mohamed Mallouki, Priscilla Baker, Pierre Henri Aubert
Label free aptasensors with AgNPS as electrochemical probe

S01-P-008
José Luiz Bott Neto (Department of Physics and Materials Science, São Carlos Institute of Physics, University of São Paulo, São Carlos, Brazil), José Luiz Bott Neto, Thiago Martins, Osvaldo Oliveira Jr, Frank Marken
TiO$_2$-based Photoelectrochemical Detection Platform for Detecting Compounds in Visible Light

S01-P-009
Alessandro Brega (Fuel Cell Fundamnetals (ECG), Zentrum für Sonnenenergie und Wasserstoff-Forschung (ZSW), Ulm, Germany), Ludwig Jörissen, Sylvain Brimaud
Electrochemical Studies of the Oxygen Reduction Reaction on commercial Pt catalyst with a Channel Flow Cell with Disk Electrode
S01-P-010
Fatma Budak (Analytical Chemistry, Ankara University, Ankara, Turkey), Ahmet Cetinkaya, S. Irem Kaya, Sibel A. Ozkan
Development of MIP-based electrochemical sensor for the selective determination of entacapone from a triple drug mixture.

S01-P-011
Paula Caldevilla-Collado (R&D, Metrohm DropSens, Oviedo, Spain), Daniel Antuña-Jiménez, María Begoña González-Garcia, David Hernández-Santos, Pablo Fanjul-Bolado
Potentiometric ion sensors based on Screen-Printed Electrodes.

S01-P-012
Corentin Calvet (Laboratoire d’Electrochimie Moléculaire UMR 7591, Université Paris Cité, Paris, France), Benoît Limoges, François Mavré, Mathieu Branca
Electrochemical Monitoring and Activation of an Exponential Molecular Amplification.

S01-P-013
Alexandra Canciu (Department of Analytical Chemistry, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania), Mihaela Tertis, Armand Alsédá Plana, Frits van Charante, Nikki van Bel, Clara Díaz García, Mariana Fittipaldi, Cecilia Cristea
Intra- and Interlaboratory Validation of an Electrochemical Method for the Detection of Two Pathogen Bacteria in Wastewater.

S01-P-014
Denisa Elena Capatina (Department of Analytical Chemistry, “Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania), Bogdan Feier, Radu Oprean, Cecilia Cristea
Electrochemical Sensor based on Screen-printed Electrodes modified with Nanomaterials for the Sensitive Detection of a Molecule involved in Biofilm Formation.

S01-P-015
Ahmet Cetinkaya (Analytical Chemistry, Ankara University, Ankara, Turkey), Waleed Alahmad, S. Irem Kaya, Pakorn Varanusupakul, Sibel A. Ozkan
The designing a molecularly imprinted polymer-based electrochemical sensor for ceftriaxone detection.

S01-P-016
Joelle Costantine (Orsay, Université Paris-Saclay, CNRS/IN2P3 IJCLab, Orsay, France)
Influence of chloro-acidity on oxygen reactivity in molten chloride salts.

S01-P-017
Luigi Falciola (Department of Chemistry, Universita’ degli Studi di Milano, MILANO, Italy), Wafa Aidli, Valentina Pifferi, Abdelmoneim Mars, Mariangela Longhi, Amedea Manfredi, Ahmed Hichem Hamzaoui
Combining Electrochemistry and Fluorescence for dual-mode Sensing Based on Cyclodextrin-Hosted Inclusion Complexation.

S01-P-018
Luigi Falciola (Department of Chemistry, Universita’ degli Studi di Milano, MILANO, Italy), Wafa Aidli, Haniede Helli, Valentina Pifferi, Ahmed Hichem Hamzaoui
S01-P-019  
**Ziwei Fan** (Chemistry Department, KTH, Royal Institute of Technology, Stockholm, Sweden), Yujie Liu, Adam Tillo, Ruzal Sitdikov, Gaston A. Crespo, Maria Cuartero  
*Ion Sensing Based on Ion Transfer Voltammetry Mediated by a Lipophilic Os(II)/Os(III) Probe*

S01-P-020  
**Orlando Fatibello-Filho** (Department of chemistry, Universidade Federal de São Carlos, São Carlos, Brazil), Paulo Gomes-Júnior, Karen Augusto, Renan Gonçalves, Júlio Almeida, Gustavo Longatto, Eder Cavalheiro  
*Platinum Nanoparticles Synthesized in Hydrophilic Deep Eutectic Solvent for Application in Electrochemical Sensor*

S01-P-021  
**Orlando Fatibello-Filho** (Department of chemistry, Universidade Federal de São Carlos, São Carlos, Brazil), Karen Augusto, Paulo Gomes-Júnior, Renan Gonçalves, Júlio Almeida, Gustavo Longatto, Eder Cavalheiro  
*Hydrophobic Deep Eutectic Solvent Based on Decanoic Acid and Tetrabutylammonium Bromide: Characterization and Evaluation Towards Electrode Modification*

S01-P-022  
**Bruno Ferreira** (Department of Fundamental Chemistry, University of São Paulo, São Paulo, Brazil), Iana V. S. Arantes, Lauro A. Pradela-Filho, Thiago R. L. C. Paixão  
*Adhesive PVC tape as a cost-effective substrate for pencil drawing fabrication of flexible electrochemical sensors*

S01-P-023  
**Lukas Forschner** (Institute of Electrochemistry, Ulm University, Ulm, Germany), Lionel Fogang, Vera Bracht, Jan-Luca Gembus, Florens Grimm, Peter Awakowicz, Andrew R. Gibson, Timo Jacob, Albert K. Engstfeld  
*Electric Fields Inside the Electrolyte and the Plasma during Contact Glow Discharge Electrolysis*

S01-P-024  
**Daniele Fumagalli** (Dipartimento di Chimica, Università degli Studi di Milano, Milano, Italy), Margherita Longoni, Francesco Jacopo Panico, Valentina Pifferi, Silvia Bruni, Luigi Falciola  
*Electrochemical Preparation and Characterization of Silver-based Structures and Their Application in SERS Spectroscopy*

S01-P-025  
**Arturo Garcia-Mendoza** (Analytical Chemistry, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico), Jorge Ruvalcaba-Juárez, Fernando González-Arteaga  
*Chemical speciation of copper(II), silver(I), and iodine(0) in ionic liquids at room temperature and its relation to the design and construction of reference electrodes*

S01-P-026  
**Rainier-Numa Georges** (Biochemistry, Université Claude Bernard Lyon 1, Villeurbanne, France), Franck Charmantray, Jean-François Chateaux, Bastien Doumeche  
*New multiplexed electrochemical system for chemical libraries screening*

S01-P-027  
**Erika Viviana Godoy Alarcon** (Analitical chemistry, physical chemistry and inorganic, Chemistry Institute Araraquara- São Paulo state University, Araraquara, Brazil), Adriano Santos, Paulo Roberto Bueno  
*Quantum Rate Theory Principles and Experimental Measurements of the Electron Transfer Rate Constant*
S01-P-028

**Nathan Goffart** *(ChemSIN Chemistry of Surfaces, Interfaces and Nanomaterials, Faculté des Sciences, Université libre de Bruxelles (ULB), Brussels, Belgium)*, Jon Ustarroz, Thomas Doneux

*Determinations of the shape and dimensions of the meniscus for pipette based electrochemical microscopies.*

S01-P-029

**Maris Isabel González Sánchez** *(Physical Chemistry, Universidad de Castilla-La Mancha, Albacete, Spain)*, Rebeca Jiménez Pérez, María Teresa Baeza Romero, Edelmira Valero

*Electrochemical Screening for $\text{H}_2\text{O}_2$ and Organic Hydroperoxides.*

S01-P-030

**Saurav Kumar Guin** *(Chemistry Department, Maynooth University, Maynooth, Ireland)*, Saurav Kumar Guin, Eithne Dempsey

*An Insight into Redox Mechanism of Boronate Ester of Sialic Acid.*

S01-P-031

**Letissia Hamza** *(ESSONE, Université Paris-Saclay, CNRS/IN2P3, IJCLab, ORSAY, France)*

*Electrochemical determination of water in NaOH-KOH (51.5-48.5 mol%) eutectic melts at 225°C.*

S01-P-032

**Soongyu Han** *(Department of Chemistry, Gyeongsang National University, Jinju, Korea)*, Yerin Bang

*Potential-Controlled Mass Transport in pH-Responsive Nanochannel Membranes.*

S01-P-033

**Cristiane Luisa Jost** *(Chemistry, Federal University of Santa Catarina, Florianópolis, Brazil)*, Cristiane Luisa Jost, Adriano Rogerio Silva Lima, Caio Raphael Vanoni, Volodymyr Zaitsev, Michael Nazarkovsky, Albina Mikhralieva

*Development Of Novel Graphene Oxide-Based Nanomaterials Employed For The Electrochemical Sensing Of Dopamine.*

S01-P-034

**Cristiane Luisa Jost** *(Chemistry, Federal University of Santa Catarina, Florianópolis, Brazil)*, Cristiane Luisa Jost, Isabelle de Oliveira Borges, Rayane Bueno Goularte, Caio Raphael Vanoni, Daniela Zambeli Mezalira, Luciano Vitali, Hellen Karine Stulzer

*Assembly of a New, Easy to Prepare, and Renewable Carbon-Paste-Based Electrochemical Sensor for Diazepam Sensing on Distilled Spirits.*

S01-P-035

**Martin Jönsson-Niedziolka** *(Charge transfer processes in hydrodynamic systems, Institute of Physical Chemistry Polish Academy of Sciences, Warsaw, Poland)*, Veronika Poltavets

*Formation of $\text{MnO}_2$-based Electrode for Electrochemical Biosensor for Glucose Detection.*

S01-P-036

**Reshma Kidayaveettil** *(School of Biological and Chemical Sciences, University of Galway, Galway, Ireland)*, Reshma Kidayaveettil, Richard Bennett, Andy Mount, Donal Leech

*Enhancing the performance of a continuous glucose monitoring sensor using multi-arm epoxide crosslinkers.*

S01-P-037

**Ji Yong Kim** *(Chemistry, Seoul National University, Seoul, Korea)*, Samuel Shin, Taek Dong Chung

*A Thin-layer Electroanalysis Microchip for Mechanistic Study of Electroorganic Reactions.*
S01-P-038
Akira Kotani (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, Hachioji, Japan), Akira Kotani, Miyu Sakazume, Hinako Kubo, Koichi Machida, Kazuhiro Yamamoto, Hideki Hakamata
Determination of Basic Compounds by Means of Voltammetric Measurement of Surplus Acid

S01-P-039
Abhishek Kumar (ICMUB UMR 6302, University of Burgundy, DLJON, France), Marcel Bouvet, Rita Meunier-Prest
Correlation of porous geometry in nanoporous metal with the mass transport in EC reactions

S01-P-040
Kwan Hyi Lee (Center for Advanced Biomolecular Recognition, Korea Institute of Science and Technology, Seoul, Korea), Kwan Hyi Lee, Sungwook Park
Machine Learning Algorithms for Clinical Decision from Multi-signals of Electrochemical FET Biosensor

S01-P-041
Sabine Lengger (Sensor Systems, Silicon Austria Labs GmbH, Villach, Austria), Lena Fasching, Jürgen Kosel
Electrochemical activation of thin film poly(p-phenylenediamine) on a screen printed carbon electrode by methylene blue

S01-P-042
Yumeng Ma (Chemistry, UMR CNRS PASTEUR, Ecole normale superieure, Paris, France), Catherine Sella, Laurent Thouin
Implementation of Electrochemiluminescence in Microfluidics: Mechanistic Study Based on the Couple Ruthenium /Tri-n-propylamine

S01-P-043
Julia Maciejewska-Komorowska (VII, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland), Karolina Peret, Jan Romanski, Marcin Karbarz, Martin Jönsson-Niedziolka
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Verdiana Marchianò (Analytical Chemistry, Center for Colloid and Surface Science, Bari, Italy), Angelo Tricase, Nicoletta Ditaranto, Eleonora Macchia, Keisai Sowa, Cinzia Di Franco, Luisa Torsi, Paolo Bolella
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Ange A. Maurice (Departamento de Ingeniería Térmica y de Fluidos, Universidad Carlos III de Madrid, Leganés, Spain), Alberto E. Quintero, Marcos Vera
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Serge Mbokou Foukeniok (Chemistry, Angers University, Angers, France), Alicia Rigours, Maxime Pontie
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**Yoshua Moore** *(Electrobiotechnology, Technical University of Munich, Straubing, Germany)*, Darren Buesen, Xiaolong Chen, Linying Shang, Jenny Zhang, Nicolas Plumeré

**Understanding Mass Transport at Individual and Connected Pores of 3D Electrodes to Access their Pore Morphology and Size Distribution**

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**Elvis Ortiz** *(Chemistry, Autonomous Metropolitan University, Mexico city CDMX, Mexico)*

**Design and Construction of An Electrochemical Biosensor for The Quantitative Determination of H₂O₂ for Application to Cardiovascular Diseases.**

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**Goksu Ozcelikay** *(Analytical Chemistry, Ankara University, Ankara, Turkey)*, Sibel A. Ozkan

**The First Electrochemical MIP Sensor for Peramivir**

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**Sojin Park** *(Chemistry, Kwangwoon University, Seoul, Korea)*, Yang-Rae Kim

**Controllable surface modification of aryl diazonium in the presence of a radical scavenger**

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**Michael Douglas Pecanha de Souza** *(School of Chemistry, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil)*, Rodrigo S. Melo, Ligia M. Moretto, Chiara Zanardi, Simone L. D. C. Brasil

**Electrochemical Sensor for Total Iron Monitoring: Corrosion Control Tools to Face Water Crisis**

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**Bryan Pichún** *(Química de los materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Jaime Pizarro, Erick Flores, Rodrigo Segura, María Aguirre, Claudia Núñez, Verónica Arancibia

**Voltammetric determination of As in bivalve mollusks using a gold nanorod/electrochemically reduced graphene oxide modified electrode**

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**Francesca Polli** *(Chemistry and Drug Technologies, La Sapienza, University of Rome, Rome, Italy)*, Cristine D’Agostino, Rosaceleste Zumpano, Viviana De Martino, Gabriele Favero, Luciano Colangelo, Salvatore Minisola, Franco Mazzei

**Electrochemical Immunosensor for 25-OHD3 Detection in Untreated Serum Samples**

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**Luis Romay** *(Analytical chemistry, University of Burgos, Burgos, Spain)*, Pello Nuñez Marinero, Juan V. Perales-Rondón, Roberto Fernández de Luis, Aránzazu Heras, F. Javier del Campo García, Alvaro Colina

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**Konrad Rudnicki** *(Department of Inorganic and Analytical Chemistry, Faculty of Chemistry, University of Lodz, Lodz, Poland)*, Julita Serafinska, Karolina Sobczak, Slawomira Skrzypek, Lukasz Poltorak

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**Douglas Saraiva** *(Department of Fundamental Chemistry, University of São Paulo, São Paulo, Brazil)*, Matias Regiart, Daniel Braga, Mauro Bertotti  
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**Rodrigo Segura** *(Departamento de Química de los Materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Erick Flores, Bryan Pichun, Mitzy Nicul, Jaime Pizarro  
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**Isao Shitanda** *(Department of Pure and Applied Chemistry, Tokyo University of Science, Chiba, Japan)*, Chihiro Hashiba, Noya Loew, Taku Ogura, Yoshifumi Yamagata, Keisuke Miyamoto, Hikari Watanabe, Masayuki Itagaki  
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**Nelson Stradiotto** *(Institute of Chemistry, São Paulo State University, Araraquara, Brazil)*, Emanuela Conceição, Edervaldo Buffon  
**Electrochemical sensor based on reduced graphene oxide and molecularly imprinted polymer for the detection of 3-hydroxybutyrate**

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**Mihaela Tertis** *(Analytical Chemistry, Faculty of Pharmacy, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania)*, Irina Bura, Alexandra Pusta, Cecilia Cristea  
**Electrochemical Sensor for the Quality Control of Novel Doxorubicin Pharmaceutical Formulations**

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**Angelo Tricase** *(Dipartimento di Chimica, Università degli studi di Bari, Bari, Italy)*, Verdiana Marchianò, Nicoletta Ditiranto, Eleonora Macchia, Ruchi Gupta, Luisa Torsi, Paolo Bollella  
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**Sunghwan Won** *(Department of Chemistry, Seoul National University, Seoul, Korea)*, Daye Seo, Ji Tae Kim, Sanghyun Lee  
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**Weijian Yuan** (MEMS Center, Harbin Institute of Technology, Harbin, China), Huiyang Xu, Xuelin Zhang, Qiu Sun

*Fe-N-C Nanozyme-Mediated Electrochemical Sensor on Laser-induced Graphene for Sensitive Detection of Organophosphate Pesticides without Interference of H$_2$O$_2$ and Color*

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**Camilla Zanoni** (Chemistry, Università degli studi di Pavia, Pavia, Italy), Giancarla Alberti, Daniele Merli, Lisa Rita Magnaghi, Raffaela Biesuz

*New electrochemical strategies for Glyphosate sensing by modified screen-printed cells*

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**Viktoriia Zemtsova** (ICPEES UMR 7515, CNRS-Université de Strasbourg, Strasbourg, France), Alexandr Oshchepkov, Elena Savinova

*The Effect of Fe and Co Intercalation on the Activity of Ni Hydroxides in the Urea Oxidation Reaction: in situ Spectroscopic Study*

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**Qiran Zhang** (Graduate school of medicine, science and technology, Shinshu University, Matsumoto, Japan), Jiye Jin

*Electrochemical detection of trace nitrite produced in sonochemical reaction fields by Graphene-gold nanocomposites modified electrode*

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**Linlin Zhang** (Nanjing University, Nanjing University, Nanjing, China), Cheng-Bing Zhong, Yi-Lun Ying, Yi-Tao Long

*A Multichannel Platform for in Situ Electrochemical Recording*

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**Víctor de la Asunción-Nadal** (Chemistry Department, KTH, Stockholm, Sweden), Gaston A. Crespo, Maria Cuartero

*Light-Enabled Nanopumps for the Delivery of Charged Species*

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**Adrián de-Santiago** (Analytical Chemistry, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico), Alejandro Baeza-Reyes, Arturo García-Mendoza

*Coulometry titrations performed with locally produced low-cost instrumentation*

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**Wallans dos Santos** (Department of Pharmacy, Federal University of the Jequitinhonha and Mucuri Valleys, Diamantina, Brazil), Daniel Araújo, Luciano Arantes, Lucas Faria, Karla Souza, Eduardo Richter, Rodrigo Muñoz

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**Giada Bedendi** *(Department of Inorganic and Analytical Chemistry, University of Geneva, Geneva, Switzerland)*, Amogh Kulkarni, Plinio Maroni, Ross D. Milton

*Spectroelectrochemical Investigation of the Nitrogenase-like Dark Operative Protochlorophyllide Oxidoreductase (DPOR)*

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**Alexandra Canciu** *(Analytical Chemistry Department, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania)*, Mihaela Tertis, Diana Olah, Cecilia Cristea

*Label-free Electrochemical Detection of Campylobacter jejuni with an Aptamer-based Sensor*

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**Joanna Celej** *(Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland)*

*Electrochemical detection of epirubicin using Fe$_3$O$_4$/ITO electrode*

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**Roy Cohen** *(Faculty of Biotechnology and Food Engineering, technion , Haifa, Israel)*, Mor Shemesh, Yifat Cohen, Omer Yehezkeli

*Power Generation from Plastic Waste Using a BiVO$_4$ Photoanode-Containing Biofuel Cell*

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**Francesco Fama** *(Dipartimento di Scienze ambientali, Informatica e Statistica, ‘Ca Foscari University of Venice, Venice, Italy)*, Giulia Moro, Noemi Colozza, Andre Gambaro, Marco Bassanello, Fabiana Arduini, Chiara Zanardi

*Paper-based Portable Biosensors for Pesticides Monitoring in Urine: The Case of Glyphosate*

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**Dawit Tedros Filmon** *(Electrobiotechnology, Technical University of Munich, Straubing, Germany)*, Steffen Hardt, Vincent Fourmond, Christophe Léger, Nicolas Plumeré

*Reversible H$_2$ Conversion by Hydrogenase Embedded in a Redox-Active Dendrimer Film*

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**Inga Gabriunaite** *(Institute of Chemistry, Vilnius University, Vilnius, Lithuania)*, Tomas Sabirovas, Ausra Valiūnienė1, Gintras Valincius

*Comparison of Au and Thin Film Metal Oxides-based Biosensors for the Detection of Bacterial Toxins*

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**Fan Gao** *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)*, Mathias Winterhalter, Yi-Lun Ying, Yi-Tao Long

*Chiral Identification of Single Amino Acids Using an Electrostatically Asymmetric Nanopore*

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**Caio César Gonçalves Silva** *(Department of Biochemistry and Organic Chemistry, São Paulo State University (UNESP), Institute of Chemistry, Araraquara, Brazil)*, Marina Cezcon Dias, Saulo Santesso Garrido, Maria Valnice Boldrin Zanoni

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**Eun Joong Kim** *(Electrochemistry Research Laboratory, Advanced Institute of Convergence Technology, Suwon, Korea)*  
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**Kasparas Kizys** *(Department of Chemical Engineering and Technology, FTMC, Vilnius, Lithuania)*, Inga Morkvenaite-Vilkonciene, Jurate Petroniene, Antanas Zinovicius, Daiva Bironaite, Rokas Miksiunas, Arunas Ramanavicius  
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**Desmond Koomson** *(Chemistry, King's College London, London, United Kingdom)*, Jake Nicholson, Alex Brogan, Leah Aldous  
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**Katarzyna Krukiewicz** *(Department of Physical Chemistry and Technology of Polymers, Silesian University of Technology, Gliwice, Poland)*, Vikas Shukla, Šara Shakibania  
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**Pawel J. Kulesza** *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Ewelina Seta-Wiaderek, Iwona A. Rutkowska  
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**Hye Jin Lee** *(Chemistry, Kyungpook National University, Daegu, Korea)*, Jingjing Li, Sang Hyuk Lee, Dong Kyu Yoo, Ho Chul Woo, Sung Hwa Jhung, Milica Jovic, Hubert Girault  
Magnetically Driven Voltammetric Sandwich Assays for Protein Biomarkers Related to Cancer Diagnosis.

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**Fred Lisdat** *(Biosystems Technology, Technical University Wildau, Wildau, Germany)*, Gero Göbel, Soraya Höfs, Anja Talke, Uwe Ahnert  
Sensorial activity determination of enzymes of the dopamine metabolism.

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**Guillaume Longatte** *(Institut des Sciences Moléculaires, University of Bordeaux, Talence, France)*, Guillaume Longatte, Fabio Lisi, Xueqian Chen, James Walsh, Wenqian Wang, Nicholas Ariotti, Till Boecking, Katharina Gaus, Justin Gooding  
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**Edmond Magner** *(Chemical Sciences, University of Limerick, Limerick, Ireland)*, Alessandro Serletti, Xinxin Xiao, Simin Arshi, Tewfik Soulimane, Kim Shortall, Beolchapjine Serquei, Bendl Simon

*Immobilisation of Enzymes for Biocatalysis*

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**Verdiana Marchianò** *(Analytical Chemistry, Center for Colloid and Surface Science, Bari, Italy)*, Angelo Tricase, Nicoletta Ditaranto, Eleonora Macchia, Dónal Leech, Reshma Kidayaveettil, Luisa Torsi, Paolo Bolella

*Symmetric and Asymmetric Glucose/O₂ Fully Printed Enzyme-based Biofuel Cell: Defining Volumetric Power Output*

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**Matan Meirovich** *(Faculty of Biotechnology and Food Engineering, Technion, Haifa, Israel)*, Oren Bachar, Mor Shemesh, Omer Yehezkeli

*Nitrogenase-Based Nano-Bio-Hybrid Systems for Photo-biocatalytic Processes*

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**Francisco Montilla** *(Dept. Química Física, Universidad de Alicante, Alicante, Spain)*, María José Saenz-Espinari

*Direct Electrochemistry of Cytochrome c with Conducting Polymers*

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**Inmaculada Márquez** *(Physical Chemistry, University of Seville, Seville, Spain)*, Inmaculada Márquez, José Luis Olloqui-Sariego, Miguel Molero, Rafael Andreu, Emilio Roldán, Germán López-Pérez, Juan José Calvente

*Quantification of Hemin Propionate Interaction and its Implications in the Malaria Pigment Formation*

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**Hongyan Niu** *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)*, Meng-Yin Li, Xue-Yuan Wu, Yi-Tao Long

*Direct Detecting Tyrosine Sulfation Based on Engineered Aerolysin Nanopore*

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**Ana Maria Oliveira-Brett** *(Department of Chemistry, University of Coimbra, Coimbra, Portugal)*

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**Léonard Olivotto** *(Département de Chimie Moléculaire, Université Grenoble Alpes, GRENOBLE, France)*, Julien Pérard, Christine Cavazza, Moritz Kuehnel, Alan Le Goff

*Electroenzymatic CO₂-to-CO conversion in Deep Eutectic Solvents by Carbon Monoxide Dehydrogenase*

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**Elvis Ortiz** *(Chemistry, Autonomous Metropolitan University, Mexico City CDMX, Mexico)*

*Computational Study Using Molecular Docking for An Electrochemical Biosensor for The Quantitative Determination of H₂O₂ by ChOx for Redox Activity.*

S02-P-028
**Alexandra Pusta** *(Analytical Chemistry, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania)*, Alexandra Pusta, Mihaela Tertis, Denisa Kezan, Diana Bogdan, Maria Suciu, Ionel Fizesan, Cecilia Cristea

*Label-Free Electrochemical Aptasensor for the Detection of HepG2 Cancer Cells*
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**Chao-Nan Yang** *(School of Chemistry and Chemical Engineering, Nanjing Unive, Nangjing, China)*, Wei Liu, Zhong-Lin Yang, Yi-Tao Long, Yi-Lun Ying  
Observing Confined Local Oxygen-Induced Reversible Thiol/Disulfide Cycle with a Protein Nanopore.

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**Symposium 3  From wearable to sustainable electrochemical sensing and biosensing**

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**Mohamed Ahmed** *(Professorship for Electrobiotechnology, Technical University of Munich, Straubing, Germany)*, Huijie Zhang, Nicolas Plumeré  

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**Suchanat Boonkew** *(Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland)*, Katarzyna Szot-Karpinska, Joanna Niedziółka-Jönsson, Martin Jönsson-Niedziółka  
Sequential microfluidic device for electrochemical immunoassay of C-reactive protein.

S03-P-003  
**Maria Giuseppina Bruno** *(Department of Engineering, Università degli studi di Palermo, Palermo, Italy)*, Maria Giuseppina Bruno, Bernardo Patella, Giuseppe Aiello, Claudia Torino, Antonio Vilasi, Chiara Cipollina, Serena Di Vincenzo, Elisabetta Pace, Alan O’Riordan, Rosalinda Inguanta  
Electrochemical Detection of H$_2$O$_2$; for Real-Time Monitoring of Oxidative Stress.

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**Paula Caldevilla-Collado** *(R&D, Metrohm DropSens S.L., Oviedo, Spain)*, David Ibáñez, María Begoña González-Garcia, David Hernández-Santos, Pablo Fanjul-Bolado  
Enhancement of Raman intensity for the fast screening of fentanyl by EC-SERS effect.

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**Andreea Cernat** *(Analytical Chemistry Department, University of Medicine and Pharmacy Iuliu Hatieganu , Cluj Napoca, Romania)*, Ana Maria Tataru, Alexandra Canciu, Mihaela Tertis, Cecilia Cristea  
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**Elena Daboss** *(Chemistry Department, Lomonosov Moscow State University, Moscow, Russia)*, Arkady Karyakin  
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**Pieter De Smedt** *(Centre for Membrane Separation, Adsorption, Catalysis and Sp, KU Leuven, Leuven, Belgium), Dirk De Vos, Rob Ameloot* 
*Adsorption as a sensor design parameter for the electrochemical sensing of Paracetamol*

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**Catalina Farcas** *(Department of Physical Chemistry, Universidad de Alicante, Alicante, Spain), Maria J. Sáenz-Espinar, Salma Hafed-Khatiri, Francisco Montilla* 
*Bioelectrochemical detection of environmental stress markers of coral species through Glutathione S-Transferase reactions*

S03-P-009  
**Salma Hafed Khatiri** *(Physical Chemistry, University of Alicante, Alicante, Spain), David Salinas Torres, Francisco Montilla* 
*Electrochemical Biosensor for Indirect Monitoring of Acetylcholinesterase Inhibitors*

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**Adrian Hannon** *(Department of Chemical Sciences, Bernal Institute, University of Limerick, Limerick, Ireland), Dr Kieran McGourty, Dr Tadhg Kennedy* 
*Challenges within an Adaptable, Label-Free, Electrochemical Immunosensor – Overcoming Resistance to Reliability*

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**Maria-Bianca Irimes** *(Analytical Chemistry, Faculty of Pharmacy, Iuliu Hatieganu University of Medicine, Cluj-Napoca, Romania), Mihaela Tertis, Cecilia Cristea* 
*Customized flexible platform functionalized with nanocomposite materials applied for kynurenic acid determination*

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**Sung Mi Jung** *(Department of Environmental Toxicology and Chemistry, Korea Institute of Toxicology, Jinju, Korea)* 
*Carbon nanomaterials-based iron oxide nanocrystals for real time detection of BPS*

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**Soon-Won Jung** *(Department of Materials Science and Engineering, Hanbat National University, Daejeon, Korea), Min-Hyuk Chang, Kyeong-Joon Jo, Seung-Yun Lee* 
*Effect of Oxygen Plasma Treatment on Electrochemical Oxygen Sensors using Polymer Electrolytes*

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**Ricardo Leote** *(Laboratory of Functional Nanostructures, National Institute of Materials Physics, Magurele, Romania), Daniel Crisan, Victor Diculescu* 
*Development and Characterization of Pd Modified Au/PMMA/PET Flexible Electrodes for Electrocatalytic Detection of H₂O₂*

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**Mathilde Manceau** *(University of Claude-Bernard Lyon 1, Institute of Analytical Sciences - UMR 5280 CNRS, Villeurbanne, France), Carole Farre, Catherine Jose, Carole Chaix, Florence Lagarde* 
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**Elena Matei** *(Functional nanostructures, National Institute of Materials Physics, Magurele, Romania)* 
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Mo (Chemical Science, University of the Western Cape, Cape Town, South Africa), Peter Makgwane
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Camila Olguin *(Departamento de Química de los Materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Nicolás Agurto, Carolina Candia, Geraldine Jara, Carlos Silva, Elizabeth Imbarack, Jorge Pavez, Claudio Saitz

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Eleonora Pargoletti *(Department of Chemistry, University of Milan, Milan, Italy)*, Zahra Lotfibakalani, Gaetan Burgio, Anthony Newman, David R. Nisbet, Giuseppe Cappelletti, Antonio Tricoli
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Seonhwa Park *(Department of Chemistry, Pusan National University, Busan, Korea)*, Haesik Yang
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Federico Polo *(Molecular Sciences and Nanosystems, Ca’Foscari University of Venice, Venice, Italy)*, Giulia Moro, Alessandro Angelini, Stefano Tartaggia
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Lorenzo Quadrini *(Department of Chemistry Ugo Schiff, University of Florence, Sesto Fiorentino, Italy)*, Lorenzo Quadrini, Serena Laschi, Claudio Ciccone, Ilaria Palchetti
Biocatalytic Based Approach for Online Electrochemical Monitoring of Wastewater

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Fábio R. Simões *(Institute of Marine Sciences, Federal University of São Paulo, Santos, Brazil)*, Tiago Akira de Araújo, Milton Alexandre Cardoso, Christopher M. A. Brett
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Electrochemical Properties of New Generation Si/rGO Anodes Suitable for Printable Technologies for Lithium-Ion Batteries.

S04-P-084  
Qinjun Shao (Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China), Jian Chen  
The research of catalytic conversion in sulfur cathodes for high specific energy lithium sulfur (Li-S) batteries.

S04-P-085  
Qianli Si (Graduate School of Advanced Science and Engineering, Waseda University, Tokyo, Japan), Matsuda Shoichi, Youhei Yamaji, Toshiyuki Momma, Yoshitaka Tateyama  
Descriptors Extracted from Discharge/Charge Capacity to Predict Battery Cycle Life by Machine Learning Methods.

S04-P-086  
Pengchao Si (School of Materials Science of Engineering, Shandong University, Jinan, China)  
Polydopamine-Derived N-Doped Carbon-Coated Spherical Mo3Nb14O44 Anode Materials for Lithium Ion Storage at Low Temperature.

S04-P-087  
Laura Silvestri (Department of Energy Technologies and Renewable Sources, ENEA, Rome, Italy), Arcangelo Celeste, Mariarosaria Tuccillo, Sergio Brutti, Laura Silvestri  
Li-rich layered oxides: towards more sustainable and high energy cathode materials for Li-ion batteries.
S04-P-088
Laura Silvestri (Energy Technologies and Renewable Sources, ENEA, Rome, Italy), Laura Silvestri,
Guido Spanu, Paola D’Angelo, Matteo Busato, Maria Assunta Navarra, Gabriele Dilena, Antonino
Santoni, Irene Ferrari, Priscilla Reale, Sergio Bruttì

Ca-ion accumulators for an alternative technology to lithium (ACTEA-project)

S04-P-089
Vikram Singh (Chemistry, Korea Advanced Institute of Science and Technology, Daejeon, Korea),
Jaewook Kim, Bora Kang, Joonhee Moon, Sujung Kim, Woo Youn Kim, Hye Ryung Byon

Azo-integrated Covalent Organic Frameworks as Electrodes for Lithium-ion Batteries

S04-P-090
Inje Song (Graduate School of Convergence Technology and Energy, Tech University of Korea,
Siheung-si, Korea), Eunbi Go, Ji Heon Ryu

Analysis of Capacity Degradation Modes in NCM/Graphite Full Cells Based on Half Cell Data

S04-P-091
Leandro Souza Domingues (Laboratoire de Réactivité de Surface (LRS) - UMR 7197, Sorbonne
Université, Paris, France), Leandro Souza Domingues, Roberto Manuel Torresi, Hercilio Gomes de
Melo, Vincent Vivier, Vitor Leite Martins, Mireille Turmine

Comparison between phosphorus and nitrogen-based ionic liquids as electrolytes for
Na$_{0.67}$Ni$_{0.33}$Mn$_{0.67}$O$_2$ cathode for Na-ion batteries

S04-P-092
Andrea Strakova Fedorkova (Department of Physical Chemistry, Pavol Jozef Safarik University,
Kosice, Slovakia), Dominika Capkova, Tomas Kazda, Alexander Markerych, Elena Shembel

Eco-Friendly Binders for Li-S Batteries - Electrochemical Characterization in Small Size Pouch
Cells

S04-P-093
Leiwu Tian (Chemical Engineering, Hanyang University, Seoul, Korea), Jiwan Kim

Hybrid Electrolyte Reinforced by Garnet Ceramic Fiber for the Solid-State-Lithium Batteries with
Enhanced Cycle Life

S04-P-094
Mahmud Tokur (Metallurgical and Materials Engineering, Sakarya University, Sakarya, Turkey)

Effect of Graphene Content and Sulfur Particle Size on the Electrochemical Performance of
Sulfur-Graphene Cathode

S04-P-095
Roberto M. Torresi (Instituto de Química, Universidade de São Paulo, São Paulo, Brazil), Nerly
Mosquera, Susana Chauque, Jorge A. Calderón

Energy storage enhancement of Li$_2$Mn$_{1.8}$Ti$_{0.2}$O$_4$@N-doped graphene oxide in organic and ionic
liquid electrolytes

S04-P-096
Yen Hai Thi Tran (Department of Chemical Engineering & Applied Chemistry, Chungnam National
University, Daejeon, Korea), Gyeong-Jun Chung, Kihun An, Koeun Kim, Yoon Sung Lee, Seung-wan
Song

Additives-package Derived SEI Stabilization Enhances High-voltage Performance of a High
Nickel-based Lithium-ion battery
S04-P-097
Sabrina Trano (Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy), Giuseppe Pascuzzi, Francesca Corsini, Marco Armandi, Lucia Fagioliari, Julia Amici, Carlotta Francia, Silvia Bodoardo, Stefano Turri, Gianmarco Griffin, Federico Bella
A Lignin-Based Potassium Battery Ensuring Stable and Sustainable Stationary Energy Storage

S04-P-098
Sabrina Trano (Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy), Daniele Versaci, Lucia Fagioliari, Micaela Castellino, Julia Amici, Carlotta Francia, Silvia Bodoardo, Federico Bella
Unveiling Commercial Carbon Electrodes for Potassium Batteries: an In-Depth Characterization

S04-P-099
Nadezda Traskina (Department of Chemical Engineering and Technology, Center for Physical Sciences and Technology, Vilnius, Lithuania), Jurgis Pilipavicius, Jurga Juodkazyte, Linas Vilciauskas
Alternative binders for aqueous Na-ion batteries

S04-P-100
Rafael Trocoli (Inorganic Chemistry and Engineering Chemistry, University of Cordoba, Cordoba, Spain), Azahara Cardoso-Almoguera, Almudena Benitez, Juan Luis Gómez-Cámer, Alvaro Caballero
Biocarbons derived from agri-food by-products for application in Metal-Sulfur batteries

S04-P-101
Wan-Yu Tsai (Chemical Science Division, Oak Ridge National Laboratory, Oak Ridge, USA), Xi Chelsea Chen, Sergiy Kalnaus, Ritu Sahore, Andrew S. Westover
Li morphology evolution during initial cycling in a gel composite electrolyte

S04-P-102
Claire Villevieille (LEPMI, Universite Grenoble Alpes, Grenoble, France), Oskar Thompson
XRD-CT Investigation of LPSCl degradation occurring during cycling

S04-P-103
Mihye Wu (Advanced Materials Division, Korea Research Institute of Chemical Technology, Daejeon, Korea)
Suppression of Dendritic Lithium Growth in Li-metal Batteries Using 3D Porous Carbon Spheres with Conical Pores as Lithium Hosts

S04-P-104
Bing Wu (Department of Inorganic Chemistry, University of chemistry and technology, Prague, Czech Republic), Zdenek Sofer
Sulfur-rich transition metal sulfides (SR-TMSs) as the sulfur-equivalent cathode materials for lithium-sulfur battery

S04-P-105
Bing Wu (Department of Inorganic Chemistry, University of chemistry and technology, Prague, Prague, Czech Republic), Zdenek Sofer
Sulfur-rich transition metal sulfides (SR-TMSs) as the sulfur-equivalent cathode materials for lithium-sulfur battery

S04-P-106
Esra Yoldas (Metallurgical and Materials Engineering, Sakarya University, Sakarya, Turkey), Samet Usta, Hatem Akbulut, Mahmud Tokur
Characterisation of Graphite Inks as an Anode Material for Screen Printed Lithium-Ion Batteries
S04-P-107

Zehua Zhao (Chemical Engineering, Hanyang University, Seoul, Korea), Bezawit Z. Desalegn, JeongGil Seo

High-Performance Lithium Sulfur and Li Metal Batteries Obtained by Poly DOL/Li Alloy-Based Li Metal Anode

S04-P-108

Yongtao Zhao (School of Materials Science and Engineering, Shandong University, Jinan, China), Pengchao Si

A Low-Cost and Effective Strategy to Construct P/Sn Multifunctional Proactive Layer for High-Rate and Long-Lifespan All-Solid-State Lithium Metal Batteries

S04-P-109

Rida Fallahi (Chimie, Université de Tours; Tours, France), Badr Jismy, Fouad Ghamouss, Daniel Lemordant, François Tran-Van

High Energy Battery Using a Solid Polymer Electrolyte

Symposium 5  Fast storage processes: Supercapacitors and high power systems

S05-P-001

Layal Abdallah (Laboratoire Ampère, Université de Lyon, École Centrale de Lyon, Lyon, France), Chantal Gondran, Christian Vollaire, Naoufel Haddour

Development And Optimization Of Bio-Based Electrode Materials For Energy Storage Devices And Desalination

S05-P-002

María Arnaiz (Electrochemical Energy Storage, CIC energiGUNE, Vitoria-Gasteiz, Spain), Antoine Suty, Marcial Fernandez-Castro, Silvia Martin, Daniel Carriazo, Aitor Villaverde, Agathe Bouvet-Marchand, Maria C. Morant-Miñana

On the use of different aqueous processing binders for electrochemical capacitors

S05-P-003

Jérémy Barbé (Institut des Matériaux de Nantes Jean Rouxel, Nantes University, Nantes, France), Allan Lebreton, Pierre-Yves Jouan, Marie-Paule Besland, Thierry Brousse

Effect of deposition regime on the microstructure and electrochemical performances of reactively sputtered VOxNy pseudo-capacitive thin films

S05-P-004

Néstor Calabia Gascón (Department of Materials and Chemistry, Vrije Universiteit Brussel, Brussels, Belgium), Annick Hubin, Herman Terryn

Electrophoretic Deposition (EDP): An Alternative To Obtain Better Polymer Aluminium Electrolytic Capacitors

S05-P-005

Jeng-Kuei Chang (Department of Materials Science and Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan)

Mitigation of Self-Discharge of Supercapacitors via Binder Engineering

S05-P-006

Sungho Choi (Division of Advanced Material Science, Pohang University of Science and Technology, Pohang, Korea), Yu-Rim Hong, In Su Lee*, Soojin Park*

Nanocrystals Conversion Chemistry within Slit-like 2D-Nanogap for High-rate Cyclic Stability of Lithium-ion Battery Anodes
S05-P-007  
Renata Costa *(Departamento de Química e Bioquímica, Faculdade de Ciências da Universidade do Porto, Porto, Portugal)*, Renata Costa, Ana T. S. C. Brandão, José A. Vázquez, Jesus Valcarcel, Juan J. Parajó, A. Fernando Silva, Carlos M. Pereira  
**Supercapacitors with Sustainable Solid-State Electrolytes from Deep Eutectic Solvents and Marine Waste derived Biocarbon Electrodes**

S05-P-008  
Meiying Cui *(School of chemical engineering, Pusan National University, Busan, Korea)*, Seok Kim  
**Electrochemical behaviors of NiCO$_2$O$_4$@CoFe-layered double hydroxide and activated carbons for rechargeable asymmetric supercapacitor**

S05-P-009  
Alperen Dönmez *(Metallurgical and Materials Engineering, Sakarya University, Sakarya, Turkey)*, Abdullah Güçlü, Samet Usta, Tuğrul Cetinkaya, Hatem Akbulut, Mahmud Tokur  
**V$_2$O$_5$ Ink for Screen Printed Supercapacitor Electrodes**

S05-P-010  
Abdullah Guclu *(Metallurgical and Materials Engineering, Sakarya University, Sakarya, Turkey)*, Samet Usta, Hatem Akbulut, Tuğrul Cetinkaya, Mahmud Tokur  
**Investigation of the Electrochemical Performance of NiCO$_2$O$_4$ Inks for Supercapacitor Electrodes**

S05-P-011  
Hazar Guemiza *(Chemistry, CY Cergy Paris Université, Cergy; France)*  
**All-solid-state supercapacitors based on Reduced Graphene Oxide – Dynamic ion gels**

S05-P-012  
Ashwini Jadhav *(Department of Chemistry, University of Turku, Turku, Finland)*, Plawan Jha, Pia Damlin, Mikko Salomäki, Sari Granroth, Carita Kvarnström  
**Use of Redox Electrolyte to Boost the Supercapacitive Performance of Ionic Liquid Intercalated MXenes**

S05-P-013  
Swetha Vasudevan Kanakkottu *(DTU Nanolab, Denmark Technical University (DTU), Copenhagen, Denmark)*, Babak Rezaei, Stephan Sylvest Keller  
**Fabrication of pyrolytic carbon based on-chip microsupercapacitor electrodes by additive manufacturing**

S05-P-014  
Taylan Karakoç *(Electrochemistry, ICPEES - UMR 7515, Strasbourg, France)*, Dominique Bégin, Cuong Pham-Huu, Sergey N. Pronkin  
**Ultramicroporous N-doped Activated Carbon Materials for High Performance Supercapacitors**

S05-P-015  
Amelia Klimek *(Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland)*, Sara Azmi, Elżbieta Frackowiak  
**Electrochemical capacitor in aqueous electrolyte improved by hydrogen bond donor addition**

S05-P-016  
Francesco Lufrano *(Energy, Istituto di Tecnologie Avanzate per l’Energia, CNR-ITAE, Messina, Italy)*, Minju Thomas, Antonino Brigandi, Natalia Rey-Raap, Ana Arenillas  
**Asymmetric Supercapacitors based on Graphene-doped Activated Carbon Gels and MnO$_2$ Electrodes with Solid Polymer Electrolyte**
S05-P-017

Maria Lukatskaya *(Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland)*

Synergizing High Capacitance with Fast Charging: Pseudocapacitance in Materials

S05-P-018

Andres Parejo-Tovar *(Chemical Technology, Poznan University of Technology, Poznan, Poland)*, Miroslawa Pawlyta, Francois Béguin, Paula Ratajczak

Analysis of Charging Mechanisms in Lithium-ion Capacitors By Electrochemical Dilatometry

S05-P-019

Thuan-Nguyen Pham-Truong *(Chemistry, CY Cergy Paris Université, Neuville sur Oise, France)*, Hazar Guemiza, Hugo Lavillunière, Cedric Vancaeyzeele, Pierre-Henri Aubert

Electrochemical Behavior of In-situ Electrosynthetized 3D Metal-Organic Framework (MOF) as Ultra-stable Thin Film on Nickel Foam

S05-P-020

Andrés Felipe Quintero Jaime *(Chemical Sciences, University of Limerick, Limerick, Ireland)*, Angelika Holzinger, Kamil Cywinski, Michael Freund, Micheal D. Scanlon

Interfacial Electrochemical Synthesis of Polyoxometalates@PEDOT Thin Films as Electroactive Material for Energy Storage Devices

S05-P-021

Philipp Schweigart *(Department of Materials Science and Engineering, Norwegian University of Science and Technology (NTNU), Trondheim, Norway)*, Inger-Emma Nylund, Samson Yuxiu Lai, Ann Mari Svensson

Electrochemical Interaction of Lithium Bis(fluorosulfonyl)imide with Activated Carbon Electrodes for Lithium-Ion Capacitors

S05-P-022

Didem Sürsal *(Metallurgical and Materials Engineering, Sakarya University, Sakarya, Turkey)*, Beyza Batu, Ozge Delikanli, Samet Usta, Hatem Akbulut, Mahmud Tokur

Gel Polymer Electrolytes for Printable Supercapacitors

S05-P-023

Chuanlian Xiao *(Physical Chemistry of Solids, Max Planck Institute for Solid State Research, Stuttgart, Germany)*, Chia-Chin Chen, Joachim Maier

Discrete Modeling of Ionic Space Charge Zones in Solids

S05-P-024

Kui Xu *(Institute of Advanced Materials, Nanjing Tech University, Nanjing, China)*

Interpreting Charging Mechanisms under 2D Nanoconfinement: Molecular Dynamics Simulation Study
Symposium 6  Fuel cells, electrolysis and electrofuel synthesis

S06-P-001

**Binny A. Davis** (Theory and Computation of Energy Materials (IEK-13), Forschungszentrum Jülich GmbH, Juelich, Germany), Michael H. Eikerling

*Structure and Dynamics at Catalyst-ionomer Interfaces studied with Molecular Dynamics*

S06-P-002

**Dilan Aksoy** (Institute of Solar Fuels, Helmholtz-Zentrum Berlin, Berlin, Germany), Dilan Aksoy, Matthew Mayer, Roel van de Krol

*Photoelectrochemical CO₂ Reduction with Glancing Angle-Deposited Silver Catalysts*

S06-P-003

**Rinat Attias** (The Nancy and Stephen Grand Technion Energy Program, Technion - Israel Institute of Technology, Haifa, Israel)

*Evaluation of Electro-catalysts Kinetics for Oxygen Evolution Reaction by Relaxation Phenomena Analysis*

S06-P-004

**Gal Avioz Cohen** (Chemical Engineering, Technion - Israel Institute of Technology, Haifa, Israel), Nini Pryds, Yoed Tsur

*Integration of Gadolinia Doped Ceria as an Electrolyte Material for Low Temperature Thin-Film Solid Oxide Fuel Cells*

S06-P-005

**Georgios Bampos** (Chemical Engineering, University of Patras, Patras, Greece), Dimitrios Zorbas, Symeon Bebelis

*L₆₀Sr₄₀Ni₂Ru₁₋ₓO₃ Perovskitic Oxides as Electrocatalysts for Oxygen Reduction Reaction in Alkaline Medium*

S06-P-006

**Sukomol Barua** (Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania), Aldona Balciunaite, Jurate Vaicicnien, Loreta Tamasauskaite-Tamasiunaite, Eugenijus Norkus

*Bimetallic Nickel-Manganese Bifunctional Electrocatalyst for Efficient Alkaline Water Splitting*

S06-P-007

**Juan Basbus** (ICMATE/DICCA, CNR/UniGe, Genoa, Italy), Juan Basbus, Antonio Maria Asensio, Davide Cademartori, Letizia Savio, Marcella Pani, Enrico Gallus, Maria Paola Carpanese, Antonio Barbucci, Massimo Viviani, Sabrina Presto

*Cutting energy loss and degradation at electrode/electrolyte interface of Solid Oxide Cells by femtosecond laser micromachining*

S06-P-008

**Omeshwari Bisen** (CE-NOME, Helmholtz-Zentrum-Berlin, Berlin, Germany), Max Baumung, Florian Schönewald, Cynthia. A. Volkert, Marcel Risch

*L₀₂Mn₂O₄ as a model system to understand the active states for water oxidation*

S06-P-009

**Didjay Bruggeman** (Van ’t Hoff Institute for Molecular Sciences, University of Amsterdam, Amsterdam, Netherlands), Amanda Garcia

*Amines for carbon capturing and utilization*
S06-P-010  
**Arthur Bukowski** *(EIP, Lepmi-Grenoble INP, Saint Martin d’Hères, France)*, Marian Chatenet, Antoine Bonnefont, Jean-François Vanhumbeeck  
Iron Contamination and Electrodeposition on Nickel Cathodes in Alkaline Electrolysers

S06-P-011  
**Carolina Candia** *(Departamento de Química de los Materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Nicolás Agurto, Camila F. Olguín, Geraldine Jara, Elizabeth Imbarack, Carlos P. Silva, Jorge Pavez  
Electrocatalyst for O\textsubscript{2}-reduction based on SAM-2D-COF systems of porphyrin derivatives

S06-P-012  
**Nicholas Carboni** *(Basic and Applied Sciences for Engineering, Sapienza University of Rome, Rome, Italy)*, Lucia Mazzapioda, Davide Zucco, Angela Capri, Irene Gatto, Vincenzo Baglio, Maria Assunta Navarra  
Anion-Exchange Membranes Development for High-Performing and Cost-Effective Water Electrolysis

S06-P-013  
**Young-Woo Choi** *(Hydrogen research Department, Korea Institute of Energy Research, Daejeon, Korea)*, Seol Jang, Dong-Jun Seo, Jongsu Seo, Jung-Eun Cha  
A study on asymmetric structure effects of reinforced composite membranes with Nafion ionomer and polyethylene substrate for polymer electrolyte membrane fuel cells

S06-P-014  
**Delphine Clauss** *(EIP Team, Université Grenoble Alpes, Grenoble-INP, LEPMI, Grenoble, France)*, Jakub Drnec, Marta Mirolo, Laetitia Dubau, Frédéric Maillard  
Deciphering the Roles of Chemistry and Structure in Iridium Oxide Oxygen Evolution Nanocatalysts

S06-P-015  
**Annie Cleetus** *(Chemical Sciences, Ariel University, Kollam, India)*, Hanan Teller, Alex Schechter  
CuCr Catalysts For Ammonia Electro-Oxidation- A Study On Activity and Selectivity

S06-P-016  
**Rudy Crisafulli** *(Department of Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain)*, Javier Cencerrero, Jesús Serrano, Ester López Fernández, Amaya Romero, Paula Sánchez, Antonio de Lucas-Consuegra  
Metal-free carbon based graphene aerogels as efficient electrocatalyst for the hydrogen evolution reaction

S06-P-017  
Enabling Accelerated Stress Tests for Oxygen Evolution Reaction in Proton Exchange Membrane Water Electrolysis

S06-P-018  
**Leonardo D. De Angelis** *(Department of Fundamental Chemistry, Institute of Chemistry, University of São Paulo, São Paulo, Brazil)*, Rafael L. Romano, Lucas D. Germano, Fabio H. B. Lima, Susana I. Córdoba de Torresi  
Study of Plasmon-Assisted CO\textsubscript{2}, Electroreduction on Cu\textsubscript{2}O-Au Nanostructures Towards C\textsubscript{2} Compounds Synthesis
S06-P-019  
**Bezawit Z. Desalegn** (Department of Chemical Engineering, Hanyang University, Seoul, Korea), Jeong Gil Seo  
*High-Entropy Sulfide Aerogels for Electrochemical Upgrade of Furanic Platforms: Renewable Electrons to Molecules.*

S06-P-020  
**Andre H B Dourado** (Instituto de Química, UNESP, Araraquara, Brazil), Leticia C. F. de Oliveira, Santos Matheus, Anronio A S Curvelo, Hamilton Varela  
*Electrochemical Lignin Oxidation on Ni based electrodes: On The Morphology Influence.*

S06-P-021  
**Christian Durante** (Chemical Sciences, Università degli Studi di Padova, Padova, Italy), Riccardo Brandiele, Mattia Parnigotto, Gregorio Dal Sasso, Maria Chiara Dalconi, Gian Andrea Rizzi  
*Influence of the Thiophenic Group Concentration on the Pt NPs Nucleation, Growth and Activity versus ORR.*

S06-P-022  
**Mihai-Cristian Fera** (Bioelectrocatalysis, ICP-CSIC, Madrid, Spain), Carmen C. Tormo, Marcos Pita, Antonio L. de Lacey  
*Synthesis and Characterization of 1T/2H MoS$_2$ Nanosheets for Photoelectrocatalytic Hydrogen Production.*

S06-P-023  
**Bianca Tainá Ferreira** (Departamento de Química, Universidade de São Paulo - USP, Ribeirão Preto, Brazil), Fritz Huguenin  
*MoS$_2$-based Catalyst for Hydrogen Evolution Reaction.*

S06-P-024  
**Valerio C.A. Ficca** (Dept. of Physics, Sapienza University of Rome, Rome, Italy), Barbara Mecheri, Alessandra D’Epifanio, Ilaria C Rago, Gianluca Cavoto, Elena Stellino, Paolo Postorino, Ernesto Placidi  

S06-P-025  
**Kuan-Zong Fung** (Materials Science and Engineering, National Cheng Kung University/Professor, Tainan, Taiwan), Shu-Yi Tsai, Yuan-Jie Tsai  
*Densification of Doped BaCe$_{0.8}$Zr$_{0.2}$Y$_{0.2}$O$_{1.8}$ Solid Electrolyte for Green Hydrogen Applications.*

S06-P-026  
**Mario García-Rodríguez** (Materials Institute of Alicante, University of Alicante, Alicante, Spain), Diego Cazorla-Amorós, Emilia Morallón  
*Mechanochemical synthesis of perovskite-type metal oxides as positive electrodes for Zn-air battery.*

S06-P-027  
**Judith González-Lavín** (Materials for energy, environment and catalysis applications, INCAR-CSIC, Oviedo, Spain), Natalia Rey-Raap, Ana Arenillas  
*Synthesis of Transition Metal Aerogels as Electrocatalysts in Fuel Cells by Microwave-Assisted Sol-Gel Method.*

S06-P-028  
**Alexandra Gubóová** (Department of Physical Chemistry, Pavol Jozef Šafárik University in Košice, Košice, Slovakia), Renata Orinakova, Magdaléna Šteックová, Mária Paracková  
*Effect of Phosphorization Treatment of Nickel Foam Catalyst on its Electrocatalytic Activity Towards Hydrogen Evolution Reaction.*
S06-P-029

Zahra Hagheh Kavousi (Institut Européen des Membranes de Montpellier, IEM-UMR 5635, Univ Montpellier, Montpellier, France), Clémence Badie, Lionel Santinacci, Massomeh Ghorbanloo, Yoavi Holade, Mikhael Bechelany

Atomic Layer Deposition of Pd-Based Nanostructures on Gas Diffusion Electrode (GDE) as Effective Free-Standing Electrocatalysts Towards the Hydrogen Evolution Reaction and Glycerol Oxidation Reactions.

S06-P-030

Romina Heredia (Nanoelectrocatálisis, INIFTA-Universidad Nacional de La Plata-CONICET, La Plata, Argentina), Guillermo Benitez, Doris Grumelli

Functionalization of magnetite single crystal surfaces with Co and Ni porphyrin molecules: surface characterization and electrocatalytic performance towards oxygen reduction reaction.

S06-P-031

Chenjun Hou (MEMS Center, Harbin Institute of Technology, Harbin, China), Chenjun Hou, Xuelin Zhang, Yujun Zhang, Weijian Yuan, Li Tian, Yufeng Zhang


S06-P-032

Rui Huang (Department of Chemistry, Xiamen University, Xiamen, China), Ruiyi Ji, Chunhua Zhen, Shigang Sun

Controlled Synthesis of High-index Faceted Pt Nanocatalysts Directly on Carbon Paper for Methanol Electrooxidation.

S06-P-033

Minoru Inaba (Department of Molecular Chemistry and Biochemistry, Doshisha University, Kyotanabe, Japan), Syoma Nishikawa, Taisei Miyata, Takayuki Doi, Hideo Daion

Enhancement of Activity and Proton Conductivity of Pt-based Catalysts by Impregnation of Protonated-Melamine Derivative Salts.

S06-P-034

Kazuyuki Iwase (IMRAM, Tohoku University, Sendai, Japan), Masaki Ohtaka, Itaru Honma

Fluorine Substituted Perovskite Oxides Synthesized by a Low-Temperature Process as Oxygen Evolution Electrocatalysts.

S06-P-035

Junghwan Jang (School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea)

Inducing reconstruction of oxide-derived copper into nanoflakes for selective CO$_2$ electroreduction to C$_2$-products.

S06-P-036

Sang-Hyun Jeong (Management Planning Team, Chungbuk Energy Institute for Industry-University Convergence, Eumseong-gun, Korea), Minseong Bae, Hong-II Kim, Min A Seo, Sung-Hoon Jung, Yoo-Bin Kim

High Voltage Performance Based on Various Electrolyte for Electric Double-Layer Capacitor.

S06-P-037

Seo-Jin Jeong (Green Energy & Nano Technology R&D Group, Korea Institute of Industrial Technology, Gwangju, Korea), Ho-Young Jung

One-step Microwave-assisted Synthesis of Highly Efficient Pt-based Ternary Alloy Catalysts for Oxygen Reduction Reaction.
S06-P-038
Yan-Xia Jiang (Department of Chemistry, Xiamen University, Xiamen, China), Ya-Ni Yan, Xiao-Yang Cheng
Adjusting the Electronic Structure of PtCo Sites via Electron Injection to CoNC Boosts Acidic Oxygen Electrocatalysis

S06-P-039
Carlos Jiménez (Department of Chemical Engineering, University of Castilla-La Mancha, Toledo, Spain), Victor Dato, Rafael Camarillo, Fabiola Martínez, Isaac Asencio, Jesusa Rincón
Study of the gas diffusion layer in the electrocatalytic CO₂ reduction process

S06-P-040
Benjin Jin (School of chemical engineering, Aalto University, Helsinki, Finland)
Quantum dots NiO/Amorphous carbon with efficient Oxygen Evolution performance in Anion Exchange Membrane Electrolyzer

S06-P-041
Michael Jones (Department of Engineering, University of Exeter, Penryn, United Kingdom), Xiaohong Li
B-Site Doping of Perovskite Electrocatalysts to Improve OER Performance in Alkaline Membrane Water Electrolysers

S06-P-042
Kätlin Kaare (Energy Technologies Laboratory, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia), Aleksandrs Volperts, Galina Dobele, Ance Plavniene, Aivars Zurinsh, Peter Walke, Tanel Kääambre, Navid Noor, Drew C. Higgins, Ivar Kruusenberg
Heteroatom-doped Carbon Nanomaterials Derived from Waste Black Liquor for Electrochemical Oxygen Reduction Reaction

S06-P-043
Can Kaplan (Chemical Energy division, Helmholtz Zentrum Berlin, Berlin, Germany), Axel Zuber, Valeria Nicolosi, Zdanek Sofer, Michelle Browne
Improving the catalytic activity of cobalt -and manganese oxides for the Oxygen Evolution Reaction with MXenes

S06-P-044
Ali Raza Khan (Electrochemistry for Energy Conversion, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany), Viktor Colic
Electrochemical Cell Coupled with Inductive Annealing for the Synthesis of the Complex Alloy Thin Film by Electrodeposition Method

S06-P-045
Yohan Kim (Chemistry, KAIST, Daejeon, Korea), Seongmin Kim, Minyoung Shim, Yusik Oh, Kug-Seung Lee, Yousoong Jung, Hye Ryung Byon
Alteration of Oxygen Evolution Mechanisms in Layered LiCoO₂, Structures by Intercalation of Alkali Metal Ions

S06-P-046
Choeun Kim (Department of Mechanical and Information Engineering, University of Seoul, Seoul, Korea), Youngseung Na
Reducing Bipolar Plate Size in Proton Exchange Membrane Fuel Cells by Combining Serpentine and Parallel Flow Fields
S06-P-047  
*Electrospun Nanofiber Catalyst Materials for Oxygen Evolution Reaction in Acidic Water Electrolysis.*

S06-P-048  
**Dzevad Kozlica** (Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia), Pedro Farinazzo Bergamo Dias Martins, Maris M. Mathew, Dusan Strmcnik  
*Hydrogen Evolution Reaction on Well-Defined Ni Surfaces.*

S06-P-049  
**Yogesh Kumar** (Institute of Chemistry, University of Tartu, Tartu, Estonia), Edo Kibena-Pöldsepp, Marek Mooste, Jekaterina Kozlova, Arvo Kikas, Jaan Aruväli, Maike Käärik, Vambola Kisand, Jaan Leis, Aile Tamm, Steven Holdcroft, José H. Zagal, Kaido Tammeveski  

S06-P-050  
**Mario Kurniawan** (Electrical Engineering and Information Technology, Technische Universität Ilmenau, Ilmenau, Germany), Mario Kurniawan, Martin Leimbach, Carlos Aziz, Christian Höß, Mathias Fritz, Andreas Bund  
*Development of tin-nickel coatings for PEM electrolyzer components and operando stability analysis in a test stack.*

S06-P-051  
**Allessandro Lavacchi** (ICCOM, CNR - Italian National Research Council, Sesto Fiorentino, Italy), Maria Vincenza Pagliaro, Francesco Bartoli, Hamish Andrew Miller, Francesco Vizza, Enrico Berretti  
*Electrocatalytical 3D Nanoarchitectures Alcohols Oxidation: A Microelectronic Approach.*

S06-P-052  
**Magali Laviani** (NanoElectroCatalisis, INIFTA - UNLP - CONICET, La Plata, Argentina), Guillermo Benítez, Doris Grumelli  
*Characterization and functionalization of single-crystalline magnetite surfaces with individual atoms and nanoparticles of platinum.*

S06-P-053  
**Katherine Lawrence** (Process & Energy Department, TU Delft, Delft, Netherlands), Ruud Kortlever  
*Impact of Catalyst Ink Dispersion Method on Gas Diffusion Electrode Performance for CO₂ Reduction.*

S06-P-054  
**María I. León Sotelo** (Department of Geomatics and Hydraulics Engineering, University of Guanajuato, Guanajuato, Mexico), Tatiana Romero, José L. Nava  
*D Fuel Cell Simulation of Water Transport Through an Anionic Exchange Membrane.*

S06-P-055  
**Jaana Lilloja** (Institute of Chemistry, University of Tartu, Tartu, Estonia), Marek Mooste, Edo Kibena-Pöldsepp, Ave Sarapuu, Arvo Kikas, Vambola Kisand, Maike Käärik, Jekaterina Kozlova, Alexey Treshchalov, Päärn Paiste, Jaan Aruväli, Jaan Leis, Aile Tamm, Steven Holdcroft, Kaido Tammeveski  
S06-P-056  
Ahyoun Lim (Electrochemistry, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany), Ioannis Spanos, Hyun S. Park  
Development of Highly Efficient and Stable PEM-water Electrolysis via Ultrathin and Conductive Iridium Catalyst Layers.

S06-P-057  
June Sung Lim (School of Energy and Chemical Engineering, Ulsan National Institute of Science & Technology, Ulsan, Korea), Jinjong Kim, Sang Hoon Joo  
Preparative Chemistry of Superoxide Dismutase-Mimicking the Atomically Dispersed Nickel Catalysts for Electrocatalytic $\text{H}_2\text{O}_2$ Production.

S06-P-058  
Lifeng Liu (Clean Energy Cluster, International Iberian Nanotechnology Laboratory, Braga, Portugal), Zhipeng Yu  
Energy-Saving Hydrogen Production by Asymmetric Water Electrolysis.

S06-P-059  
Cheng Lyu (Department of Engineering, University of Exeter, Penryn, United Kingdom), Xiaohong Li  
Electrodeposition of Ni$_x$Sy as catalyst for hydrogen evolution reaction in anion exchange membrane water electrolyser.

S06-P-060  
Björn Lönn (Department of Physics, Chalmers University of Technology, Gothenburg, Sweden), Björn Wickman  
Sputtered Platinum Rare-Earth Alloy Nanocatalysts for the Oxygen Reduction Reaction.

S06-P-061  
Muhammad Adib Abdillah Mahbub (Chemistry and Biochemistry, Ruhr University Bochum, Bochum, Germany), Muhammad Adib Abdillah Mahbub, Debanjan Das, João R. C. Junqueira, Xin Wang, Jian Zhang, Stefan Dieckhöfer, Sabine Seisel, Wolfgang Schuhmann  
Transformation of Functionalized Bismuth Unveils the Three Phase Active Sites of CO$_2$ Electroreduction to Formate.

S06-P-062  
Abdul Majeed (Chemistry, Technical University of Darmstadt, Darmstadt, Germany), Bastian J.M. Etzold  

S06-P-063  
Tshiamo Manyepedza (Chemical Engineering, University of Birmingham, Birmingham, United Kingdom), James M. Courtney, Abigail Snowdon, Christopher R. Jones, Neil V. Rees  
Impact electrochemistry of MoS$_2$: electrocatalysis and hydrogen generation at low overpotentials.

S06-P-064  
Fabiola Martinez (Chemical Engineering: Fac Environmental Sci & Biochemistry, UNIVERSIDAD DE CASTILLA LA MANCHA, Toledo, Spain), Carlos Jimenez, Miguel Angel Ortiz, Rafael Camarillo, Isaac Asencio, Jesusa Rincon  
Photoelectrocatalytic reduction of CO$_2$ using gas diffusion electrodes with different commercial carbon papers.
S06-P-065
**Ricardo Martinez Hincapie** (Elektrochemie für Energieumwandlung, Max Planck Institut für Chemische Energiekonversion, Mülheim an der Ruhr, Germany), Jan Wegner, Stefan Kleszczyński, Viktor Colic

S06-P-066
**Omar Martinez Mora** (Materials Engineering, KU Leuven, Leuven, Belgium), Mahsa Khoshnam, Jan Fransaer, Xochitl Dominguez Beneton
Pt/Magnetic Fe Oxide Nanoparticles for ORR Electrocatalysis Synthesized by Gas-Diffusion Electrocrystallization (GDEx).

S06-P-067
**Lucia Mascaro** (Chemistry, São Carlos, Brazil), Anelisse Silva, Marina Medina, Lorena Goulart
Highly-stable one-step electrodeposited Ni-P film for HER.

S06-P-068
**Koichi Matsuzawa** (Graduate School of Engineering, Yokohama National University, Yokohama, Japan), Kazuya Hirose, Sho Nishino, Atsushi Nozaka, Akimitsu Ishihara
Oxygen Evolution Reaction at ALD-ZrO₂-Coated Ni in Alkaline Solution.

S06-P-069
**Marek Mooste** (Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Oldenburg, Germany), Dana Schönvogel, Kaur Muuli, Srinu Akula, Jaana Lilloja, Viktoria Gudkova, Maike Käärik, Markus Otus, Arvo Kikas, Vambola Kisand, Jaan Leis, Aile Tamm, Michaela Wilhelm, Andres Krumme, Kaido Tammeveski, Peter Wagner, Kaspar Andreas Friedrich
The Preparation of Dual-Metal and Nitrogen Co-doped Nanocarbon Cathode Catalysts for Polymer Electrolyte Membrane Fuel Cells.

S06-P-070
**Wenjamin Moschkowitsch** (ICGM, University of Montpellier, Montpellier, France), Wenjamin Moschkowitsch, Sara Cavaliere, Frédéric Jaouen

S06-P-071
**Yoshihiro Mugikura** (Energy Transformation Research Laboratory, Central Research Institute of Electric Power Industry, Yokosuka-shi, Japan), Takumi Imabayashi, Akifumi Ido, Koichi Asano, Hiroshi Morita, Tohru Yamamoto
Degradation analysis of SOFC performance (9).

S06-P-072
**Melina Müller** (Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany), Sebastian Tigges, Holger Ruland, Kristina Tschulik
Designing a Lab-Scale Alkaline Water Electrolyzer to Achieve Application-Relevant Testing Conditions.

S06-P-073
**Erkin Najafli** (Energy Technologies, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia), Sander Ratso, Yurii P. Ivanov, Matija Gatalo, Luka Pavko, Can Rüstü Yörük, Peter Walke, Giorgio Divitini, Nejc Hodnik, Ivar Kruusenberg
Sustainable CO₂-Derived Nanoscale Carbon Support To A Platinum Catalyst For Oxygen Reduction Reaction.
S06-P-074

**Stylianos Neophytides (ICEHT, FORTH, Patras, Greece)**, Panagiotis Giotakos

Unraveling the elusive Oxygen Reduction Reaction electrokinetics and energetics in PEM Fuel Cells.

S06-P-075

**Anh Nguyen (Chemistry Department, CY Cergy Paris Université, Cergy, France)**, Giao Nguyen, Cédric Plesse, Keagan Pokpas, Pierre-Henri Aubert, Thuan-Nguyen Pham-Truong

Palladium Nanoparticles Embedded in Immobilized Anionic Poly(ionic liquid) as Low-Metal Content Electro catalysts for Hydrogen Evolution Reaction.

S06-P-076

**Corentin Noel (Institut de recherche de Chimie Paris, PSL University, Paris, France)**

Valorization of CO₂ from the cement industry, via electrochemical reduction into molten carbonates.

S06-P-077


Investigation of Oxygen Reduction on Manganese and Nitrogen Doped Biomass-Based Activated Carbons.

S06-P-078

**Eugenijus Norkus (Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania)**, Karina Vjunova, Huma Amber, Zita Sukackiene, Jurate Vaiciuniene, Loreta Tamasauskaite-Tamasiuaita, Eugenijus Norkus

Catalytic and Electrochemical Hydrogen Evolution on CoFeM (M = Mo, Mn) Coatings Prepared by Electroless Metal Plating.

S06-P-079

**Maja Obradovic (Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia)**, Vuk Radmilovic, Velimir Radmilovic, Snezana Gojkovic

Palladium-copper bimetallic nanocatalyst for electrochemical ethanol oxidation and oxygen reduction in alkaline media.

S06-P-080

**Inbal Offen Polak (Schulich Faculty of Chemistry, Technion, Haifa, Israel)**, Tomer Y. Burshtein, David Eisenberg

Ultra Active Fe-Nx Active Site on Fe-N-C Electro catalyst for Hydrazine Oxidation Reaction.

S06-P-081

**Anna Omelchuk (Institut des Sciences Chimiques de Rennes, UMR 6226, Université de Rennes, Rennes, France)**, Corinne Lagrost, Yann Leroux

Oxygen Reduction Reaction (ORR) electrocatalysis with functionalized plasmonic nanomaterials.

S06-P-082

**Jens Osiewacz (Institute of Chemical and Electrochemical Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany)**, Marco Löffelholz, Thomas Turek

CO Poisoning of Silver-Based Gas Diffusion Electrodes in eCO₂R.
S06-P-083  
Dhananjai Pangotra *(BioCat, Fraunhofer IGB, Straubing, Germany)*, Barbara Bohlen, Luciana Vieira, Jonathan Fabarius, Arne Roth, Volker Sieber, Carsten Pietzka, Benjamin Wriedt, Hans-Joachim Kost, Athanassios Ziogas, Patrick Löb  
Electrochemical reduction of CO$_2$ to produce formate as a substrate for biochemical reactions.

S06-P-084  
Federico Parisi *(Institute of Energy and Climate Research IEk-13, Forschungszentrum Jülich, Jülich, Germany)*  
Atomistic Simulation of Proton Ionic Liquids as a Candidate Electrolyte for Mid-Temperature Fuel Cells.

S06-P-085  
Hee-Young Park *(Hydorgen Fuel Cell Research Center, Korea Institute of Science and Technology, Seoul, Korea)*, Youngseung Na  

S06-P-086  
Juan Manuel Paz-Garcia *(Chemical Engineering, University of Malaga, Malaga, Spain)*, Maria del Mar Cerrillo-Gonzalez, Maria Villen-Guzman, Jose Miguel Rodriguez-Maroto  
Multiphysics Modeling of a reversible PEM Electrolyzer & Fuel Cell.

S06-P-087  
Mark Potter *(Chemistry, Lancaster University, Lancaster, United Kingdom)*, Kathryn Toghill  
Decoupled Electrochemical CO$_2$ Reduction via Redox Mediators.

S06-P-088  
Sistan Rasuli *(Materials Diagnostics for H2 Technologies, Fraunhofer IMWS, Halle, Germany)*, Kerstin Witte-Bodnar, Erik Grunwald, Volker Naumann, Sebastian Porstmann, Stefan Polster, Klemens Ilse  

S06-P-089  
Pamella S. Rodrigues *(Instituto de Química de São Carlos, Universidade de São Paulo, São Carlos, Brazil)*, Moises A. de Araújo, Edson A. Ticianelli  
Effect of Iridium Dopant Content on Nickel Selenide for Improvement of Oxygen Evolution Reaction in Alkaline Medium.

S06-P-090  
Sergio Rojas *(EQS, CSIC, Madrid, Spain)*, Laura Pascual, Jorge Torrero, Alvaro Tolosana, Mohamed Salam, Mohamed Mokhtar, Daniel García-Sanchez, Aldo Gago, Jose Antonio Alonso, Kaspar Andreas Friedrich, Pilar Ferrer, Maria Retuerto  
Reconstructed surface on Ir perovskites derived in highly active OER Catalysts.

S06-P-091  
Jean Rouger *(Institut Charles Gerhardt Montpellier, Université de Montpellier, Montpellier, France)*, Sara Cavaliere, Frédéric Jaouen  
Iridium single atom catalysts for oxygen evolution reaction in acidic medium.

S06-P-092  
David Ríos Ruiz *(Institute of Catalysis and Petrochemistry, Spanish National Research Council (CSIC), Madrid, Spain)*, Jesus Cebolada Borao, Pablo Arévalo Cid  
New development of N, P co-doped carbon and Cu nanocomposites for highly efficient electrochemical conversion of CO$_2$ into C$_2$+ products.
S06-P-093  
**Melina Römer** *(Chemistry, Ernst-Berl-Institut, TU Darmstadt, Darmstadt, Germany)*, Nils Näser, Bastian J.M. Etzold  
Investigation of the gas permeation stream through GDEs in electrochemical CO₂ reduction

S06-P-094  
**Konstantin Rücker** *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Oldenburg, Germany)*, Dereje H. Taffa, Elliot Brim, Darius Hayes, Omeshwari Bisen, Julian Lorenz, Shaun Alia, Marcel Risch, Ryan M. Richards, Corinna Harms, Michael Wark  
Transition metal doped NiOx faceted nanosheets for electrocatalytic water oxidation

S06-P-095  
**Carlo Santoro** *(Department of Materials Science, University of Milano Bicocca, Milan, Italy)*, Mohsin Muhuyuddin, Seyed Ariana Mirshokraee, Riccardo Morina, Lorenzo Poggini, Enrico Berretti, Alessandro Lavacchi, Chiara Ferrara  
Recovery of waste cobalt from lithium-ion batteries and utilization as an electrocatalyst for oxygen reduction and hydrogen evolution reaction

S06-P-096  
**Debashrita Sarkar** *(Department of Chemistry, Université Paris Cité, Paris, France)*, Hichem Ichou, Stéphane Diring, Fabrice Odobel, Marc Robert  
Substituent effect on molecular electrochemical catalysis of CO₂ reduction with Fe prophyrins

S06-P-097  
**Jakob Scholl** *(Hydrogen Technologies, Fraunhofer IKTS, Arnstadt, Germany)*, Karl Skadell, Michael Stelter  
The Behavior of Electrochemical Cells for Alkaline and Anion Exchange Membrane Water Electrolysis in Dynamic Operation

S06-P-098  
**Alessandro Senocrate** *(Materials for Energy Conversion, Swiss Federal Laboratories for Materials Science and Technol, Dübendorf, Switzerland)*, Peter Kraus, Francesco Bernasconi, Corsin Battaglia  
A Comprehensive Analytical System with Standardized Data Analysis for the Electrochemical CO₂ Reduction

S06-P-099  
**Jesús Serrano-Jiménez** *(Chemical Engineering Department, University of Castilla-La Mancha, Ciudad Real, Spain)*, Antonio de Lucas Consuegra, Jorge Gil Rostra, Francisco Yubero Valencia, Ester López Fernández, Agustín Rodríguez González-Elipe, Verónica Rodríguez Pintor, Pedro Javier Lloreda Jurado, Celia Gómez Sacedon  
Trimetallic CrNiFe and CoNiFe catalysts prepared by magnetron sputtering for anion exchange membrane water (AEMWE)

S06-P-100  
**Yair Shahaf** *(Chemistry, Technion - Israel Institute of Technology, Haifa, Israel)*  
From Nitrate Waste to Ammonia Fuel: Nitrate Reduction on Single Atom Catalysts

S06-P-101  
**Umair Shamraiz** *(Department of Chemistry, Technical University of Darmstadt, Darmstadt, Germany)*, Bastian Etzold  
Enhanced Oxygen Evolution Reaction Activity and Structural Stability of Sulfur and Manganese Substituted Co(OH)₂
S06-P-102  
**Shailendra Kumar Sharma** (Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand), Aaron T. Marshall  
*Engineering Catalytic Layers for Efficient Water Electrolysis*  

S06-P-103  
**Zifei Shen** (College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)  
*Simulation and Structural Analysis of PtRu Alloy/Water Interface*  

S06-P-104  
**Monisha Sivasankaran** (Electrochemical Energy Conversion, MPI for dynamics of complex technical systems, Magdeburg, Germany), Tamara Milicic, Christoph Bluemner, Antonio Sorrentino, Tanja Vidakovic-Koch  
*Trends in Product Selectivity on Silver under Pulsed CO₂ Electrolysis Conditions*  

S06-P-105  
**Adam Slesinski** (Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland), Elzbieta Frackowiak  
*Co-production of hydrogen gas and hydrogen peroxide in single electrolysis cell using modified carbon electrodes*  

S06-P-106  
**Jose Solla-Gullon** (Institute of Electrochemistry, University of Alicante, Alicante, Spain), Roumayssa Amrine, Miguel A Montiel, Vicente Montiel  
*Electrochemical Reduction of Nitrogen to Ammonia on Pt-Rh Nanoparticle-based Electrodes*  

S06-P-107  
**Samuel V. Somerville** (School of Chemistry, The University of New South Wales, Sydney, Australia), Peter B. O’Mara, Tania M. Benedetti, Soshan Cheong, Wolfgang Schuhmann, Richard D. Tilley, J. Justin Gooding  
*Controlling Selectivity in a Cascade Electrochemical CO₂ Reduction Catalyst Through Altering a Nanoconfined Solution Environment*  

S06-P-108  
**Linnéa Strandberg** (Department of Physics, Chalmers, Gothenburg, Sweden), Victor Shokhen, Magnus Skoglundh, Björn Wickman  
*Catalyst Degradation in Proton Exchange Membrane Fuel Cells Followed by Identical Location Electron Microscopy*  

S06-P-109  
**Loreta Tamasauskaite-Tamasiunaite** (Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania), Loreta Tamasauskaite-Tamasiunaite, Ausrine Zabielaite, Daina Upskuviene, Aldona Balciunaite, Vitalija Jasulaitiene, Gediminas Niaura, Audrius Drabavicius, Aleksandrs Volperts, Ance Plavniece, Galina Dobele, Aivars Zhurinsh, Yu-Chuan Lin, Yu-Wen Chen, Eugenijus Norkus  
*Cobalt Nanoparticles Supported Nitrogen-Doped Carbon as Electrocatalyst for Hydrogen Evolution*  

S06-P-110  
**Loreta Tamasauskaite-Tamasiunaite** (Department of Catalysis, Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania), Virginija Kepeniene, Greta Gembickyte, Raminta Stagniunaite, Vidas Pakstas, Jurate Vaciuniene, Loreta Tamasauskaite-Tamasiunaite, Eugenijus Norkus  
*Application of Cobalt and Cerium Oxides for the Synthesis of Electrocatalysts for Fuel Cells*
S06-P-111  
**Syunnosuke Tanaka** *(Department of Applied Chemistry and Biotechnology, Graduate, Chiba University, chiba-shi, Japan)*, Nagahiro Hoshi, Masashi Nakamura  
*Effect of Hydrophobic Cation on the Hydrogen Evolution/Oxidation Reactions on Single Crystal Pt Electrodes*

S06-P-113  
**Li Tian** *(MEMS Center, Harbin Institute of Technology, Harbin, China)*, Yujun Zhang, Weijian Yuan, Xuelin Zhang, Chenjun Hou, Yufeng Zhang  
*Study on the Influence of Wetting Characteristics of Cathode Catalyst Layers on Mass Transfer and Cell Performance in DMFC*

S06-P-114  
**Hajime Toriumi** *(Energy Process Research Institute, AIST, Tsukuba, Japan)*, Toshiaki Yamaguchi, Katherine Develos-Bagarinao, Haruo Kishimoto  
*Effect of Different Functional Layer Materials on SOEC Performance*

S06-P-115  
**Yu-Lin Tsai** *(Institute for Solar Fuels, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany)*, Yu-Lin Tsai, Roel van de Krol, Peter Bogdanoff  
*Transparent Thin Film Structured Catalysts for Electrochemical CO₂-Reduction via Wet-Chemical Deposition Methods*

S06-P-116  
**Muhammad Usama** *(Theoretical Inorganic Chemistry, University of Duisburg-Essen, Essen, Germany)*  
*Comprehending the Oxygen and Chlorine Evolution Reactions over IrO₂-Based Electrode Materials on the Atomic Scale*

S06-P-117  
**Carlos Vasconcellos** *(São Carlos Institute of Chemistry, University of São Paulo, São Carlos, Brazil)*, Vincent Martin, Frédéric Maillard, Laetitia Dubau, Fabio Lima  
*Combining Cu²⁺/Cu⁰ Clusters with Fe-N-C for Tandem CO₂ Electrocatalytic Reduction: Stability Study via Operando ICP-MS*

S06-P-118  
**Rafaël Vos** *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Kees Kolmeijer, Thimo Jacobs, Ward van der Starn, Bert Weckhuysen, Marc Koper  
*How Temperature Affects the Selectivity of the Electrochemical Reduction of CO₂ on Copper*

S06-P-119  
**Aleksandra Wawrzyniak** *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Marc T.M. Koper  
*Electrochemical Carbon Dioxide Conversion on Sn-modified Palladium Monolayer on Pt(111) Single Crystal*

S06-P-120  
**Lydia Weseler** *(Clausthal University of Technology, Institute of Chemical and Electrochemical Process Engineering, Clausthal-Zellerfeld, Germany)*, Marco Löffelholz, Jens Osiewacz, Thomas Turek  
*Employing Sintered Silver-Based Catalyst Layers in Membrane Electrode Assemblies for Electrochemical CO₂ Reduction*
S06-P-121  
**Jan Witte** *(Institute of Chemical and Electrochemical Process Eng., Clausthal University of Technology, Clausthal-Zellerfeld, Germany)*, Max Fabian Wielage, Thomas Turek  
*Electrochemical characterization of OER catalysts in MEA setup for anion exchange membrane water electrolysis*

S06-P-122  
**Ruth Witzel** *(Institute for Applied Materials-Electrochemical Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Steffen Czioska, Lorena Baumgarten, Philipp Röse  
*Experimental Investigation of the Electrocatalytic CO₂ Reduction in Aprotic Electrolytes*

S06-P-123  
**Chang Wu** *(Chemical and Process Engineering Department, University of Canterbury, Christchurch, New Zealand)*  
*Boosting performance of water oxidation by tailoring active sites in FeCoMn Prussian Blue analogues*

S06-P-124  
**Da Xing** *(Fakultät Ingenieurwissenschaften Lehrstuhl Energietechnik, Universität Duisburg-Essen, Duisburg, Germany)*  
*CO₂⁺-based oxides as catalyst for the oxygen evolution reaction: A comparison study of kinetics for La₀.₈Sr₀.₂CoO₃ and CoO*

S06-P-125  
**Xiao-Hui Yang** *(Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Jun Cheng  
*Electric double-layer structures of graphene/polyelectrolyte interface: A molecular dynamic study*

S06-P-126  
**Jun Yano** *(Department of Fundamental Science, National Institute of Technology (KOSEN), Niihama College, Niihama, Japan)*, Kenta Suzuki, Chikara Tsutsumi, Nobuki Hayase, Akira Kitani  
*NADH-Depending Enzymatic Ethanol Biofuel Cell Providing H₂ Gas as well as the Electricity*

S06-P-127  
**Boon Siang Yeo** *(Chemistry, National University of Singapore, Singapore, Singapore)*  
*Electrosynthesis of Oxygenates and Hydrocarbons*

S06-P-128  
**Kyeong-Rim Yeo** *(School of Integrative Engineering, Chung-Ang University, Seoul, Korea)*, Hyoung Kim, Jinwoo Lee, Soo-Kil Kim  
*Development of low amount precious metal-Ni alloy electrodes for proton exchange membrane water electrolysis*

S06-P-129  
**Weijian Yuan** *(MEMS Center, Harbin Institute of Technology, Harbin, China)*, Yujun Zhang, Xuelin Zhang, Chenjun Hou, Li Tian, Yufeng Zhang  
*Improved Vapor-feed DMFC via Capillary Distillation*

S06-P-130  
**Andrea Zaffora** *(Department of Engineering, University of Palermo, Palermo, Italy)*, Elena Giordano, Enrico Berretti, Laura Capozzoli, Alessandro Lavacchi, Mohsin Muhyuddin, Carlo Santoro, Irene Gatto, Monica Santamaria  
*Boosting DMFC Performance by adding Sulfuric Acid as Supporting Electrolyte to the Methanol Feed*
S06-P-131
Lucia Zanetti (Department of Chemical Science, University of Padova, Padova, Italy), Enrico Verlato, Luca Mattarozzi, Daniele Basso, Lidia Armelao, Marta Maria Natile
Electrochemical Oxidation of Renewable Ammonia for Sustainable Hydrogen Generation

S06-P-132
Jin Zhang (Environmental Engineering, Beihang University, Beijing, China), Wenrui Yan, Shanfu Lu, Yan Xiang, San Ping Liang
The anode reaction mechanism for the high temperature formic acid fuel cell

S06-P-133
Xuelin Zhang (MEMS Center, Harbin Institute of Technology, Harbin, China), Xuelin Zhang, Chenjun Hou, Yujun Zhang, Weijian Yuan, Li Tian, Yufeng Zhang
Study on the Performance and Degradation Mechanism of Direct Methanol Fuel Cells with Fe-N-C Cathode Catalyst

S06-P-134
Yufan Zhang (IEK-13, Forschungszentrum Juelich GmbH, Juelich, Germany), Jun Huang, Michael Eikerling
Criterion for Finding the Optimal Electrocatalyst at any Overpotential

S06-P-135
Oliver Zielinski (Research Center Energy Storage Technologies, Clausthal University of Technology, Goslar, Germany), Maik Becker, Thomas Turek
A new Approach to Kinetic Investigations in Water Electrolysis under Realistic Conditions

S06-P-136
Axel Zuber (CE-NESD, Helmholtz Zentrum Berlin, Berlin, Germany), Can Kaplan, Lukas Reith, Ke Li, Prashanth Menezes, Valeria Nicolosi, Michelle Browne
Performance enhancement of nickel and iron oxides catalysts for OER using MXene materials

S06-P-137
César Antonio Zúñiga Loyola (Department Materials Chemistry, University of Santiago de Chile, Santiago, Chile), Federico Tasca
Efficient Oxygen Reduction Using 68atom Gold as Catalyst

S06-P-138
Anna de Vries (Department of Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland), Maria R. Lukatskaya
Tuning microenvironments of electrochemical CO₂ reduction for improved selectivity via pulsed potentials
Symposium 7  Corrosion science and technology: Towards more sustainable materials

S07-P-002  
**Jelena Bajat** *(Physical Chemistry and Electrochemistry, University of Belgrade, Beograd, Serbia)*
Andela Simovic, Branislav Milovanovic, Mihajlo Etinski, Luka Matovic

*A combined electrochemical and theoretical analysis of AA2024 alloy surface protected by RE-thioglycolate complex inhibitors.*

S07-P-003  
**Charly Carrière** *(IJClab, Paris-Saclay University, CNRS/IN2P3, Orsay, France)*
Davide Rodrigues, Céline Cannes, Sylvie Delpech

*Methodological development to evaluate the corrosion in LiCl-KCl moten salt.*

S07-P-004  
**Baojie DOU** *(Chimie ParisTech, PSL University, Paris, France)*
Junsoo Han, Kevin Ogle

*Real time gas evolution measurement coupled with element-resolved electrochemistry: The effect of anions on the dissolution of pure Mg.*

S07-P-005  
**Enrico Daviddi** *(Chemistry, Université Paris Cité, Paris, France)*
Cameron Bentley, Viacheslav Shkirskiy, Paul Kirkman, Matthew Robin, Patrick Unwin

*New Perspectives in Electrochemistry/Crystallographic Orientation Relations: Corrosion and Corrosion Inhibition on Polycrystalline Cu.*

S07-P-006  
**Kotaro Doi** *(National Institute for Materials Science, Institute, Tsukuba, Japan)*
Sachiko Hiromoto

*Electrochemical Hydrogen Permeation Test for Mg-based Materials.*

S07-P-007  
**Belén Díaz** *(Materials Science, University of Vigo, Vigo, Spain)*
Iria Feijoo, Ramón Nóvoa, Carmen Pérez, Sheila Silva-Fernández

*Characterisation of Zn Phosphate Conversion Coatings Obtained With and Without Prior Activation.*

S07-P-008  
**Alexis Fouchereau** *(Recherche en Corrosion et Comportement des Matériaux, CEA, Gif-sur-Yvette, France)*
Beatriz Puga, Hicham Maskrot, Fernando Lomello, Benoit Gwinner, Oumaiima Gharbi, Vincent Vivier


S07-P-009  
**Akihiro Fujimura** *(Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo, Japan)*
Masatoshi Abe, Akinori Kawano, Sunao Shoji, Yuichi Kitagawa, Yasuchika Hasegawa, Koji Fushimi

*Effects of Al and Si on the corrosion behaviors of stainless steels in acidic NaCl solution using online ICP-OES.*

S07-P-010  
**Xiaole Han** *(Graduate School of Engineering, Hokkaido University, Sapporo, Japan)*
Masatoshi Sakairi

*The Role of Metal Cations in Hydrogen Absorption Into Steel Under Salt Deposits During Atmospheric Corrosion.*
S07-P-011  
**Christophe Hitz** *(Compréhension et Évolution des Actifs, Hydro-Québec – Centre de recherche d’Hydro-Québec, Varennes, Canada)*, Isabelle Montplaisir, Lydia Damphousse, Alexandre Lapointe, Carlo Baillargeon, Lindsay Grandy, Robert Lacasse  
*In-Situ Observation of Pit Initiation and Growth in Hydraulic Turbine Runners Martensitic Stainless Steel*

S07-P-012  
**Manuel Hofinger** *(Institute of Chemical Technologies of Inorganic Materials, Johannes Kepler University Linz, Linz, Austria)*, Andrei Ionut Mardare, Achim Walter Hassel  
*Investigation of a co-evaporated Al-Yb Thin-Film library*

S07-P-013  
**Gha-Young Kim** *(Disposal Safety Evaluation R&D Division, Korea Atomic Energy Research Institute, Daejeon, Korea)*, Jeong-Hyun Woo, Yang-Ho Lee, Seok Yoon  
*Electrochemical corrosion behavior of copper fabricated by wire arc additive manufacturing as a disposal canister material*

S07-P-014  
**Seong-Cheol Kim** *(Department of Materials Science and Processing, Osaka University, Osaka, Japan)*, Hiroaki Tsuchiya, Shinji Fujimoto  
*Photocurrent Transients Generated from Ti and Cr Passive Films and their Numerical Simulation*

S07-P-015  
**Aleksei Makogon** *(ITODYS UMR 7086, Université Paris Cité, Paris, France)*, Leonardo Bertolucci, Jon Ustarroz, Frederic Kanoufi, Viacheslav Shkirskiy  
*Data-driven analysis of corrosion in stainless steel using reflective microscopy*

S07-P-016  
**Sabrina Marcelin** *(MATEIS UMR CNRS 5510, University of Lyon, INSA of Lyon, Villeurbanne, France)*, Romain Haefele, Lucile Broussous, Bernard Normand  
*Contribution of Electrochemical methods to investigate Cu/Al₂O₃ system dedicated to microelectronic application*

S07-P-017  
**Quentin Murat-Thuillier** *(Laboratoire de Physicochimie des Polymères et des Interfaces, CY Cergy Paris Université, NEUVILLE-SUR-OISE, France)*, Linda Chikh, Isabelle Fabre-Francke, Odile Fichet  
*Development of New Chrome-free Bio-based Coatings with Anti-corrosive Properties*

S07-P-018  
**Carmen Pérez** *(ENCOMAT Group, Universidade de Vigo, Vigo, Spain)*, Antonio Collazo, Raúl Figueroa, Carmen Mariño-Martínez, X. Ramón Nóvoa  
*Corrosion behavior of Fe28Mn6Si5Cr shape memory alloy in different aggressive media*

S07-P-019  
**Aurélien Ricard** *(Physics, Université Paris-Saclay, Orsay, France)*, Frédéric Restagno, Mathis Plapp, Yun Hee Jang, Yves Lansac, Eric Raspaud  
*D propagation of corrosion pits drives the spreading of aqueous droplets containing salt on conductive nanolayers*

S07-P-020  
**Masatoshi Sakairi** *(Faculty of Engineering, Hokkaido University, Sapporo, Japan)*, Li Li  
*Formation of Thin Zin Alloy Layer on Steel and Its Corrosion Resistant Ability*
S07-P-021
Carlos Sepulveda (Mechanical Engineering, Pontificia Universidad Católica de Chile, Santiago, Chile), Lisa Muñoz, Carolina Guerra, Mamié Sancy, Nicolas Carrasco
The Effect of Copper Tailings Addition on The Mechanical and Electrochemical Properties of Mortars.

S07-P-022
Nazatul Liana Sukiman (Department of Mechanical Engineering, Universiti Malaya, Kuala Lumpur, Malaysia), Lingshwaran Ramachandran, Muhammad Farhan Ronzi, Nor Ishida Zainal Abidin
Kalmegh Aqueous Extract as Corrosion Inhibitor for Mild Steel in Sodium Chloride.

S07-P-023
Ying Wang (Department of Materials Science and Engineering, National University of Singapore, Singapore, Singapore), Man-Fai Ng, Daniel John Blackwood
Experimental and Thermodynamic Calculations on the Correlation between Oxygen Reduction Kinetics and Pitting Corrosion Resistance in Fe-Cr Alloys.

S07-P-024
Hantao Xu (College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)
Electrochemical Nanoimprint Lithography for Nanostructures Manufacturing on GaAs Surface.

S07-P-025
Wanshuo Zhang (Center for composite materials and structure, Harbin Institute of Technology, Harbin, China), Lifeng Hao, Xiaodong He
Ultrasound-assisted Electrochemical Etching of Carbon Fiber Probes.

S07-P-026
Lis G. Zschach (Chair for Laser-based Manufacturing, Technische Universität Dresden, Dresden, Germany), Franziska Spitz, Robert Baumann, Andrés F. Lasagni

Symposium 8  Coatings and electrochemical surface treatments

S08-P-001
Basit Ali (Department of Chemistry and Materials Science, Aalto University, Espoo, Finland) Tanja Kallio
Comparative Studies of Cerium Substitution and ALD Coating in Ni-rich NMC Layered Cathode Material for High-energy Lithium-Ion Batteries.

S08-P-002
Anawati Anawati (Physics, University of Indonesia, Jakarta, Indonesia), Sugeng Purwanto, Efrina Hidayati
Mechanism of Cation Incorporation in the Plasma Electrolytic Oxide Layer.

S08-P-003
Liana Anicai (Center of Surface Science and Nanotechnology, University POLITEHNICA of Bucharest, Bucharest, Romania), Adrian-Cristian Manea, Sabrina State (Rosoiu), Calin Moise, Aida Pantazi, Geamina Miha, Stefania Costovici
Anodic Coloring of Titanium Involving Various Deep Eutectic Solvent Formulations.
S08-P-004

**Khaoula Chergui** (Lab-STICC, CNRS, UMR 6285, University of Western Brittany, Brest, France)
Stéphane Rioual, Benoît Lescop, Michel Prestat, Flavien Vucko, Valérie Demange, Ludivine Rault, Francis Gouttefangeas, Loïc Joanny, Michael Walls

*Titanium Nitride Thin Films for protecting stainless steel bipolar plates in Proton Exchange Membrane Water Electrolyzers.*

S08-P-005

**Yong-Wook Choi** (Advanced Energy Materials and Components R&D Group, Korea Institute of Industrial Technology, Busan, Korea)

*The Influence of Post-treatment on Stainless Steel based Anode in Alkaline Water Electrolysis*

S08-P-006

**Adriana Correia** (Analytical Chemistry and Physical Chemistry Department, Federal University of Ceará, Fortaleza, Brazil), Natalia Sousa, Renato de Oliveira, Ana Alcanfor, Filipe Feitosa, Hosiberto de Sant'Ana, Walther Schwarzacher, Pedro de Lima-Neto, Norberto Monteiro

*SnIn Coatings from Choline Chloride/Ethylene Glycol Deep Eutectic Solvents - Experimental and Theoretical Approaches.*

S08-P-007

**Melinda David** (Faculty of Electrical Engineering and Computer Science, Transilvania University of Brasov, Brasov, Romania), Ioan Milosan, Monica Florescu

*Corrosion Protection of Stainless Steel Modified with Electrospun Composite Coating*

S08-P-008

**Haruki Katori** (Materials Science and Engineering, Kyoto University, Kyoto, Japan), Kazuhiro Fukami, Kuniaki Murase

*Electrochemical QCM Analysis of Trivalent Chromium Electrodeposition Using CaCl2 Based Hydrate Melt*

S08-P-009

**Halina Krawiec** (Faculty of Foundry Engineering, AGH - University of Science and Technology, Krakow, Poland), Vincent Vignal

*Structure and growth mechanisms of Cu-Ag nanocrystalline coatings electrodeposited on copper substrate*

S08-P-010

**Yann Leroux** (CNRS - Université de Rennes, Institut des Sciences Chimiques de Rennes, Rennes, France), Denis Ari, Jean-François Bergamini, Teresa Rodrigues, Wolfgang Knoll, Charles Cougnon, Essraa Ahmed, Paulius Pobedinskas, Ken Haenen, Rabah Boukherroub, Sabine Szunerits

*Functionalization of carbon surfaces using copper-catalyzed Diels-Alder Reaction*

S08-P-011

**Juan Manríquez** (Department of Science, CIDETEQ, Sanfandila, Pedro Escobedo, Mexico), Jesús-Israel Valdez-Nava, Isa-Fernanda Perez-Nava, Erika Bustos, José-Alberto García-Melo, Juan Manríquez

*Effect of the magnetostriction induced on the crystalline structure of nanoparticulate TiO2 photoanodes and their relationship with the photovoltaic response of black-dye sensitized solar cells*

S08-P-012

**Trang Nguyen** (Chemistry of Surfaces, Interfaces and Nanomaterials(ChemSin), Faculty of Sciences, Université libre de Bruxelles (ULB), Brussels, Belgium), Dai Lam Tran, Thomas Doneux

*Immersion Gold Coating from Deep Eutectic Solvents*
S08-P-013
**Tuan Linh Nguyen** (*ITODYS UFR7086, Université Paris Cité, Paris, France*)

Electronic Transport Properties of MJ's from PEDOT wires or from Polyoxometalate assembly in Mesoporous Silica Nanopores.

S08-P-014
**Quentin Orecchioni** (*Surface Reactivity and Sonochemistry, UTINAM Institute, Besançon, France*), Jean-Yves Hihn

Silver-tungsten induced codeposition.

S08-P-015
**Jayanthan Pattadai Jayaraman** (*Institute for Solar Fuels, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany*), Benjamin Goldman, Marek Lavorenti, Hannah Johnson, Mihalis Tsampas, Kevin Sivula, Roel van de Krol

Electrochemical deposition of BiVO$_4$ on quartz-based transparent, conductive, porous substrates for solar gas-phase water splitting applications.

S08-P-016
**Jessica Pinheiro** (*Materials Engineering, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil*), Kimberlyn Pereira, Jane Zoppas


S08-P-017
**Shahid Rasul** (*Faculty of Engineering and Environment, Northumbria University, Newcastle Upon Tyne, United Kingdom*), Rana Faisal Shahzad, Cecil Cherian Lukose, Rana Abdul Shakoor, Abdul Wasy Zia

Multi-layered Sn and Hard Carbon Architectures for Long-Term Stability and High-Capacity Lithium-Ion Battery Anodes.

S08-P-018
**Zahra Sharifi** (*Leiden institute of chemistry, Leiden University, Leiden, Netherlands*), Zahra Sharifi, Jacques Wijenberg, Arnould De Voogs, Marc Koper

The buffering behavior of chromium(iii) complexes and its role in the cathodic chromium oxide/hydroxide film formation.

S08-P-019
**Max Taras** (*Chemistry, Univ Rennes, CNRS, ISCR - UMR 6226, Rennes, France*), Jianyang Lin, Jean-François Bergamini, Corinne Lagrost, Philippe Hapiot, Dongping Zhan, Yann R. Leroux


S08-P-020
**Francisco Trivinho-Strixino** (*Departamento de Fisica, Química e Matemática, DFQM-So, Universidade Federal de São Carlos, Sorocaba, Brazil*), Jonata Rodrigues Dias Batista, Patricia Santos Araujo

Voltage Oscillations During Nb Plasma Electrolytic Oxidation.

S08-P-021
**Junren Wang** (*School of Chemistry, University of Southampton, southampton, United Kingdom*), Huimin Zhong, Bowen Liu, Min Zhang, Andrew Hector, Andrea Russell

Self-standing TiC-modified Carbon Fibre Electrodes Derived from Cellulose and Their Use as an Ultrahigh Efficiency Lithium Metal Anode.
S08-P-022
Lijing Yang (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China)
Creation of Bioactive Ceramic Composite Coatings on Zn-Mn-Mg Alloy via Micro-arc Oxidation and Hydrothermal Treatment for Orthopedic Implant Applications.

S08-P-023
Yeowon Yoon (Yonsei school of integrated technology, Yonsei university, Seoul, Korea)
Fabrication and performance of cationic COF coated cathode with new strategy.

Symposium 9  Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes

S09-P-001
Clécia Andrade dos Santos (Institute of Chemistry, São Paulo State University (UNESP), Institute of Chemistry, Araraquara, Brazil), Luciane Pimenta Cruz Romão
Ammonia production via nitrogen reduction under graphene/CuFe$_2$O$_4$-based nanomaterials.

S09-P-002
Robert Appel (Fundamental Electrochemistry (IEK-9), Forschungszentrum Jülich GmbH, Jülich, Germany), Maximilian Schalenbach, Hermann Tempel, Rüdiger-A. Eichel
Mixed Metal Oxide Anodes for Low Molar Chlor-Alkali-Electrolysis – Physical and electrochemical mechanisms.

S09-P-003
Zaynab Atyf (Chemistry, Université Paris Cité, Paris, France), Jalal Ghilane
Surface Modification of Glassy Carbon Electrode to Enhance Electrocatalytic Activity towards Hydrogen Evolution Reaction.

S09-P-004
Amira Ben abderrahmane (European Institute of Membrane, University of Montpellier, Montpellier, France), Sophie Tingry, David Cornu, Yaovi Holade
Novel Free-standing Ag-Au Alloys for Cellulosic Biomass Electroconversion in a H$_2$ Co-Production Electrolyzer.

S09-P-005
Alexander Black (School of Chemistry, University of Bristol, Bristol, United Kingdom), Isobel Khalek, David Fermin
Combined Electrocatalytic Oxidation of Furfural and Hydrogen Generation.

S09-P-006
Jan Bosse (Research with Neutrons and Muons, Paul Scherrer Institute, Villigen, Switzerland), Andrew Akbashev
Spontaneous Oxygen Reduction on a Perovskite Surface in Aqueous Media.

S09-P-007
Koffi Franck Bouho (University of Poitiers, Institut de Chimie des Milieux et Matériaux de Poitiers, POITIERS, France), Neha Neha, Teko Napporn, Christophe Coutanceau
Development of PtM/C catalyst active for the HOR and tolerant to the presence of CO.
S09-P-008

**Erika Bustos** (Science, CIDETEQ, Pedro Escobedo, Mexico), Moisés Jonathan Yañez-Ángeles, Francisco Javier Bacame-Valenzuela, Yolanda Reyes-Vidal

**Electrochemical Degradation of Amoxicillin using IrO$_2$-Ta$_2$O$_5$|Ti Anodes and Carbon Cathodes in Neutral Conditions.**

S09-P-009

**Christine Cachet-Vivier** (Institut de Chimie et des Matériaux Paris-Est, Université Paris-Est Créteil - CNRS, Thiais, France), Ahmed M. Khalil, Peyman Mirzaei, Encarnacion Torralba, Youssef Snoussi, Rémy Pires, Oleg Semyonov, Pavel S. Postnikov, Stéphane Bastide, Mohamed M. Chehimi

**Biochar/CuNi Composites for the Electroreduction of Nitrates.**

S09-P-010

**Chun-Yi Chen** (Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan), Yi-Hsuan Chiu, Tso-Fu Mark Chang, Masato Sone, Yung-Jung Hsu

**Fabrication of Ti-Nb-Ta-Zr-O Nanotubes by Anodization for Hydrogen Production in Photoelectrochemical Water Splitting.**

S09-P-011

**Seungwoo Choi** (Department of Materials Science and Engineering, Seoul National University, Seoul, Korea), Sunghak Park, Taehwan Jang, Kì Tae Nam

**Iridium-Induced Symmetry-Broken Manganese Oxide Nanocatalyst for Water Oxidation.**

S09-P-012

**Gessica De Oliveira Santiago Santos** (Department of Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain), Sabrina Ayala Bueno, Taynara Oliveira Silva, Patricia Balderas Hernandez, Jorge Ibanez Cornejo, Marcos Roberto Vasconcelos Lanza, Manuel Andrés Rodrigo Rodrigo

**Electrochemically generated hydrogen peroxide and persulfate activated using UVC radiation: synergy of combined oxidants for degradation of volatile organic compounds polluted waters.**

S09-P-013

**Gessica De Oliveira Santiago Santos** (Chemical Engineering Department, University of Castilla-La Mancha, CIUDAD REAL, Spain), Laís Gimenes Vernasqui, Taynara Oliveira Silva, Marcos Roberto Vasconcelos Lanza, Neidenêi Gomes Ferreira, Manuel Andrés Rodrigo Rodrigo

**Ultranano and micro-BDDs for electrochemical disinfection in real contaminated water: A comparative study.**

S09-P-014

**Jing Ding** (School of Envrionment, Harbin Institute of Technology, Harbin, China)

**Boosting Organics Degradation via Sulfite Activation by Fe/Mn@CF Composite Electrode: Performance and Mechanism.**

S09-P-015

**Maria El Khoueiry** (ICMNO, Université Paris-Saclay, Orsay, France), Clément Falaise, Nathalie Lederc, Serge Albacha, Emmanuel Cadot, Loïc Assaud

**Development of Highly Efficient Mo-S-based Electrocatalysts for the Hydrogen Evolution Reaction in PEM Electrolysis.**

S09-P-016

**Tuncay Erdil** (Metallurgical and Materials Engineering, Middle East Technical University, Ankara, Turkey), Cigdem Toparli

**Multi-Cationic High Entropy Perovskite Oxides for Electrocatalytic Oxygen Evolution and Oxygen Reduction Reactions.**
S09-P-017  
**Shohreh Faridi** *(Chemistry, University Duisburg-Essen, Essen, Germany)*, Kai S. Exner  
*Computational Study of Chlorine and Oxygen Evolution on MXenes*

S09-P-018  
**Leandro A. Faustino** *(Institute of Chemistry, Universidade de São Paulo, São Paulo, Brazil)*, Leandro A. Faustino, Eduardo C. Melo, Paulo F. O. Marques, Susana I. C. Torresi  
*Electrocataytic properties of BiVO₄/BiFeO₃ and Ag@BiVO₄/BiFeO₃ towards N₂ and CO₂ reduction*

S09-P-019  
**Shilong Fu** *(Process & Energy, TU Delft, Delft, Netherlands)*, Asvin Sajeev Kumar, Ming Li, Wiebren De Jong, Ruud Kortlever  
*Electrochemical CO₂ Reduction in the Presence of SO₂ Impurities on a Nitrogen-doped Carbon Electrocatalyst*

S09-P-020  
**Rafael Garduno Ibarra** *(Ircelyon, CNRS, VILLEURBANNE, France)*, Manon Poully, Philippe Vernoux, Antoinette Boreave, Frederic Dappozze, Jesus Gonzalez-Cobos, Valérie Meille, Mathieu Prévot, Laurence Retailleau-Meval  
*Selective electrooxidation of 5-HMF on Ni₁₋ₓCuₓ based anode materials*

S09-P-021  
**Clara Gohlke** *(Electrochemical Reaction Engineering, RWTH Aachen University, Aachen, Germany)*, Hannah Ingendae, Johann Kautz, Anna K. Mechler  
*Optimized Electrochemical Activation of Ni-based Electrodes for the Oxygen Evolution Reaction*

S09-P-022  
**Shuyan Guan** *(School of Environment, Harbin Institute of Technology, Harbin, China)*, Jing Ding, Qingliang Zhao  
*Unveiling the Role of Persulfate in Electrocoagulation Process to Remove Organics in Bio-treated Landfill Leachate: Transformation Pathways and Material Flow Analysis*

S09-P-023  
**Anna B Gunnarsdóttir** *(Faculty of Engineering, University of Iceland, Reykjavik, Iceland)*, Egill Skúlason, Helga D Flosadóttir  
*Screening of Transition Metal Nitrides as Electrocatalysts for Nitrogen Reduction using Operando Ammonia Quantification*

S09-P-024  
**Julian Hörndl** *(Chemistry and Physics of Materials, University Salzburg, Salzburg, Austria)*, Simone Pokrant  
*Fabrication techniques for BiVO₄ based photoanodes*

S09-P-025  
**Árni Björn Höskuldsson** *(Science Institute, University of Iceland, Reykjavik, Iceland)*, Ebrahim Tayyebi, Egill Skúlason  
*Designing novel catalysts for electrochemical ammonia synthesis*

S09-P-026  
**Jiho Jeon** *(Clean Energy Research Center, Korea Institute of Science and Technology, Seoul, Korea)*, Hyeon-Seok Bang, Jae-Young Choi, Hyung-Suk Oh  
*One-Dimensional Van der Waals Material SnIP as a Template for Electrochemical CO₂ Reduction Reaction Catalysts*
S09-P-027  
**Mikolaj Kozak** *(Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Faculty of Chemistry, Krakow, Poland)*, Ana Araujo, Lifeng Liu, Grzegorz Sulka, Agnieszka Brzozka  
**Electrochemical-thermal synthesis of cobalt selenide nanomaterials for hydrogen evolution reaction.**

S09-P-028  
**Pramod Patil Kunturu** *(CEPEA, DIFFER, Eindhoven, Netherlands)*, Marek Lavorenti, Susanta Bera, Hannah Johnson, Sachin Kinge, Mauritius C.M. van de Sanden, Mihalis N Tsampas  
**Scaling up bias-free solar hydrogen production in zero-gap polymeric electrolyte membranes-based photoelectrochemical cells with abundant materials.**

S09-P-029  
**Hanh Vi Le** *(Institute FOTON, INSA de Rennes, Rennes, France)*, Mekan Piriyev, Gabriel Loget, Bruno Fabre, Tony Rohel, Karin Tavernier, Julie Le Pouliquen, Rozenn-Gautheron Bernard, Yoan Léger, Nicolas Bertru, Charles Cornet  
**Performance of epitaxial GaAs/Si vs GaAs photocathodes for solar hydrogen production.**

S09-P-030  
**Peng Li** *(College of Chemistry and Molecular Sciences, Wuhan University, Wuhan, China)*, Peng Li, Yuzhou Jiao, Yana Men, Shengli Chen  
**Interface Mechanism of the Dramatic Activity Gap of Metal-Nitrogen-Carbon Catalysts for ORR in Alkaline and Acid.**

S09-P-031  
**Lifeng Liu** *(Clean Energy Cluster, International Iberian Nanotechnology Laboratory, Braga, Portugal)*, Zhipeng Yu  
**Self-supported Bifunctional Integrated Nickel-Iron Phosphosulfide Nanotube Electrodes for Efficient and Stable Seawater Electrolysis.**

S09-P-032  
**Sanela Martic** *(Forensic Science, Environmental and Life Science, Trent University, Peterborough, Canada)*  
**Tuning Reaction Selectivity and Yield for Carbon-Carbon Bond Formation from Substituted Phenols.**

S09-P-033  
**Efrosyni Mitrousi** *(Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece)*, Aikaterini Touni, Efrosyni Mitrousi, Angeliki Banti, Eleni Pavlidou, Athanasios Chatzitakis, Sotiris Sotiropoulos  
**IrO$_2$-decorated Titania Nanotubes as Oxygen Evolution Anodes.**

S09-P-034  
**Efrosyni Mitrousi** *(Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece)*, Aikaterini Touni, Ioanna Kiourtsi, Efrosyni Mitrousi, Sotiris Sotiropoulos  
**IrOx-Pt and IrOx-RuOx Coatings on Ti Substrates as Oxygen Evolution Anodes.**

S09-P-035  
**Mohsin Muhyuddin** *(Materials Science, University of Milano Bicocca, Milan, Italy)*, Mohsin Muhyuddin, Silvia Mostoni, Roberto Scotti, Massimiliano D’Arienzo, Carlo Santoro  
**New synthetic strategies for obtaining atomically dispersed Fe-N-C electrocatalysts for oxygen reduction reaction.**

S09-P-036  
**Kaito Nagita** *(Graduate School of Engineering Science, Osaka University, Toyonaka, Japan)*, Shuji Nakanishi, Yoshiharu Mukouyama  
**Finite Element Modeling of the Dynamic Changes of Local pH in a Porous Electrode.**
S09-P-037  
**Pegah Nazari** *(Chemistry, Aarhus university, Aarhus, Denmark)*  
*Surface Restructure by Spontaneous Diazonium Grafting to Improve Copper Performance in Electrochemical CO₂ Reduction to C₂ Products.*

S09-P-038  
**Nebojsa Nikolic** *(Department of electrochemistry, University of Belgrade, ICTM, Belgrade, Serbia), Jelena Lovic, Nenad Ignjatovic, Silvana Dimitrijevic*  
*Influence of Morphology of Sn Dendrites as Sub-layer on Electrocatalytic Performance of Sn-Pd Electrocatalysts.*

S09-P-039  
**Jakob Praxmair** *(Chemistry and Physics of Materials, University of Salzburg, Salzburg, Austria), Simone Pokrant*  
*Co-based Cocatalyst (Photo-) Deposition on BiVO₄ and LaTiO₂N for Solar Water Splitting.*

S09-P-040  
**Samuel Robertshaw** *(Chemistry, Lancaster University, Lancaster, United Kingdom), Kathryn Toghill*  
*Powder to Power: Towards efficient MXene-based electrodes for catalysis.*

S09-P-041  
*High-Throughput Electrochemical Half-Cell Testing of Realistic Catalyst Layers for Proton Exchange Membrane Water Electrolysis.*

S09-P-042  
**Cristina Saez** *(Ingeniería Química, Universidad de Castilla - La Mancha, Albacete, Spain), Sergio E. Correia, Raúl Sanz, Engracia Lacasa, Pablo Cañizares, Manuel A. Rodrigo, Víctor Pertegal*  
*Inactivation of airborne pathogens by coupling chlorine-based processes to the thermal installations in hospitals for indoor air cleaning.*

S09-P-043  
**Cristina Saez** *(Department of Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain), Víctor Pertegal, Engracia Lacasa, Pablo Cañizares, Manuel A. Rodrigo, Sergio E. Correia*  
*Inactivation of Klebsiella pneumoniae in hospital effluents by electrochemical ozone generation.*

S09-P-044  
**Erica Anne Schmitt** *(Institute of Physical and Theoretical Chemistry, Universität Tübingen, Tübingen, Germany), Margot Guidat, Maximilian Diecke, Daniel Lörch, Marco Flieg, Max Nushöhr, Anna-Lena Renz, Moritz Kölbach, Matthias Manfred May*  
*Photoelectrochemical Catalyst Deposition on III-V Semiconductor Photoelectrodes for Direct Solar Water Splitting.*

S09-P-045  
**Chhavi Sharma** *(Department of Physics, University of Bath, Bath, United Kingdom), Chhavi Sharma, Yuvraj Singh Negi, Sara Dale*  
*Conducting Polymer/2D Material Composites Electrodeposited from Ionic Liquids for Hydrogen Evolution.*

S09-P-046  
**Lalita Sharma** *(Nanocatalysis, J. Heyrovsky Institute of Physical Chemistry, Prague 8, Czech Republic), Roman Nebel*  
*Photo-electrochemical Water Oxidation of Single Phase Tungsten Molybdenum Mixed Oxides in Acidic Medium.*
S09-P-047  
**Kang Shi** *(Department of Chemistry, Xiamen University, Xiamen, China)*, Liang-Liang Zhang, Kang-Kang Feng  
**Adsorption-Electrochemical Reduction Method for Preparing Highly Dispersed Platinum Catalysts on the Electrochemically Pretreated Surface of Hard Carbon Materials.**

S09-P-048  
**Diwakar Singh** *(Theoretical Inorganic Chemistry, University of Duisburg-Essen, Essen, Germany)*, Samad Razzaq, Kai S. Exner  
**Theoretical Study of Nitrogen Reduction Reaction over MXenes.**

S09-P-049  
**Jose Solla-Gullon** *(Institute of Electrochemistry, University of Alicante, Alicante, Spain)*, Kevin Fernández-Caso, Ailen Peña-Rodríguez, Guillermo Díaz-Sainz, Manuel Álvarez-Guerra, Angel Irabien, Vicente Montiel  
**Continuous CO₂ Electroreduction to Formate Coupled with Single-pass Glycerol Electrooxidation to High Value-added Products.**

S09-P-050  
**Wanmai Srisuwanno** *(School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology, Rayong, Thailand)*, Chularat Wattanakit, Alexander Kuhn  
**Autonomous Chiral Encoded Metal-Microswimmers for Enantioselective Synthesis.**

S09-P-051  
**Abdoulaye Thiam** *(Programa institucional de fomento a la I+D+i., Universidad Tecnológica Metropolitana, Santiago, Chile)*, Felipe Gamboa-Savoy, Natalia Hassan  
**CuFe₂O₄@MIL-100(Fe) as Heterogeneous Catalyst for Emerging Contaminant Degradation in Water by Photo-assisted Electrochemical Fenton’s based Process.**

S09-P-052  
**Sebastian Tigges** *(Heterogeneous Catalysis, Max-Planck-Institute for Chemical Energy Conversion, Mülheim an der Ruhr; Germany)*, Michael Poschmann, Walid Hetaba, Walter Leitner, Saskia Heumann  
**Plasma-enhanced modification of nickel meshes for use in industrial water electrolysis.**

S09-P-053  
**Xin Wang** *(Analytical Chemistry – Center for Electrochemical Sciences, Ruhr-University Bochum, Bochum, Germany)*, Wenhui He, Jialin Shi, João R. C. Junqueira, Jian Zhang, Stefan Dieckhöfer, Sabine Seisel, Debanjan Das, Wolfgang Schuhmann  
**Ag-induced Phase Transition of Bi₂O₃ Nanofibers for Enhanced Energy Conversion Efficiency in CO₂ Electroreduction towards Formate.**

S09-P-054  
**Chao Wang** *(Department of Chemistry, College of Chemistry and Chemical E, Xiamen University, Xiamen, China)*  
**Electrodeposited 3-Dimensional Microporous Poly(cobalt-porphyrin) Film for Effective Electrochemical CO₂ Reduction.**

S09-P-055  
**Yuelin Xie** *(Laboratoire de Réactivité de Surface, Sorbonne Université, Paris, France)*, Vincent Vivier, Mireille Turmine  
**Electrosynthesis of Ni-Co Amorphous and Nanocrystalline Alloys from Protonic Ionic Liquid for Electrocatalytic Hydrogen Evolution Reaction.**
S09-P-056

Jiahao Yu (Institute of Chemical Research of Catalonia, Institute of Chemical Research of Catalonia, Tarragona, Spain)

A survey of earth abundant metal oxides as oxygen evolution electrocatalysts in acidic media (pH < 1).

S09-P-057

Fotios Zaravelis (ICEHT, FORTH, Patras, Greece), Athina Souvalioti, Dimitris Niakolas, Stylianos Neophytides


S09-P-058

Lele Zhao (Facultat de Química, Secció de Química Física, Universitat de Barcelona, Barcelona, Spain), María F. Murrieta, Claudio Salazar, Núria Escaja, Francisco Alcaide, Pere L. Cabot, Ignasi Sirés

Hydroxyl Radical-Mediated Electrolytic Depolymerization of Lignin.

Symposium 10

Electrochemical systems and engineering for energy storage and resources recovery and sustainable environmental management

S10-P-001

Vahid Abbasi (Mechanical and Materials Engineering, University of Turku, Turku, Finland), Pekka Peljo

Biphasic Membrane-less Redox Flow Batteries.

S10-P-002

Yanis Adjez (Laboratoire Interfaces Systèmes Electrochimiques - UMR 8235, Sorbonne university, Paris, France), Jalal Ghilane, Carlos Sánchez-Sánchez

Surface Engineering by Imidazolium Immobilization for Boosting Nitrate Removal on Copper Electrode.

S10-P-003

Lucia Alvarado (Engineering of Mines, Metallurgy and Geology, University of Guanajuato, Guanajuato, Mexico), Michel Campa, Robert Herrejon, Guadalupe Vazquez, Juan Carlos Baltazar, Martín Caudillo, Mercedes Salazar, Edna Jasso

Treatment of Synthetic Solutions Containing Metallic Ions using a Galvanic System.

S10-P-004

Lucia Alvardo (Engineering of Mines, Metallurgy and Geology, University of Guanajuato, Guanajuato, Mexico), Juan Carlos Martinez, Guadalupe Vazquez, Juan Carlos Baltazar, Martín Caudillo, Edna Thalia Jasso

Lithium recovery from multi-ionic solution through an Electrodialysis System.

S10-P-005

Andrea Nataly Arias Sanchez (Department of Chemical Engineering, University of Castilla - La Mancha, Ciudad Real, Spain), Iñaki Requena, Andrea Arias Sanchez, Mahmoud M. Gomaa, Manuel Andres Rodrigo Rodrigo, Justo Lobato Bajo

Development of an EDEN Technology-based Sustainable Energy Regulation System.
S10-P-006  
**Maksim Bahdanchyk** (Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milano, Italy), Xinyue Ren, Jacopo Manidi, Antonello Vicenzo  
Electrodeposited Na-Birnessite on Carbon Cloth as Positive Electrode for Capacitive Deionization

S10-P-007  
**Maksim Bahdanchyk** (Dipartimento di Chimica, Materiali e Ingegneria Chimica, Politecnico di Milano, Milano, Italy), Nidhin Thekkedath Madhu, Jacopo Manidi, Antonello Vicenzo  
Evaluation of Co-Ion Desorption and Faradaic Losses in Capacitive Deionization

S10-P-008  
**Olivier Befolo** (Applied Sciences, Hochschule Coburg, Coburg, Germany)  
Trace Analysis of Metal(II) Pyrithiones in Building Materials by means of Adsorptive Stripping Voltammetry.

S10-P-009  
**Tom Breugelmans** (Applied Electrochemistry and Catalysis (ELCAT), University of Antwerp, Antwerpen, Belgium), Jonathan Schalck, Jonas Hereijgers  
A CO$_2$-free production of Ethylene Oxide through a Bromide Mediated Electrosynthesis in a Tandem Recycle Flow Reactor

S10-P-010  
**Mariela Brites Helu** (LCPME, Université de Lorraine, Villers les Nancy, France), Ranine El Hage, Mathieu Etienne  
Enhancing Mass Transfer and Performance of Redox Flow Batteries through Structured Carbon Felts and 3D printed Electrodes

S10-P-011  
**Iris Burgers** (Process and Energy, Technical University Delft, Delft, Netherlands), Nandala Girichandran, Elena Pérez-Gallent, Ruud Kortlever, Earl Goetheer  
Integrating CO$_2$ capture and Electrochemical Conversion Using a Bicarbonate Flow Cell with a Cu/Ag Foam Electrode Configuration

S10-P-012  
**Christian Candia Onfray** (Edificio de Ciencia y Tecnologia, Universidad Tecnológica Metropolitana, Santiago, Chile), Abdoulaye Thiam  
NSAID Electrochemical Degradation using a Binary Electro-Fenton Catalyst obtained from Biomass Waste and CuFe Nanoparticles

S10-P-013  
**Sai Venkata Akhil Kumar Challuri** (Applied Electrochemistry, Fraunhofer Institute for Chemical Technology, Pfinztal, Germany), Jens Noack  
The Impedance of an Iron/Iron Redox Flow Battery at Different State of Charge Conditions – A Distribution of Relaxation Times Analysis

S10-P-014  
**Yifat Cohen** (Biotechnology and Food Engineering, Technion, Haifa, Israel), Matan M. Meirovich, Yara Zeibaq, Omer Yehezkeli  
Hemin as a Catalyst for Artificial Nitrogenase Mimicry

S10-P-015  
**Hamideh Darjazi** (Applied Science and Technology, Politecnico di Torino, Torino, Italy), Alessandro Piovano, Matteo Bonomo, Michele Chierotti, Claudia Barolo, Giuseppina Meligrana, Alberto Fina, Giuseppe Antonio Elia, Claudio Gerbaldi  
Efficient recycling of polyvinyl butyral from laminated glass construction wastes in battery applications in a circular economy approach.
S10-P-016
Elisama Dos Santos (School of Science and Technology, Federal University of Rio Grande do Norte, Natal, Brazil), Jussara C. Cardozo, Izaias C. da Paixao, Suely S. M. de Paiva, Carlos A. Martinez-Huitle, Elisama V. dos Santos
Depolymerization of lignin in an electrochemical membrane reactor combined with hydrogen production

S10-P-017
Elisama Dos Santos (School of Science and Technology, Federal University of Rio Grande do Norte, Natal, Brazil), Herbet L. Oliveira, Thalita M. Barros, Jose E. L. Santos, Amanda D. Gondim, Marco Quiroz, Carlos A. Martinez-Huitle, Elisama Vieira dos Santos
Hydrogen fuel generation from electrochemical wastewater treatment: a new arising concept for energy source

S10-P-018
Louis Dubrulle (DTNM - LITEN, CEA, Grenoble, France), Parviz Hajiyev, Matthieu Koepf, Christophe Coutanceau
Lithium Electro-Mediated Ammonia Synthesis for Energy Transport and Storage

S10-P-019
Nastaran Farah Bakhsh (Chemistry and Structure of novel Materials, University of Siegen, Siegen, Germany), Majid Shohansaei, Sina Hejazi, Patrick Hartwich, Shiva Mohajernia, Manuela S. Killian
Highly Active Nanostructured Nickel Sub Oxides for Oxygen Evolution Reaction

S10-P-020
Reza Fayaz (Chemical Process Engineering (CVT), University of Bremen, Bremen, Germany), Ingmar Bosing, Jorg Thoming, Fabio La Mantia
Deoxygenation Electrolysis of Hematite in Alkaline Solution – Impacts of Anode Type, Atmosphere, and Cell Configuration on Reduction Efficiency

S10-P-021
Eliana Fuentes Mendoza (Institute for Applied Materials, Karlsruhe Institute of Technology, Karlsruhe, Germany), Rafael Cordoba Rojano, Noha Sabi, Sonia Dsoke
CoSeBased Materials as Positive Electrodes for Aluminum Batteries

S10-P-022
Matteo Gastaldi (Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy), Francesco Gambino, Giuseppina Meligrana, Giuseppe Antonio Elia, Claudio Gerbaldi
Advanced polymer-based electrolytes for safe, high-voltage solid state lithium metal batteries

S10-P-023
Katarzyna Grochowska (Centre for Plasma and Laser Engineering, Institute of Fluid-Flow Machinery Polish Academy of Sciences, Gdansk, Poland), Ameer Nasih Kottathara Valiyakath, Saiful Islam Khan, Katarzyna Siudzak
Selective Laser Patterning of The Titania Nanotubes Toward Unique Photonic Structure For Energy Conversion

S10-P-024
Sang-hyeon Ha (Material and Energy center, Agency for Defense Development, Daejeon, Korea), Sang-hyeon Ha, Jaein Lee, Ahn-tae Young, Yusong Choi
Large-area electrode manufacturing method using light-weight metal foam for thermally activated battery

S10-P-025
Ji-Hyung Han (Jeju Global Research Center, Korea Institute of Energy Research, Jeju, Korea)
Experimental Visualization of Leakage Current in Reverse Electro dialysis and its effect on Inorganic Precipitates
S10-P-026  
**Quan-Feng He** (College of Chemistry and Chemical Engineering, xiamen university, xiamen, China), Quan-Feng He, Jian-Feng Li, Dongping Zhan  
**Electrochemical Storage of Hydrogen on Graphene**

S10-P-027  
**José Herrera-Muñoz** (Química de los Materiales, Universidad de Santiago de Chile, Santiago, Chile), Alejandro Cabrera Reina, Sara Miralles Cuevas, Carla Toledo-Neira, Samuel Piña, Ricardo Salazar-González  
**Removal of contaminants of emerging concern from secondary effluent by Solar photoelectro-Fenton process at circumneutral pH in a Solar Electrochemical Raceway Pond Reactor**

S10-P-028  
**Chaenam Im** (Defense materials & energy technology center, Agency for Defense Development, Daejeon, Korea), Sang-Hyeon Ha, Hye-Ryeon Yu, Yusong Choi  
**Electrochemical Properties of Lithium Anode for Thermal Batteries**

S10-P-029  
**Vasil Karastoyanov** (Physical Chemistry, UCTM, Sofia 1756, Bulgaria), Martin Bojinov Iva Betova  
**In-situ investigation of anodic oxidation of tungsten in sulfate-fluoride solutions**

S10-P-030  
**Jinheung Kim** (Chemistry & Nanoscience, Ewha Womans University, Seoul, Korea)  
**Photoelectrochemical Cells: Solar-driven Conversion of CO₂ to Formate by Biomimetic Metal Complexes**

S10-P-031  
**Jiwon Kim** (Chemical and Biomolecular Engineering, Yonsei University, Seoul, Korea), Jae Hyung Kim, Cheoulwoo Oh, Hyung-Suk Oh, Jong Hyeok Park  
**Highly Selective Methane Oxidation to Formic Acid via in-situ ORR under Ambient Conditions**

S10-P-032  
**Nayeong Kim** (Department of Chemical and Biomolecular Engineering, University of Illinois at Urbana-Champaign, Urbana, USA), Vijaya Sundar Jeyaraj, Johannes Elbert, Sung Jin Seo, Alexander V. Mironenko, Xiao Su  
**Electrochemically switchable halogen bonding for selective electrosorption in non-aqueous media**

S10-P-033  
**Jiyoung Kim** (Chemistry and Chemical Engineering, Inha University, Incheon, Korea), JeongEun Yoo, Kiyoung Lee  
**Synthesis of Ni-Fe hydroxide-based catalysts to enhance oxygen evolution reaction for water electrolysis**

S10-P-034  
**Adarsh Koul** (Lehrstuhl für Analytische Chemie und Zentrum für Elektrochem, Ruhr-Universität Bochum, Bochum, Germany), Shubhadeep Chandra, Ieva A. Cechanaviciutė, Wolfgang Schuhmann  
**Ni-foam modified electrodes for epoxidation of cyclooctene**

S10-P-035  
**Jaewon Lee** (Department of Chemistry and Chemical Engineering, Inha university, incheon, Korea), JeongEun Yoo, Kiyoung Lee  
**Formation of Electrodeposited NiFe Catalysts for Anion Exchange Membrane Water Electrolysis**
S10-P-036
**Javier Llanos** (Department of Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain), Yelitza Delgado-González, Natalia Tapia, Martin Muñoz-Morales, Ignacio T. Vargas, Francisco J. Fernández-Morales

*Effect of Hydrochar Doping on Energy and Copper Recovery from Acid Mine Drainage by Microbial Fuel Cells.*

S10-P-037
**Pengfei Ma Ma** (Department of Chemical Engineering, Taiyuan University of Technology, Taiyuan, China)

*Assisted Reverse Electrodialysis for CO$_2$ Electrochemical Conversion and Treatment of Wastewater.*

S10-P-038
**Eduardo Martínez González** (Department of Mechanical and Materials Engineering, University of Turku, Turku, Finland), Ali Tuna, Pekka Peljo

*Phenoxazine Derivatives as Negolyte and Posolyte Materials for Aqueous Redox Flow Batteries.*

S10-P-039
**Carlos A. Martínez-Huitle** (Institute of Chemistry, Federal University of Rio Grande do Norte, Natal, Brazil), Suelya da S. Mendonça da Paiva, José Eudes Lima Santos, Jussara Câmara Cardozo, Maria Valnice Boldrin Zanoni, Marco A. Quiroz, Djalma Ribeiro da Silva, Danyelle Medeiros de Araújo, Carlos A. Martínez-Huitle, Elisama Vieira dos Santos

*Photovoltaic electrochemically-driven degradation of organic pollutants with simultaneous green hydrogen production.*

S10-P-040
**Marco Mazzucato** (Chemical Science, University of Padova, Padova, Italy), Enrico Tognella, Marco Cattelan, Mattia Parmigotto, Giorgia Daniel, Silvia Cazzanti, Christian Durante

*Enhancing Lead Acid Battery Charging/Discharging Performances by addition of Nanocarbons in Positive Active Mass.*

S10-P-041
**Glen McClea** (Department of Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand), Aaron T. Marshall

*Development of TiO$_2$/BiVO$_4$ Photoanodes for the Simultaneous Production of Hydrogen and Treatment of Wastewater.*

S10-P-042
**Fernando Moraes** (Chemistry, Federal University of São Carlos, São Carlos, Brazil), Maria Helena Alves Feitosa, Anderson Martin Santos, Ademar Wong, Esther M Angelini

*Ciprofloxacin Degradation by Photo-electrocatalysis Using a Photoanode Composed of Hematite Modified With a Bismuth-based Compound.*

S10-P-043
**Jaeyong Park** (Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Seoul, Korea), Woong Hee Lee, Hyung-Suk Oh

*Strategy to achieve a high CO$_2$RR using a zero-gap electrolyzer with cation exchange membrane.*

S10-P-044
**Olga Pastushok** (Department of Separation Science, LUT University, Mikkeli, Finland), Anna Iurchenkova, Eveliina Repo, Ekaterina Laakso

*Mechanisms of the Capacitive Deionization of Polypyrrole/Cellulose Electrodes towards Nitrate and Phosphate Ions.*
S10-P-046
Milda Petruleviciene (Chemical Engineering and Technology, Center for physical science and technology, Vilnius, Lithuania), Irena Savickaja, Asta Griguceviciene, Arnas Naujokaitis, Rimantas Ramanauskas, Jurga Juodkazyte
Towards photoelectrochemical splitting of seawater

S10-P-047
Anetta Platek-Mielczarek (Department of Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland), Johanna Lang, Feline Töpperwien, Dario Walde, Muriel Scherer, Thomas M. Schutzius
Engineering Osmotic Energy Harvesting Device to maximize the Net Power Output

S10-P-048
Silvia Porporato (Department of Applied Science and Technology, Polytechnic of Turin, Torino, Italy), Matteo Gastaldi, Alessandro Piovano, Giuseppina Meligrana, Giuseppe A. Elia, Andrea Balducci, Claudio Gerbaldi
Innovative Polymeric Materials for Sodium-ion Batteries

S10-P-049
Daria Roda (Chemistry and Technology of Functional Material, Gdansk University of Technology, Gdansk, Poland), Daria Roda, Konrad Trzcinski, Miroslaw Sawczak, Anna Ilnicka, Andrzej Nowak, Mariusz Szkoda
ZnIn$_2$S$_4$ fabricated by pulsed laser deposition as photoanode for photoelectrochemical water splitting

S10-P-050
Anaira Román Santiago (Chemical and Biomolecular Engineering, University of Illinois Urbana Champaign, Urbana, USA), Song Yin, Johannes Elbert, Jiho Lee, Diwakar Shukla, Xiao Su
Design of Fluorophilic Copolymers for Electrochemically Mediated Separation of Short-Chain Perfluoroalkyl Substances

S10-P-051
Vera Roth (Physics, Chalmers University of Technology, Gothenburg, Sweden), Vera Roth, Julia Järlebark, Teodora Retegan Vollmer, Björn Wickman
Electrochemical Alloy Formation on Platinum for Mercury Decontamination of Concentrated Sulfuric Acid

S10-P-052
Nicola Seraphim (Grand Technion Energy Program, Technion, Haifa, Israel), Eliyahu Farber, David Eisenberg
How Pore Connectivity Governs Electrochemistry

S10-P-053
Albert Serrà (Ciència de Materials i Química Física, Universitat de Barcelona, Barcelona, Spain), Elvira Gómez
Electrolessly Functionalized Pollen Microstructures for Visible-Light-Driven Photocatalytic Pollutant Degradation

S10-P-054
Albert Serrà (Ciència de Materials i Química Física, Universitat de Barcelona, Barcelona, Spain), Elvira Gómez
Electrodeposition of CoNi-based PMS Catalysts for Enhanced Mineralization of Antibiotics and Biotoxins

S10-P-055
Mor Shemesh (Biotechnology and Food engineering, Technion, Haifa, Israel), Yifat Cohen, Roy Cohen, Matan M. Meirovich, Nidaa S. Herzallh, Oleg Chmelnik, Yuval Shoham, Omer Yehezkel
Photo-bio-electrochemical cell for Light-driven, Bias-free Conversion of cellulose to electrical power
S10-P-056

**Jani Shibuya (Chemistry, University of Aberdeen, Aberdeen, United Kingdom)**, Donald Macphee, Angel Cuesta

*Study of an Acid-Base Flow Battery for Simultaneous Seawater Desalination and Energy Storage*

S10-P-057

**Dongwoo Shin (Department of Chemistry, Seoul National University, Seoul, Korea)**, Yeongbae Jeon, Shinmyeong Kang, Yewon Hong

*Enhancing the Electrochemical Nitrogen Reduction Reactions in Non-aqueous Lithium-mediated Systems through Interface Modulations*

S10-P-058

**Gaurav Kumar Silori (Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan)**

*Tailoring Filler Induced Gel-polymer Electrolytes for Efficient Electrochromic Devices*

S10-P-059

**Katarzyna Siuzdak (Centre of Plasma and Laser Engineering, The Institute of Fluid Flow Machinery, Gdansk, Poland)**, Dujearic Kouao, Katarzyna Grochowska, Vit Stranak, Jan Hanus, Petr Sezemsky, Ondrej Kylian, Radka Simerova

*Ordered Titanium Dioxide Nanotubes Formed on The Flat And Fiber Semitransparent Substrates as a Unique Photoelectrode Platform*

S10-P-060

**Daniel Smith (Chemistry, Lancaster University, Lancaster, United Kingdom)**, Niamh Owen, Ashley Basson, Mark McLaughlin, Kathryn Toghill

*Functionalised Isoindolinone-based Redox-active Molecules for Electrochemical Energy Storage*

S10-P-061

**Daniel Smith (Chemistry, Lancaster University, Lancaster, United Kingdom)**, Dhruv Trevedi, Kathryn Toghill

*Electrochemistry-coupled Mass Spectrometry in Studies of the Carbon Dioxide Reduction Reaction*

S10-P-062

**Letizia Sorti (Chemistry, Università degli Studi di Milano, Milan, Italy)**, Fiammetta Vitulano, Carlo F. Morelli, Fulvio Uggeri, Alessandro Minguzzi, Alberto Vertova

*Study of Electrochemical Iodination and Deiodination Processes for Green Synthesis and Wastewater Treatment*

S10-P-063

**Shir Tabac (Chemistry, Technion, Haifa, Israel)**, David Eisenberg

*Disciplining Biomass – Chemical and Physical Activation of Waste Coffee Grounds Towards Precise Carbon Catalysts for Hydrazine Oxidation*

S10-P-064

**Samet Usta (Metallurgical & Materials Engineering, SAKARYA UNIVERSITY, Serdivan, Turkey)**, Mustafa Celik, Hatem Akbulut, Mahmud Tokur, Tugrul Cetinkaya

*Decreasing Weight and Cost of Li-Ion Battery Electrodes by Screen-Printed Current Collectors*

S10-P-065

**Annalisa Vacca (Dipartimento di Ingegneria Meccanica,Chimica e dei Materiali, Università degli Studi di Cagliari, Cagliari, Italy)**, Michele Mascia, Nicola Melis, Simonetta Palmas, Laura Mais

*Assessing the Performance of a Stack of Continuous-Flow Microbial Fuel Cells with MnOx-based Membrane Cathode Assembly*
S10-P-066

Jorge Vidal (Ingeniería y Ciencias Aplicadas, Universidad de Los Andes, Santiago, Chile), Maria Báez
Behavior of chlorpyrifos and 3,5,6-trichloro-2-pyridinol (TCP) in a sodium-dodecyl sulphate-electrokinetic soil washing system.

S10-P-067

Brian Villanueva Martínez (Electrochemical Processes, Laboratoire de Génie Chimique, Université Paul Sabatier, Toulouse, France), Hubert Odier, Clemence Coetsier, Karine Groenen Serrano
Electrochemical Characterization of Porous Sub-stoichiometric Titanium Oxide (TiOx) Used as a Reactive Electrochemical Membrane for Bio-refractory Pollutants Removal.

S10-P-068

Mengxi Wen (LRGP, Université de Lorraine, Nancy, France)
Direct Hybridization of a Membrane Fuel Cell by Batteries for Flexible Suburban Transport.

S10-P-069

Ewelina Wierzynska (Faculty of Chemistry, University of Warsaw, Warsaw, Poland), Klaudia Korytkowska, Tomasz Lecki, Kamila Zarebska, Magdalena Skompska
Enhanced Photocatalytic Activity of g-C$_3$N$_4$ Reduced by NaBH$_4$.

S10-P-070

Jenna Geralde Yanke Mbokana (School of Chemistry and Biosciences, University of Bradford, Bradford, United Kingdom), Gustave Kenne Dedzo, Emmanuel Ngameni
Influence of the Solvent on the Grafting of an Organophilic Silane on the Surface of Smectite Clay: Elaboration of Modified Sensors and Application to a Pesticide Detection.

S10-P-071

Kamila Zarebska (Faculty of Chemistry, University of Warsaw, Warsaw, Poland), Tomasz Lecki, Hesham Hamad, Magdalena Skompska
BiVO$_4$ Doped with W for Photocatalysis and Photoelectrocatalysis.

S10-P-072

Eugen Zemlyanushin (Applied Materials, Karlsruhe Institute of Technology, Karlsruhe, Germany), Sonia Dsoke
Impact of Polyvinylidene fluoride on the stability of Aluminum Batteries and the use of Polyvinylidene chloride as an appropriate alternative.

S10-P-073

Yuxiang Zhou (Department of Materials, Imperial College London, London, United Kingdom), Ayman El-Zoka, Rose Oates, Ifan Stephens, Mary Ryan
Strain Engineering of Nano-porous Cu for Electrochemical CO$_2$ Reduction.

S10-P-074

Qingqing Zhou (School of Environment, Zhejiang University of Technology, Hangzhou, China), Hao Hu, Qingqing Zhou, Zhongyuan Wang, Jiade Wang
Interstitial atomic carbon-doped 1T MoS$_2$ bifunctional electrode for direct electrolysis of H$_2$S to produce H$_2$ and S.

S10-P-075

Thierry Slot (Schulich Faculty of Chemistry, Technion–Israel Institute of Technology, Haifa, Israel), David Eisenberg
Ammonia! From Air?
Symposium 11 New materials for electroanalysis

S11-P-001
Geovane Arruda de Oliveira (Faculty of Chemistry and Biochemistry, Ruhr-Universität Bochum, Bochum, Germany), Emmanuel Batsa Tetteh, Olga Anna Krysiak, Lars Banko, Alfred Ludwig, Wolfgang Schuhmann
Screening CoFeNi Thin-Film Material Library Electro catalysts for Electrochemical CO₂ Reduction Reaction

S11-P-002
Daciana Botta (Laboratory of Functional Nanostructures, National Institute of Materials Physics, Magurele, Romania), Alexandru Evanghelidis, Mihaela Beregoi, Elena Matei, Ionut Enculescu, Victor Diculescu
Microfluidic Devices with Conductive Electro spun Polymeric Fibers

S11-P-003
Silvia Comis (Chemistry, University of Milan, Milan, Italy), Sara Grecchi, Daniele Fumagalli, Daniele Crespi, Valentina Pifferi, Tiziana Benincori, Serena Arnaboldi, Patrizia Mussini, Luigi Falciola
Electrochemical Sensors Based on Multi-Walled Carbon Nanotubes (MWCNTs) and BT₂T₄ Oligomers for Enantiomeric Discrimination.

S11-P-004
Andreea Costas (Functional Nanostructures, National Institute of Materials Physics, Magurele, Romania), Nicoleta Preda, Andrei Kuncser, Mihaela Bunea, Victor Diculescu, Ionut Enculescu
ZnO-ZnSe core-shell nanowires based devices for sensing applications

S11-P-005
Melinda David (Faculty of Electrical Engineering and Computer Science, Transilvania University of Brasov, Brasov, Romania), Teodor A. Enache, Lucian Barbu-Tudoran, Monica Florescu, Camelia Bala
Biologically Synthesized Nanoparticles with Improved Electroactive and Electrocatalytic Properties

S11-P-006
Alessandro Fracassa (Department of Chemistry “G. Ciamician”, University of Bologna, Bologna, Italy), Claudio Ignazio Santo, Emily Kerr, David Hayne, Giovanni Valenti, Frederic Kanoufi, Paul Francis, Neso Sojic, Francesco Paolucci
Redox-mediated electrochemiluminescence enhancement

S11-P-007
Daniele Fumagalli (Dipartimento di Chimica, Università degli Studi di Milano, Milano, Italy), Antonino Biagio Carbonaro, Alessandro Giumfrida, Valentina Pifferi, Luigi Falciola
Study of 3D Graphene hydrogels and aerogels for Electroanalytical Applications

S11-P-008
Lena Gerhards (School of Mathematics and Science, Institute of Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany), Gunther Wittstock
Isotope Effect in the Voltammetry of Iron Hexacyanoruthenate.

S11-P-009
Loreto A. Hernandez (fisicoquímica, universiad de Valparaíso, Valparaíso, Chile)
Electrochemical biosensor for IPN viruses.
S11-P-010

**Vladislav Ivanistsev** *(Department of Chemistry, University of Copenhagen, Copenhagen, Denmark)*, Jan Rossmeisl, Ritums Cepitis, Nadezda Kongi

*Surface Curvature Effect on Dual-Atom Site Oxygen Electrocatalysis*

S11-P-011

**Dominik Korol** *(Functional Polymers, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland)*, Maciej Cieplak, Jakub Kalecki, Piyush Sindhu Sharma

*Conductive Macroporous Polymers Towards Protein Detection*

S11-P-012

**Arias Leslie** *(ISM Bordeaux, University of Bordeaux, Pessac, France)*, Gerardo Salinas, Alexander Kuhn, Neso Sojic, Laurent Bouffier

*Wireless electrochemiluminescence triggered on a rotating disk electrode*

S11-P-013

**Fernando Moraes** *(Chemistry, Federal University of São Carlos, São Carlos, Brazil)*, Anderson Martin Santos, Maria Helena Alves Feitosa, Ademar Wong, Orlando Fattibello-Filho

*Detection of endocrine disruptorbisphenol A in environmental samples using a screen-printed electrode modified with functionalized graphene, quantum dots and PEDOT:PSS*

S11-P-014

**Rodrigo Muñoz** *(Institute of Chemistry, Federal University of Uberlândia, Uberlândia, Brazil)*, Larissa Melo, Lucas Faria, Luciano Arantes, Eduardo Richter, Marian Marton, Marian Vojs, Rodrigo Muñoz

*Electrochemical Screening of Ephylone in Forensic Samples using a Labmade Screen-Printed Electrode with Boron-Doped Diamond*

S11-P-015

**Iuliia Neumann** *(Chemistry, University of Cologne, Cologne, Germany)*, Bertold Rasche

*Electrochemical modification of tungsten oxide*

S11-P-016

**Thuan-Nguyen Pham-Truong** *(Chemistry, CY Cergy Paris Université, Neuville sur Oise, France)*, Thi-Nguyet-Anh Nguyen, Thi-Phuong-Thuy Le, Thi-Thu Vu, Keagan Pokpas, Pierre-Henri Aubert

*Fine Tuning Electrodeposited Platinum Morphology and Activity Towards Methanol Detection With Organic Underlayer.*

S11-P-017

**Leonardo Ribeiro** *(Fundamental Chemistry, University of São Paulo, São Paulo, Brazil)*, Douglas Saraiva, Bruna Bossard, Kleber Kato, Hiago Silva, Marcos Toyama, Henrique Toma, Mauro Bertotti

*Development of a nitric oxide sensor based on a new porphyrizine*

S11-P-018

**Nicolas Rojas-Sanabria** *(The Bernal Institute & Department of Chemical Sciences, University of Limerick, Limerick City, Ireland)*, Alonso Gamero-Quijano, Angelika Holzinger, Micheâl D. Scanlon

*The Mechanism of Electrosynthesis of AuNP/PEDOT Thin Films at a Polarised Liquid|Liquid Interface*

S11-P-019

**Daniel R. Santos** *(Centro de Química Estrutural, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal)*, Jorge F. Zeferino, Ana S. Viana, Upul K.G. Wijayantha, Killian Lobato, Jorge P. Correia

*Evaluation of PEDOT:PSS Cathodes for Sodium-ion Batteries: Insights from Electrochemical Techniques and Mass Flow Measurements*
S11-P-020

**Caroline G. Sanz (Laboratory of Multifunctional Materials, National Institute of Materials Physics, NIMP, Magurele, Romania), Madalina M. Barsan, Anca Aldea, Victor C. Diculescu**

*Development of Immunosensors Based on Electrospun Polymeric Fibers for the Detection of Cancer Protein Biomarkers.*

S11-P-021

**Christian Schneemann (Technical Electrocatatalysis Laboratory, Technische Universität Braunschweig, Braunschweig, Germany), Kinga Lasek, Sonja Blaseio, Maurice Friedrichs-Schucht, Carsten Dosche, Matthias Batzill, Mehtap Oezaslan**

*Highly Active Two-Dimensional (2D) Platinum Tellurides as Model Catalysts for Hydrogen Evolution Reaction (HER).*

S11-P-022

**Katarzyna Siuzdak (Centre of Plasma and Laser Engineering, The Institute of Fluid-Flow Machinery, Gdańsk, Poland), Zuzanna Bielan, Wiktoria Lipinska**

*Gradient growth of spaced TiO2 NTs obtained via bipolar anodization – local inspection of physicochemical and photoelectrocatalytic properties.*

S11-P-023

**Stéphane Tawil (SYMMES-CREAB, CEA/CNRS/UGA, Grenoble, France), Abdulghani Ismail, Martial Billon, Loïc Leroy, Thierry Leichlé, Neso Sojic, Ali Maziz, Aurélie Bouchet-Spinelli**

*Electrochemiluminescence detection on conducting polymer for application in single cell cytokine biosensing.*

S11-P-024

**Vessela Tsakova (Institute of Physical Chemistry, Bulgarian Academy of Sciences, Sofia, Bulgaria), Aneliya Nakova, Radoslav Ivanov, Chiydem Hyusein**

*Spontaneous Metal Particles Deposition on Carbon Supports - a New Approach to the Development of Electrocatalytic Materials.*

S11-P-025

**Wei Hsuan Hung (Institute of Materials Science and Engineering, National Central University, Taoyuan, Taiwan)**

*Advanced High Entropy Oxides for Seawater Splitting*

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**Symposium 12 Molecular Electrochemistry - Mechanisms and Models**

S12-P-001

**Ariba Adnan (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Marc Koper**

*The Temperature Dependence On The Double Layer Structure Of The Au (111) – Aqueous Electrolyte Interface.*

S12-P-002

**Sercan Akbaba (Laboratoire d’Electrochimie Moléculaire, Université Paris Cité, Paris, France), Sercan Akbaba, Sihem Groni, Claire Fave, Bernd Schöllhorn**

*Activation of Molecular Receptors and Organo-Catalysts by Tuning Non-Covalent Halogen Bonding via Electrochemical Redox-Switching.*

S12-P-003

**Mohammed Alabdali (LRCS, UPJV, AMIENS, France), Franco M. Zanotto, Marc Duquesnoy, Anna-Katharina Hatz, Duancheng Ma, Jérémie Auvergniot, Virginie Viallet, Vincent Seznec, Alejandro A. Franco**

S12-P-004
Foffié Thiery Augsute Appia (Laboratoire de Constitution et Réaction de la Matière, Université Félix Houphouët-Boigny, Abidjan, Cote d’Ivoire), Sahi Placide Sadia, Lassiné Ouattara
Treatment of the Real Hospital Wastewater by Biological Method Combined to an Electrochemical Oxidation using an Active Anode

S12-P-005
Jingyuan Chen (Department of Applied Physics, University of Fukui, Fukui, Japan), Koichi Aoki, Yuanyuan Liu
Fast Scan Voltammetry of Reduction of Hydrogen Ion Associated with Electric Double Layer Capacitance

S12-P-006
Marco Fantin (Department of Chemical Sciences, University of Padova, Padova, Italy), Alessandro Zampieri, Felix Schnaubelt, Khidong Kim, Krzysztof Matyjaszewski, Christian Durante, Abdirisak Isse
Electrochemical Shaping of Polymer Chain-Ends and Molecular Weight Distributions

S12-P-008
Marilia Goulart (Institute of Chemistry and Biotechnology, Universidade Federal de Alagoas, Maceio, Brazil), Danyelle Cândido Santos, Ayres Dias, Débora Costa, Messias Silva, Paulo Costa, Julio da Silva, Roberta Dias, Jadriane Xavier, Gustavo Braga, Vinicius del Cole, Thaisa Lucio
Electrochemistry of nitronitrones, potential candidates for the treatment of Leishmaniasis and Chagas disease: what links them?

S12-P-009
Mélanie Guyot (Département de Chimie Moléculaire (DCM), Université Grenoble Alpes (UGA) - UMR 5250, Grenoble, France), Marie-Noëlle Laloz, Juan Aguirre-Araque, Guillaume Rogez, Cyrille Costentin, Sylvie Chardon-Noblat
Heterogenization of molecular catalysts for electrochemical reduction of CO2. Importance of electronic interaction of anchorage functions with catalytic metallic center on catalytic activity.

S12-P-010
Jun Huang (IEK-13, Jülich, Germany), Victor Climent, Axel Gross, Juan Feliu
Surface Charge Effect on Hydrogen Peroxide Reactions at Platinum

S12-P-011
Vladislav Ivanistsev (Department of Chemistry, University of Copenhagen, Copenhagen, Denmark), Ritums Capitis, Heigo Ers
The potential of Monolayer Charge – a structure-determined reference potential

S12-P-012
Akalya Karunakaran (chemistry, University of Bath, Bath, United Kingdom), Chris R Bowen, Frank Marken
Nanophase-photo-electro-catalysis: Loading, storing, and release of H2O2 using a photochemical reaction within graphitic carbon nitride.

S12-P-013
Lucie Kolacna (Department of Molecular Electrochemistry and Catalysis, J. Heyrovsky Institute of Physical Chemistry of the CAS, Prague 8, Czech Republic), Milan Madar, Vojtech Kubíček, Jiri Ludvik
Electrochemical Reduction of Cu(II) Azamacrocyclic Complexes

S12-P-014
Eric Labbe (Département de chimie, École Normale Supérieure, PSL University, Paris, France), Charles Fayolle, Olivier Buriez, Nathalie Fischer-Durand, Pascal Pigeon, Anne Vessieres, Michele Salmain
Assessing Drug Metabolism by Electrochemical and Fluorescence Approaches: the Example of Ferrociphenols
S12-P-015  
**Mieczysław Łapkowski** (Centre of Organic and Nanohybrid Electronics, Silesian University of Technology, Gliwice, Poland), Patryk Janasik, Malgorzata Czichy, Pavel Chuklin  
**Electrochemical synthesis of ultra-low band gap conjugated polymer**

S12-P-016  
**Tingran Liu** (Department of Chemistry, University of Bath, Bath, United Kingdom), Frank Marken, James Taylor  
**Redox Neutral Electrosynthesis without Added Electrolyte at Interdigitated Electrodes**

S12-P-017  
**Jiří Ludvik** (Molecular electrochemistry and catalysis, J. Heyrovsky Institute, Praha 8, Czech Republic), Ludmila Simkova, Karol Lupsai, Jiří Klima, Alan Liska  
**(Spectro)electrochemistry of Phenyl-Substituted Cibalackrot Derivatives for Singlet Fission**

S12-P-018  
**Karol Lušpai** (Department of Molecular Electrochemistry and Catalysis, J. Heyrovský Institute of Physical Chemistry of the CAS, v.v.i, Prague 8, Czech Republic), Ludmila Simková, Jan Svoboda, Michal Malcek, David Dunlop  
**Spectroelectrochemical Characterization of Cyclopentadienyl Titanocene Dihalides**

S12-P-019  
**Jayaprakash Meena** (Department of Chemistry, Vellore Institute of Technology, Vellore, India), K Santhakumar, Annamalai Senthil Kumar  
**Protocatechatic Acid-Polyphenol Functionalized Graphitic Carbon as a Green-Molecular Electrocatalyst for Dopamine Oxidation and Sensing**

S12-P-020  
**Ana Maria Méndez** (Ciencias del Ambiente, Universidad de Santiago de Chile, Santiago, Chile), Laura Scarpetta, Rubén Oñate, José H Zagal, Ingrid Ponce  
**Bottom-up construction of supramolecular nanodevices based on β-cyclodextrin-pyridinium/FePc host-guest systems**

S12-P-021  
**Enrique Paredes** (São Carlos Institute of Chemistry, University of São Paulo, São Carlos, Brazil), Alfredo Calderón, Hamilton Varela  
**Microkinetic Modeling of the Methanol Electro-oxidation Reaction on Platinum**

S12-P-022  
**Zikkawas Pasom** (Physical Chemistry, University of Bordeaux, Pessac, France), Chularat Wattanakit, Alexander Kuhn  
**Chiral-induced spin selectivity effect at chiral-encoded Pt-Ir surfaces for enhanced Oxygen Reduction Reaction**

S12-P-023  
**Swantje Pauer** (Institute f. Applied Materials-Electrochemical Technologies, Karlsruhe Institute of Technology, Karlsruhe, Germany), Philipp Röse, Yugo Shimizu, Juri Harada, Naoki Shida, Mahito Atobe, Ulrike Krewer  
**Model-based Kinetic Analysis and Reaction Mechanism Identification of the Cyclohexanone Reduction in a PEM-Cell**
S12-P-024
Guillaume Perrin-Toinin (LEPMI, Univ. Grenoble Alpes, CNRS, Grenoble INP, Grenoble, France), Nicolas Leconte, Jean-Claude Lepřêtre, Laureline Lecarme
Coordination complexes with multi electron transfers as ion-battery electrodes

S12-P-025
Théo Personeni (Laboratoire Hétérochimie Fondamentale et Appliquée, Université Toulouse 3 Paul Sabatier, Toulouse, France), Théo Personeni, Soukaina Benamane, Nicolas Mézailles, Christophe Bucher
Nitrogen electroreduction in aminoboranes electrocatalyzed by a molybdenum coordination complex

S12-P-026
Lubomír Pospíšil (Electrochemistry in nano scale, J. Heyrovský Institute of Physical Chemistry, Prague, Czech Republic), Jan Hanus, Jirí Rybáček, Michal Sámal, Irena G. Stará, Ivo Starý
Electrochemical Impedance and Spectroelectrochemistry for Characterization of an Oxapentacene-Helicene Dyad

S12-P-027
Karolina Salvadori (Department of Molecular Electrochemistry and Catalysis, J. Heyrovský Institute of Physical Chemistry of CAS v.v.i., Prague, Czech Republic), Ludmila Simková, Petra Curínová, Pavel Matejka, Jirí Ludvík
Nitro Group as Binding/Release Swich in Urea-based Receptors

S12-P-028
Nicole Segura (Catalysts and Electrocatalysts, Technische Universität Darmstadt, Darmstadt, Germany), Nils Heppe, Kathrin Hofmann, Ulrike I. Kramm
Manipulating FeNC catalysts with metal nanoparticles: Effect on activity, selectivity and stability for CO2 RR

S12-P-029
Annamalai Senthil Kumar (Department of Chemistry, Vellore Institute of Chemistry, Vellore, India), K. Preethika Andal
Biomimicking Toxic-Functionality of Imidacloprid-Pesticide Probed via Thiol Oxidation Reaction by Surface-Confinned Molecular Electro catalysis Approach

S12-P-030
Kihyun Shin (Department of Materials Science and Engineering, Hanbat National Universrity, Daejeon, Korea), Hyun You Kim
Exploring the Interplay between Strain Effect and Electron Transfer in Ag Nanocatalyst-CuxO Support Interface for Improved Fuel Cell Performance

S12-P-031
Frantisek Vavrek (Molecular Electrochemistry, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic), Michal Valasek, Jakub Sebera, Gabor Meszaros, Jindrich Gasior, Magdalena Hromadova
Anthraquinone-Based Redox Molecular Switch: Conjugated vs.Cross-Conjugated States

S12-P-032
Iuliia Voroshylova (Department of Chemistry and Biochemistry, University of Porto, LAQV@REQUIMTE, Porto, Portugal), Karl Karu, Heigo Ers, Vladislav Ivaništšev
From Saturation Parameters to Self-Consistent Bilayer Model of the Ionic Liquid – Electrode Interfaces
S12-P-033  
De-Yin Wu *(Department of Chemistry, Xiamen University, Xiamen, China)*, Yuan-Fei Wu, Jian-Zhang Zhou, Zhong-Qun Tian  
*Reaction Mechanism and Kinetics of Surface-Plasmon Photoelectrochemistry on Noble Metal Electrodes of Nanostructures: Experiments and Theory.*

S12-P-034  
Siwen Zhao *(Chemistry, University of Paris, Paris, France)*, Marc Robert  
*Making C-N bonds from carbon monoxide and nitrite co-electroreduction.*

S12-P-035  
Jia-Xin Zhu *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Marc Koper, Jun Cheng, Katharina Doblhoff-Dier  
*Dielectric Constant at Metal/Water Interfaces.*

S12-P-036  
Jia-Xin Zhu *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Jun Cheng  
*Machine Learning-Accelerated Simulation of Electrochemical Interfaces.*

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**Symposium 13 Physical electrochemistry of battery materials**

S13-P-001  
Kapil Dhaka *(Theoretical Inorganic Chemistry, University of Duisburg-Essen, Essen, Essen, Germany)*, Maytal Caspary Toroker  
*Revealing the Conducting Character of the β-NiOOH Catalyst through Defect Chemistry.*

S13-P-002  
Andrea Grisafi *(Department of Chemistry, Ecole Normale Supérieure, Paris, France)*, Rodolphe Vuilleumier  
*Predicting the Charge Density Response in Metal Electrodes.*

S13-P-003  
Boyun Jang *(Energy storage laboratory, Korea institute of energy research, Daejeon, Korea)*, Jongmin Kim, Hyungjin Lee, Wooyoung Lee, Daeil Kim, Joonsoo Kim  
*Material Issues for All Solid-State Li-metal Battery.*

S13-P-004  
Jameela Karol *(Chemistry, Helmholtz Institute Ulm & Karlsruhe Institute of Technology, Ulm, Germany)*, Simon Fleischmann  
*Systematic correlation of interlayer spacing with kinetics of electrochemical lithium intercalation in bilayered vanadium oxides.*

S13-P-005  
Anna Kobets *(School of Chemical Engineering, Aalto University, Espoo, Finland)*, Basit Ali, Ulla Lassi, Tanja Kallio  
*Effect of Mg Doping of High-Nickel Layered Cathode Materials on Performance of Lithium Ion Batteries.*
S13-P-006

Toshihiro Kondo (Chemistry, Ochanomizu University, Bunkyo-ku, Japan)
Cathode Reaction Analyses in Li-O2 Battery Based on Operando XRD Measurements

S13-P-007

Cheng Liu (Solid State Chemistry, Institute of Material Science of Barcelona (ICMAB-CSIC), Barcelona, Spain), Ashley P. Black, Vlad Martin Diaconescu, Laura Simonelli, Dino Tonti
Operando Bidimensional EXAFS Study on Aqueous Zn-MnO2 Batteries

S13-P-008

Rino Masui (Kogakuin university, University, Hachioji, Japan), Yoshiuki Yokoyama, Furui Reita, Keitaro Takahashi, Kikuko Hayamizu, Shiro Seki
Preparation and Evaluation of Physical Properties for Lithium Based-Low Melting Point Salt and Their Highly-Concentrated Electrolytes

S13-P-009

Rintaro Mogi (Kogakuin University, University, Hachioji, Japan), Reita Furui, Keitaro Takahashi, Kikuko Hayamizu, Shiro Seki
Preparation of Solid Electrolytes Containing Highly Concentrated Electrolytes and Effects of Solidifying on Physicochemical Properties

S13-P-010

Junjie Niu (Materials Science and Engineering, University of Wisconsin, Milwaukee, USA), Mingwei Shang, Xi Chen
Designing Layered NMC811 With Ni-Gradient By Using Metal-Organic Framework

S13-P-011

Hubert Perrot (UMR 8235-Laboratoire Interfaces et Systèmes Electrochimiques, Sorbonne Université, Paris, France), Laure Fillaud, Alain Pailleret
Fabrication and Characterization of Multi-walled Carbon Nanotube-based Composite Films for Supercapacitor Application

S13-P-012

Pitambar Poudel (Chemical and Process Engineering, University Of Canterbury, Christchurch, New Zealand)
Analysis of Catalytic Carbon Materials Derived from Ionic Liquids as the Electrodes for Vanadium Redox Flow Batteries

S13-P-013

Samad Razzaq (Theoretische Anorganische Chemie, Universität Duisburg-Essen, Essen, Germany)
Data-driven methodology to study the oxygen electrocatalysis

S13-P-014

Frank Uwe Renner (Institute for Materials Science IMOMEC, Hasselt University, Diepenbeek, Belgium), Nicolas Cachot
In-Situ AFM in Dry Room: A Study of Battery Interfaces

S13-P-015

Carla Santana Santos (Analytical Chemistr, Faculty of Chemistry and Biochemistry, Ruhr-Universität Bochum, Bochum, Germany), Thomas Quast, Edgar Ventosa, Wolfgang Schuhmann
Nanoelectrochemistry as a Tool to Interrogate Solid/Liquid Interface Reactions in Mediated Flow Batteries
S13-P-016

Antía Santiago (Department of Applied Physics, Universidade de Santiago de Compostela, Santiago de Compostela, Spain), Juan Parajó, Pablo Vallet, Josefa Salgado, Luis Miguel Varela, Ana T.S.C. Brandão, A. Fernando Silva, Carlos M. Pereira, Renata Costa

Carbon Black-Composite Electrodes and Deep Eutectic Solvents Electrolytes for High-Performance and Eco-Friendly Supercapacitors.

S13-P-017

Antía Santiago Alonso (Department of Applied Physics, Universidade de Santiago de Compostela, Santiago de Compostela, Spain), José Manuel Sánchez, Raquel San Emeterio, Juan José Parajó, Pablo Vallet, Luis Miguel Varela, Josefa Salgado

Ternary mixtures of pyrrolidinium-based ionic liquids as smart electrolytes.

S13-P-018

Ali Tuna (Department of Mechanical and Materials Engineering, University of Turku, Turku, Finland), Vahid Abbasi, Pekka Peljo


S13-P-019

Chuanlian Xiao (Physical Chemistry of Solids, Max Planck Institute for Solid State Research, Stuttgart, Germany), Hongguang Wang, Peter van Aken, Robert Usiskin, Joachim Maier


S13-P-020

Yoshiki Yokoyama (Kogakuin University, University, Hachioji, Japan), Rino Masui, Reita Furui, Keitaro Takahashi, Shiro Seki

Physical Properties for Concentrated Electrolytes Consisted of EC and Sodium Salts with Asymmetric Anions and Fabrication of Low-Melting Mixed Salts for Highly Concentrated Electrolytes.

S13-P-021

Runtian Zheng (Chemistry, Namur de University, Namur, Belgium), Bao-Lian Su

Prussian Blue Analogue with Fast Kinetics for Ammonium-Ion Battery.
Symposium 14  Operando and in situ characterization of electrochemical interfaces

S14-P-001
Ilona Acznik (Research Group of New Technologies for Energy Storage, Lukasiewicz - Institute of Non-Ferrous Metals, Poznan, Poland), Paulina Bujewska, Krzysztof Fic, Katarzyna Lota
Study Of The Local Electrochemical Behavior At The Solid/Liquid Interface In A Zn-Ion Capacitor

S14-P-002
Yi-Fan Bao (Department of chemistry and chemical engineering, Xiamen University, Xiamen, China), Meng-Yuan Zhu, Mao-Feng Cao, Xiao-Jiao Zhao, Teng-Xiang Huang, Xiang Wang, Bin Ren
In-situ nanoscale characterization of defects in two-dimensional materials by electrochemical tip-enhanced Raman spectroscopy

S14-P-003
Saeid Behjati (chemistry, Leiden University, Leiden, Netherlands), Marc Koper
Study of Roughening Au(111) Single-Crystal Electrode Surface in Sulfuric Acid Hydrochloric Acid Solution After Oxidation Reduction Cycles Observed by In Situ Electrochemical Scanning Tunneling Microscope

S14-P-004
Maria del Pilar Bernicola Garcia (Advanced electronic materials and devices group, ICN2, Bellaterra, Spain), Catherine Debiemme-Chouvy, Hubert Perrot, Jose Antonio Garrido, Elena del Corro Garcia
Operando Electrochemical Investigation of Reduced Graphene Oxide in Aqueous Solution

S14-P-005
Pierre Bléteau (Paris, Université Paris Cité, Paris, France), Baptiste Maillot, Ali Dabbous, Jean-Frédéric Audibert, Vitor Brasiliense, Sarra Gam-Derouich, Fabien Miomandre, Jean-Christophe Lacroix
Impact of Plasmon-Heating Effects on the Plasmon-Induced Electrochemistry in Solution via SECM Approach

S14-P-006
Tony Breton (MOLTECH-Anjou, CNRS, SFR MATRIX, University of Angers, Angers, France), Christelle Gautier, Laure Pichereau, Jean-Marc Noël, Emmanuel Maisonneuve, Thomas Cauchi, Laure Fillaud, Magali Allain
Surface Modification using Diazonium Electrografting: Evidence for a Stepwise Mechanism involving Highly Reactive Diazenyl Radicals

S14-P-007
Olaf Brummel (Interface Research and Catalysis, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany), Yaroslava Lykhach, Maryline Ralaiarisoa, Matias Berasategui, Maximilian Kastenmeier, Lukás Fusek, Alexander Simanenko, Wenging Gu, Pip C. J. Clark, Rossella Yivliain, Michael J. Sear, Josef Myslivecek, Marco Favaro, David E. Starr, Jörg Libuda
A Versatile Approach to Electrochemical In Situ Ambient Pressure X-ray Photoelectron Spectroscopy: Application to a Complex Model Catalyst

S14-P-008
Andrew Burley (Chemistry, University of Aberdeen, Aberdeen, United Kingdom), Pavithra Gunasekaran, Angel Cuesta
Properties of Water at the Electrode-Electrolyte Interface
**S14-P-009**

**Baptiste Chabaud** *(DCM nanobio - I2BM, Université Grenoble Alpes - CNRS, Grenoble, France)*

Hugues Bonnet, Liliane Guérente, Angeline Van Der Heyden, Didier Boturyn, Galina V. Dubacheva

*Influence of surface chemistry on redox-sensitive host/guest interactions*

**S14-P-010**

**Mehmet Ugur Coskun** *(Department of Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*

Daniel Winkler, Christoph Griesser, Matthias Leitner, Julia Kunze-Liebhäuser

*CO adsorption on Pt(111) Revisited*

**S14-P-011**

**Laurens De Jong** *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*

*Modeling the electric double layer under UHV conditions: Cations and Hydrogen at the Electrochemical Interface of Pt and H₂O*

**S14-P-012**

**Nipon Deka** *(Leiden Institute of Chemistry, Leiden University, LEIDEN, Netherlands)*

Rik V. Mom

*On the activation of the oxygen lattice during acidic oxygen evolution reaction (OER) in ruthenium oxides*

**S14-P-013**

**Katrin F. Domke** *(Department of Chemistry, University of Duisburg-Essen, Essen, Germany)*

Daniel Ohm, Qiqi Yang, Albin Lahu, Xiaomin Liu, Paramaconi Rodriguez, Tobias Binninger

*Quantifying the potential-dependent surface proton concentration with EC fluorescence microscopy*

**S14-P-014**

**Mohamed El Marini** *(Electrochemical and Surface Engineering (SURF), Vrije Universiteit Brussel, Brussels, Belgium)*

Mesfin Haile Mamme, Monica Parpal Gimenez, Daniel Torres Morillo, Layrton José Souza da Silva, Sorour Sensari Parapari, Anze Prasnikar, Saso Sturm, Annick Hubin, Jon Ustarroz

*In situ EC-TEM: New perspectives into electrochemical-radiolysis coupling through multiphysics modelling approach*

**S14-P-015**

**Haofei Geng** *(College of Chemistry and Chemical Engineering, Xiamen university, Xiamen, China)*

Yifan Bao, Mengyuan Zhu, Xiang Wang, Bin Ren

*Probing the hydrogen bond of interfacial water with ultra-low frequency electrochemical surface-enhanced Raman spectroscopy*

**S14-P-016**

**Louis Godeffroy** *(ITODYS, Université Paris Cité, Paris, France)*

Paolo Ciocci, Nathaly Ortiz Peña, Jean-Marc Noël, Damien Alloyeau, Jean-François Lemineur, Frédéric Kanoufi

*Assessing Single Particle Electrocatalysts for Hydrogen Evolution in Neutral Media by Optically Monitoring Reaction Footprints*

**S14-P-017**

**Margot Guidat** *(Institute of Physical and Theoretical Chemistry, Universität Tübingen, Tübingen, Germany)*

Mario Löw, Stefan Fuchs, Erica A. Schmitt, Vibhav Yadav, Holger Euchner, Jongmin Kim, R. Jürgen Behm, Matthias M. May

*The preparation of well-ordered electrochemical InP(100)-HCl interfaces monitored by in situ reflection anisotropy spectroscopy*

**S14-P-018**

**Donghoon Han** *(Department of Chemistry, The Catholic University of Korea, Bucheon, Korea)*

*In-Situ Confocal Fluorescence Lifetime Imaging of Redox-Active Fluorogenic Amplex Red at the Electrochemical Interface*
S14-P-019  **Steffen Hardt** *(Energy and Sustainability - Catalysis and Surface Chemistry, Leiden University - Leiden Institute of Chemistry, Leiden, Netherlands),* Lars J.C. Jeuken, Marc T.M. Koper  
*Modifying the Local pH on Au-Electrodes during Hydrogen Evolution by Polymer-Coatings.*

S14-P-020  **Christine Heume** *(Fundamental Electrochemistry, Institute of Energy and Climate Research, Jülich, Germany),* Krzysztof Dzieciol, Rüdiger-A. Eichel  
*Acute crack formation in drying membrane electrode assembly revealed by in situ X-ray computed tomography.*

S14-P-021  **Nagahiro Hoshi** *(Graduate School of Engineering, Chiba University, Chiba, Japan),* Masashi Nakamura, Rui Suzuki, Ryuta Kubo  
*Marked Structural Effects on the Oxygen Reduction Reaction on Single Crystal Electrodes of Pt Modified with Caffeine.*

S14-P-022  **Pepe Jordá-Faus** *(Instituto de Electroquímica, Universidad de Alicante, Alicante, Spain),* Rosa M. Arán-Ais, Enrique Herrero  

S14-P-023  **Matin Karimnia** *(Electrochemistry, Ulm University, Ulm, Germany),* Matin Karimnia, Maren-Kathrin Heubach, Timo Jacob  
*Studying Local Electrochemistry at Solid-Liquid Interfaces Using Modified Miniature Fluid-FM Cantilevers.*

S14-P-024  **Moonjoo Kim** *(Faculty of Chemistry and Biochemistry, Ruhr University Bochum, Bochum, Germany)*  
*Acidic Hydrogen Evolution Electrocatalysis in High-Entropy Alloys Correlates with its Composition-Dependent Potential of Zero Charge.*

S14-P-025  **Sachin Kochrekar** *(Department of Chemistry, University of Turku, Turku, Finland),* Pia Damlin, Miko Salomäki, Carita Kvarnström  
*Electropolymerization of an EDOT-Porphyrin (Zn) Derivative and Its Electrochromic Properties.*

S14-P-026  **Kees Kolmeijer** *(Chemistry, Leiden University, Leiden, Netherlands)*  
*Resolving Electrolyte-Water Interactions at the Graphene-Electrolyte Interface.*

S14-P-027  **Łukasz Kondracki** *(Electrochemistry Laboratory, Paul Scherrer Institute, Villigen, Switzerland),* Julian Stropp, Samuel Steiner, Dominik Wierzbicki, Anna Wach, Sigita Trabesinger  
*Superstructure-Suppressed Oxygen Evolution in Co-free Materials for Na-ion Batteries.*

S14-P-028  **Matthias Leitner** *(Department of Physical Chemistry, University of Innsbruck, Innsbruck, Austria),* Daniel Winkler, Christoph Griesser, Julia Kunze-Liebhäuser  
*Structural aspects of CO electro-reduction on Cu(hkl).*
S14-P-029  
**Xiaochun Li** *(Physical Chemistry, Masaryk University, Brno, China)*, Jan Cecha, Iveta Triskova  
Elimination voltammetry in connection with pencil graphite electrodes as a tool to investigate the electrode-electrolyte interface.

S14-P-030  
**Zhao Li** *(School of Materials Science and Engineering, Shanghai Jiao Tong University, Shanghai, China)*, Zhao Li, Xiaolong Li, Daming Zhu, Alexandru Vlad, Jianxin Zou  
Operando/in situ Multiscale Characterization Based on Synchrotron Radiation for Battery Research.

S14-P-031  
**Eric Liberra** *(Interface Science, Fritz-Haber-Institut, Berlin, Germany)*, Antonia Herzog, Clara Rettenmaier, Ane Etxebarria, Leon Jacobse, Janis Timoshenko, Arno Bergmann, Beatriz Roldan Cuenya  
Dynamic active state formation of Cu-based CO₂ electroreduction catalysts in anion-modified electrolytes.

S14-P-032  
**Sanja Martinez** *(Department of Electrochemistry, Faculty of Chemical Engineering and Technology, Zagreb, Croatia)*  
EIS Testing of Commonly used Conservation Coatings on Bronze with a Paste Electrolyte Measuring Cell.

S14-P-033  
**Toni Moser** *(Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*, Christoph Griesser, Andreas Oss, Julia Kunze-Liebhäuser  
Au(111) Oxidation Imaged in Oxygen Free Alkaline Media with Electrochemical Scanning Tunneling Microscopy.

S14-P-034  
**Ilargi Napal Azcona** *(Material Science, IOM-CNR, Trieste, Italy)*, Silvia Nappini, Elena Magnano, Erik Betz-Güttnera, Federico Salvador, Davide Benedetti  
Soft X-ray Absorption Spectroscopies of Copper Nanoparticles in real working conditions.

S14-P-035  
**Hridya Nedumkulam** *(Department of Surface and Plasma Science, ESRF Grenoble France, Charles University Prague, Grenoble, France)*  
Activity and stability of Ir-Ru bi-metallic catalyst: Electrochemical and structural analysis.

S14-P-036  
**Jean-Marc Noël** *(Laboratoire ITODYS, Université Paris Cité, Paris, France)*, Mathias Miranda Vieira, Jean-Francois Lemineur, Jérôme Médard, Catherine Combellas, Frédéric Kanoufi  
High-throughput assessment of the reactivity of metal oxide nanoparticles by coupling SECM and Nanoimpact Electrochemistry.

S14-P-037  
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**Akam Osmanpour** *(Battery, E-magy, Broek op Langedijk, Netherlands)*, Akam Osmanpour, Fabio Maroni, Marco Sprefico, Axel Schönstecker, Margret Wohlfahrt-Mehrens, Mario Marinaro  
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Monica Parpal Gimenez (ChemSIN–Chemistry of Surfaces, Interfaces and Nanomaterials, Université Libre de Bruxelles, Brussels, Belgium), Daniel Torres Morillo, Layrton Jose Souza da Silva, Mohamed el Marini, Mesfin Haile Mamme, Sorour Sensari Parapari, Saso Sturm, Jon Ustarroz

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Shokoufeh Rastgar (Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany)


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Marco Schönig (Catalysis and Surface Chemistry, Leiden University, Leiden, Netherlands), Rolf Schuster, Luis Botello, Victor Climent, Simon Fleischmann, Marc Koper

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Soren Scott (Materials, Imperial College London, London, United Kingdom), Anna Winiwarter, Caiwu Liang, Kenneth Nielsen, Ifan Stephens

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Yan Sun (college of chemistry and chemical engineering, Xiamen University, Xiamen, China)

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Zhao Tan (State Key Laboratory of Physical Chemistry of Solid Surfaces, Xiamen University, Xiamen, China), Bingwei Mao, Jiawei Yan

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Katharina Trapp (Department of Mechanical and Process Engineering, ETH Zürich, Zürich, Switzerland), Jimin Yoo, Maria Lukatskaya

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**Libuse Trnkova** *(Department of Chemistry, Faculty of Science, Masaryk University, Brno, Czech Republic)*, Xiaochun Li, Iveta Triskova
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**Arnaud Viola** *(LEPMI, Univ. Grenoble Alpes, CNRS, Grenoble INP, Grenoble, France)*, Frédéric Maillard, Galina Tsirlina
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**Zhu Zhang** *(Debye Institute for Nanomaterials Science, Utrecht University, Utrecht, Netherlands)*

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*Monitoring Ion Concentration Variations inside a Nanohole by Iontronic Microscopy*

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**Yu Zhao** *(Department of Chemistry, Xiamen University, Xiamen, China)*

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**Meng-Yuan Zhu** *(Department of chemistry and chemical engineering, Xiamen University, Xiamen, China)*, Yi-Fan Bao, Xiang Wang, Bin Ren

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**Matej Zlatar** *(Electrochemical Energy Conversion, Helmholtz Institute Erlangen-Nürnberg for Renewable Energy, Erlangen, Germany)*, Daniel Escalera-López, Hoang Phi Tran, Hong Nhan Nong, Peter Strasser, Serhiy Cherevko

*Can Doped Tin Oxide Supports Unlock the Full Potential of Iridium for Oxygen Evolution Reaction?*

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**Katerine Antil Martini** *(Electrochemical Reaction Engineering (ERT), Aachener Verfahrenstechnik (AVT) - RWTH Aachen University, Aachen, Germany)*, Anna K. Mechler

*Oxygen Evolution Reaction in Neutral and Near-Neutral Electrolytes*

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**Helmut Baltruschat** *(Clausius Institute for Physical and Theoretical Chemistry, Universität Bonn, Bonn, Germany)*, Ahmed ElShatla, Manuel Landstorfer

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**Louise Berben** *(Chemistry, University of California, Davis, USA)*

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**Tobias Binninger** *(Theory and Computation of Energy Materials (IEK-13), Forschungszentrum Jülich, Jülich, Germany)*, Adrian Heinritz, Juan Herranz, Paramaconi Rodriguez, Thomas J. Schmidt

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**Eun-Jin Choi** *(Chemistry, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea)*

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Alan Gibson (Department of Chemistry, University of Aberdeen, Aberdeen, United Kingdom), Tom Browning, Angel Cuesta  
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Greta P. Grossman (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands), Marc M. T. Koper  
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Burcu Gurkan (Chemical and Biomolecular Engineering, Case Western Reserve University, Cleveland, USA)  
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Shun Lu (Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing, China)

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Nik Maselj (Department of Materials Chemistry, D10, National Institute of Chemistry, Ljubljana, Slovenia)

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Justina Moss (Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)

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Yoshiharu Mukouyama (Division of Science and Engineering, Tokyo Denki University, Hatoyama, Japan), Ryo Sato, Takashi Nishimura

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The International Society of Electrochemistry (ISE) was founded in 1949 by leading European and American electrochemists to serve the growing needs of electrochemistry. At that time only a handful of scientists were members of the society – known as CITCE (Comité International de Thermodynamique et Cinétique Electrochimiques). Since then ISE has evolved and comprises now more than 3600 active members, from 77 countries, and is organized in 44 Regional Sections. Both industrialised and developing countries from all five continents are represented. ISE is, therefore, a truly world-wide organisation. ISE is a non-profit-making organisation with its seat in Lausanne, Switzerland.

The International Society of Electrochemistry (ISE) is devoted to the advancement of electrochemical science and technology through the promotion of international contacts and the dissemination of scientific knowledge. For this ISE organises Annual and Topical Meetings which are held in different countries each year and which cover a wide range of current topics in fundamental and applied electrochemistry. The activities of ISE include the sponsoring of regional meetings, and of special meetings of limited participation devoted to particular subjects. A scientific journal, Electrochimica Acta, is edited by ISE and supplied to its members at a special rate. Individuals, non-profit organisations, industrial companies and learned societies may become members of ISE. The administration of ISE is done by an Executive Committee, periodically elected by all members. The Regional Representatives together with the Division Officers form the ISE Council which advises the Executive Committee. The scientific activities of ISE are grouped into Scientific Divisions. They are organised and coordinated by the Committee of Division Officers headed by the President Elect. Upon joining ISE each member indicates his/her divisional interests.


Why you should join ISE

ISE membership provides a number of advantages which can be summarized as follows:

- Individual members can get reduced subscription rates for the following journals:
  Electrochimica Acta,
  Journal of Electroanalytical Chemistry,
  Electrochemistry Communications,
  Bioelectrochemistry,
  Journal of Power Sources,
  Journal of Applied Electrochemistry,
  Electrocatalysis,
  Journal of Solid State Electrochemistry for personal use.
- There is also a Discounted Package available consisting of the Journal of Electroanalytical Chemistry, Electrochemistry Communications, and Bioelectrochemistry (online).
- Reduced registration fees at ISE Meetings
- Access to the "members restricted area" of the ISE website
- Access to the full membership directory with all members addresses

How to become an ISE member

Becoming an ISE member is simple: you will find a Membership Application Form on the Society web site (at the address: https://members.ise-online.org/members/new_members.php), which you can fill in and submit online. In the application form you will have to select up to three Divisions and indicate two sponsoring ISE members. Should it be difficult for you finding these sponsors, please write to the Executive Secretary of the Society - Dr. Petr Krtil, e-mail: petr.krtil@jh-inst.cas.cz

Membership fees

Individual yearly membership fees are 50 EUR for members above 30 years of age, and 15 EUR for members of age 30 or less and for Emeritus members.
ISE Organization

Executive Committee
The Executive Committee is entrusted with the management of the Society.

ISE Office
The ISE Office performs all administrative tasks related to the operation of the Society. It is located in Switzerland, and managed by an Executive Secretary.
The ISE Office serves as the primary contact for members and non-members.

Division Officers
The scientific activities of ISE are grouped into seven Scientific Divisions and a New Topics Committee. The divisions are headed by a Chairperson assisted by a Past Chair, a Chair Elect and two Vice Chairs. Their role is to promote and represent the scientific interests of the division and its members, for example through contributing to the organization of Annual, Topical and other Society meetings.

Regional Representatives
In each country or group of countries having fifteen members or more, a national or regional section of ISE may be formed. Each section has a Regional Representative.

Council
The ISE Council is an Advisory Body. The voting members of the Council consist of three Officers from each Division and all the Regional Representatives. All persons constituting the Council are elected by the members of the Society.

Scientific Meetings Committee
The Scientific Meetings Committee plans and oversees the organization and sponsorship of scientific meetings within the broad field of electrochemistry.

- Enrique Herrero, chair (herrero@ua.es)
- Katharina Krischer, observer ex-officio as President
- Plamen Atanassov, ex-officio as President Elect
- Monica Santamaria, ex-officio as Treasurer
- Tim Albrecht, ex-officio as Secretary General
- Jaeyoung Lee
- Rakel Wreland Lindstrom
- Raphael Berger, non-voting member, representative of the ISE office
- Petr Krtil, observer ex-officio as Executive Secretary

Fellows Nominating Committee
The Fellows Nominating Committee is a standing committee which proposes names to the Executive Committee for the title of ISE Fellow. It is also responsible for identifying candidates for honorary membership.

- Wolfgang Schuhmann, Ruhr University, Bochum, Germany (2019-2023) Chair in 2023
- Robert Savinell, Case Western Reserve University, Cleveland, USA (2018-2023), Past Chair in 2023
- Phillippe Hapiot, Institut Sciences Chimiques de Rennes CNRS, France (2020-2024)
- Maria Forsyth, Institute for Frontier Materials, Deakin University, Australia (2022-2026)
- Hubert Gasteiger, TUM, Germany (2023-2027)
- Bingwei Mao, Xiamen University, China (2023-2027)
ISE Executive Committee

President
Katharina Krischer, Munich, Germany (2023-2024)
Representation of ISE. Chairperson of Executive Committee, Council and General Assembly.

President Elect
Plamen Atanassov, Irvine, USA (2023-2024)
Chairperson of Committee of Division Officers (CDO) and of Advisory Board for Annual Meeting:
Coordination of scientific program of Annual Meeting, supervision of Division Officers’ activities.

Immediate Past President
Marc Koper, Leiden, The Netherlands (2023-2024)
Chairperson of Executive Committee in the absence of the President.

Vice Presidents
Andrea Russell, Southampton, UK (2021-2023)
Responsible for ISE educational activities
Shelley Minteer, Salt Lake City, USA (2023-2025)
Responsible for regional sections
Takayuki Homma, Tokyo, Japan (2021-2023)
Responsible for value for members
Elena Ferapontova, Aarhus, Denmark (2022-2024)
Responsible for communication and external relationships

Secretary General
Tim Albrecht, Birmingham, UK (2021-2023)
General tasks
Ensuring continuity and efficiency of scientific policy. Coordination of tasks of Vice Presidents. Identification of new developments in electrochemistry and possible new scientific and nonscientific activities. Scientific matters not handled by the President or President Elect.
Tasks in collaboration with ISE Office
Ensuring that constitution, bylaws, guidelines, schedules etc are observed. Preparation of Annual Reports. Collection of information for newsletters and coordination of actions
Annual ISE Meetings
Coordination of Meetings (Location, time, topics). Representative of Executive Committee and advisor to Local Organising Committees for nonscientific matters (Location, facilities, control of financial planning, schedule, publicity)

Treasurer
Monica Santamaria, Palermo, Italy (2023-2025)
Responsible for the administration and the management of the assets and property of the Society, preparation of budgets and financial reports, financial planning, investment policy, supervision of financial matters of Annual ISE Meetings.

Executive Secretary
Petr Krtil, Prague, Czech Republic (2019-2023)
Responsible for maintaining the ISE calendar, assisting with organising the business and financial arrangements for Annual and Topical Meetings, organising committee appointments, assisting the Secretary General with Society elections, recruiting new members, and co-ordinating Executive Committee meetings. Drafts ISE documents, acts as web page editor, maintains ISE archives and records, and serves as the contact person for members (particularly at ISE meetings).
Scientific Divisions of ISE

Division 1 – ANALYTICAL ELECTROCHEMISTRY
Experimental and theoretical aspects of the analytical process in which electrochemistry has a role, including sample collection / processing, separation, and species identification and quantitation.
Chair: G. Denuault, Past Chair: L. Falciola, Chair Elect: M. Cuartero Botia, Vice-Chairs: R. Pauliukaite, W. Nogala.

Division 2 – BIOELECTROCHEMISTRY
Aspects of electrochemistry and electroanalysis characterizing biological processes at the molecular level and relevant to the mechanisms of biological regulation of cells.

Division 3 – ELECTROCHEMICAL ENERGY CONVERSION AND STORAGE
Experimental and theoretical aspects of electrochemistry in which the goal is the interconversion of energy between different forms or the storage of energy, including the processes themselves and materials used for these purposes.
Chair: T. Brousse, Past Chair: A. Balducci, Chair Elect: S. Dsoke, Vice-Chairs: S. Cavaliere, H.R. Byon.

Division 4 – ELECTROCHEMICAL MATERIALS SCIENCE
Aspects of materials science in which electrochemistry is part of the synthesis, processing, surface treatment, corrosion, characterization or modeling of new or existing materials, or in which electrochemistry is the user of such materials.
Chair: H. Habazaki, Past Chair: V. Vivier, Chair Elect: C. Perez, Vice-Chairs: J. Macák, S. Cere.

Division 5 – ELECTROCHEMICAL PROCESS ENGINEERING AND TECHNOLOGY
Experimental and theoretical aspects and applications of electrochemistry in which engineering issues play a significant role, including scale-up and reactor design.
Chair: C. Martinez Huitle, Past Chair: M. Rodrigo, Chair Elect: C. Ponce de Leon, Vice-Chairs: I. Sires Sardonil, M. Zhou.

Division 6 – MOLECULAR ELECTROCHEMISTRY
Structural and mechanistic aspects of electrode processes of inorganic, metallorganic and organic substances; synthetic applications.
Chair: J. Zagal, Past Chair: M. Hromadova, Chair Elect: I. Diez Perez, Vice-Chairs: P. Happiot, F. Podvorica, G. Xu.

Division 7 – PHYSICAL ELECTROCHEMISTRY
Experimental, theoretical and computational aspects of electrochemistry, alone or in conjunction with other methods, relevant to interfaces and conductive media; this shall include physicochemical nature, structure and dynamics from the molecular to the macroscopic level.
Chair: K. Domke, Past Chair: S. Ye, Chair Elect: M. Symes, Vice-Chairs: B. Ren, K. Hnida-Gut.
## Regional Representatives

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Corporate Sustaining Members

Corporate Sustaining Members are industrial and commercial (profit-making) organizations. As a Corporate Sustaining Member you can nominate one or two person(s) as your representative(s).

Corporate Sustaining representatives have the following advantages:

- One representative receives an online access to the ISE journal Electrochimica Acta without further charge.
- They can participate in Annual ISE Meetings at reduced registration fees.
- They are invited to co-operate with the divisions, to give proposals and advice on division symposia.
- They are informed about the activities of ISE and about Annual, Topical and Special ISE Meetings and division symposia on new developments in science and technology.
- They can be elected as Society officers

Advertising

- A list of the Corporate Sustaining Members is published regularly in Electrochimica Acta and on the web pages.

Annual Meeting

- Special sessions will be organised for electrochemical and electroanalytical instrumentation.
- You can contact regional groups via Regional Representatives.
- Business meeting places will be offered during Annual ISE Meetings for contacts between people from science and industry to discuss issues such as job recruiting, co-operation in applied research, announcement of research frameworks, negotiation of research contracts etc.

For further information please contact the ISE Office. Corporate Sustaining Membership fee: 500 EURO

Corporate Members

Corporate Members are teaching institutions, non-profit-making research organizations and learned societies. As a Corporate Member you can nominate a person as your representative who will have the following advantages:

- One representative receives an online access to the ISE journal Electrochimica Acta without further charge.
- They can participate in Annual ISE Meetings at reduced registration fees.
- They are invited to co-operate with the divisions, to give proposals and advice for division symposia.
- They are informed about the activities of ISE and about Annual and Special ISE Meetings and division symposia on new developments in science and technology.
- They can be elected as Society officers.

Corporate Membership fee: 300 EURO

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PalmSens BV • Paul Scherer Institute • Scribner Associates, Inc • Sensolytics GmbH
Tanaka Kikinzoku Kogyo K.K. • Zahner-elektrik GmbH & Co KG

Co-operation with other Societies

ISE is an Associated Organization of IUPAC and has co-operation agreements with:

Bioelectrochemical Society (The) • Chinese Society of Electrochemistry • Deutsche Gesellschaft für Galvano- und Oberflächentechnik (DGO) • Electrochemical Division of the Italian Chemical Society • Electrochemical Society (The) • Electrochemical Society of Japan • Electrochemistry and Electroanalytical Division of the Brazilian Chemical Society • Electrochemistry Group of the French Society of Chemistry • European Federation of Corrosion • Fachgruppe Angewandte Elektrochemie der Gesellschaft Deutscher Chemiker (Section Applied Electrochemistry of the Society of German Chemists) • Korean Electrochemical Society • Mexican Electrochemical Society • Royal Society of Chemistry (The) • Sociedad Iberoamericana de Electroquimica • Society for Electroanalytical Chemistry (The) •
ISE Honorary Members

Honorary Members are appointed by the Executive Committee, after consultation with the Council, primarily in recognition of their contribution to ISE. The total number at any time is limited to ten.

The first Honorary Member of ISE, appointed in the year 2003, was Otmar Dossenbach, Treasurer of the Society for 21 years (1980-2000) and Executive Secretary for 2 years (2001-2002).

Two new Honorary Members were appointed in the year 2004: Roger Parsons and Sergio Trasatti, former Presidents of the Society.

Three Honorary Members were appointed in the year 2005: Ron Armstrong, former Editor-in-Chief of Electrochimica Acta for 18 years, Elton Cairns and Dieter Landolt, former Presidents of the Society.

One Honorary Member was appointed in the year 2011: Sharon Roscoe, former Secretary General of the Society Marco Musiani was appointed Honorary Member in 2019 for his extraordinary service in the capacity of Executive Secretary supporting the Society during its unprecedented growth between 2003 and 2018.

Thierry Lenzin was appointed Honorary Member in 2020 for his valued contribution as ISE Office Manager between 2001 and 2019.

ISE Fellows

In recognition of their scientific or technical contributions to electrochemistry, the Society may confer on individual members the distinction of ISE Fellowship. Such ISE Fellows are appointed by the Executive Committee after consultation with the Council. The appointment does not carry with it automatic life-time ISE membership.

The present Fellows of ISE are:

Hector Abruna  Hubert Girault  Douglas R. MacFarlane  Wolfgang Schuhmann
Radoslav Adzic  Yury Gogotsi  Daniel Mandler  Bruno Scrosati
Richard Alkire  John B. Goodenough  Bing-Wei Mao  Yang Shao-Horn
Philippe Allongue  Justin Gooding  Philippe Marcus  Ashok Shukla
Christian Amatore  Lo Gorton  Rudolf A. Marcus  Patrice Simon
Plamen Atanassov  Rolando Guidelli  Frank Marken  Ulrich Stimming
Doron Aubach  Philippe Hapiot  Nenad Markovic  Peter Strasser
Philip N. Bartlett  Jurgen Heinze  Jim McBreen  Shi-gang Sun
Martin Bazant  Robert Hillman  Richard McCreery  Yang-Kook Sun
R. Jürgen Behm  Bing Joe Hwang  Shelley D. Minteer  Zhongqun Tian
Daniel Béanger  György Inzelt  Angela Molina  Jens Ulstrup
Nick Birbilis  Kingo Itaya  Sanjeev Mukerjee  Patrick Unwin
Alan Bond  Yasuhiko Ito  Richard Nichols  Kohei Uosaki
Thierry Brousse  Huangxian Ju  Petr Novak  Costas Vayenas
Elton Cairns  Anny Jutand  Mark E. Orazem  Alain Walcarius
Aicheng Chen  Takashi. Kakiuchi  Tetsuya Osaka  Li-Jun Wan
Christos Comninellis  Arkady Karyakin  Masatoshi Osawa  Guoxiu Wang
Richard Compton  Evgeny Katz  Stefano Passerini  Masahiro Watanabe
Serge Cosnier  Hasuck Kim  Emanuel Peled  Stanley Whittingham
Chunhai Fan  Marc Koper  José Pingarron  George Wilson
W. Ron Fawcett  Alexei Kornyshhev  Bin Ren  Martin Winter
Juan Feliz  Katharina Krischer  Zdenec Samec  Yongyao Xia
Mario Ferreira  Alexander Kuhn  Robert Savinell  Akira Yoshino
Maria Forsyth  Claude Lamy  Elena Savinova  Gleb Yushin
Elzieta Frackowiak  Ovadia Lev  David Schiffrin  José Zagal
Claude Gabrielli  Jacek Lipkowski  Wolfgang Schmickler  Piotr Zelenay
Hubert Gasteiger  Yi-Tao Long  Patrik Schmuki  Jiujun Zhang
Eliezer Gileadi  Digby Macdonald  Fritz Scholz
Society Awards

**Electrochimica Acta Gold Medal**
The Electrochimica Acta Gold Medal may be awarded every two years to the person judged to have made the most significant contribution to electrochemistry in recent years.

**Frumkin Memorial Medal**
The Frumkin Memorial Medal may be given once every two years. It recognises the outstanding contribution of a living individual over his/her life in the field of fundamental electrochemistry.

**Katsumi Niki Prize for Bioelectrochemistry**
The Katsumi Niki Prize for Bioelectrochemistry may be awarded every two years to a scientist who has made an important contribution to the field of bioelectrochemistry.

**Bioelectrochemistry Prize of ISE Division 2**
The Bioelectrochemistry Prize of ISE Division 2 may be awarded every two years to a scientist who has made an important contribution to the field of bioelectrochemistry.

**Brian Conway Prize for Physical Electrochemistry**
The Brian Conway Prize for Physical Electrochemistry may be awarded every two years, in recognition of the most successful achievements in Physical Electrochemistry in recent years.

**Alexander Kuznetsov Prize for Theoretical Electrochemistry**
The Kuznetsov Prize is awarded every two years to a living individual who has made groundbreaking contribution to the theory of electrochemical phenomena.

**Jaroslav Heyrovsky Prize for Molecular Electrochemistry**
The Jaroslav Heyrovsky Prize for Molecular Electrochemistry, supported by ISE Division 6, may be awarded annually to a scientist who has made an important contribution to the field of molecular electrochemistry in the last 5 years.

**Zhaowu Tian Prize for Energy Electrochemistry**
The Zhaowu Tian Prize for Energy Electrochemistry may be awarded annually to a scientist of less than 40 years of age on January 1st of the year of the award, in recognition of her/his recent achievements in the field of electrochemistry for energy.

**Tajima Prize**
The Tajima Prize recognises the contributions made by younger electrochemists. Candidates must be less than 40 years old. An award may be made every year. The decision of the Award Committee will be based on published work.

**ISE-Prize for Electrochemical Materials Science**
The ISE-Prize for Electrochemical Materials Science is awarded annually to a young person for contributions in the field of electrochemical material science, including corrosion, electrodeposition and surface treatment.

**Oronzio and Niccolò De Nora Foundation Young Author Prize**
The Oronzio and Niccolò De Nora Foundation Young Author Prize may be awarded annually to a scientist of less than 30 years for the best paper published in the ISE society journal in the calendar year preceding the award.

**ISE-Elsevier Prize for Experimental Electrochemistry**
The ISE-Elsevier Prize for Experimental Electrochemistry may be awarded annually to a person who has made an important contribution to experimental electrochemistry.

**ISE-Elsevier Prize for Green Electrochemistry**
The ISE-Elsevier Prize for Green Electrochemistry may be awarded annually to a scientist of less than 35 years of age on January 1st of the year of the award, for recent application-oriented achievements in the field of environmental electrochemistry.

**ISE-Elsevier Prize for Applied Electrochemistry**
The ISE-Elsevier Prize for Applied Electrochemistry may be awarded annually to a scientist of less than 35 years of age on January 1st of the year of the award, for recent achievements in the field of applied electrochemistry.

**Early Career Analytical Electrochemistry Prize of Division 1**
The Early Career Analytical Electrochemistry Prize of ISE Division 1, sponsored by OrigaLys, may be awarded annually to a scientist of less than 35 years of age on January 1st of the year of the award in recognition of her/his recent achievements in Analytical Electrochemistry.

**Electrochimica Acta and ISE Travel Award for Young Electrochemists**
The Electrochimica Acta Travel Awards for Young Electrochemists are aimed at favouring the participation of young electrochemists in the ISE Annual Meetings. The applicants must be ISE members. They must have obtained their Ph.D. not earlier than 6 years before the deadline for applications.
ISE Sponsored Meeting Information

What is an ISE sponsored meeting?
You may have noticed that scientific meetings in the field of electrochemistry are often labelled “ISE sponsored Meeting”. What does this mean? In addition to organizing its own meetings, such as the Annual and Topical Meetings, ISE may sponsor other international scientific meetings in the area of electrochemistry. ISE sponsorship is intended to be a sign of quality for the meeting.

What are the requirements for ISE sponsorship?
ISE requires that the scientific quality of the meeting reaches the standard of its own meetings. It is desirable that the advisory board consists of ISE members, as far as possible. The meeting must be open to all ISE members.

Who decides?
The decision is normally taken by the officers of the ISE Division in whose field of interest the topic of the meeting lies. ISE Division Officers should be involved in the organisation of the meeting. The ISE Executive Committee decides on the sponsorship for meetings of general interest.

What are the obligations of the organizers?
The organizers have to publicise the ISE sponsorship in all the official documents related to the meeting (announcements, program, website etc.). At the meeting, a representative of ISE must be allowed to say a few words on behalf of the Society, and ISE must have the opportunity to advertise. After the meeting, the organizers should submit a short report to ISE to be published on the ISE website.

What do the organizers receive from ISE?
ISE publishes announcements and reports of ISE sponsored meetings on its website. The ISE Office can organize, free of charge, mailings to all, or a group of ISE members. In appropriate cases, there may be a special issue of Electrochimica Acta associated with these meetings. Decisions about special issues are made by the Editor-in-Chief.

What about money?
ISE sponsorship of a meeting does not necessarily include a financial contribution from ISE. The sponsoring Division(s) may use its funds to support such a meeting. The level of financial contribution will be determined by the Division(s), but a typical sum may be 500 Euros.

How to apply for ISE sponsorship?
If you would like to have the scientific meeting you are organizing sponsored by ISE, please send an e-mail to the ISE Office, at least one year in advance of the time of the meeting, and attach a completely filled in sponsor request form. This form can be found on the ISE website at: https://www.ise-online.org/ise-sponsoring/sponsoring-info.php. The decision will be taken by the Officers of the sponsoring Division(s), or by the Executive Committee, and the ISE Office will inform the applicant.

ISE Regional Student Meetings

Graduate Students who are members of ISE and intend to organize a Regional Student Meeting can apply for ISE financial support. Applications submitted by Graduate Students jointly with their supervisors or with other senior members of the staff of their university are also acceptable, but it is expected that the students will be engaged in the organizational aspects of the meeting as much as possible. Regional Student Meetings are typically one-day meetings involving graduate students active in the geographic area where the meeting takes place. The format of the meeting (oral presentations, posters, discussion sessions, other) is autonomously decided by the organizers who will be responsible for securing a venue and collecting registrations. No registration fee should be requested, if financially possible. When the Regional Student Meeting is associated to a larger ISE-sponsored meeting taking place in the same venue, the application must provide clear indication on the connections between the two events and must clearly describe the independent activities reserved to student participants. No later than one month after the meeting, the organizer(s) will send to the ISE Office a report on the event, including the names and the e-mail addresses of the participants. The student participants will be invited to apply for ISE membership. A report giving an overview of the meeting, accompanied by suitable pictures if available, will be posted on the ISE website under Student Activities.

Applications for ISE support must be sent by e-mail to the ISE Office, with a copy to the Regional Representative of the country where the meeting is organized, 3-12 months before the meeting date, using the application form. The local ISE Regional Representative, if requested, will assist the potential meeting organizer in the preparation of the application. Applications will be analyzed by a committee consisting of (i) ISE Immediate Past President (ii) ISE Secretary General, (iii) ISE Treasurer, (iv) ISE Vice President responsible for Educational Activity and (v) ISE Vice President responsible for Regional Sections. The response will be communicated to the applicant and to the relevant Regional Representative no later than 1 month after the application submission. The maximum financial support will be 600 €; the expected use of the funds must be specified in the application. Co-sponsoring by other Societies and/or institutions is possible.
Poster plan session 1 - Monday

Level -2 : FORUM

Symposia: 1, 2, 3, 4, 5, 7, 8, 9

(Poster set-up: Monday, 9:00-11:00, Poster take-down: Tuesday, 9:00-11:00)

Poster Presentations: Monday, 4 September 2023: 11:00-12:30
Symposia: 6, 10, 11, 12, 13, 14, 15, 16 (Poster set-up Wednesday: 09:00-11:00, Poster take-down: Thursday)

Poster Presentations: Wednesday, 6 September 2023: 11:00-12:30
International city transport lines
Lyon transportation lines
Floor level (1) Tête d'Or

Program of the 74th Annual Meeting of the International Society of Electrochemistry
Floor level (0) Cordeliers

Conference Entrance to Registration

Stairs down to Registration & ISE Desk

Entrée B

Amphithéâtre
Floor level (-2) Forum
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<td>19:00 - 24:00</td>
<td>Banquet</td>
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Day-by-Day Week schedule 3 - 8 September 2023
General Information

Registration Hours during the Meeting

The registration will take place on the Bellecour Level (-1)

- Sunday, 3 September: 13:00-17:00
- Monday, 4 September: 08:00-18:00
- Tuesday, 5 September: 08:00-18:00
- Wednesday, 6 September: 08:00-11:00
- Thursday, 7 September: 09:00-17:00
- Friday, 8 September: 09:00-11:00

On Site Registration Fees

- Regular registration fee: 760 EURO
- Registration fee for ISE members: 660 EURO
- Student registration fee: 370 EURO
- Student registration fee for ISE members: 330 EURO

Regular and Student Registration fees include: Admission to all scientific and exhibition sessions, three lunches (Monday, Tuesday and Thursday), receptions, coffee breaks, conference bag, program book.

- Tutorial Lectures: 10 EURO
- Banquet (Sold out): 105 EURO

Lunches

Lunch will be provided on the Forum Level (-2)

- Monday: 12:30-14:00
- Tuesday: 12:30-14:00
- Thursday: 12:15-14:00

Coffee Breaks

Coffee Breaks will be situated on the Forum Level (-2)

- Monday, Tuesday, Wednesday, Thursday and Friday Morning: 10:30-11:00
- Monday, Tuesday and Thursday Afternoon: 15:45-16:15

Internet Service

WiFi for mobile phones, tablets, and laptops will be accessible within the Conference Center.

Photography and recording during presentations

Photography and recording is not permitted during the meeting activities (tutorials, plenary lectures, oral and keynote presentations and/or poster sessions) without the express, written consent from ISE.
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Symposium 1: Electroanalytical chemistry: From fundamental research to day-to-day analysis
Symposium 2: Bioelectrochemistry - From molecular to cellular scales
Symposium 3: From wearable to sustainable electrochemical sensing and biosensing
Symposium 4: From Lithium ion to post-Li ion batteries: Fundamental understanding and application aspects
Symposium 5: Fast storage processes: Supercapacitors & high power systems
Symposium 6: Fuel cells, electrolysis and electofuel synthesis
Symposium 7: Corrosion science and technology: Towards more sustainable materials
Symposium 8: Coatings and electrochemical surface treatments
Symposium 9: Integrated electrocatalyst and electrode engineering for sustainable electrochemical processes
Symposium 10: Electrochemical systems and engineering for energy storage & resources recovery and sustainable environmental management
Symposium 11: New materials for electroanalytical
Symposium 12: Molecular electrochemistry - Mechanisms and models
Symposium 13: Physical electrochemistry of battery materials
Symposium 14: Operando and in situ characterization of electrochemical interfaces
Symposium 15: Electrolyte effects in electrocatalysis and electrochemistry in non-conventional electrolyte
Symposium 16: General session