77th Annual Meeting

of the International Society of Electrochemistry

6 - 11 September 2026

Sydney, Australia

Electrochemistry for the New World

PROGRAM

ise-online.org/meetings/annual77

e-mail: events@ise-online.org

Symposium Schedule by Room

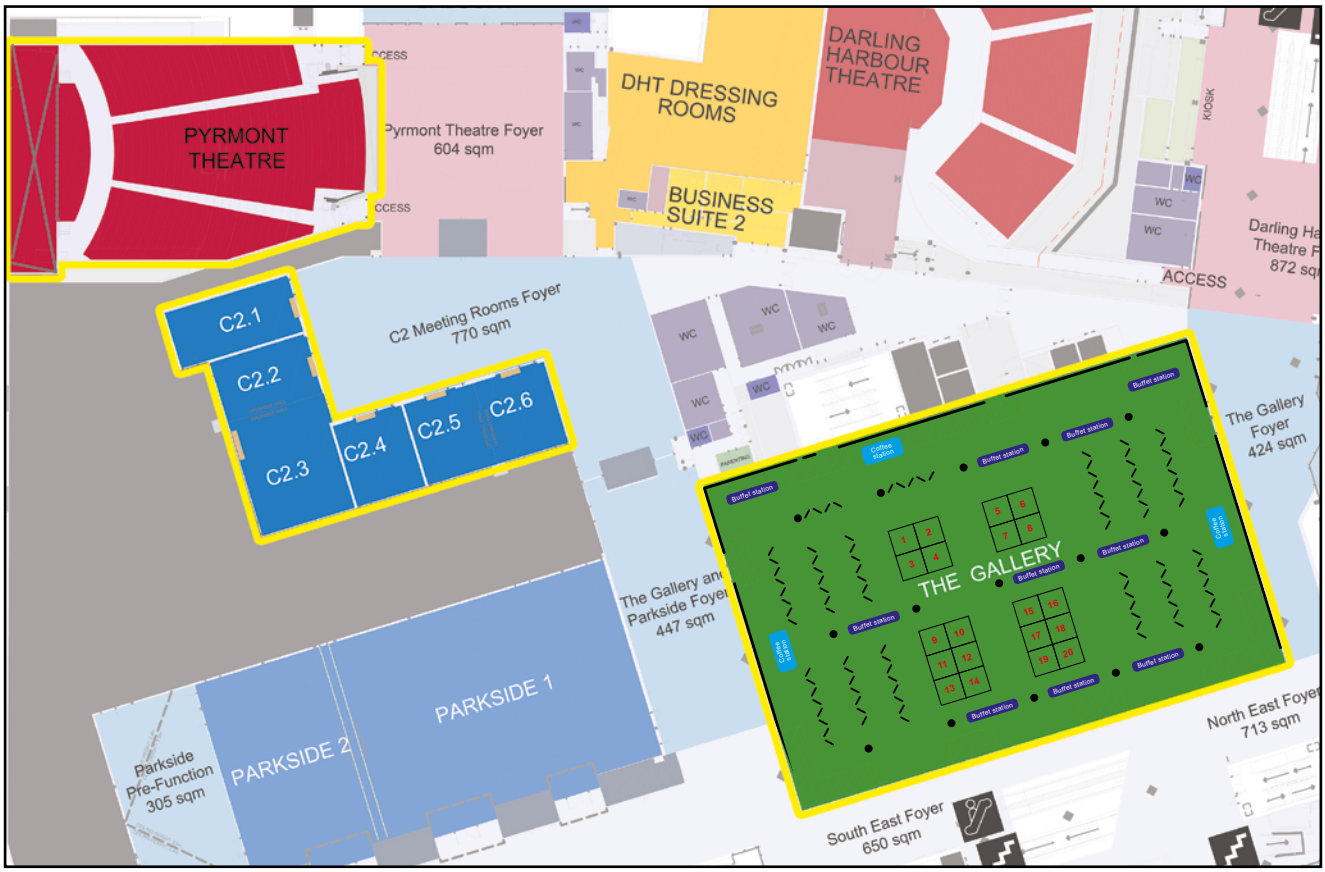
Room Name	Monday 7		Tuesday 8		Wed 9	Thursday 10		Friday 11
	AM	PM	AM	PM	AM	AM	PM	AM
Pyrmont Theatre	Symp. 7a		Symp. 7a		Symp. 7a	Symp. 7a		Symp. 7a
C2.1	Symp. 7b		Symp. 7b		Symp. 7b	Symp. 7b		
C2.2	Symp. 9		Symp. 9		Symp. 9	Symp. 9		
C2.3	Symp. 1		Symp. 1	Symp. 8	Symp. 8	Symp. 8		
C2.4	Symp. 14b		Symp. 16		Symp. 13	Symp. 13		Symp. 13
C2.5	Symp. 5			Symp. 5	Symp. 5		Symp. 5	Symp. 5
C2.6		Symp. 10	Symp. 10			Symp. 10		
C3.1	Symp. 6a		Symp. 6a		Symp. 6a			
C3.2	Symp. 2		Symp. 2		Symp. 12	Symp. 12		
C3.3	Symp. 14		Symp. 14		Symp. 14	Symp. 14		Symp. 14
C3.4	Symp. 4		Symp. 4		Symp. 4	Symp. 4		
C3.5	Symp. 15	Symp. 6b	Symp. 6b			Symp. 15		Symp. 15
C3.6	Symp. 3		Symp. 3	Symp. 11	Symp. 3	Symp. 11		Symp. 11

Symposium 1	Electrochemistry at the interface: From liquid-liquid to point-of-care devices
Symposium 2	Electrochemical biosensors: The new world technology
Symposium 3	Bioelectrochemistry: Scientific discoveries and applications
Symposium 4	Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X
Symposium 5	Aqueous-based batteries and high-power devices
Symposium 6	Advances in hydrogen production and utilisation
Symposium 7	Novel materials for lithium and beyond lithium batteries
Symposium 8	Progress in surface modification and corrosion mitigation
Symposium 9	Fabrication and characterisation of electroactive nanostructured materials
Symposium 10	Sustainable electrochemistry and systems to protect water and the environment
Symposium 11	Scale-up of electrochemical systems
Symposium 12	Key challenges in molecular electrocatalyst platforms and surface reactivity: Experimental, theoretical and computational advances
Symposium 13	Molecular electronics and electrochemistry: From fundamentals to function and application
Symposium 14	In situ and operando methods for characterising electroactive materials and interfaces
Symposium 15	Model electrodes to study nanoscale phenomena in electrocatalysis
Symposium 16	General Session

ISE Conference Venue Plan - International Convention Centre Sydney (ICC Sydney)

LEVEL 2

- **Pyrmont Theatre**
- Rooms: **C2.1** - **C2.6**
- **The Gallery** (Poster Sessions • Lunches • Coffee Breaks • Exhibitors)



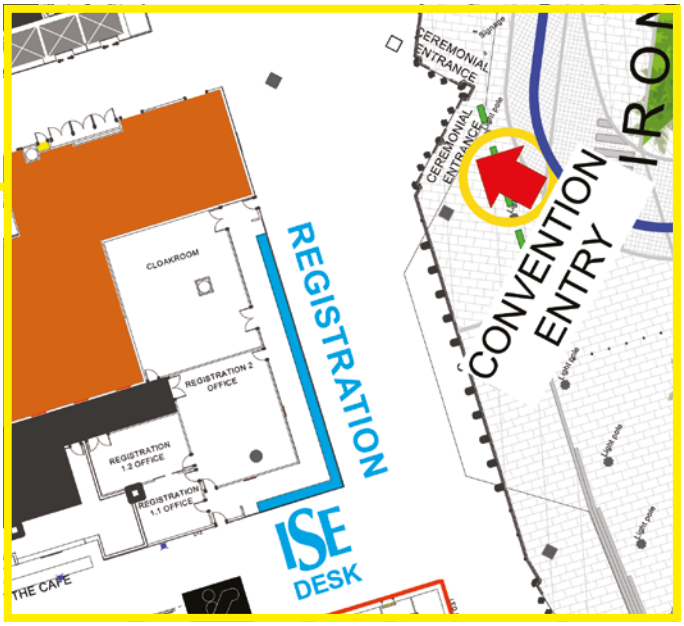
LEVEL 3

- Rooms: **C3.1** - **C3.6**

ISE Conference Venue Plan - International Convention Centre Sydney (ICC Sydney)

GROUND LEVEL

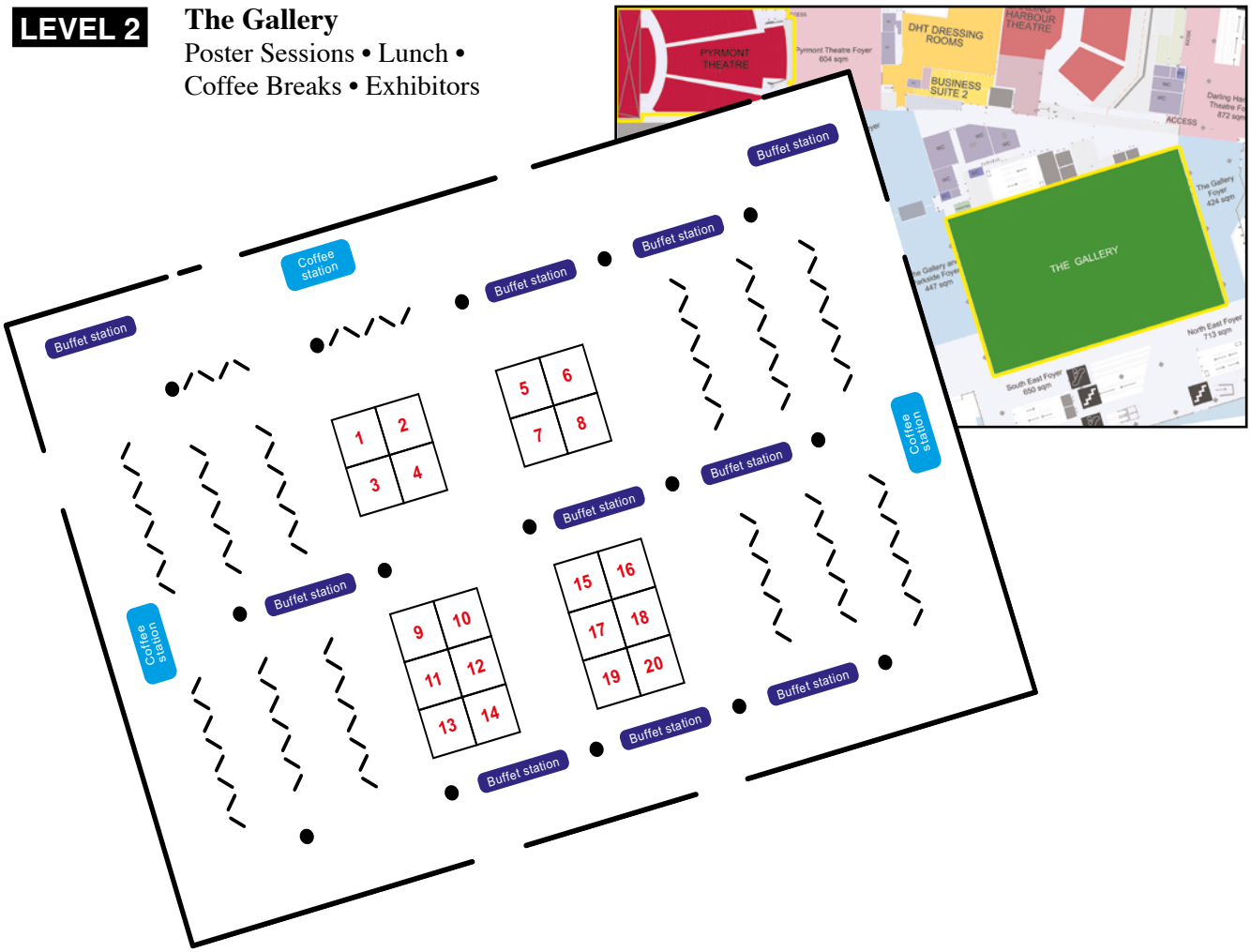
Conference Entrance • Registration • ISE Desk



LEVEL 2

The Gallery

Poster Sessions • Lunch • Coffee Breaks • Exhibitors



Acknowledgement of Country

The International Convention Centre Sydney (ICC Sydney) stands and operates on Tumbalong, the land of the Gadigal clan of the Eora Nation.

In the spirit of Reconciliation and as a demonstration of respect for the traditional laws, customs, cultures and country of the First Peoples of this land, we warmly acknowledge the Traditional Custodians of Gadigal Country and demonstrate respect to Elders past, present and emerging.

The ISE Annual meeting is supported by **business events sydney, Business Events Australia,** and the **New South Wales (NSW) Government**

International Society of Electrochemistry, chemin du Closelet 2, 1006 Lausanne, Switzerland.

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The 77th Annual Meeting of the International Society of Electrochemistry

Electrochemistry for the New World

6 - 11 September, 2026. Sydney, Australia.

ICC Sydney: International Convention & Exhibition Centre
14 Darling Dr, Sydney NSW 2000, Australia
https://iccsydney.com.au

CONTENTS

Symposium Schedule by Room ..... inside front cover
Floor Plans - 'ICC Sydney' ..... i-ii
Acknowledgement of Country iii
Organizing Committee vi
Welcome Address vii
Exhibitors / Sponsors ..... viii-xvii
Symposium Organizers ..... xx-xxi
Forums xxii
Plenary Lectures xxiii
Prize Winners 2025 ..... xxiv-xv
Awards / Poster Sessions xxvi
ISE Society Meetings xxvii
Publications / Social Program xxviii

Oral Presentation Program

Sunday Afternoon (Tutorials, Opening Ceremony, Plenary, Welcome Reception) 2
Monday Morning 3
Monday Afternoon 18
Tuesday Morning 38
Tuesday Afternoon 53
Wednesday Morning 77
Thursday Morning 85
Thursday Afternoon 92
Friday Morning 109

Poster Presentation Program 115

ISE Society Information 167

General Conference Information ..... inside back cover

Registration Hours during the Meeting,
On Site Registration Fees, Lunches, Coffee Breaks, Internet Service

Daily Schedule ..... back cover

Organizing Committee

Justin Gooding ***(Co-Chair)*** - *Sydney, Australia*
Debbie Silvester-Dean ***(Co-Chair)*** - *Perth, Australia*
Nick Birbilis - *Melbourne, Australia*
Ruth Knibbe - *Brisbane, Australia*
Katharina Krischer - *Munich, Germany*
Plamen Atanassov - *Irvine, CA. USA*
Taek Dong Chung - *Seoul, South Korea*
Monica Santamaria - *Palermo, Italy*
Francesca Soavi - *Bologna, Itlay*

Local Organizing Committee

Ruth Knibbe - *Brisbane; Australia*
Kaye Kang - *Sydney, Australia*
Cameron Bentley - *Melbourne, Australia*
Saimon Silva - *Melbourne, Australia*
Jessica Allen - *Newcastle, Australia*
Wesley Dose - *Sydney, Australia*

Welcome Address

Dear Colleagues,

To our international guests and guests across Australia, on behalf of the ISE executive committee, the Organizing Committee and the Symposium Organizers, we would like to thank you for attending the 77th Annual Meeting of the International Society of Electrochemistry in Sydney from September 6th until the 11th at the International Convention Centre.

Australia has a strong history in electrochemistry, starting in the early 20th century, concentrating on corrosion science and metallurgy before having a theory boom in the mid 20th century with luminaries such as Robin Stokes focusing on electrolyte solutions and Noel Hush and his contributions to the Marcus-Hush theory of electron transfer. Later we had the massive contributions, which are still ongoing, by Alan Bond in terms of electrochemical theory, methods, instrumentation and novel media in which we can perform electrochemistry. After a low period for Australian electrochemistry in the early 2000s, the Electrochemistry Division of the Royal Australian Chemical Institute has had an incredible revival such that it has never been stronger. Key to this revival was the 10th ISE Spring Meeting being held in Perth in 2012, then the 19th Topical Meeting in Auckland, hosted by our New Zealand neighbours in 2016 and the 35th Topical Meeting held on the Gold Coast in 2023. We thank the ISE for having faith in us again and honouring us with hosting the 77th Annual Meeting here in Sydney.

Sydney is a vibrant multicultural city with extraordinary natural beauty, with its deep water harbour set within a yellow sandstone basin, historic convict precincts, skyscapers designed by world-renowned architects and stunning beaches with the weather to match. All this is closely integrated with the city centre where the meeting is being held. The meeting venue we are in today is the brand new International Convention Centre Sydney, situated on the water at the Darling Harbour restaurant precinct where Wildlife Zoo Sydney and the Sydney Aquarium are also located. Just a short walk or ferry ride away is the iconic Sydney Opera House and Sydney Harbour Bridge. Slightly further afield is the Botanic Gardens, harbour, ocean beaches, and national parks including the hikers' heaven of the Blue Mountains and Royal National Park (the world's second National park). Just over an hour's flight from here are other major cities including Melbourne and Brisbane – where satellite meetings are planned or have taken place already – and the Tasmanian World Heritage wilderness.

Over 1300 of you have come to Sydney. We are both delighted and honoured you are here and greatly look forward to your contributions to this great meeting. We hope you enjoy the science, the culture and the many other things that Sydney has to offer.

We would like to thank all the members of the local and international Organizing Committee and all the symposium organizers for their contribution to the organization of the meeting. We would also like to gratefully acknowledge Raphael Berger and the ISE team for administration and conference organization. Importantly, we would also like to thank all the student helpers, others who have helped with the organisation and you for coming.

Justin Gooding *and* **Debbie Silvester-Dean**
Co-Chairs of the 77th ISE Annual Meeting Organizing Committee

Exhibitor booths

Gold Silver Bronze

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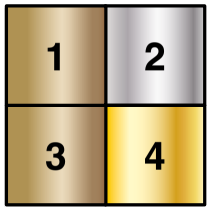
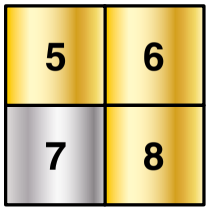
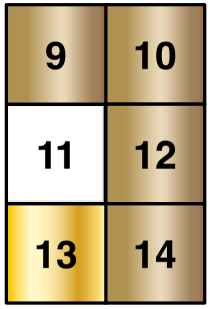
2. Pinflow energy storage, s.r.o.
3. BAS Inc.
4. Hiden Analytical Ltd.

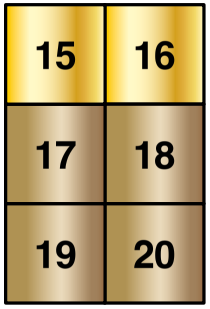




5. Redoxme AB
6. Metrohm Electrochemistry / Sensolytics GmbH
7. Hangzhou Cheersonic Ultrasonic Equipments Co., Ltd
8. ProDigitek Pty Limited

9. Ivium Technologies
10. easyXAFS
11. -
12. Elsevier
13. PalmSens BV
14. MDPI





15. Admiral Instruments / Zahner-Elektrik GmbH & Co. KG
16. SpectroInlets
17. Hangzhou Fulanke Technology Co., Ltd.
18. Korea Institute of Energy Research
19. Pine Research Instrumentation, Inc.
20. Scribner

Exhibitor Hours: Sun : **18:00-20:00** Mon : **09:00-20:00** Tue : **09:00-18:00** Wed : **09:00-12:30** Thur : **09:00-18:00** Fri : **09:00-11:00**

GOLD Exhibitors

Admiral Instruments

Hiden Analytical Ltd

Metrohm Electrochemistry

PalmSens BV

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Redoxme AB

Sensolytics GmbH

Spectro Inlets

Zahner-Elektrik GmbH & Co. KG

SILVER Exhibitors

Hangzhou Cheersonic Ultrasonic Equipments Co., Ltd

Pinflow energy storage, s.r.o.

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BRONZE Exhibitors *continued*

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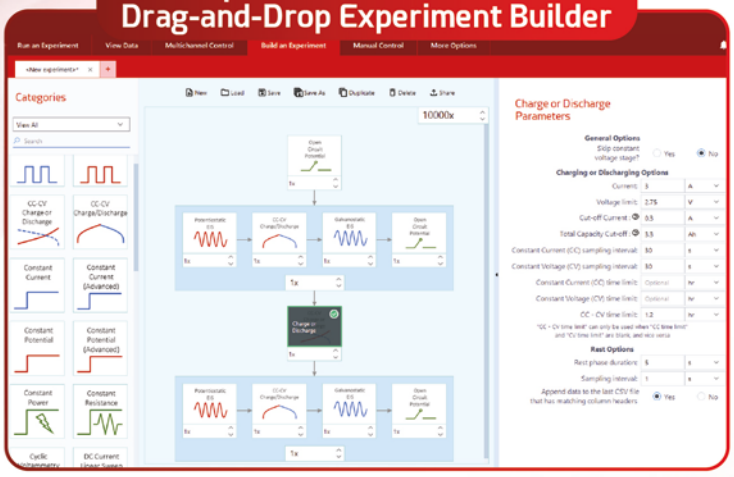

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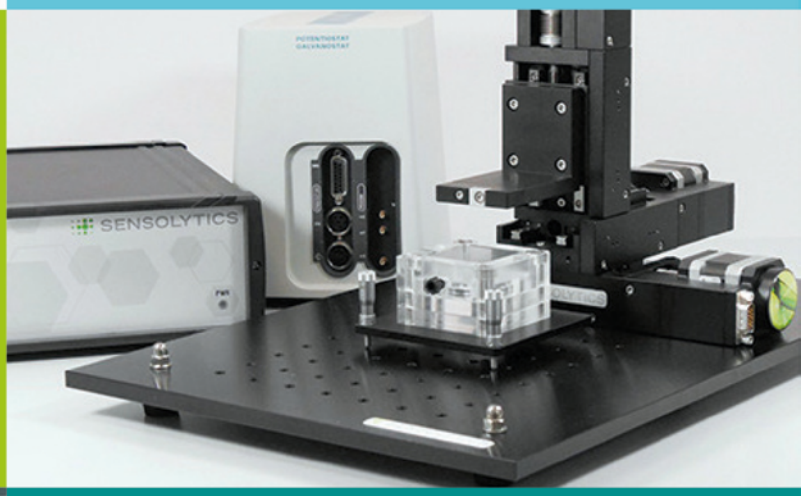

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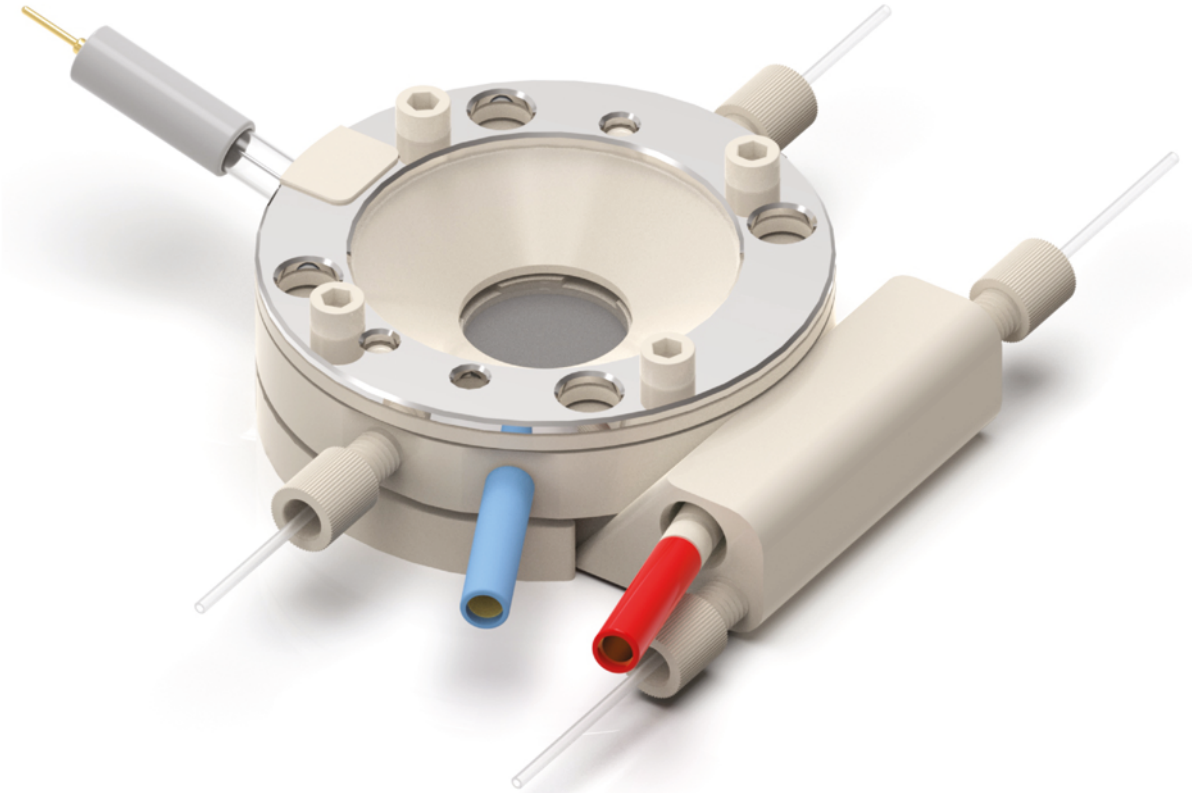

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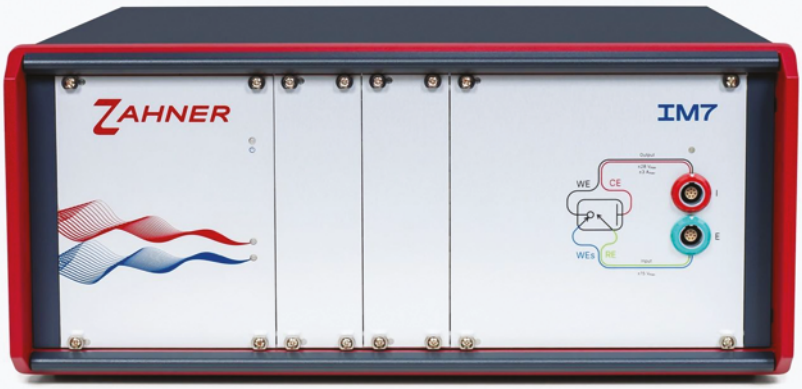

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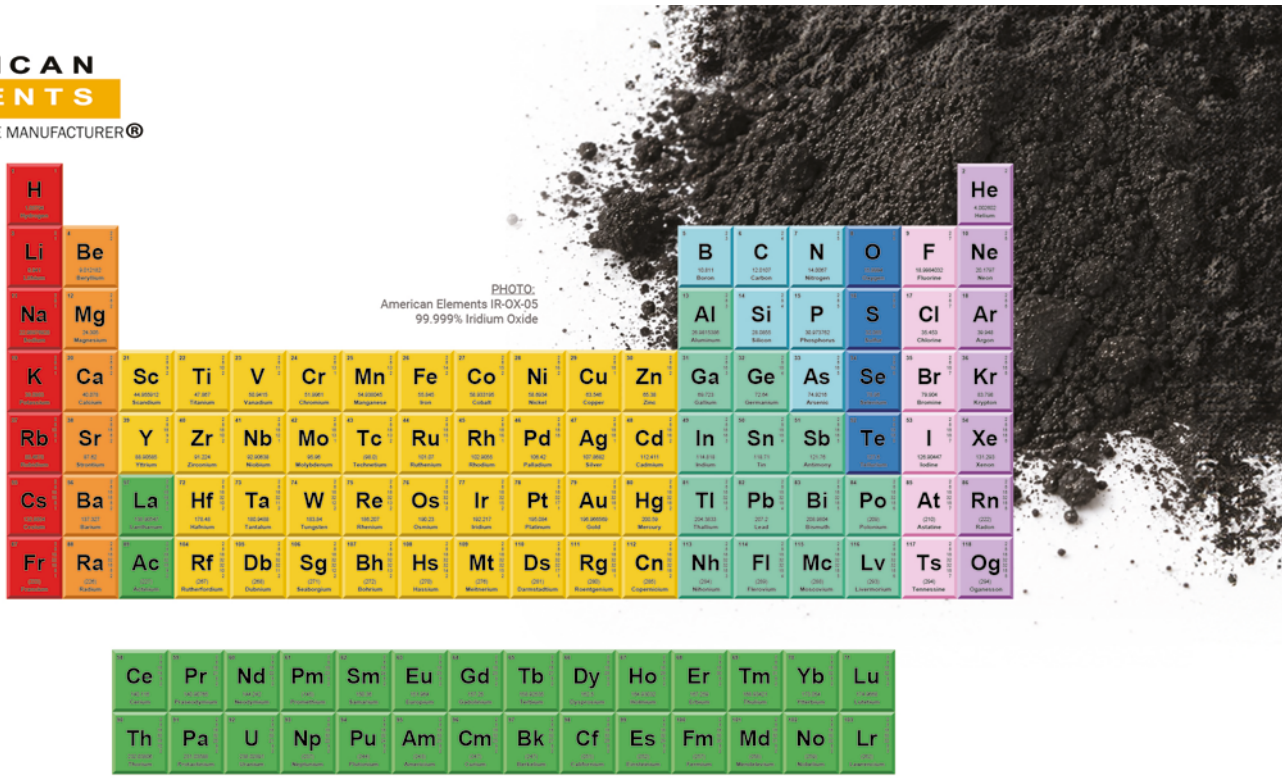

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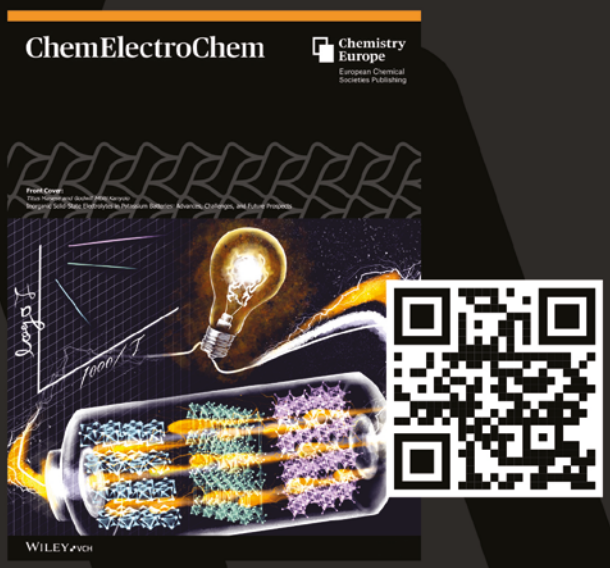

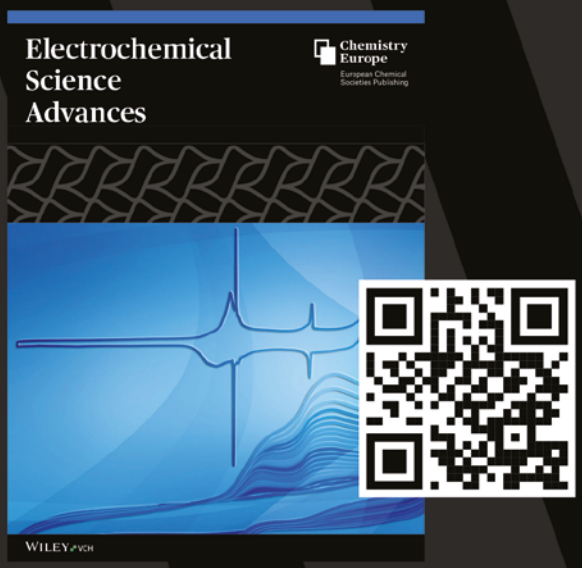

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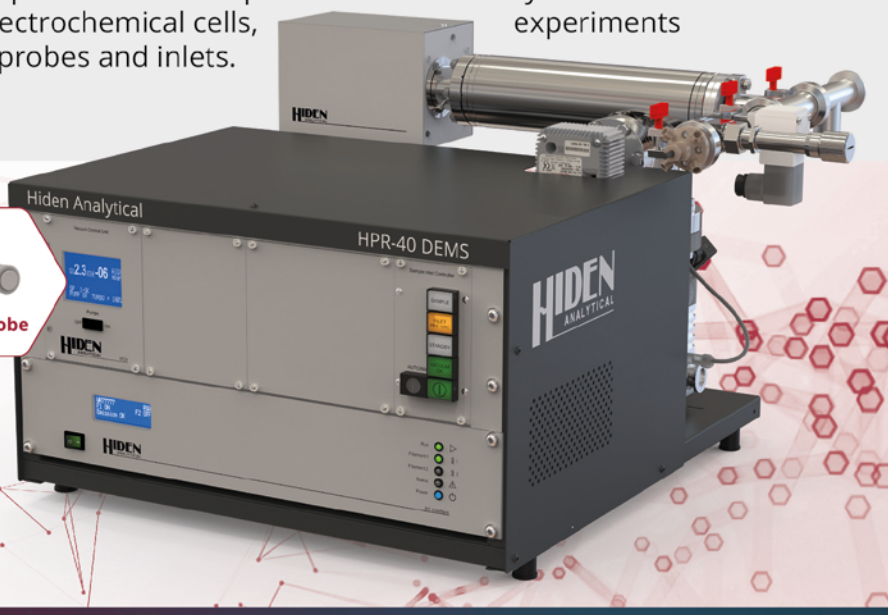

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- BATTERY RESEARCH
- ELECTROCATALYSIS & CATALYST EVALUATION
- CORROSION STUDIES

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Symposium Organizers

Symposium 1 Electrochemistry at the interface: From liquid-liquid to point-of-care devices

Emilia Witkowska Nery, *Institute of Physical Chemistry, Polish Academy of Sciences, Poland;*
Micheál D. Scanlon, *University of Limerick, Ireland;*
Damien Arrigan, *Curtin University, Australia;*
Yang Liu, *James Cook University, Australia;*
Jeffrey Dick, *Purdue University, USA.*

Symposium 2 Electrochemical biosensors: The new world technology

Saimon Moraes Silva, *La Trobe University, Australia;*
Gabriel Negrão Meloni, *University of São Paolo, Brazil;*
Felipe Conzuelo, *Nova University Lisbon, Portugal;*
Ilaria Palchetti, *University of Florence, Italy*

Symposium 3 Bioelectrochemistry: Scientific discoveries and applications

Dónal Leech, *School of Biological & Chemical Sciences, University of Galway, Ireland;*
Janice Limson, *Biotechnology Innovation Centre, Rhodes University, Makhanda, South Africa;*
Yang Liu, *James Cook University, Australia.*

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Magda Titirici, *Imperial College London, UK;*
Paolo Bollella, *University of Bari, Italy;*
Fengwang Li, *University of Sydney, Australia;*
Yu Katayama, *Osaka University, Japan.*

Symposium 5 Aqueous-based batteries and high-power devices

Yuki Yamada, *Osaka University, Japan;*
Ho Seok Park, *Sungkyunkwan University, South Korea;*
Guoxiu Wang, *University of Technology Sydney, Australia;*
Fabio La Mantia, *University of Bremen, Germany.*

Symposium 6 Advances in hydrogen production and utilisation

Kenji Miyatake, *Waseda University, Japan;*
Anna Fischer, *University of Freiburg, Germany;*
Jessica Allen, *University of Newcastle, Australia;*
Kelsey Stoerzinger, *University of Minnesota, USA;*
Faezeh Makhlooggiazad, *Deakin University, Australia.*

Symposium 7 Novel materials for lithium and beyond lithium batteries

Naoaki Yabuuchi, *Yokohama National University, Japan;*
Isao Shitanda, *Tokyo University of Science, Japan;*
Mega Kar, *Deakin University, Australia;*
Janine Mauzeroll, *McGill University, Canada.*

Symposium 8 Progress in surface modification and corrosion mitigation

Monica Santamaria, *University of Palermo, Italy;*
Samantha M. Gateman, *Western University, London, Ontario, Canada;*
Anthony O'Mullane, *Queensland University of Technology, Australia;*
Masayuki Itagaky, *Tokyo University of Science, Japan.*

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Hiroki Habazaki, *Hokkaido University, Japan;*
Damian Kowalski, *University of Warsaw, Poland;*
Lucy Gloag, *Australian National University, Australia;*
Chi-Chang Hu, *National Tsing Hua University, Taiwan.*

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

Ignasi Sirés, *Universitat de Barcelona, Spain;*
Ricardo Salazar, *Pontificia Universidad Católica de Chile, Chile;*
Helena Yuan Wang, *The University of Melbourne, Australia;*
Minghua Zhou, *Nankai University, China.*

Symposium Organizers

Symposium 11 Scale-up of electrochemical systems

Carlos Ponce de León, *University of Southampton, United Kingdom;*
Carlos A. Martínez-Huitle, *Universidade do Rio Grande do Norte, Brazil;*
Tom Rufford, *The University of Queensland, Australia.*

Symposium 12 Key challenges in molecular electrocatalyst platforms and surface reactivity: Experimental, theoretical and computational advances

Ingrid Ponce, *Santiago de Chile University, Chile;*
Fangfang Chen, *Deakin University, Australia;*
José H. Zagal, *Santiago de Chile University, Chile;*
Federico Calle-Vallejo, *University of the Basque Country UPV/EHU, Spain;*
Lior Elbaz, *Bar-Ilan University, Israel;*
Frédéric Jaouen, *Institut Charles Gerhardt (UMR 5253, CNRS-ENSCM-Univ. Montpellier), France.*

Symposium 13 Molecular electronics and electrochemistry: From fundamentals to function and application

Nadim Darwish, *Curtin University, Australia;*
Jiří Ludvík, *J. Heyrovský Institute of Physical Chemistry, Czech Republic;*
Paul Low, *University of Western Australia, Australia;*
Xuefeng Guo, *Peking University, China;*
Angel Cuesta, *University of Aberdeen, United Kingdom.*

Symposium 14 In situ and operando methods for characterising electroactive materials and interfaces

Andy Wain, *National Physical Laboratory, UK;*
Heng-Liang Wu, *National Taiwan University, Taiwan;*
Minkyung (Kaye) Kang, *University of Sydney, Australia;*
Vincent Vivier, *Laboratoire de Réactivité de Surface, Sorbonne Université, France;*
Veronica Augustyn, *North Carolina State University, USA.*

Symposium 15 Model electrodes to study nanoscale phenomena in electrocatalysis

Marco Altomare, *University of Twente, Netherlands;*
Katharina Krischer, *Technical University of Munich, Germany;*
Shizhang Qiao, *University of Adelaide, Australia;*
Jun Huang, *RWTH Aachen University, Germany.*

Symposium 16 General Session

Cameron Bentley, *Monash University, Australia;*
Maria Forsyth, *Deakin University, Australia;*
Plamen Atanassov, *University of California, USA;*
Vito Di Noto, *University of Padova, Italy.*

Forums

Room: **Pyrmont Theatre Foyer**

Monday, 7 September, 2026

16:00 to 17:00

Building Your Research Profile Through Impactful Writing

Strategies for publishing influential papers, securing grants and fellowships, and communicating research with lasting impact.

17:00 to 18:00

Caregiving and Academic Careers

Caregiving in academia: balancing research, childcare, eldercare, and the realities of career progression.

Tuesday, 8 September, 2026

16:00 to 17:00

Careers Beyond Academia

Exploring diverse career pathways and opportunities beyond your PhD and postdoc. This panel could involve academics, industry people or people who have taken very different pathways.

17:00 to 18:00

Global Collaboration & International Mobility

Building international research careers: practical pathways (fellowships, funding networks) and strategies for effective global collaboration. Including European Horizon funding.

Thursday, 10 September, 2026

16:00 to 17:00

Engaging with Industry

Building meaningful, long-term engagement with industry to create real-world impact.

17:00 to 18:00

What it Takes to Commercialize Electrochemistry Technology

Commercialising electrochemistry technologies: navigating IP, funding, partnerships, and the path from discovery to deployment.

Plenary Lectures

Room: **Pyrmont Theatre**

Sunday, 6 September 2026

18:00 to 19:00

Richard Compton *(University of Oxford, Department of Chemistry, Oxford. Great Britain)*

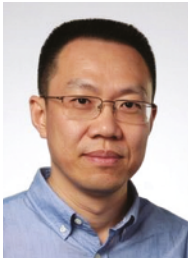
Electrochemistry and Single Entity Plankton

Monday, 7 September 2026

08:30 to 09:30

Beatrice Roldan Cuenya *(Department of Interface Science, Fritz-Haber Institute of the Max Planck Society, Berlin, Germany)*

Structural Dynamics as a Key Element of Electrocatalyst Functionality

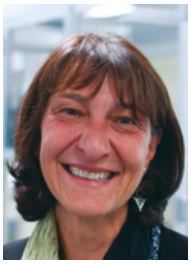


Tuesday, 8 September 2026

08:30 to 09:30

Yi-Tao Long *(School of Chemistry, Nanjing University, Nanjing 210023 P. R. China.)*

Confined Controlled Electrochemistry: From Sealed Electrode to Nanopore Interface



Wednesday, 9 September 2026

08:30 to 09:30

Maria Forsyth *(Deakin University, Institute for Frontier Materials, Victoria, Australia)*

Ionic Liquid Electrolytes for High Energy Density Metal Batteries

Thursday, 10 September 2026

08:30 to 09:30

Shana Kelley *(Nortwestern University, Department of Chemistry, Evanston, IL, USA)*

Continuous Electrochemical Monitoring of Protein Biomarkers Using Modular Molecular Frameworks

Friday, 11 September 2026

08:30 to 09:30

Jan Rossmeisl *(Center for High Entropy Alloy Catalysis, Department of Chemistry, University of Copenhagen, Denmark)*

Theory of Electrocatalysis

ISE Prize Winners 2025

Frumkin Medal

Prof. **Richard Compton**, *University of Oxford, Department of Chemistry, Oxford. Great Britain*

Sunday 6 September 2026 - 18:00-19:00, Plenary Lecture, Room: Pyrmont Theatre

Electrochemistry and Single Entity Plankton

In recognition of his life time outstanding contributions to fundamental electrochemistry that includes electroanalysis, photo-, sono- and spectro-electrochemistry, electrochemistry of room-temperature ionic liquids; single-entity electrochemistry; and the simulation and modeling of electron transfer and mass transport at electrified interfaces.

Tajima Prize

Prof. **Jeffrey Dick**, *Purdue University, USA*

Monday 7 September 2026 - 14:00-14:30, Symposium 3, Room: C3.6

Tiny Droplets, Big Implications: Discovering Surprising Physicochemical Properties at the Nanoscale with Stochastic Electrochemistry

For his fundamental and innovative work in the field of electroanalytical chemistry and materials electrochemistry using micro- and nanodroplets.

ISE Prize for Electrochemical Energy Conversion and Storage of Division 3 in Honour of Bruno Scrosati

Prof. **Laurence Croguennec**, *University of Bordeaux, France*

Monday 7 September 2026 - 14:00-14:30, Symposium 7b, Room: C2.1

Design of Materials for Positive Electrodes of Na-ion Batteries

For significant advancement of the understanding and development of lithium-, sodium-, and potassium-ion batteries, as well as all-solid-state systems with a strong focus on sustainability and future battery technologies.

Zhaowu Tian Prize for Energy Electrochemistry

Prof. **Stephen Dongmin Kang**, *Seoul National University*

Tuesday 8 September 2026 - 14:00-14:30, Symposium 7b, Room: C2.1

Electrochemical Kinetics of Battery Particles: Reforming Conventional Ideas

For the development of characterization methods and test protocols for characterization of the charge transport related phenomena in advanced batteries.

Oronzio and Niccolò De Nora Foundation Young Author Prize of ISE

Dr. **Erlind Mysliu**, *SINTEF Industry, Norway*

Monday 7 September 2026 - 15:15-15:30, Symposium 6, Room: C3.1

Beyond state-of-the-art materials in PEMWE: Exploring C-coated stainless steel for porous transport layer and flow field manufacturing

For the paper published in Electrochimica Acta Volume 477, 10 February 2024, 143805, Effect of Cu^{2+} on deposition mechanism and structure of ZrO_2-based conversion coatings on AA6060 aluminium alloys and their susceptibility to filiform corrosion.

Alexander Kuznetsov Prize for Theoretical Electrochemistry

Prof. **Adam Weber**, *Lawrence Berkley National Laboratory, USA*

Thursday 10 September 2026 - 14:15-14:30, Symposium 15, Room: C3.5

Role of Transport in Fuel-Cell Electrodes

For groundbreaking contributions to multiscale modelling of electrochemical systems and the study of electrochemical interfaces.

ISE Prize for Electrochemical Material Science – Energy

Prof. **Rebecca Pittkowski**, *University Copenhagen, Denmark*

Monday 8 September 2026 - 18:15-18:30, Symposium 14, Room: C3.3

Exploring Structure and Stability in High-Entropy Nanocatalysts through a Multi-modal Operando Synchrotron X-ray approach

For her recent contributions in the understanding and development of high entropy alloy nanoparticles and electrocatalysts, key for sustainable energy technologies like fuel cells and water splitting.

ISE Prize Winners 2025

ISE Prize for Electrochemical Material Science – Corrosion

Dr. **Oumaïma Gharbi**, *Sorbonne Université, Paris, France*

Wednesday 9 September 2026 - 09:30-10:00, Symposium 8, Room: C2.3
Leveraging Ionic Liquids in Electrochemical Material Science : a Molecular-Scale Approach using in situ XPS and PM-IRRAS

For her significant achievements in the field of corrosion science. Her works include major innovative electrochemical characterisation techniques, and her contributions also extend to the realm of fundamental electrochemistry.

Early Career Prize in Electroanalytical Chemistry of ISE Division 1 sponsored by Origalys

Prof. **Samantha Gateman**, *Western University, Canada*

Monday 7 September 2026 - 11:45-1:15, Symposium 14b, Room: C2.4
Understanding Corrosion Mechanisms Through Spatially Resolved Electrochemistry

For her achievements in the field of analytical electrochemistry for corrosion.

Jaroslav Heyrovský Prize for Molecular Electrochemistry

Prof. **Robert Francke**, *Leibniz Institute for Catalysis (LIKAT), Rostock, Germany*

Thursday 10 September 2026 - 09:30-10:00, Symposium 12, Room: C3.2
Molecular Concepts for Sustainable Reaction Control in Organic Electrosynthesis

For distinctive and original contribution to the field of electrosynthesis.

ISE-Elsevier Prize for Experimental Electrochemistry

Prof. **Bin Ren**, *Xiamen University, China*

Thursday 10 September 2026 - 17:45-18:00, Symposium 14, Room: C3.3
Electrochemical Raman Spectroscopy—Pushing towards Nanometer Spatial Resolution and Enhanced Mass Control

For pioneering and greatly advancing the development of spectroelectrochemical methods with high spatial and time resolution. His developments in electrochemical TERS, transient electrochemical SERS, and electrochemical dark-field spectroscopy are at the forefront of experimental advances that allow probing and mapping electrochemical interfaces.

ISE-Elsevier Prize for Applied Electrochemistry

Dr. **María Arnaiz**, *CIC energiGUNE, Parque Tecnológico (Álava), Spain*

Monday 7 September 2026 - 16:30-16:45, Symposium 7b, Room: C2.1
Pre-sodiation Strategies for Sodium-Ion Capacitors: From State-of-the-Art to Scalable Sacrificial Additives

For her recent work on novel aqueous binders for supercapacitor electrode processing paving the way towards scalable energy storage systems

ISE-Elsevier Prize for Green Electrochemistry

Prof. **Alexander Bagger**, *Technical University of Denmark, Lyngby, Denmark*

Monday 7 September 2026 - 11:00-11:15, Symposium 4, Room: C3.4
Electrochemical CO_2 reduction; finding something new

For his outstanding work on the development of computational tools to investigate materials at the atomic scale for green & environmental electrochemistry reactions

Katsumi Nikki Prize in Bioelectrochemistry

Prof. **Alexander Kuhn**, *University Bordeaux, France*

Tuesday 8 September 2026 - 09:30-10:00, Symposium 3, Room: C3.6
Unconventional Approaches in Bioelectrochemistry: From Wired to Wireless Systems

For significantly and impactfully contributing to the field of bioelectrochemistry in a wide and transversal manner. He has also very much supported the growth of Bioelectrochemistry as a discipline.

Electrochimica Acta and ISE Travel Awards for Young Electrochemists 2026

Electrochimica Acta Travel Award Winners

Vittorio Marangon, *Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT)*
Tianye Zheng, *Peking University*
Ignacio Sanjuán Moltó, *Institute of Advanced Materials (INAM,) University Jaume I*

ISE Travel Award Winners

Weilai Yu, *University of Toronto*
Chawin Srisomwat, *Thammasat University*
Haocheng Guo, *Karlsruhe Institute of Technology*
Melissa Marks, *University of Copenhagen*
Laura Wey, *University of Turku*
Antonia Herzog, *Technical University of Denmark*
Damini Verma, *Indian Institute of Technology Roorkee*

Poster Presentation Sessions

Room: **The Gallery - Level 2**

For poster placements, see ***pages 116,*** and ***118-121***

Poster Session 1 & Cocktail *sponsored by* ***Redoxme AB***

Monday 7 September *from* **18:00** *to* **20:00**

Symposia 1, 2, 3, 5, 7, 9, 11, 13, 15

Poster set-up: **Monday,** *from* **09:00** *to* **16:30**
Poster take-down: ***before*** **Tuesday, 12:00**

Poster Session 2 *sponsored by* ***Admiral Instruments***

Wednesday 9 September *from* **11:00** *to* **12:30**

Symposia 4, 6, 8, 10, 12, 14, 16

Poster set-up: **Tuesday,** *from* **13:00** *to* **19:00**
Poster take-down: ***before*** **Thursday, 12:00**

ISE Society Meetings

Sunday, 6 September 2026

Opening Ceremony

17:00 to 18:00 › Room: **Pyrmont Theatre**

Monday, 7 September 2026

Division Officers Meeting

12:40 to 13:40 › Room: **C3.6**

Regional Representatives Meeting

12:40 to 13:40 › Room: **C3.3**

Tuesday, 8 September 2026

Council Meeting

12:40 to 13:40 › Room: **Pyrmont Theatre**

Thursday, 10 September 2026

General Assembly

11:00 to 12:00 › Room: **Pyrmont Theatre**

Division Meetings

12:40 to 13:40

Division 1 Analytical Electrochemistry › Room: **C2.1**
Division 2 Bioelectrochemistry › Room: **C3.2**
Division 3 Electrochemical Energy Conversion and Storage › Room: **C3.6**
Division 4 Electrochemical Materials Science › Room: **C3.4**
Division 5 Electrochemical Process Engineering and Technology › Room: **C3.5**
Division 6 Molecular Electrochemistry › Room: **C2.3**
Division 7 Physical Electrochemistry › Room: **C3.3**

Friday, 11 September 2026

Closing Ceremony

12:15 to 12:45 › Room: **Pyrmont Theatre**

Publications

"Electrochemistry for the New World"

Electrochimica Acta is launching a **Virtual Special Issue** (VSI) in **May 2027**, which comprises a selection of papers presented at the 77th Annual Meeting, held from September 6 to 11, 2026, in Sydney, Australia.

Special Issue Executive Editor:

Professor Nick Birbilis - *Deakin University, Melbourne, Australia*
A team of Guest editors will also be involved in the process.

Call for papers: ***sciencedirect.com****/special-issue/333984/electrochemistry-for-the-new-world*

This is an invited-only special issue.

Upon invitation, please provide prospective contributors with the following specific instructions on how to submit an article:

1) Go to: ***https://www.journals.elsevier.com/electrochimica-acta***
2) Click on the **Submit your article** option from the top menu
3) Enter your **username** and **password** (first time users will have to register)
4) Click on **Submit New Manuscript**
5) Select **VSI: ISE-2026** *FLA* or *Review* as the article type and click **Proceed**
6) Select **Sotiro Sotiropoulos** at the *Request Editor* required dropdown menu
7) Follow the remaining step-by-step instructions to submit your article

Submission of contributions: **From 30 June, 2026** with a **deadline** of **31 January, 2027**

Social Program

RECEPTIONS

Welcome Reception *sponsored by* ***Metrohm Electrochemistry*** *and* ***Sensolytics***

Sunday, 6 September, 2026, *from 19:00 to 21:00*

in Room: **The Gallery - Level 2**

Poster Session 1 & Cocktail *sponsored by* ***Redoxme AB***

Monday, 7 September, 2026, *from 18:00 to 20:00*

in Room: **The Gallery - Level 2**

Thursday Banquet *sponsored by* ***Spectro Inlets***

Thursday, 10 September, 2026, *from 19:00 to 23:00*

Doltone House | Darling Island Wharf
48 Pirrama Road, Pyrmont NSW 2009

https://doltonehouse.com.au

~~110 Euros~~ **Sold out** : Places are limited. All tickets for the banquet must be pre-booked and are non-refundable.

EXCURSIONS

Top things to do in New South Wales

Looking for all the best activities, tours and other things to do in New South Wales?

Check out our extensive range of top experiences here! ***https://besydney.experienceoz.com.au/en/new-south-wales***

Oral presentation program

Sunday 6 September 2026

Tutorial 1

Room: **C2.1**

13:30 to 16:45

Continuous monitoring electrochemical sensors

Presented by **Kevin W. Plaxco,** *Distinguished Professor of Chemistry and Biochemistry, BioEngineering, and Quantitative Biology, University of California, Santa Barbara, CA 93016, USA*

Tutorial 2

Room: **C2.2**

13:30 to 16:45

Electro-organic Synthesis

Part 1 - devoted to the fundamentals required.

Presented by **Prof. Dr. Siegfried R. Waldvogel**, *Max Planck Institute for Chemical Energy Conversion. Department of Electrosynthesis. Stiftstraße 34-36. 45470 Mülheim an der Ruhr, Germany.*

Part 2 - demonstrating practical examples and uses.

Presented by **Dr. Darryl Nater**, *Max Planck Institute for Chemical Energy Conversion. Department of Electrosynthesis. Stiftstraße 34-36. 45470 Mülheim an der Ruhr, Germany.*

Opening Ceremony

Room: **Pyrmont Theatre**

17:00 to 18:00

Chaired by: **Justin Gooding** *(Co-Chair) and* **Debbie Silvester-Dean** *(Co-Chair)*

Plenary Lecture

Room: **Pyrmont Theatre**

18:00 to 19:00

Richard Compton *(University of Oxford, Department of Chemistry, Oxford. Great Britain)*

Electrochemistry and Single Entity Plankton

Welcome Reception

Room: **The Gallery - Level 2**

19:00 to 21:00 *Sponsored by* ***Metrohm Electrochemistry*** *and* ***Sensolytics***

Metrohm Electrochemistry

SENSOLYTICS

Monday 7 September 2026 - **Morning**

Plenary Lecture

Room: **Pyrmont Theatre**

08:30 to 09:30

Beatriz Roldan Cuenya *(Department of Interface Science, Fritz-Haber Institute of the Max Planck Society, Berlin, Germany)*

Structural Dynamics as a Key Element of Electrocatalyst Functionality

Symposium 1 Electrochemistry at the interface: From liquid-liquid to point-of-care devices

Room: **C2.3**

Chaired by:

09:30 to 09:45 ***Invited***

Yang Liu *(College of Science and Engineering, James Cook University, Townsville, Australia)*, Seyed Oveis Mirabootalebi, Greeshma Gigi

Solid-Contact Ion-Selective Electrodes for Advanced Nutrient Sensing

09:45 to 10:00

Yupu Zhang *(Department of Inorganic and Analytical Chemistry, University of Geneva, Geneva, Switzerland)*, Eva Paloma Caparros, Eric Bakker

Self-Calibrating Ion Sensing Based on Electrochemically Internal Standard Addition

~~*10:00 to 10:15*~~

~~**Tingting Han** *(School of Chemistry and Chemical Engineering, Guangzhou University, Guangzhou China)*, Tao Song, Dongxue Han, Johan Bobacka, Li Niu~~

CANCELLED

~~From Potentiometry to Kinetic ion flux-Coulometric signal transduction Q and effective capacitance Cec for ion sensors~~

10:15 to 10:30

Agueda Molinero-Fernández *(UCAM-SENS, Universidad Católica San Antonio de Murcia, Murcia, Spain)*, Yuxin Chen, Pietro Iannuzo, María Cuartero, Gastón Crespo

Electrochemical Microneedle Sensors for In Planta Ion Monitoring

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

PalmSens Compact Electrochemical Interfaces

11:00 to 11:30 ***Keynote***

Saimon Moraes Silva *(Biochemistry and Chemistry, La Trobe University, Melbourne, Australia)*

Electrochemical Protein-Based Biosensors: From Molecular Design to Scalable Manufacturing

11:45 to 12:00

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

Imprinting of Nanoparticles in Soft Matrices: Mechanisms, Selectivity, and Applications

11:30 to 11:45

Kaiyu Fu *(Chemistry and Biochemistry, University of Notre Dame, Notre Dame, USA)*

Toward Autonomous Electrochemical Biosensing: Nanoconfined Interfaces for Continuous Molecular Monitoring

12:00 to 12:15

Yu-Nan Lu *(Chemistry, The University of New South Wales, Sydney, Australia)*, Chen Hu, Essam Ibrahim, Richard D Tilley, Justin Gooding

Electrochemical Monitoring of Cancer Biomarkers via Simultaneous Multiplexing with Gold-Coated Magnetic Nanoparticles

12:30 to 14:00 ***Lunch Break*** *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 2 Electrochemical biosensors: The new world technology

Room: **C3.2**

Chaired by: Felipe Conzuelo; Gabriel Meloni; Saimon Moraes Silva

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

Wei Gao *(Medical Engineering, California Institute of Technology, PASADENA, USA)*

Body-interfaced biosensors

10:00 to 10:15

Robert Batchelor *(R&D, Nutromics/UNSW, Brunswick, Australia)*, Robert Batchelor, Arthur Chiew, Alastair Hodges, Kevin Plaxco, Justin Gooding

Examination of the percentage of aptamers that remain functional in electrochemical aptamer biosensors via electrochemistry and in situ fluorescence microscopy.

10:15 to 10:30

Georgeta McCartney *(Biomedical Engineering, Swansea University, Swansea, United Kingdom)*, Francesco Del Giudice, Claire Barnes, Sudhaunsh Deshpande, Sanjiv Sharma

Wearable transdermal sensors for monitoring levels of carbonate as a proxy for carbon dioxide in the skin interstitial fluid

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***PalmSens BV***

11:00 to 11:15

Paolo Bollella *(Department of Chemistry, University of Bari Aldo Moro, Bari, Italy)*, Verdiana Marchianò, Blanca Cassano, Angelo Tricase, Luigi Gentile, Eleonora Macchia, Luisa Torsi

Edible Biosensors for Transient Bioelectrochemical Sensing: Hydrogel and Carbon-Based Platforms

11:15 to 11:30

Chen Hu *(School of Chemistry, The University of New South Wales, Sydney, Australia)*, Essam M. Dief, Bram G. Soliman, Jiuyu Cui, Sara Romanazzo, Kristopher A. Kilian, Richard D. Tilley, J. Justin Gooding

An Electrochemical Biosensing Approach for Dynamic Tracking of microRNA in Liquid Biopsy from Individual Cancer Spheroids

11:30 to 11:45

Ben McKenzie *(Chemistry, La Trobe University, Bundoora, Australia)*, Robert Sikos, Gemma Zerna, Michael Beer, Richard Brown, Shani Wong, Katherine Shields, Travis Beddoe, Conor Hogan

Towards Low-Cost, Robust, Point-of-Use Electrochemical Nucleic Acid Detection With a Smartphone Using Loop-Mediated Isothermal Amplification (LAMP)

11:45 to 12:00

Xianchan Li *(National Key Laboratory of Natural and Biomimetic Drugs, Peking University, Beijing, China)*, Yuying Liu, Lijiao Cao, Yuhang Jiang

Electrochemical Analysis of Single Vesicles and Its Applications

12:00 to 12:15

Vatsala Pithaih *(Department of Biochemistry and Chemistry, La Trobe University, Bundoora, Australia)*, Chamindie Punyadeera, Conor Hogan, Brian Abbey, Saimon Moraes Silva

Ultrasensitive Electrochemical Detection of the Merkel Cell Carcinoma Biomarker miR-375 Using Duplex-Specific DNase Amplification

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 3 Bioelectrochemistry: Scientific discoveries and applications

Room: **C3.6**

Chaired by: Donal Leech; Laura Wey

09:30 to 09:45 ***Invited***

Frédéric Barrière *(Institut des Sciences Chimiques de Rennes, Université de Rennes, Rennes, France)*, James Behan

Electroactive Bacteria for Micro-Energy Harvesting and Nano-Materials Biogeneration

09:45 to 10:00

Laura Wey *(Department of Life Technologies, University of Turku, Turku, Finland)*, Monica Brachi, Pablo Ortega-Martínez, David Russo, Shelley Minteer

Unravelling Cyanobacterial Exoelectrogenesis: Integrating Omics and Electrochemical Approaches to Identify Endogenous Redox Mediators

10:00 to 10:15

Silvia Sato Soto *(Research Center for Macromolecules and Biomaterials, National Institute for Materials Science, Tsukuba, Japan)*, Akihiro Okamoto

Electrochemical Inactivation of Bacillus Spores

10:15 to 10:30 ***Invited***

Krishna Katuri *(Biological & Environmental Science & Engineering division, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia)*

Microbial Electrochemical Technology (MET) Horizons: Fundamental Insights & Scalable Solutions for Harnessing Energy and Water from Wastewater, CO_2 Valorization, and Sustainable Catalysis

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:30 ***Keynote***

Shelley Minteer *(Chemistry, Missouri University of Science and Technology, Rolla, USA)*

Combining Biocatalysis with Electrosynthesis for Green Chemical Production

11:30 to 11:45

Fangyuan Zhao *(School of Chemical Engineering & Technology, China University of Mining and Technology, Xuzhou, China)*, Tong Xing, Yaxin Lv, Wanqing Zhang, Zhou Zhang, Felipe Conzuelo

A Novel Biofuel Cell for Both Electricity Generation and Glycerol Valorization

11:45 to 12:00

Gaurav Sunil Patil *(Department of Biotechnology and Food Science, Institute of Food Technology, Vienna, Austria)*, Florian Csarman, Roland Ludwig

Engineering Fusion Enzymes for Direct Electron Transfer

12:00 to 12:15

Kota Takeda *(Research Institute for Chemical Process Technology, National Institute of Advanced Industrial Science and Technology, Sendai, Japan)*, Akiko Yoshida, Yuta Nishina, Hirotomo Nishihara, Tetsuji Itoh

Mesoporous Carbon Electrodes with Immobilized Quinone-based Mediator: Bioelectrocatalysis of Glucose Dehydrogenase and Extension to Amino Acid Sensing

12:15 to 12:30

Donal Leech *(School of Biological and Chemical Sciences, University of Galway, Galway, Ireland)*, Keerthi Bhoosan Manikandan Vanita, Reshma Kidayaveettil

Enzyme and mediator immobilization on electrodes: anchoring, crosslinking and electrode response

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: **C3.4**

Chaired by: Danilo Dini; Magda Titirici

09:30 to 09:45 ***Invited***

Kazuhide Kamiya *(Graduate School of Engineering Science, The University of Osaka, Toyonaka, Japan)*

Rational Multiscale Interface Engineering for Efficient CO_2 Electroreduction to Multicarbon Products

09:45 to 10:00

Takuya Yamada *(IMRAM, Tohoku University, Sendai, Japan)*, Kazuyuki Iwase, Naoto Todoroki, Takaaki Tomai

Fabrication of Cu-Ag Alloy Nanoparticle-Loaded Electrodes via Sputtering and Their CO_2 Electrochemical Reduction Activity

10:00 to 10:15

Chang Hyuck Choi *(Department of Chemistry, Pohang University of Science and Technology (POSTECH), Pohang, Korea)*

Alkali Cation Impurities Stabilize Cu+ in Oxide-Derived Cu for CO_2 Electrolysis

10:15 to 10:30

Yu Chen *(Key Laboratory of Quantum Materials and Devices of the Ministry, School of Physics, Southeast University, Nanjing, China)*, Chongyi Ling, Jinlan Wang

Origin of Methane Formation under High Reduction Potential in CO_2 electroreduction: Mechanism of CO Activation

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:15

Alexander Bagger *(Physics, Technical University of Denmark, Lyngby, Denmark)*

Electrochemical CO_2 reduction; finding something new

11:15 to 11:30

Christine Heume *(Institute of Energy Technologies (IET-1), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Krzysztof Dzieciol, Eva Jodat, André Karl, Rüdiger-A. Eichel

From Ex situ to Operando – Visualizing Degradation in PEM Water Electrolysis via X-ray Microscopy

11:30 to 11:45

Danilo Dini *(Chemistry, Sapienza University, Rome, Italy)*, Danilo Dini, Jessica Costa Alvim, Claudia Longo

Semiconducting electrodes for the production of electro-fuels: perspectives for this finality of the Power-to-X type

11:45 to 12:00

Kirstine Nygaard Kolding *(Department of Chemistry, Aarhus University, Aarhus, Denmark)*, Kirstine Nygaard Kolding, Jonathan Willumsen, Jens Vinge Nygaard, Kim Daasbjerg

pH-Regulating Catalyst Interface for Electrochemical Conversion of Bicarbonate

12:00 to 12:15

Naonari Sakamoto *(Energy Carrier Research-Domain,, Toyota Central R&D Labs., Inc., 41-1, Yokomichi, Nagakute, Japan)*, Keita Sekizawa, Shunsuke Sato, Jieun Jung, Taku Wakabayashi, Kenji Kamada, Takamasa Nonaka, Takeshi Uyama, Takeshi Morikawa, Susumu Saito

Investigating the CO_2 electrolysis mechanism of heterogenized molecular catalysts via multi-operando spectroscopy

12:15 to 12:30

Vicente Pascual Llorens *(CBH, Chemistry, Biotechnology and Health, KTH Royal Institute of Technology, Stockholm, Sweden)*, Lorena Chico-Mesa, Michael Musi, Rosa M. Arán-Ais, Paula Sebatián-Pascual

5-Hydroxymethylfurfural electrocatalysis on engineered Cu electrodes

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

MONDAY AM

Symposium 5 Aqueous-based batteries and high-power devices

Room: **C2.5**

Chaired by: Hong Jin Fan; Giorgia Zampardi

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

Hong Jin Fan *(School of Physical and Mathematical Sciences (SPMS), Nanyang Technological University, Singapore)*

Designing Aqueous Electrolytes for Zn Metal Batteries

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

Giorgia Zampardi *(Energy Storage and Conversion Systems (ESECS), University of Bremen, Bremen, Germany)*, Lucia Sorrill, Tim Klotz, Fabio La Mantia

Towards more Efficient Aqueous Zn-ion Batteries: a Sustainable, Cost-Effective Choice for Stationary Storage Applications

10:15 to 10:30

William McLeod *(School of Chemistry, University of Sydney, Camperdown, Australia)*, Kaylie A. McCracken, Pedaballi Sireesha, Nathaniel H. Hille, Jeffrey G. Bell

Anode-Free Zinc Batteries Enhanced by Permanent Magnets

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:15

Adrian C. Fortuin *(Computational Materials Design, Helmut-Schmidt-Universität, Hamburg, Germany)*, Michael Häfner, Juan Carlos Romano, Chao Peng, Denis Kramer

Taming Zinc Dendrites with Self-Assembled Monolayers in Near-Neutral Electrolytes

11:15 to 11:30

Wataru Horie *(School of Materials and Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Atsunori Ikezawa, Takashi Hirose, Takeyoshi Okajima, Hajime Arai

Effects of ZnO addition to Zn metal electrodes analyzed by operando and ex-situ measurements

11:30 to 11:45

Xinyuan Zhang *(Research Institute at Nanyang Technological University, Nanyang Technological University, Singapore, Singapore)*, Hongjin Fan

High-Energy and Durable Decoupled Aqueous Batteries

11:45 to 12:00

Zhaohui Xing *(School of Engineering, University of Edinburgh, Edinburgh, United Kingdom)*, Shaoyang Gao, Neil Robertson, Peisan *(Sharel)* E

A Chelating Additive for Dual-Scale Interfacial Regulation in Aqueous Zinc-Ion Batteries

12:00 to 12:15

Junru Wang *(Department of Materials Engineering, KU Leuven, Brugge, Belgium)*, Dawid Kasprzak, Dharmjeet Madhav, Veerle Vandeginste

Low-Cost, Dendrite-Suppressing Cellulose Acetate-Based Quasi-Solid Electrolyte for Stable Aqueous Zinc-Ion Batteries

12:15 to 12:30

Hui Yang *(The Key Laboratory of Renewable Energy, China Tower Corporation Limited, Beijing, China)*, Guofeng Liu, Dongxu Chen, Peiyu Yue, Yiding Wang

Aqueous Zinc-Based Battery Systems for Base Station Applications

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 6a Advances in hydrogen production and utilisation

Room: **C3.1**

Chaired by: Kenji Miyatake; Chuan Zhao

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

Chuan Zhao *(School of Chemistry, University of New South Wales, Sydney, Australia)*

Bridging the Gap in Earth-Abundant Electrocatalysts for Water Electrolysers and Fuel Cells

10:00 to 10:15

Nayab Abdul Karim *(Chair of Technical Electrochemistry, Technical University Munich, Garching bei München, Germany)*, Matthias Felix Ernst, Hubert Andreas Gasteiger

Fabrication of Titanium-Based Microporous Layers by Decal Transfer for PEM Water Electrolysis Anode

10:15 to 10:30

Loïc Assaud *(ESPCI, University Paris Sciences & Letters, Paris, France)*, Haitham Maslouh, Khaoula Chergui, Divino Salvador Ramírez Rico, Youssef Kharchouf, Benoît Lescop, Stéphane Rioual, Valérie Demange, Ludivine Rault, Francis Gouttefangeas, Loïc Joanny, Sophie Ollivier, Mikhael Bechelany, Michael Walls, Mireille Turmine, Kieu Ngo, Vincent Vivier, Sylvain Franger, Michel Prestat

Advanced Thin Film Coatings for Stainless Steel Bipolar Plates and Porous Transport Layers in PEM Water Electrolysis

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:15

P. M. Anuradha Bandaranayake *(Department of Chemical Engineering, University College London, London, United Kingdom)*, P. M. Anuradha Bandaranayake, Douglas W. G. Stewart, Thomas S. Miller

Visualising Degradation of Ir- and Ru-Based Anode Catalysts and MEA Evolution in a Miniature PEM Water Electrolyser via X-ray Microtomography

11:15 to 11:30

Anna T. S. Freiberg *(Helmholtz Institute Erlangen-Nürnberg, Forschungszentrum Jülich, Erlangen, Germany)*, Simon Thiele

Hydrogen Oxidation and H_2-O_2 Recombination Activity of the Anode of PEMWE: A Blindspot in Electrolysis Research

11:30 to 11:45

Kohei Ito *(Dept. of Hydrogen Energy Systems, Kyushu University, Fukuoka, Japan)*, Xiaoning Zhang

Salt Effects on OER Kinetics under Weakly Acidic Conditions

11:45 to 12:00

Yingti Hung *(na, Bosch Transmission Technology BV, Tilburg, Netherlands)*, Bertie Saxby, Walter Goorts, Foteini Sapountzi

Diagnosing Voltage Decay in PEM Water Electrolyzers Using Distribution of Relaxation Time (DRT)

12:00 to 12:15

André Karl *(Institute of Energy Technologies, IET-1, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Eva Jodat, Hans Kungl, Rüdiger-A. Eichel

De-risking PEM Electrolysis: Multi-scale Testing and Advanced Characterization for a Green Hydrogen Economy

12:15 to 12:30

Marc Francis Labata *(PCIEERD, Department of Science and Technology, Taguig, Philippines)*, Guangfu Li, Po-Ya Abel Chuang

Investigating the Synergy of Surfactant and Acid Etching in the Synthesis of Iridium-Cobalt (Ir-Co) Oxide Catalyst for Oxygen Evolution Reaction

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: **Pyrmont Theatre**

Chaired by: Naoaki Yabuuchi

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

Sang-Young Lee *(Chemical and Biomolecular Engineering/Battery Engineering, Yonsei University, Seoul, Korea)*

Thick by Design: Scalable Electrode Engineering for Cell-Level Energy Density

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

Haegyeom Kim *(Materials Sciences Division, Lawrence Berkeley National Laboratory (LBNL, LBL), Berkeley, USA)*, Venkata Sai Avvaru

Disordered Rock Salt-Type Cathodes: From Materials Discovery to Their Practical Implications

10:15 to 10:30

Benjamin Borgne *(Liten, CEA, Grenoble, France)*, David Peralta, Frédéric Le Cras, Jean-François Colin

Lithium Borate Oxide Coating for Monolithic Ni-Rich Cathode Active Material

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:15

Natalia Firlej *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Paweł Stępnicki, Dominika A. Buchberger, Andrzej Czerwiński, Magdalena Winkowska-Struzik

Structural and Electrochemical Response of NMC811 to Controlled Metallic Impurities (Cu, Al, Zn) Typical for Battery Recycling Processes

11:15 to 11:30

Alicja Glaszczka-Ciftci *(Chemistry, Univeristy of Warsaw, Warsaw, Poland)*, Pawel Stepnicki, Natalia Firlej, Magdalena Winkowska-Struzik, Michal Grygiel, Andrzej Czerwinski, Dominika Buchberger

Expanding the NMC Horizon: Structural Diversity and Lattice Stability in Unconventional $LiNi_xMn_yCo_zO_2$ Layered Oxides

11:30 to 11:45

Wesley Dose *(School of Chemistry, University of Sydney, Camperdown, Australia)*, Tongjun Luo, Xiaoxia Guo, Rhodri Jervis

Dynamic Redox Behaviour of the Reduced Surface Layer in Ni-rich Li-ion Batteries

11:45 to 12:00

Ryuichi Hori *(Material & Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Takashi Hirose, Haruki Kaneda, Jun Shinogi, Yusuke Suzuki, Yuki Furuichi, Takeyoshi Okajima, Hajime Arai

Ion-exchange conditions for synthesizing O_2-Type electrode material for lithium battery application.

12:00 to 12:15

Magdalena Winkowska-Struzik *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Natalia Firlej, Michał Struzik, Jacek Jasinski, Andrzej Czerwinski, Dominika Buchberger

Raman Mapping of Layered NMC Cathodes: Tracking Degradation, Heterogeneity and Relithiation

12:15 to 12:30

Mehrdad Talebi *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Mehrdad Talebi, Markus Binder, Vittorio Marangon, Dominic Bresser

Direct Recycling and Regeneration of Ni-rich Cathode Materials for Lithium-Ion Batteries

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: **C2.1**

Chaired by: Adam Moyseowicz; M. Rosa Palacin

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

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

Blending Electrode Active Materials: a Multipurpose Strategy

10:00 to 10:15

Piotr Pieta *(Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland)*, Noor Ul Ain, Izabela S. Pieta, Claudia Limachi, Robert Nowakowski, Maciej Cieplak, Piyush Sharma, Marcin Holdynski, Marcin Pisarek, Boguslaw Mierzwa, Dili Subedi, Francis D'Souza

Porphyrin-based nanostructured materials for high-performance Li-S Batteries

10:15 to 10:30

Thomas J. Leckie *(Department of Chemical & Process Engineering, University of Strathclyde, Glasgow, United Kingdom)*, Niall Dalton, Pasidu Pallawela, Stuart D. Robertson, Edward Brightman

Understanding the SEI formation in Lithium Polysulfide Flow Batteries

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***PalmSens BV***

11:00 to 11:15

Mecaelah Palaganas *(Department of Environment and Energy Engineering, GIST, Gwangju, Korea)*, Changbin Im, Jihyeon Park

Composition-Tuned Iron Phosphide (Fe_xP, x = 1–3) Electrocatalysts for High-Performance Lithium–Sulfur Batteries

11:15 to 11:30

Michael Thielke *(School of Engineering and Materials Science, Queen Mary University of London, London, United Kingdom)*, Ana Jorge Sobrido

Spinning Sulfur: Merging Inverse Vulcanization with Electrospinning for High-Performance Cathodes

11:30 to 11:45

Neeha Gogoi *(Laboratory for Battery Science, PSI, Villigen, Switzerland)*, Sigita Trabesinger

Controlled Release Additive Strategy Using Microcapsules for High-Performance Lithium-Sulfur Battery

11:45 to 12:00

Adam Moyseowicz *(Faculty of Chemistry, Wroclaw University of Science and Technology, Wroclaw, Poland)*, Bushra Iqbal, Karolina Kordek-Khalil, Katarzyna Gajewska

Limits of Hard Carbon and the Role of Hybrid Architectures in Sodium-Ion Storage: Insights from the Stablebat Project

12:00 to 12:15

Evgeny Senokos *(Colloid Chemistry, Max Planck Institute of Colloids and Interfaces, Potsdam, Germany)*

Bridging Molecular Confinement and Practical Application in Sulfur Cathodes for Room-Temperature Na–S Batteries

12:15 to 12:30

Ziming Peng *(School of Chemistry, University of St Andrews, St Andrews, United Kingdom)*, John Irvine

Al^{3+}/F^- co-doping into NASICON-type electrolyte for Na solid batteries

12:30 to 14:00 ***Lunch Break*** *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Room: **C2.2**

Chaired by: Chi-Chang Hu; Francesca Soavi

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

Yuan Chen *(School of Chemical and Biomolecular Engineering, The University of Sydney, Darlington, Australia)*, Jiacheng Wu

High-Mass-Loading Carbon Electrodes for Zinc Ion Hybrid Capacitors

10:00 to 10:15

Chi-Chang Hu *(Department of Chemical Engineering, National Tsing Hua University, Hsin-Chu, Taiwan)*, Liang-Chieh Tseng, Chen-Wei Tai

Charge Storage Mechanism of Lithium Ions Within the Novel Hard Carbons with a Large Low-potential Plateau Capacity

10:15 to 10:30

Jong Seung Park *(School of Chemical Engineering, Pusan National University, Busan, Korea)*

Flexible Electrochromic Supercapacitors with Energy Storage and Optical Switching

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:15

Juliana De Almeida *(Chemical Engineering, Federal University of São Paulo, Diadema, Brazil)*, Christiane de Arruda Rodrigues

Direct Electrochemical Growth of Bimetallic MOFs on Nanotube Arrays for Highly Selective CO_2 Reduction

11:15 to 11:30

Jinqiu Zhang *(School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, China)*, Xueyang Jing, Dehe Fan, Yumeng Li, Ruopeng Li, Peixia Yang, Maozhong An

Construction of stable Cu^+/Cu^0 interfaces via in situ cyclic voltammetry for CO_2 electrochemical reduction to ethylene

11:30 to 11:45

Krzysztof Mech *(Academic Centre for Materials and Nanotechnology, AGH University of Krakow, Krakow, Poland)*, Andrzej Sławek, Agnieszka Podborska, Gisya Abdi, Sidra Muzaffar, Sebastian Jarczewski, Krystian Sokołowski, Bogdan Musielak, Ewelina Cechosz, Marta Janioł, Konrad Szaciłowski, Carlos Ponce de Leon

p-Type Heptazines with Boron Bridge Atoms as Promising Materials for Photoelectrochemical CO_2 Reduction

11:45 to 12:00

Abdelmoniem Abughazala *(Chemistry, Monash university, Melbourne, Australia)*

Decoupling Interfacial Cation Effects and Active-Site Structure Enables Selective CO_2 Reduction in Strongly Acidic Media

12:00 to 12:15

Iwona A. Rutkowska *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Anna Chmielnicka, Enrico Negro, Beata Rytelewska, Gioele Pagot, Vito Di Noto, Pawel J. Kulesza

Electrocatalytic Properties and Physicochemical Identity of Cu-Intercalated WO_3 Nanowires: Reduction of Carbon Dioxide and Nitrates in Acid Medium

12:15 to 12:30

Amgad Rezk *(Chemical and Environmental Engineering, RMIT University, Melbourne, Australia)*, Yemmia Ehrnst, Hossein Alijani, Cameron Bentley, Peter Sherrell, Billy Murdoch, Leslie Yeo

UNLEASH: Ultralow Nanocluster Loading of Pt via Electro-Acoustic Seasoning of Heterocatalysts

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: Pierre Louis Taberna; Andy Wain

MONDAY AM

09:30 to 09:45

Filipp Obrezkov *(Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Sara Hamed, Alisa Bogdanova, Anna Kobets, Princess Stephanie Llanos, Sara Pakseresht, Tanja Kallio

Interpreting Electrode Volume Changes in Metal-Ion Batteries via Operando Dilatometry

09:45 to 10:00

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

Linking Structural Changes and Mechanical Response in Battery Electrodes via Operando XRD and Electrochemical Dilatometry

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

Sebastian Risse *(Institute for Electrochemical Energy Storage, Helmholtz-Zentrum Berlin, Berlin, Germany)*

Mechanistic Insights into Battery Materials from Operando Synchrotron Experiments

10:15 to 10:30

Arthur Fordham *(Electrochemical Innovation Lab, University College London, LONDON, United Kingdom)*, James B. Robinson, Wesley M. Dose, Rhodri Jervis

Listening to Batteries: Utilising Acoustic Diagnostics for Sustainable Battery Formation via Operando Detection of SEI Growth

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:30 ***Keynote***

Sandrine Lyonnard *(IRIG-SyMMES, CEA, Grenoble, France)*

2D/3D multi-scale imaging of heterogeneities in batteries using microbeam scanning techniques

11:30 to 11:45

Thomas Dore *(Department of Chemical Engineering, University College London, London, United Kingdom)*, Thomas Miller

In-Situ Visualisation of Failure Mechanisms and Hazard Formation in Commercial Supercapacitors Under Abusive Operating Conditions

11:45 to 12:00

Sheng-Yu Yu *(Center for Condensed Matter Sciences, National Taiwan University, Taipei, Taiwan)*, Heng-Liang Wu

Revealing the Structural Stability and Reaction Kinetics of Ni-Rich Layered Oxide Cathodes in Li-Ion Batteries

12:00 to 12:15

Toshihiro Kondo *(Chemistry, Ochanomizu University, Bunkyo-ku, Japan)*, Makoto Aoki, Yanan Gao, Masayuki Uesugi, Akihisa Takeuchi, Kohei Uosaki

Analysis of Battery Reaction Mechanisms via Reactant Characterization in Porous Electrodes Using Non-Destructive Position-Selective Synchrotron XRD-CT Measurements

12:15 to 12:30

Yanzhao Li *(Department of Chemical Science and Engineering, Institute of Science Tokyo, Yokohama, Japan)*, Kazuki Yamanaka, Kenta Watanabe, Keisuke Shimizu, Kazuhisa Tamura, Kota Suzuki, Ryoji Kanno, Masaaki Hirayama

Observation of Cathode/Electrolyte Interface Structures in High-Voltage Degradation of Sulfide-Based All-Solid-State Batteries using Thin-Film Model Cell

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

MONDAY AM

Symposium 14b In situ and operando methods for characterising electroactive materials and interfaces

Room: **C2.4**

Chaired by: Samantha Gateman; Christine Kranz

09:30 to 09:45

Wolfgang Schuhmann *(Analytical Chemistry, Ruhr University Bochum, Bochum, Germany)*, Moonjoo Kim, Felix Thelen, Geovane Arruda de Oliveira, Sphumelele Nomnotho Jiyane, Jan Lukas Bürgel, Ridha Zerdoumi, Alfred Ludwig

Scanning electrochemical cell microscopy for high-throughput electrocatalyst screening

09:45 to 10:00

Harry Swan *(School of Chemistry, Monash University, Clayton, Australia)*, Cameron Bentley

Long-Range Scanning Electrochemical Cell Microscopy (SECCM): Large Area Structure–Activity Mapping of the Hydrogen Evolution Reaction (HER) on Polycrystalline Platinum

10:00 to 10:15

Cameron Bentley *(School of Chemistry, Monash University, Melbourne, Australia)*, Prachi Janjani, Harry Swan, Leeling Dy, Arindam Sarkar

Enabling Alkaline Scanning Electrochemical Cell Microscopy (SECCM) for the Study of Water-Splitting Electrocatalysts

10:15 to 10:30

Prachi Janjani *(School of Chemistry, Monash University, Clayton, Australia)*, Prachi Janjani, Chanchal Samanta, Arindam Sarkar, Cameron Bentley

Resolving Structure-Activity Relationships in Nickel Electrocatalysis Across Length Scales

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

11:00 to 11:15

Luiz Felipe *(Department of Fundamental Chemistry, Institute of Chemistry - University of São Paulo, São Paulo, Brazil)*, Luiz Felipe, Karoline Ishida, Vitor Martins, Gabriel Meloni

Scanning Electrochemical Cell Microscopy in a Water-in-Salt Electrolyte: Localized Zn Deposition and Stripping Dynamics

11:15 to 11:30

Oforbuike Egbe *(Chemistry, Memorial University of Newfoundland, St. John's, Canada)*, Bradley Morrissey, Francesca Kerton, Jane Stockmann

In Situ Single-Entity Electrochemical Microscopy Reveals Copper Nanoparticle Ejection during Pulsed CO_2 Electroreduction

11:30 to 11:45

Kaito Hirata *(Department of Physical Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan)*, Hiroo Suzuki, Ichiro Nakaya, Yutaro Senda, Yasuhiko Hayashi, Yasufumi Takahashi

Visualizing Spatial Distribution of Hydrogen Evolution Reaction on Dendritic WS_2 Nanoribbons by Scanning Electrochemical Cell Microscopy

11:45 to 12:15

Samantha Gateman *(Department of Chemistry, Western University, London, Canada)*, Soroosh Hakiamin, Deepthi Geevarghese, Liudmila Strelnikova, Emmanuel Mena-Morcillo, Elliott Asare, Li Sun, Cecile De Medeiros

Understanding Corrosion Mechanisms Through Spatially Resolved Electrochemistry

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Symposium 15 Model electrodes to study nanoscale phenomena in electrocatalysis

Room: **C3.5**

Chaired by: Marco Altomare; Yanxia Chen; Adam Weber

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

Yanxia Chen *(Chemical Physics, University of Science and Technology of China, Hefei, China)*

Origins of the Apparent Kinetic Compensation Effects in Electrochemical Reactions

10:00 to 10:15

Enrique Herrero *(Institute of Electrochemistry, Universidad de Alicante, Alicante, Spain)*, Rubén Rizo, Víctor Climent

Beyond the Classical Picture: OH Adsorption at Unexpectedly Low Potentials on Pt Steps

10:15 to 10:30

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

Observation of Various Quantum Tunneling at Electrified Solid-Liquid Interfaces

10:30 to 11:00

Coffee Break *sponsored by* ***PalmSens BV***

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

Rosa M. Arán-Ais *(Institute of Electrochemistry, University of Alicante, Alicante, Spain)*, Pepe Jordá-Faus, Enrique Herrero

Atomic-Scale Control of Electrocatalytic Reactivity: Insights from Model Electrodes toward Energy Conversion Applications

11:15 to 11:30

Yoshihiro Chida *(Research Institute of Electrochemical Energy, National Institute of Advanced Industrial Science and Technology, 1-8-31, Midorigaoka, Ikeda, Japan)*, Arata Umehara, Tsutomu Ioroi, Toshimasa Wadayama

Influence of Near-Surface Alloy Composition on the Oxygen Reduction Reaction Properties of Pt/High-Entropy Alloy/Pt(111) Single-Crystal Model Catalyst Surfaces

11:30 to 11:45

Jinwen Liu *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Nicci Fröhlich, Katharina Doblhoff-Dier, Marc Koper

Multiscale Modeling of Surface Heterogeneity and Adsorbate Effects on Electrochemical Interfaces

11:45 to 12:00

Jun Huang *(IET-3, Forschungszentrum Jülich Gmbh, Jülich, Germany)*

Towards Modeling Realistic Electrical Double Layers: Effects of Steps, Surface Roughness, and Overlapping

12:00 to 12:15

Paponpat Yodudomnipat *(Research Center for Energy and Environmental Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan)*, Andrey Lyalin, Tomoaki Kumeda, Tetsuya Taketsugu, Ken Sakaushi

In-situ Spectroscopic Study of Potential-Dependent Surface Transformations of 5-Hydroxymethylfurfural on Pt(111)

12:15 to 12:30

Wenhao Ren *(School of Chemical Engineering, Helen Mayo South, Grd Lvl, Adelaide, Australia)*

Tuning the Catalyst-Electrolyte Interfaces for Electrochemical CO_2/CO Conversion

12:30 to 14:00

Lunch Break *sponsored by* ***Pinflow energy storage, s.r.o.***

Monday 7 September 2026 - **Afternoon**

Symposium 1 Electrochemistry at the interface: From liquid-liquid to point-of-care devices

Room: **C2.3**

Chaired by:

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

Eric Bakker *(Department of Inorganic and Analytical Chemistry, University of Geneva, Geneva, Switzerland)*, Justine Rothen, Yejin Son, Thomas Cherubini

Spatial Mapping of Ionic Solutes by Voltammetric Ion Transfer Microscopy as Novel Imaging Technique

14:15 to 14:30

Emilia Witkowska Nery *(Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland)*, Aldona Jelińska, Justyna Kalisz, Krzysztof Maksymiuk, Agata Michalska, Martyna Durka

Polymeric nanofibers -towards simple, planar, portable devices for voltammetric ion sensing at the liquid-liquid interface

14:30 to 14:45

Hiroki Sakae *(Faculty of Chemistry, Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan)*, Yui Suzuki, Hirohisa Nagatani

Spectroelectrochemical Analysis of Charged Porphyrin Encapsulation Behavior in Apoferritin at the Polarized Liquid|Liquid Interface

14:45 to 15:00

Hirohisa Nagatani *(Faculty of Chemistry, Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan)*, Nao Yamamoto

Membrane Permeation Behavior of Bis-MPA-COOH Dendrimer at Phospholipid- and Lipopolysaccharide-Modified Liquid Interfaces

15:00 to 15:15

Malik Dilshad Khan *(Functional Nanomaterials, Catalonia Institute for Energy Research (IREC), Barcelona, Spain)*, Magdalena Warczak, Marcin Opallo

Selective Hydrogen Peroxide Generation at Liquid|Liquid Interfaces Using Metallic, Intermetallic, and Chalcogenide Nanomaterials

15:15 to 15:30

Sweta Sharma *(Applied Materials and Instrumentation, CSIR-Central Scientific Instruments Organisation, Chandigarh, India)*, Aline Alencar Emerenciano, Pooja Devi, Michelle Browne

Multifunctional $SnS_2/Ti_3C_2T_x$ MXene Heterostructures for Sustainable Hydrogen Production and Water Purification

15:30 to 15:45

Yahua He *(School of Life and Environmental Sciences, Deakin University, Geelong, Australia)*

Electrochemical Manipulation of Liquid Metals

15:45 to 16:00

Ethan Allan *(School of Chemistry, University of New South Wales, Sydney, Australia)*, Samuel Somerville, Manusha Dissanayake, Richard Tilley, Justin Gooding

Controlling the Solution Environment within Nanochannels and the Modelling of Species Transport and the Electrical Double Layer in the Nanochannel During Electrochemical Pulsing

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

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

Gabriel Meloni *(Chemistry, University of São Paulo, São Paulo, Brazil)*, Luiz Felipe, Rafael Santos, William Barros, Thiago Paixão

3D printing electrodes: Is the juice worth the squeeze?

16:45 to 17:00

Alexandr Stratulat *(Department of Bioscience Engineering, University of Antwerp, Antwerp, Belgium)*, Julia Mazurków, Manel del Valle, Antje Baeumner, Karolien De Wael

A Capillary-Driven Microfluidic Platform for Autonomous Electrochemical "Super-Fingerprinting" of Illicit Drugs

17:00 to 17:15

Wei-Li Shih *(Biomechatronics Engineering, National Taiwan University, Taipei, Taiwan)*

Electrochemical Sensing of Theophylline Using a Cobalt Hexacyanoferrate Thin Film Electrode

17:15 to 17:30

Valdomiro Conceição *(Department of Fundamental Chemistry, University of São Paulo, São Paulo, Brazil)*, Valdomiro Conceição, Jacob Whitley, Joshua Tully, Mauro Bertotti, Julie Macpherson

Quantification of Dissolved Ozone in Water Using Boron-Doped Diamond Electrodes

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB*** redoxme

Symposium 2 Electrochemical biosensors: The new world technology

Room: **C3.2**

Chaired by: Damien Arrigan; Janice Limson

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

Hnin Yin Yin Nyein *(Chemical and Biological Engineering, Hong Kong University of Science and Technology, Hong Kong, China)*

From Benchtop to Bedside: Electrochemical Bioelectronic Platforms for Decentralized Healthcare

14:30 to 14:45

Adrian Grzędowski *(Chemistry, The University of New South Wales, Sydney, Australia)*, Dan Bizzotto

Improving DNA SAM Organization and Functionality by Using DNA Nanocubes and Electrochemically Modulated Fluorescence.

14:45 to 15:00

Manusha Thathsarani Dissanayake Rajakannage *(School of Chemistry, Australian Centre for Nanomedicine, University of New South Wales, Kensington, Australia)*, Sumaya Ishtiaq, Samuel V. Somerville, Richard D. Tilley, J. Justin Gooding

Dynamic and Reversible Non-Enzymatic Glucose Sensing via Boronic Acid-Functionalized Carbon Nanochannels and an Oxygen Reduction Reaction Gating Mechanism

15:00 to 15:15

Boris Mizaikoff *(Institute of Analytical and Bioanalytical Chemistry, Ulm University, Ulm, Germany)*

Peptide-Based Molecularly Imprinted Polymers for Electrochemical miRNA Detection

15:15 to 15:30

Damini Verma *(Centre for Nanotechnology, Indian Institute of Technology Roorkee, Roorkee, India)*, Bivas Talukdar, Gopinath Packirisamy

Bioinspired Xerogel g-C_3N_4 Interfaces for Aptamer-Mediated Salivary Diagnosis of Alzheimer's Disease

15:30 to 15:45

Ping Yu *(Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China)*

Ionic Transistor for Highly Sensitive and Selective Neurochemical Sensing

15:45 to 16:00

Bruna Gabrielle Olsen *(Analytical Chemistry, Brazilian Center for Research in Energy and Materials, Campinas, Brazil)*, Julia Daher de Albuquerque, Renato Sousa Lima

Microfluidic Ultradense 2D Chip Based on Ultramicroelectrodes for High-Throughput Electrochemical Analyses

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic***

16:30 to 16:45

Keagan Pokpas *(Chemistry, University of the Western Cape, Bellville, South Africa)*, Jarid du Plooy, Branham Kock, Nazeem Jahed, Thuan Nguyen Pham-Truong, Emmanuel Iwuoha

Electrochemical Immunosensing of SARS-Cov-2 Specific Antibodies: Strategies for Electroanalysis

16:45 to 17:00 ***Invited***

Alessandra Bonanni *(Chemistry, University of Pavia, Pavia, Italy)*

Exploiting the Intrinsic Electroactivity of Graphene Oxide for Advanced Electrochemical Sensing and Biosensing

17:00 to 17:15

Helmini Jayarathne *(Chemistry, La Trobe University, Kingsbury, Australia)*, Conor Francis Hogan, Darrell Elton

Experimental Investigation into the Irreproducibility of Screen-Printed Electrodes

17:15 to 17:30

Kevin M Koo *(Centre for Clinical Research, The University of Queensland, Brisbane, Australia)*

Molecular Electrochemistry: Exploiting Native Nucleic Acid Structures to Enhance Analytical Detection of Circulating Cancer Biomarkers

17:30 to 17:45

Robert Sikos *(Chemistry and Physics, La Trobe University, Melbourne, Australia)*, Ben McKenzie, Gemma Zerna, Michael Beer, Richard Brown, Katherine Shields, Travis Beddoe, Conor Hogan

Electrochemical Loop-Mediated Isothermal Amplification (EC-LAMP) for Rapid, Portable DNA Detection in Field Applications

17:45 to 18:00

Amit K. Yadav *(Department of Biological Sciences and Engineering, Indian Institute of Technology Gandhinagar, Gandhinagar, India)*, Bhagyesh Parmar, Prof Dhiraj Bhatia

Programmable Tetrahedral DNA Nanostructure-Functionalized Paper Electrodes for High-Efficiency Electrochemical Detection of Interleukin-6

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 3 Bioelectrochemistry: Scientific discoveries and applications

Room: **C3.6**

Chaired by: Felipe Conzuelo; Sonu Gandhi

14:00 to 14:30

Jeffrey Dick *(Chemistry, Purdue University, West Lafayette, USA)*

Tiny Droplets, Big Implications: Discovering Surprising Physicochemical Properties at the Nanoscale with Stochastic Electrochemistry

14:30 to 14:45

Mengzhen Lyu *(Chemistry, University of Manitoba, Winnipeg, Canada)*, Roy Daou, Katherine Bazin, Dao Trinh, Michael Saley, Dhésmon Lima, Mark Nachtigal, Sabine Kuss

Tracking carboplatin chemoresistance in ovarian cancer by scanning electrochemical microscopy

14:45 to 15:00 ***Invited***

Kevin W. Plaxco *(Bioengineering, University of California, Santa Barbara, Santa Barbara, USA)*

Beyond glucose: EAB sensors and the real-time, in vivo measurement of drugs and biomarkers

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

Sonu Gandhi *(Biosensor and NanoBioengineering Laboratory, National Institute of Animal Biotechnology, Hyderabad, India)*

Endemic Flaviviruses: A Persistent Challenge for India's Healthcare and the strategies to address?

15:15 to 15:30

Yuqing Lin *(Department of Chemistry, Capital Normal University, Beijing, China)*

In Vivo Neuroelectrochemical Analysis Based on The Design and Regulation of Catalytic Interfaces

15:30 to 16:00 ***Keynote***

Muhammad J. A. Shiddiky *(Rural Health Research Institute (RHRI), Charles Sturt University, Orange, Australia)*, Md. Akeruzzaman Shaon, Fatema Zerin Farhana, Farjana Haque, Omar Hamza Bin Manjur, Milkiyas Toru Tantu, Kiran Shrestha

Programmable Double-Gated Molecular Switches for Extraction-Free, Direct Zygosity Resolution of Single-Nucleotide Variants

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic***

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

Osamu Niwa *(Advanced Science Research Lab., Saitama Institute of Technology, Fukaya, Japan)*, Yugo Hirai, Naoya Kajiwara, Zixin Zhang, Chiho Asai, Naohiro Takamura, Katsunori Takeda

Polyurethane-based electrode materials for selective detection of biomolecules

16:45 to 17:00

Mohammed Ali Saif Al-Shaibani *(Electrochemical Energy Conversion (EEC), Max Planck Institute-Magdeburg, Magdeburg, Germany)*, Jebin Fouzia, Tanja Vidakovic-Koch

Pulsed Electrolysis Enables Highly Selective Direct 1,4-NADH Regeneration for Bioelectrocatalysis

17:00 to 17:15

Janice Limson *(Biotechnology Innovation Centre, Rhodes University, Makhanda, South Africa)*, Ronen Fogel

Engaged research: co-creating with communities to shape the development of sensors and biosensors

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

Roland Ludwig *(Department of Biotechnology and Food Science, BOKU University, Vienna, Austria)*, Gaurav Patil, Krittamate Buppasirakul, Florian Csarman

Engineering enzymes for electron transfer

17:30 to 17:45

Felipe Conzuelo *(ITQB, NOVA University Lisbon, Oeiras, Portugal)*

Light-Driven H_2 Production with Photosystem I-Hydrogenase Fusion Complexes Assembled In Vivo

17:45 to 18:00

Yuko Ueno *(Department of Applied Chemistry, Chuo University, Bunkyo-ku, Japan)*, Shunki Isono, Osamu Niwa

Colorimetric detection of ascorbic acid using electrochromism of polyaniline film formed on a monolayer graphene/ITO electrode

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: **C3.4**

Chaired by: Paolo Bollella; Anna Hankin

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

Deepak Pant (Electrochemistry Excellence Centre, Flemish Institute for Technological Research (VITO, MOL, Belgium), Avni Guruji, Asier Grijalvo, Zhiyuan Chen, Jason Song, Joost Helsen, Yuvraj Birdja, Metin Bulut

Advancing sustainable CO_2 electroreduction: Bridging fundamental stability insights with scalable reactor design

14:30 to 14:45

Francesc Sastre *(Materials Solutions, TNO, Eindhoven, Netherlands)*, Natalia Mazur, Dominick Clancy

Towards stable CO_2 to ethylene electroreduction in zero-gap MEA systems

14:45 to 15:00

Mohd Riyaz *(DTU Physics, Technical University of Denmark, Copenhagen, Denmark)*

Electrochemical Fischer–Tropsch (FT) Pathways for Higher Hydrocarbon Production from CO_2

15:00 to 15:15

Olena Polozhiy *(Institute for Physical Chemistry, University of Innsbruck, Innsbruck, Austria)*, Günther Rupprechter, Bernhard Klötzer

Operando Study of the CO Reduction Reaction Mechanism on Ni/YSZ Electrocatalysts with Optimized 2D-Porous Electrode Structure for Power-to-Gas Applications

15:15 to 15:30

Bezawit Zerihun Desalegn *(Chemical Engineering, Hanyang University, Seoul, Korea)*

Pulsing for Effective Modulation of Intermediate Coverage and EDL Towards High Selectivity FF-ECH: Navigating the Conversion Selectivity Trade-Off

15:30 to 15:45

Katharina Krischer *(Physics Department, Technical University of Munich, Munich, Germany)*, Hagen Übele

The Impact of Pulsing Parameters on Selectivity and Electrode Stability during Pulsed CO_2-Electrolysis on Polycrystalline Copper Electrodes

15:45 to 16:00

Kakuro Hirai *(Research & Development Group, Hitachi, Ltd., Tokyo, Japan)*, Daiko Takamatsu, Naoto Fukatani, Shin Yabuuchi

In situ SERS Investigation of Potential-History-DependentSurface Restructuring on Cu Electrodes during CO_2 Reduction

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

MONDAY PM

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

Anna Hankin *(Chemical Engineering, Imperial College London, London, United Kingdom)*, Kanyapat Plub-in, Hanzhi Ye, Carlos Morales-Guio, Maria-Magdalena Titirici, Ifan Stephens

Turning a Biodiesel Waste into Value: Engineering Control of Electrochemical Glycerol Oxidation

16:45 to 17:00

Justus Kümper *(Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany)*, Sonja Mürtz, Yani Guan, Simran Kumari, Philippe Sautet, Regina Palkovits

The magic of a few ppm: Identifying the impact of element traces in electrochemical reductive amination

17:00 to 17:15

Jai White *(Chemistry, KTH Royal Institute of Technology, Stockholm, Sweden)*, Piret Villo, Kevin Breitwieser, Mårten Ahlquist, Irina Terekhina, Mats Johnsson, Xiangdong Xu, Patrick Unwin, Egon Campos dos Santos, Daniel Martín-Yerga, Helena Lundberg

Understanding Organic Electrosynthesis Through Computation and Experimentation: Challenges and Prospects

17:15 to 17:30

Ulrike Krewer *(Institute for Applied Materials - Electrochemical Technology, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Philipp Röse, Swantje Pauer, Paul Neugebauer, Sonam Tamang

Micro- and Macrokinetics in Electroorganic Syntheses

17:30 to 17:45

Lydia Alonso Peñalva *(R&D, H2SITE, Loiu, Spain)*, Jon Melendez, Alfredo Pacheco-Tanaka, Esther Acha

Electrochemical Validation of Mixed Potential Theory for Pd-Ag Electroless Co-deposition

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 6a Advances in hydrogen production and utilisation

Room: **C3.1**

Chaired by: Ryuhei Nakamura; Kelsey Stoerzinger; Gerhard Swiegers

14:00 to 14:15

Fabian Liedtke *(Institute of Energy Technologies (IET-4), Forschungszentrum Jülich, Jülich, Germany)*, Christian Rodenbücher, Verena Theußl, Carsten Korte

Development of an Operando XRD PEMWE Cell for Correlating Catalyst Structure and Performance

14:15 to 14:30

Huihui Li *(School of Chemistry, The University of New South Wales, Sydney, Australia)*

Grain Boundaries Orchestrate Self-Healing Lattice Oxygen Catalysis with Accelerated Deprotonation in RuO_2

14:30 to 14:45

Ching Lin *(Physics, National Atomic Research Institute, Taoyuan, Taiwan)*, Tien-Hsiang Hsueh, Po-Wen Chen

Δ-Learning-Driven Teacher-Student Crystal Graph Network with Embedding Distillation for Optimizing Hydrogen Evolution Catalysis

14:45 to 15:00

Thomas Mackay *(Renewable Energy Engineering, University of Exeter, Penryn, United Kingdom)*, Xiaohong Li

Probing the Factors that Affect HER Activity for a Nickel-Based Electrocatalyst in Direct Seawater Electrolysis

15:00 to 15:15

Parisa Molaeipourashka *(SURF, Vrije Universiteit Brussel, Brussel Pleinlaan2, Belgium)*, Bart Van den Bossche, Peter Meuris,, Aliona Nicolenco, Francisco Alcaide, Annick Hubin, Mesfin Haile Mamme

3D Simulation and Experimental Analysis of Current Density in Electrodeposited Ni–W on Fiber Cloth Substrates

15:15 to 15:30

Erlind Mysliu *(1Department of Sustainable Energy Technology, SINTEF Industry, Trondheim, Norway)*, Patrick Fortin, Sebastian Proch

Beyond state-of-the-art materials in PEMWE: Exploring C-coated stainless steel for porous transport layer and flow field manufacturing

15:30 to 15:45 ***Invited***

Ryuhei Nakamura *(Center for Sustainable Resource Science, RIKEN, Saitama, Japan)*

Environmental Factors Governing Water Electrolysis in Acidic Media

15:45 to 16:00

Niklas Ortlieb *(Inorganic and Analytical Chemistry, University of Freiburg, Freiburg, Germany)*, Duc Thanh Le, Christian Völker, Lars Guggolz, Anna Fischer

Pore Size Effects of Mesoporous N-Doped Carbon Nanospheres on the Activity of Electrocatalysts for the Hydrogen Evolution Reaction

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

16:30 to 16:45

Manila Ozhukil Valappil *(NanoElectrocatalysis and Sustainable Chemistry Group, Catalan Institute of Nanoscience and Nanotechnology, Barcelona, Spain)*, Farisa Forouzandeh, Bin Pan, Samantha Luong, Marwa Atwa, Viola Birss

Carbon support degradation in fuel cells and electrolyzers: roles of surface chemistry and interfacial accessibility

16:45 to 17:00

Julius Rauh *(Electrochemical Technologies, HyCentA Research GmbH, Graz, Austria)*, Ana Peharda, Rebekka Köll, Marie Macherhammer, Alexander Trattner

Degradation Assessment of Low-Iridium Catalyst Coated Membranes in PEM Water Electrolysis

17:00 to 17:15

Muhammad Adil Riaz *(Chemical Engineering, University College London, London, United Kingdom)*, Panagiotis Trogadas, David Aymé-Perrot, Hubert Girault, Marc-Olivier Coppens

Modelling the electrodes for gas bubble management in water electrolysers

17:15 to 17:30

Gerhard Swiegers *(Intelligent Polymer Research Institute, University of Wollongong, Wollongong, Australia)*

Hysata's Ultra-Energy Efficient 'Capillary-Fed' Electrolysis (CFE) Technology for Producing Green Hydrogen. 'Green Hydrogen. Efficiency Wins'

17:30 to 17:45

Kensei Tsuburaya *(Department of Chemical System Engineering, The University of Tokyo, Tokyo, Japan)*, Keisuke Obata, Keisuke Nagato, Ryo Tamura, Shoichi Matsuda, Kazuhiro Takanabe

Clarifications of influential parameters on the bubble distributions during massive gas productions

17:45 to 18:00

Shangwei Zhou *(Department of Chemical Engineering, University College London, London, United Kingdom)*, Anuradha Patabandi Mudiyanselage, Jennifer Johnstone-Hack, Iain Malone, Adam Zucconi, Jianuo Chen, Daniel Wan, Yiming Guo, Anna Fedrigo, Alessandro Tengattini, Ryan Wang, Rhodri Jervis, Thomas S. Miller

Emerging Strategies for Low-Temperature Electrolysis Using Impurity-Tolerant Water-Management Approaches

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 6b Advances in hydrogen production and utilisation

Room: **C3.5**

Chaired by: Anna Fischer; Minoru Inaba

14:00 to 14:15

Muhammad Akbar *(Chemistry, University of New South Wales, Sydney, Australia)*, Quentin Meyer

Ultrathin Platinum Overlayer Stabilizes Fe-N-C Catalysts for Durable Hydrogen Fuel Cells

14:15 to 14:30

Anna Fischer *(Inorganic Functional Materials and Nanomaterials (IFMN), IAAC, University of Freiburg, Freiburg, Germany)*, Julian Martin, Sven Küspert, Kläre Christmann, Patrick Elsässer, Niklas Ortlieb, Robert Marić, Hassan Habdullah, K. Andreas Friedrich, Severin Vierrath, Nada Zamel

Mesoporous Carbon Nanospheres as Advanced Support for PEMFC Cathode Catalyst Design

14:30 to 14:45

Miftakhul Huda *(Chemical Systems Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan)*, Miftakhul Huda, Qiao Chen, Chu-yang Yu, Kiho Yamada, Takeshi Hashimoto, Masaya Kawasumi, Yutaka Matsuo

Hybrid Pt Nanoparticle–Nanowire Electrocatalysts Supported on Single-walled Carbon Nanotubes for Polymer Electrolyte Fuel Cell Application

14:45 to 15:00

Minoru Inaba *(Department of Molecular Chemistry and Biochemistry, Doshisha University, Kyotanabe, Japan)*, Minoru Inaba, Jun Manabe, Nobuhito Kuroda, Takayuki Doi, Hideo Daimon

Pt Particle Size Effects of Melamine Adsorption on ORR Activity and Durability of Pt/Mesoporous Carbon (CNovel) Catalysts

15:00 to 15:15

Chunyan Li *(Characteristic Evaluation Dept., FC-Cubic Association, Kofu, Japan)*, Hiroyuki Kanesaka, Toshikazu Ogino, Hiroki Kusakabe

Cerium Species Affecting PEFC Durability and Membrane Degradation Mechanisms under High Temperature

15:15 to 15:30

Kaito Matsuo *(Graduate School of Science and Technology, Kwansei Gakuin University, Sanda, Japan)*, Daiju Matsumura, Kenji Ishii, Kohei Miwa, Ikko Shito, Kei Yokoyama, Hirofumi Yoshikawa, Hirohisa Tanaka

Study toward elucidating a new oxygen reduction reaction mechanism on Ir-based catalysts for improving fuel-cell durability

15:30 to 15:45 ***Invited***

Quentin Meyer *(School of Chemistry, University of New South Wales, Sydney, Australia)*, Muhammad Akbar, Md Raziun Bin Mamtaz, Ying Da Wang, Daniel Niblett, Chuan Zhao

Lateral bypass flow fields for high-performance, flood-free hydrogen fuel cells

15:45 to 16:00

Marek Mooste *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Rohit Kumar, Julia Müller-Hülstede, Julia G. Buschermöhle, Konstantin K. Rücker, Ivar Zekker, Jekaterina Kozlova, Markus Otsus, Alexey Treshchalov, Arvo Kikas, Maike Käärik, Jaan Leis, Vambola Kisand, Kaupo Kukli, Peter Wagner, Michaela Wilhelm, Dana Schonvogel, Kaido Tammeveski, Kaspar Andreas Friedrich

Oxygen Reduction Electrocatalysts Derived from ZIF-8 and Transition Metals Doped Nanocarbons for Different PEM Fuel Cell Cathodes

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

16:30 to 16:45

Yeji Park *(Hydrogen&Fuel Cell Research Center, Korea Institute of Science and Technology, Seoul, Korea)*, Sung Jong Yoo

Inter-Sublattice Random Pt(Co,Ni) Catalysts with Heterogeneous Ordering for Efficient and Durable Oxygen Reduction

16:45 to 17:00

Martin Prokop *(Department of Inorganic Technology, University of Chemistry and Technology, Prague, Czech Republic)*, Miroslav Hala, Tomas Jedlicka, Tatiana Zubkova, Kathleen Heinrich, Andreas Willert, Ralf Zichner, Karel Bouzek

Performance and Degradation of Cathode with Graded Pt Loading in PEM Fuel Cells

17:00 to 17:15

Akihisa Tanaka *(Department of Mechanical Engineering, The University of Tokyo, Tokyo, Japan)*, Gen Inoue, Keisuke Nagato

Analysis of Reaction and Conductance Distributions in PEMFC Cathode Catalyst Layers Using a Heterogeneous Continuum Model

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

Neethu Philip Thombra *(Fuel Cell, Fraunhofer ISE, Freiburg, Germany)*, Linus Hirth, Janine Bohm, Jakob Hog, Linda Ney, Ulf Groos, Zohreh Kiaee

Controlling Crack Formation in Slot-die Coated Cathode Catalyst Layers via Ink Formulation and Process Optimization

17:30 to 17:45

Weikun Yao *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Tao Wang, Zhiyou Zhou, Shigang Sun

Decoupling Hydrogen Oxidation from Phosphorous Acid Poisoning via Dynamic Competitive Adsorption

17:45 to 18:00

Caizheng Yue *(School of Automotive Studies, Tongji University, Shanghai, China)*, Weibo Zheng, Xinyu Dong, Yirui Lu, Zhendong Wang, Daijun Yang, Pingwen Ming

Post-Mortem Analysis of Cathode Catalyst Layer Degradation in Proton Exchange Membrane Fuel Cells under Elevated Temperature Operation

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: **Pyrmont Theatre**

Chaired by: Sang-Young Lee; Isao Shitanda

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

Mouad Dahbi *(College of Chemical Sciences and Engineering, Mohammed VI Polytechnic University, Ben Guerir, Morocco)*

Controllable Synthesis of Porous $LiFePO_4$/C Microspheres via a One-Step Co-Precipitation Process for High-Performance Lithium-Ion Batteries

14:15 to 14:30

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

Structure-Property Relationships in Advanced Olivine Cathodes for High-Energy and High-Rate Lithium Batteries

14:30 to 14:45

Du Hyun Roh *(Department of Chemical Engineering, Kyung Hee University, Yongin, Korea)*, Chang Woo Lee

Nanorod-based Microspherical Olivine-type LMFP Cathodes for Enhanced Structural Stability and Electrochemical Performance

14:45 to 15:00

Jaya Yadav *(Materials Research Centre, Indian Institute of Science, Bangalore, India)*, Vadim M. Kovrugin, Sirshendu Dinda, Krishnakanth Sada, Udupa Sujit Manjunatha, Zenonas Jusys, Nikhil Doddi, Velaga Srihari, Valerie Pralong, Maximilian Fichtner, Prabeer Barpanda

Structure and Electrochemical Performance of Chimie Douce Derived Novel $Li_{1.725}Na_{0.275}Mn_3O_7 \cdot yH_2O$ Cathode for Lithium-Ion Batteries

15:00 to 15:15

Yosuke Ugata *(Chemistry and Life Science, Yokohama National University, Yokohama, Japan)*, Hinata Fujimura, Takumi Komagata, Naoaki Yabuuchi

Electrolyte Engineering for Reversible Lithium Storage in Pure-Ni Layered Oxides

15:15 to 15:30

Tongjun Luo *(School of Chemistry, University of Sydney, Camperdown, Australia)*, Leon Schmidt, Ulrike Krewer, Wesley Dose

Electrolyte-Dependent Interfacial Degradation Pathways in Li-Rich Manganese-Based Li-ion Batteries

15:30 to 15:45

Renier Arabolla Rodriguez *(Center for Energy and Environmental Sciences Research, Paul Sherrer Institute, Villigen, Switzerland)*, Lukasz Michal Kondracki, Weicheng Hua, Mario El-Kazzi, Sigita Trabesinger

Role and failure mechanism of Mg and/or Zr modified $LiNi_{0.5}Mn_{1.5}O_4$ cathode materials

~~*15:45 to 16:00*~~

~~**Marveh Forghani** *(Department of Materials, University of Oxford, Oxford, United Kingdom)*, Fiyanshu Kaka, Colin Please, Jon Chapman, Patrick Grant~~

CANCELLED

~~In-Plane Electrochemical Grading of LFP/NMC Cathodes for Improved Current Distribution in Pouch Cells~~

16:00 to 16:30 ***Coffee Break*** *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

16:30 to 16:45

Rhodri Jervis *(Chemical Engineering, University College London, London, United Kingdom)*, Huw Parks, Matthew Jones

Advanced X-ray CT and image analysis techniques for understanding cracking in NMC811Polycrystalline Battery Materials

16:45 to 17:00

Issei Kikuchi *(School of Materials and Chemical Technology, Institute of Science of Tokyo, Yokohama, Japan)*, Takashi Hirose, Takeyoshi Okajima, Hajime Arai

Mechanistic elucidation of resistance increase in positive electrodes (RIPE) of lithium-ion batteries using model cells

17:00 to 17:15

Jin Wook Lee *(Energy Engineering, Hanyang University, Seoul, Korea)*, Yang-Kook Sun

High-Voltage Operation of Zero-Strain Mid-Mn Cathode with Quasi-Ordered Structures

17:15 to 17:30

Zhao Li *(Department of Materials, Imperial College London, London, United Kingdom)*, A igerim Omirkhan, Mary P. Ryan

Quantitative In Situ and Operando Characterization of Coupled Bulk - Interface Evolution in Intercalation Batteries

17:30 to 17:45

Marcus Tuchel *(School of Metallurgy and Materials, University of Birmingham, Birmingham, United Kingdom)*, Gerard Fernando, Emma Kendrick

Fast Parameterisation of Battery Materials Using a Current Interrupt Method

17:45 to 18:00

ChenYi Sun *(Nanotechnology&Advanced Materials Engineering, Sejong University, Seoul, Korea)*, Seung-Taek Myung

Electronic-state Engineering to Unlock Fast Sulfur Redox in Solid-state Li–SPAN Battery

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB*** redoxme

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: **C2.1**

Chaired by: Laurence Crogunnec; Ruth Knibbe

MONDAY PM

14:00 to 14:30

Laurence Croguennec *(ICMCB, CNRS, University of Bordeaux, Bordeaux INP, PESSAC, France)*, Prashanth Sivakumar, Chloé Pablos, Anastasia Grebenshchikova, Dat Le Thanh, Loïc Simonin, Christian Masquelier, Jacob Olchowka, Mathieu Morcrette, Cyril Aymonier

Design of Materials for Positive Electrodes of Na-ion Batteries

14:30 to 14:45

Jun Ho Cho *(Department of Chemical Engineering, Kyung Hee University, 17104 Yongin, Korea)*, Chang Woo Lee

Synergistic Dual-site Doping for Enhanced Na-ion Diffusion and Structural Stability in O3-type Sodium Layered Cathodes

14:45 to 15:00

Cheng-Lin Ko *(School of Mechanical and Mining Engineering, The University of Queensland, Brisbane, Australia)*

Robust Cathode-Electrolyte Interphase on Prussian Blue Analogues Via Interfacial Orbital Hybridisation

15:00 to 15:15

Li-Ying Yu *(Department of Chemical and Materials Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan)*, Chun-Jern Pan, Chun-I Lee

Synergistic Effects of Dual-Salt NaDFOB-NaFSI Electrolytes in Trimethyl Phosphate for Sodium-ion Batteries

15:15 to 15:30

Eunkyu Han *(Nanotechnology & Advanced Materials Engineering, Sejong University, Seoul, Korea)*

Balancing Initial Capacity and Cycling Stability in Vacancy-Containing Layered Sodium Ruthenates through Li/Mg Slab Chemistry

15:30 to 15:45

Saman Mostafapoor *(School of Materials Science and Engineering, UNSW Sydney, Kensington, Australia)*, Sajjad Seifi Mofarah, Matthew Teusner, Pramod Koshy, Charles Christopher Sorrell

Electrochemical Study on Prussian Blue for Sodium-ion Batteries

15:45 to 16:00 ***Invited***

Ruth Knibbe *(School of Mechanical & Mining, The University of Queensland, Brisbane, Australia)*, Zhong Zheng, Qingbing Xia, Ming Li, Ian Gentle, Emily Cooper

Nanoscale Characterisation for Rational Battery Design

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

16:30 to 16:45

Maria Arnaiz *(Electrochemical Energy Storage, CIC energiGUNE, Vitoria-Gasteiz, Spain)*, Manuel J. Pinzón, Zineb El Kacemi, Andrea Hainthaler, Steven Renault, Philippe Poizot, Andrea Balducci, Thierry Brousse, Jon Ajuria

Pre-sodiation Strategies for Sodium-Ion Capacitors: From State-of-the-Art to Scalable Sacrificial Additives

16:45 to 17:00

Aram Hall *(Chemistry - Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Sajede Salehi, Júlia Costa Rodriguez, Reza Younesi

Voltage Hysteresis and Reversible Capacity in High-Capacity Sodium Manganese Orthosilicate (Na_2MnSiO_4) Cathodes

17:00 to 17:15

Pankaj Pareek *(Department of Inorganic and Physical Chemistry, Indian Institute of Science (IISc), Bengaluru, India)*, Sathish Deshagani, Rajat Kumar, Wondwossen Melaku, Sampath Srinivasan

Electrochemical Investigation of Sillenite-Structured Oxides Towards Sodium-Ion Storage in Glyme-Based Electrolyte

17:15 to 17:30

Michal Krajewski *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Oskar Grabowski, Marta Chmielniak, Magdalena Winkowska-Struzik, Malgorzata Pajak, Andrzej Czerwinski

Influence of Electrolyte Composition on Electrochemical Performance of Na-ion Systems

17:30 to 17:45

ManJae Cho *(Department of Nano Technology and Advanced Materials Engineering, Sejong University, Seoul, Korea)*, Seung-Taek Myung

B-Coating-Induced $NaBO_2$ Surface Layer for Enhanced Electrochemical Performance and Mechanistic Understanding of P2-Type Na Layered Oxide Cathode

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Room: **C2.2**

Chaired by: Yuan Chen; Yun Jeong Hwang

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

Francesca Soavi *(Department of Chemistry "Giacomo Ciamician", University of Bologna, Bologna, Italy)*, Shoayb Mojtahedi, Andrea Vitale, Federico Mascetti, Simone D'Agostino, Gift Rutavi, Fhumulani B. Mutshaeni, Ncholu Manyala

Novel Electrode Materials Based on Metal-Coordination Polymers and Complexes

14:15 to 14:30

Barbara Palys *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Krystian Pupel, Sylwia Zoladek, Kacper Jedrzejewski

Graphene Oxide versus Fragmented Graphene Oxide as a Component of Hybrid Materials for $H2O_2$ Detection

14:30 to 14:45

Karolina Cysewska *(Department of Functional Materials Engineering, Gdansk University of Technology, Gdansk, Poland)*, Weronika Arendarska, Natalia Zalewska, Julia Krzekotowska, Anja Hoffman, Piotr Jasinski

Electroactive CoCr stents via PEDOT electrodeposition: interface engineering and electrochemical performance

14:45 to 15:00

Ernesto Claure-Ramirez *(Materials Synthesis and Processing (IMD-2), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Dina Fattakhova-Rohlfing, Martin Finsterbusch

Designing Nanohybrid Architectures of NVPF@rGO-C or LMFP@rGO-C for High-Power Batteries

15:00 to 15:15

Candice Cupido *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Ashiqa Fakier-Lesch, Dawood Parker

Conducting polymer nanocomposites for application in therapeutic drug monitoring

15:15 to 15:30

Jiancheng *(Ivan)* Lin *(School of Chemistry, The University of Sydney, Camperdown, Australia)*, Mohamed Kilani, Mahroo Baharfar, Ren Wang, Minkyung Kang, Chi Cheng, Guangzhao Mao

Solvent-mediated Morphological Transition of Electrodeposited Cobalt-TCNQ Charge-transfer Complexes

15:30 to 15:45

Chularat Wattanakit *(School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology, Rayong, Thailand)*, Anousha Sohail, Alexander Kuhn

Asymmetric Synthesis of Chiral Compounds at Nanostructured Metal Surfaces: From Static to Dynamic Catalytic Systems

15:45 to 16:00

Hong Chul Lim *(Department of Pharmaceutics and Biopharmacy, Sangji University, Wonju, Korea)*

Novel Nanographenide-Based Nanoarchitectures for Advanced Electrochemical Sensing and Catalysis

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

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

Yun Jeong Hwang *(Chemistry, Seoul National University, Seoul, Korea)*, Seongin Hong

Dynamic Electrochemical In Situ Cu Clustering Activates Dual Catalytic Sites in Fe-Cu Bimetallic Single-Atom Catalysts

16:45 to 17:00

Charles Brown *(Chemistry, Monash University, Melbourne, Australia)*, Cameron Bentley, Sara Dale

A novel precursor-ionic liquid system for electrodepositing high-quality 2D molybdenum disulfide

17:00 to 17:15

Jianjin Ruan *(Applied Chemistry and Environmental Science, RMIT University, Melbourne, Australia)*, Amgad Rezk, Peter Sherrell

Enhancing electrocatalytic performance in MoS_2 via mechanically induced structural ordering

17:15 to 17:30

Ariel Dayan *(Department of Fundamental Chemistry, University of São Paulo, São Paulo, Brazil)*, Ariel Dayan, Vanessa Ataide, Diele Araújo, Thiago Paixão

Laser-Induced Graphene Transfer: Combining Electrode Electrochemical and Physical Properties Using Adhesive Tape

17:30 to 17:45

Richard Tilley *(Chemistry, University of New South Wales, Kensington, Sydney, Australia)*

Atomically precise synthesis of metal nanoparticle catalysis

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

Room: **C2.6**

Chaired by: Christian Heubner; Shanghai Wei

14:00 to 14:15

Christian Heubner *(Mobile Energy Storage Systems and Electrochemistry, Fraunhofer IKTS, Dresden, Germany)*, Sergii Zelinskyi, Mareike Partsch, Alexander Michaelis

Advances and challenges in intercalation-based electrochemical lithium extraction

14:15 to 14:30

Yustika Desti Yolanda *(School of Advanced Science and Technology Convergence, Kyungpook National University, Sangju, Korea)*, Yustika Desti Yolanda, Sangsik Kim, Sungyun Lee

A Two-Stage Process for Selective Recovery of Ni, Co, and Li from Spent Lithium-Ion Batteries Using Ion Exchange Resin and HEDTA-Assisted Bipolar Membrane Electrodialysis

14:30 to 14:45

Shiyu Zhou *(Chemical Engineering, East China University of Science and Technology, Shang Hai, China)*

Upcycling Deeply Delithiated Spent $LiCoO_2$ into High-Activity OER Catalysts via In Situ Electro-Oxidative Lithium Capture

14:45 to 15:00

Ferdinand Selbiger *(Institute for Applied Materials - Energy Storage Systems, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany)*, Martina Gamba, Fabian Jeschull

Post-Mortem Analysis of $LiFePO_4$ Degradation in Aqueous Media for Direct Lithium Extraction

15:00 to 15:15

Loknath Thapa *(Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur, India)*

Ternary Alloy Electrocatalyst for Paired Nitrate Reduction and Glycerol Oxidation in Rechargeable Zn-Nitrate Batteries

15:15 to 15:30

Xiaoran (Jeffrey) Zheng *(School of Chemistry, UNSW Sydney, Australia)*, Soshan Cheong, Richard Webster, Qinyu Li, Justin Gooding, Richard Tilley

Controlling Pt Coordination with Ru Single Atoms Boosts MOR Activity

15:30 to 15:45

Xinyu Liu *(Institute of Carbon Neutrality, ShanghaiTech University, Shanghai, China)*, Shuang Ye, Weiguang Huang

Analysis of the Durability and Performance Degradation of Molten Metal Anode Solid Oxide Fuel Cell with Carbon Fuel

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic***

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

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

Understanding Magnesium Anode Electrochemistry in Natural Seawater Environments

16:45 to 17:00

Merit Bodner *(Institute of Chem. Engineering and Environmental Technology, Graz University of Technology, Graz, Austria)*, Lukas Roessler Escudero, Adám Székeli, Viktor Hacker

Impact of Gas Diffusion Layer Properties on the Performance of Sulphur Depolarised Electrolysis

17:00 to 17:15

Pham Ngoc My Le *(Faculty of Engineering, School of Biomedical Engineering, The University of Sydney, Darlington, Australia)*, Thi Kim Anh Nguyen, Elena Magnano, Antonio Tricoli

Synergistic Co-Ni Phosphide Nanostructures: A Bifunctional Material for PLA Electro-reforming and Hydrogen Production

17:15 to 17:30

Naimeh Naseri *(Mechanical and Aerospace Engineering, Monash University, Melbourne, Australia)*, Manas Ranjan Panda, Naimeh Naseri, Peter Francis Prashanth, Sally El Meragawi, Mainak Majumder

Intrinsic Variations in 1T-MoS_2: Correlating Conductivity with Hydrogen Evolution Performance

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: Sandrine Lyonnard; Sebastian Risse

14:00 to 14:15

Qingbing Xia *(School of Mechanical and Mining Engineering, The University of Queensland, Brisbane, Australia)*, Ruth Knibbe, Jeffrey Harmer

Elucidating Sodium Ion Storage Mechanisms in Hard Carbon Anodes at the Electronic Level

14:15 to 14:30

Maryam Ikram *(School of Chemistry, University of Sydney, Sydney, Australia)*, Maryam Ikram, Marie Guignard, Maxim Avdeev

Exploring Sodium Diffusion Pathways in Tunnel-Type $NaxMnO_2$ Cathodes by Combining Experimental and Computational Tools

14:30 to 14:45

Laura King *(Structural Chemistry, Uppsala University, Uppsala, Sweden)*, Tim Melin, Erik Berg, Maria Hahlin

Mechanistic Understanding of Fluoroethylene Carbonate Decomposition in Batteries via Multimodal Operando Analysis

14:45 to 15:00

Andy Wain *(Electrochemistry Group, National Physical Laboratory, Teddington, United Kingdom)*, Rudra Samajdar, Oliver Rodriguez, Yundong Zhou

Getting Operando Raman Spectroscopy Right: Avoiding Artifacts in Battery Electrode Characterisation

15:00 to 15:15

Irina Profatilova *(DEHT, CEA/LITEN, Grenoble, France)*, Ivan Leteyi Mfiban, Léna Pineau, Victor Vanpeene, Vasily Tarnopolskiy, David Peralta, Loïc Simonin, Magali Reytier, Claire Villevieille

Assessing Moisture Stability of Materials for Li-ion and Na-ion Batteries Using In-situ Gas Analysis

15:15 to 15:30

Tianye Zheng *(School of Mechanics and Engineering Science, Peking University, Beijing, China)*, Haihong Bao, Feifan Chen, Wei Jin, Hao Zhao

Operando Gas Monitoring of Rechargeable Batteries with Optical Fiber Sensing Techniques

15:30 to 15:45

Sofia Reiner *(Department of Physics and Astronomy, Chalmers University of Technology, Gothenburg, Sweden)*, Ida Källquist, Robert Temperton, Julia Maibach

Studying Relaxation Effects on Electrochemical Potential Profiles across Electrode/Electrolyte Interfaces using Operando APXPS

15:45 to 16:00

Weilai Yu *(Chemical Engineering, University of Toronto, Toronto, Canada)*

Reactive Electrochemical Interphases (REI): Molecular LOGICS of Li Metal Battery

16:00 to 16:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic*** CHEERSONIC

16:30 to 16:45

Rosmin Johnson *(Institute for Frontier Materials, Deakin University, Burwood, Australia)*, Anthony Somers, Kilian Fraysse, Ajit Kumar

Advanced Surface Characterization Techniques to Study Formation and Stability of The Solid Electrolyte Interphase in Lithium Batteries

16:45 to 17:00

Pierre Louis Taberna *(CIRIMAT UMR CNRS 5085, Université de Toulouse, Toulouse, France)*, Brinti Mondal, Audrey Perju, Jeronimo Miranda, Patrice Simon

Operando electrochemical probing of charge storage mechanisms inadvanced electrode materials

17:00 to 17:15

Wanli Gao *(Faculty of Science and Engineering, Curtin University, Perth, Australia)*, Mark Paskevicius, Catherine Debiemme-Chouvy, Mohammed Lahcini, Hubert Perrot, Ozlem Sel

From Anions to Cations: How Oxygen Content Controls Interfacial Ion Transfer in Graphene Oxide

17:15 to 17:30

Julita Tabor *(Mechanical and Process Engineering, ETH Zurich, Zurich, Switzerland)*, Luis Kitsu Iglesias, Maria R. Lukatskaya

Operando Insights into Anion-Governed Interfacial Dynamics of Zinc Metal Anodes

17:30 to 17:45

Rafael Galiza Yoshimura *(Institute of Chemistry, State University of Campinas, Campinas, Brazil)*, Gaspar Andrade, Matheus Sales, Angela Albuquerque, Junxian Zhang, Judith Monnier, Ricardo Floriano, Santiago Figueroa, Raphael Nagao

Electrochemical Hydrogen Storage Behavior of Zr-Based High-Entropy Alloys for Ni–MH Battery Applications

17:45 to 18:00

Bernhard Gollas *(Institute for Chemistry and Technology of Materials, Graz University of Technology, Graz, Austria)*, David Moser, Gerald Kothleitner, Roland Brunner, Fabio Eduardo Machado Charry

In-situ and Operando Studies of the Aluminum Anode in Chloroaluminate Electrolytes for Secondary Batteries

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Symposium 14b In situ and operando methods for characterising electroactive materials and interfaces

Room: **C2.4**

Chaired by: Minkyung Kang

14:00 to 14:15

Christine Kranz *(Institute of Analytical and Bioanalytical Chemistry, Ulm University, Ulm, Germany)*, Sarah Horn, Elena Daboss, Giada Caniglia, Andreas Hellmann

Localized Studies on Light-Driven Alcohol Oxidation and Hydrogen Evolution at Heterogenized Molecular-in-Matrix Systems

14:15 to 14:30

Philippe Hapiot *(Institut des Sciences Chimiques de Rennes, University of Rennes / CNRS, Rennes, France)*, Guilhem Pignol, Shuai Liu, Yann Leroux, Bing-Wei Mao, Jia-Wei Yann

SECM Analyses using Ferrocenated Gold Nanoparticles Mediators.

14:30 to 14:45

Luiza Zudina *(Institute of Chemistry, Carl von Ossietzky University Oldenburg, Oldenburg, Germany)*, Alexander Stefan Darsow, Ariba Aziz, Vaishali Shrivastav, Simon Sprengel, Weishan Wu, Wojciech Nogala, Dmitry Momotenko

Effect of Ambient Humidity on Scanning Electrochemical Cell Microscopy Measurements

14:45 to 15:00

Kevin Krause *(School of Chemistry, Monash University, Melbourne, Australia)*, Krishnan Murugappan, Cameron Bentley

Advancing SECCM for Conducting Polymers — High Resolution Imaging of Porous Films and Emerging Microscale Printing

15:00 to 15:30

Coffee Break *sponsored by* ***Cheersonic Ultrasonic***

15:30 to 15:45

Steen Schougaard *(Chimie, UQAM, Montreal, Canada)*

Scanning Electrochemical Probes Applied to Battery Problems

15:45 to 16:00

Steffen Hardt *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Katherine J. Levey, Mark Aarts, Bonho Koo, Lars J.C. Jeuken, Marc T.M. Koper

Mapping of in-Polymer pH Values by Operando Electrochemical Fluorescent Microscopy to Investigate Polymer-Promoted Electrocatalysis

18:00 to 20:00

POSTER Session 1 & Cocktail *(The Gallery)* *sponsored by* ***Redoxme AB***

Tuesday 8 September 2026 - **Morning**

Plenary Lecture

Room: **Pyrmont Theatre**

08:30 to 09:30

Yi-Tao Long *(School of Chemistry, Nanjing University, Nanjing, China)*

Confined Controlled Electrochemistry: From sealed electrode to nanopore interface

TUESDAY AM

Symposium 1 Electrochemistry at the interface: From liquid-liquid to point-of-care devices

Room: **C2.3**

Chaired by:

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

Mei Shen *(Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, USA)*

Nanoelectrochemistry for Interrogating Real-Time Neurotransmitter Dynamics with High Spatiotemporal Resolution

10:00 to 10:15

Yi-Lun Ying *(School of Chemistry, Nanjing University, Nanjing, China)*

Single-Molecule Nanopore Electrochemistry for Next-Generation Point-of-Care Testing

10:15 to 10:30

Bethanie Dean *(Chemistry, University of Warwick, Coventry, United Kingdom)*, Noah Al-Shamery, Dimitrios Valavanis, Calum Davies, Pooi See Lee, Patrick Unwin, Paul Wilson

Scanning Electrochemical Cell Microscopy (SECCM) for Hybrid Patterning: Selective Metal-Polymer Deposition & Design

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Elena Gorenskaia *(School of Molecular and Life Sciences, Curtin University, Bentley, Australia)*, Catherine E. Hay, Julie I. Phillips, Adam Butterfield, David Mecerreyes, Debbie Silvester

Detection of 2,4,6-Trinitrotoluene Using Ionic Liquid and Poly(Ionic Liquid) Membranes

11:15 to 11:30

Xiaoyu Jin *(Department of Chemical Engineering, The University of Melbourne, Parkville, Australia)*, Mengran Li, Ivo Vankelecom, Xing Yang, George Chen

Patterned Anion Exchange Membranes for Delayed Salt Precipitation and Interfacial Ion Transport Control in CO_2 Electrolysis

11:30 to 11:45

Nikolai Tiuftiakov *(Department of Inorganic and Analytical Chemistry, University of Geneva, Geneva, Switzerland)*, Supakron Kittikomoldej, Eric Bakker

Optimizing Salt Lipophilicity for Reference Electrodes based on Organic Electrolytes

11:45 to 12:00

Iqra Zaman *(School of Molecular and Life Sciences, Chemistry, Curtin University, Perth, Australia)*, Debbie Silvester-Dean, Elena Gorenskaia

Next-Generation Electrochemical Approach for Smart Gas Sensing: Beyond Conventional Methods

12:00 to 12:15

Deborah Crittenden *(School of Physical and Chemical Sciences, University of Canterbury, Christchurch, New Zealand)*, Ro Dunlop, Thomas Grummitt, Joel Schuurman

Self-assembled Ionowax Membranes on Porous Polymer Supports Adopt Biomimetic Lipid Bilayer Nanostructuring

Symposium 2 Electrochemical biosensors: The new world technology

Room: **C3.2**

Chaired by: Alessandra Bonanni; Kevin M Koo

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

Conor Hogan *(Chemistry, La Trobe University, Melbourne, Australia)*, Darrell Elton, Saimon Silva, Travis Beddoe, Peter Connolly, Helmini Jayarathne, Samridhi Bajaj, Blair Haydon, Ben McKenzie, Hansani Maussawa, Ronil Rath, Gemma Zerna, Rob Sikos

Instrument-free Fourier Transform AC Voltammetry Using Smartphone Audio Hardware for Point-of-Need Sensing

10:00 to 10:15

Xi Wei *(Biomedical Engineering, Hefei University of Technology, Hefei, China)*, Wei Nie, Hua Cui

Smartphone-Integrated Self-Enhanced Electrochemiluminescence Immunosensing Array Based on Ru/PEI@SiO_2 Nanoemitters for Portable Label-Free SARS-CoV-2 Antigen Screening

10:15 to 10:30

Thien Tien Nguyen *(School of Agriculture, Biomedicine & Environment Newsletter, La Trobe University, Melbourne, Australia)*

Tetra-polyethylene Glycol Hydrogel as Antifouling Coating for Electrochemical Aptamer Biosensing

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Meining Zhang *(School of Chemistry and Life Resources, Renmin University of China, Beijing, China)*

Biocompatible Microelectrode for In Vivo Sensing with Extended Time-scale

11:15 to 11:30 ***Invited***

Damien Arrigan *(Molecular and Life Sciences, Curtin University, Perth, Australia)*, Hum Lamichhane, Evie Innes, Vi Phan, Ian Burgess

Exploring surfactant-protein interactions as a basis for contaminant biosensing

11:30 to 11:45

Lijun Luo *(College of Agricultural Equipment Engineering, Henan University of Science and Technology, Luoyang, China)*, Chunyuan Tang, Lijun Luo, Tianyan You

Integrating Efficient Signal Amplification and Magnetic Separation into a Homogeneous Electrochemical Strategy: Achieving Ultra-Low Background Simultaneous Detection of Aflatoxin B1 and Ochratoxin A

11:45 to 12:00

Luiza Wasiewska *(Micro Nano Systems, Tyndall National Institute, Cork, Ireland)*, Jeremy Van Den Broek, Alida Russo, Ana Rocha, Bruno Reis, Marie Monnier, Paula Simó-Mirabetc, Juan Antonio Martos-Sitcha, Ana de Vale, Ana Gonçalves, Sofia Teixeira, Paul Galvin

Eco-friendly electrochemical biosensors for monitoring fish welfare.

12:00 to 12:15

Henry Bellette *(Department of Biochemistry and Chemistry, La Trobe University, Melbourne, Australia)*, Saimon Moraes Silva, George Greene, Denio Pires Souto

Point-of-Need PFAS Detection: A Yes/No Biosensor Solution

12:15 to 12:30

Yongyue Yin *(School of Chemistry and Life Resources, Renmin University of China, Beijing, China)*, Meining Zhang

A Monolithic Hydrogel Electrode for Reliable Continuous Tracking of Chemistry Dynamics

Symposium 3 Bioelectrochemistry: Scientific discoveries and applications

Room: **C3.6**

Chaired by: Yang Liu; Shelley Minteer

09:30 to 10:00

Alexander Kuhn *(Institute of Molecular Science, University of Bordeaux, Pessac, France)*

Unconventional Approaches in Bioelectrochemistry: From Wired to Wireless Systems

10:00 to 10:15

Ichizo Yagi *(Faculty of Environmental Earth Science, Hokkaido University, Sapporo, Japan)*, Sayuki Oka, Yoshito Nishiyama, Shogo Hoshino, Masaru Kato

Chiral-Induced Specific Adsorption and Electrocatalytic Activity of Metalloenzymes on Homochiral Amino Acid-modified Au(111) Electrodes

10:15 to 10:30

Mengchi Wang *(School of Life and Environmental Sciences, Deakin, Geelong, Australia)*, Yahua He, Na Kong, Wenrong Yang

Regulating Chiral Selectivity on Liquid-Metal-Derived Nanoporous Gold Interfaces

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Matsuhiko Nishizawa *(Graduate School of Engineering, Tohoku University, Sendai, Japan)*

Dual-Mode Electroosmotic Pumping Systems for Medical Applications

11:15 to 11:30

Alexander Zestos *(Chemistry, American University, Washington, USA)*, Cam Abdullaeva, Daniel Coughlin, Nadiah Alyamni

Characterizing human endorphin peptides with fast-scan cyclic voltammetry and carbon fiber microelectrodes

11:30 to 11:45

Angelika Banaś *(Department of Chemistry, Silesian University of Technology, Gliwice, Poland)*, Szymon Ruczka, Muhammad Saad, Alicja Tomasiak, Roman Turczyn, Sławomir Boncel, Katarzyna Krukiewicz

Morphological Optimization of Carbon Nanotube Buckypapers for Advanced Bioelectronic Interfaces

11:45 to 12:00

Kele Chen *(School of Chemistry, Nanjing University, Nanjing, China)*

Electrochemical Monitoring of Real-Time Vesicle Dynamics Induced by Neurodegeneration-Related Proteins in a Confined Nanopipette

12:00 to 12:15

Damian Dziubak *(Faculty of Chemistry, Biological and Chemical Research Center, Warsaw University, Warsaw, Poland)*, Kalina Szuniewicz, Paweł Michaluk

Electrochemical characterization of a model lipid membrane mimicking the mitochondrial outer membrane

12:15 to 12:30

Chenzhong Li *(Biomedical Engineering, Shenzhen, China)*

Electrochemical Stimulation and Sensing of Engineered Organ/Organoids

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: **C3.4**

Chaired by: Marta Costa Figueiredo; Pawel J. Kulesza

09:30 to 09:45

Mattia Salomone *(Department of Advanced Materials and Polymers, University of the Basque Country UPV/EHU, San Sebastián, Spain)*, Iratxe Aguado-Ruiz, Ricardo Urrego-Ortiz, Federico Calle-Vallejo

Data-Driven Analysis of Bifunctional Materials for Oxygen Electrodes

09:45 to 10:00

Dipti R. Panigrahi *(Department of Chemistry, Shiv Nadar Institution of Eminence, Delhi NCR, India)*, Kotaro Takeyasu, Santosh K. Singh

Subsurface Graphitic Nitrogen Activates Protonated Pyridinic-N Sites for Acidic Oxygen Reduction

10:00 to 10:15

Pawel J. Kulesza *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Iwona A. Rutkowska, Anna Chmielnicka, Shaghayegh Naghdi, Dominik Eder

Structure, Reactivity and Durability of Copper-Based Metal-Organic-Frameworks as Electrocatalysts for Reduction of Oxygen and Nitrates

10:15 to 10:30

Patrick Elsäßer *(Institute of Inorganic and Analytical Chemistry, University of Freiburg, Freiburg, Germany)*, Sven Küspert, Julia Melke, Haytham E. M. Hussein, S. Esmael Balaghi, Melanie Soballa, Markus Knäbbeler-Buß, Michael Günthel, Anna Fischer

Investigating the ORR Electrocatalytic Stability of Pt on Mesoporous N-doped Carbon Nanospheres using a CO Stripping Approach

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

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

Marta Costa Figueiredo *(Chemical Engineering and Chemistry, Eindhoven University of Technology, Eindhoven, Netherlands)*

Electrochemical pathways to synthesize high-value chemicals

11:15 to 11:30

Daniel Guay *(Énergie Matériaux Télécommunications, INRS, Varennes, Canada)*, Arash Toghraei

Coupling Ultrasound and Contact Electro Catalysis for Nitrogen Oxidation–Driven Ammonia Synthesis

11:30 to 11:45

Rohan Damania *(Department of Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Campbell Tiffin, Alfred Herritsch, Aaron Marshall

Matrix Deconvolution of Overlapping Mass Spectra for Real-Time Gaseous Product Analysis in Electrochemical CO_2 Reduction

11:45 to 12:00

Dikshita Bhattacharyya *(Center for Applied Space Technology and Microgravity (ZARM), University of Bremen, Bremen, Germany)*, Manpreet Kaur, Akash Raman, Katharina Brinkert

Gas Purification Strategies and Contamination-Controlled Alkali Metal Cation-Promoted Photo-electrochemical Nitrogen Reduction

12:00 to 12:15

Plamen Atanassov *(Chemical & Biomolecular Engineering, University of California Irvine, Irvine, USA)*, Yu-Han Chen, Kalena Kien, Camille Roiron

Electrochemical Urea Synthesis through Co-reduction of Carbon Dioxide and Nitrate

12:15 to 12:30

Christean Nickel *(Chemie, Johannes Gutenberg-Universität Mainz, Mainz, Germany)*, David Troglauer, Dandan Gao

Sustainable Ammonia Electrosynthesis Coupled with Glycerol Valorization via an Adaptive Tri-Component Catalyst

Symposium 6a Advances in hydrogen production and utilisation

Room: **C3.1**

Chaired by: Jacob Spendelow; Kazuhiro Takanabe

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

Kazuhiro Takanabe *(Department of Chemical System Engineering, The University of Tokyo, Bunkyo, Japan)*

Recent Progress in Water Electrolysis Research: The WInG Project

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

Jacob Spendelow *(Materials Physics and Applications, Los Alamos National Laboratory, Los Alamos, USA)*, Eamonn Murphy, Sergio Diaz-Abad, Camille Roiron, Lavie Rekhi, Melonie Thomas, Nina Pappas, Kui Li, Xiaojing Wang, Siddharth Komini Babu, Travis Jones, Plamen Atanassov

Nanowire-based Oxygen Evolution Catalysts for Low-Iridium Water Electrolyzers

10:15 to 10:30

Wataru Sugimoto *(Institute for Aqua Regeneration, Shinshu University, Ueda, Japan)*, Yuki Tokura, Ryosuke Nakae, Naoya Aoki

Surface Activation of Iridium Oxide Nano-needles as Anode Catalysts for Water Electrolyzers

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Noah Bryan *(WMG, University of Warwick, Coventry, United Kingdom)*, David Thompsett, Andrew Fones, Richard Walton, Ivana Hasa

Assessing Structure–Property Correlation in Ni-Based OER Catalysts through Three-Electrode Screening for AEMWE Applications

11:15 to 11:30

Po-Wen Chen *(Department of Physics, Institute of Nuclear Energy Research, Taoyuan County, Taiwan)*, Tien-Hsiang Hsueh, Yung-Ching Liu, Ai-Tang Chang, Wei-Cheng Su, Ching Li, Po-Hsiu Kuo, Yin-Yu Chang

Plasma-Assisted Fabrication of Nitrogen-Modified TiAlNbSiCrMo High-Entropy Alloy Electrocatalysts for Hydrogen Production via Alkaline Seawater Electrolysis

11:30 to 11:45

Min-Chen Chuang *(Center for Plasma and Thin Film Technologies, Ming Chi University of Technology, New Taipei City, Taiwan)*, Sheng-Chi Chen, Min-Chen Chuang, Chao-Kuang Wen, Shang-Yu Chan, Te-Wei Chiu

Pure-phase delafossite of p-type $CuCrO_2$ thin films deposited via e-beam evaporation for electrocatalytic water splitting

11:45 to 12:00

Florian de Pauli *(Electrolysis and Power to X, HyCentA Research GmbH, Graz, Austria)*, Christoph Rinnhofer, Matthias Ranz, Christine Bandl, Marcel Maslyk, Christian Gebauer, Alexander Trattner

"Have you tried turning it off and on again?"On the Impact of Intermittent Operation on Anion Exchange Membrane Electrolysis Membrane Electrode Assemblies

12:00 to 12:15

Leonardo Duranti *(Department of Chemical Science and Technologies, University of Rome Tor Vergata, Rome, Italy)*, Giorgio Pagano, Christian Quattrucci, Elisabetta Di Bartolomeo

Tailored Perovskite Oxide Catalysts for Alkaline Water Electrolysis

12:15 to 12:30

Frederic Fouda-Onana *(LITEN / DEHT, CEA, Grenoble, France)*, William Aït-Idir, Samira Chelghoum, Pierre Toudret, Gareth Keeley

Evaluating Break-in Protocol Effectiveness in AEMEL: A Diagnostic Method

Symposium 6b Advances in hydrogen production and utilisation

Room: **C3.5**

Chaired by: Dirk Henkensmeier; Faezeh Makhlooghiazad

09:30 to 09:45

Patrick Fortin *(Department of Sustainable Energy Technology, SINTEF, Trondheim, Norway)*, Erlind Mysliu

Beyond Perfluorinated Ionomers in PEM Water Electrolysis

09:45 to 10:00

Viktor Hacker *(Institute of Chemical Engineering and Environmental Technolo, Graz University of Technology, Graz, Austria)*, Viktor Hacker, Sebastian Rohde, Muhammad Yusro, Asep Samsudin, Bernhard Gollas

Electrospun Nanofibers for High-Performance and Sulphur-Resilient Fuel Cells

10:00 to 10:15

Tianyi Han *(School of Vehicle and Mobility, Tsinghua University, Beijing, China)*, Liangfei Xu, Zunyan Hu, Jianqiu Li, Minggao Ouyang

Engineering Homogeneous Ionomer Distribution with a Sulfonated Additive for High-Oxygen-Permeability Catalyst Layers in Fuel Cells

10:15 to 10:30

Kengo Hikida *(Graduate School of Engineering, Tohoku University, Sendai, Japan)*, Hiroto Suzuki, Gen Inoue, Takashi Tokumasu

Development of a chemical potential-based evaluation method for oxygen transport overvoltage within the ionomer

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Abid Hussain *(Department of Photonics, National Sun Yat-sen University, Kaohsiung, Taiwan)*, Yu-Shien Lu, Wen-Yao Huang

In-Situ Polydopamine Confinement in Sulfonated Poly(Arylene Ether) Membranes for High-Performance Proton Exchange Membrane Fuel Cells

11:15 to 11:30

Jedeok Kim *(Research Center for Electronic and Optical Materials, National Institute for Materials Science (NIMS), Tsukuba, Japan)*

Ce-dope effect of crosslinked membranes using highly sulfonated polyphenylsulfone (PPSU) ionomers

11:30 to 11:45

Haoyun Liu *(School of Vehicle and Mobility, Tsinghua University, Beijing, China)*, Liangfei Xu, Zunyan Hu, Jianqiu Li, Minggao Ouyang

A Novel Synthesis Strategy of Prussian Blue Incorporated PEMs with High Durability and Performance

11:45 to 12:00

Faezeh Makhlooghiazad *(Institute for Frontier Materials, Deakin University, Melbourne, Australia)*, Arpita Geroge, Nerea Cassado

Structure–Transport Relationships in Anhydrous Protic Polymerized Ionic Liquid Membranes for Intermediate-Temperature PEM Fuel Cells

12:00 to 12:15

Ryusei Ono *(Graduate School of Engineering, Tohoku University, Sendai, Japan)*, Hiroto Suzuki, Yuzuki Funayama, Kenji Miyatake, Takashi Tokumasu

The Effect of Benzophenone Composition on the Properties of Anion Exchange Membranes

12:15 to 12:30

SangJeong Park *(Hydrogen Research, Korea institute of energy research, DaeJeon, Korea)*, Jungkyu Choi, Jung-Eun Cha

Hybrid Ion-Solvating Membranes blended with PBI and polysulfones for Lower Hydrogen permeable Alkaline Water Electrolysis

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: **Pyrmont Theatre**

Chaired by: Haegyeom Kim

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

Xin Li *(CAS Key Lab of Frontier Research & Renewable Energy, Institute of Physics, Chinese Academy of Sciences, Beijing, China)*

Design of Novel Materials for Solid-State Batteries

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

Yasutoshi Iriyama *(Materials Design Innovation Engineering, Nagoya University, Nagoya, Japan)*, Xianghao Song, Chie Hotehama, Kota Motohashi, Atsushi Sakuda, Akitoshi Hayashi, Makoto Kobashi, Takeshi Yajima

Nanoporous Aluminum Sheet Anode for High-Capacity All-Solid-State Batteries

10:15 to 10:30

Masaaki Hirayama *(School of Materials and Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Ami Domae, Jehong Ahn, Taiga Goto, Kenta Watanabe, Ryoji Kanno, Masato Matsuura, Hiromu Tamatsukuri, Yumu Nishigaki, Kazuma Gotoh

Understanding Lithium-Ion Transport Mechanisms Based on Experimental Diffusion Measurements in Argyrodite-Type Solid Electrolytes

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Changhyeon Lee *(Materials Science & Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea)*, Kwangduck Seo, HyeonJee Tak, KwangSup Eom

Realizing Fast Li-ion Transport through a Heterostructured Multi-Grain Solid Electrolyte Interphase via Trace Alloying

11:15 to 11:30

Alexander J. Van-Brunt *(Engineering, University of Oxford, Oxford, United Kingdom)*, Shengming Zang, Dominic L.R. Melvin, Peter G. Bruce

Modelling void nucleation & collapse during lithium stripping from a contoured solid-electrolyte interface.

11:30 to 11:45

Frederic Le Cras *(LITEN, CEA, Grenoble, France)*, William Berthou, Maxime Legallais, Gunay Yildirim

Exploration of Li-Si-P-O-N Solid Electrolytes Using High-Throughput Experimentation

11:45 to 12:00

Soutam Panja *(Helmholtz Institute Ulm (HIU), POLiS Cluster of Excellence, Ulm, Germany)*, Anantha Padmanabhan Gopikuttan, Johannes Döhn, Raiker Witter, Amr Radwan, Yang Hu, Irshad Ahamed, Molleigh Preefer, Zhelong Jiang, Robert Leiter, Thomas Diemant, Simon Fleischmann, Jagjit Nanda, Axel Groß, Maximilian Fichtner

Correlating La^{3+} Substitution, Ion-Hopping Dynamics, and Electrode Conversion Reactions in $CsSnCl_3$-Based Solid Electrolytes for All-Solid-State Chloride-Ion Batteries

12:00 to 12:15

Ekaterina Sofina *(TUMint·Energy Research GmbH, Lichtenbergstraße 4, Garching b. München, Germany)*, Robin Schuster, Gioele Conforto, Per Håkon Pedersen Finne, Maike Wirtz, Hubert A. Gasteiger

Cycling Stability of Surface Coated Ni-Rich NCM in All-Solid-State Batteries and the Influence of Coating Homogeneity

12:15 to 12:30

Hyun-Woo Gong *(Division Nano & Information Technology, University of Science and Technology, Seoul, South Korea)*

Degradation Mechanisms of Si Composite Anodes in Sulfide-based All-Solid-State Batteries revealed by Cryogenic Electron Microscopy

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: **C2.1**

Chaired by: Stefano Passerini; Natalia Voronina

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

Stefano Passerini *(IEES, Nanjing Normal University, Nanjing, China)*, Zhen Chen

Polymer-Based Electrolytes for Bipolar Stacked Cells

10:00 to 10:15

Shuya Gong *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Guillaume Navallon, Maider Zarrabeitia, Jianneng Liang, Alberto Varzi

Synergistic Effect of Ionic and Electronic Conductivities on the Performance of Composite Cathodes for Halide-based Solid-State Batteries

10:15 to 10:30

Natalia Voronina *(Department of Nanotechnology and Advanced Materials, Sejong University, Seoul, Korea)*, Konstantin Köster, Koji Yazawa, Payam Kaghazchi, Seung-Taek Myung

Covalency and Structural Ordering in P2-Type Layered Cathodes for Sodium-Ion Batteries

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

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

Probing the Structure and Na-Ion Dynamics of P2-Type Layered Sodium-Ion Battery Cathodes Using ^{23}Na NMR

11:15 to 11:30

Himanshu Chauhan *(Chemical Engineering, Indian Institute of Technology Roorkee, Roorkee, India)*

Rational bulk-phase engineering of Prussian Blue Analogues for stable storage and ultralong cycling stability in sodium-ion batteries

11:30 to 11:45

Jameela Karol *(Helmholtz Institute Ulm, Karslruhe Institute of Technology (KIT), Karlsruhe, Germany)*, Simon Fleischmann

Understanding how nanoconfinement influences the intercalation mechanisms of Li^+, Na^+ and Ca^{2+} ions in layered V_2O_5 electrodes

11:45 to 12:00

Kota Hirahara *(Applied chemistry and chemical engineering, Graduate school of Kogakuin University, Tokyo, Hachioji, Japan)*, Yoshiki Yokoyama, Masayoshi Watanabe, Shiro Seki

Establishment and validation of a Na-metal-free method for designing electrolytes for sodium-ion batteries

12:00 to 12:15

Jun Ho Yu *(Nano technology and advanced materials engineering, Sejong University, Seoul, Korea)*, Seung-Taek Myung

Alkali-Dependent Cr 3d–O 2p Hybridization Governs Divergent Charge Compensation in Layered $NaCrO_2$ and $LiCrO_2$

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Room: **C2.2**

Chaired by: Julia Amici; Monica Santamaria

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

Dodzi Zigah *(Chemistry, University of Poitiers / IC2MP, Poitiers, France)*

Electroactive Nanostructured Oxides: From Rational Design to Local Probing for Photoelectrochemical Applications

10:00 to 10:15

Monica Santamaria *(Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy)*, Claudio Maria Pecoraro, Francesco Di Franco, Vittorio Loddo, Marianna Bellardita, Monica Santamaria

Tuning Anodization Conditions to Engineer Nanostructured WO_3 Photoanodes for Biomass Oxidation and Green Hydrogen Production

10:15 to 10:30

Hiroki Habazaki *(Faculty of Engineering, Hokkaido University, Sapporo, Japan)*

Fabrication of Nanostructured Materials by Anodizing for Electrochemical and Photoelectrochemical Applications

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Jakub Zabrzycki *(Faculty of Chemical and Process Engineering, Warsaw University of Technology, Warsaw, Poland)*, Marta Mazurkiewicz-Pawlicka, Artur Małolepszy

Novel MoS2-based Electrocatalysts: Boosting Hydrogen Evolution Using Electro- and Photoelectrochemical Methods

11:15 to 11:30

Justyna Widera-Kalinowska *(Chemistry, Adelphi University, Garden City, USA)*, Noor Elahie, Lily Harutyunyan, Ekaterina Skolotneva, Magdalena Skompska

Enhancing $BiVO_4$ photocatalysts via FeOOH polymorph integration for environmental remediation and solar hydrogen production.

11:30 to 11:45

Minwook Jeon *(Applied Chemistry, Hanyang University, Ansan, Korea)*

Beyond Conventional Photosensitizers: Unveiling the Unique Photoelectrochemical Behavior of Metal Nanoclusters

11:45 to 12:00

Rutha Jäger *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Rutha Jäger, Siim Lukas Lokotar, Kristofer-Jaago Kivari, Peeter Valk, Eneli Härk, Enn Lust, Jaak Nerut

Porosity and ORR Performance of Peat-Derived Fe-N/C Catalysts as a Function of Synthesis Conditions

12:00 to 12:15

Md Raziun Bin Mamtaz *(School of Chemistry, The University of New South Wales, Sydney, Australia)*, Frédéric Jaouen, Jun Chen, Chen Jia, Quentin Meyer, Chuan Zhao

Atomistic simulations facilitating the synthesis of desired Fe-Cu-N-C dual-atomic site for acidic oxygen reduction in fuel cells

12:15 to 12:30

Elise Berrier *(Heterogeneous Catalysis Department (MODSPEC), University of Lille, Lille, France)*, Siavash Mohammadalizadeh Farsangi, Allan J. M. Araújo, Aggeliki Papavasiliou, Barış Alkan, Daniel Delgado, Fotios K. Katsaros, Annette Trunschke, Duncan P. Fagg, Yury V. Kolen'ko

Comparative Study of Synthesis Methods for La-Sr-Fe-Ni-O Perovskite as an Electrode Material for Symmetrical Solid Oxide Cells

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

Room: **C2.6**

Chaired by: Krishnan Murugappan; Minghua Zhou

09:30 to 09:45

Krishnan Murugappan *(Mineral Resources, Commonwealth Scientific and Industrial Research Organisation, Melbourne, Australia)*, Daniella Caruso, David Macedo, Dylan Marley, Tony Kilpatrick

Real-time water insights powered by CSIRO's electrochemical solid-state sensor technology

09:45 to 10:00

Andrew Hicks *(School of Natural and Environmental Sciences, Newcastle University, Newcastle upon Tyne, United Kingdom)*, Ben Horrocks, Andrew Pike, Samantha Lunn, James Iacobini

Electrochemical Detection of Chlorine using Aquivion-TMB-Coated Carbon Electrodes

10:00 to 10:15

Ma Xiaolin *(School of chemistry and life resources, Renmin University of China, Beijing, China)*, Zhou Xuantong, Wang Chizhong, Chang Huazhen

Interfacial Electronic Modulation of Cobalt Nanoparticles by N-doped Carbon for High-efficiency Electrocatalytic Upcycling of Nitrous oxide to Ammonia

10:15 to 10:30

Seontaek Kwon *(School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Ulsan, Korea)*, Youngkook Kwon

Cascade Electrochemical Urea Valorization to Ammonia via Surface Hydroxylation-Controlled Pathway Engineering

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Elisama Vieira dos Santos *(School of Science and Technology, Universidade Federal do Rio Grande do Norte, NATAL, Brazil)*, Herbet L. Oliveira, Luis F. O. Silva, Ana Eduarda C. Bertoldo, Carlos A. Martínez-Huitle, Elisama Vieira dos Santos

Electrocatalytic lignin valorization coupled to H2 production using DHBT-derived porous Ni-Co electrodes

11:15 to 11:30

Jacob Lovett *(Chemistry, University of Bath / Monash University, Bath, United Kingdom)*, Cameron Bentley, Ulrich Hintermair, Frank Marken

Tuning Electrocatalytic Partial Methanol Oxidation to Syngas Equivalents

11:30 to 11:45

Ting Wu *(Lincoln Agritech Ltd, Lincoln University, CHRISTCHURCH, New Zealand)*, Amol Jadhav, David Rankin

Turning Agricultural Methane into Opportunity: Electrochemical Methane Mitigation under Ambient Conditions

11:45 to 12:00

Aicheng Chen *(Department of Chemistry, University of Guelph, Guelph, Canada)*, Joshua van der Zalm, Emmanuel Mena-Morcillo, Muhanad Al-Jeda

Using SECM-Based Optical Spectroscopy to Probe Nanoscale Photoelectrocatalysts for Environmental Applications

12:00 to 12:15

Minghua Zhou *(College of Environmental Science and Engineering, Nankai University, Tianjin, China)*

Efficient hypersaline wastewater treatment by a novel photoelectrochemical chlorination-dechlorination-mineralization system

12:15 to 12:30

Carlos A Martínez-Huitle *(Institute of Chemistry, Federal University of Rio Grande do Norte, Natal, Brazil)*, Jussara C. Cardozo, Letícia G.A. Costa, Thalita M. Barros, Ana Eduarda C. Bertoldo, Luis Felipe S. Miranda, Amanda Medeiros de Azevedo, Marco A. Quiroz, Jéssica Luana de Araújo Batista, Aruzza Araújo, Amanda D. Gondim, Livia N. Cavalcanti, Tabata N. Feijoó, Luis D. Loor-Urgilés, Elisama Vieira dos Santos

Electro-Refinery in Organics for Water Protection: Coupling Wastewater Treatment with Sustainable Fuel Production

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: J. Tyler Mefford; Hangjuan Ren

09:30 to 09:45

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

Operando imaging techniques for metal deposition & stripping phenomena in various electrolytes

09:45 to 10:00

Gaku Tsutsui *(Graduate School of Science and Engineering, Hosei University, Koganei, Japan)*, Kento Yura, Hirotoshi Kobayashi, Kenta Kitamura, Takamasa Mori

Evaluation of Dispersion State Changes in Lithium-Ion Battery Electrode Slurries During the Manufacturing Process

10:00 to 10:15

Bertold Rasche *(Institute of Inorganic Chemistry, University Stuttgart, Stuttgart, Germany)*, Anahita Emminghaus, Nicolai Burk

Mechanism of the Electrochemical Alkaline Metal Intercalation of VSe_2 from in-situ X-ray Diffraction

10:15 to 10:30

Shigang Sun *(Department of Chemistry, Xiamen University, Xiamen, China)*

In-situ/Operando Spectroscopy Studies on Electrochemical Energy Processes

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:30 ***Keynote***

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

Revealing the Active State of Electrochemical Interfaces with Operando X-ray Spectroscopies

11:30 to 11:45

Caiwu Liang *(Materials/Chemistry, Imperial College London, London, United Kingdom)*, Caiwu Liang, Reshma Rao, Ifan Stephens, James Durrant

Understanding Water Oxidation Activity and Stability on Iridium Oxides via Time-resolved Optical and X-ray Spectroscopies

11:45 to 12:00

Petr Krtil *(Electrocatalysis, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic)*, Katrine Svane, Katerina Minhova Macounova, Kaoruho Sakata, Kenta Amemiya, Jan Rossmeisl, Lalita Sharma

Oxygen Evolution on Iridium-Ruthenium Based Catalysts – an in-situ soft X-ray Absorption Spectroscopy

12:00 to 12:15

Meryem Ennaji *(Institute Charles Gherardt Montpellier, CNRS, Montpellier, France)*, Amir Gasmi, Frédéric Jaouen, Jakub Drnec, Raphaël Chattot

Decoding and Healing IrCu Aerogel Degradation in PEM Electrolysers via Operando X-ray Probes and Flash Heating

12:15 to 12:30

Raphaël Chattot *(Institute Charles Gerhardt of Montpellier (ICGM), National Centre for Scientific Research (CNRS), Montpellier, France)*, Amir Gasmi, Meryem Ennaji, Jakub Drnec

From Active Site Dynamics to Durable Oxygen Electrocatalysts: Operando X-ray Scattering Insights and Design Strategies

Symposium 16 General session

Room: **C2.4**

Chaired by: Federico Calle-Vallejo; Peter Sherrell

09:30 to 09:45

Federico Calle-Vallejo *(Department of Advanced Materials and Polymers, University of the Basque Country, Donostia, Spain)*

Finding Common Features of Active Materials for the Oxygen Evolution Reaction

09:45 to 10:00

Yemima Ehrnst *(School of Engineering, RMIT University, Melbourne, Australia)*, Robert Komljenovic, Islay Robertson, David Broadway, Jean-Phillippe Tetienne, Andrew Christofferson, Salvy Russo, Peter Sherrell, Leslie Yeo, Amgad Rezk

Enhanced Electrolysis via Megahertz Frequency Acoustics

10:00 to 10:15

Dayu Zhu *(school of chemistry, Monash university, melbourne, Australia)*, Jie Zhang

Statistical Analysis of Structural Descriptors Governing H_2O_2 Selectivity on Oxygen-functionalized Carbons

10:15 to 10:30

Ara Jo *(Department of Chemistry, Kangwon National University, Chuncheon, Korea)*

A Systematic Potential-Holding Protocol for Accurate ECSA Evaluation of Platinum

10:30 to 11:00

Coffee Break *sponsored by* ***ProDigitek Pty Limited***

11:00 to 11:15

Peter Sherrell *(Applied Chemistry & Environmental Science, RMIT University, Melbourne, Australia)*

Electromechanical Polarisation and Charge – Towards Green (Electro-) Chemical Energy

11:15 to 11:30

Blanka Gaál *(Engineering Department, University of Oxford, Oxford, United Kingdom)*, Nicola Courtier, Charles Monroe, David Howey

Understanding the Charge Transfer Kinetics of LFP and LMFP cells

11:30 to 11:45

David Macedo *(CSIRO Mineral Resources, CSIRO, Melbourne, Australia)*, Theo Rodopoulos, Mikko Vepsäläinen, Samridhi Bajaj, Helmini Jayarathne, Conor Hogan

Automated Semi-Derivative Fitting for Improved Accuracy in Analytical Cyclic Voltammetry

11:45 to 12:00

William Veloso *(Fundamental Chemistry, University of São Paulo, São Paulo, Brazil)*, William Veloso, Joshua Tully, Gabriel Meloni, Thiago Paixão, Julie Macpherson

In Situ Electrochemical pH Control Using 3D-Printed Interdigitated Electrode Arrays

12:00 to 12:15

Yifan Yuan *(School of Chemistry, The University of Sydney, Sydney, Australia)*, Priya Mehta, Jahan E. McLeod, William T. McLeod, Haihui Joy Jiang

Prebiotic Electrosynthesis from Abundant Planetary Resources

12:15 to 12:30

Fraser Hughson *(R&D, Allegro Energy, Thornton, Australia)*, Thomas Nann, Rohan Borah, Anish Johns, Aliyu Salisu

Microemulsions – The Perfect Electrochemical Solvent

Tuesday 8 September 2026 - **Afternoon**

Symposium 2 Electrochemical biosensors: The new world technology

Room: **C3.2**

Chaired by: Conor Hogan; Ilaria Palchetti

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

Riccarda Antiochia *(Dept. of Experimental Medicine, Sapienza University of Rome, Rome, Italy)*, Cristina Tortolini, Francesco Dotta

C-peptide Immunosensor as a novel tool for Diabetes Management

14:30 to 14:45

Hua Cui *(Department of Chemistry, University of Science and Technology of China, Hefei, Anhui, China)*, Mingquan Guo, Zachary J. Smith

A Three-Biomarker Joint Strategy based on Electrochemiluminescence Immunoarray for Early and Accurate Diagnosis of Acute Myocardial Infarction

14:45 to 15:00

Sathyan Babu *(Department of Chemistry, Pusan National University, Busan, Korea)*, Kyuseok Lee, Haesik Yang

Enzymatic Precipitation of Prussian Blue for Sensitive Electrochemical Immunosensing of Thyroid-Stimulating Hormone

15:00 to 15:15

Aisha Javed *(School of Life and Environmental Sciences, Deakin University, Geelong, Waurn Ponds, Victoria, Australia)*

Engineering Aptamer-based Nano-interface for Single Exosome Analysis

15:15 to 15:30

Jayani Upeksha Halpegama *(School of Chemistry, Australian Center for NanoMedicine, University of New South Wales, Sydney, Australia)*, M A Kristine Tolentino, Yuanqing Ma, Ying Yang, Essam M Dief, Elvis Pandzic, Richard D Tilley, J Justin Gooding

Surface Heterogeneity in Quantitative Single-Molecule Biosensing

15:30 to 15:45

Thiago Pimenta *(Chemistry and Biochemistry, La Trobe University, Melbourne, Australia)*, Ronil Rath, Luiza do Nascimento, Vatsala Pithaih, Henry Bellette, George Greene, Saimon Silva

A Glycocalyx-Mimetic Electrochemical Platform for Rapid Lectin-Glycan Profiling

15:45 to 16:00

Anna Ignaszak *(Chemistry, Brock University, St. Catharines, Canada)*

Rapid Electrochemical Monitoring of Thrombin Activity Using an Electrogenic Substrate: Toward Real-time Coagulation Monitoring

16:00 to 16:30

Coffee Break

16:30 to 16:45

Wallans Dos Santos *(Pharmacy, UFVJM, DIAMANTINA, Brazil)*, Mariane Brandão, Luciano Arantes, Camila Lima, Bruno Lucca, Natália Moraes, Evandro Pedão, Fernanda Guerbas, Sâmya Gebara

Portable Voltammetric Method for the Simultaneous Determination of Δ9-Tetrahydrocannabinol and Cannabidiol in Alkaline Medium Using Unmodified Screen-Printed Carbon Electrodes

16:45 to 17:00

Ronil Rath *(Department of Biochemistry and Chemistry, La Trobe University, Melbourne, Australia)*, Hansani Maussawa, Manthi Liyange, Conor Hogan, Saimon Silva

Developing Electrochemical Aptamer Biosensors for the Detection of Illicit Drugs

17:00 to 17:15

Fan Xia *(Faculty of Material Science and Chemistry, China University of Geosciences, Wuhan, China)*

Analysis and Detection based on Solid-State Nanopores/Channels

17:15 to 17:30

Ilaria Palchetti *(Department of Chemistry, University of Florence, Sesto Fiorentino (FIRENZE), Italy)*

Sustainable soot-based nanocomposites for advanced (bio)sensing applications

17:30 to 17:45

Haesik Yang *(Department of Chemistry, 30 Jangjeon-dong, Geumjeong-gu, Busan, Korea)*, Seonhwa Park

Robust Two-Electrode Immunosensing Enabled by a Kinetically Stable and Potential-Guiding Redox System

TUESDAY PM

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: **C3.4**

Chaired by: Silvia Favero; Fengwang Li

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

Iryna Zenyuk *(Chemical and Biomolecular Engineering, University of California Irvine, Irvine, USA)*, Vivek Devalla, Hung-Ming Chang, Nergis Mahajar, Jesus Ochoa Lopez, Eleanor Anton, Thirawit Sornsuchat, Magnolia Pak, Obeen Kwon, Patrick Yang, Yu Morimoto

Understanding Catalyst-Ionomer Interface within Electrodes of Electrochemical Devices

14:30 to 14:45

Thi Thuy Kieu Tran *(Faculty of Engineering, The University of Sydney, Camperdown, Australia)*, Mahroo Baharfar, Xuan Minh Chau Ta, Jodie Yuwono, Antonio Tricoli

Interfacial Decoupling of HER and OER in Synergistic Oxide Heterostructures for High-Performance AEM Water Electrolysis

14:45 to 15:00

Aleksandr Kokin *(Center for Energy Science and Technology, Skolkovo Institute of Science and Technology, Moscow, Russia)*, Maksim Abakumov, Pavel Sinitsyn, Sergey Porokhin, Eduard Levin, Sergey Ryazantsev, Victoria Nikitina

Conductivity switch induced inversion of activity trends of sulfide-derived Ni-Fe-Co (oxy) hydroxides in bifunctional alkaline electrolysis

15:00 to 15:15

Gwangsu Bak *(Chemistry, Seoul National University, Seoul, Korea)*, Hyunseo Dho, Yun Jeong Hwang

Enhanced CO_2 Conversion in Electrochemical Reactive Carbon Capture (eRCC) via Interface Modulation in a 3-Compartment Flow Cell (3CFC)

15:15 to 15:30

Abigail Seddon *(NanoElectrocatalysis and Sustainable Chemistry, Catalan Institute of Nanoscience and Nanotechnology, Barcelona, Spain)*

Mechanistic Elucidation of Catalytic Heterogeneous Water Oxidation Using Polyoxometalate Catalysts

15:30 to 15:45

Mesaque Carvalho França *(Department of Fundamental Chemistry, Institute of Chemistry of the University of São Paulo, São Paulo, Brazil)*, Irlan Santos Lima, Pedro de Lima Neto, Lúcio Angnes, Josué Martins Gonçalves, Mauro Bertotti

CoFeZn-containing Metal Glycerolates as Electrocatalysts for Oxygen Evolution Reactions

15:45 to 16:00

Jian Wang *(School of Energy and Environment, City University of Hong Kong, Kowloon, China)*, Jia Lei, Ziyi Wang, Yixiao Huang, Yuzhe Zhou

Deciphering Interfacial Reconstruction and Degradation Pathways in Complex-Doped Cobalt Oxide for Sustainable Water Oxidation

16:00 to 16:30

Coffee Break

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

Silvia Favero *(Nanoelectrocatalysis and Sustainable Chemistry Group, Catalan Institute of Nanoscience and Nanotechnology (ICN2), Barcelona, Spain)*, María Escudero Escribano

Electrochemical Methane Oxidation – Testing Protocols and First Steps towards In-Situ Spectroscopy

16:45 to 17:00

Lucie Dostálková *(Electrochemistry at the Nanoscale, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic)*, Lucie Pražáková, Monika Spurná, Petr Kozlík, Karolina Schwarzová-Pecková, Lukáš Rýček, Romana Sokolová

Unraveling the Oxidation Mechanism of Synthetic Selaginpulvilins: A Combined Electrochemical, Spectroelectrochemical, and LC–MS Approach

17:00 to 17:15

Yueh-Chun Hsiao *(Chemical Engineering, National Tsing Hua University, Hsinchu, Taiwan)*, Hansaem Jang, Tung-Han Yang, Alexander J. Cowan

Dynamic Surface Restructuring Governs Anti-Poisoning Behaviour in High-Entropy Alloy Catalysts during Ethanol Oxidation

17:15 to 17:30

Katharina Trapp *(Electrochemical Energy Systems Laboratory, ETH Zürich, Zürich, Switzerland)*, Soracha Kosasang, Johannes Ingenmey, Dario Gomez Vasquez, Manuel Reiter, Mathieu Salanne, Maria R. Lukatskaya

Optimizing Formate Solvation Structure in Water-in-Salt Electrolytes for the Electrocatalytic Formate Oxidation Reaction

17:30 to 17:45

Christophe Coutanceau *(IC2MP, University of Poitiers, Poitiers, France)*, Axel Rigoulet, Thibault Rafaïdeen, Claudia Morais, Clément Comminges, Têko Napporn

Formate electrooxidation at a nickel-based electrode

17:45 to 18:00

Joshua Buzolic *(Department of Chemical Engineering, Queen's University, Kingston, Canada)*, Sam Fahrngruber, Spencer McCluskey, James Czerkawski, Kevin De France, Rachel Baker

Hybrid Protein Nanofiber/Copper Salt Modified Electrodes for Styrene Electrocarboxylation

18:00 to 18:15

Jun Chen *(Australian Institute for Innovative Materials, University of Wollongong, North Wollongong, Australia)*

Defective carbon-based materials for electrocatalysis

18:15 to 18:30

Lin Gan *(Tsinghua Shenzhen International Graduate School, Tsinghua University, Shenzhen, China)*, Liang Chang, Yuefei Cui

Atomic Insights into Electrochemical Hydriding, Oxidation and Dissolution of Platinum Surfaces

18:30 to 18:45

William Johnson *(Chemical and Process Engineering, University of Strathclyde, Glasgow, United Kingdom)*, Lewis MacDonald, Dipak Shinde, Jun Li, Stephen Lyth, Graham Smith, Edward Brightman

Electrochemical and pH-Induced Isomerisation of Keggin Polyoxometalates For Energy Conversion Applications

Symposium 5 Aqueous-based batteries and high-power devices

Room: **C2.5**

Chaired by: Guanjie He; Tzu-Ho Wu

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

Tzu-Ho Wu *(Chemical Engineering, National Taiwan University of Science and Technology, Taipei City, Taiwan)*, Jia-He Su, Tzu-Kuan Li, Cao-Feng Chen, Sin-Lin Cheng, Jian-Xue Huang, Kung-Yi Ni

Designing Advanced Cathode Materials for Aqueous Zn-Ion Batteries

14:30 to 14:45 ***Invited***

Guanjie He *(Chemistry, UCL, London, United Kingdom)*

Design of cathode materials for high-performance aqueous zinc-ion batteries

14:45 to 15:00 ***Invited***

Kenneth Ozoemena *(School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*, Aderemi Haruna, Thapelo Mofokeng

Developing Industrially Relevant Rechargeable Zinc-Based Batteries

15:00 to 15:15

Haocheng Guo *(Helmholtz Institute Ulm, Karlsruhe Institut für Technologie, Ulm, Germany)*, Simon Fleischmann

Understanding and Regulation of Solvent Intercalation Phenomena in Bi-layered Vanadium Oxides for Zinc Batteries

15:15 to 15:30

Masaki Okada *(Office of Institutional Advancement and Communications, Kyoto University, Ugi, Japan)*

Positive Electrode Behavior of Electrolytic Manganese Dioxide in Alkaline Electrolyte for Zinc Negative Electrode Batteries

15:30 to 15:45

Masaaki Yoshikawa *(Kyoto University, OIAC, Uji, Japan)*, Takeshi Abe

Carbon manganese composite for zinc anode batteries

15:45 to 16:00

Leandro Nicolás Bengoa Abraham *(Institut Català de Nanociència i Nanotecnologia (ICN2), Edifici ICN2 UAB Campus, Bellaterra, Spain)*, Rosa M. González-Gil, Anukriti Pokhriyal, Siyu Chen, Andrea Inclán, Pedro Gómez-Romero

Advances in Cathode Material Development for Zinc-Ion and Zinc–Air Batteries

16:00 to 16:30

Coffee Break

16:30 to 16:45

Hiroshi Inoue *(Department of Applied Chemistry, Osaka Metropolitan University, Sakai, Japan)*, Tomoko Morisaki, Masanobu Chiku, Eiji Higuchi, Patrick Kimilita Dedetemo

Alkaline and Temperature Stability of Xanthan Gum Hydrogel Electrolytes for Use in Alkaline Zinc Rechargeable Batteries

16:45 to 17:00

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

Designing Stable Aqueous Zinc-Ion Batteries via Electrolyte and Interface Regulation

17:00 to 17:15

Chesta Chesta *(Department of Mechanical Engineering, Chalmers University of Technology, Gothenburg, Sweden)*, Zhenyuan Xia, Johanna Xu

Carbon Fiber-Reinforced Structural Zinc-Ion Batteries

17:15 to 17:30

Dawid Kasprzak *(Department of Materials Engineering, KU Leuven, Bruges, Belgium)*, Junru Wang, Wim Thielemans, Veerle Vandeginste

From Waste Lignin to Flexible Zn-Ion Power Sources: Integrating Porous Carbons and Functional Gel Electrolytes

17:30 to 17:45

Kohei Shimokawa *(Institute for Manufacturing, University of Cambridge, Cambridge, United Kingdom)*, Byung-Man Kim, Arvind Pujari, Michael De Volder

Structural Evolution for High-Voltage Zn-Ion Photobatteries

17:45 to 18:00

Rui Liu *(Department of Chemical Science and Engineering, Institute of Science Tokyo, Yokohama, Japan)*, Takashi Hirose, Takeyoshi Okajima, Hajime Arai

Bifunctional air electrode with bilayer design analyzed by electrochemical impedance spectroscopy

18:00 to 18:15

Hiro Hori *(School of Materials and Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Guanyu Wang, Takashi Hirose, Takeyoshi Okajima, Hajime Arai

Enhancing the Durability of (Fe, N)-Doped Carbon as Oxygen Reduction Catalysts

18:15 to 18:30

Hazirah Syahirah Zakria *(Applied Chemistry Department, Graduate School of Engineering, Mie University, Tsu, Japan)*, Sou Taminato, Osamu Yamamoto, Nobuyuki Imanishi

Engineering a Water-Blocking Ion-Conductive Polymer Separator for Rechargeable Aqueous Lithium–Air Batteries

18:30 to 18:45

Aleksandra Baron-Wiechec *(Materials Science and Engineering, Guangdong Technion – Israel Institute of Technology, Shantou, China)*, Bingbing Xia, Jean-Jacques Ganem, Emrick Briand, Sebastien Steydli, Jurgen von Bardeleben, Ian Cameron Vickridge, Guocong Lin

Electronic Band Structure Engineering of ALD HfO_2, Al_2O_3 and TiO_2 Films: Linking Impurity Chemistry to Charge Transport

Symposium 6a Advances in hydrogen production and utilisation

Room: **C3.1**

Chaired by: Matthias Ranz; Wataru Sugimoto

14:00 to 14:15

Suraj Gupta *(Advanced Materials, Jožef Stefan Institute, Ljubljana, Slovenia)*, Joyal Johny, Nina Daneu, Marjeta Maček Kržmanc, Matjaž Spreitzer

Mechanistic Understanding of Multi-Component Non-Noble Electrocatalysts for Anion-exchange Membrane Water Electrolyzers

14:15 to 14:30

Perla Hajjar *(ICGM/CNRS, University of Montpellier, Montpellier, France)*, Wenjamin Moschkowitsch, Nicolas Bibent, Nicolas Donzel, Marc Dupont, Frédéric Lecoeur, Maureeen Georges, Sara Cavaliere, Frédéric Jaouen

Carbon support templating for FeNC catalysts via molten tin

14:30 to 14:45

Mohammed Amine Hammouali *(Department of Chemistry and Materials Science, Aalto University, Helsinki, Finland)*

ALD-Coated NiPd/SWCNT Electrocatalysts for Stable Hydrogen Evolution and Oxidation in Alkaline and Saline Electrolytes

14:45 to 15:00

I-Hsuan He *(Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan)*, Jia-He Peng, Jhao-Hua Zeng, Chun-Jern Pan, Chun-I Lee

Hydrothermal Synthesis of Nitric Acid–Modulated Co-MOF as Electrocatalyst for Hydrogen Production from Urea-Assisted Water Electrolysis

15:00 to 15:15

Amol Jadhav *(Green Futures, Lincoln Agritech Ltd, Lincoln, New Zealand)*, Hyoyoung Lee

A Surface-Engineered Transition-Metal-Based Electrode for Selective and Durable Oxygen Evolution in Alkaline Seawater

15:15 to 15:30

Kyuman Kim *(Intelligent Polymer Research Institute, University of Wollongong, Wollongong, Australia)*, Atheer Al-Musawi, Klaudia Wagner, Chong-Yong Lee, Gerhard Swiegers, Gordon Wallace

Highly Efficient Alkaline Fuel Cells with Capillary-Fed Architecture

15:30 to 15:45

Katarina Kretschmer *(Theory and Computation of Energy Materials (IET-3), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Michael H. Eikerling, Tobias Binninger

Assessing the Metal–Oxygen Bond Strength of Rutile Oxides for OER Catalyst Performance

15:45 to 16:00

Yu-Ping Ku *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Stuttgart, Germany)*, Davide Grilli, Akshata Barge, Dirk Ullmer, Kamal Ghotia, Hans Wiggenhauser, Nicky Bogolowski, Sakthivel Mariappan, Fatemeh Razmjooei, Syed-Asif Ansar

Exploring Operational Constraints and Adaptive Strategies for Alkaline Water Electrolyzers in Fluctuating Energy Environments

16:00 to 16:30

Coffee Break

16:30 to 16:45

Qinyu Li *(Chemistry, University of New South Wales, Sydney, Australia)*, Soshan Cheong, Cheng Yang, Samuel V. Somerville, Zeno R. Ramadhan, Ashkan Abdibastami, Deandra L. Pragasam, Yun Liu, J. Justin Gooding, Richard D. Tilley

Synergistic Co- and Mn-Doping of Fe_3O_4 Nanoparticles Enables Oxygen Vacancy Engineering for Ultra-High Current Density OER Catalysis

16:45 to 17:00

Nicola Mattiuzzo *(Australian Institute for Innovative Material, University of Wollongong, Wollongong, Australia)*, Chong-Yong Lee, Klaudia Wagner, Gerhard F. Swiegers

Spinel $CoFe_2O_4$ Catalysts as High-Performance Anodes for Capillary-Fed Alkaline Water Electrolysis

17:00 to 17:15

Xukang Wang *(Clean Energy Automotive Engineering Center, Tongji University, Shanghai, China)*, Liming Jin, Cunman Zhang

Dissolved Fe-induced degradation of hydrogen evolution electrode via dual-mechanism

17:15 to 17:30

Glen McClea *(Department of Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Campbell Tiffin, Laura Titheridge, Hemi Johnson, Daniel Holland, Steve Matthews, Aaron Marshall

Free-standing Hierarchical Porous Transport Layers for Anion Exchange Membrane Water Electrolysis Using Atmospheric Plasma Spray

17:30 to 17:45

Matthias Ranz *(HyCentA Research GmbH, Graz University of Technology, Graz, Austria)*, Christoph Rinnhofer, Florian de Pauli, Marie Macherhammer, Alexander Trattner

Tracking Degradation Pathways in AEM Water Electrolysis Under Intermittent Operation Using EIS and DRT

17:45 to 18:00

Janis Schmitt *(Electrochemical Reaction Engineering (AVT.ERT), RWTH Aachen University, Aachen, Germany)*, Léandre Lebon, Anna Mechler

Electrochemical Activation of Ni-Fe Anodes for Alkaline Water Electrolysis: The Effect of Base Concentration and Temperature

18:00 to 18:15

Jakob Scholl *(Hydrogen Technologies, Fraunhofer IKTS, Arnstadt, Germany)*, Christian Plank, Jann Odrobina, Michael A. Danzer, Karl Skadell, Michael Stelter

Unraveling processes in an alkaline water electrolysis cell with reference electrodes and electrochemical impedance spectroscopy

18:15 to 18:30

Md. Abdul Aziz *(IRC for Hydrogen Technologies and Carbon Management, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia)*, Arshad Hussain, Sumaira Manzoor, Safyan Akram Khan

A Distinct Pt Nanoparticles Immobilization Strategy on Jute-Derived 3D Graphene Frameworks: Benchmarking and Surpassing Commercial Platinum for Alkaline Hydrogen Evolution

18:30 to 18:45

Simon Amigues *(ICGM, CNRS, Montpellier, France)*, Nicolas Bibent, Laetitia Dubau, Frédéric Maillard, Mushrifa Syeda Zahan, Alexander A. Baranov, Dario R. Dekel, Frédéric Jaouen

MOF-derived Ni@C catalysts for Hydrogen Oxidation Reaction: towards precious metals-free AEMFC beyond 1 W cm^{-2}

Symposium 6b Advances in hydrogen production and utilisation

Room: **C3.5**

Chaired by: Jessica Allen; Faezeh Azad

14:00 to 14:15

Luca Alessio *(Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Alfred Herritsch, Aaron Marshall

Two-Dimensional Packed Bed Membrane Reactor Model for Ethanol Dehydrogenation with Integrated Electrochemical Hydrogen Pump

14:15 to 14:30

Max Court *(School of Engineering and Material Science, Queen Mary University of London, London, United Kingdom)*, Chloe Forrester, James Durrant, Joe Briscoe

Ferroelectric – photocatalyst nanocomposites for enhanced solar fuel generation

14:30 to 14:45

Desheng Feng *(Chemical Engineering, University of Melbourne, Melbourne, Australia)*, Mengran Li

High-Efficiency Electrochemical Hydrogen Separation in Protonic Ceramic Cells

14:45 to 15:00

Kalpana Garg *(Chemistry, Indian Institute of Technology Ropar, Rupnagar, India)*, Sukhjot Kaur, Abhishek Kumar, Vivekanand Shukla, Rajeev Ahuja, Tharamani C Nagaiah

Boosted Hydrogen Production via Selective Electrooxidation of H_2S to Thiosulfate

15:00 to 15:15

Fabian Ketter *(Institute of Technical and Macromolecular Chemistry, RWTH Aachen University, Aachen, Germany)*, Shwetambara Jha, Sonja D. Mürtz, Regina Palkovits

Advancing LOHC-based Hydrogen Supply: Integrated Dehydrogenation and Purification via Electrochemical Pumping

15:15 to 15:30

Yuwei Liu *(Biomedical engineering, University of Sydney, Sydney, Australia)*, Hongjun Chen, Qi Wang, Kieu Tran, Mahroo Baharfar, Antonio Tricoli

Affordable Green Hydrogen Production via Electrochemical Upcycling of Biomass-Derived 1'3-Propanediol to 3-Hydroxypropionic Acid

15:30 to 15:45

Tomoko Morikawa *(Dept. of Advanced Interdisciplinary Studies, Graduate School, The University of Tokyo, Tokyo, Japan)*, Tatsuoki Kono, Shingi Yamaguchi, Shin Yoshida, Kenichiro Kosaka

Dynamic Voltage Response and Short-Term Stability of a Tubular SOEC Stack Under PV-Induced Fluctuations

15:45 to 16:00

Jihyeon Park *(Department of Environmental and Energy Engineering, GIST, Gwangju, Korea)*

Machine Learning for Green Hydrogen: Bridging Material Descriptors and System Operations

16:00 to 16:30 ***Coffee Break***

16:30 to 16:45

Junyi Tao *(Institute of Industrial Science, The University of Tokyo, Tokyo, Japan)*, Yosuke Komatsu, Anna Sciazko, Takao Okabe, Katsuhiko Nishimura, Zewei Lyu, Gao Yao, Naoki Shikazono

Effect of Fe-doping on Ni Morphological Changes in Solid Oxide Cell Fuel Electrodes

16:45 to 17:00

Xinsheng Zhang *(School of Chemical Engineering, East China University of Science and Technology, Shanghai, China)*, Jiangnan Guo, Shuozhen Hu, Shigang Sun

Spontaneous Polarization Electric Field Assisted Pd-based Catalysts for Hydrogen Production from Formic Acid Decomposition

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: **Pyrmont Theatre**

Chaired by: Yasutoshi Iriyama; Xin Li

14:00 to 14:15

Hyeonseong Oh *(Center for Energy Storage Research, Korea Institute of Science & Technology, Seoul, Korea)*

A Bimodal Composite Cathode Enabling Architecture-Driven Chemo-Mechanical Integrity in All-Solid-State Batteries

14:15 to 14:30

Reona Miyazaki *(Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan)*, Reona Miyazaki, Takuma Senba, Hidetoshi Miyazaki, Takehiko Hihara

Enhancement of Li^+ Conductivity in LiI by Ca^{2+}/BH_4^- Co-doping

14:30 to 14:45

Julia Hudachek *(School of Materials and Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Atsunori Ikezawa, Hirose Takahashi, Takeyoshi Okajima, Hajime Arai

Quantitative Visualization of Cross-sectional Reaction Distribution in Graphite Composite Electrodes for All-Solid-State Batteries

14:45 to 15:00

Yun Seong Byeon *(Department of Materials Science and Engineering, Kyung Hee University, Yongin-si, Korea)*, Dongil Kim, Seong Hee Jeong, Min-Sik Park

Cationic Defect Engineering of Li_3MF_6 Buffer Layers for Enhanced Interfacial Lithium-Ion Transport in All-Solid-State Batteries

15:00 to 15:15

Han Yang *(Institute of Energy Technologies (IET-1), Forschungszentrum Jülich, Jülich, Germany)*, Baolin Wu, Hongyuan Yu, Anna Windmüller, Chih-Long Tsai, Rüdiger-A. Eichel

Highly Stable FeS Conversion Cathode for Sulfide-Based All-Solid-State Lithium Batteries

15:15 to 15:30

Ching-Hsun Wu *(Chemical Engineering, National Cheng Kung University, Tainan, Taiwan)*, Hsisheng Teng

Integrating Scaffold-Reinforced Ultrathin Polymer Electrolyte with Multifunctional Catholyte for High-Energy-Density Solid-State Lithium Batteries

15:30 to 15:45

Michael Häfner *(Maschinenbau und Bauingenieurwesen, Helmut-Schmidt-Universität, Hamburg, Germany)*, Tim Rensmeyer, Oliver Niggemann, Denis Kramer

Efficient Fine-Tuning of Universal Machine-Learned Interatomic Potentials for the Theoretical Investigation of Lithium-Ion Conductors

15:45 to 16:00

Ananya Panda *(Department of Materials Science and Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan)*, Jagabandhu Patra, Ching-Yuan Su, Jeng-Kuei Chang

Functionalized 2D-Boron Nitride Reinforced Composite Polymer Electrolyte for High-Performance Solid-State Lithium Batteries

16:00 to 16:30

Coffee Break

16:30 to 16:45

Ching-Chiao Chang *(Department of Chemical and Materials Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan)*, Chun-Jern Pan, Chun-I Lee

FEC-Containing LiTFSI/LiBOB–MAc Dual-Salt Deep Eutectic Electrolyte for Enhanced Performance of Lithium Metal Batteries

16:45 to 17:00

Aravind Unni *(IAM-ET, KIT, Karlsruhe, Germany)*, Jessica Ulke, Bastian von Holtum, Simon Wiemers-Meyer, Ulrike Krewer

Mechanistic Insights into Native SEI Formation on Li Metal: kMC Modeling Informed by Gas Analysis

17:00 to 17:15

Daheng Ou *(Institute for Frontier Materials (IFM), Deakin University, Burwood, Australia)*, Hiroyuki Ueda, Chad W. Stone, Urbi Pal, Anthony E. Somers

Comprehensive Characterisation of the SEI and Safety of Li Metal Electrode Cycled in Conventional Carbonate and Ionic Liquid Electrolytes

17:15 to 17:30

Omair Ashfaq *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Katrin Geng, Dominic Bresser

Modified Current Collector Surfaces for "Zero-Excess" Lithium-Metal Batteries

17:30 to 17:45

Jiangming Cao *(Faculty of Mechanical and Civil Engineering, Helmut-Schmidt University, Hamburg, Germany)*, Chao Peng, Denis Kramer

First Principles Insights for Manipulating Electric Double Layer at Lithium Metal Anodes

17:45 to 18:00

Andrew Hector *(School of Chemistry and Chemical Engineering, University of Southampton, Southampton, United Kingdom)*, Junren Wang, Huaxin Cao, Nikolay Zhelev, Andrea Russell

Lithium metal anodes constructed on a lithiophilic TiN-carbon composite scaffold

18:00 to 18:15

Widi Kurniawati *(Institute for Frontier Materials, Deakin University, Burwood, Australia)*, Jacob Olchowka, Laurence Croguennec, Jennifer M. Pringle

Highly Concentrated Ether-Functionalised Ionic Liquid Electrolytes for a High-Performing Lithium Metal Batteries at Room Temperature: the Effect of Organic Cations

18:15 to 18:30

Rahul Parmar *(Laboratory of Battery Science, Paul Scherrer Institut, Villigen, Switzerland)*, Sigita Trabesinger

Revisiting the Effects of Electrolyte Volume and Lithium Metal Anode Thickness on Lithium Metal Battery Performance

18:30 to 18:45

Jagabandhu Patra *(Center for Resilience and Intelligence on Sustainable Energy, National Cheng Kung University, Tainan, Taiwan)*, Jeng-Kuei Chang

Adhesive Lithium Particles with Protective Shells for Stable Thin Lithium Anodes

18:45 to 19:00

Donghyoung Kim *(Department of Smart Fab. Technology, Sungkyunkwan university, Suwon, Korea)*, Hyung Mo Jeong

Carbon-Only Anode-Less All-Solid-State Batteries Enabled by Lithium-Diffusive Nano-Slit Channeled Carbon

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: **C2.1**

Chaired by: Axel Gross; Stephen Dongmin Kang

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

Stephen Dongmin Kang *(Dept. of Materials Science And Engineering, Seoul National University, Seoul, Korea)*

Electrochemical Kinetics of Battery Particles: Reforming Conventional Ideas

14:30 to 14:45

Paul Hoffmann *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, David Villalva, Giang Son Pham, Omar Elkafif, Timo Jacob, Hagar K. Hassan

Tailoring Ion/Electron Transport in Magnesium-Based Antiperovskite Solid Electrolytes for Rechargeable Mg Batteries

14:45 to 15:00

Eva Bräutigam *(Institute of Organic Chemistry II and Advanced Materials, Ulm University, Ulm, Germany)*, Nico Kokott, Eileen Schleicher, Birgit Esser

Redox-Active Organic Polymers as Active Materials in Rechargeable Aluminum Batteries

15:00 to 15:15

Jia-Yun Jhang *(Department of Mechanical Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan)*, Chun-Jern Pan, Chun-I Lee

$ZnCl_2$–$NaBF_4$ Mixed Ions Deep Eutectic Electrolyte Enabling Stable Zn Plating/Stripping for Zn//$Na_3V_2(PO_4)_3$ Batteries and Supercapacitors

15:15 to 15:30

Tim D. Beuter *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Sadeeda, Benjamin W. Schick, Philipp A. Schuster, Alexander J.C. Kuehne, Timo Jacob

Characterization of Magnesium-based Deep Eutectic Solvent for Polymer Batteries

15:30 to 15:45

Boris Mashtakov *(Inorganic Chemistry, Johannes Gutenberg University of Mainz, Mainz, Germany)*, Moritz Remmers, Carsten Streb

Mixed-Valent Polyoxovanadates as Charge Carriers for Symmetric Non-Aqueous Redox-Flow Batteries

15:45 to 16:00

Kwan Woo Nam *(Department of Chemical Engineering and Materials Science, Ewha Womans University, Seoul, Korea)*

Advanced MOF Architectures for Next-Generation Batteries: Interface Engineering and Active Material Design

16:00 to 16:30 ***Coffee Break***

16:30 to 16:45

Axel Gross *(Institute of Theoretical Chemistry, Ulm University, Ulm, Germany)*, Johannes Döhn, Uday Gajera, Mohsen Sotoudeh

Computational screening of Li- and post-Li batteries

16:45 to 17:00

Harini Srikant *(Chemical and Biomolecular Engineering, University of Illinois Urbana-Champaign, Urbana, USA)*, Carolina Portillos Baek, Din Zelikovich, Rafael Nisim Farca Dayan, Evangelia Founta, Eva Braeutigam, Nico Kokott, Dimitra Georgiadou, Birgit Esser, Daniel Mandler, Theresa Schoetz

Covalently Bonded Composite Electrode-Electrolyte Interfaces for Flexible Aluminum-Graphite Batteries

17:00 to 17:15

Hagar K. Hassan *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Aritra Rakshit, Marta Mirolo, Paul Hoffmann, Timo Jacob

Mechanochemical-Thermal Degradation in Na_3OBH_4 Solid Electrolyte: Origins of Ionic Conductivity Variations

17:15 to 17:30

Ya-Ping Deng *(Chemistry, Xiamen University, Xiamen, China)*, Ling Huang, Shi-Gang Sun

Interpreting and Employing Reconstruction Chemistry in Battery Studies

17:30 to 17:45

Andrea Ceppetelli *(Chemistry, University of Rome, La Sapienza, Rome, Italy)*, Jiajie Zhang, Arcangelo Celeste, Sergio Brutti, Laura Silvestri, Alexey Koposov, Laure Monconduit, Lorenzo Stievano

$CaZn_2$ Alloy as a Stable Counter Electrode for Reliable Evaluation of Calcium-Based Battery Systems

17:45 to 18:00

Tamara Donate Rivas *(IAM-ESS, KIT, Karlsruhe, Germany)*, Valeriu Mereacre, Paul Solbach, Paula Finke, Andreas Heyn, Joachim Binder, Fabian Jeschull

Synthesis and Post-Processing at the Pilot Scale: Unlocking the Potential of $K_2Mn[Fe(CN)_6]$ for Potassium-Ion Batteries

18:00 to 18:15

Chenxi Gao *(Helmholtz Institute Ulm, Karlsruher Institut für Technologie, Ulm, Germany)*, Marina Leite, Dominic Bresser

Evaluating Industrial Lignin for Scalable Sodium-Ion Battery Anodes

18:15 to 18:30

Arianna Sette *(KIT Faculty of Chemistry and Biosciences, Helmholtz Institute Ulm, Ulm, Germany)*

Unveiling The Role Of Alloy-Based Nucleation Layers For Anode-Less Sodium Batteries

18:30 to 18:45

Nikhil Doddi *(Materials Research Centre, Indian Institute of Science, Bengaluru, India)*, Iulian Dugulan, Tony Hollenkamp, Adam S Best, Prabeer Barpanda

Unravelling the Electrochemical (De)Sodiation Mechanism of $Na_4Fe_3(PO_4)_2P_2O_7$ Mixed Polyanion Sodium-ion Insertion Cathode

18:45 to 19:00

Karim Ainceri *(Cirimat, Université de Toulouse, Toulouse, France)*, Patrice Simon, Pierre-Louis Taberna, Patrick Rozier

Mitigating Lattice Strain and Enhancing Charge Carrier Mobility in Sodium-Layered Oxides through Ni/Mn compositional Tuning

Symposium 8 Progress in surface modification and corrosion mitigation

Room: **C2.3**

Chaired by: Achim Walter Hassel; MariaPia Pedeferri

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

Sviatlana Lamaka *(Electrochemistry and Big Data, Institute of Surface Science, Helmholtz-Zentrum Hereon, Geesthacht, Germany)*, Sviatlana Lamaka, Cheng Wang, Zahra Jafari, Bahram Vaghefinazari, Mikhail Zheludkevich

Local Mapping of Bioresorbable Magnesium Degradation: Interfacial (Electro)Chemistry, Localized Corrosion Quantification, and High-Throughput Corrosion Inhibitor Screening

14:30 to 14:45

Mercedes Paulina Chávez Díaz *(Physics, CECYT 7 Cuauhtémoc del Instituto Politécnico Nacional, Mexico City, Mexico)*, Mónica Corrales Luna, Román Cabrera Sierra

EIS, XPS and XRD study of the Bimodal Microstructures on the Ti6Al4V Alloy for Medical Applications

14:45 to 15:00

Jeffrey Venezuela *(School of Mechanical and Mining Engineering, The University of Queensland, St Lucia, Australia)*, Nan Yang, Anguo Wang, Jintong Li, Yahia Ali, Matthew Dargusch

Customising Zinc Biodegradation Pathways for Accelerated Resorption in Wound Healing Applications

15:00 to 15:15

Francesco Di Franco *(Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy)*, Francesco Di Franco, Francesco Duca, Monica Santamaria

Nanostructured Anodic Oxides on Nitinol: Corrosion Resistance, Ion Release, and Cytocompatibility in Physiological Environments

15:15 to 15:30

Achim Walter Hassel *(Institute of Chemical Technology of Inorganic Materials, Johannes Kepler University Linz, Linz, Austria)*

Passive Films on Titanium the Limits of Stability in Dental Applications

15:30 to 15:45

Aleksander Olesiński *(Faculty of Chemistry, Silesian University of Technology, Gliwice, Poland)*, Artur Maciej, Łukasz Major, Maksym Pogorielov, Maciej Sowa, Wojciech Simka

Enhancing Corrosion Resistance and Antimicrobial Activity of PEO Coatings via Silver Oxide Incorporation in Soft Sparking Regime

15:45 to 16:00

Lincoln Summers *(Chemistry, University of Warwick, Coventry, UK, United Kingdom)*, Daniel Houghton, Joshua J. Tully, Alex W. Colburn, Martin Svehla, Vivian Wang, Julie V. Macpherson

Investigating Platinum Dissolution Mechanisms During Neural Stimulation and Their Relation to Electrode Material Properties

16:00 to 16:30

Coffee Break

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

MariaPia Pedeferri *(Department of Chemistry, Materials and Chemical Engineering, Politecnico di Milano, Milan, Italy)*, Fabio Bolzoni, Andrea Brenna, Federica Ceriani, Maria Vittoria Diamanti, Marco Ormellese, Luca Paterlini

Anodic oxide engineering of titanium, aluminum and magnesium: from functional surfaces to corrosion mitigation

16:45 to 17:00

Majid Shahsanaei *(Chemistry and Structure of Novel Materials, University of Siegen, Siegen, Germany)*, Majid Shahsanaei, Nastaran Farahbakhsh, Benjamin Butz, Christian Pritzel, Manuela S. Killiana

Hybrid Plasma Electrolytic Oxidation–Hydrothermal–Silane coatings with Ce and 8HQ inhibitor sealing for improved long-term corrosion resistance of AZ31 magnesium alloy

17:00 to 17:15

Duyoung Kwon *(Energy & Environment Materials Research Division, Korea Institute of Materials Science (KIMS), Chagwon, Korea)*, Sungmo Moon

Formation Mechanism of MgF_2/$NaMgF_3$ Conversion Films on AZ31 Mg Alloy in Neutral Aqueous Solution

17:15 to 17:30

Christoph Lämmel *(Electrochemistry, Fraunhofer IKTS, Dresden, Germany)*, Eric Dabrazzi, Martin Walden, Sören Mirsch, Thomas Schuhmann, Frank Fischer, Dirk Caemmerer, Markus Oettel

Impact of Substrate Topography and Edge Geometry on the Dielectric Strength of Anodic Al_2O_3 Insulation for Additively Manufactured Aluminum Conductors

17:30 to 17:45

Junji Nunomura *(Research & Development Center, UACJ Corporation, Nagoya, Japan)*, Daiki Nakajima, Yoshihiko Kyo

Quantitative evaluation of heat-induced cracks in anodic oxide film on silicon-added aluminum alloys using an electrochemical method

17:45 to 18:00

Andrei Ionut Mardare *(Institute of chemical technology of inorganic materials, Johannes Kepler University Linz, Linz, Austria)*

Defect engineering in ultra-thin anodic oxides: Anodic memristors

18:00 to 18:15

Jingcheng Wu *(Plate Technology Institute, Pangang Group Research Institute Co., Ltd., Panzhihua, China)*, Taixiong Guo, Xueqiang Dong, Xiangying Yin, Changrong Ran, Jiewang Xu, Jiaqing Luo

Gallic-Acid/TiO_2@rGO Anti-Corrosion and Anti-Wear Epoxy Coating for Zn-Al-Mg Alloy Hot-Dip Galvanized Steel

18:15 to 18:30

Runze Yang *(Materials Science and Engineering, Guangdong Technion – Israel Institute of Technology, Shantou, China)*, Guocong Lin, Xintao Liu, Yuan Liang, Agnieszka Gabryelczyk

Hydrogen Permeation and Retention in Pipeline Steels Analyzed Using a Deuterium Tracer

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Room: **C2.2**

Chaired by: Hiroki Habazaki; Dodzi Zigah

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

Julia Amici *(Department of Applied Science and Technology (DISAT), Politecnico di Torino, Torino, Italy)*, Mattia Longo, Leticia Anahi Azpeitia, Carlotta Francia, Arnaldo Visintin, Paulina Marquez

From Reaction Mechanisms to Materials Design in Li–O_2 Batteries

14:15 to 14:30

Céline Yazbeck *(University of Angers, CNRS, Moltech-Anjou, Angers, France)*, Frédéric Gohier, Charles Cougnon

Donor-acceptor conducting polymers with intrinsic porosity for Type III Supercapacitors

14:30 to 14:45

Francesca Polli *(Chemistry and Drug Technologies, Sapienza University Of Rome, Roma, Italy)*, Liudmyla Storozhuk, Nguyen Thi Kim Thanh, Cristina Tortolini, Andrea M. Isidori, Riccarda Antiochia

Rational Design and Optimization of Novel 3D-Printed Conductive Nanoarchitectures for Enhanced Electrochemical Sensing

14:45 to 15:00

Jhonatan Rodriguez Pereira *(Center of Materials and Nanotechnologies, University of Pardubice, Pardubice, Czech Republic)*, Raul Zazpe, Jan M. Macak

Noble Metal Electrodes Synthesized by Atomic Layer Deposition for Alkaline HER: Beyond the Pt

15:00 to 15:15

Mikolaj Kozak *(Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Krakow, Poland)*, Leszek Zaraska

Selective electrodeposition on active spots – tailoring a nanomaterial with controlled topography

15:15 to 15:30

Felipe Quiroga-Suavita *(Smart Materials and Surfaces, School of Chemistry, University of New South Wales, Sydney, Australia)*, Qinyu Li, J. Justin Gooding, Lise-Marie Lacroix, Richard D. Tilley

Controlling Pt decoration on (111) faceted Ni nanoplatelets for efficient electro-catalyzed hydrogen evolution

15:30 to 15:45

Maheshika Perera *(Chemistry and Physics, Queensland university of Technology, Toowong, Australia)*

Plasma-Induced Defect Engineering of Pt-Decorated Cobalt Oxide Nanosheets for Enhanced Alkaline Water Splitting

15:45 to 16:00

Mengying Liu *(School of Energy and Power Engineering, Beihang University, Beijing, China)*, Yan Xiang, Jin Zhang

Regulation of Surface Micro-Circumstances of Cu_2O Nanotube Arrays for Efficient and Selective Electrocatalytic Hydrogenation of Furfural

16:00 to 16:30

Coffee Break

16:30 to 16:45

Feifei Li *(College of Automotive and Energy Engineering, Tongji University, Shanghai, China)*, Liming Jin, Cunman Zhang

Activating Lattice-Oxygen Transfer Relays in Hierarchical NiFeCo-Ce/CeO_2 Electrocatalysts for Robust and High-Efficiency Oxygen Evolution

16:45 to 17:00

Sang Heon Han *(Department of Chemistry, Seoul National University, Seoul, Korea)*, Jihoon Kim, Eunchong Lee, Seongin Hong, Geumbi Na, Yung-Eun Sung, Yun Jeong Hwang

High-Entropy LDHs for Efficient Oxygen Evolution via Enhanced Reaction Kinetics

17:00 to 17:15

Mireille Turmine *(Laboratory of Surface Reactivity, Sorbonne University - CNRS, Paris, France)*, Yuelin XIE, Aygun HUSEYNZADE, Vincent VIVIER

Electrochemical Engineering of Nanostructured Multicomponent Alloys in Ionic Media: From Controlled Electrodeposition to Mechanistic Insights and Enhanced Electrocatalytic Activity

17:15 to 17:30

Nastaran Farahbakhsh *(Department of Chemistry and Biology, University of Siegen, Siegen, Germany)*, Nastaran Farahbakhsh, Majid Shahsanaei, Manuela S. Killian

Hierarchically Porous NiO Supported Ir Single Atoms for Efficient Oxygen Evolution Reaction

17:30 to 17:45

Michael Wilms *(Applied Chemistry, Chalmers tekniska högskola, Göthenburg, Sweden)*, Arma Yau Musa, Ruby Susan Raju, Deya Sallaberry, Mathilde Luneau

Highly Ordered Pd/CeO_x Inverse Opals for Alkaline Hydrogen Oxidation

17:45 to 18:00

Princekumar Patel *(School of Mechanical Engineering, The University of Queensland, Brisbane, Australia)*

Understanding the Microstructure of Gas Diffusion Electrodes (GDEs) using Multiscale Characterisation Techniques

18:00 to 18:15

Michaela Roschger *(Institute of Chem. Engineering and Environmental Technology, Graz University of Technology, Graz, Austria)*, Amila Haseljic, Mathias Heidinger, Ana Nuša Perko, Stefan Edinger, Merit Bodner, Viktor Hacker

Half-Cell Based Durability Analysis of Electrodes for AEMWE

18:15 to 18:30

Mario Kircher *(Institute of Chem. Engineering and Environmental Technology, Graz University of Technology, Graz, Austria)*, Adrian Baumunk, Bastian J. M. Etzold, Viktor Hacker

Half-cell, full potential – Bridging GDE half-cell simplicity and PEM fuel cell complexity

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

Room: **C2.6**

Chaired by: William Tarpeh; Zhihong Ye

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

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

Sustainable Electro-Fenton Technology for Industrial Wastewater Treatment: From Atomic Catalyst Design to Reactor Integration

14:30 to 14:45

Nirmal Peiris *(Mineral Resources, CSIRO, Clayton, Australia)*, Deepali Arora, Graeme Snook, Bita Bayatsarmadi

Electrochemical Hydrogen Peroxide Generation in Flow Reactors

14:45 to 15:00

Anna Maria Dorfmüller *(Chemical Technology, Dechema-Forschungsinstitut, Bad Homburg v. d. Höhe, Germany)*, Mark Melvin Pradja, Christian Modrzynski, Jonathan Zacharias Bloh

Kinetic Studies on the Electrosynthesis of Peroxides with Boron-doped Diamond Electrodes using Sulfuric Acid Electrolytes

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

Abdoulaye Thiam *(Instituto de Investigación y Desarrollo Tecnológico (IDT), Universidad Tecnológica Metropolitana, Santiago, Chile)*, Christian Onfray

From Agro-Industrial Waste to Advanced Oxidation: Biochar-Based Catalysts for Electrochemical Fenton-based Processes

15:15 to 15:30

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

Electrochemical Fluoride Management: Closing the Loop from Industrial Waste to Sustainable Resources

15:30 to 15:45

Rugeng Liu *(College of Material Science and Chemical Engineering, Harbin Engineering University, Harbin, China)*, Wei Wang, Linshan Zhang, Mei Li, Wei Han

Extraction of Zr by Molten Salt Electrolysis on Sn and Fe Electrodes

16:00 to 16:30 ***Coffee Break***

16:30 to 17:00 ***Keynote***

Xiaoguang Duan *(School of Chemical Engineering, Adelaide University, Adelaide, Australia)*

Single-Atom-Catalyzed Electro-Fenton Process for Sustainable Water Treatment

17:00 to 17:15

Zhihong Ye *(College of Environment and Ecology, Chongqing University, Chongqing, China)*, Pan Xia, Chao Wang, Xuan Li

Regulation of Reaction Pathways in Electrocatalytic Molecular Oxygen Activation for Water Treatment

17:15 to 17:30

Erwan Bertin *(Chemistry, St Francis Xavier University, Antigonish, Canada)*, Anna Chisholm, Amaya Giraudier

Electroreduction of Nitrate to Ammonia on Copper-based Nanoparticles Prepared by Pulsed Laser Ablation in Liquids

17:30 to 17:45

Yongxin Wang *(School of Environment, Harbin Institute of Technology, Harbin, China)*

Machine-learning-guided engineering of compositionally complex interfaces for sustainable nitrate valorization in industrial wastewater

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

William Tarpeh *(Chemical Engineering, Stanford University, Stanford, USA)*

Mechanism-Informed Reactor Engineering for Electrochemical Wastewater Nitrogen Refining

18:00 to 18:15

Monireh Khosravi *(Mineral Resources, CSIRO, Clayton, Australia)*, Monireh Khosravi, Syed Danial Alyahya, Nirmal Peiris, Yuyang Hou, Graeme Snook, Bita Bayatsarmadi

Low Temperature Electrochemical Recovery of Rare Earth Elements from Coal Waste

18:15 to 18:30

Jackson Lee *(Chemical Engineering, University of Newcastle, Callaghan, Australia)*

Electrochemical Methods for Recycling End-of-Life Solar Modules

18:30 to 18:45

Lidija Rafailovic *(Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria)*, Megan J. Cordill, Zaga Trisovic, Devinder Singh, Jürgen Eckert, Tomislav Trisovic

Strategies for Scaling Up Electrochemical and Physicochemical Processes – from Electrodeposition to Large Water Treatment Systems

Symposium 11 Scale-up of electrochemical systems

Room: **C3.6**

Chaired by: Engracia Lacasa; Carlos Ponce De Leon Albarran

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

Justo Lobato *(Chemical Engineering, University of Castilla-La Mancha, Ciudad Real, Spain)*, Alberto Rodríguez-Gómez, Prince S. Nopuo, Alejandro Gómez-Sobrino, Omar Martínez-Mora, Savitha Thayumanasundaram, Miguel A. Rodríguez-Cano, Manuel A. Rodrigo

Looking for Opportunities for Pt Catalyst in the Chlor-alkali Process

14:30 to 14:45

Jo-Hannah Mayer *(School of Chemistry, University of New South Wales, Sydney, Australia)*, Quentin Meyer, Chuan Zhao

Advancing Hydrogen-Powered Aviation with Platinum-Free High-Temperature Fuel Cells

14:45 to 15:00

Siegfried Waldvogel *(Department of Electrochemistry, Max-Planck-Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Darryl Nater

Electrifying Chemical Production of Fine Chemicals

15:00 to 15:15

Dan Villamanca *(Chemical and Biomolecular Engineering, The University of Sydney, Sydney, Australia)*, Zhenghui Zhi, Yu Yang, Cheng Wang, Yong Zhao, Fengwang Li

Enhancing the reactive capture performance of molecular electrocatalysts for scaled syngas production

15:15 to 15:30

Philipp Beeskow *(Institute of Catalysis Research and Technology, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany)*, Jörg Sauer

Designing Sustainable Electrocatalysis: Cost- and Carbon-Informed Decisions; CO_2 Reduction and HCH Case Studies

15:30 to 15:45

Yohei Matsui *(Energy Transformation Research Laboratory, Central Research Institute of Electric Power Industry, Yokosuka, Japan)*, Yuki Maeda

Thermoelectrochemical Power Generation from Small Temperature Differences Enabled by Semiclathrate Hydrate Formation

15:45 to 16:00

Ville Saarinen *(Hydrogen Production, VTT Technical Research Centre of Finland Ltd, Espoo, Finland)*, Jari Pennanen, Luukas Kumpunen, Jeremias Hopsu

Biogas Upgrading with Reversible Solid Oxide Electrolysis System for Efficient e-Methanol Production in an Integrated Pilot Plant

16:00 to 16:30

Coffee Break

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

Sotirios Mavrikis *(Sustainable Chemistry & Technology (SCT), Wageningen Food & Biobased Research, Wageningen, Netherlands)*, Jurgen Mateman, Willem Vogelzang, Linda Gootjes, Remco Simonsz, Shanmugam Thiyagarajan

Practical Kolbe electrolysis of levulinic acid to 2,7-octanedione at a multi-hundred-gram scale

16:45 to 17:00

Darryl Nater *(Electrosynthesis, Max-Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Siegfried Waldvogel

Advances in Halo-mediated Electrosynthesis

17:00 to 17:15

Haley Redfern *(BHP Centre for Sustainable Steelmaking Research, University of Newcastle, Newcastle, Australia)*, Simin Moradmand, Anthony Rich, Tom Honeyhands, Jessica Allen

Why Early-Stage Modelling Matters: Assessment of Molten Carbonate Electrolysis for Low-Carbon Ironmaking

17:15 to 17:30

Byeongjae Kim *(Department of Mechanical Engineering, Seoul National University, Seoul, Korea)*, Beomjoon Park, Sangyeop Lee

Electrochemical–Thermal Analysis of Electric Vehicle Battery Systems under Fast Charging

17:30 to 17:45

Jian Yao *(Energy and Power Engineering, Beihang University, Beijing, China)*, Jin Zhang, Yan Xiang, Xin Wang

Enabling Watt-level power density in air fed high temperature proton exchange membrane fuel cell by modulating interfacial acid transfer

17:45 to 18:00

Abdullah N Alanazi *(Chemical Engineering, University of Queensland, Brisbane, Australia)*, Thomas E Rufford, Mike Tebyetekerwa, Mohamed H. Ibrahim, Rizal Evans, Hizkia Manuel Vieri

Flow Field Topology Governs Flooding Dynamics and Product Selectivity in MEA CO_2 Electrolyzers

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: Ifan Stephens; Robert Weatherup

14:00 to 14:15

Melissa Marks *(Department of Chemistry, University of Copenhagen, Copenhagen, Denmark)*, Ida Mønge, Sonja Blaseio, Gustav Wiberg, Pascal Stump, Divyansh Gautam, Stoian Dragos, Wouter van Beek, Matthias Arenz, Rebecca Pittkowski

Multimodal Operando XRD, PDF and XAS Reveal the Structural Evolution of Layered Ni OER Catalysts

14:15 to 14:30

Timon Wagner *(Interface Science, Fritz Haber Institute of the Max Planck Society, Berlin, Germany)*, Sotirios Tsatsos, Leon Jacobse, Yunzhou Wen, Andrea Martini, Thomas Götsch, Carsten Placke-Yan, Georg Bendt, Ömer Faruk Sadak, Maja Milosevic, Janis Timoshenko, Axel Knop-Gericke, Arno Bergmann, Stephan Schulz, Beatriz Roldan Cuenya

Role of Near-surface Defects on the Active State Formation of$Co_{3-x}V_xO_4$ for Alkaline Oxygen Evolution Reaction by time-resolved Operando X-ray Scattering and Absorption

14:30 to 14:45

Andreas Bertelsen *(Department of Chemistry, Aarhus University, Aarhus, Denmark)*, Rasmus Pedersen, Soffi Olesen, Magnus Kløve, Bo Iversen

Operando Transmission X-Ray Diffraction on Alkaline Water Electrolysis at Realistic Conditions

14:45 to 15:00

Felix Simon *(Department of Physics, Chalmers University of Technology, Gothenburg, Sweden)*, Fanny Duquet, Giuseppe Abbondanza, Björn Lönn, Christopher Goodwin, Olof Gutowski, Ann-Christin Dippel, Björn Wickman, Uta Hejral

The Impact of Iron on Surface Structure Dynamics in Nickel Oxygen Evolution Catalysts

15:00 to 15:15

Vincent Vivier *(Laboratoire de Réactivité de Surface, Sorbonne Université - CNRS, Paris, France)*, Ekaterina Kurchavova, Mireille Turmine

Deciphering interfacial pH and reactive speciation via operando electrochemistry-Raman coupling

15:15 to 15:30

Justus Leist *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Annika Neufischer, Timo Jacob, Albert Engstfeld

Impact of Potential, Ionic Strength, and pH on the Raman Spectra of Ni Anodes

15:30 to 15:45

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

Study of Catalyst Durability In Situ AEM Water Electrolyzers Using Fourier Transformed Alternating Current Voltammetry

15:45 to 16:00

Jin-Yu Ye *(Chemistry, Xiamen University, Xiamen, China)*, Jia-Feng Du, Zhi-You Zhou, Shi-Gang Sun

Operando IR Studies on CO-Tolerance Mechanisms in Proton Exchange Membrane Fuel Cells

16:00 to 16:30

Coffee Break

16:30 to 17:00 ***Keynote***

J. Tyler Mefford *(Chemical Engineering, University of California Santa Barbara, Santa Barbara, USA)*

Correlative Operando Methods Reveal the Coupling Between Ion Insertion and Surface Reactivity in Oxygen Electrocatalysis

17:00 to 17:15

Hirohisa Tanaka *(SANKEN (The Institute of Scientific and Industrial Research), The University of Osaka, 8-1 Mihogaoka, Ibaraki, Japan)*, Kohei Miwa, Daiju Matsumura, Kenji Ishii, Genki Nakamura, Kaito Matsuo, Hirofumi Yoshikawa

High-energy resolution X-ray absorption spectroscopy studies of adsorption structures of Fe-N-C catalysts during ORR

17:15 to 17:30

Andrea Russell *(School of Chemistry and Chemical Engineering, University of Southampton, Southampton, United Kingdom)*, Veronica Celorrio, Haoliang Huang, Shusaku Hayama, David Fermin

In situ XES study of the role of the Mn oxidation in determining the ORR pathway for $La_{1-x}Ca_xMnO_3$ electrocatalysts

17:30 to 17:45

Zhi-You Zhou *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Gui-Ming Wu, Zhi-Peng Zhu, Na Tian, Chun-Hua Zhen, Shi-Gang Sun

Operando XRF Method Enabling Quantitative Analysis of Dissolved Co_2+ for Fuel Cells with PtCo/C Cathode

17:45 to 18:00

Adarsh Surendran *(Spectroscopy and Catalysis, Institute for Molecules and Materials, Radboud University, Nijmegen, Netherlands)*, Aleksandr Y. Pereverzev, Jana Roithová*

Integrated Electrochemistry–Mass Spectrometry Platform for Mechanistic Studies and Reaction Development

18:00 to 18:15

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

Spectroscopic Observation of Molecular Motions of Water under Alkaline Hydrogen Evolution Reaction

18:15 to 18:30

Rebecca Pittkowski *(Department of Chemistry, University of Copenhagen, Copenhagen, Denmark)*

Exploring Structure and Stability in High-Entropy Nanocatalysts through a Multi-modal Operando Synchrotron X-ray approach

Symposium 16 General session

Room: **C2.4**

Chaired by: Leigh Aldous; Zhiqin Liang

14:00 to 14:15

Leigh Aldous *(Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan)*, Pin-Ruei Li, Cong-Siang Huang, Ting-Ruan Liao

Considering the Application and Economic Viability of Thermoelectrochemical Waste Heat Harvesting

14:15 to 14:30

Xin Lu *(School of Energy and Environment, Southeast University, Nanjing, China)*, Wei Gao

Thermopower Regulation of Thermocells via Electrolyte Engineering

14:30 to 14:45

Mira Todorova *(Computational Materials Design, Max Planck Institute for Sustainable Materials, Duesseldorf, Germany)*

Challenges in modelling electrified electrochemical solid-aqueous interfaces by ab-initio based simulations

14:45 to 15:00

Priya Mehta *(School of Chemistry, University of Sydney, Sydney, Australia)*, Yifan Yuan, Jahan McLeod, Yuval Green, Jack Coleman, Jason Hwong, Paige Hawkins, William T. McLeod, Kostadinos Tsoutas, Marcela Bilek, Haihui Joy Jiang

Radical Electrochemistry on Earth and in Space

15:00 to 15:15

Seunghoon Lee *(Chemistry, POSTECH, Pohang, Korea)*, Jongseok Jung, Chang Hyuck Choi

Experimental Details Often Overlooked: Impacts on Data Reproducibility and Validity

15:15 to 15:30

Sumaya Ishtiaq *(School of Chemistry, The University of New South Wales, Sydney, Australia)*, Maria Ai Kristine Tolentino, Essam Ibrahim, Ying Yang, J. Justin Gooding

Improving Antifouling of Protein Biosensing Surface by Surface Optimization and Electrical Pulsing

15:30 to 15:45

Abdelaziz Hassan Ragab Abdelaziz *(Intelligent Polymer Research Institute, University of Wollongong, Wollongong, Australia)*, Chong-Yong Lee, Klaudia Wagner, Gerhard F. Swiegers

High Temperature Operation of Hg/HgO Reference Electrode in KOH Electrolyte

15:45 to 16:00

Rodrigo M. Ramos *(Fundamental Electrochemistry, Chemistry Institute, University of São Paulo, São Paulo, Brazil)*, Vanessa N. Ataide, Davi M. Farias, Fernando A. Fernandes, Gabriel N. Meloni, Fábio. R.P. Rocha, Thiago R.L.C. Paixão

Multi-Energy Calibration Applied to Electroanalysis: Mitigating Surface Area Effects on Low-Cost Devices

16:00 to 16:30

Coffee Break

16:30 to 17:00 ***Keynote***

Fabio La Mantia *(Energy Storage and Energy Conversion Systems (ESECS), University of Bremen, Bremen, Germany)*, Cecile Pot d'or, Doriano Brogioli

Towards Fast Modelling of Dynamic Impedance Spectra

17:00 to 17:15

Zhiqin Liang *(School of Physics Science and Engineering, Beijing Jiaotong University, Beijing, China)*, Yaxin Shi, Shihe Lin

Using Electrochemistry to Understand Thermochemical Hydrogenation: From Potential-Pinning to Kinetic Coupling

17:15 to 17:30

Taek Dong Chung *(Chemistry, Seoul National University, Seoul, Korea)*, Chang Il Shin, Wonkyung Cho, Taek Dong Chung

Ion Modulation and Bio-imaging using Gel-filled Nanopipette

17:30 to 17:45

Connor McAllister *(Department of Engineering Science, University of Oxford, Oxford, United Kingdom)*, Charles Monroe

Impedance of Battery Electrolytes: Analytical and Numerical Approaches

Wednesday 9 September 2026 - **Morning**

Plenary Lecture

Room: **Pyrmont Theatre**

08:30 to 09:30

Maria Forsyth *(Institute for Frontier Materials, Deakin University, Melbourne, Australia)*

Ionic Liquid electrolytes for high energy density metal batteries

Symposium 3 Bioelectrochemistry: Scientific discoveries and applications

Room: **C3.6**

Chaired by: Janice Limson

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

Tianyan You *(College of Agricultural Equipment Engineering, Henan University of Science and Technology, Luoyang, China)*, Suyun Meng, Dong Liu

Photoelectrochemical-Colorimetric Dual-Mode Biosensors for the Detection of Cry1Ab Protein in Genetically Modified Crops

10:00 to 10:15

Ricardo Leote *(Instituto de Tecnologia Química e Biológica, Universidade Nova de Lisboa, Oeiras, Portugal)*, Felipe Conzuelo

Biophotoelectrodes Based on Conjugated Semiconducting Polymers for Biophotovoltaic Devices

10:15 to 10:30

Ruixiang Li *(School of Engineering and Materials Science, Queen Mary University of London, London, United Kingdom)*, Ruixiang Li, Jiazhe Zhao, Yunpeng Fang, Bo Zhou, Jon Gorecki, Anirban Das, Thomas Iskratsch, Steffi Krause

Optimized High Performance α-Fe_2O_3 Semiconductor towards Ultra-Fast Photoelectrochemical Imaging and Cellular Signal Monitoring

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery)* *sponsored by* ***Admiral Instruments***

WEDNESDAY AM

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: C3.4

Chaired by: Hui Luo; Carlo Santoro

09:30 to 09:45 ***Invited***

Hui Luo *(School of Engineering, University of Surrey, Guildford, United Kingdom)*

Tuning Reaction Selectivity in Glycerol and Ethylene Glycol Electrolysis through Interface Engineering

09:45 to 10:00

Carlo Santoro *(Department of Materials Science, University of Milano-Bicocca, MILANO, Italy)*, Simone Lombardi, Rosanna Viscardi, Mohsin Muhyuddin

Effective Fe-Nx-C Electrocatalysts for the Nitrate Reduction Reaction

10:00 to 10:15

Yeonwoo Kim *(Chemistry, Korea Advanced Institute of Science and Technology, Daejeon, Korea)*, Hye Ryung Byon

Electrolyte Buffering Regulates Proton-Coupled Electron Transfer and Interfacial Structure in Electrochemical Nitrate Reduction

10:15 to 10:30

Takeshi Uyama *(Morikawa Senior Fellow Labs., Toyota Central R&D Labs., Inc., Nagakute, Japan)*, Joohwi Lee, Naonari Sakamoto, Takamasa Nonaka, Kaito Miyamoto, Takeshi Morikawa

Revealing a Descriptor for Electrochemical Nitrate Reduction to Ammonia Using Structurally Diverse Cobalt Oxide Catalysts

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 5 Aqueous-based batteries and high-power devices

Room: C2.5

Chaired by: Małgorzata Pająk; Daniel Sharon

09:30 to 09:45 ***Invited***

Daniel Sharon *(Chemistry, The Hebrew University in Jerusalem, Jerusalem, Israel)*

Understanding Iron Electrodeposition in Aqueous Electrolytes through Anion and Additive Chemistry

09:45 to 10:00

Julie Anne D.R. Paraggua *(Department of Chemical Engineering, University of the Philippines Diliman, Quezon City, Philippines)*, Jon Nyner L. Gavan, Jem Valerie D. Perez, Julie Anne D.R. Paraggua

Nitrogen-doped Graphene/Carbon Nanotube Hybrids as Conductive Cathode Substrate for Ni-Fe Batteries

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

Xuehang Wang *(RST, TU Delft, Delft, Netherlands)*

High-Rate Energy Storage: Mechanistic Insights from MXenes and Polymers

10:15 to 10:30

Małgorzata Pająk *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Dorota Monikowska, Katarzyna Hubkowska, Kacper Tokarek, Jarosław Wojciechowski, Filip Walkiewicz, Marek Baraniak, Grzegorz Lota, Andrzej Czerwiński

The Influence of Imidazolium Ionic Liquids on the Hydrogen Sorption Properties of the AB_5-type Alloy: Towards Ionic Liquid-Based Electrolytes for Hydride Batteries

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 6a Advances in hydrogen production and utilisation

Room: **C3.1**

Chaired by: Viktor Hacker

09:30 to 09:45

Nicholas Carboni *(Chemistry, Sapienza University of Rome, Rome, Italy)*, Nicholas Carboni, Marco Del Natale, Riccardo Trione, Sara Cavaliere, Maria Assunta Navarra

Composite Anion Exchange Membranes Added with Quaternized Graphene Oxide for Water Electrolyzer Applications

09:45 to 10:00 ***Invited***

Dirk Henkensmeier *(Center for Hydrogen and Fuel Cells, KIST (Korea Institute of Science and Technology), Seoul, Korea)*, M. Mara Ikhsan, Asridin Dayan, Hyun S. Park, Chaeyeon Yang, DongHyun Lee, Won-Chul Cho, Kobra Azizi, Lars N. Cleemann, Kamal Ghotia, Franz Egert, Syed-Asif Ansar, Fatemeh Razmjooei, Olga Zurowska, Maria Rózga, Artur Michalak, Mikkel R. Kraglund, David Aili

Low-Alkalinity Ion Solvating Membrane Water Electrolysis

10:00 to 10:15

Chao Liu *(College of Automotive and Energy Engineering, Tongji University, Shanghai, China)*, Zhen Geng

Degradation Study of Anion Exchange Membrane Water Electrolyzer under Start Stop loads

10:15 to 10:30

Isabella Nicotera *(Chemistry and Chemical Tecnologies, University of Calabria, Rende, Italy)*, Isabella Nicotera, Habib M. Ur Rehman, Cataldo Simari, Irene Gatto, Carmelo Lo Vecchio, Vincenzo Baglio

Hybrid Poly(Terphenyl Piperidinium) Membranes Reinforced with LDH Nanostructures for High-Performance AEM Water Electrolysis

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: Pyrmont Theatre

Chaired by: Reona Miyazaki

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

Maria Martinez-Ibañez *(Electrochemical Energy Storage, CIC energiGUNE, Vitoria-Gasteiz, Spain)*, David Fraile-Insagurbe, Paul Neumann, Leire Meabe, Lorena García, Subham Singh, Itziar Aldalur, Heng Zhang, Nicola Boaretto, Eduardo Sanchez-Diez, Michel Armand

Leveraging Polymer Electrolytes for Next-Generation Lithium Metal Batteries

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

Hiroyuki Ueda *(Institute for Frontier Materials (IFM), Deakin University, Burwood, Australia)*, Mohand Oumerabet, Zak Quattrocchi, Maria Forsyth, Patrick C. Howlett

Developing Organic Ionic Plastic Crystal-containing Solid-electrolyte Membranes and Electrodes for Solid-state Batteries

10:15 to 10:30

Charles Cougnon *(Department of Chemistry, Laboratory MOLTECH-Anjou, Angers, France)*, Clément Gonnot, Frédéric Gohier

Donor-acceptor conducting polymers with redox active pendant groups as organic anode and cathode materials for batteries

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery)* *sponsored by* ***Admiral Instruments***

WEDNESDAY AM

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: C2.1

Chaired by: Hyemin Kim; Damian Kowalski

09:30 to 09:45

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

In-Situ Raman Spectroscopy of metal-ion and metal-air Battery Electrodes

09:45 to 10:00

Jürgen-Martin Assafrei *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Marek Mooste, Nadezda Kongi, Kaido Tammeveski

Development of test cell and tri-metallic MOF-based catalysts for rechargeable Zn-air battery

10:00 to 10:15

Terumi Goto *(Graduate School of Engineering Science, The University of Osaka, 1-3 Machikaneyama, Toyonaka, Japan)*, Stigliano Luca, Ken Kurashima, Hayato Tsurugi, Nanako Ishihara, Shuji Nakanishi, Kiho Nishioka

A Charging Mechanism Involving Dissolution of Discharge Products in Li–O_2 Batteries

10:15 to 10:30

Hyemin Kim *(Interface Modelling, Helmholtz-Zentrum Hereon, Geesthacht, Germany)*, Il-Seop Jang, Jinyoung Chun, Denis Kramer, Daniel Höche

Effects of Mg–Ti Co-Doping on the Configurational Landscape and Phase Behavior in NZSP

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 8 Progress in surface modification and corrosion mitigation

Room: **C2.3**

Chaired by: Francesco Di Franco

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

Oumaïma Gharbi *(CNRS / Sorbonne Université, 4 Place Jussieu, Paris, France)*, Christophe Méthivier, Ekaterina Kurchavova, Mireille Turmine, Vincent Vivier

Leveraging Ionic Liquids in Electrochemical Material Science : a Molecular-Scale Approach using in situ XPS and PM-IRRAS

10:00 to 10:15

Mazhar Iqbal *(Catalan Institute of Nanoscience and Nanotechnology (ICN2), Autonomous University of Barcelona (UAB), Bellaterra, Spain)*, Ernane De Freitas Martins, Nevena Todorova, Ivan Cole, Pablo Ordejón

Solvent-Induced Behavior of Copper Corrosion Inhibitors at the Oxide/Inhibitor/Water Interface

10:15 to 10:30

Amanpreet Kaur *(School of Engineering, RMIT University, Melbourne, Australia)*, Qiushi Deng, Patrick Keil, Stuart Bateman

Evaluation of Thiadiazole-Based Organic Inhibitors for Enhanced Surface Protection of Copper

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Room: **C2.2**

Chaired by: Hiroki Habazaki; Jhonatan Rodriguez Pereira

09:30 to 09:45

Polina Evstigneeva *(Institute of Chemistry, Department of Technical Chemistry, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany)*

Electrochemical 3D Printing of Cu and Au-Cu Architectures as a Bottom-Up Approach for Catalyst Synthesis

09:45 to 10:00

Samira Buttazoni *(Chemical Engineering and Environmental Technology, University of Technology Graz, Graz, Austria)*, Mario Kircher, Michaela Roschger, Viktor Hacker

How to fabricate an Electrode via Ultrasonic Spray Coating

10:00 to 10:15

Chenkai Jiang *(School of Chemistry, The University of Sydney, Sydney, Australia)*, Sampurna Mukherjee, Volker Hessel, Haihui Joy Jiang

Mimicking Lightning-induced Prebiotic Synthesis of Nanoparticles

10:15 to 10:30

Patrick Beard *(Chemistry, University of Warwick, Coventry, United Kingdom)*, Bethanie Dean, Dimitrios Valavanis, Patrick R. Unwin, Paul Wilson

Advanced microfabrication of conducting polymer PEDOT:PSS structures with Scanning Electrochemical Cell Microscopy (SECCM)

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery)* *sponsored by* ***Admiral Instruments***

Symposium 12 Key challenges in molecular electrocatalyst platforms and surface reactivity

Room: **C3.2**

Chaired by: Fangfang Chen; Max Garcia-Melchor

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

Yan Jiao *(School of Chemical Engineering, Adelaide University, Adelaide, Australia)*

Molecular Modelling for Electrocatalytic Clean Energy Conversion

10:00 to 10:15

Ana María Méndez-Torres *(Facultad de Ingeniería y Arquitectura, Universidad Central de Chile, Santiago, Chile)*, Ruben Oñate, Laura Scarpetta-Pizo, Luis Acuña-Saavedra, Erika Lang, Romina Lorca, Elizabeth Imbarack, Francisca Salas-Sepúlveda, Horacio Poblete, Ingrid Ponce

Supramolecular Nanodevices Based on Self-Assembled Monolayers of MN_4-Type Electrocatalysts for Energy Conversion Systems

10:15 to 10:30

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

Unravelling the Underlying Mechanism for H_wO_2 and O_2 Formation over Sn Porphyrin

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 13 Molecular electronics and electrochemistry: From fundamentals to function and application

Room: **C2.4**

Chaired by: Guozhen Liu

09:30 to 09:45 ***Invited***

Simone Ciampi *(Chemistry, Curtin University, Perth, Australia)*, Chiara Iannace, Vijithra Devi Vijayakumar

Charge Transfer Reactions in Bubble–Electrode Junctions

09:45 to 10:00

Mahdi Alizadeh *(School of Science, Aalto University, Espoo, Finland)*, Jani Oksanen

Chemovoltaic Energy Conversion by Semiconductor PN Junctions

10:00 to 10:15

Ziwei Fan *(School of CBH, KTH, Royal Institute of Technology, Stockholm, Sweden)*, Piret Villo, Mainak Mitra, Johannes Winter, Andrey Shatskiy, Kevin Breitwieser, Helena Lundberg

Electrochemical Selective Activation of C–F bonds

10:15 to 10:30

Kento Imamura *(Department of Chemical Science and Engineering, Institute of Science Tokyo, Yokohama, Japan)*, Kento Imamura, Kosuke Sato, Shinsuke Inagi

Electrochemical Fabrication of Fluorinated Covalent Organic Framework Films for Selective Electrochemical Sensor

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery) sponsored by* ***Admiral Instruments***

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: Cameron Bentley

09:30 to 09:45 ***Invited***

Hangjuan Ren *(School of Chemistry, Monash University, Melbourne, Australia)*

Making Operando Electrochemistry Truly Operando at High Current Densities

09:45 to 10:00

Haowei Zhang *(Chemical Engineering, University of Melbourne, Melbourne, Australia)*, Xiaohe Tian, Aaron Li, Sandra Kentish, Dan Li

Advancing BPM Stability Studies Through Improved Membrane Potential Measurement Techniques

10:00 to 10:15

Fadila Arum Rhamadani *(Center for Condensed Matter Science, National Taiwan University, Taipei, Taiwan)*, Chen-Hao Wang, Heng-Liang Wu

Unraveling the Effect of Nitrogen Coordination on the Electrochemical Behavior of Single-Atom Catalysts during CO_2 Electroreduction

10:15 to 10:30

Maëlle Paya *(DM3, European Membrane Institute, Montpellier, France)*, Damien Voiry, Vincent Rouessac

Exploring the role of the local environment in electrode-membrane assemblies for the electroconversion of CO_2

10:30 to 11:00

Coffee Break *sponsored by* ***Hiden Analytical Ltd.***

11:00 to 12:30

POSTER Session 2 *(The Gallery)* *sponsored by* ***Admiral Instruments***

WEDNESDAY AM

Thursday 10 September 2026 - **Morning**

Plenary Lecture

Room: **Pyrmont Theatre**

08:30 to 09:30

Shana Kelley *(Chemistry, Northwestern University, Evanston, USA)*

Continuous electrochemical monitoring of protein biomarkers using modular molecular frameworks

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: **C3.4**

Chaired by: Alexander Bagger; Yu Katayama

09:30 to 09:45

Miao Wang *(Research Center for Energy and Environmental Materials, National Institute for Materials Science, Tsukuba, Japan)*, Wenqin Peng, Ken Sakaushi

Predicting Deactivation Process of Oxygen Evolution Reaction by Site Loss-Based Degradation Model

09:45 to 10:00

Yao Yao *(Department of Chemistry, Great Bay University, Dongguan, China)*, Minhua Shao

Oxygen Evolution Reaction and its Competition with Chlorine Oxidation Reaction on Electrode/Electrolyte Interfaces

10:00 to 10:15

Pengfei Ou *(Chemistry, 3 Science Drive 3, Singapore, Singapore)*, Chao Yang

Machine-Learned Interatomic Potentials Reveal Oxygen-Coverage-Dependent Oxygen Evolution and Ru Dissolution on RuO_2

10:15 to 10:30

Van Man Tran *(Chemistry, Vietnam National University Ho Chi Minh City, Thu Duc, Viet Nam)*, Minh Thien Huynh

Understanding Corrosion-Driven Catalyst Reconstruction for Reaction-Specific Activation in Water Electrolysis

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG***

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: Pyrmont Theatre

Chaired by: Hiroyuki Ueda

09:30 to 09:45

Ryoma Mochida *(Graduate School of Kogakuin University, Applied chemistry and chemical engineering, Tokyo, Hachioji, Japan)*, Yokoyama Yoshiki, Koji Hiraoka, Shiro Seki

Li-Conductive Ionic Clay Derived from Oxide-Based Inorganic Solid Electrolytes and Low-Melting Mixed Salts: Properties and Battery Applications

09:45 to 10:00

Elene Sasieta-Barrutia *(Institute for Frontier Materials, Deakin University, Melbourne, Australia)*, David Fraile-Insagurbe, Lorena Garcia, Michel Armand, Maria Forsyth, Maria Martinez-Ibañez, Jennifer M. Pringle

Ion Design for Advanced Electrolytes: From Molecular Innovation to Energy Applications

10:00 to 10:15

Sonja Schreiner *(Electrochemical Energy Systems Laboratory, ETH Zurich, Zurich, Switzerland)*, Luis Kitsu Iglesias, Katharina Trapp, Manuel Reiter, Maria R. Lukatskaya

Operando Insights into the Solvation-Driven Solid Electrolyte Interphase Formation in Nonflammable Electrolytes for Li-metal Batteries

10:15 to 10:30

Junehyuk Son *(Nanotechnology and Advanced Materials Engineering, Sejong University, Seoul, Korea)*, Seung-Taek Myung

Effect of Metallic Cell Components on Passivation and Electrochemical Stability in a Highly Concentrated LiFSI/DMC Electrolyte

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

THURSDAY AM

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: C2.1

Chaired by: Alar Janes; Jiaxing (Gaaseng) Liang

09:30 to 09:45

Jiaxing *(Gaaseng)* Liang *(CSIRO Manufacturing, CSIRO, Clayton, Australia)*, Govardhan Reddy Sontam, Aditya Rawal, Neeraj Sharma, Anthony F. Hollenkamp, Adam S. Best

Decoupling Phase Structuring from Elemental Substitution in Stabilizing Mn-Rich Na Oxides for Sodium-Ion Batteries

09:45 to 10:00

Kaidi Wang *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany)*, Vittorio Marangon, Dominic Bresser

Fine-Tuning the Electronic Structure to Enable Low-Strain High Performance NASICON-Type $Na_3V_2(PO_4)_3$ Cathodes

10:00 to 10:15

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

From Biomass to Battery: Hard Carbon Anodes for Sustainable Sodium-Ion Batteries

10:15 to 10:30

Ji Yoon Seol *(Nanotechnology and Advanced Materials Engineering, Sejong University, Seoul, Korea)*, Natalia Voronina

Coupled Fe^{3+}/Fe^{4+} and Oxygen-Redox Chemistry in O3-Type $Na[Li_{1/3}Fe_{1/3}Ru_{1/3}]O_2$ Cathode for Sodium-Ion Batteries

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 8 Progress in surface modification and corrosion mitigation

Room: **C2.3**

Chaired by: Oumaïma Gharbi

09:30 to 09:45

Lydia Alonso Peñalva *(R&D, H2SITE / Universidad del País Vasco, Loiu, Spain)*, Jon Melendez, Alfredo Pacheco-Tanaka, Esther Acha

Electrochemical Study of Tartrate Oxidation on Pd and Ag Electrodes

09:45 to 10:00

Dorota Monikowska *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Katarzyna Hubkowska, Małgorzata Pająk, Magdalena Winkowska-Struzik, Michał Krajewski, Monika Sadowska, Andrzej Czerwiński

Unravelling the Influence of Pd Precursor and Reaction Conditions on Electrochemical Properties of AB_5-type Alloy Decorated with Pd Nanoparticles

10:00 to 10:15

Kiho Nishioka *(Department of Materials Science and Engineering, Kyoto University, Kyoto, Japan)*, Sakino Hiro, Kuniaki Murase

Phosphate Buffer-Induced Film and Depletion of Nickel Redox Sites on Stainless Steel Anodes for Oxygen Evolution

10:15 to 10:30

Alexandre Bastos *(Department of Materials and Ceramic Engineering, University of Aveiro, Aveiro, Portugal)*

Study of Galvanic Coupling Between WC and Metallic Binders in Cemented Carbide Systems

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

Room: C2.2

Chaired by: Hiroki Habazaki; Kei Murakoshi

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

Kei Murakoshi *(Department of Chemistry, Faculty of Science, Hokkaido University, Sapporo, Japan)*
Structure-Induced Electrocatalysis for Water Electrolysis

10:00 to 10:15

Amir GASMI *(CNRS, Montpellier University, Montpellier, France)*, Meryem Ennaji, Deborah Jones, Raphaël Chattot
Disruptive Nanohybrid Catalyst Layer Design for Efficient Oxygen Evolution Reaction

10:15 to 10:30

Kassa Belay Ibrahim *(Department of Molecular Science and Nano-systems, Ca'Foscari University of Venice, Venezia, Italy)*, Adham Haredy, Elisa Moretti, Alberto Vomiero
Etched initiated efficiency on High-Entropy Layered Double Hydroxides Materials for Multifunctional Electrocatalysis

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

Room: C2.6

Chaired by: Jose Solla-Gullon

09:30 to 09:45

Mim Rahimi *(College of Engineering, University of Houston, Houston, USA)*
Advances in Membraneless Electrochemically Mediated Amine Regeneration for Point Source Carbon Capture

09:45 to 10:00

Minung Kim *(Chemistry, Korea Advanced Institute of Science and Technology, Daejeon, Korea)*, Jihyun Bae, Donghwi Ko, Hye Ryung Byon
Accelerating Aqueous Electrochemical CO_2 Capture via Benzodiimidazole-Functionalized Quinone Redox Molecules

10:00 to 10:15

Linfeng Fan *(School of Physics, Southeast University, Nanjing, China)*
Stabilizing Copper Oxidation States via Lattice Oxygen Overflow on Sb2O4 for Durable CO_2 Electroreduction to CO

10:15 to 10:30

Ali Rauf *(Chemistry and Chemical Engineering, Lahore University of Management Sciences, Lahore, Pakistan)*, Bilal Sarfraz, Ifra Bashir
Electrocatalyst and Electrolyzer Design for Efficient Hydrogen, Carbon, and Nitrogen Conversion

10:30 to 11:00 ***Coffee Break*** *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 11 Scale-up of electrochemical systems

Room: **C3.6**

Chaired by: Beatrice Ricciardi

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

Sergio Ferro *(, Ecas4 Australia Pty Ltd, Mile End South, Australia)*

In-Line Electrochemical Disinfection: Low-Maintenance Solution for Safe Drinking Water

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

Engracia Lacasa *(Department of Chemical Engineering, University of Castilla-La Mancha, Albacete, Spain)*, Rafael Granados-Fernández, Naomy I. Pessoa-Chaves, Inmaculada-Ri Plaza, Cristina Sáez, Manuel A. Rodrigo

Scale-up of electrochemical systems for environmental applications: a case study for decentralized water treatment

10:15 to 10:30 ***Invited***

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

Electro-Decolorization Enables Whitening of Crystallized Salts from High-Salinity Industrial Concentrates

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 12 Key challenges in molecular electrocatalyst platforms and surface reactivity

Room: **C3.2**

Chaired by: Federico Calle-Vallejo; Ulrike Kramm

09:30 to 10:00

Robert Francke *(Electrochemistry & Catalysis, Leibniz Institute for Catalysis, Rostock, Germany)*

Molecular Concepts for Sustainable Reaction Control in Organic Electrosynthesis

10:00 to 10:15

Yuchen Qin *(College of Sciences, Henan Agricultural University, ZhengZhou, China)*, Xia Sheng, Fengwang Li

Orbital and Spin Engineering of PdPt-Based Electrocatalysts for Efficient Alcohol Selective electro-oxidation Reactions

10:15 to 10:30 ***Invited***

Max Garcia-Melchor *(CIC energiGUNE, CIC energiGUNE, Vitoria-Gasteiz, Spain)*, Cian Clarke, Timo Sommer

Rational and Accelerated Design of Molecular OER Catalysts for Hybrid Systems: From Mechanisms to Data-Driven Discovery

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 13 Molecular electronics and electrochemistry: From fundamentals to function and application

Room: C2.4

Chaired by: Ingrid Ponce

09:30 to 09:45 ***Invited***

Josh Hihath *(Center for Bioelectronics and Biosensors, Arizona State University, Tempe, USA)*

Characterizing Electrically-Controlled Single-Molecule Chemical Reactions

09:45 to 10:00

Varun Chittari Pisharam *(Chemistry, King's College London, London, United Kingdom)*, Sofia Margiola, Qiankun Wang, Nashili Kibria, Brian Lally

Bias Dependent Conductance Switching in Metalloproteins

10:00 to 10:15

Junyang Liu *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Yiqiang Jiang, Wenjing Hong

Deciphering and Modulating Reaction Pathways in Molecular Electrocatalyses through Single-molecule Electronics

10:15 to 10:30 ***Invited***

Jin He *(Physics, Florida International University, Miami, USA)*

Probing Molecular Interactions and Reactions in Plasmonic Nanogaps

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG***

THURSDAY AM

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: C3.3

Chaired by: Rhodri Jervis

09:30 to 09:45

Ling'ao Deng *(College of Automotive and Energy Engineering, Tongji University, Shanghai, China)*, Liming Jing, Cunman Zhang

Machine-Learning Analysis of Bubble Dynamics on Nickel Nanocone Electrodes in Water Electrolysis

09:45 to 10:00

Martin Höglinger *(ECT, HyCentA Research GmbH, Graz, Austria)*, Alexander Macher, Valentin Berghofer, Jagoba Lekue, Thomas Gross, Rebekka Köll, Marie Macherhammer, Alexander Trattner

Mechanical Behavior of Membranes under Electrochemical Operation: An Experimental Study

10:00 to 10:15

Yawen Zhu *(EMPI-PST, Universität Duisburg Essen, Duisburg, Germany)*, Mena-Alexander Kräenbring, Ivan Radev, Ahammed Suhail Odungat, Lars Grebener, Oliver Pasdag, Thai Binh Nguyen, Doris Segets, Fatih Oezcan

Resolving Membrane Effects in PEMFCs by EIS/DRT Using a Gas Diffusion Electrode Half-Cell Configuration

10:15 to 10:30

Xiaohe Tian *(Chemical Engineering, The University of Melbourne, Melbourne, Australia)*, Haowei Zhang, Dalton Harvie, Dan Li, Mengran Li

Unlocking rigours independent catalyst examination in zero-gap membrane-electrode assemblies through embedded reference electrodes

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Symposium 15 Model electrodes to study nanoscale phenomena in electrocatalysis

Room: **C3.5**

Chaired by: Jun Huang; Olaf Magnussen

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

Olaf Magnussen *(Institute of Experimental and Applied Physics, Kiel University, Kiel, Germany)*

Facts and Myths in Electrocatalyst Surface Restructuring

10:00 to 10:15

Marco Altomare *(Department of Chemical Engineering, University of Twente, Enschede, Netherlands)*

Well-Defined Pt Thin Films and Nanoparticles as Model HER Electrocatalysts

10:15 to 10:30

Jimun Yoo *(Institute for a sustainable Hydrogen Economy (IHE-1), Forschungszentrum Jülich, Jülich, Germany)*, Jongmin Lee, Yung-Eun Sung

From Inert Scaffolds to Active Interfaces: Tailoring Metal-Support Interactions for Enhanced Electrocatalysis

10:30 to 11:00

Coffee Break *sponsored by* ***Zahner-Elektrik GmbH & Co. KG*** ZAHNER

Thursday 10 September 2026 - **Afternoon**

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

Room: **C3.4**

Chaired by: Antonia Herzog; Magda Titirici

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

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

Enabling Selective Electrochemical Nitrogen Reduction

14:30 to 14:45

Samira Siahrostami *(Chemistry, Simon Fraser University - Burnaby Campus, Burnaby, Canada)*

Computational Insights into Single-Atom Catalysts for Selective Nitrate to Ammonia Reduction

14:45 to 15:00

Antonia Herzog *(Chemistry, Technical University of Denmark, Lyngby, Denmark)*

Probing and Controlling Electrochemical Interfaces in Space and Time for Ammonia Synthesis

15:00 to 15:15

Hanqing Yin *(Department of Energy Conversion and Storage, Technical University of Denmark, Copenhagen, Denmark)*

Electrocatalysts Design for Nitrogen Fixation towards Ammonia and Amino Acids

15:15 to 15:30

Du-Hong Chen *(school of chemistry, Monash University, Melbourne, Australia)*

Sn-Induced Facet Reconstruction of Cu_2O for Efficient and StableCO_2-to-C_2^+ Electroreduction

15:30 to 15:45

Tomsmith Unimuke *(School of Chemical and Biomolecular Engineering, The University of Sydney, Sydney, Australia)*, Kajjana BoonPalit, Brian Haynes, Alejandro Montoya

Electrochemical Radical Pathways Governing Aqueous Ammonia Oxidation

16:00 to 16:30

Coffee Break

16:30 to 16:45

Isabel Rodríguez García *(Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Stuttgart, Germany)*, Manuel Häßner, Faria Huq, Marco A. Rivera Gil, Daniel García Sánchez, Aldo S. Gago, K. Andreas Friedrich

Enhanced Ethylene Production via CO_2 Electroreduction in Anion Exchange Membrane Electrolyzers.

16:45 to 17:00

Lan Huang *(Center for Sustainable Future Technologies, Istituto Italiano di Tecnologia, Turin, Italy)*, Adriano Sacco, Fabrizio Pirri, Juqin Zeng

Cu-based catalysts with enhanced selectivity for CO_2 electroreduction

Symposium 5 Aqueous-based batteries and high-power devices

Room: **C2.5**

Chaired by: Hye Ryung Byon; Xuehang Wang

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

Hajime Arai *(School of Materials and Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Atsunori Ikezawa, Takashi Hirose, Takeyoshi Okajima

Chances for aqueous batteries to prevail over LIBs

14:30 to 14:45 ***Invited***

Hye Ryung Byon *(Chemistry, KAIST, Daejeon, Korea)*

Ultrafast Charging Enabled by Soft Ion Channels on Layered Transition Oxide Cathodes in Aqueous Li-Ion Batteries

14:45 to 15:00

Jaeho Cho *(School of Materials and Chemical Technology, Institute of Science Tokyo, Yokohama, Japan)*, Hiroshi Suyama, Tomoya Matsunaga, Toshihiko Inoue, Takashi Hirose, Takeyoshi Okajima, Hajime Arai

Investigation of NiOOH electrode behavior dependent on pH

15:00 to 15:15

Krzysztof Fic *(Institute of Chemistry and Technical Electrochemistry, Poznan University of Technology, Poznan, Poland)*, Paulina Bujewska, Rabea Saleh Rabea Bin Sowad, Przemyslaw Galek

Carbon Electrode/Aqueous Redox and Non-Redox Active Electrolyte Interface Monitored by Electrochemical Dilatometry

15:15 to 15:30

Nobuhiro Ogihara *(Energy Carrier Research-Domain, Toyota Central Research and Development Labs Inc, Nagakute, Japan)*, Masaki Hasegawa, Hitoshi Kumagai, Riho Mikita, Naoyuki Nagasako

Intercalated Metal–Organic Framework Electrodes for High-Power Devices via Machine Learning–Based Design and Spray Drying

15:30 to 15:45

Ncholu Manyala *(Physics, University of Pretoria, Pretoria, South Africa)*, Gift Rutavi, Fhumulani Mutshaeni, Joseph Kirui, Francesca Soavi, Shoayb Mojtahedi, Andrea Vitale, Federico Mascetti, Simone D'Agostino

Green Synthesis of Bimetallic Mn/Ni-MOFs from Spent LMNO Cathode Leachate via Pulsed Electrodeposition for High-Performance Supercapacitors

15:45 to 16:00

Chinwe Ikpo *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Christopher Nolly, Miranda Ndipingwi, Precious Ekwere, Kelechi Nwambaekwe, Emmanuel Iwuoha

Interfacial engineering of spinel-carbon hybrid electrodes for high-rate aqueous asymmetric supercapacitors

16:00 to 16:30

Coffee Break

16:30 to 16:45

Thapelo Mofokeng *(Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*

Synergistic Electrolyte and Electrode Engineering: N-rGO//Na^+/K^+@α-MnO_2 in a Hybrid Water-in-Salt Electrolyte for High-Energy Aqueous Supercapacitors

16:45 to 17:00

Ahmed Bahrawi *(Ínorganic chemistry I, Technical university Dresden, Dresden, Germany)*, Przemyslaw Galek, Christin Gellrich, Nick Niese, Julia Grothe, Stefan Kaskel

A Gated Highly Variable Pseudocapacitor Based on Redox-Window Control (G-Capode)

17:00 to 17:15

Nick Niese *(Inorganic Chemistry I, Technische Universität Dresden, Dresden, Germany)*, Anja Birnbaum, Przemyslaw Galek, Ahmed Bahrawy, Christin Gellrich, Julia Grothe, Stefan Kaskel

Using the Interplay of two Supercapacitors to Manipulate Ion-Flow – Enable Direct and Effective Current Control

17:15 to 17:30

Ching-Yu Hu *(Chemical Engineering, National Cheng Kung University, Tainan, Taiwan)*, Hsisheng Teng

Regulating Li^+ Solvation Toward a CIP-Rich Configuration and Reinforcing Interphases Enable –40–80 °C Lithium-Ion Capacitors

17:30 to 17:45

Seyed Esmaeil Mohammadi Pourhosseini *(Chemistry, ANU, Canberra, Australia)*, Seyes Esmaeil Mohammadi Pourhosseini, Thrinathreddy Ramireddy, Alexey M. Glushenkov

Slow Charging of Graphite–Activated Carbon Lithium-Ion Capacitors: Performance Regimes, Electrode Balancing, and Cycle Life

17:45 to 18:00

Nindita Kirana *(Materials Science and Engineering, National Yang Ming Chiao Tung University, Hsinchu City, Taiwan)*, Nindita Kirana, Jeng-Kuei Chang

Free-Standing LiAl Anode via Chemical Pre-lithiation for High-Performance Lithium-ion Capacitors

18:00 to 18:15

Hirokazu Ishitobi *(Applied Chemistry, Meiji University, Kawasaki, Japan)*, Ueyanagi Kota, Fuga Miyagawa, Nobuyoshi Nakagawa

Prediction of Limiting Currents of Redox Flow Batteries with Carbon Paper Electrodes

18:15 to 18:30

Haofei Meng *(School of energy and environment, Southeast University, Nanjing, China)*, Wei Gao

Interfacial engineering of ultrathin quasi-solid-state ionic thermoelelctric cell for high-efficiency direct conversion of low-grade heat

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: Pyrmont Theatre

Chaired by: Masaaki Hirayama; Maria Martinez-Ibañez

14:00 to 14:15

Kihun An *(Chemical Engineering & Applied Chemistry, Chungnam National University, Daejeon, Korea)*, Dokyung Kim, Yen Hai Thi Tran, Dung Tien Tuan Vu, Jiyoung Heo, Young Joo Lee, Seung-Wan Song

Solvation Structure Engineering in Nonflammable Electrolyte for Safe and Fast Charging Lithium-ion Batteries

14:15 to 14:30

Fangfang Chen *(Institute for Frontier Materials, Deakin University, Burwood, Australia)*, Jhonatan Soto Puelles, Kewei Cai, Yuchen Zhang, Shinji Kondou, Maria Forsyth

Design of Poly(ionic liquids) Electrolytes for Battery Applications

14:30 to 14:45

Bartosz Hamankiewicz *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Michal Grygiel, Julia Szelomow, Amelia Skrzypkowska, Aldona Zalewska, Andrzej Czerwinski

In-situ synthesis and physicochemical characterization of alkyl methacrylate-based gel polymer electrolytes for lithium-ion battery applications

14:45 to 15:00

Yixiang Wei *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Lars Westendarp, Kübra Celik-Bicici, Max M. Hansmann, Patrick Théato, Ivan Salmeron-Sanchez, Dominic Bresser

Unlocking High-Voltage Quinoxaline–Squaramide Polymer Battery Cathodes via Mixed-Anion Electrolytes

15:00 to 15:15

Liansheng Wu *(Electrochemical Energy Storage Materials, Helmholtz Institute Ulm/ Karlsruhe Institute of Technology, Ulm, Germany)*

Functionalized Single-Ion Polymer Electrolytes for Stable Lithium-Metal Batteries

15:15 to 15:30

Rashmi Yadav *(Department of Chemistry, IIT (BHU), Varanasi, India)*, Ankush Kumar Singh, Madhurja Buragohain, Sooraj Kunnikuruvan, Rosy.

Bi-Functional Role of gCN Coated Separators in Stabilizing Lithium Metal Anodes

15:30 to 15:45

Ayşe Acar *(Electromobility, Technische Universität Braunschweig, Braunschweig, Germany)*, Maja W. Kandula, Georg Garnweitner

Designing and Characterization of Novel Binder Materials for Anodes in Lithium-Ion Batteries: Impact of Molecular Weight and Blend Composition on Anode Surface and Electrochemical Performance

15:45 to 16:00

Rosy *(Department of Chemistry, IIT (BHU), Varanasi, India)*, Rashmi Yadav, Ankush Kumar Singh

The Role of Functionalized Separator in Improving the Performance of Lithium Metal Batteries

16:00 to 16:30 ***Coffee Break***

16:30 to 16:45

Yimin Chao *(School of Chemistry, University of East Anglia, Norwich, United Kingdom)*

Biomass-Derived Hard Carbon Host with Added Commercial Silicon for High-Capacity Lithium-ion Battery Anodes

16:45 to 17:00

Jakub Ciftci *(R&D Center, Amazemet, Poland)*, Bartosz Moronczyk, Tomasz Choma, Lukasz Zrodowski

Accelerating Discovery of Powder-Based Anodes via Ultrasonic Atomization for Next-Generation Batteries

17:00 to 17:15

Xiaokun Ge *(Institute for a sustainable Hydrogen Economy (IHE-1), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Xiaokun Ge, Lukas Köbbing, Birger Horstmann, Hans-Georg Steinrück

Quantifying SEI Passivation Efficiency: Linking Interfacial Redox Kinetics with Interphase Properties in Lithium-Ion Batteries

17:15 to 17:30

Jugo Okabe *(Department of Chemistry, KTH Royal Institute of Technology, Stockholm, Sweden)*, Göran Lindbergh, István Furó

Staging Mechanism of Graphite during Li-Ion Intercalation: Insights from Ion Dynamics Observed by ^{7}Li NMR

17:30 to 17:45

Yu-Sheng Su *(International College of Semiconductor Technology, National Yang Ming Chiao Tung University (Taiwan), Hsinchu City, Taiwan)*, Anlin Shaju, Aleesha Kavanal Paulose

Cation–Anion Coupled Interfacial Engineering for Dendrite-Free Lithium Metal Anodes via Silver Salts

17:45 to 18:00

Mariusz Walkowiak *(Centre for Electrochemical Energy Storage, Lukasiewicz Res. Network - Institute of Non-Ferrous Meta, Poznań, Poland)*, Kenneth I. Ozoemena, Ioan Albert Tudor, Beatrice-Adriana Serban, Ioana Cristina Badea, Monika Osińska-Broniarz, Dariusz Lewandowski, Mateusz Maliszewski, Teresa M. Mata, Antonio A. Martins

Structural and Electrochemical Characterization of High Entropy Transition Metal Oxides as Anode Materials for Li-ion Cells

18:00 to 18:15

Anna Lena Woeste *(Electrochemistry and electroplating group, Technische Universität Ilmenau, Ilmenau, Germany)*, Michael Stich, Andreas Bund, Franck Delahaye, Holger Kühnlein, Mathias Kamp

Li-Metal Free Electrochemical Prelithiation Process of Anode Materials for Lithium-Ion Batteries

18:15 to 18:30

Agnesia Permatasari *(Research Center for Energy and Environmental Materials, National Institute for Materials Science, Tsukuba, Japan)*, Kei Nishikawa

Numerical Investigation of Graphite/Silicon Composite Anodes Using FIB-SEM–Based Microstructures

Symposium 7b Novel materials for lithium and beyond lithium batteries

Room: **C2.1**

Chaired by: Muhammad-Sadeeq Balogun; Sonia Dsoke

14:00 to 14:15

Sonia Dsoke *(Electrical Energy Storage, Fraunhofer ISE / University of Freiburg, Freiburg, Germany)*, Viet Phuong Nguyen, Angelina Sarapulova, Seung-Mo Lee

Engineering Functional Interphases for Reversible Sodium Deposition in Anode-Free Batteries

14:15 to 14:30

Gyeongwan Jo *(Helmholtz Institute Ulm, Helmholtzstr. 11, Ulm, Germany)*, Guillaume Navallon, Sangjun Kang, Dominic Bresser

Comprehensive multiscale structural analysis of biomass-derived hard carbons for sodium-ion batteries

14:30 to 14:45

Huanxin Li *(Department of Engineering, University College London, London, United Kingdom)*

Graphene-P-phenyl-Graphene for Electrochemistry Applications

14:45 to 15:00

Yueyue Luo *(School of Materials Science and Engineering, University of New South Wales, Sydney, Australia)*, Sajjad Seifi Mofarah, Charles Christopher Sorrell, Neeraj Sharma, Pramod Koshy

High-Entropy Oxides (HEOs) for Advanced Cathodes in Sodium-Ion Batteries (NIBs)

15:00 to 15:15

Marta Chmielniak *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Michał Krajewski, Magdalena Winkowska-Struzik, Małgorzata Pajak, Andrzej Czerwiński

Tin Oxides – Hard Carbon Composites as a Negative Electrode for Sodium-Ion Batteries

15:15 to 15:30

Xue Wen *(Laboratory of Advanced Materials, Fudan University, Shanghai City, China)*, Yite Liu, Tao Huang, Aishui Yu

Topography Control and Component Design Strategies to Enhance Kinetic Performance of O3-Type Cathode Materials for Sodium-Ion Batteries

15:30 to 15:45

Vittorio Marangon *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany)*, Peng Xuan Yu, Dominic Bresser

Rational Tuning of SPAN Chemical Structure to Improve Cycling Stability in Lithium-Sulfur Batteries

15:45 to 16:00

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

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

16:00 to 16:30

Coffee Break

Symposium 8 Progress in surface modification and corrosion mitigation

Room: **C2.3**

Chaired by: Daniel J Blackwood; Michael Rohwerder

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

Janine Mauzeroll *(Chemistry, McGill University,, Canada)*

The Good, The Bad and The Ugly: A Tale of Microscopic Corrosion

14:30 to 14:45

Michael Rohwerder *(Interface Chemistry and Surface Engineering, Max Planck Institute for Sustainable Materials, Düsseldorf, Germany)*

Scanning probe techniques as powerful tools for unraveling the degradation mechanisms of protective coatings

14:45 to 15:00

Charu Negi *(Interface Chemistry and Surface Technology, Max-Planck-Institute for Sustainable Materials, Düsseldorf, Germany)*, Ivan Cole, Stuart Bateman, Patrick Keil, Michael Rohwerder

The Kinetic Interplay of Cathodic Delamination and Self-Healing in Organic Coatings on Galvanised Steel

15:00 to 15:15

Carmen Pérez *(ENCOMAT Group, Universidade de Vigo, Vigo, Spain)*, Aránzazu Pintos, Antonio Diéguez, X. Ramón Nóvoa

A novel approach for the simultaneous monitoring of anodic and cathodic areas evolution under a water-based epoxy coating

15:15 to 15:30

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

Potential Role of Elemental Sulphur in SRB-related MIC

15:30 to 15:45

Rafael Chioquetti *(Department of Fundamental Chemistry, Institute of Chemistry, University of São Paulo, São Paulo, Brazil)*, João Victor Vital, Wellington Santana, Douglas Martins, Raphael Bacil, Silvia Serrano

Electrochemical Signatures of Surface Heterogeneity: Modelling Voltammetry beyond the Uniform Interface Assumption

15:45 to 16:00 ***Invited***

Mike Yongjun Tan *(School of Engineering, Deakin University Australia, Geelong, Australia)*

New approaches to probing and mitigating electrochemical heterogeneity-initiated materials degradation

16:00 to 16:30

Coffee Break

16:30 to 16:45

Song-Zhu Kure-Chu *(School of Materials Science and Engineering, Southeast University, Nanjing, China)*, Shunsuke Mori, Yumi Hattori, Pei Ding, Tianjiao Bao, Xinxin Xia, Jinshuai Xie, Jiacheng Liu, Peng Wang, Erli Lin

Understanding the Electrodepositing Roles and Performance Enhancement of Graphene-Reinforced Metallic Films for Multi-Functional Coatings

16:45 to 17:00

Pei Ding *(School of Materials Science and Engineering, Southeast University, Nanjing, China)*, Yumi Hattori, Xinxin Xia, Tianjiao Bao, Jinshuai Xie, Jiacheng Liu, Peng Wang, Erli Lin, Song-Zhu S Kure-Chu

Fabrication and Characterization of Multifunctional Cu-Graphene Composite Films via Electrodeposition Process

17:00 to 17:15

Joohoon Kim *(Department of Chemistry, Kyung Hee University, Seoul, Korea)*

Light-Guided Electrochemical Patterning of Conducting Polymers on Hematite

17:15 to 17:30

Sayoko Shironita *(Department of Materials Science and Bioengineering, Nagaoka University of Technology, Nagaoka, Japan)*, Kohei Kitamuro, Kenta Nakatsuka, Shofu Matsuda, Minoru Umeda

Fabrication and Characterization of CrN-coated Stainless Steel by Ion-plating for PEFC Bipolar Plates

17:30 to 17:45

JunYoung Lee *(Energy&Environment Materials Research Division, Korea Institute of Materials Science, Changwon-si, Korea)*, JooYul Lee

Effect of Temperature and Composition on Electrodeposition Behavior in $AlCl_3$-Based IL-DES Electrolytes

17:45 to 18:00

Haruki Katori *(Department of Materials Science and Engineering, 36-1 Yoshida-hommachi, Sakyo-ku, Kyoto 606-8501, Japan, Kyoto, Japan)*, Kazuki Hasegawa, Ai Sasaki, Kiho Nishioka, Kuniaki Murase

Polarization Behavior of Cr(III) in Chloride-Based Hydrate Melt

18:00 to 18:15

Saviour Umoren *(Interdisciplinary Research Center for Advanced Materials, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia)*

Waste-Derived Heteroatom-Doped Carbon Dots from Pomegranate Peels as Sustainable Corrosion Inhibitors for Carbon Steel in Acidic Medium

18:15 to 18:30

David Williams *(School of Chemical Sciences, University of Auckland, Auckland, New Zealand)*, Bhaskar Sarkar, Ayush Narsaria, Nicholas Laycock

Electrocrystallisation of Scales and CO_2 Corrosion of Pipelines

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

Room: **C2.6**

Chaired by: Haihui Joy Jiang; Mim Rahimi

14:00 to 14:15

Haihui Joy Jiang *(School of Chemistry, The University of Sydney, Camperdown, Australia)*, Thomas Underwood, Jeffrey Bell, Jonathan Lei, Joe Gonzales, Lukas Emge, Leah Tadese, Mohamed K. Abd El-Rahman, David Wilmouth, Lais Brazaca, Gigi Ni, Lee Belding, Supriya Dey, Ali A. Ashkarran, Amit Nagarkar, Markus Nemitz, Brian Cafferty, David Sayres, Sukrit Ranjan, Daniel Crocker, James Anderson, Dimitar Sasselov, George Whitesides

Nitrogen Fixation and CO_2 Reduction via Plasma Electrochemistry

14:15 to 14:30

Jie Zhang *(Chemistry, Monash University, Clayton, Australia)*

New Electrochemical Routes to Carbon–Heteroatom Bond Formation

14:30 to 14:45

Hyunwoo Kim *(Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Seoul, Korea)*, Woong Hee Lee, Hyung-Suk Oh

Interfacial Water Engineering on Gd-Doped Cu_2O Enables High-Current CO_2 Electroreduction to Ethanol

14:45 to 15:00

Youngrok Lee *(Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Seoul, Korea)*, Hyung-Suk Oh, Woong Hee Lee

Is an acidic environment the optimal direction for CO_2 electroreduction? A study using porous membranes

15:00 to 15:15

Dongho Seo *(Department of Chemistry, Pusan National University, Busan, Korea)*

Designing Bismuth Nanowire-Modified Silicon Photocathodes for Efficient CO_2-to-Formate Conversion

15:15 to 15:30

Shilin Wei *(School of Chemical Engineering and Technology, China University of Mining and Technology, Xuzhou, China)*

Perovskite B-Site Doping Enables High-Temperature Co-Electrolysis via Fe^{3+} Spin Modulation for CO_2/H_2O Reduction

15:30 to 15:45

Mengstu Etay Ashebir *(Chemistry, Academia Sinica; National Yang Ming Chiao Tung University, Taipei, Taiwan)*, Varad Modak, Omran Moradlou, Osama Nasr, Kuei-Hsien Chen

Regulating the Local Coordination Environment of Isolated Nickel Sites for CO_2 Electroreduction

16:00 to 16:30

Coffee Break

Symposium 11 Scale-up of electrochemical systems

Room: **C3.6**

Chaired by: Anna K. Mechler; Tom Rufford

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

Thomas Jaramillo *(Chemical Engineering & Energy Science Engineering, Stanford University & SLAC National Accelerator Laboratory, Stanford, USA)*

Addressing Challenges in Applied Electrochemical Systems through Fundamental Science Approaches

14:30 to 14:45

Mengran Li *(Department of Chemical Engineering, the University of Melbourne, Melbourne, Australia)*

Diagnosing and managing reaction microenvironment for membrane-electrode assembly systems

14:45 to 15:00

Egon Kecsenovity *(Stack Development, eChemicles Zrt., Szeged, Hungary)*, Pedro Arrias Villaroel, Csaba Janáky

Scale-Up and Spatial Insights in Zero-Gap CO_2 Electrolysis

15:00 to 15:15

Kim Eung-Dab *(Clean Energy Research Center, Korea Institute of Science and Technology, Seoul, Korea)*

Ion Environment Engineering through Cation-Free Electrolytes for Efficient CO_2 Reduction.

15:15 to 15:30

Aliya Toleuova *(Chemistry, Nazarbayev University, Astana, Kazakhstan)*, Diar Demeubay, Bagzhan Nurlanuly, Azamat Zhaksylykov, Iliyas Tursynbek, Assiya Yermukhambetova

Diffusion-Based Deep Generative Modeling for 3D Reconstruction of Electrochemical Electrode Microstructures

15:30 to 15:45

Mohamed Ibrahim *(School of Chemical Engineering, The University of Queensland, St Lucia, Australia)*, Dominick Clancy, Hizkia Manuel Vieri, Rizal Evans, Nicholas Paraskevas, Ming Yong, Thomas Rufford

Decoupling Cathode Behaviour from Membrane Transport in Elevated-Temperature CO_2 Electrolysis

15:45 to 16:00

Ruirui Liu *(School of Chemistry, The University of New South Wales, Sydney, Australia)*, Chuan Zhao

Microline-Bypass Flow Fields for Enhancing Water and Gas Management in Zero Gap CO_2 Electrolyzers

16:00 to 16:30

Coffee Break

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

Beatrice Ricciardi *(Instituto de Carboquímica (CSIC), Consejo Superior de Investigaciones Científicas, Zaragoza, Spain)*, Cinthia Alegre, Carlos Serrano-Alcalde, María Jesús Lázaro, David Sebastián

From Model Electrodes to Devices: NiFe-LDH/Molybdenum Chalcogenide Composites for AEM Water Electrolysis

16:45 to 17:00

Anna K. Mechler *(Institute of Energy Technologies (IET-4), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Irina Galkina, Alaa Y. Faid, Werner Lehnert, Lukas Ritz, Felix Lohmann-Richters, Martin Müller, Fabian Scheepers

Optimization and Scalability of Anodes based on Ni-Fe-LDH for Anion Exchange Membrane Water Electrolysis

17:00 to 17:15

Dominick Clancy *(School of Chemical Engineering, The University of Queensland, St Lucia, Australia)*, Natalia Mazur, Francesc Sastre

Operational Parameters' Effect on Ion Management in Zero-Gap CO_2 Electrolysis to Ethylene

17:15 to 17:30

Shuai Gu *(National Engineering Research Center for Integrated Utilizat, East China University of Science and Technology, Shanghai, China)*

AI-Optimized Electrochemical Lithium Extraction: A Random Forest-Based Intelligent Matching Strategy for Salt Lake Brines

17:30 to 17:45

Jagoda Manss-Chmielarz *(Electrochemical Energy Technology, German Aerospace Center, Inst. of Engineering Thermodynamics, Stuttgart, Germany)*, Wendelin Waiblinger, Tobias Morawietz, Aldo Gago, Andreas Friedrich

Engineering Internal Elastic Architectures for Industrial Anion Exchange Membrane Water Electrolysis up to 400 cm^2 Cell Size

THURSDAY PM

Symposium 12 Key challenges in molecular electrocatalyst platforms and surface reactivity

Room: **C3.2**

Chaired by: Mohammadreza Karamad; Ian T. McCrum

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

Kaido Tammeveski *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Rohit Kumar, Marek Mooste, Ivar Zekker, Alexey Treshchalov, Jaan Aruväli, Kaido Tammeveski

Bimetal phthalocyanines anchored on ZIF-8@CNT-derived nitrogen-doped carbon scaffold for oxygen reduction reaction electrocatalysis

14:30 to 14:45

Hao Yang *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Licheng Sun, Marc Koper

Metal-Hydroxyl-Mediated Proton Transfer in Polymeric Molecular Catalysts for Water Oxidation

14:45 to 15:00

Yoshiki Soda *(Department of Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, USA)*, J. Justin Gooding, Chuan Zhao, Richard D. Tilley, Aya Assafiri, Ravindra Kokate, Samuel V. Somerville, Soshan Cheong, Manusha Dissanayake, Sumaya Ishtiaq, Zeno R. Ramadhan

Electrochemical Synthesis and Valency Engineering of Single Au Atom Catalysts for > 50% Faradaic Efficiency in Aqueous Nitrogen Reduction

15:00 to 15:30 ***Keynote***

Jingshan Luo *(Institute of Photoelectronic Thin Film Devices and Technology, Nankai University, Tianjin, China)*

Supported and Bimetallic Catalysts, and 3D-Printed Electrodes for Enhanced Electrocatalysis

15:30 to 15:45

Tongyan Zhang *(Department of Chemical Science and Engineering, Institute of Science Tokyo, Tokyo, Japan)*, Hajime Arai, Ichiro Yamanaka

Synthesis of Formic Acid by the SPE Electrolysis of CO_2 and Water

15:45 to 16:00

Kosovare Zullufi *(Chemistry, Technical University of Darmstadt, Darmstadt, Germany)*, Ulrike Kramm

Quo vadis FeNC - Comparing FeN_4 motifs with either pyridinic or pyrrolic coordination for the activation of oxygen

16:00 to 16:30

Coffee Break

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

Ian T. McCrum *(Chemical Engineering, The City College of New York, New York, USA)*, Kiernan Corrigan, Mohammad Hasibul Hasan

Interfacial Solvation Made Easy

16:45 to 17:00

Alberte Høholdt *(Physics, Technical University of Denmark, Lyngby, Denmark)*, Alexander Bagger

Computational investigations of temperature- and pressure-water-stabilized dynamics of the CORR on Cu(100)

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

Mohammadreza Karamad *(Chemistry and School of Sustainable Energy Engineering, Simon Fraser University, Burnaby, Canada)*

Unraveling Activity–Selectivity Trade-Offs in Electrochemical C–N Coupling

17:15 to 17:30

Jasmin Wagner *(Institute of Inorganic Chemistry, University of Bonn, Bonn, Germany)*, Morgan McKee, Nikolay Kornienko

Reductive and Oxidative Electrosynthesis of Formamide using Heterogenized Molecular Nickel Catalysts

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

Xuning Li *(Dalian Institute of Chemical Physics, Chinese Academy of Sciences (CAS), Dalian, China)*, Chatir El Mehdi

Operando Mössbauer Spectroscopy Elucidates the Electronic Structure of Single-Atom Catalysts in Electrochemical CO_2 Reduction

17:45 to 18:00

Ryoichi Kanega *(Research Institute for Energy Efficient Technologies, Advanced Industrial Science and Technology, Tsukuba, Japan)*, Akira Yamamoto, Akihiro Ohira

An Aqueous Redox Flow Battery using CO_2 as an Active Material

18:00 to 18:15

Zhenyu Wang *(Department of Computational Materials Design, Max Planck Institute for Sustainable Materials, Düsseldorf, Germany)*, Mira Todorova, Christoph Freysoldt, Jörg Neugebauer

A Continuous-Charge Reaction Coordinate for Solvation-Shell Dynamics in Electron Transfer

18:15 to 18:30

José H. Zagal *(Department of Chemistry of Materials, University of Santiago de Chile, Santiago, Chile)*, Laura Scarpetta Pizo, Ingrid Ponce

Bio-inspired Electrocatalysis: Why does nature select iron porphyrins over platinum for the oxygen reduction reaction?

Symposium 13 Molecular electronics and electrochemistry: From fundamentals to function and application

Room: **C2.4**

Chaired by: Yan B. Vogel

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

Takhee Lee *(Physics, Seoul National University, Seoul, Korea)*

Vertical Molecular Transistors with Ion Gel Gating

14:30 to 14:45 ***Invited***

Ingrid Ponce *(Department of Environmental Sciences, Santiago de Chile University, Santiago, Chile)*, Luis Acuña-Saavedra, Nayareth Vilches Labbé, Manuel Díaz, Ana María Méndez Torres, José H. Zagal, Ruben Oñate

Spin Polarization in Self-Assembled FeN_4 Molecular Electrocatalysts for Oxygen Reduction and Hydrogen Evolution Reactions

14:45 to 15:00

Guozhen Liu *(School of Medicine, The Chinese University of Hong Kong, Shenzhen, Shenzhen, China)*

Facile Fabrication of Liquid Metal-Based Highly Conductive Electrodes for Wearable Devices: Enabling Real-Time Inflammation Monitoring and Active Inhibition

15:00 to 15:15

Koustav Banerjee *(Chemistry, Monash University, Clayton, Australia)*, Duong T. H. Truong, Darcy Simondson, Ngoc-Trung Nguyen, Cuong K. Nguyen, Rebecca Y. Hodgetts, Douglas R. Macfarlane, Hoang-Long Du, Alexandr N. Simonov

High-Performance Li-Mediated Nitrogen Reduction Assisted by Ammonia

15:15 to 15:30

Haotian Chen *(Michigan Institute for Data and AI in Society, University of Michigan, Ann Arbor, USA)*, Chenyang Huang, Alexander Rodríguez, Aashutosh Mistry, Venkatasubramanian Viswanathan

Differentiable Electrochemistry: A Paradigm Characterizing Physical Laws in Electrochemical Systems

15:30 to 15:45

Ryan Cheemin Chow *(Chemical and Biomolecular Engineering, University of Illinois Urbana-Champaign, Urbana, USA)*, Elias Vollert, Anja Lenzer, Dominic Bresser, Theresa Schoetz

Linking Mass Transport Limitations to Stage Transitions in Graphite Anodes during Fast Charging

15:45 to 16:00

Guobao Xu *(State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, CAS, Changchun, China)*, Islam M. Mostafa, Ala'a Mhmoued Abdllh Alboull, Wei Zhang, Baohua Lou

Selective Electrochemical Detection via Generation of Easily Detectable Phenols

16:00 to 16:30

Coffee Break

16:30 to 17:00 ***Keynote***

Christian Nijhuis *(Molecules and Materials, University of Twente, Enschede, Netherlands)*

Molecular-Scale Information Processing with Redox-Molecular Switches in Junctions

17:00 to 17:15

Ti-Chieh Chuang *(Biomechatronics Engineering, National Taiwan University, Taipei, Taiwan)*, Lin-Chi Chen

Electrochemical Synapses for Chronocoulometric Quantitation of Na+/K+ Ionic Signals

17:15 to 17:30

Ignacio Sanjuán Moltó *(Institute of Advanced Materials (INAM), University Jaume I, Castelló de la Plana, Spain)*, Antonio Guerrero

Advanced Electrochemical Devices for Emulating Neuronal Synaptic Function

17:30 to 17:45

Yan B. Vogel *(Chemical Engineering, TU Delft, Delft, Netherlands)*

Electrochemical Control over Electron Population in Quantum Dots

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: Angel Cuesta; Vincent Vivier

14:00 to 14:15

Angel Cuesta *(Instituto de Química Física Blas Cabrera, CSIC, Madrid, Spain)*, Alan J. Gibson, Tadeu Luiz Gomes Cabral, Victor Y. Yukuhiro, Claudio F. Tormena, Pablo S. Fernandez

Cation effects on the electro-oxidation of alcohols are not mediated solely by their interactions with adsorbed OH

14:15 to 14:30

Mengjia Li *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Zhuowei Cheng, Feiteng Wang, Jinyu Ye, Jun Cheng, Zhiyou Zhou, Shigang Sun, Tao Wang

Spectator Anion Accelerates Electrocatalytic C-H Dissociation by Modulating Local Hydrogen Bonding Interaction

14:30 to 14:45

Yan-Xia Jiang *(Department of Chemistry, Xiamen University, Xiamen, China)*, Chun-hua Zhen

Electrochemical Quantification of Active Site Density in Transition Metal-Nitrogen-Carbon Catalysts

14:45 to 15:00

Armando Ibraliu *(Physical Science, Diamond Light Source Ltd, Didcot, United Kingdom)*, Andrea E. Russell, Christopher Hardacre, Daniel T. Bowron, Sofia Diaz-Moreno

Combined Modulation Excitation, X-ray Absorption Spectroscopy, and Total Neutron Scattering Study of Formic Acid Electrooxidation

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

Yujin Tong *(Faculty of Physics, University of Duisburg-Essen, Duisburg, Germany)*

Spectroscopically Resolving Hydrogen Adsorption on Platinum Single-Crystal Electrodes and the Role of Interfacial Solvation

15:15 to 15:30

Ariba Adnan *(Catalysis & Surface Chemistry, Leiden University, Leiden, Netherlands)*, Núria Félez-Guerrero, Saeid Behjati, Marc T. M. Koper

Electric Double Layer of Au(111) in the Presence of Organic Cations

15:30 to 15:45

Daina Baker *(Chemistry, University of British Columbia, Vancouver, Canada)*, Daina V. Baker, Gilberto Martinez-Blanco, T. Ben Britton, W. Russ Algar, Dan Bizzotto

Investigating the Stability of Self-assembled Alkyl Thiol Monolayers on Thin Copper Films Electrodeposited on Gold Single-Crystal Bead Electrodes

16:00 to 16:30

Coffee Break

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

Zhong-Qun Tian *(Department of Chemistry, Xiamen University, Xiamen, China)*, Yu Gu, Jing-Hua Tian, Hong-Yuan He, Hai-Long Wang, Shi-Sheng Zheng, Si-Yuan Ma, Wei-Wei Wang, Ren Hu, Jian-Feng Li

From Interfaces to Interphases to Systems: AI-Empowered Operando Multi-Spectroscopy in Energy Electrochemical Systems

16:45 to 17:00

Rafael Santos *(Department of Fundamental Chemistry, Institute of Chemistry, University of São Paulo, São Paulo, Brazil)*, Rafael Santos, Ana Yamanaka, Rômulo Ando, Gabriel Meloni

Modular Scanning Droplet Cell Platform for Spatially Resolved and High-Throughput Spectroelectrochemistry

17:00 to 17:15

Guillaume Longatte *(Institute of Molecular Sciences, University of Bordeaux, Pessac, France)*, Xin Wu, Bertrand Goudeau, Patrick Garrigues, Laurent Bouffier

In situ and in operando characterization of electrochemical processes by fluorescence confocal microscopy on microstructured electrodes

17:15 to 17:30

Jinhui Zhong *(Department of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen, China)*, Weiming Song, Zhenhao Liao

Fourier Transform Wide-field Electrochemical Hyperspectral Imaging for High Throughput Monitoring of Single Nanoparticle Reactions

17:30 to 17:45

Jing-Hua Tian *(Institute of Large-scale Scientific Facilities, Tan Kah Kee Innovation Laboratory, Xiamen, China)*, Si-Yuan Ma, Hai-Sheng Su, Wei-Wei Wang, Hong-Yuan He, Zhong-Qun Tian

Operando Characterizations and AI for Systems Electrochemistry

17:45 to 18:15

Bin Ren *(Department of Chemistry, Xiamen University, Xiamen, China)*, Yi-Fan Bao, Meng-Yuan Zhu, Yuzhe Wang, Tian-Yi Yang, Yajun Huang, Xiang Wang

Electrochemical Raman Spectroscopy—Pushing towards Nanometer Spatial Resolution and Enhanced Mass Control

Symposium 15 Model electrodes to study nanoscale phenomena in electrocatalysis

Room: **C3.5**

Chaired by: Katharina Krischer; Haobo Li

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

Haobo Li *(School of Chemistry, Chemical Engineering and Biotechnology, Nanyang Technological University, Singapore, Singapore)*

Intelligent Chemical Process Discovery and Catalyst Design: AI-Driven Insights into C_2 Electrocatalysis

14:15 to 14:30

Adam Weber *(Energy Conversion Group, 1 Cyclotron Rd, MS30-213, Berkeley, USA)*

Role of Transport in Fuel-Cell Electrodes

14:30 to 14:45

Lulu Zhang *(IET-3, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Jun Huang

Correlating Electric Double Layer Structure and Electrochemical Plasmonics of Nanoparticles: a Theoretical Study

14:45 to 15:00

Julia Bord *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Christoph Jung, Timo Jacob

Role of Carbon Support Defects and Oxidation in the Stability of Pt Nanoparticle Electrocatalysts: A Multiscale Simulation Study

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

Tao Wang *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*

Mechanism of Cation-Tuned Proton Transport Kinetics at the Electrocatalytic Interface

15:15 to 15:30

Yuqi Ma *(Department of Chemistry and Material Science, Xi'an Jiaotong-Liverpool University, Suzhou, China)*, Chuhong Lin

Revisiting the Tafel Region in Oxygen Reduction Reaction: Mass-Transport Correction and Active-Site Connectivity Effects

15:30 to 15:45

Anthony Kucernak *(Chemistry, Imperial College London, London, United Kingdom)*, Tingting Mo, Michalis Metaxis

Benchmarking Oxygen Evolution and Oxygen Reduction catalysts – Comparison of Experimental Results to the "Kinetic Limiting Current" Model

16:00 to 16:30

Coffee Break

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

Olaf Brummel *(Interface Research and Catalysis, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany)*, Robert Hübsch, Daniel Schauermann, Pankaj Kumar Samal, Jan Skvára, Frederike Jäschke, Lesia Piliai, Tomáš Skála, Nataliya Tsud, Josef Mysliveček, Yaroslava Lykhach, Jörg Libuda

Electroreduction of Acetone on PtRu Model Catalysts

16:45 to 17:00

Aleksandra Wawrzyniak *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Marc Koper, Mark Aarts

Dynamic CO electrolysis to Methanol on Pt(111) modified with a Pd Monolayer

17:00 to 17:15

Alejandro Cañete-Arché *(School of Chemistry, Trinity College Dublin, Dublin, Ireland)*

Bifunctional Interfacial Synergies in Acidic Electrochemical CO_2 Reduction on a Bi–Sn Eutectic Alloy

17:15 to 17:30

Benhu Chen *(Clean Energy Automotive Engineering Center, Tongji University, Shanghai, China)*, Mingyuan Hua, Caizheng Yue, Tiankuo Chu, Kechuang Wan, Pingwen Ming, Bing Li

Synergistic Control of PEMFC Pore Networks by Drying Kinetics and Catalyst Types

17:30 to 17:45

Huanqing Zhang *(Department of Materials Science, Montanuniversität Leoben, Leoben, Austria)*

Stability of Pt-based alloy nanoparticles on different carbon supports for HER

Friday 11 September 2026 - **Morning**

Plenary Lecture

Room: **Pyrmont Theatre**

08:30 to 09:30

Jan Rossmeisl *(chemistry, Copenhagen University, Copenhagen, Denmark)*

Theory of Electrocatalysis

Symposium 5 Aqueous-based batteries and high-power devices

Room: **C2.5**

Chaired by: Thibault De Villenoisy; Veronika Niščáková

09:30 to 09:45

Veronika Niščáková *(Physical chemistry, Pavol Jozef Šafárik University in Košice, Košice, Slovakia)*, Jakub Leščinský, Andrea Straková Fedorková, Nikolas Király, Miroslav Almáši, Renáta Oriňaková

Redox Properties of Organic Molecules for Application in Flow Battery Systems

09:45 to 10:00

Maadri Amaaya Pathirana Kalawila Pathiranage *(School of Engineering and Materials Science, Queen Mary University of London, London, United Kingdom)*, Adam Colbourne, Ana Jorge Sobrido

Textile-Waste Derived Carbons for Application as Electrodes in Flow Batteries

10:00 to 10:15

Pitambar Poudel *(Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*

Thermal Activation Versus Carbon Nanoparticle Decoration on Graphite Felt Electrodes for Vanadium Redox Flow Battery

10:15 to 10:30

Thibault De Villenoisy *(School of Chemistry, Monash University, Clayton, Australia)*, Tam Nguyen, Venkata Anumula, Douglas MacFarlane, Alexandr Simonov

Electrodeposited Mixed Metal Electrodes for Suppressing Hydrogen Evolution in Vanadium Redox Flow Batteries

10:30 to 11:00

Coffee Break

11:00 to 11:15

Johan Nabiel Raihan *(Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan)*, Johan Nabiel Raihan, Aknachew Mebreku Demeku, Chen-Hao Wang

Investigation of Copper-Cobalt Diatomic With Graphite Felt as a Novel Electrode for Vanadium Redox Flow Batteries

11:15 to 11:30

Yi Wang *(School of Engineering and Material Science, Queen Mary University of London, London, United Kingdom)*, Yi Wang, Michael Thielke, Ana Sobrido

Microstructural Engineering of High-Power Redox Flow Battery Electrodes Investigating the Influence of 3D Porous Structure and Surface Chemistry on Electrochemical Performance

11:30 to 11:45

Robert Turney *(School of Mechanical and Manufacturing Engineering, UNSW Sydney, Sydney, Australia)*, Maria Skyllas-Kazacos, Chris Menictas

Developing the Vanadium Oxygen Fuel Cell

Symposium 7a Novel materials for lithium and beyond lithium batteries

Room: **Pyrmont Theatre**

Chaired by: Yu-Sheng Su

09:30 to 09:45

Chao Peng *(Materials Artificial Intelligence Center, Shenzhen Institutes of Advanced Technology, CAS, Shenzhen, China)*

Data-Driven and Intelligent Design of Electrode Interfacial Kinetics and Stability

09:45 to 10:00

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

An investigation of prelithiated effects of SiO_x: the effects of lithiated organic coverages on the interaction of surface Si-O-Si bonds

10:00 to 10:15

Saibrata Punyasloka *(Department of Chemistry, Uppsala University, Uppsala, Sweden)*, Andrew Naylor

Modulating Interface and Charge Storage Properties of Pure Silicon Anodes through Modification of PAA Binder

10:15 to 10:30

Wei-Ren Liu *(Department of Chemical Engineering, Chung Yuan Christian University, Taoyuan, Taiwan)*

Oxygen vacancies engineering via Sc3+ doping to boost Li-ion transport and cycling stability in $TiNb_2O_7$ anodes

10:30 to 11:00

Coffee Break

11:00 to 11:15

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

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

11:15 to 11:30

Rajesh B. Jethwa *(Department of Chemistry, Institute of Science and Technology Austria (ISTA), Klosterneuberg, Austria)*, Artem Gulyaev, Angelina Castro-Trujillo, Rhys J. Bunting, Stefan A. Freunberger

Moving the Poles Apart: An Exploration of Novel Bipolar Organic Compounds as Battery Materials

11:30 to 11:45

Guoliang Yang *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Dominic Bresser

Single-Ion Conducting Multiblock Copolymers for Lithium Batteries: Influence of the Ionophilic–Ionophobic Block Ratio

11:45 to 12:00

Dong Ki Kim *(Advanced Materials Engineering, Kyung Hee University, Yongin-si, Korea)*, Joo Hyeong Suh, Min-Sik Park

Modulating Graphite Surface Reactions with an MoS_2-Based Functional Coating Layer for Fast-charging Lithium-ion Batteries

Symposium 11 Scale-up of electrochemical systems

Room: **C3.6**

Chaired by: Mohamed Ibrahim; Mengran Li

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

Maria Skyllas-Kazacos *(Chemical Engineering, University of New South Wales, Sydney, Australia)*

Scale-Up and Engineering Considerations for Vanadium Flow Batteries.

10:00 to 10:15

Yan Jing *(Materials Science and Engineering, National University of Singapore, Singapore, Singapore)*

Aqueous Organic Flow Batteries with Integrated Electrochemical Carbon Capture and Utilization

10:15 to 10:30

Jiří Charvát *(Research and development, Pinflow energy storage, s.r.o., Prague, Czech Republic)*, Monika Moulíková, Kateřina Vránová, Jiří Vrána, Jaromír Pocedič

Electrode Durability and Performance in Electrochemical Vanadium Electrolyte Production

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

11:00 to 11:15

Agata Greszta *(Centre for E-Mobility Research (CEMR), Coventry University, Coventry, United Kingdom)*, Alexander Roberts

Trials and Tribulations in Lithium Sulfur – Learnings along the Journey from Coin to 5Ah Pouch cell

11:15 to 11:30

Ina Jeong *(Mechanical-Aerospace-Electric Convergence Engineering, Jeonbuk National University, Jeonju, Korea)*, Subin Kim

Numerical Investigation of the Effects of Various Cathode Materials on the Performance of Thin-Film All-Solid-State Batteries

11:30 to 11:45

Camilla Nicol Bonacina *(Research Center for Advanced Science and Technology, The University of Tokyo, Tokyo, Japan)*, Shingi Yamaguchi, Tatsuoki Kono

Energy Management of a Hybrid Battery-Hydrogen Energy Storage System with a One-Second Resolution

11:45 to 12:00

Siddhartha Subramanian *(Chemical Engineering and Chemistry, Eindhoven University of Technology, Eindhoven, Netherlands)*, Matheus T. De Groot

The Dehydration Penalty: Why Chlor-Alkali Bilayer Membranes Require a Thinner Carboxylate Layer for Efficient Lithium Hydroxide Production

Symposium 13 Molecular electronics and electrochemistry: From fundamentals to function and application

Room: **C2.4**

Chaired by: Koustav Banerjee

09:30 to 09:45

Giovanni Valenti *(Chemistry Ciamician, University of Bologna, Bologna, Italy)*

Autocatalytic Electrochemiluminescence

09:45 to 10:00

Shinsuke Inagi *(Department of Chemical Science and Engineering, Institute of Science Tokyo, Yokohama, Japan)*, Yushi Ohno, Kosuke Sato

Intramolecular Anodic Pyridination Strategy for Constructing Cationic Nitrogen-Doped Polycyclic Aromatic Hydrocarbons

10:00 to 10:15

Samridhi Bajaj *(Department of Biochemistry and Chemistry, La Trobe University, Bundoora, Australia)*

What Lies Beneath the Glow: Uncovering Mechanistic Subtleties in Mixed-Luminophore ECL via 3D Simulation

10:15 to 10:30

Xin Wang *(Beihang University, College of Energy and Power Engineering, Beijing, China)*, Jian Yao, Jin Zhang

Machine Learning-Guided Gradient Dual-Proton Conducting Catalytic Layers for High Temperature Proton Exchange Membrane Fuel Cells in Aviation

10:30 to 11:00

Coffee Break

Symposium 14a In situ and operando methods for characterising electroactive materials and interfaces

Room: **C3.3**

Chaired by: Yujin Tong; Andy Wain

09:30 to 09:45

Ariel Tirado *(Department of Chemistry, University of Saskatchewan, Saskatoon, Canada)*, Ian Burgess

How Low Can You Go? Extending Electrochemical ATR-SEIRAS to Far-Infrared Frequencies by Probing Interfacial Water Dynamics

09:45 to 10:00

Sang Gu Ji *(Department of Materials, Imperial College London, London, United Kingdom)*

Tracking the Electrochemical Interfaces of Pt using Metasurface-Driven Surface-Enhanced Infrared Absorption Spectroscopy

10:00 to 10:15

Matěj Velický *(Department of Electrochemical Materials, J. Heyrovský Institute of Physical Chemistry, Prague, Czech Republic)*, Iryna Ivanko, Martin Jindra, Otakar Frank

Controlling Potential Distribution in Graphene by Electrolyte Gating

10:15 to 10:30

Enn Lust *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Enn Lust, Alar Jänes, Thomas Thomberg, Meelis Härmas, Maarja Paalo, Miriam Koppel, Rasmus Palm, Laura Kalder, Tavo Romann, Ove Oll, Jaanus Kruusma, Priit Möller, Georg Gorbatovski, Jaak Nerut, Rutha Jäger, Riinu Härmas, Karmen Lust, Liis Siinor, Piret Pikma, Mart Väärtnõu

Electric Double Layer Structure at Carbon Electrodes

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

11:00 to 11:15

Christoph Malleier *(Institute for Physical Chemistry, Universitat Innsbruck, Innsbruck, Austria)*, Simon Penner, Bernhard Klötzer, Volker Kahlenberg, Marc Heggen, Thomas F. Winterstein

Impedance Spectroscopy as a Sensitive Probe for Redox-Driven Structural Evolution in Perovskite Oxides

11:15 to 11:30

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

Are We Calibrating EQCMs Correctly? A Re-examination

11:30 to 11:45

Bo Zhou *(Department of Physics, University of Hamburg, Hamburg, Germany)*, Steffi Krause, Wolfgang Parak

Photoelectrochemical Imaging of Dynamic Cell–Electrode Interfaces under Nanoparticle Perturbation

11:45 to 12:00

Geyang Zhou *(Chemistry, University of British Columbia, Vancouver, Canada)*, Dan Bizzotto

Dual-Signal Characterization of Carbodiimide Crosslinked DNA SAMs Using a Redox-Active Fluorophore Label

Symposium 15 Model electrodes to study nanoscale phenomena in electrocatalysis

Room: **C3.5**

Chaired by: Marco Altomare; Jun Huang; Yu Huang

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

Yu Huang *(Materials Science and Engineering, University of California, Los Angeles, Los Angeles, USA)*

Electrocatalyst Design for Hydrogen Economy

10:15 to 10:30

Osama Metawea *(Institute for Aqua Regeneration (ARG), Shinshu University, Ueda, Japan)*, Wataru Sugimoto

Cobalt-Substituted Platinum Oxide Nanosheets Derived PtCo Alloy Electrocatalysts for Enhanced Oxygen Reduction Reaction

10:30 to 11:00

Coffee Break

11:00 to 11:15

Mingyuan Hua *(College of Automotive and Energy Engineering, Tongji University, Shanghai, China)*, Benhu Chen, Daozeng Yang, Jue Wang, Kechuang Wan, Pingwen Ming, Bing Li

Centrifuged Low-Concentration Slurries for Uniform PFSA Coatings in PEMFC Catalyst Layers

11:15 to 11:30

Hansaem Jang *(Department of Chemistry, University of Liverpool, Liverpool, United Kingdom)*, Daniel Roe, Harry Taylor, Emiliano Poli, Alex Walton, Gilberto Teobaldi, Oscar Cespedes, Alexander Cowan

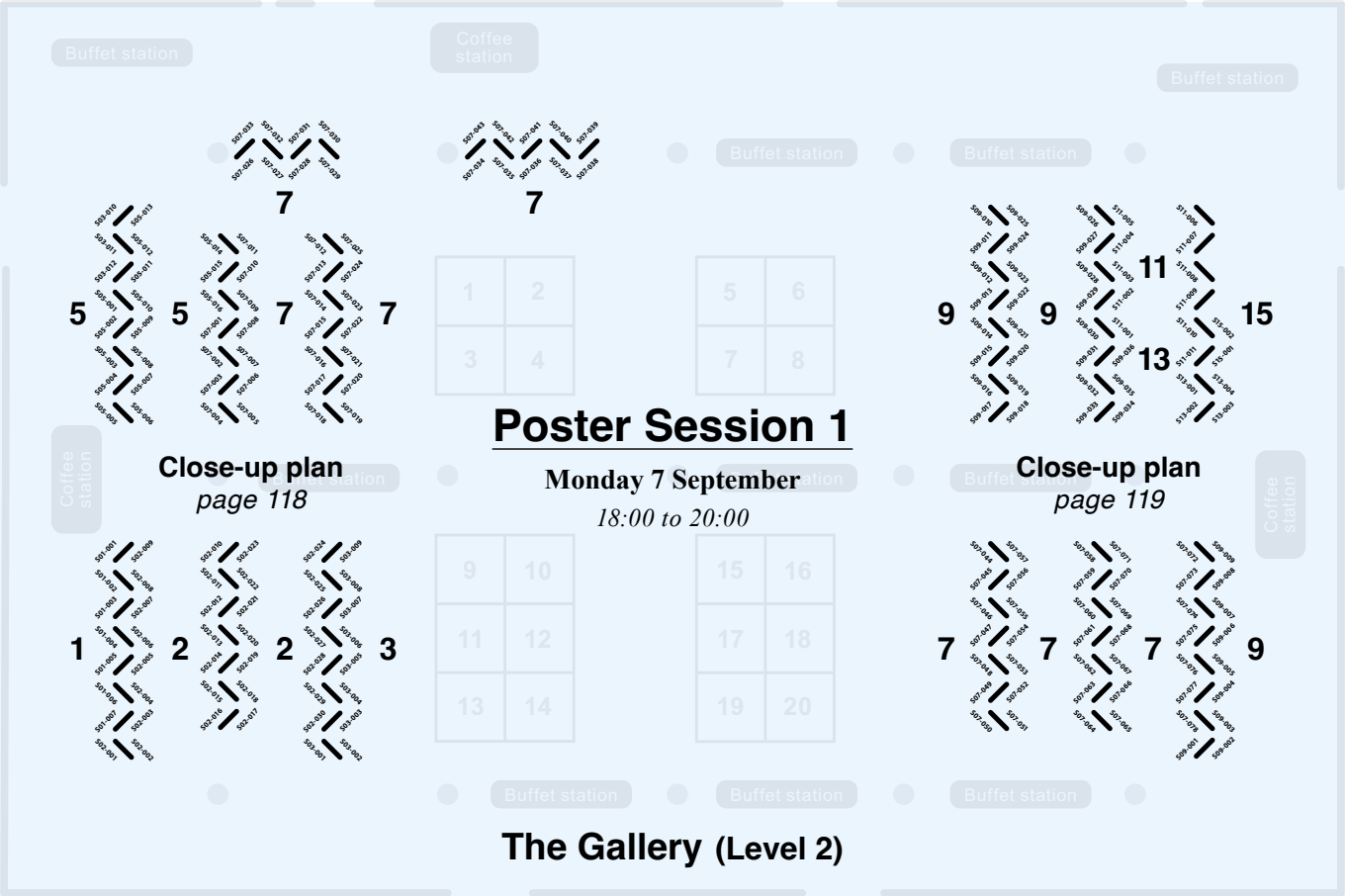
Spin Polarised Hydrogen Evolution on Nonferromagnetic Surfaces

11:30 to 11:45

Andrea Conte *(Department of Chemistry, CORC, Aarhus University, Aarhus, Denmark)*, Andrea Conte, Marcel Ceccato, Pegah Nazari, Steen Uttrup Pedersen, Jeppe Vang Lauritsen, Kim Daasbjerg

Controlling CO_2 Electroreduction Selectivity through Magnetic Field Interactions

Poster presentation program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Poster Session 1
Monday 7 September
18:00 to 20:00
Close-up plan
page 118
Close-up plan
page 119
Coffee station
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Buffet station
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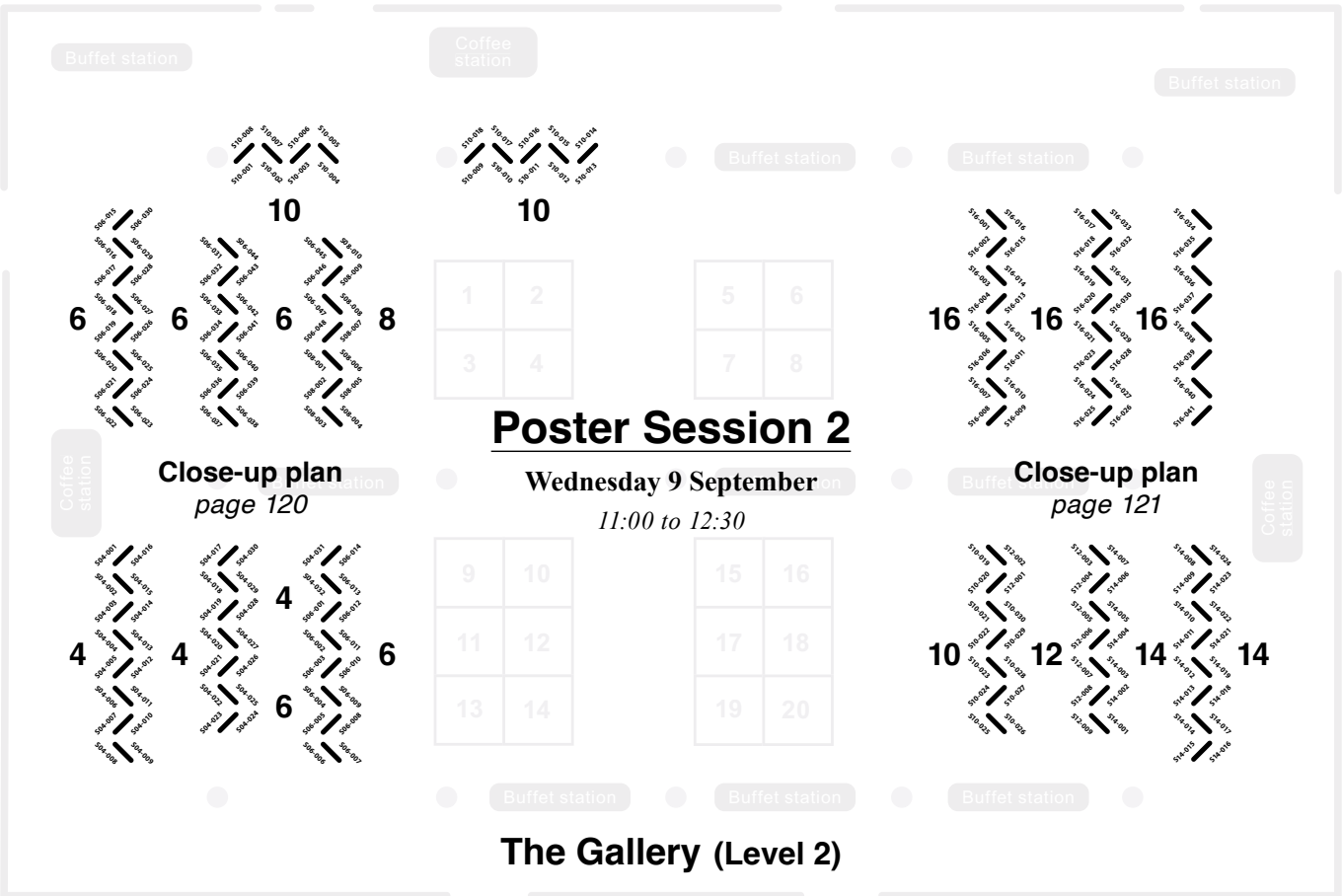
Buffet station
The Gallery (Level 2)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16
Poster Session 2
Wednesday 9 September
11:00 to 12:30
Close-up plan
page 120
Close-up plan
page 121
Coffee station
Coffee station
4
4
4
6
6
10
12
14
14
Buffet station
Buffet station
Buffet station
The Gallery (Level 2)

Poster Session 1 & Cocktail

Monday 7 September *18:00 to 20:00*

sponsored by ***Redoxme AB***

Poster set-up: **Monday,** *from* **09:00** *to* **16:30**
Poster take-down: ***before*** **Tuesday, 12:00**

Symp	*Posters*	*Plan*
S01	*p.122*	*p.118*
S02	*p.123*	*p.118*
S03	*p.126*	*p.118*
S05	*p.133*	*p.118*
S07	*p.139*	*p.118 & 119*
S09	*p.148*	*p.119*
S11	*p.156*	*p.119*
S13	*p.158*	*p.119*
S15	*p.162*	*p.119*

Poster Session 2

Wednesday 9 Sept. *11:00 to 12:30*

sponsored by ***Admiral Instruments***

Poster set-up: **Tuesday,** *from* **13:00** *to* **19:00**
Poster take-down: ***before*** **Thursday, 12:00**

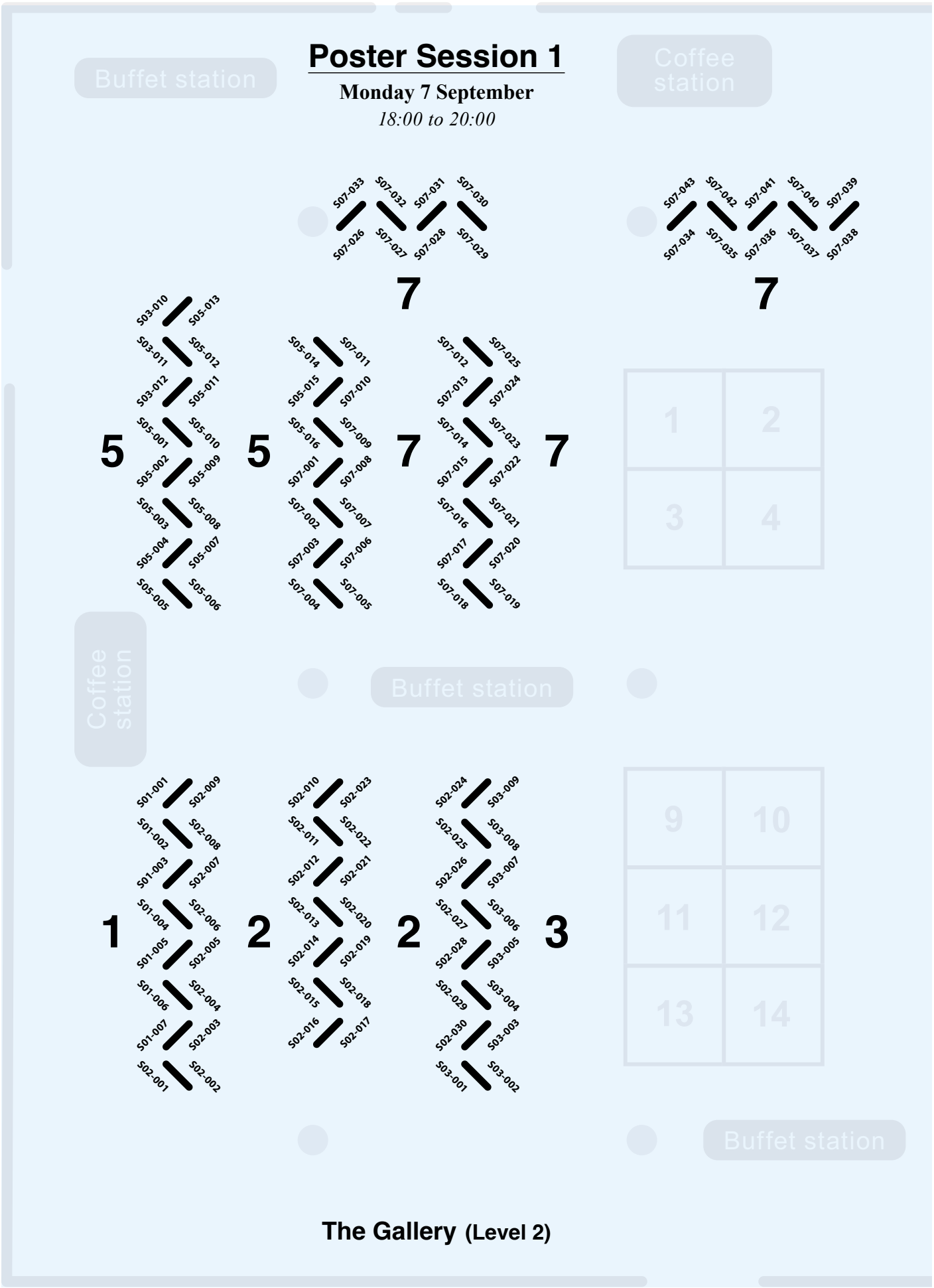
Symp	*Posters*	*Plan*
S04	*p.128*	*p.120*
S06	*p.133*	*p.120*
S08	*p.147*	*p.120*
S10	*p.152*	*p.120 & 121*
S12	*p.157*	*p.121*
S14	*p.159*	*p.121*
S16	*p.162*	*p.121*

Symposium 1	Electrochemistry at the interface: From liquid-liquid to point-of-care devices
Symposium 2	Electrochemical biosensors: The new world technology
Symposium 3	Bioelectrochemistry: Scientific discoveries and applications
Symposium 4	Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X
Symposium 5	Aqueous-based batteries and high-power devices
Symposium 6	Advances in hydrogen production and utilisation
Symposium 7	Novel materials for lithium and beyond lithium batteries
Symposium 8	Progress in surface modification and corrosion mitigation
Symposium 9	Fabrication and characterisation of electroactive nanostructured materials
Symposium 10	Sustainable electrochemistry and systems to protect water and the environment
Symposium 11	Scale-up of electrochemical systems
Symposium 12	Key challenges in molecular electrocatalyst platforms and surface reactivity: Experimental, theoretical and computational advances
Symposium 13	Molecular electronics and electrochemistry: From fundamentals to function and application
Symposium 14	In situ and operando methods for characterising electroactive materials and interfaces
Symposium 15	Model electrodes to study nanoscale phenomena in electrocatalysis
Symposium 16	General Session

Poster Session 1

Monday 7 September

18:00 to 20:00

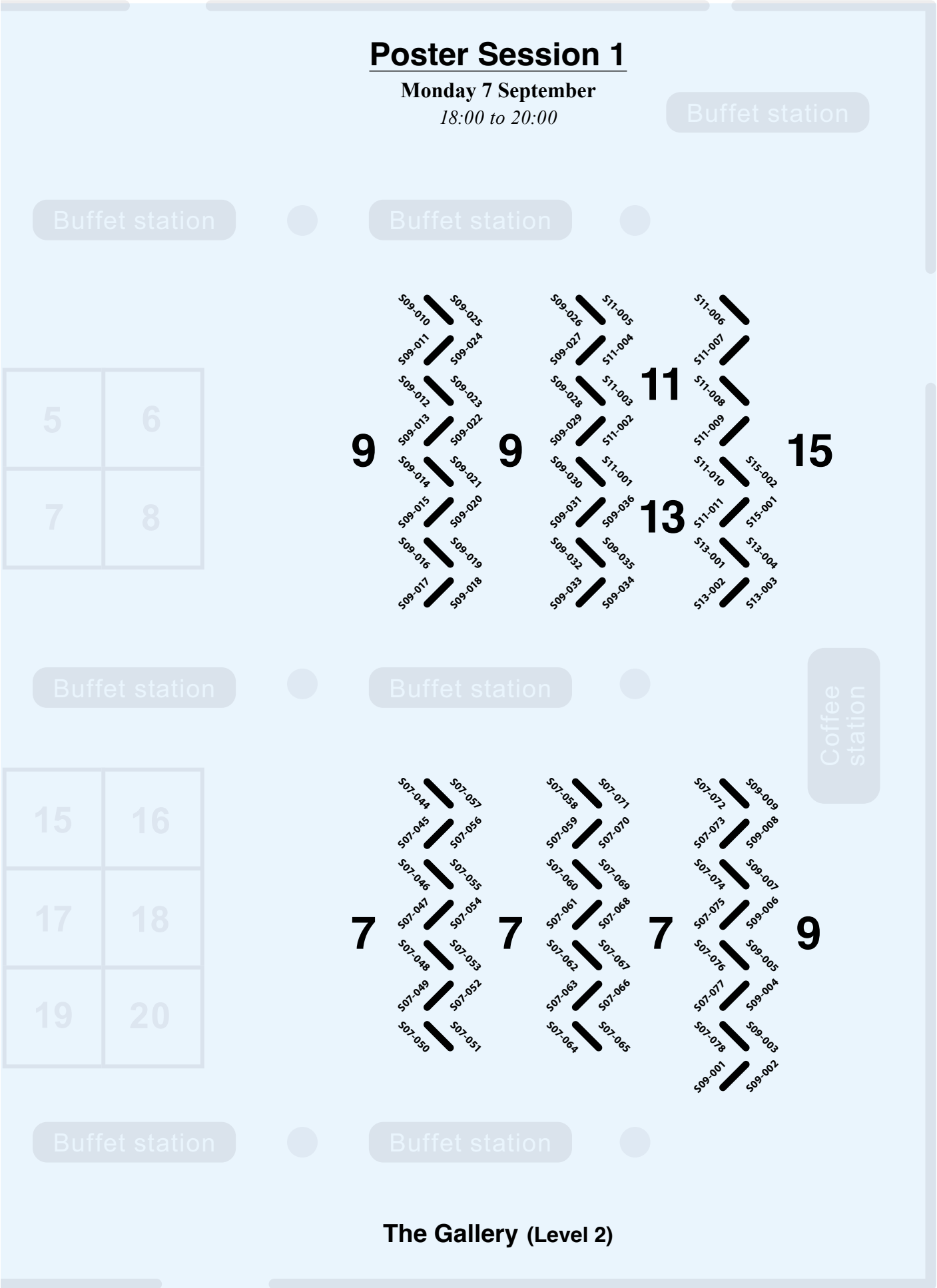


The Gallery (Level 2)

Poster Session 1

Monday 7 September

18:00 to 20:00

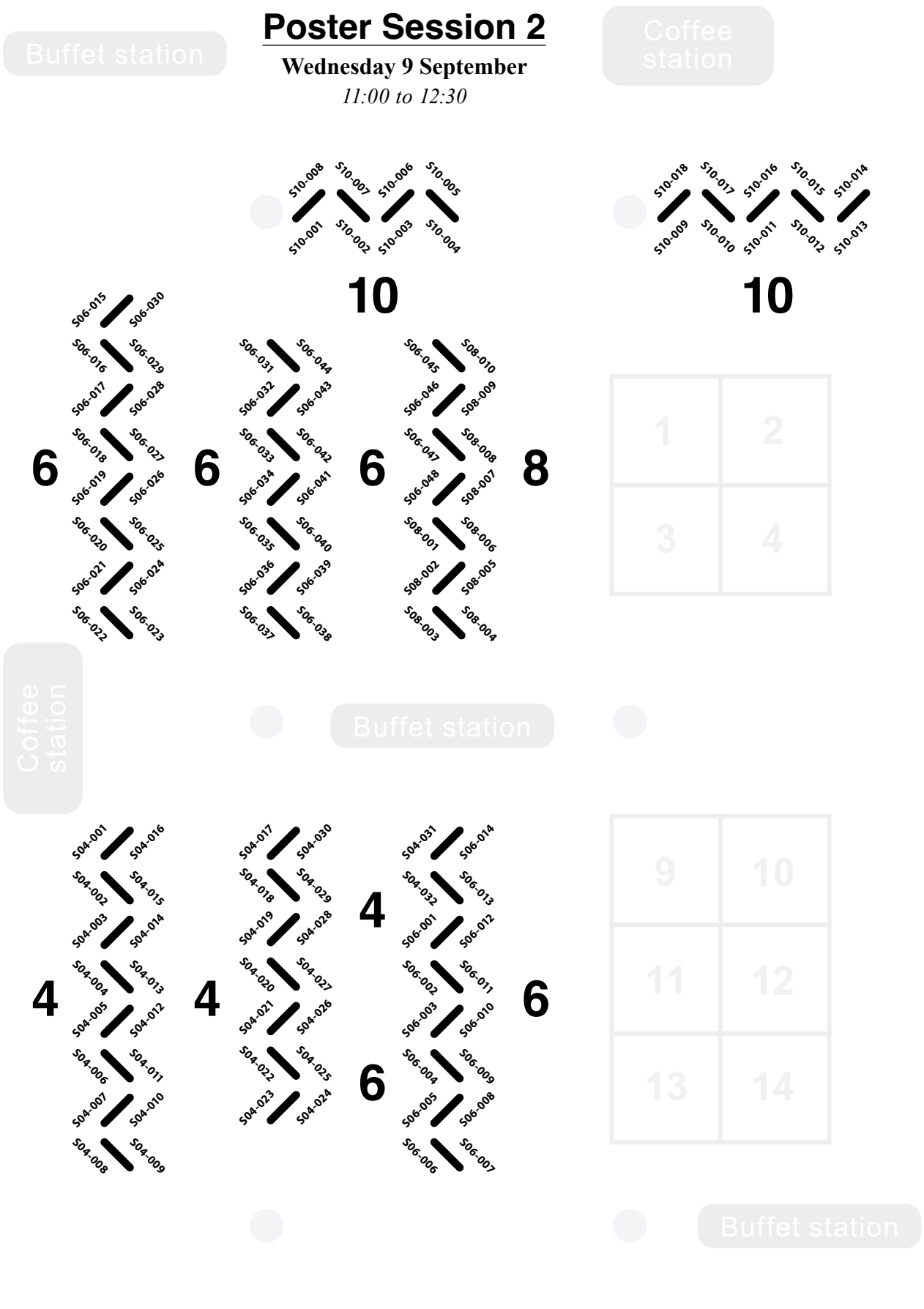


The Gallery (Level 2)

Poster Session 2

Wednesday 9 September

11:00 to 12:30

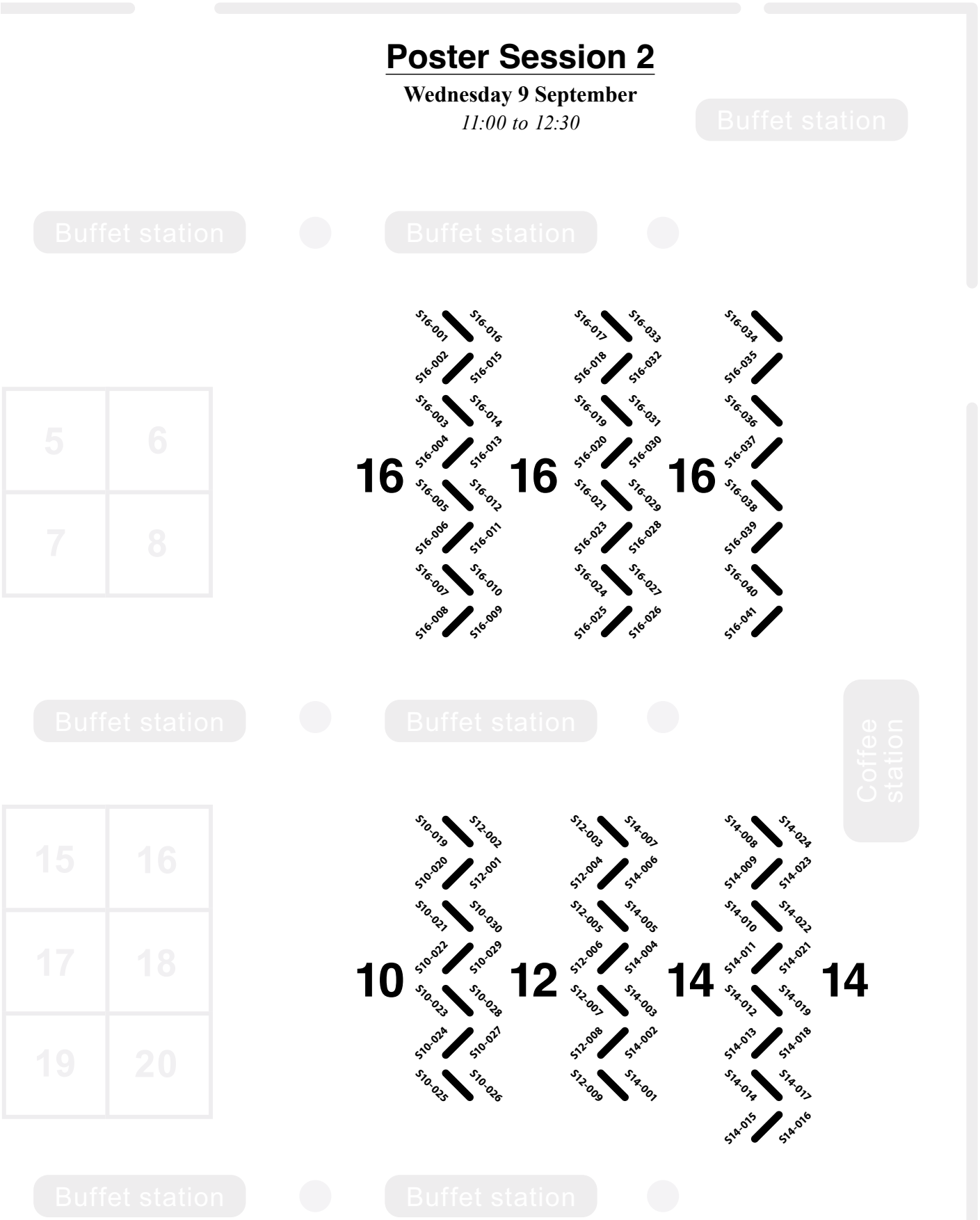


The Gallery (Level 2)

Poster Session 2

Wednesday 9 September

11:00 to 12:30



The Gallery (Level 2)

Symposium 1 Electrochemistry at the interface: From liquid-liquid to point-of-care devices

S01-001

Deomila Basnig-Mamaoag *(Chemistry Department, Caraga State University, Butuan, Philippines)*, Gwyn Mae Benigian, Grégoire Herzog, Alain Walcarius

Enhanced Electrochemical Detection Of Mercury(II) Ions Using Screen-Printed Carbon Electrodes Functionalized On Mesoporous Silica Films

S01-002

Deborah Crittenden *(School of Physical and Chemical Sciences, University of Canterbury, Christchurch, New Zealand)*, Ro Dunlop, Thomas Grummitt, Joel Schuurman

Proton-selective ionowax membranes – free samples available!

S01-003

Donggyu Huh *(Department of semiconductor and display engineering, Sungkyunkwan Graduate School, Suwon-si, Korea)*, Byoengdeog Choi

Improved DRAM performance through Impurity Removal in Gate Oxide via Plasma Nitridation

S01-004

Zixi Liang *(IHE-1, Forschungszentrum Jülich, Jülich, Germany)*, Zengming Zhang, Jun Huang

Thermodynamic Analysis of Configurational Entropy in Electrified Metal–Solution Interfaces

S01-005

Yu-Nan Lu *(Chemistry, The University of New South Wales, Sydney, Australia)*, Chen Hu, Essam Ibrahim, Richard D Tilley, Justin Gooding

Electrochemical Monitoring of Cancer Biomarkers via Simultaneous Multiplexing with Gold-Coated Magnetic Nanoparticles

S01-006

Seyedoveis Mirabootalebi *(College of Science and Engineering, James Cook University, QLD, Australia)*, Yang Liu

Carbon Dot–Engineered Potentiometric Sensors for Nitrate Sensing

S01-007

Yi Zhao *(Discipline of Intelligent Instrument and Equipment, Xiamen University, Xiamen, China)*, Lianhuan Han, Fangzu Yang, Dongping Zhan

Online Detection of Additive Concentrations in Acidic Copper Plating Solution for Metal Interconnection by an Electrochemical Microfluidic Workstation

Symposium 2 Electrochemical biosensors: The new world technology

S02-001

Je Hyun Bae *(Graduate School of Analytical Science and Technology, Chungnam National University, Daejeon, Korea)*, Junhee Yu

Charged Nanoporous Electrodes for Electrochemical Detection of Dopamine

S02-002

Samridhi Bajaj *(Department of Biochemistry and Chemistry, La Trobe University, Bundoora, Australia)*

New Analytical Sensing Applications of Bipolar Annihilation Electrochemiluminescence

S02-003

Soledad Bollo *(Department of Pharmaceutical and Toxicological Sciences, Universidad de Chile, Santiago, Chile)*, Adrian Ges, Alejandra Molina, Constansa Venegas, Gustavo A. Rivas, Ricardo Salazar-Gonzalez

Electrochemical Comparison of Affinity Protein Interfaces in Enzymatic MWCNT-Based Biosensors

S02-004

Min-Chen Chuang *(Center for Plasma and Thin Film Technologies, Ming Chi University of Technology, New Taipei City, Taiwan)*, Nishchal Y. Pardhi, Wei-Chun Cheng, Min-Chen Chuang, Sheng-Chi Chen, Hui Sun, Mani Govindasamy

Ti-doped Ni_3N Composite Thin Film Based Electrode for Wide-range Detection of Oxidative Stress Biomarkers via Electrochemical Route

S02-005

Domenico D'Anna *(School of Chemistry, University of New South Wales, Sydney, Australia)*, Essam M. Dief, Richard D. Tilley, J. Justin Gooding

Controlling DNA assembly and functions on the surfaces of nucleic acid-based electrochemical sensors

S02-006

Anjana Eruvathanath Sajeevan *(Department of Chemistry, Pusan National University, Busan, Korea)*, Seonhwa Park, Haesik Yang

Enhanced Selectivity in Detecting Matrix Metalloproteinase-2 via Sequential Affinity Capture, Cascade Reaction, and Electrochemical Measurement

S02-007

Fabian Garay-Rairan *(Biomedical Engineering, The University of Sydney, Sydney, Australia)*, Jing Qian, Qi Wang, Artem Lensky, Krishnan Murugappan, Antonio Tricoli, Hanna Suominen

Optimization of Electrochemical Nanomanufacturing by Machine Learning and Computer Vision

S02-008

Fabian Garay_Rairan *(Biomedical Engineering, The University of Sydney, Sydney, Australia)*, Sindhu Priya Giridhar, Qi Wang, Mahroo Baharfar, Nuwan Bandara, Antonio Tricoli

Flame Spray Pyrolysis-Functionalized MOX Sensor Array with Integrated Microheater Control for VOC Detection

S02-009

Donghoon Han *(Department of Chemistry, The Catholic University of Korea, Bucheon, Korea)*

Probing the EC' Mechanism of NADH Oxidation via In-situ Spectroelectrochemistry for the Development of Mediator-Based Sensing Platforms

S02-010

Yi-Ting Hsieh *(Chemistry, No.70, Linhsi Road, Shihlin, Taipei, Taiwan)*

Green Synthesis of a Biomimetic Electrochemical Sensor: DES-Assisted Molecularly Imprinting on AuAg/rGO for Acetaminophen Detection

S02-011

Helmini Jayarathne *(Chemistry, La Trobe University, Kingsbury, Australia)*, Conor Francis Hogan, Darrell Elton

Experimental Investigation into the Irreproducibility of Screen-Printed Electrodes

S02-012

Hamin Jo *(Department of Chemistry, Pusan National university, Busan, Korea)*, Jihyeon Kim, Seonhwa Park, Haesik Yang

Reference Electrode-Free Electrochemical Biosensing Based on Counterbalanced Oxygen Reduction and Electrochemical Redox Cycling at Interdigitated Array Electrodes

S02-013

Chae Yun Kim *(Chemistry, Seoul National University, Seoul, Korea)*, Haeyeon Lee, Taek Dong Chung

Three-Dimensional Interdigitated Array (3D-IDA) System for Enhanced Electrochemical Signal Amplification

S02-014

Yuri Kim *(Department of Chemistry Education, Korea National University of Education, Cheongju-si, Korea)*, Jungse Yun, Yerin Bang, Jungwon Kim, Seol Baek, Seungryong Kwon, Minjee Seo

Kinetic Effects of Phosphate Adsorption on Indium Tin Oxide for Charge-Selective Electrochemical Sensing

S02-015

Kun-Mu Lee *(Department of Chemical and Materials, Chang Gung University, Taoyuan, Taiwan)*, Kumar Gokulkumar, Kun-Mu Lee

Ni-MOF/β-CD/Functionalized Carbon Black Nanomaterials for Enhanced Electrochemical Sensing of Metronidazole in Environmental and Clinical Samples

S02-016

Hansani Maussawa *(Biochemistry & Chemistry, Latrobe University, Bundoora, Australia)*, Ronil Rath, Connor Hogan, Saimon Silva

Development of an Aptamer-Based biosensor for the detection of Cocaine

S02-017

Hironori Myochin *(Faculty of Science and Technology, Kochi University, Kochi, Japan)*, Tadaharu Ueda, Jie Zhang, Noriyasu Ohshima, Takashi Izumi, Tatsuya Hisajima, Mikaru Mori, Tomoya Kimura, Masanobu Mori

Electrochemical Viscosity Correction for Robust Salivary Ionomics via Redox Probe Voltammetry

S02-018

Ami Nakamura *(Department of Pure and Applied Chemistry, Tokyo University of Science, Noda, Japan)*, Ryo Shirai, Kayo Nagata, Tsutomu Mikawa, Yuta Imade, Erika Yamamoto, Seiya Tsujimura, Hikari Watanabe, Isao Shitanda, Masayuki Itagaki

Fabrication and Evaluation of a Dual Sensor Using LO_x/MgOC-ZIF67-Modified and Polyaniline-Modified Electrodes for Real-Time Monitoring of Sweat Lactate and pH

S02-019

W H Nishani De Soyza *(Chemistry Department, University of New South Wales, Sydney, Australia)*, Essam M. Dief, Richard D. Tilley, J.Justin Gooding

Development of Interfacial Design Strategies for Electrochemical Aptamer-Based Biosensors for Continuous Monitoring

S02-020

Francis Muya Ntumba *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Fabrication of a MXene/PEDOT: PSS/Nanoparticle Ternary Composite for High-Sensitivity Electrochemical Pesticide Detection.

S02-021

Maritsa Nurfatwa *(School of Chemistry, The University of New South Wales, Sydney, Australia)*, Maritsa Nurfatwa, Essam Dief, Richard Tilley, Justin Gooding

Preparation of Alkyne-terminated DNA for Electrochemical Aptamer-based Sensing

S02-022

Gaurav Sunil Patil *(Department of Biotechnology and Food Science, Institute of Food Technology, Vienna, Austria)*, Florian Csarman, Roland Ludwig

Electrochemical Biosensors Based on Direct Electron Transfer Enzymes

S02-023

Carlos Pereira *(Chemistry and Biochemistry, University of Porto - Faculty of Sciences, Porto, Portugal)*, Ana Brandão, Renata Costa, Helena Ribeiro

Electrochemical Immunosensor for Direct Detection of the Aeroallergen Pla a 1: Toward Real-Time Monitoring of Airborne Allergens

S02-024

Rijo Rajeev *(Department of Chemistry, Pusan National University, Busan, Korea)*, Jihyeon Kim, Seonhwa Park, Eunji Tak, Haesik Yang

Expanding Carbon Electrode Area and Drifting Reference Electrode Potential in Screen-Printed Electrode Strips

S02-025

Sirajit Rayanasukha *(Department of Chemistry, Thammasat University, Pathum Thani, Thailand)*, Passakorn Pomngoen, Chawin Srisomwat

An Integrated Origami Paper-Based Electrochemical Aptasensor for Neuropeptide Y Detection in Clinical Fluids

S02-026

Juan Arturo Squella *(Química Orgánica y Físico Química, Universidad de Chile, Lo Barnechea, Chile)*, Alejandro Charmell, Raúl Moscoso

Electrochemical Detection of Amoxicillin in Street Market Samples with an MWCNT Buckypaper Sensor and BIAS Cell.

S02-027

Marcos Teixeira *(School of Science and Technology, Sao Paulo State University (UNESP), Presidente Pruente, Brazil)*, Gabriel Silva, Pedro PIzzol, Fabio Lira

Impedimetric Immunosensor Based on Gold Nanoparticles Encapsulated in Azo-polymer and Reduced Graphene Oxide for the Detection of the Pro-inflammatory Molecule Interleukin-6

S02-028

Constanza J. Venegas *(Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile, Santiago, Chile)*, Constanza J. Venegas, Camila Pezet, Paulina Sierra, Edwar Fuentes, Lorena Lobos

Optimization of a biochar-based biosensor for the electrochemical detection of a biomarker in extracellular vesicles of breast cancer patients

S02-029

Damini Verma *(Centre for Nanotechnology, Indian Institute of Technology Roorkee, Roorkee, India)*, Soumyadeep Basak, Gopinath Packirisamy

Microneedle Skin Patch as Electrochemical Point of Care for Vitamin D3 Sensing in Interstitial Fluid

S02-030

Amit K. Yadav *(Department of Biological Sciences and Engineering, Indian Institute of Technology Gandhinagar, Gandhinagar, India)*, Dhiraj Bhatia

Breaking Time-Sensitivity Trade-offs: Synergistic Electron Transport in Ternary Nanohybrids for Next-Generation Point-of-Care hCG Sensing Within 3 Minutes

Symposium 3 Bioelectrochemistry: Scientific discoveries and applications

S03-001

Daisuke Akaishi *(Mechanical Engineering, Tohoku University, Sendai, Japan)*, Shuto Osaki, Fumika Sakai, Hinata Inamoto, Matsuhiko Nishizawa

Transdermal Electroosmosis Using Porous Microneedles Integrated with an Electrochemical System

S03-002

Wonkyung Cho *(Chemistry, Seoul National University, Seoul, Korea)*, Taek Dong Chung

Distinct Exocytosis Behavior at Synaptic Membrane Protein–Protein Coupled Cell–Electrode Interfaces Revealed by Single-Cell Amperometry

S03-003

Tengyu Li *(Department of Chemistry, Zhejiang University, Hangzhou, China)*, Bin Su

Rolling Circle Amplification Enhanced Electrochemiluminescence Immunoassay for Ultrasensitive Detection of Plasma p-tau181

S03-004

Ruixiang Li *(School of Engineering and Materials Science, Queen Mary University of London, London, United Kingdom)*, Ruixiang Li, Jiazhe Zhao, Yunpeng Fang, Bo Zhou, Jon Gorecki, Anirban Das, Nivethitha Lakshminaraasimulu, Andrew Shevchuk, Thomas Iskratsch, Steffi Krause

Live Cell Imaging with combined Photoelectrochemical Imaging and Scanning Ion Conductance Microscopy

S03-005

Mirai Matsuura *(Biomedical Engineering, Tohoku University, Sendai, Japan)*, Haechang Cho, Sae Suzuki, Soichiro Tottori, Shuto Osaki, Matsuhiko Nishizawa

Enzymatic Biobattery-Based Devices for Oral Healthcare

S03-006

Natsuki Nozaki *(School of Engineering, Tohoku University, Sendai, Japan)*, Fumiya Imamura, Junpei Miyaguchi, Tianyang Hou, Shuto Osaki, Soichiro Tottori, Shinichiro Osawa, Atsuhiro Nakagawa, Matsuhiko Nishizawa

Self-Wrapping Hydrogel Cuff Electrode with Integrating Carbon Knit Conductive Network for Conformal Neural Interfaces

S03-007

Niklas Ortlieb *(Inorganic and Analytical Chemistry, University of Freiburg, Freiburg, Germany)*, Victoria Davis, Sithisak Chanthalavong, Ralf Wessbecher, Dennis Kosian, Matthias Boll, Anna Fischer

Bioelectrocatalytic Hydroxylation of Vitamin D3

S03-008

Ilaria Palchetti *(Department of Chemistry, University of Florence, Sesto Fiorentino (FIRENZE) Toscana, Italy)*

A Bioelectrochemical Approach to Investigate Drug Interactions with P-type ATPases

S03-009

Thomas Savage *(Graduate School of Science and Technology, University of Tsukuba, Tsukuba, Japan)*, Hiroki Nagata, Seiya Tsujimura, Masanori Toyofuku, Nobuhiko Nomura, Yoshihide Tokunou

Development of Bacterial Membrane Vesicle-Based Bioelectrocatalysts

S03-010

Patricia Seraphim *(School of Science and Technology, Sao Paulo State University (UNESP), Presidente Pruente, Brazil)*, Pedro PIzzol, Gabriel Silva, Marcos Teixeira

A Chemiresistor Sensor Based on Poly(azo-BBY)-rGO Nanocomposite for Real-Time Monitoring of Mitochondrial Bioenergetics

S03-011

Sota Takizawa *(Department of Pure and Applied Chemistry, Tokyo University of Science, Noda, Japan)*, Noya Loew, Seiya Tsujimura, Hikari Watanabe, Isao Shitanda, Masayuki Itagaki

Electrochemical Evaluation of the Effect of Surface Zeta Potential on the Orientation of Bilirubin Oxidase on Gold Electrodes

S03-012

Hui-Jun Wei *(School of Chemistry, Nanjing University, nanjing, China)*, Yi-Lun Ying, Yi-Tao Long

Photo-driven Nanopore Electrode for Minimally Invasive Monitoring of Intracellular ROS Levels in Neural Cells

Symposium 4 Understanding reaction mechanisms and degradation of electrocatalysts for Power-to-X

S04-001

Paolo Bollella *(Department of Chemistry, University of Bari Aldo Moro, Bari, Italy)*, Verdiana Marchianò, Blanca Cassano, Angelo Tricase, Eleonora Macchia, Luisa Torsi

Bioprogrammed Interfacial Control of Copper-Catalyzed CO_2 Electroreduction on Graphite Screen-Printed Electrodes via Enzymatic pH and O_2 Management in Ca^{2+}-Alginate

S04-002

Alejandro Cañete-Arché *(School of Chemistry, Trinity College Dublin, Dublin, Ireland)*

Data-Driven Prediction of Electrified Solid–Liquid Interfaces in Electrocatalysis

S04-003

Sehun Choi *(Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), Pohang-si, Korea)*, Jungseub Ha

Defect-Rich FeOx Layers on Exsolved Nanoparticles for Sulfur-Tolerant CO_2 Electroreduction

S04-004

Leonardo Duranti *(Department of Chemical Science and Technologies, University of Rome Tor Vergata, Rome, Italy)*, Davide Lanera, Michela Cornale, Igor Luisetto, Umberto Pasqual Laverdura, Maria Luisa Grilli, Elisabetta Di Bartolomeo

Ru-based Structured Catalyst to Directly Feed Biogas and Ammonia to Intermediate Temperature-SOFCs

S04-005

Qi Gao *(Chemical engineering, University of Melbourne, Carlton, Australia)*, Mengran Li, Sandra Kentish, Kathryn Mumford

Bridging the Gap - Maximising CO_2 Electrochemical Reduction towards Closed-loop Reactive Capture

S04-006

Pooja Gupta *(Chemical Engineering, Indian Institute of Technology, Madras, Chennai, India)*, Aravind Kumar Chandiran, Raghuram Chetty

Support-Controlled Selectivity of Cobalt Phthalocyanine for Electrochemical Reduction of CO_2 to Methanol

S04-007

Jaehyun Heo *(Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), Pohang-si, Korea)*, Junbeom Maeng, Minguk Kwak

Interatomic Cooperation within Cu-Fe Dual-Atom Sites for Superior Tandem Catalysis in Green Ammonia Production

S04-008

Yoon Gyeong Jo *(Department of Chemistry, POSTECH, Pohang, Korea)*, Seunghoon Lee, Chang Hyuck Choi

Influence of Cation Identity and Concentration on Alkaline Oxygen Evolution Activity of Iridium Oxide

S04-009

William Johnson *(Chemical and Process Engineering, University of Strathclyde, Glasgow, United Kingdom)*, Lewis MacDonald, Dipak Shinde, Jun Li, Stephen Lyth, Graham Smith, Edward Brightman

Electrochemical and pH-Induced Isomerisation of Keggin Polyoxometalates For Energy Conversion Applications

S04-010

Seeun Jung *(Chemistry, Pohang University of Science and Technology (POSTECH), Pohang, Korea)*

Studying on The Mechanism of Alkaline Hydrogen Evolution Reaction on Gold

S04-011

Jinjong Kim *(Chemistry, Seoul National University, Seoul, Korea)*, Sang Hoon Joo

Unveiling Ni–N_4 as the Active Sites in Atomically Dispersed Ni Catalysts for Efficient Chlorine Evolution Reaction

S04-012

Guan Young Kim *(Chemistry, Seoul National University, Seoul, Korea)*, Jinjong Kim, Sang Hoon Joo

Intrinsic Activity Trend of Oxide-Supported Atomically Dispersed Catalysts for Selective Chlorine Evolution

S04-013

Ryo Kurihara *(RCSEC, Graduate School of Engineering Science, The University of Osaka, Toyonaka, Japan)*, Takashi Harada, Shuji Nakanishi, Kazuhide Kamiya

Mechanistic Insights into CO_2 Electroreduction to Multicarbon Products in Aqueous Electrolytes Containing Tetraalkylammonium Cations

S04-014

Zhiqin Liang *(School of Physics Science and Engineering, Beijing Jiaotong University, Beijing, China)*, Guoquan Ma

The Effect of Buffer Electrolyte on Proton-Coupled Electron Transfer Kinetics in Electrochemical Hydrogenation Reactions

S04-015

Niken T. Listyorini *(Chemical Engineering, The University of Queensland, Brisbane, Australia)*, Hizkia I. Vieri, Wei Bi, Simon Smart, Thomas E. Rufford

Influence of Catalyst Ink Processing and Ionomer Type on Colloidal Stability and Catalyst Layer Structure for CO_2 Electrolysis

S04-016

Weiqi Liu *(School of Chemical Engineering and Technology, China University of Mining and Technology, Xuzhou, China)*

Fluorination fine-tunes the electronic structure and hydrophobic microenvironment of metal-free nitrogen-doped carbon for efficient electrocatalytic CO_2 reduction

S04-017

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

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

S04-018

Xiangyun Ma *(Department of Chemistry, National University of Singapore, Singapore, Singapore)*, Yingqing Ou, Boon Siang Yeo

Tuning Proton Activity in Organic Electrolytes for Selective CO_2-to-Long-Chain Hydrocarbon Conversion

S04-019

Hai-bin Ma *(Department of chemistry, National University of Singapore, singapore, Singapore)*, Jordi Morales-Vidal, Núria López, Yeo Boon Siang, Jason

Steering Furfural Electroreduction to Furfuryl Alcohol over Ag–S Sites

S04-020

William McLeod *(School of Chemistry, University of Sydney, Camperdown, Australia)*, Haihui Joy Jiang

Magnetically Enhanced Electro-Organic Synthesis

S04-021

Pegah Nazari *(Chemistry, Aarhus university, Aarhus , Denmark)*, Guðrún Louise Maier, Kim Daasbjerg

Iodonium Mediated Covalent Bipyridine Coatings for Enhanced Stability and C^{2+} Selectivity on Copper

S04-022

Dipti R. Panigrahi *(Department of Chemistry, Shiv Nadar Institution of Eminence, Delhi NCR, India)*, Kotaro Takeyasu, Santosh K. Singh

Subsurface Graphitic Nitrogen Activates Protonated Pyridinic-N Sites for Acidic Oxygen Reduction

S04-023

Prathamesh Anandrao Patil *(Institute of Applied Physics, Technische Universität Wien, Vienna, Austria)*, Markus Ostermann, Julian Pichler, Parinya Tangpakonsab, Alexander Genest, Günther Rupprechter, Markus Valtiner, Christian Pichler

Mechanistic insights into the copper oxide reduction mechanism under electrochemical conditions with sub-nanometer depth resolution

S04-024

Naonari Sakamoto *(Energy Carrier Research-Domain,, Toyota Central R&D Labs., Inc., 41-1, Yokomichi, Nagakute, Japan)*, Keita Sekizawa, Soichi Shirai, Takamasa Nonaka, Takeo Arai, Shunsuke Sato, Takeshi Morikawa

Development of multinuclear Cu metal complex catalysts toward selective synthesis of C_{3+} products via CO_2 reduction reactions

S04-025

Sayoko Shironita *(Department of Materials Science and Bioengineering, Nagaoka University of Technology, Nagaoka, Japan)*, Takumi Ando, Minoru Umeda

Understanding Power Generation and Methane Production Mechanisms of H_2-CO_2 Polymer Electrolyte Membrane Fuel Cell

S04-026

Ayesha Siddique *(School of Mechanical and Mining Engineering (SoMME), The University of Queensland (UQ), Brisbane, Australia)*, Prof. Ruth Knibbe

Engineering Catalyst Electrolyte Interface to Enable Impurity-Tolerant Acidic CO_2 Electroreduction on Silver

S04-027

Hae Rim Sung *(Department of Chemistry, Seoul National University, Seoul, Korea)*, June Sung Lim, Sang Hoon Joo

Structural Evolution of Macrocycles Derived Atomically Dispersed Cobalt Catalysts for H_2O_2 via Acidic $2e^-$ Oxygen Reduction

S04-028

Soichiro Ueda *(RCSEC, Graduate School of Engineering Science, The University of Osaka, Toyonaka, Japan)*, Ryo Kurihara, Hazuki Irie, Shoko Nakahata, Takashi Harada, Shuji Nakanishi, Kazuhide Kamiya

Rational Design of Catalyst Layers for Efficient C_{2+} Formation in Pure-Water-Fed MEA CO_2 Electrolysis

S04-029

Hizkia Manuel Vieri *(School of Chemical Engineering, The University of Queensland, Brisbane, Australia)*, Princekumar Patel, Mohamed H. Ibrahim, Ruth Knibbe, Thomas E. Rufford

Additive-Controlled Electrodeposition of Silver Catalyst Layer for CO_2 to CO Electrolyser

S04-030

Kai Wei *(School of Chemistry and Materials Science, University of Science and Technology of China, Hefei, China)*, Junjie Ge

Electrocatalytic Microenvironments in Formic Acid Oxidation

S04-031

Kai Wei *(School of Chemistry and Materials Science, University of Science and Technology of China, Hefei, China)*, Junjie Ge

Hydrophilic Single-Atom Interface Empowered Pure Formic Acid Fuel Cells

S04-032

Lang Xu *(School of Chemical Engineering and Technology, China University of Mining and Technology, Xuzhou, China)*

Ordered Interfaces for Efficient Co-Electrolysis of CO_2 and H2O in Solid Oxide Electrolysis Cells

Symposium 5 Aqueous-based batteries and high-power devices

S05-001

Sheng-Chi Chen *(Department of Materials Engineering, Ming Chi University of Technology, New Taipei City, Taiwan)*, Nikita Yadav, Wei-Chun Cheng, Min-Chen Chuang, Chao-Kuang Wen, Mani Govindasamy, Sheng-Chi Chen

Pseudocapacitive Binder-Free Ag–Mo_2N Electrodes Deposited on Stainless Steel Mesh by DC Magnetron Co-Sputtering for Flexible Symmetric Supercapacitors

S05-002

Zihang Gao *(Chemical & Materials Engineering, University of Auckland, Auckland, New Zealand)*, Shanghai Wei

Water-Regulated Layered Manganese Oxide Cathodes for Rechargeable Aqueous Magnesium Batteries

S05-003

Florian Geißler *(Inorganic Chemistry I, Dresden University of Technology, Dresden, Germany)*, Ahmed Bahrawy, Nick Niese, Julia Grothe, Stefan Kaskel

An anthraquinone-based capacitor diode (CAPode) for logic gate application

S05-004

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

Electric Double Layer Evolution in Water-in-Salt Electrolytes: From Non-Porous to Porous Electrodes

S05-005

Yudai Hirano *(Department of Applied Chemistry, Meiji University, Kawasaki, Japan)*, Chika Usuda, Takafumi Ishii, Hirokazu Ishitobi

Correlation between Surface Oxygen Groups and Electrochemical Activity of Carbon Electrodes by Air Oxidation Conditions

S05-006

Hao-Lun Juan *(Chemical Engineering, National Cheng Kung University, Tainan, Taiwan)*, Hsisheng Teng

Interphase-Directed Electrolyte and Anode Prelithiation Engineering for Wide-Temperature Lithium-Ion Capacitors

S05-007

Dawid Kasprzak *(Department of Materials Engineering, KU Leuven, Bruges, Belgium)*, Junru Wang, Wim Thielemans, Veerle Vandeginste

Mitigating the Polyiodide Shuttle Effect in Zinc-Iodine Batteries via Sustainable Lignin-Cellulose Membranes

S05-008

Byung Gon Kim *(Department of Applied Chemistry, Kyung Hee University, Yongin-si, Korea)*

A Multifunctional Crosslinked F-Free Binder for MnO_2 Microparticle Thick Cathode in Aqueous Zinc-Ion Batteries

S05-009

Nindita Kirana *(Materials Science and Engineering, National Yang Ming Chiao Tung University, Hsinchu City, Taiwan)*, Nindita Kirana, Jagabandhu Patra, Che-Wei Yan, Jeng-Kuei Chang

Dual-Nitrile Electrolyte for High-Voltage, High-Reliability Carbon-Based Supercapacitors

S05-010

Shun Koizumi *(Applied Chemistry, Meiji University, Higashimita Tama-ku, Kawasaki, Japan)*, Keito Sawahara, Ryoichi Kanega, Takashi Funaki, Eiji Hosono, Yukari Sato, Hirokazu Ishitobi

Material Transport Analysis of a Novel Organic Active Material for Redox Flow Batteries

S05-011

Lingbin Kong *(Technology Department, Gansu Cell New Energy Technology Co. Ltd., Lanzhou, China)*, Yao Xu

High Performance Nickel Foam Based Electrochemical Ion Diodes

S05-012

Kanato Kubota *(Applied Chemistry, Meiji University, Kawasaki, Japan)*, Kaito Homma, Kotaro Takeyasu, Hirokazu Ishitobi

Electrochemical Characterization of Zinc-Air Flow Batteries Using Biomass-Derived Nitrogen-Doped Carbon

S05-013

Chin-Hao Liu *(Biomechatronics Engineering, National Taiwan University, Taipei, Taiwan)*

Pre-Coloring-Free All-Prussian Blue Analogue Tandem Electrochromic Batteries

S05-014

Nayeon Shin *(Department of Energy Engineering, Soonchunhyang University, Asan, Korea)*, Dongeun Choi, Suok Lee, A-Rang Jang

Kirkendall-Effect-Mediated Hollow Bimetallic Hexacyanoferrate Electrodes for High-Performance Aqueous Zinc-Ion Batteries

S05-015

HyeonJee Tak *(Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea)*, Changhyeon Lee, Kwangduck Seo

Dual-Functional Separator Engineering toward Stable Zinc Metal Anodes in Aqueous Zinc-ion Batteries

S05-016

Shoji Yamauchi *(Department of Applied Chemistry, Meiji University, Tokyo, Japan)*, Takeru Sasaki, Hidenori Ohashi, Hirokazu Ishitobi

Characterization of Plasma-induced Graft-Polymerized Fluorine-Free Membranes for Vanadium Redox Flow Batteries

Symposium 6 Advances in hydrogen production and utilisation

S06-001

Damian Alvarez *(Facultad de químcia y biolofía, Universidad de Santiago de Chile, santiago de chile, Chile)*, Dany Monje, Rubén Oñate Oñate, Alexis Aspée, Lisa Muñoz, Ingrid Ponce

Fabrication of PEDOT:PSS-Based Devices Doped with Chiral Co_3O_4 Nanoparticles for Energy-Related Reactions: HER and OER

S06-002

Ana Arenillas *(MATENERCAT, INCAR-CSIC, Oviedo, Spain)*, Francisco J. Ayllón, Natalia Rey-Raap

Microwave-Assisted Synthesis of Transition Metal Aerogels as Multifunctional Electrocatalysts for Electrolyzers and Fuel Cells

S06-003

Plamen Atanassov *(Chemical and Biomolecular Engineering, University of California Irvine, Irvine, USA)*, Alessio Cosenza

Mesoporous Carbon Supports with Controlled Pt Localization for High-Loading PEMFC Cathode Catalysts

S06-004

Bhavana Bhatt *(Australian Institute for Innovative Materials, University of Wollongong, Wollongong, Australia)*, Klaudia Wagner, Chong-Yong Lee, Gerhard F. Swiegers

Development of Thinner Zirfon-Type Inter-Electrode Separators for Capillary-fed Alkaline Water Electrolysis

S06-005

Emma Carstens *(Australian Institute for Innovative Materials, University of Wollongong, Wollongong, Australia)*, Klaudia Wagner, Gerhard Swiegers

A Novel Electrochemical Cell Design for Measuring Gas Crossover in Alkaline Water Electrolysis

S06-006

Hyeong Uk Cho *(Energy Engineering, Gyeongsang National University, 6, Naedong-ro 139beon-gil, Naedong-myeon, Jinju-si,, Korea)*, Jae Un Jeong

Study on Multi-dimensional CFD simulation in HT-PEMFC

S06-007

Young-Woo Choi *(Hydrogen Research Department, Korea Institute of energy Research, Daejeon, Korea)*, Eun-Woo Lee, Jae-Hun Lee, Jong-Hak Kim, Young-Woo Choi

High performing ion solvating membrane with rigid polymer backbones for alkaline water electrolysis

S06-008

Max Court *(School of Engineering and Material Science, Queen Mary University of London, London, United Kingdom)*, Chloe Forrester, James Durrant, Joe Briscoe

Development of Ferroelectric – photocatalyst coupled nanocomposites for enhanced solar fuel generation

S06-009

Bezawit Zerihun Desalegn *(Chemical Engineering, Hanyang University, Seoul, Korea)*

In-Situ Basicity Manipulation in a Self-Regulated Electrode for Simultaneous Carboxylic acid and H2 Production at the Anode

S06-010

Sorato Doshida *(Dept. Electrical, Electronic & Communication Eng., Chuo University, Tokyo, Japan)*, Mariko Matsunaga

Impact of Bilayer Mesoporous Platinum Electrodes with Different Pore Sizes on the Hydrogen Evolution Reaction

S06-011

Min Seok Gi *(Graduate School of Convergence Technology and Energy, Tech University of Korea, Siheung-si, Korea)*, Dae Hyun Lee, Sung Bin Park, Ji Eun Park

Investigation of the Effect of Pore Structures in Ni Foam as Electrode and Porous-transport Layer on AEMWE Performance

S06-012

Ahmad Hamadi *(Department of Chemistry, University of Warwick, coventry, United Kingdom)*

A New Acid Resilient Barium Iridate as an Electrocatalyst for Water Splitting

S06-013

Tianyi Han *(School of Vehicle and Mobility, Tsinghua University, Beijing, China)*, Liangfei Xu, Zunyan Hu, Jianqiu Li, Minggao Ouyang

Engineering Homogeneous Ionomer Distribution with a Sulfonated Additive for High-Oxygen-Permeability Catalyst Layers in Fuel Cells

S06-014

Gareth Hart *(Department of Chemistry, University of Warwick, Coventry, United Kingdom)*, Chris Zalitis, Gary Evans, Jamie Stevens, Richard Walton

Enabling the Hydrogen Economy: Improving Electrocatalyst Performance and Reducing Iridium Content Through Materials Discovery

S06-015

Miftakhul Huda *(Chemical Systems Engineering, Graduate School of Engineering, Nagoya University, Nagoya, Japan)*, Miftakhul Huda, Yukang Qian, Nagahiro Saito, Masaya Kawasumi, Yutaka Matsuo

Synthesis of Carbon-Shell-Encapsulated L10-Structured Pt–Co Alloy Electrocatalyst via Solution Plasma for Polymer Electrolyte Fuel Cell Application

S06-016

Gazi Jahirul Islam *(Chemistry, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia)*, Abdul Rahman Faisal Al-Betar, Abdulmajid A. Mirghni

Palladium-Modified Stainless-Steel Mesh as an Efficient Electrode for the Hydrogen Evolution Reaction

S06-017

Jae Un Jeong *(Energy System Engineering, Gyeongsang National University, Jinju, Korea)*

Study on Hydrodynamic Efficiency Optimization of ZGAWE Using CFD

S06-018

Hemi Johnson *(Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Mathieu Sellier, Aaron Marshall

CFD Insights into Bubble Growth, Detachment, and Active Forces in Alkaline Electrolysis

S06-019

MinJoong Kim *(Materials Science and Engineering, Kyung Hee University, Yongin-si, Korea)*, Jooyoung Shin, Gi Hong Jeong, Gisu Doo

Interface Engineering of the Electrode–PTL Assembly for Ion-Exchange Membrane Low-Temperature Water Electrolysis

S06-020

Jaehwan Kim *(Department of Chemistry, Seoul National University, Seoul, Korea)*, June Sung Lim, Sang Hoon Joo

Synthesis of Scandium Alloyed Ruthenium Oxides for Stable Acidic Oxygen Evolution Reaction

S06-021

Tae-Ho Kim *(Hydrogen Energy Research Center, Korea Research Institute of Chemical Technology (KRICT), Daejeon, Korea)*, Yuho Song

Hierarchically Structured Diaphragms via Phase Separation Control for High-Performance Alkaline Water Electrolysis

S06-022

Sang-Kyung Kim *(PEM Electrolyser Research Team, Korea Institute of Energy Research, Daejeon, Korea)*, Thanh Thien Phan, Jongsu Seo, Gisu Doo

Sputtered Pt Interlayer on Catalyst-Coated Membrane for Improved Performance and Durability of Low-Ir PEM Water Electrolyzers

S06-023

Minseok Ko *(Department of Chemistry, Seoul National University, Seoul, Korea)*, Sang Hoong Joo

Highly Dense, Sub-3 nm Intermetallic Nanoparticles by Nanoconfinement for Efficient Oxygen Reduction Reaction

S06-024

So Young Lee *(Center for Hydrogen and Fuel Cells, Clean Hydrogen Institute, Korea Institute of Science and Technology, Seoul, Korea)*, Yunah Kim, Haeryang Lim, Jinju Ahn, Sung Yong Cho, Seungkyu Choi, Wangyun Won, Sungchul Lee

A Multifunctional Cathode Interlayer for Coupled Water Retention and Radical Suppression in PEMFCs

S06-025

Linjun Li *(Advanced Materials Center, Research Institute of Zhejiang University-Taizhou, Taizhou City, China)*

Effect of group 1 elements on the electrolyte properties of 8YSZ in solid oxide fuel cells

S06-026

Katie Lim *(Center for Hydrogen and Fuel Cells, Clean Hydrogen Institute, Korea Institute of Science and Technology, Seoul, Korea)*, Gyeongseok Gwak, Jong Geun Seong, Sunjin Park, So Young Lee

Multifunctional Matrix Electrode Design for Durable Low-Pt High-Temperature PEM Fuel Cells

S06-027

Haoyun Liu *(School of Vehicle and Mobility, Tsinghua University, Beijing, China)*, Liangfei Xu, Zunyan Hu, Jianqiu Li, Minggao Ouyang

A Novel Synthesis Strategy of Prussian Blue Incorporated PEMs with High Durability and Performance

S06-028

Charlotte MacFarquhar *(Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Aaron Marshall

Bubble Nucleation on Porous Electrodes

S06-029

Yoshihiro Mugikura *(Energy Transformation Research Laboratory, Central Research Institute of Electric Power Industry, Yokosuka shi, Japan)*, Takumi Imabayashi, Takayuki Ozeki, Tohru Yamamoto, Koichi Asano

Development of Performance Evaluation Method for High Temperature Steam Electrolysis by SOECs

S06-030

Isabella Nicotera *(Chemistry and Chemical Technologies, University of Calabria, Rende, Italy)*, Daniela Barragàn, Martina De Bonis, Habib M. Ur Rehman, Cataldo Simari, Isabella Nicotera

Hybrid Nanocomposite Membranes for Enhanced Performance in Reversible PEM Fuel Cells

S06-031

Junhee Park *(Environmental Engineering, Seoul National University of Science and Technology, Seoul, Korea)*, Muthuraman Govindan

Open Catalyst Project-Guided Screening and Experimental Validation of Metal Oxide Interfacial Catalysts for Hydrogen Evolution

S06-032

Junhui Park *(Environmental Engineering, Seoul National University of Science and Technology, Seoul, Korea)*, Muthuraman Govindan

Open Catalyst Project-Guided Screening and Experimental Validation of Metal Oxide Interfacial Catalysts for Hydrogen Evolution

S06-033

Jiyoung Park *(Hydrogen Powertrain R&D Division, Korea Automotive Technology Institute, Cheon-an si, Korea)*, Kyunghoon Park, Seohee Lim

Flow Field Design for Enhanced Performance and Durability of PEMFCs During 105 °C Operation

S06-034

Chi hoon Park *(Dept. of Energy Engineering, Gyeongsang National University, Jinju, Korea)*

Multiscale Simulation Studies on Hydrogen Energy Materials and Systems

S06-035

Yeji Park *(Hydrogen&Fuel Cell Research Center, Korea Institute of Science and Technology, Seoul, Korea)*, Sung Jong Yoo

Interfacial Oxygen Vacancy-Induced Ordering of Pt_3(Co,Mn) Intermetallics for Durable Fuel Cell Cathodes

S06-036

Masaki Sato *(Major in Applied Chemistry, Seikei University, Musashino-shi, Japan)*, Rikuya Yago, Shota Azuma, Fumisato Ozawa, Morihiro Saito

Development of a Porous Mn-doped RuO_2 Nanosheet-based Catalyst via a Blowing Method: Enhanced Activity and Durability for OER in Alkaline Media

S06-037

Young Jin Seo *(Energy System Engineering, Gyeongsang National University, , Korea)*, Chi Hoon Park

Study on Hydrogen Energy Systems Utilizing Molecular Dynamics Simulations

S06-038

Jong Geun Seong *(Center for Hydrogen and Fuel Cells, Korea Institute of Science and Technology (KIST), Seoul, Korea)*, Young Bin Choi, Ju Yeon Lee, Young Moo Lee, So Young Lee

Thin-Film-Assembled Zirfon/Polymer Hybrid Membranes for Durable Hydrogen Production and Utilization

S06-039

Ikko Shito *(Graduate School of Science and Technology, Kwansei Gakuin University, Sanda , Japan)*, Kohei Miwa, Kaito Matsuo, Kei Yokoyama, Hirofumi Yoshikawa, Hirohisa Tanaka

Research on oxygen reduction reaction mechanisms without harmful intermediates and catalyst development

S06-040

Mateusz Szczerba *(Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Faculty of Chemistry, Krakow, Poland)*, Olga Chernyayeva, Grzegorz D. Sulka

Hydrothermal Design of Self-Supported Mixed-Chalcogenide Electrodes for Hydrogen Evolution

S06-041

Rino Terada *(Department of Engineering, University of Yamanashi, Kofu, Japan)*, Soichiro Natori, Katsuyoshi Kakinuma, Makoto Uchida, Kenji Miyatake

Synthesis and Properties of Novel Fluorine-Free Anion-Conducting Polymers

S06-042

Takuya Tsujiguchi *(Faculty of Mechanical Engineering, Institute of Science and, Kanazawa University, Kanazawa, Japan)*, Madihah Miskan, Shinji Niimi, Yugo Osaka, Akio Kodama

Performance Improvement of Direct Formic Acid Fuel Cells under Air Operation via Cathode MPL Optimization

S06-043

Vincent Vivier *(aLaboratoire de Réactivité de Surface, Sorbonne Université - CNRS, Paris, France)*, Youssef Kharchouf, Loïc Assaud, Mireille Turmine

Why PEM electrolyzers lose performance: Morphology driven multiphase transport losses in agind PTLs

S06-044

Rikuya Yago *(Graduate School of Science and Engineering, Seikei University, Musashino-shi, Japan)*, Masaki Sato, Shota Azuma, Fumisato Ozawa, Morihiro Saito

Porosity and Surface Phosphidation Effects on Ni/Fe Catalysts for Efficient Oxygen Evolution in Alkaline Water Electrolysis

S06-045

Jimun Yoo *(Institute for a sustainable Hydrogen Economy (IHE-1), Forschungszentrum Jülich, Jülich, Germany)*, Zixi Liang, Regina Palkovits, Hans-Georg Steinrück

Thermocatalytic Dehydrogenation Promoted by Electrochemistry

S06-046

Duk Man Yu *(Hydrogen Energy Research Center, Korea Research Institute of Chemical Technology, Daejeon, Korea)*, Yi Sak Noh, Hwan Yeop Jeong

Sonic Spray Engineering toward Minimal Ionomer Coating on Porous Transport Layers for High-Performance PEM Water Electrolysis

S06-047

Hafiza Komal Zafar *(School of Chemistry, University of New South Wales , Sydney, Australia)*, Hafiza Komal Zafar, Qinyu Li, Justin Gooding, Richard Tilley

Dopant-Induced Active Site Engineering in Cobalt and Copper Doped Fe_3O_4 Nanoparticles for Enhanced Oxygen Evolution Reaction

S06-048

Jiang Zinan *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*

Reconciling Activity and Durability in Acidic Oxygen Evolution via RuO_2-Co_3O_4 Heterostructures

Symposium 7 Novel materials for lithium and beyond lithium batteries

S07-001

Ana Arenillas *(MATENERCAT, INCAR-CSIC, Oviedo, Spain)*, David García-Pérez, Julia Trojaola-Gutiérrez, Nuria Cuesta, Belén Lobato, Natalia Rey-Raap, Ana B. García, Ignacio Cameán

Synthetic Carbon Materials for Electrochemical Energy Storage Systems

S07-002

Kyosuke Asao *(Faculty of Science and Technology, Seikei University, Tokyo, Japan)*, Fumisato Ozawa, Takaichi Watanabe, Morihiro Saito

Fabrication and Performance Evaluation of Lithium Metal Batteries Using Double-Network Ion-Gel Electrolytes

S07-003

Shota Azuma *(Faculty of Science and Technology, Seikei University, 3-3-1 Kichijoji-Kitamachi, Musashino-shi, Japan)*, Naoya Miyashita, Morihiro Saito

Interfacial Resistance Reduction in NMC622 Cathodes via Al-ion Surface Implantation for Li-ion Batteries

S07-004

Yi-Yu Chen *(Department of Chemical and Materials Engineering, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan)*, Yi-Yu Chen, Chun-I Lee, Bing-Joe Hwang, Chun-Jern Pan

FEC-Enabled Interfacial Stabilization in a LiOTF/$LiNO_3$ Dual-Salt Sulfolane-Based Nonflammable Electrolyte for Lithium Metal Batteries

S07-005

Lin-Chi Chen *(Biomechatronics Engineering, National Taiwan University, Taipei, Taiwan)*

CuHCF thin-Film cathode Prepared by Electrochemical Substitution of Prussian Blue

S07-006

Changguo Chen *(Department of Applied Chemistry, Chongqing University, Chongqing, China)*

Electrochemical Behavior of Polyaniline Intercalated with V_2O_5 for Zinc-Ion Battery

S07-007

Qian Cheng *(Department of Applied Physics, Hong Kong Polytechnic University, Hong Kong, China)*

Biomimetic Ion Channel Design for Simultaneous Lithium-Ion Flux Regulation and Interfacial Stabilization in Lithium Metal Batteries

S07-008

Jun Ho Cho *(Department of Chemical Engineering, Kyung Hee University, 17104 Yongin, Korea)*, Chang Woo Lee

High-valence Doping Strategy for Enhanced Structural Stability and Electrochemical Performance of Li-rich Layered Oxides

S07-009

Min Seo Cho *(Graduate School of Convergence Technology and Energy, Tech University of Korea, Siheung-si, Korea)*, Ji Heon Ryu

Localized Scratch Defects in Graphite Negative Electrodes as Direct Triggers of Lithium Plating

S07-010

Ya-Ping Deng *(Chemistry, Xiamen University, Xiamen, China)*, Ling Huang, Shi-Gang Sun

Dynamic anode/cathode-electrolyte interphase for Lithium metal batteries

S07-011

Adil Fayaz *(Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore, India)*, Guruprasad Gowda, Gargi Dey, Srinivasan Sampath

Redox Inactive Metal Coordination Polymers for Rechargeable Batteries: A Case ofMagnesium Ellagate as Highly Stable and Durable Anode for Lithium-ion Batteries

S07-012

Zhaoyang Feng *(Laboratory of Advanced Materials, Fudan University, Shanghai, China)*, Tao Huang, Aishui Yu

Dual-Functional Interface Reconstruction via Residual Lithium Conversion for Ni-Rich Cathodes

S07-013

Natalia Firlej *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Alicja Głaszczka-Ciftci, Michał Grygiel, Magdalena Winkowska-Struzik, Andrzej Czerwiński, Dominika A. Buchberger

Core-Shell and Gradient Formation in Ni-Rich NMC Cathodes with Co-Enriched Surface

S07-014

K. Waruni Perera Gangodawilage *(Institute for Frontier Materials, Deakin University, Melbourne, Australia)*, Robert Kerr, Bart Kolodziejczyk, Faezeh Makhlooghi Azad

Prussian Blue Analogue as a Cathode Material for Proton Batteries

S07-015

Hyunji Im *(Nano Science and Technology, Sungkyunkwan University, Suwon, Korea)*, Min Sun Kim, Kanglee Park, Young-Jun Kim

Degradation Mechanisms of Fast-Charging Graphite/Si-C Anodes for Lithium-Ion Batteries: The Role of Electrode- and Particle-Level Heterogeneity

S07-016

Sang Mun Jeong *(Department of Chemical Engineering, Chungbuk National University, Cheongju, Korea)*, Seung U Chun, Young-Sang Yu, See Hoon Lee, Gi Dae Park, Jung Min Sohn

One-Step Lithiation Strategy with Lithium Flux for Co-Free Single-Crystal Ni-Rich Cathodes

S07-017

Seung Yol Jeong *(Korea Electrotechnology Research Institute (KERI), Institute/Nano Hybrid Technology Research Center, Changwon-si, Korea)*, Ki-hun Nam, Sunhye Yang, Sang-gil Kim, Myung-jun Hwang

Interfacial charge-transfer kinetics of silicon anodes enhanced by quasi-defect-free graphene networks

S07-018

Tianqi Jia *(School of Chemistry, University of Sydney, Camperdown, Australia)*, Tongjun Luo, Wesley Dose

A Mild and Efficient Pre-Sodiation Approach to Increase Sodium Inventory in Sodium-Ion Batteries

S07-019

Xuheng Jiang *(School of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, Shanghai, China)*, Qinfeng Zheng, Shun Zheng, Zuojun Yang, Yixiao Zhang, Xi Liu, Liwei Chen

Enhanced Oxygen Redox Reversibility and Structural Stability in Li_2MnO_3 Cathode Material via High-Entropy Stabilization

S07-020

Hyun Young Jung *(Energy Engineering, Gyeongsang National University, Jinju-si, Korea)*, Hee-Jun Kim

Phase Evolution Control in Thick, Low-Tortuosity Sulfur Cathodes Enabled by Lithium Additives for Lean Li-S Systems

S07-021

Hyun Young Jung *(Energy Engineering, Gyeongsang National University, Jinju-si, Korea)*, Hun-Seong Kim

Advanced rGO@VN Separator Architecture for Polysulfide Control and Performance Enhancement in Sodium-Sulfur Batteries

S07-022

Byung Mun Jung *(Composites & Convergence Materials Research Division, Korea Institute of Materials Science, Changwon, Korea)*

Tunable Surface Termination in MXene Composite Anodes for High-Performance Lithium-Ion Batteries

S07-023

Hagar K. Hassan *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Iván Villalva-Mejorada, Timo Jacob

Rational Optimization and Interface Regulation of Solid Polymer Electrolytes for Rechargeable Sodium Batteries

S07-024

Seungmok KANG *(Nano Science and Technology, Sungkyunkwan University, Suwon-si, Korea)*, Jaekwon Seo, Hyohyun Jung, Young-Jun Kim

Resolving the Kinetic Dilemma in Solid-State Synthesis of Large Single-Crystalline NCM622 Cathodes via Alkali-Ion Mediated Grain Growth and Compositional Uniformity Control

S07-025

Woo-Jin Kang *(Battery Materials and Process Research Center, Korea Electrotechnology Research Institute (KERI), Changwon, Korea)*

Efficient Strategy for Upcycling Scrap Black Mass into Single-Crystal Layered Cathode Materials for Li-ion Batteries via Spike Sintering

S07-026

Shota Kato *(Graduate School of Engineering, Department of Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan)*

Investigation of Initial Irreversible Capacity of Li/TiF_3 Battery Using NaI-$NaBH_4$-LiI Solid Electrolyte

S07-027

Tae-Hee Kim *(School of Energy and Chemical Engineering, University of Ulsan, Ulsan, Korea)*

Dual Enhancement of Ionic Conductivity and Dendrite Suppression in PVdF-HFP Solid Electrolytes via Hexagonal Boron Nitride Integration

S07-028

Gyu Hwan Kim *(Battery Engineering, , Seoul, Korea)*, Yang Kook Sun

Redefining Aluminum Homogeneity in Ni-rich NCA Cathodes: Grain-Boundary-Segregated Al for Superior Performance

S07-029

Hyeon Sik Kim *(Battery Engineering, Hanyang University, Seoul, Korea)*, Yang Kook Sun

Dual Doping Strategy for Enhancing Structural and Microstructural Stability of Ni-Rich Cathodes

S07-030

Cheng-Lin Ko *(School of Mechanical and Minning Engineering, The University of Queensland, Brisbane, Australia)*

Abstract 1: PVDF-Induced NaF-Rich Solid-Electrolyte Interphase for Anode-Less Na Metal Batteries

S07-031

Nico Kokott *(Institute of Organic Chemistry II and Advanced Materials, Ulm University, Ulm, Germany)*, Birgit Esser

Polymeric and Covalent Organic Framework-Based Pyrene-4,5,9,10-tetraone Positive Electrodes for Rechargeable Aluminum Batteries

S07-032

Widi Kurniawati *(Institute for Frontier Materials, Deakin University, Burwood, Australia)*, Jacob Olchowka, Laurence Croguennec, Jennifer M. Pringle

Towards a New Class of Quasi-Solid Electrolytes Based on OIPCs: Molecular-to-Device Level Investigation of the Superconcentrated Regime

S07-033

Taeyun Kwon *(Materials Science and Engineering, Myongji University, Yongin, Korea)*, Myungje Lee, Sangeun Kim

Quantifying 3D Si Volume Fraction and Local Hardness in Micron-Scale Silicon-Alloy Anode Powders via Correlative Tomography and Nanoindentation

S07-034

Thomas J. Leckie *(Department of Chemical & Process Engineering, University of Strathclyde, Glasgow, United Kingdom)*, Niall Dalton, Pasidu Pallawela, Stuart D. Robertson, Edward Brightman

Understanding the SEI formation in Lithium Polysulfide Flow Batteries

S07-035

Myungje Lee *(Materials Science and Engineering, Myongji University, Yongin, Korea)*, Taeyun Kwon, Sangeun Kim

Effect of Amorphous Matrix on the Mechanical and Electrochemical Performance of Si–Al–Ti–Co Alloy Anodes

S07-036

You-Jin Lee *(Next Generation Battery Research Center, Korea Electrotechnology Research Institute (KERI), Changwon, Korea)*, Yuyi Jeon, Yunjung Shin, Hae-Young Choi, Jun-Woo Park, Doohun Kim, Seung-Wook Eom

Nitrogen-Doped Vertically Aligned Carbon Nanotube Hosts for Stable Lithium Metal Anodes in Lithium–Sulfur Batteries

S07-037

Chang Woo Lee *(Department of Chemical Engineering, Kyung Hee University, 17104 Yongin, Korea)*, Du Hyun Roh, Jun Yeop Lee, Chang Woo Lee

Structural Insights and Enhanced Ion Transport Kinetics in Olivine-Structured Cathodes via Doping with Post-Transition Metals

S07-038

HyoChan Lee *(Energy & Nano Technology Group, Korea Institute of Industrial Technology (KITECH), Gwangju, Korea)*, Hyochan Lee, Hajin Lee, Jeewoon Jung, Young-Woong Song, Jinsub Lim, Jaekook Kim, Min-Young Kim

Composition-Dependent Performance of Ga-Rb Co-Doped LLZO/PEO Composite Solid Electrolytes

S07-039

Hajin Lee *(Energy & Nano Technology Group, Korea Institute of Industrial Technology (KITECH), Gwangju, Korea)*, Hajin Lee, Young-Woong Song, Hyochan Lee, Jeewoon Jung, Min-Young Kim, Sun-Ju Song, Jinsub Lim

Direct Regeneration of Spent NCM Cathodes via Solvothermal Process

S07-040

Jakub Leščinský *(Department of Physical Chemistry, Pavol Jozef Šafárik University, Košice, Slovakia)*, Veronika Niščáková, Andrea Straková Fedorková

Mechanochemically Derived DOPO-Based Flame Retardants in PVDF-HFP Polymer Electrolytes for Lithium–Sulfur Batteries

S07-041

Jiaxing *(Gaaseng)* **Liang** *(CSIRO Manufacturing, CSIRO, Clayton, Australia)*, Zara Rizwan, Dean Glass, Anthony F. Hollenkamp, Adam S. Best

The Interplay between Morphology and Electrochemical Behaviour of Layered $NaNi_{1/3}Fe_{1/3}Mn_{1/3}O_2$ for Na-Ion Batteries

S07-042

Wenjun Lin *(Chemistry, Fudan University, Shanghai, China)*

Inorganic Fillers Tailored Li^+ Solvation Sheath for Stable Lithium Metal Batteries

S07-043

Yao Liu *(Applied Physics, The Hong Kong Polytechnic University, Hong Kong, China)*

Multifunctional Interlayer Design for High-Performance All-Solid-State Li-Metal Batteries

S07-044

Feng-Qi Lu *(Department of Materials Science and Engineering, National Tsing Hua University, Hsinchu, Taiwan)*, Han-Yi Chen

Electrospun-Composite Solid Electrolyte for Anode-free Solid-State Lithium Batteries

S07-045

Wern Huay Mah *(Institute for Frontier Materials, Deakin University, Burwood, Australia)*, Jhonatan Soto Puelles, Julius Tiongson, Sreehari Batni Ravindranath, Fangfang Chen, Luke O'Dell, Jenny Pringle

Towards Fluorine-Free Electrolytes: Physicochemical Properties and Interactions in Acesulfame-Based Ionic Electrolytes

S07-046

Naoki Matsuoka *(Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan)*, Naoki Matsuoka, Reona Miyazaki, Takehiko Hihara

Battery Performances of Li/TiF_4 All-Solid-State Batteries Using Li^+/Na^+ Mixed Iodide Solid Electrolyte

S07-047

Seyed Esmaeil Mohammadi Pourhosseini *(Chemistry, ANU, Canberra, Australia)*, Seyes Esmaeil Mohammadi Pourhosseini, Thrinathreddy Ramireddy, Alexey M. Glushenkov

A Comparative EIS and In-situ XRD Study of Lithium and Potassium Intercalation into Graphite for Hybrid Capacitor Applications

S07-048

Janghyuk Moon *(Department of Energy Systems Engineering, Chung-Ang University, Seoul, Korea)*, Hongjun Chang, Na Yeon Kim

Molecular Dynamics Study of Configurational-Entropy-Driven Ion Transport in Multi-Salt High-Entropy Electrolytes

S07-049

Isabel H. Morhenn *(Institute of Organic Chemistry II and Advanced Materials, Ulm University, Ulm, Germany)*

Chloride Compatibility of Organic Battery Electrode Materials

S07-050

Ki-Hun Nam *(Battery Research Division, Korea Electrotechnology Research Institute (KERI), Changwon, Korea)*, Sunhye Yang, Ick-Jun Kim, Seung Yol Jeong

Pressure-Induced In Situ Lithiation of Sn Interlayers for All-Solid-State Li-Metal Batteries

S07-051

Soma Nishimura *(Graduate School of Engineering, Nagoya Institute of Technology, Nagoya, Japan)*, Soma Nishimura, Reona Miyazaki, Tsutomu Nishizaki, Toshihiro Yoshida

Ion Conduction Properties of Li_3AlF_6 with Al^{3+} Vacancies

S07-052

Kiho Nishioka *(Department of Materials Science and Engineering, Kyoto University, Kyoto, Japan)*, Shuji Nakanishi

Molecular Design of Amide and Sulfonamide Electrolytes for Lithium–Oxygen Batteries

S07-053

Min Su Oh *(Graduate School of Convergence Technology and Energy, Tech University of Korea, Siheung-si, Korea)*, Kyeongjun Seo, Ji Heon Ryu

Quantitative Analysis of Electrode and Cell Design Factors in Lithium-Ion Batteries Using Machine Learning

S07-054

Ipsita Pal *(School of Chemical Engineering, University of New South Wales, Sydney, Australia)*

Understanding Lithium deposition in anode-free lithium metal batteries

S07-055

Ananya Panda *(Department of Materials Science and Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan)*, Jagabandhu Patra, Jeng-Kuei Chang

Enhanced Lithium-Ion Conductivity of $Li_7La_3Zr_2O_{12}$ via Oxygen Vacancy Tuning for Scalable Solid-State Lithium Batteries

S07-056

Kang Min Park *(Graduate School of Convergence Technology and Energy, Tech University of Korea, Siheung-si, Korea)*, Min Seo Cho, Seung Ho Choi, Ji Heon Ryu

Solution Chemistry-Driven $FePO_4$ Precursor Formation for $LiFePO_4$ Positive Electrodes

S07-057

Ji Su Park *(Graduate School of Convergence Technology and Energy, Tech University of Korea, Siheung-si, Korea)*, Ji Heon Ryu

Understanding Localized Defects in Lithium-Ion Batteries through a Parallel Cell Model

S07-058

Ji Su Park *(Graduate School of Convergence Technology and Energy, Tech University of Korea, Siheung-si, Korea)*, Sang Jun Yeo, Ji Heon Ryu

Electrochemical Characterization of Silicon-Based Negative Electrodes under Controlled Reaction Conditions

S07-059

Seongbae Park *(SKKU Institute of Nanoscience and Technology, Sungkyunkwan University, Suwon, Korea)*, Younghoon Jo, Dokyung Kim, Young-Jun Kim

Understanding Internal Pressure Evolution in Anode-Free Solid-State Batteries for Pressure-Aware Evaluation

S07-060

Du Hyun Roh *(Department of Chemical Engineering, Kyung Hee University , 17104 Yongin, Korea)*, Chang Woo Lee

Interfacial Engineering of Ni-rich NCM via Integration with Olivine LMFP for Improved Electrochemical Stability

S07-061

Kwnag Sun Ryu *(Chemistry, University of Ulsan, Ulsan, Korea)*

Effect of Oxygen Doping on the Structural and Electrochemical Properties of $Li_7P_2S_8I$ Solid Electrolytes for All-Solid-State Lithium Batteries

S07-062

Morihiro Saito *(Department of Science and Technology, Seikei University, Musashino-shi, Japan)*, Morihiro Saito, Ritsuki Shirane, Shota Azuma, Fumisato Ozawa, Akihiro Nomura

Effects of Microphase-separated Electrolyte Solutions Providing High O_2 Solubility for Rechargeable Li-air Batteries

S07-063

Hajin Seo *(Department of Battery Convergence Engineering, Kangwon National University, Chuncheon, Korea)*, Hajin Seo, Sangbeom Kim, Seonho Kim, Sanghyeok Moon, Yong-Keun Choi, Youngjin Kim

Cellulose-Based Per- and polyfluoroalkyl substances (PFAS)-free Binder for LIB High-Nickel Cathodes

S07-064

Kwangduck Seo *(Materials Science & Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea)*, Changhyeon Lee, HyeonJee Tak, KwangSup Eom

Design of P2-$Na_{2/3}Ni_{1/3}Mn_{2/3}O_2$ Cathodes with Enhanced Rate Capability via Preferential Exposure of Electrochemically Active 010 Facets for Sodium-Ion Batteries

S07-065

Seong-Ju Sim *(Battery Research Division, Korea Electrotechnology Research Institute, Changwon-si, Korea)*, Hyun-Soo Kim

Enhancing High-Voltage Performance of Single-Crystal Mid-Ni NCM Cathodes via Optimized Calcination Strategies

S07-066

Konosuke Taniguchi *(Applied chemistry and chemical engineering, Graduate school of Kogakuin University, Tokyo, Hachioji, Japan)*, Yoshiki Yokoyama, Shiro Seki

Optimization of Nitrile-based Electrolyte Composition for high-rate sodium-ion battery

S07-067

Hiroyuki Ueda *(Institute for Frontier Materials (IFM), Deakin University, Burwood, Australia)*, Juliane Fraisse, Daheng Ou, Faezeh Makhlooghiazad

Graphene-oxide-doped Poly(ionic liquid)-based Solid-electrolyte Thin Films for Solid-state Batteries

S07-068

Dinushi Nayanthara Fernando Vidanalage *(Institute for Frontier Materials, Deakin University, Burwood, Australia)*, Xiao Tan, Robert Kerr, Faezeh Makhlooghiazad

Water-Insoluble Protic Polymerized Ionic Liquids as Proton-Conductive Electrolytes for Proton Batteries

S07-069

Yulun Wu *(Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong, China)*, Xueyang Li, Zezhou Lin, Huangxu Li, Haitao Huang

Suppressing Intrinsic Anti-Site Defects in Vanadium-free NASICON Cathodes towards High-Energy Density Na-ion Batteries

S07-070

Qingbing Xia *(School of Mechanical and Mining Engineering, The University of Queensland, Brisbane, Australia)*, Ruth Knibbe

Zero-Strain Electrode Design and Interfacial Chemistry Regulation for High-Performance Sodium-Ion Batteries

S07-071

Xiaoming YU *(Department of Applied Physics, The Hong Kong Polytechnic University, Kowloon, China)*, Hao Li, Kuan Liang, Yan Liu, Xi Gong, Xiaorong Lin, Ye Zhu, Haitao Huang

Oxygen Bridges Enhance the Interaction of N-doped Mesoporous Carbon Coupled with MXene for Polysulfides

S07-072

Rashmi Yadav *(Chemistry, IIT BHU, VARANASI, IIT BHU VARANASI, India)*, Ankush Kumar Singh, Madhurja Buragohain, Sooraj Kunnikuruvan, Rosy.

Bi-Functional Role of gCN Coated Separators in Stabilizing Lithium Metal Anodes

S07-073

Jaya Yadav *(Materials Research Centre, Indian Institute of Science, Bangalore, Bangalore, India)*, Sai P. Vanam, Alexander Golubnichiy, Artem M. Abakumov, Sirshendu Dinda, Nikhil Doddi, Velaga Srihari, Valerie Pralong, Maximilian Fichtner, Prabeer Barpanda

Structure, Electrochemical and Phase Transformation Studies on Tunnel-Structured $Li_{0.44}MnO_2$ Li-Ion Battery Cathode

S07-074

Sunhye Yang *(Battery Research Division, Korea Electrotechnology Research Institute (KERI), Changwon, Korea)*, Seung Yol Jeong, Ick-Jun Kim, Ki-Hun Nam, Sang-Gil Kim, Myung-Jun Hwang

High-Entropy Alloying with Hierarchical Carbon Encapsulation: A Design Strategy for Stabilizing High-Performance Silicon Anodes

S07-075

Kyeongwon Yoon *(Department of Battery Engineering, Hanyang University, Seoul, Korea)*, Yang-Kook Sun

Engineering Homogeneity of Primary Particles to Control the Grain Coarsening in Ni-Rich Cathodes

S07-076

Yuan Zhang *(Materials Science and Engineering College, Southeast University, Nanjing, China)*, Long Pan, ZhengMing Sun

Dual Interlocked Mediators Enable Single-Ion-Conducting Quasi-Solid-State Electrolytes for Ultrafast-Charging Long-Life Sodium Metal Batteries

S07-077

Xingyu Zhou *(School of Vehicle and Mobility, Tsinghua University, Beijing, China)*, Xuebing Han, Minggao Ouyang

A Multi-Source, Multi-Scale, and Multi-Modal Information Extraction Framework for Solid-State Electrolytes Based on Large Language Models

S07-078

Ji Eun Lee *(Department of Chemical Engineering, Chonnam National University, Gwangju, Korea)*, Kiseok Lee, Eun Ji Lee, Hyung-Kyu Lim

Ammonium Vanadium Oxide Nanobelt–Carbon Hybrid Hosts for Accelerated Polysulfide Redox and High-Performance Lithium–Sulfur Batteries

Symposium 8 Progress in surface modification and corrosion mitigation

S08-001

Alexandre Bastos *(Department of Materials and Ceramic Engineering, University of Aveiro, Aveiro, Portugal)*

Impedance Response of Pitted Copper

S08-002

Xin Guo *(School of Engineering, College of Systems and Society, The Australian National University, Canberra, Australia)*, Qiushi Deng, Ernane de Freitas Martins, Ivan Cole

Towards Automated Discovery of Corrosion Inhibitors: Current Progress and Challenges

S08-003

Juyoung Huh *(2066, Seobu-ro, Jangan-gu, Sungkyunkwan University, Suwon, Korea)*, Byoungdeog Choi

Surface-Chemistry-Controlled Unified Patterning of Heterogeneous DRAM Features Using Inorganic Photoresist

S08-004

Andrei Ionut Mardare *(Institute of Chemical Technology of Inorganic Materials, Johannes Kepler University of Linz, Linz, Austria)*

Combinatorial screening of an anodic memristor library based on Ti-Eu alloys

S08-005

Chang Woo Lee *(Department of Chemical Engineering, Kyung Hee University , 17104 Yongin, Korea)*, Jun Ho Cho, Jun Yeop Lee, Chang Woo Lee

Design and Synthesis of Heat-resistant Coating Materials Based on Silicone Resin

S08-006

Yun Seung Nam *(Chemistry, Seoul National University, Seoul, Korea)*, Young Gyun Lim, Taek Dong Chung

Organotrifluoroborate-Based Oxidative Electrografting for Robust Covalent Functionalization across Diverse Electrode Materials

S08-007

Thomas Ruether *(Energy, CSIRO, Clayton, Australia)*, Tom Turvey, Owen Lim, Anthony F. Hollenkamp, Cameron Bentley

Selective Electrochemical Separation of Cobalt and Nickel Using Organic Surface Inhibitors

S08-008

Monica Santamaria *(Dipartimento di Ingegneria, Università di Palermo, Palermo, Italy)*, Monica Raso, Nicolò Gallo, Maria Lucia Lazzara, Francesco Di Franco, Andrea Zaffora, Monica Santamaria

Influence of Surface Treatments on the Corrosion Resistance of Titanium Alloys for Biomedical Applications: Linking Oxide Electronic Properties to Electrochemical Performance

S08-009

Liis Siinor *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, August Luure, Ermo Leuska, Piret Pikma

Adsorption of Porphyrin on Antimony – Ionic Liquid Interface

S08-010

Wen Xu *(Interface Modelling-Institute of Surface Science, Helmholtz-Zentrum Hereon, Geesthacht, Germany)*, Yibing Zhang, Darya Snihirova, Yulong Wu, Min Deng, Linqian Wang, Cheng Wang, Bahram Vaghefinazari, Sviatlana Lamaka, Daniel Höche, Mikhail Zheludkevicha

Unraveling and Controlling Corrosion-Induced Degradation in Mg Anodes via Multiphysics Modelling of Interface Evolution

Symposium 9 Fabrication and characterisation of electroactive nanostructured materials

S09-001

Akbayan Bekey *(Scientific Research Institute for New Chemical Technologies, Al-Farabi Kazakh National University, Almaty, Kazakhstan)*, Binara Dossumova, Tatyana Shakiyeva, Khaisa Avchukir

Nucleation-driven structural development of electrodeposited copper catalysts and their CO_2 electroreduction performance

S09-002

Daniela F. Báez *(Translational Medicine, Universidad Católica del Maule, Talca, Chile)*, Kiare Díaz Muñoz, Isabella C González Venegas, Rover Santilli, Daniela F. Báez

Electrochemical Fabrication of Graphene-Based Tubular Micromotors with Hybrid Metallic and Polymeric Components

S09-003

Yong-Wook Choi *(Energy System Group, Korea Institute of Industrial Technology (KITECH), Busan, Korea)*

Morphological and Structural Tuning of Oxide-Derived Cu Electrocatalysts for CO_2 Conversion

S09-004

Ndeye Fatou Diop *(Physics, University of Pretoria, Pretoria, South Africa)*, Ncholu Manyala

Design zeolitic-imidazole frameworks-67 and graphitic carbon nitride by hydrothermal synthesis as electrode materials for supercapacitor applications

S09-005

Ao Feng *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Jiafeng Du, Zhiming Zhang, Siying Li, Jinyu Ye, Zhiyou Zhou, Shigang Sun

Yb-Doped Cu Catalyst Enables Ampere-Level CO_2 Reduction across Wide pH Range

S09-006

Roberto García *(Sustainable Chemical Processes, Institute of Carbon Science and Technology, INCAR-CSIC, Oviedo, Spain)*, Ana Arenillas, Elisa Martínez-Díaz, Natalia Rey-Raap, Lucía López-Toyos, Elena Rodríguez, María Antonia López-Antón

Synergistic Design of Hierarchically Porous Carbon Materials from Renewable Precursors for Electrochemical Applications

S09-007

Matheus Gabriel Guardiano *(Department of Chemistry, Federal University of São Carlos, São Carlos, Brazil)*, Lucia Helena Mascaro

How to obtain Gd-$BiVO_4$ films? An electrochemical and dropwise approach applied to photoelectrocatalytic antibiotic oxidation

S09-008

Paul Heim *(chemistry, Johannes Gutenberg-Universität Mainz, Mainz, Germany)*

Synergistic Cobalt-Silver Dual-Site Catalysts for Selective Electrochemical Nitrate Reduction to Ammonia.

S09-009

Ben Huang *(Waseda Research Institute for Science and Engineering, Waseda University, Tokyo, Japan)*, Tomotaro Mae, Suguru Noda

Separate Control of Electrolyte Wetting and Prelithiation Reaction of Silicon Monoxide-Carbon Nanotube Anodes for Lithium-Ion Batteries

S09-010

Hyeonsu Jeong *(Institute of Advanced Composite Materials, Korea Institute of Science and Technology, Wanju-gun, Korea)*, Namdong Kim, Seungmin Kim

Active Material-Free Enhancement of Liquid-Crystalline CNT Fibers for High-Performance Wearable Supercapacitors

S09-011

Geon Heung Kim *(Dongnam Technology Application Division, Korea Institute of Industrial Technology (KITECH) , Yangsan-si, Korea)*, Geon Dae Moon, Jun Ho Kim

A Magnetic Catalyst of Metal-exsolved Perovskite Oxides for Induction Heating

S09-012

Olzhas Kudaibergen *(Research Institute for New Chemical Technologies & Materials, Al-Farabi Kazakh National University, Almaty, Kazakhstan)*, Tatyana Shakiyeva, Binara Dossumova, Khaisa Avchukir

Electrodeposition of Copper on a Gas Diffusion Electrode in Ethylene Glycol–Choline Chloride (2:1) Deep Eutectic Solvent

S09-013

Sachin Kumar *(School of Chemical Engineering, University of Queensland, St Lucia QLD 4067, Brisbane, Australia)*, Rizal Evans, Suddhasatwa Basu, Thomas Rufford

Tannic Acid-Derived Sn–C Framework for Electrocatalytic CO_2 Reduction

S09-014

Jingoo Lee *(Dongnam ATechnology application Division, Yangsan-si, Korea)*

Hydroxide-Induced Defect Engineering of $CaTiO_3$ for Enhanced Proton Conduction and Site-Specific Ni Exsolution

S09-015

Sungbin Lee *(Semiconductor and Display Engineering, SSIT, Sungkyunkwan University, Samsung Electronics, Suwon, Korea)*, Shin Joon Kang, Sejeong Park, Hyung Mo Jeong

Electric-Field-Assisted Control of Interface and Defect States in SnO_2/ZnO Nanostructured Thin Films for Sensing Applications

S09-016

Xiaorong Lin *(Department of Applied Physics, The Hong Kong Polytechnic University, Hung Hom, Hong Kong, China)*, Jie Dai, Xi Gong, Xiaoming Yu

Sulfur-Mediated Fe–N_4 Microenvironment Suppresses Fenton Reactions for High-Efficiency ORR and Cryotolerant Quasi-Solid-State Zinc-Air Batteries

S09-017

Allegra Logan *(Chemistry, University of New South Wales, Sydney, Australia)*, Qinyu Li, J. Justin Gooding, Richard D. Tilley

Atomically Controlled Ruthenium Network Nanoparticle Growth for the Oxygen Evolution Reaction

S09-018

Kim McKelvey *(School of Chemical & Physical Sciences, Victoria University of Wellington, New Zealand)*

Electrochemical Droplet Cells on Triboelectrically Charged Surfaces

S09-019

Naimeh Naseri Taheri *(Mechanical and Aerospace Engineering, Monash University, Melbourne, Australia)*, Tuan Kien Nguyen, Naimeh Naseri, Petar Jovanovic, Mainak Majumder

Architecture-Integrated, Fully Printable Metal-Free All-Carbon Microsupercapacitors

S09-020

Hwihyeon Oh *(Semiconductor and Display Engineering, Sungkyunkwan University, Suwon, Korea)*, HooJeong Lee

Additive-Driven Nanograin Engineering for Low-Temperature Cu-to-Cu Bonding

S09-021

Alexander Pagliuca *(Chemistry, Monash University, Melbourne, Australia)*, Tony Hollenkamp, Chris Ritchie, Cameron Bentley

Nanoscale Electrochemical Characterisation of Surface-Grafted Polyoxometalates

S09-022

Jae Yong Park *(Energy Engineering, Gyeongsang National University, 6, Naedong-ro 139beon-gil, Naedong-myeon, Jinju-si, Korea)*, Young Jin Seo, Chi Hoon Park, Euntae Yang

Effect of MXene Nanosheets Alignment in PDMS Mixed Matrix Membrane for Enhanced Hydrogen Separation

S09-023

Daniel Piecha *(Department of Physical Chemistry and Electrochemistry, Jagiellonian University, Faculty of Chemistry, Krakow, Poland)*, Rafal Armata, Grzegorz D. Sulka

Selenium-decorated Anodic WO_3 Layers for Enhanced Photoelectrochemical Activity in Visible Light

S09-024

Chaiya Prasittichai *(Chemistry, Kasetsart University, Bangkok, Thailand)*, Oatthaphon Ainana, Worada Chankhan, Pongkarn Chakthranont

Electrochemical Urea Synthesis via Coupled CO_2 and Nitrate Reduction on Hierarchical ZnO Electrodes

S09-025

Izabela S.Pieta *(Waste2Fuel, Institute of Physical Chemistry Polish Academy of Science, Warsaw, Poland)*

Covalently anchored nickel phthalocyanine networks on carbon nanotubes for electrochemical energy conversion

S09-026

Anju Singh *(School of Chemistry, University of Sydney, Sydney, Australia)*, Moonika Widjajana, Isaac Gresham, Jiancheng Lin, Minkyung Kang

Revealing Electrochemical Activities of Polydopamine-Modified Gold Electrode Interfaces via Correlative Multi-microscopy

S09-027

Harini Srikant *(Chemical and Biomolecular Engineering, University of Illinois Urbana-Champaign, Urbana, USA)*, Carolina Portillos Baek, Din Zelikovich, Rafael Nisim Farca Dayan, Evangelia Founta, Eva Braeutigam, Nico Kokott, Dimitra Georgiadou, Birgit Esser, Daniel Mandler, Theresa Schoetz

Engineering Covalent Interfacial Architectures for Flexible Aluminum-Graphite Batteries

S09-028

Ryo Suzuki *(Laboratory of Device Chemical Engineering, Department of App, Meiji University, Kawasaki, Japan)*, Hirokazu Ishitobi

Iron-Catalyzed Low-Temperature Heat Treatment of Seamless Carbon and Evaluation of Its Electrode Properties

S09-029

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

Defect-Engineered TiO_2-x Nanotube Electrodes for Oxygen Electrocatalysis

S09-030

Haoquan Wang *(School of Chemical Engineering and Technology, China University of Mining and Technology, XuZhou, China)*

Enhancing C–C Coupling through Molecular Interface Modification: Achieving Highly Selective Electrosynthesis of Ethylene

S09-031

Jai White *(Chemistry, KTH Royal Institute of Technology, Stockholm, Sweden)*, Milla Vigliengo, Johannes Röckl, Julius Kuzmin, Daniel Czop, Xiaoyang Gong, Gianvito Vilé, Helena Lundberg

Electrode Design for Non-Aqueous Organic Electrosynthesis: Developments and Outlook

S09-032

Justyna Widera-Kalinowska *(Chemistry, Adelphi University, Garden City, USA)*, Faria Rahman Oyshi, Ashley Kreth, Linh Trinh, Krzysztof Bienkowski, Renata Solarska

Copper-based photocathodes with MOF-derived metal oxide Co-catalysts for photoelectrochemical hydrogen production

S09-033

Shiyong Xu *(School of Low-Carbon Energy and Power Engineering, China University of Mining and Technology, XuZhou, China)*

Study on the CO_2 Electroreduction Performance and Short-Range Strong Synergy Mechanism of Diatomic Catalysts Supported on Nitrogen-Doped Carbon Aerogels

S09-034

Yawen Zhu *(Institute for Energy and Materials Processes – Particle Scie, Universität Duisburg Essen, Duisburg, Germany)*, Mena-Alexander Kräenbring, Lars Grebener, Ahammed Suhail Odungat, Oliver Pasdag, Sebastian Kohsakowski, Thai Binh Nguyen, Doris Segets, Fatih Oezcan

Mechanistic Insights into the Influence of Ink Formulation and Coating Method on Catalyst Layer Structure and PEMFC Performance

S09-035

Zelia Ziegler Hunts *(Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Aaron Marshall

High-Throughput Electrochemical Characterization of Nanoparticles using Scanning Probe to Enable Efficient Catalyst Discovery

S09-036

Vusani Maphiri *(Physics, Sefako Makgatho Health Sciences University, Pretoria, South Africa)*, Daba Bakhoum, Rashed Adam, Ncholu Manyala

Engineering Sustainable Polymer- and Biomass-Derived Porous Carbon Nanostructures for High-Performance Aqueous Supercapacitors

Symposium 10 Sustainable electrochemistry and systems to protect water and the environment

S10-001

Muhammad Aftab *(Materials Science and Engineering | KFUPM, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)*, Zahid Manzoor Bhat, Mohammad Furquan, Mohammad Qamar

Sustainable Waste-Derived Carbon Nanostructures from industrial Waste for Energy Storage Devices

S10-002

Du-Hong Chen *(school of chemistry, Monash University, Melbourn, Australia)*

Synergistic Relay in CuNiAl Electrocatalyst for Efficient Nitrate Reduction to Ammonia

S10-003

Pablo Cortes *(Instituto de Investigación y Desarrollo Tecnológico (IDT), Universidad Tecnológica Metropolitana, Santiago, Chile)*, Paulina Sierra, Constanza Venega, José González

Electrochemical sensor based on biocarbon derived from Eucalyptus globulus for the simultaneous detection of carbendazim and thiabendazole

S10-004

Amy Cruickshank *(Lincoln Agritech Limited, Lincoln University, Christchurch, New Zealand)*, Ting Wu, Amol Jadhav, David Rankin

Electrooxidation of Methane at Nanostructured Pt Electrodes Under Ambient Conditions

S10-005

Mouad Dahbi *(College of Chemical Sciences and Engineering, , Ben Guerir, Maroc)*

Electrochemical Desalination for a Water-Scarce Future: From Circular Carbon Electrodes to Hybrid Faradaic CDI Systems

S10-006

Wei Han *(College of Material Science and Chemical Engineering, Harbin Engineering University, Harbin, China)*, Mei Li, Rugeng Liu, Linshan Zhang, Ziwei Liu

Electrochemical Recovery of UO_2 on CC Electrode in LiCl-KCl Molten Salt

S10-007

Jost Heise *(Institute of Inorganic Chemistry, University of Bonn, Bonn, Germany)*, Nikolay Kornienko, Shuai Chen

Molecule-Metal Synergy Enhances Electrocatalytic Nitrate Reduction

S10-008

Hye-Jin Hong *(Department of Environmental Engineering, Chungbuk National University, Chengju, Korea)*, Hyeon Su Jeong, Min Gook Han, Heeji Yoo

Enhanced Electrochemical Lithium Recovery from Saline Groundwater Using Carbon Nanotube Film-Supported LMO Electrodes

S10-009

Kyo Sik Hwang *(Convergence Research Center of Sector Coupling & Integration, Korea Institute of Energy Research, Jeju-si, Korea)*, Ji-Hyoung Han, NamJo Jeong, Seung Jin Oh

Ammonia Recovery from Wastewater by a Once-Through BMED–Membrane Contactor System: Effects of Influent Concentration, Flow Velocity, and MC Area

S10-010

Nadica Ivosevic DeNardis *(Division for Marine and Environmental Research, Rudjer Boskovic Institute, Zagreb, Croatia)*, Nives Novosel Vlasic, Tea Misic Radic, Maja Levak Zorinc, Joanna Zemla, Malgorzata Lekka, Ivna Vrana, Blazenka Gasparovic, Damir Kasum, Tarzan Legovic, Petar Zutinic, Marija Gligora Udovic

Insights into Microalgal Adaptive Strategies Under Anthropogenic and Abiotic Stress: A Multimethod Approach

S10-011

Jaganathan J *(Chemical Engineering, Indian Institute of Technology Madras, Chennai, India)*, Raghuram Chetty

Surface Reconstructed Copper Foam with Nano-threads for Enhanced Electrochemical Ammonia Synthesis from Nitrate and Nitric Oxide

S10-012

M Ashraful Kader *(College of Science and Engineering, James Cook University, Townsville, Australia)*, Yang Liu

Low-cost, highly selective electrochemical sensing of paraquat using core-shell molecularly imprinted polymer@SiO_2@Fe_3O_4

S10-013

Byunghyun Kim *(Department of Biological & Chemical Engineering, Hongik University, Sejong, Korea)*

Effect of State-of-Charge Control on the Stability of $LiMn_2O_4$ Based Rocking-Chair Electrochemical Lithium Recovery in Real Spent Battery Wastewater

S10-014

Hojin Lee *(Clean Energy Research Center, Korea Institute of Science and Technology (KIST), Seoul , Korea)*, Hee-Tak Kim, Woong Hee Lee

Scalable Electricity Generation from Raw Biomass Waste via Super-Reduced Polyoxometalates

S10-015

Saeideh Mahdinia *(Chemical science, University of Auckland, Auckland, New Zealand)*

Electrochemical Mineralization of Safranin-O at Anodes: Optimization and Mechanistic Study

S10-016

Elham Mirzadeh Oskoui *(Faculty of science, school pf chemistry and physics, Queensland University Of Technology (QUT), Brisbane, Australia)*

Valorization of Waste Eucalyptus Biomass for Carbon-Based Electrocatalysts and Electrochemical Glucose Conversion

S10-017

Chidapha Ninyong *(School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand)*

Carbon Monoxide (CO) Transformation to Functional Materials

S10-018

Namgyoo Park *(Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, Ulsan, Korea)*, Youngkook Kwon

Coordination Engineering of a Cu(I)-based MOF Platform for Enhanced C^{2+} Selectivity in CO Electroreduction

S10-019

Ali Rauf *(Chemistry and Chemical Engineering, Lahore University of Management Sciences, Lahore, Pakistan)*, Sania Zahid Dogar, Ifra Bashir

Investigation of Metal Phthalocyanines (Co, Ni, Cu) as Efficient Electrocatalysts for Nitrate Reduction to Ammonia

S10-020

Luis Augusto Ruotolo *(Chemical Engineering, Federal University of Sao Carlos, Sao Carlos, Brazil)*, Ricardo Sgarbi

Electrocoagulation Using Porous Aluminum Electrodes for Effective Treatment of Industrial Textile Wastewater

S10-021

Rodney Salazar *(Department of Engineering and Information Technology, Åbo Akademi University, Turku, Finland)*, Patrik Eklund, Rupali Bhadane

TEMPO-mediated electrochemical oxidation of biomass and production of hydrogen – a sustainable route towards value-added chemicals from biomass

S10-022

Ignasi Sirés *(Departament de Ciència de Materials i Química Física, Universitat de Barcelona, Barcelona, Spain)*, Ivan Díaz-Redondo, Lele Zhao, Nuria López-Vinent, Alberto Cruz-Alcalde, Pere L. Cabot

Alumina Membranes Modified with Atomically Dispersed Electrocatalysts for Heterogeneous Electro-Fenton Process

S10-023

Ignasi Sirés *(Departament de Ciència de Materials i Química Física, Universitat de Barcelona, Barcelona, Spain)*, Zhuowen Wang, Fengxia Deng

Influence of Magnetic Fields on Two-Electron Oxygen Reduction to Hydrogen Peroxide

S10-024

Francesca Soavi *(Department of Chemistry, University of Bologna, Bologna, Italy)*, Elisabetta Petri

Redox-Active Deep Eutectic Solvent Electrolytes for Hybrid Electrochemical Energy Storage

S10-025

Jose Solla-Gullon *(Institute of Electrochemistry, University of Alicante, Alicante, Spain)*, Alfonso Sáez, Javier Sanchis-Carbonell, Francisco Gallud, Miguel A. Montiel, Eduardo Expósito, Vicente Montiel

Electrochemical Nitrate Reduction Using 3D $Bi_{58}Sn_{42}$ Electrodes: From Innovation to Industrial Scale within the LIFE ELEKTRA Project

S10-026

Jose Solla-Gullon *(Institute of Electrochemistry, University of Alicante, Alicante, Spain)*, Elena Bujedo-Saiz, Martí Molera, Guillermo Díaz-Sainz, Teresa Andreu, Manuel Álvarez-Guerra, Jonathan Albo

Turning CO_2 into Value: Advances in Selective Electroreduction to Formate and Formic Acid

S10-027

Chantisa Thaewphan *(Chemical Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand)*, Watinee Nunthakitgoson

Cu–Ni Bimetallic Electrocatalysts for Electrochemical Production of FDCA from Biomass-Derived HMF

S10-028

Marlen Trejo *(School of Chemical and Biomolecular Engineering, The University of Sydney, Sydney, Australia)*, Alejandro Montoya

Electrochemical Generation of Oxidants for Mineral Dissolution

S10-029

Elisama Vieira dos Santos *(School of Science and Technology, Universidade Federal do Rio Grande do Norte, NATAL, Brazil)*, Luis D. Loor-Urgilés, Tabata N. Feijoó, Marco A. Quiroz, Erika Mendez, Carlos A. Martínez-Huitle, Elisama Vieira dos Santos

Real-time DEMS monitoring of gas evolution in a hybrid integrated EAOP reactor for electrochemical valorization of polluted water toward green chemical feedstocks

S10-030

Linshan Zhang *(College of materials science and chemical engineering, Harbin Engineering University, Harbin, China)*, Rugeng Liu, Mei Li, Wei Han

Effect of F^- on the Electrolytic Extraction of UO_2 in LiCl-KCl Molten Salt.

Symposium 11 Scale-up of electrochemical systems

S11-001

Muhammad Aftab *(Materials Science and Engineering | KFUPM, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)*, Zahid Manzoor Bhat, Mohammad Furquan, Mohammad Qamar

Sustainable Waste-Derived Carbon Material for Supercapacitor Applications

S11-002

Saeed Askari *(Department of Chemical Engineering, University of Melbourne, Melbourne, Australia)*, Saeed Askari, Craig Osborne, Kathryn Mumford, Sandra Kentish, Mengran Li

Electrochemical conversion of bicarbonate to KOH in buffered media for integrated carbon capture and hydrogen production

S11-003

Alejandro Cabrera-Reina *(Chemical Engineering, University of Almería, Almería, Spain)*, José Herrera, Manuela García-Saavedra, Abdoulaye Thiam, José A. Sánchez Pérez, Sara Miralles-Cuevas

Sequential Solar-Driven Electrochemical Advanced Oxidation: Integrating In-Situ H_2O_2 Generation and Fe^{3+}-EDDS Assisted Photo-Fenton in a Continuous-Flow Raceway Pond Reactor

S11-004

Agata Greszta *(Centre for E-Mobility Research (CEMR), Coventry University, Coventry, United Kingdom)*, Alexander Roberts

Investigating the Influence of Pressure on Lithium-Sulfur Cell Performance in Development from Coin to Pouch Cell

S11-005

Carlos A Martínez-Huitle *(Institute of Chemistry, Federal University of Rio Grande do Norte, Natal, Brazil)*, Letícia G.A. Costa, Jussara C. Cardozo, Thalita M. Barros, Ana Eduarda C. Bertoldo, Luis Felipe Miranda, Amanda Medeiros de Azevedo, Marco A. Quiroz, Jéssica Luana de Araújo Batista, Aruzza Araújo, Amanda D. Gondim, Livia N. Cavalcanti, Tabata N. Feijoó, Luis D. Loor-Urgilés, Elisama Vieira dos Santos

From lab to application: Reactor design & scale-up strategies for electro-refinery in organic systems

S11-006

Sagar Mothkuri *(School of Chemical and Physical Sciences, Victoria University of Wellington, Wellington, New Zealand)*

High Throughput Screening of Electrocatalysts

S11-007

Beatrice Ricciardi *(Instituto de Carboquímica (ICB), Consejo Superior de Investigaciones Científicas (CSIC), Zaragoza, Spain)*, Manuel Gutiérrez-Roa, Ana González-Espinosa, Antonio Lozano, Ana C. Giménez, Pedro F. Napal, María Jesús Lázaro, David Sebastián

Bridging Lab-Scale and Large-Area AEM Water Electrolyzers: Impact of Dry Cathodes and NiFe-LDH/CNF

S11-008

Sankhadip Saha *(School of Chemical Engineering, UNSW Sydney, Sydney, Australia)*, Yuan Shang, Priyank Kumar, Dipan Kundu

Stack Pressure Redefines Zinc Anode Stability under Practical Operating Conditions

S11-009

Yiwei Shao *(Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand)*, Steve Matthews, Aaron Marshall

Plasma-Sprayed Porous Metallic Electrodes for Electrochemical CO_2 Reduction

S11-010

Ziding Wang *(School of Vehicle and Mobilty, Tsinghua University, Beijing, China)*, XIongfei Du, Xuebing Han, Dongxu Guo, Minggao Ouyang

Structured Masking for LPF Battery State-of-Charge Estimation: A Semi-Supervised Framework via Impedance Masked Autoencoder

S11-011

Assiya Yermukhambetova *(Chemical and Materials Engineering, Nazarbayev University, Astana, Kazakhstan)*, Daulet Tazhbagambetov, Aliya Toleuova, Iliyas Tursynbek, Azamat Zhaksylykov

Conditional Generative Adversarial Networks for the Design of Battery Electrode Microstructures

Symposium 12 Key challenges in molecular electrocatalyst platforms and surface reactivity

S12-001

Francisco Armijo *(Química Inorgánica, Pontificia Universidad Católica de Chile, Santiago, Chile)*, Gonzalo Cima, Alexander Iguini, Gonzalo García, José Sosa, Francisco Armijo

CeO_2-Modified Ni(OH)2/NCP Electrocatalysts for Enhanced Electro- and Photoelectrocatalytic Ammonia Oxidation in Alkaline Media

S12-002

Banafsheh Haji Ali *(Chemistry, UNSW, Sydney, Australia)*

Electrodeposition of hierarchical porous nickel–copper electrodes for low-overpotential electrooxidation of glycerol at ampere-level current densities

S12-003

Darryl Nater *(Electrosynthesis, Max-Planck-Institut Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Niklas Schmickler, Andreas Gansäuer, Siegfried Waldvogel

Generalization of Titanocene-Catalyzed Arylation of Epoxides by Radical Polar Crossover by Consecutive Paired Electrolysis

S12-004

Samuel Jaeho Shin *(CO_2 & Energy Research Center, Korea Research Institute of Chemical Technology, Daejeon, Korea)*, Su Bin Roh, Minju Park, Ji Hoon Park

Deciphering Mass Transport Effect of Hydrogen Species in Electrolytic Palladium Membrane Reactor for Large-Scale Hydrogenation

S12-005

Kevin Sowa *(Chemistry, Johannes Gutenberg-University Mainz, Mainz, Germany)*

Redox Mediating Polyoxometalates for Electrosynthetic Applications

S12-006

David Troglauer *(Department Chemie 09, Mainz, Germany)*, Carsten Streb

Electrochemical Strategies for the Mitigation of Halogenated Contaminants

S12-007

Huan Wang *(School of Chemistry and Molecular Engineering, East China Normal University, Shanghai, China)*, Hai-Hong Wu, Hao Xu, Yuan-Yuan Wang, Jia-Xing Lu

L-cysteine-modified Ag-based nanomaterials for asymmetric electrocarboxylation of aromatic ketones

S12-008

Julius Wetzel *(Department of Chemistry, Johannes Gutenberg University, Mainz, Germany)*, Carsten Streb

Redox Mediating Polyoxovanadates for Electrosynthetic Applications

S12-009

Marija Zorić *(Center for Energy and Environmental Sciences, Paul Scherrer Institute, Villigen, Switzerland)*, Mateusz Wojtas, Polina Yaltseva, Dennis Ciliak, Emiliana Fabbri, Schmidt Thomas J.

Mechanism-Guided Molecular and Single-atom Catalysts for Electrochemical CO_2 Reduction and Urea Electrosynthesis

Symposium 13 Molecular electronics and electrochemistry: From fundamentals to function and application

S13-001

Si Hyun Kim *(Energy Engineering, Gyeongsang National Univeristy, 6, Naedong-ro 139beon-gil, Naedong-myeon, Jinju-si, Korea)*, Young Jin Seo

Multi-scale analysis of Oxygen transport in Silk fibroin-based Membranes

S13-002

Ziqi Lian *(Department of Chemistry, Zhejiang University, Hangzhou, China)*, Haiyan Qin, Xiaogang Peng, Bin Su

Electrochemiluminescence Imaging of Single Quantum Dots

S13-003

Janani Rajapakshe *(School of Engineering, Australian National University, Canberra, Australia)*, Janani Rajapakshe, Qiushi Deng, Ernane de Freitas Martins, Ivan Cole

Understanding Molecular Orbital interactions of Corrosion Inhibitors with the metal Surface and charge effects on Monolayer Formation-A DFT Study

S13-004

Siyi Wang *(Department of Chemical Science and Engineering, Institute of Science Tokyo, Yokohama, Japan)*, Siyi Wang, Kohei Taniguchi, Kosuke Sato, Shinsuke Inagi

Electrochemical PINOylation of Polystyrene with Machine Learning-assisted Condition Optimization

Symposium 14 In situ and operando methods for characterising electroactive materials and interfaces

S14-001

Loïc Assaud *(ESPCI, University Paris Sciences & Letters, Paris, France)*, Divino Salvador Ramírez Rico, Rama Bhattacharyya, Prakash C. Ghosh

Probing Electroactive Membrane Interfaces by In Situ AFM Nanomechanics: Insights for Alkaline Water Electrolysis

S14-002

Paula Caldevilla-Collado *(Spectroelectrochemistry, Metrohm DropSens S.L.U., Llanera, Spain)*, David Hernández-Santos, Pablo Fanjul-Bolado

Direct Electrochemiluminescence Detection of Fentanyl Using Bare Screen-Printed Electrodes

S14-003

Paula Caldevilla-Collado *(Spectroelectrochemistry, Metrohm DropSens S.L.U., Llanera, Spain)*, David Hernández-Santos, Pablo Fanjul-Bolado

In-situ Raman spectroelectrochemistry: from SERS-based sensing to catalysts characterization

S14-004

Nikhil Doddi *(Materials Research Centre, Indian Institute of Science, Bengaluru, India)*, Abhisek Padhy, Ravi Kumar, Prabeer Barpanda

Unveiling the Electrocatalytic Mechanism of Carbonophosphates Towards Water Oxidation Catalysis

S14-005

Alicja Glaszczka-Ciftci *(Chemistry, Univeristy of Warsaw, Warsaw, Poland)*, Sai Rashmi Manippady, Magdalena Winkowska-Struzik, Michal Struzik, Andrzej Czerwinski, Dominika Buchberger

Tracking Phase Heterogeneity and Multiscale Structural Degradation in Cycled NMC Electrodes

S14-006

Nagahiro Hoshi *(Graduate School of Engineering, Chiba University, Chiba, Japan)*, Masashi Nakamura, Yukiya Katagiri

Adsorbed Geometry of Melamine and Water Structure Enhancing ORR Activity on Single Crystal Electrodes of Pt

S14-007

Rui Huang *(Department of Chemistry, Xiamen University, Xiamen, China)*, Hongbin Zeng, Honggang Liao, Shigang Sun

Investigation of Carbon Corrosion in Acidic Media through In Situ TEM and FTIR

S14-008

Anuradha Irugalbandara *(School of Chemistry, The University of Sydney, Camperdown, Australia)*, Minkyung Kang

Reproducibility and Geometric Effects in Dynamic Hydrogen Bubble Formation in Scanning Electrochemical Cell Microscopy

S14-009

Ami Kondo *(Department of Pure and Applied Chemistry, Tokyo University of Science, Yamazaki, Noda, Japan)*, Haruna Tsunegi, Yoshifumi Yamagata, Yuichi Takasaki, Keisuke Miyamoto, Taku Ogura, Kazutake Takada, Noya Loew, Hikari Watanabe, Isao Shitanda, Masayuki Itagaki

Rheo-Impedance evaluation of PNIPAM gels containing redox materials for assessing drug release behavior

S14-010

Na Kong *(School of Life and Environmental Sciences, Deakin University, Waurn Ponds, Australia)*

Exploring Molecular Dynamics with Single Entity Electrochemistry

S14-011

Zhao Li *(Department of Materials, Imperial College London, London, United Kingdom)*, Aigerim Omirkhan, Chris Foo, Yuxiang Zhou, Li Shao, Francesco Carlà, Mary P. Ryan

In Situ and Operando Grazing Incidence X-ray Scattering and Reflectivity for Electroactive Materials and Interfaces

S14-012

Zixi Liang *(Institute for a sustainable Hydrogen Economy (IHE-1), Forschungszentrum Jülich GmbH, Jülich, Germany)*, Hans-Georg Steinrück, Jimun Yoo

Electrochemical Promotion of Catalysis at Metal–Solution Interfaces Probed by EC-MS under Operando Conditions

S14-013

Jiayang Lin *(Department of Chemistry, Xiamen University, Xiamen, China)*, Lianhuan Han, Dongping Zhan

Probing the Correlation between Interfacial pH and CO_2 Reduction Selectivity by Multimode Scanning Electrochemical Microscopy

S14-014

Xu-Feng Luo *(Materials science group, National Synchrotron Radiation Research Center, Hsinchu, Taiwan)*, Chun-Wei Huang, Yu-Chun Chuang, Jeng-Kuei Chang

Operando structural tracking of thermal degradation in delithiated $LiNi_{0.5}Mn_{1.5}O_4$: Quantitative insights into phase evolution via sequential Rietveld refinement using high-resolution powder diffraction

S14-015

Tatsumi Naganuma *(Faculty of Engineering, Hokkaido University, Sapporo, Japan)*, Ryuto Ohashi, Cheng Yen Chieh, Ueda Mikito, Hisayoshi Matsushima

In situ HS-AFM observation of zinc morphological evolution during cyclic voltammetry

S14-016

Junya Oka *(Technology Department6, Lasertec Corporation, 2-10-1 Shin-Yokohama, Kohoku-ku, Yokohama, Japan)*, Atsuko Yaguchi, Yuya Akimoto, Taichi Sakamoto, Yuta Ikeuchi, Takashi Mukai, Tatsuya Tomita, Yoshikazu Sasaki, Yoshihiro Nishimura

Operando Observation of SiO and Graphite Negative Electrodes on CP-Milled Cross-Sections Using Confocal Optical System

S14-017

Prathamesh Patil *(Institute of Applied Physics, Technische Universität Wien, Vienna, Austria)*, Markus Ostermann, Julian Pichler, Parinya Tangpakonsab, Alexander Genest, Günther Rupprechter, Markus Valtiner, Christian Pichler

Mechanistic insights into the copper oxide reduction mechanism under electrochemical conditions with sub-nanometer depth resolution

S14-018

Haley Redfern *(School of Engineering, University of Newcastle, Newcastle, Australia)*, Simin Moradmand, Jessica Allen

Mechanistic Insights into Molten Carbonate Electrolysis via Distribution of Relaxation Times Analysis

S14-019

Taiyoh Sekiguchi *(Department of Applied Chemistry, Tokyo University of Science, Noda, Japan)*, Hiroyuki , Yoshifumi , Keisuke , Isao , Noya , Hik Ueda, Yamagata,Miyamoto, Shitanda, Loew, Watanabe,

Evaluation of an LFP Carbon Slurry by Rheo-Impedance Measurements

S14-021

Tatsuya Tomita *(Solution Plannign Department,Solution Development Center, JEOL Ltd., 3-1-2 Musashino,Akishima, Japan)*, Junya Oka, Atsushi Hayasaka, Yuya Akimoto, Shotaro Kawamura, Yoshikazu Sasaki

Ion-Milling-Based Cross-Section Preparation for OperandoObservation of Lithium-Ion Battery Electrodes

S14-022

Takeshi Uyama *(Morikawa Senior Fellow Labs., Toyota Central R&D Labs., Inc., Nagakute, Japan)*, Naonari Sakamoto, Takamasa Nonaka, Shunsuke Sato, Takeshi Morikawa

An Operando MEA Reactor without Sacrificing Electrochemical Performance: X-ray Absorption Spectroscopy during CO_2 Reduction

S14-023

Daniel Veloso Braga *(Department of Fundamental Chemistry, Institute of Chemistry, São Paulo, Brazil)*, Gabriel Negrão Meloni

Dissolution of Calcite Crystals in Acidic Media by Local (Electrochemical) pH Change

S14-024

Emily Wong *(School of Chemistry, The University of Sydney, Sydney, Australia)*, Qinyu Li, Richard D. Tilley, Justin Gooding, Kaye Minkyung Kang

Isolating Single Nanoparticle Activity toward Oxygen Evolution Reaction via Scanning Electrochemical Cell Microscopy.

Symposium 15 Model electrodes to study nanoscale phenomena in electrocatalysis

S15-001

Jinwen Liu *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*, Katharina Doblhoff-Dier, Marc Koper

Modelling the Double Layer of Polycrystalline Electrodes: Capacitance, Potential of Zero Charge, and Parsons–Zobel Plot

S15-002

Lulu Zhang *(IET-3, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Jun Huang

Understanding the Potential Dependent Tafel Slope of Oxygen Reduction and Evolution Reactions

Symposium 16 General session

S16-001

Yuto Akahori *(Engineering, Hokkaido University, Sapporo, Japan)*, Takuto Miyashita, Hisayoshi Matsushima, Mikito Ueda

Electrochemical Behavior of Fe Ions in $AlCl_3$-NaCl-KCl Molten Salt

S16-002

Soya Akiyama *(Division of Science and Engineering, Tokyo Denki University, Hatoyama, Japan)*, Ryo Sato, Yoshiharu Mukouyama

Corrosion Potential Oscillations of Stainless Steel in Concentrated Sulfuric Acid

S16-003

Vanessa Ataide *(Fundamental Chemistry, Institute of Chemistry/ University of São Paulo, São Paulo, Brazil)*, Thawan Oliveira, Thiago Paixão, Lucio Agnes

In-Situ CO_2 Laser–Induced Synthesis of ZnO Structures on Paper-Based Electrodes for Enzymatic Glucose Detection

S16-004

Khaisa Avchukir *(Laboratory of Electrochemical Interfaces and Catalysis, Al-Farabi Kazakh National University, Almaty, Kazakhstan)*

Hydrogen Evolution Reaction on Polycrystalline Indium Surface Electrodeposited from a Choline Chloride-Ethylene Glycol Deep Eutectic Solvent

S16-005

Leandro Nicolás Bengoa Abraham *(Institut Català de Nanociència i Nanotecnologia (ICN2), Edifici ICN2 UAB Campus, Bellaterra, Spain)*, Marc Mosqueda, Sandro M. Goñi, Nieves Casañ-Pastor

Wireless electrochemistry: effects and potential applications on energy storage

S16-006

Dikshita Bhattacharyya *(ZARM - Center of Applied Space Technology and Microgravity, University of Bremen, Bremen, Germany)*, Katharina Brinkert

Chemical Synthesis in Space: Advances from (Photo-)Electrochemical Water-Splitting and CO_2 Reduction in Reduced Gravitation

S16-007

Maxime Brunisholz *(School of Chemical Engineering, University of New South Wales, Sydney, Australia)*, Dipan Kundu

Balancing Performance and Stability by Tuning the Partial Effective Conductivities in Solid-State Battery Cathodes

S16-008

Dina Ewis *(Department of Chemical Engineering, University of Melbourne, Melbourne, Australia)*, Saeed Askari, Craig Osborne, Sandra E. Kentish, Mengran Li

An overview of formate production in inherently stable and efficient CO_2 electrolyser configurations

S16-009

YI GONG *(Chemical Engineering, University of Melbourne, Melbourne, Australia)*, Wenjie Jiang, Dan Li, Mengran Li

Uncovering Thermodynamic Losses for Carbon Capture based on Bipolar Membrane Electrodialysis

S16-010

Kensuke Honda *(Graduate school of Sciences and Technology for Innovation, Yamaguchi University, Yamaguchi, Japan)*

a-SiC Based CO_2 Reduction Photocatalysts That Can Directly Synthesize C2 and C3 Compounds

S16-011

Katsuki Hori *(Advanced Ecosystem Engineering Course, National Institute of Technology, Wakayama College, Wakayama, Japan)*, Yusuke Tsuchida, Katsuhiko Tsunashima

Machine Learning-Assisted Prediction of Physicochemical Properties for Design of Phosphonium-Based Ionic Liquids as Electrolytes

S16-012

Jun Huang *(IET-3, Forschungszentrum Juelich Gmbh, Julich, Germany)*, Zengming Zhang

Potential of Zero Stress of Solid-Liquid Interfaces

S16-013

Armando Ibraliu *(Physical Science, Diamond Light Source Ltd, Didcot, United Kingdom)*, Daniel T. Bowron, Christopher Hardacre, Sofia Diaz-Moreno

Tracking Minority Species in Redox Reactions: A Quantitative Combined XAS and Modulation Excitation Study

S16-014

Ryo Igari *(Department of Mechanical Systems Engineering, Tohoku University, Sendai, Japan)*, Anthony Dichiara, Hidemasa Takana

Enhancement of Transpiration-Driven Electrokinetic Power Generator Performance with well-aligned Nanostructural CNF/PEDOT:PSS Composites

S16-015

Mikołaj Jagieniak *(Department of Chemistry, University of Warsaw, Warsaw, Poland)*, Michał Grdeń

Electrochemical deposition of lanthanum for the production of accelerator targets from aqueous solutions

S16-016

Ioanna Karamitrou *(Department of Energy Conversion and Storage, Technical University of Denmark, Kongens Lyngby, Denmark)*, Qingfeng Li, Dimitris Killinger, Anders Riisager

Electrochemical Behavior of Aluminum and Alloying Elements in Chloroaluminate Molten Salts for Pyroprocessing Applications

S16-017

Minjin Kim *(Hydrogen Fuel Cell Laboratory, Korea Institute of Energy Research, Daejeon, Korea)*, Seonghyeon Ham, Hwanyeong Oh

Operational Data-Based Lifetime Prediction and Management of PEMFC Systems

S16-018

Atte Kudjoi *(Department of Chemistry, University of Turku, Turku, Finland)*, Mikko Salomäki, Jukka Lukkari

Electrochemical Behaviour of Quinones in Calcium Chloride -Based Type IV Deep Eutectic Solvents

S16-019

Joo-Yul Lee *(Energy and Environment Materials Division, Korea Institute of Materials Science, Changwon, Korea)*, Bung-Uk Yoo

Effects of Organic Additives on Zinc Electrodeposition at Iron Electrodes

S16-020

Kwang Hoon Lee *(School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea)*, Won Bo Lee

Electrochemical Interfacial Analysis for Enhanced Equipment Durability: A Multiscale (MD/DFT) Study on Viscosity and Contamination Mechanisms at Organic-Inorganic Hybrid Interfaces

S16-021

Sangtak Lee *(Department of Environmental Engineering, Seoul National University of Science and Technology, Seoul, Korea)*

An Intelligent Electronic Nose System for VOC Detection Based on MOF/MWCNT Heterogeneous Sensor Arrays

S16-023

Gulsum Ece Meraki *(Department of Analytical Chemistry, Ankara University Faculty of Pharmacy, Ankara, Turkey)*, Bengi Uslu, Hulya Silah

Ultrasensitive DPV Quantification of Neratinib via Surfactant-Modified Boron-Doped Diamond Electrodes: A Voltammetric Study

S16-024

Sara Miralles *(Chemical Engineering, University of Almeria, Almería, Spain)*, Constanza Venegas Alburquenque, Franco Tamayo, Alejandro Cabrera Reina, Paulina Sierra Rosales

Electrochemical Sensing of Fe^{3+}-EDDS in Realistic Water Matrices for Monitoring Photo-Fenton Processes

S16-025

Jaedo Na *(Department of Chemistry, Konkuk University, Seoul, Korea)*

Electrochemical Behavior of Silver/Silver Halide Nanoparticles via Single-Entity Electrochemistry

S16-026

Marcin Palys *(Faculty of Chemistry, University of Warsaw, Warsaw, Poland)*, Marek Kowski

Genetic Algorithm-supported Fitting of Equivalent Circuit Models: Looking into Role of Parameters

S16-027

Jaeryeong Park *(DRAM Process & Architecture, Samsung Electronics, Seongnam-si, Korea)*

Hybrid Gap-fill Scheme for Void-free SNC in High Aspect Ratio Memory Devices

S16-028

Carlos Pereira *(Chemistry and Biochemistry, University of Porto - Faculty of Sciences, Porto, Portugal)*, Ana Brandão, Renata Costa

Engineered Peanut-Shell Biocarbons with Tunable Porosity for Sustainable Electrochemical Energy Storage

S16-029

Selenay Sadak *(Analytical Chemistry, Ankara University Faculty of Pharmacy, Ankara, Turkey)*, Arzu Karayel, Bengi Uslu

Nano-MIP Based Electrochemical Sensor for the Detection of an Anticancer Drug Bexarotene

S16-030

Ryo Sato *(Division of Science and Engineering, Tokyo Denki University, Hatoyama, Japan)*, Terumasa Kuge, Shuji Nakanishi, Yoshiharu Mukouyama

Mechanism of Corrosion Potential Oscillation of Iron in Phosphoric Acid Solutions Containing Hydrogen Peroxide

S16-031

Ryo Sato *(Division of Science and Engineering, Tokyo Denki University, Hatoyama, Japan)*, Yoshiharu Mukouyama

Generation of Alternating Current Using Iron Electrodes

S16-032

Yuka Seto *(Mechanical Engineering, Kanazawa Institute of Technology , Kanazawa, Japan)*, Noriyuki Takano

Effect of Incorporating Intermediate Positions into an Extended Random-Walk Model for Hydrogen Diffusion in Ni

S16-033

Hyun Jeong Song *(Department of Chemical and Biological Engineering, Seoul National University / Samsung Institute of Technology, Seoul, Korea)*, Sung Min Kim

Nitrous oxide reduction over Pd/CeO_2 Catalysts by H_2-SCR

S16-034

Noriyuki Takano *(Mechanical Engineering, Kanazawa Institute of Technology, Hakusan, Japan)*

Effect of Pre-strain on the Corrosion in Pure Magnesium

S16-035

Bengi Uslu *(Analytical Chemistry, Ankara University Faculty of Pharmacy, Ankara, Turkey)*, Ipek Kucuk, Arzu Karayel, M. Berat Carboga, Eylul Ilayda Coskun

First Evaluation of DNA Binding Interactions of the Anti-Cancer Drug Tofacitinib: An Electrochemical and Molecular Docking Approach

S16-036

Aleksandrs Volperts *(Laboratory of Lignin Chemistry, Latvian State Institute of Wood Chemistry, Riga, Latvia)*, Ance Plavniece, Galina Dobele, Aivars Zhurinsh

Activated biomass-based carbons for electrochemical applications

S16-037

Siegfried Waldvogel *(Department of Electrochemistry, Max-Planck-Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Darryl Nater

Electrochemical Synthesis of N-Oxy-Heterocycles

S16-038

Andrew Wilson *(Department of Chemistry, University of Otago, Dunedin, New Zealand)*, Yanfang Wu

Rapid Chronoamperometric Conditioning of Ionic Liquids for H_2O and CO_2 Removal for Usage in Breath-based Biosensing

S16-039

Taiyo Yabiku *(Faculty of Science and Engineering, Tokyo Denki University, Hatoyama-machi, Hiki-gun, Japan)*

Position and Time Dependence in In-Situ Raman Spectroscopy of Electrochemical CO_2 Reduction

S16-040

Chul Ho Park *(Jeju Global Research Center, Korea Institute of Energy Research, Jeju, Korea)*

Overcoming Residual Solvent Limitations in NIPS through Ion-Mediated Phase Separation (IMPS)

S16-041

Luis Herrán *(Mechanical Engineering, Pontificia Universidad Católica de Chile, Santiago, Chile)*, Erik Castañeda, Diego Veliz, Paulo Molina, Mamié Sancy, Mauricio Isaacs

Li-mediated electrochemical reduction of nitrogen using high-entropy electrodes for the production of green ammonia

ISE Society Information

The International Society of Electrochemistry

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 of about 3000 individual members, from 70+ countries, and is organized in 40+ 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 co-ordinated by the Committee of Division Officers headed by the President Elect. Upon joining ISE each member indicates his/her divisional interests.

The history of the International Society of Electrochemistry (ISE) is described in a series of articles published in Volume 45 of Electrochimica Acta and available on the web site of the Society (www.ise-online.org/ise-about/ISE-history.php).

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 a 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* and **Dr. Liis Siinor**; e-mail: *liis.siinor@ut.ee*

Membership fees

Individual yearly membership fees are **65 EUR** for members above 30 years of age, and **25 EUR** for members of age 30 or less and for Emeritus members. Once your application is accepted, the ISE Office will contact you for the payment of the Membership dues.

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. 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 constituing 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.

Silvia Cere, *Chair*
Plamen Atanassov, *observer ex-officio as President*
Andrea Russell, *ex-officio as President Elect*
Monica Santamaria, *ex-officio as Treasurer*
Francesca Soavi, *ex-officio as Secretary General*
Rakel Wreland Lindstrom, *past Chair*
Vincent Vivier, *Chair Elect*
Raphael Berger, *non-voting member, representative of the ISE office*
Maeve Tsu, *non-voting member, representative of the ISE office*
Petr Krtil, *observer ex-officio as Executive Secretary*
Liis Siinor, *observer ex-officio as Executive Secretary designate*

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.

Hubert Gasteiger, *TUM, Germany (2023-2027) Chair in 2026*
Shelley Minteer, *University of Utah, USA (2026-2030)*
Bingwei Mao, *Xiamen University, China (2023-2027)*
Mark Orazem, *University of Florida, USA (2024-2028)*
José Zagal, *University of Santiago de Chile (2025-2029)*

Inclusive Excellence Committee

The ISE Inclusive Excellence Committee promotes inclusion across all ISE activities, from meetings to awards. It supports diverse applicant pools and advises the Executive Committee on strategies for equity and inclusivity.

Shelley Minteer – *University of Utah, USA*
Katrin Domke – *University of Duisburg-Essen, Germany*
Patrick Unwin – *University of Warwick, Great Britain*
Yungchia Chen – *Georgia Institute of Technology, USA*

ISE Executive Committee

President

Plamen Atanassov, Irvine, USA (2025-2026)
Representation of ISE. Chairperson of Executive Committee, Council and General Assembly.

President Elect

Andrea Russell, Southampton, UK (2025-2026)
Chairperson of Committee of Division Officers. Coordination of scientific program of future Annual Meetings, supervision of Division Officers' activities.

Immediate Past President

Katharina Krischer, Munich, Germany (2025-2026)
Chairperson of Executive Committee in the absence of the President.

Vice Presidents

Take Dong Chung, Seoul, Korea (2024-2026)
Responsible for ISE educational activities

Lucia Mascaro, Sao Carlos, Brazil (2026-2028)
Responsible for regional sections

Wataru Sugimoto, Ueda, Japan (2024-2026)
Responsible for value for members

Enrique Herrero, Alicante, Spain (2025-2027)
Responsible for communication and external relationships

Secretary General

Francesca Soavi, Bologna, Italy (2024-2026)

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. The President or President-Elect does not handle scientific matters.

Tasks in collaboration with ISE Office
Ensuring that the constitution, bylaws, guidelines, schedules, etc are observed. Preparation of Annual Reports. Collection of information for newsletters and coordination of actions.

Annual and Topical ISE Meetings
Coordination of Meetings (Location, time, topics). Representative of the Executive Committee and advisor to Local Organising Committees for nonscientific matters (Location, facilities, control of financial planning, schedule, and 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 (2024-2026)

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: **Maria Cuartero Botia,** *Past Chair:* **Guy Denuault,** *Chair Elect:* **Emilia Witkowska Nery,**
Vice-Chairs: **Guobao Xu, Gabriel Negrao Meloni.**

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.
Chair: **Carlo Santoro,** *Past Chair:* **Ilaria Palchetti,** *Chair Elect:* **Donal Leech,**
Vice-Chairs: **Janice Limson, Felipe Conzuelo.**

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: **Sonia Dsoke,** *Past Chair:* **Thierry Brousse,** *Chair Elect:* **Sara Cavaliere,**
Vice-Chairs: **Rebecca Marcilla, Yu Katayama.**

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: **Carmen Perez,** *Past Chair:* **Hiroki Habazaki,** *Chair Elect:* **Samantha Gateman,**
Vice-Chairs: **Jon Ustarroz, Isao Shitanda**

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: **Carlos Ponce de Leon,** *Past Chair:* **Carlos Alberto Martinez Huitle,** *Chair Elect:* **Ignacio Sirés Sadornil,**
Vice-Chairs: **Ricardo Salazar, Eileen Yu.**

Division 6 – MOLECULAR ELECTROCHEMISTRY

Aspects of organic and inorganic electrochemistry, in which the emphasis is on molecular processes, including the understanding of mechanism and the role of structure.
Chair: **Ismael Diez Perez,** *Past Chair:* **José Zagal,** *Chair Elect:* **Eva Nichols,**
Vice-Chairs: **Josh Hihath, Jiří Ludvík.**

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: **Mark Symes,** *Past Chair:* **Katrin F. Domke,** *Chair Elect:* **Julia Kunze-Liebhauser,**
Vice-Chairs: **Jun Cheng, Clotilde Cuccinotta.**

Regional Representatives

Argentina	Silvia Ceré	2024-2026	2nd term
Australia-New Zealand	Ruth Knibbe	2024-2026	1st term
Austria	Andrea Auer	2025-2027	1st term
Belgium	Deepak Pant	2025-2027	1st term
Brazil	Luiz Henrique Dall Antonia	2026-2028	1st term
Bulgaria	Vessela Tsakova	2024-2026	2nd term
Canada	Steen Schougaard	2025-2027	1st term
Chile	Ana Maria Mendez-Tores	2025-2027	2nd term
China	Lin Zhuang	2026-2028	2nd term
Croatia	Nadica Ivosevic DeNardis	2024-2026	2nd term
Czech Republic	Tomas Navrátil	2025-2027	2nd term
Denmark	Xinxin Xiao	2024-2026	1st term
Estonia	Jaana Lilloja	2025-2027	2nd term
Finland	Milla Vikberg	2026-2028	1st term
France	Olivier Buriez	2026-2028	2nd term
Germany	Tana Vidakovic-Koch	2024-2026	1st term
Greece	Antonis Karantonis	2025-2027	2nd term
Hungary	Soma Vesztergom	2026-2028	1st term
India	Ashis Kumar Satpati	2023-2026	2nd term
Ireland	Micheál Scanlon	2025-2027	2nd term
Israel	Lior Elbaz	2026-2028	1st term
Italy	Christian Durante	2025-2027	2nd term
Japan	Koji Amezawa	2026-2028	1st term
Korea	Jaeyoung Lee	2025-2027	2nd term
Lithuania	Linas Vilciauskas	2026-2028	1st term
Mexico	Margarita Miranda Hernandez	2024-2026	2nd term
Netherlands	Marta Costa Figueiredo	2025-2027	1st term
Poland	Krzysztof Fic	2025-2027	2nd term
Portugal	Alexandre Bastos	2024-2026	1st term
Romania	Cecilia Cristea	2024-2026	2nd term
Russia	Oleg Kozaderov	2025-2027	1st term
Serbia	Nevenka Elezovic	2026-2028	1st term
South Africa	Omotayo Arotiba	2025-2027	2nd term
Spain	Maria Escudero Escribano	2026-2028	2nd term
Sweden	Björn Wickman	2025-2027	2nd term
Switzerland	Matthias Arenz	2025-2027	2nd term
Taiwan	Fu-Ming Wang	2026-2028	1st term
Thailand	Chularat Wattanakit	2026-2028	1st term
Türkiye	Sevinc Kurbanoglu	2026-2028	1st term
Ukraine	Volodymyr Khomenko	2025-2027	1st term
United Kingdom	Sudipta Roy	2026-2028	1st term
USA	Adam Weber	2026-2028	2nd term

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 EUR**

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 EUROS**

- **Gamry Instruments • Ionode Pty Ltd • PalmSens BV • Scribner Associates, Inc**
- **Sensolytics GmbH • 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 • 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 •
- Electrochemistry Interest Group of the RSC • European Federation of Corrosion •
- Fachgruppe Elektrochemie der Gesellschaft Deutscher Chemiker •
- Korean Electrochemical Society • Mexican Electrochemical Society • Royal Society of Chemistry •
- 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**, former President of the Society (1981-1982) who passed away on 4th January 2017, and **Sergio Trasatti**, former President of the Society (1989-1990) and Editor-in Chief of Electrochimica Acta (2003-2013) who passed away on 13th June 2021.

Three Honorary Members were appointed in the year 2005: **Ron Armstrong**, former Editor-in-Chief of Electrochimica Acta for 18 years, and two former Presidents of the Society, **Dieter Landolt** (1987-1988) and **Elton Cairns** (1999-2000). In the year 2011, **Sharon Roscoe** was appointed Honorary Member for her valued contribution as Secretary General. She passed away on December 9th, 2015. **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. **Rob Hillman** was appointed Honorary Member in 2024 for his extraordinary service rendered to the Society in the capacity of Secretary General (1999-2005), ISE President (2009-2010) and Editor in Chief of Electrochimica Acta (2014-2024).

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 automatic life-time ISE membership:

Hector Abruña
Radoslav Adzic
Richard Alkire
Philippe Allongue
Christian Amatore
Plamen Atanassov
Doron Aurbach
Eric Bakker
Philip N. Bartlett
Martin Bazant
R. Jürgen Behm
Daniel Bélanger
Nick Birbilis
Alan Bond
Gerardine Botte
Thierry Brousse
Elton Cairns
Aicheng Chen
Christos Comninellis
Richard Compton
Serge Cosnier
Michael Eikerling
Chunhai Fan
W. Ron Fawcett
Juan Feliu
Mario Ferreira
Maria Forsyth
Elzbieta Frackowiak
Claude Gabrielli
Hubert Gasteiger
Eliezer Gileadi
Hubert Girault
Yury Gogotsi
*John B. Goodenough**
Justin Gooding
Lo Gorton
Rolando Guidelli
Philippe Hapiot
Jurgen Heinze
Robert Hillman
Bing Joe Hwang
György Inzelt
Kingo Itaya
Yasuhiko Ito
Deborah Jones
Huangxian Ju
Anny Jutand
Takashi. Kakiuchi
Arkady Karyakin
Evgeny Katz
Paul Kenis
Hasuck Kim
Marc Koper
Alexei Kornyshev
Katharina Krischer
Alexander Kuhn
Claude Lamy
Ovadia Lev
Jacek Lipkowski
Yi-Tao Long
Digby Macdonald
Douglas R. MacFarlane
Daniel Mandler
Bing-Wei Mao
Philippe Marcus
Rudolf A. Marcus
Frank Marken
Nenad Markovic
*Jim McBreen**
Richard McCreery
Shelley D. Minteer
Angela Molina
Sanjeev Mukerjee
Richard Nichols
Petr Novak
Mark E. Orazem
Tetsuya Osaka
Masatoshi Osawa
Stefano Passerini
Emanuel Peled
José Pingarron
Bin Ren
Manuel Rodrigo
Beatriz Roldan Cuenya
Zdenek Samec
Robert Savinell
Elena Savinova
David Schiffrin
Wolfgang Schmickler
Patrik Schmuki
Fritz Scholz
Wolfgang Schuhmann
*Bruno Scrosati**
Yang Shao-Horn
Ashok Shukla
Patrice Simon
Ulrich Stimming
Peter Strasser
Shi-gang Sun
Yang-Kook Sun
Zhongqun Tian
Jens Ulstrup
Patrick Unwin
Kohei Uosaki
Costas Vayenas
Alain Walcarius
Li-Jun Wan
Guoxiu Wang
Masahiro Watanabe
Stanley Whittingham
David Wilkinson
George Wilson
Martin Winter
Yongyao Xia
Akira Yoshino
Gleb Yushin
José Zagal
Piotr Zelenay
Jiujun Zhang
Lin Zhuang

**Passed away*

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.

ISE Prize for Electrochemical Energy Conversion and Storage of Division 3 in Honour of Bruno Scrosati The ISE Prize for Electrochemical Energy Conversion and Storage of Division 3 in Honour of Bruno Scrosati, supported by Division 3 "Electrochemical Energy Conversion and Storage", may be awarded annually to a scientist who has made important (lifetime) contribution to experimental or 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.

Frumkin Medal The Frumkin 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-Elevier 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 ISE 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.

General Conference Information

Registration Hours during the Meeting

Registration will take place at the **Convention Center's Registration Offices**

(Ground level - Convention Center Entrance)

Sunday, 6 September	13:00-17:00
Monday, 7 September	08:00-18:00
Tuesday, 8 September	08:00-18:00
Wednesday, 9 September	08:00-11:00
Thursday, 10 September	09:00-17:00
Friday, 11 September	09:00-11:00

On Site Registration Fees

Regular registration fee	820 EUROS
Registration fee for ISE members	710 EUROS
Student registration fee	410 EUROS
Student registration fee for ISE members	360 EUROS

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	10 EUROS
Tutorial lectures	10 EUROS
Banquet	**Sold out** ~~110 EUROS~~

Lunches

Lunch will be provided in **The Gallery - Level 2**

Monday	12:30-13:45
Tuesday	12:30-13:45
Thursday	12:30-13:45

Coffee Breaks

Coffee Breaks will be situated in **The Gallery - Level 2**

Monday, Tuesday, Wednesday, Thursday and Friday Mornings	10:30-11:00
Monday, Tuesday and Thursday Afternoons	16:00-16:30

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 explicit, written consent from ISE.

Daily Schedule 6 - 11 September 2026

Sunday 6		Monday 7	Tuesday 8	Wednesday 9	Thursday 10	Friday 11
	08:15-09:15	Plenary Lecture	Plenary Lecture	Plenary Lecture	Plenary Lecture	Plenary Lecture
	09:30-09:45 09:45-10:00 10:00-10:15 10:15-10:30	Orals	Orals	Orals	Orals	Orals
	10:30-11:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
	11:00-11:15 11:15-11:30 11:30-11:45 11:45-12:00 12:00-12:15 12:15-12:30	Orals	Orals	Poster Session 2 11:00-12:30	General Assembly 11:00-12:00	Orals Closing Ceremony 12:15-12:45
Registration 13:00	12:30 to 14:00	Lunch Div.+Reg. Rep. 12:40-13:40 Lunch	Lunch Council Meeting 12:40-13:40 Lunch	Excursions	Lunch Division Meetings 12:40-13:40 Lunch	
Tutorials 13:30-16:45	14:00-14:15 14:15-14:30 14:30-14:45 14:45-15:00 15:00-15:15 15:15-15:30 15:30-15:45 15:45-16:00	Orals	Orals		Orals	
	16:00-16:30	Coffee Break	Coffee Break		Coffee Break	
Opening Ceremony 17:00-18:00	16:30-16:45 16:45-17:00 17:00-17:15 17:15-17:30 17:30-17:45 17:45-18:00	Orals	Orals		Orals	
Plenary Lecture 18:00-19:00	18:00-18:15 18:15-18:30 18:30-18:45 18:45-19:00	Posters Session 1 & Cocktail 18:00-20:00				
Welcome Reception 19:00-21:00	19:00-19:15 19:15-19:30 19:30-19:45 19:45-20:00				Banquet 19:00-23:00	
	Evening					