38th Topical Meeting

of the International Society of Electrochemistry

8 - 11 September 2024

Manchester, UK

Nanomaterials in Electrochemistry

PROGRAM

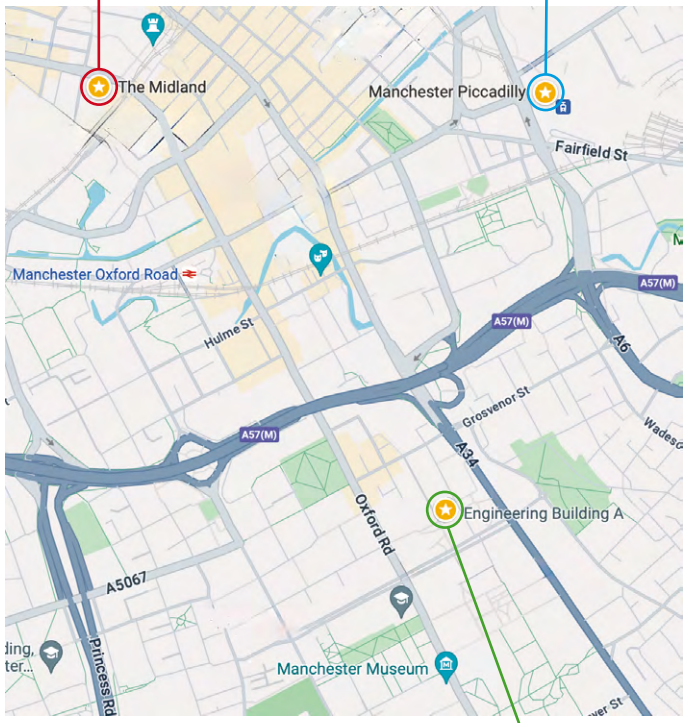
https://topical38.ise-online.org

e-mail: events@ise-online.org

Plan

Conference dinner:
The Midland Hotel
Peter Street, M60 2DS

Main railway station:
Manchester Piccadilly
direct trains to and from
Manchester airport,
London Euston etc.



Conference venue:
Nancy Rothwell Building
(previously 'Engineering building')
Booth Street East, M13 9SS

Conference Venue

Nancy Rothwell Building *(previously 'Engineering building')*
University of Manchester
Booth Street East,
Manchester M13 9SS. UK.

Exhibitor booths

Nancy Rothwell Event Space 2

ALVATEK	1	2	Biologic
HIDEN Analytical	3	4	IVIUM Technologies
Metrohm	5	6	Micrux Fluidic
PalmSens	7	8	PINE / Equilabrium

Exhibition Hours

Sunday:	16:00-19:00
Monday:	09:00-19:00
Tuesday:	09:00-19:00
Wednesday:	09:00-12:00

Sponsors

ICAM

IJ Cambria Scientifi

Exhibitors

ALVATEK

Biologic

Equilabrium

HIDEN Analytical

IVIUM Techonologies

Metrohm

Micrux Fluidic

PalmSens

Pine Research

International Society of Electrochemistry
Chemin du Closelet 2
1006 Lausanne
Switzerland

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Program of the

38th Topical Meeting of the International Society of Electrochemistry

Nanomaterials in Electrochemistry

8 - 11 September 2024
Manchester, UK

Organized by:

Division 4 - Electrochemical Materials Science

Division 7 - Physical Electrochemistry

ISE Region United Kingdom

Organizing Committee

Alessandro Lavacchi *(CNR Florence, Italy)*
Hiroki Habazaki *(Hokkaido, Japan)*
Micheál Scanlon *(Limerick, Ireland)*
Clotilde Cucinotta *(Imperial College London, UK)*

Local Organizing Committee

Robert Dryfe *(Manchester, UK)*
Angel Cuesta *(Aberdeen, UK)*
Mark Symes *(Glasgow, UK)*
Maria Perez-Page *(Manchester, UK)*

Specialized Symposia

S1	Nanomaterials for energy storage
S2 & 4 A	Water electrolysis, CO2RR, FCs, ORR
S2 & 4 B	Fundamentals and double layer
S2 & 4 C	Enzymatic electrochemistry, organic oxidation and electrosynthesis, corrosion and electrodeposition
S2 A	Photoelectrocatalysis & photoelectrochemistry
S2 B	Nitrogen electrocatalysis
S3	Nanomaterials for analysis & environmental protection

Table of Contents

Sunday 8 September

Participant Registration

Nancy Rothwell Event Space 2

16:00 to 18:20 Registration desk will also be open throughout the conference

Welcome reception

Nancy Rothwell Event Space 1 & 2

18:20 to 20:30

Monday 9 September

Opening Ceremony

Nancy Rothwell building: Theatre A

08:50 to 09:00

Drinks and canapés (during poster session)

Nancy Rothwell Event Space 1 & 2

18:00 to 19:00

Tuesday 10 September

Gala Dinner

The Midland Hotel

19:00 **The Midland**

16 Peter Street, Manchester, M60 2DS.

https://www.themidlandhotel.co.uk

THE MIDLAND MANCHESTER

Oral Presentations

Monday 9 September 2024 - Morning

Keynote

Room : Nancy Rothwell building Theatre A

Chaired by Robert Dryfe

09:00 to 09:40 Keynote

Kristina Tschulik *(Chemistry and Biochemistry, Ruhr-Universität Bochum, Bochum, Germany)*

Advanced electrochemical tools to characterise nano-electrocatalysts

Symposium 1 - Nanomaterials for Energy Storage

Room : 2A.014

Chaired by Roberto Torresi up to coffee break & then Antoni Forner-Cuenca to lunch

09:50 to 10:20 Invited

Antoni Forner-Cuenca *(Chemical Engineering and Chemistry, Eindhoven University of Technology, Eindhoven, Netherlands)*, Mojtaba Barzegari, Emre B. Boz, Remy R. Jacquemond, Maxime van der Heijden

Tailoring Morphology and Interfaces of Redox Flow Battery Electrodes to Enhance Mass Transport, Kinetics, and Reaction Selectivity

10:20 to 10:40

Michael Hunt *(Physics, Durham University, Durham, United Kingdom)*, Qaisar Abbas, Leon Finnen, Sivakkumaran Sukumaran, Rhys Williams

Few-layer graphene and MoS_2 as 'active' additives for flexible aqueous supercapacitor electrodes

10:40 to 11:00

Libu Manjakkal *(School of Computing and Engineering & the Built Environment, Libu Manjakkal, Lecturer, Edinburgh Napier University, Edinburgh, United Kingdom)*, Mustehsan Beg, Chandini Kumar, Prasutha Rani Markapudi, Amith Mathew, Febin Paul

Transparent Electrochemical Capacitors for the Next Generation of Bio-inspired Sensing Systems in Human-Machine Interaction

11:00 to 11:30

Coffee Break

11:30 to 12:00 Invited

Nataly Carolina Rosero Navarro *(Glass, Institute of Ceramic and Glass ICV-CSIC, Madrid, Spain)*

Advanced Inorganic Materials for Energy Storage and Generation

12:00 to 12:20

Ying Zhang *(Dept. of Applied Science and Technology, Politecnico di Torino, Turin, Italy)*, Giuseppe Antonio Elia, Claudio Gerbaldi

Highly Conductive Hybrid Ionogel Electrolytes with Ceramic-Rich Matrix for Ambient Temperature Lithium Batteries

12:20 to 12:40

Lina Jarrar *(Chemical engineering, Khalifa University, Abu Dhabi, United Arab Emirates)*, Maryam Khaleel, Ricardo Noguiera

Zeolite Templated Carbon as a Promising Air Electrode for Lithium Oxygen Battery

12:40 to 13:00

Roberto M. Torresi *(Instituto de Química, Universidade de São Paulo, São Paulo, Brazil)*, Maria P. Rodrigues, Rafael K. Saji, Vinícius D. Silva

Enhancing Sodium-ion Battery Performance through Optimization of MnO_2 and Hard Carbon Electrodes in Water-in-Salt Electrolyte

Symposia 2 & 4 Session A - Water electrolysis, CO2RR, FCs, ORR

Room : Theatre A

Chaired by Marion Giraud up to coffee break & then David Fermin until lunch

09:50 to 10:20 Invited

Mohamed Mamlouk *(Engineering, Newcastle University, Newcastle upon Tyne, United Kingdom)*, Jian Huang, Greg Mutch, Stevin Pramana

Restructure and activity of Nickel based Oxygen Evolution Reaction electrocatalysts in Anion Exchange Membrane Electrolysers

10:20 to 10:40

Pedro Martins *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Zain Asif, Dževad Kozlica, Milena Martins, Dusan Strmcnik

Improving the Performance of Platinum for Oxygen Reduction Reaction Through Molecular-Patterned Ionomer-Electrocatalyst Interfaces

10:40 to 11:00

David Fermin *(School of Chemistry, University of Bristol, Bristol, United Kingdom)*, Veronica Celorrio, Alvaro Colina, David Ibáñez, Amelia Langley, Devendra Tiwari

The Electronic and Structural Configurations of $LaNiO_3$ Triggering the Oxygen Evolution Reaction

11:00 to 11:30

Coffee Break

11:30 to 11:50

Wei Zhou *(School of Chemistry, Beihang University, Beijing, China)*, Hua-Jie Niu

Nano-Interface Design for Efficient Catalysts in Water Electrolysis

11:50 to 12:10

Nicolò Rossetti *(Dipartimento di Scienze Chimiche, Università degli Studi di Padova , Padova, Italy)*, Laura Calvillo, Verónica Celorrio, Claudio Cometto, Cristiana Di Valentin, Goran Dražić, Aldo Ugolotti

Insights Into the Active Nickel Centers Embedded in Graphitic Carbon Nitride for the Oxygen Evolution Reaction

12:10 to 12:30

Veronica Sofianos *(School of Chemical and Bioprocess Engineering, University College Dublin, Dublin, Ireland)*, Raman Bekarevich, Gabor Ersek, Eva Murphy, Giuseppe Portale, Aran Rafferty, Brian J. Rodriguez, Bennet Schmitt, Sinny J. Trivedi, Qiancheng Zhang

One-Pot Synthesis of Amorphous Iron-Nickel-Boride Bifunctional Electrocatalysts for Improved Alkaline Water Electrolysis

Symposia 2 & 4 Session B - Fundamentals and double Layer

Room : 2A.012 & 13

Chaired by Matěj Velický to break & then Robert Dryfe until lunch

09:50 to 10:20 Invited

Jun Cheng *(Chemistry, Xiamen University, Xiamen, China)*

Towards AI^2 Electrochemistry (AI^2 = AI x ab initio)

10:20 to 10:40

Joaquin Gonzalez *(Química Física, Universidad de Murcia, Murcia, Spain)*, Jose-Victor Hernandez-Tovar, Eduardo Laborda, Manuela López-Tenés, Antonio J. Martinez-Garcia, Francisco Martínez-Ortiz, Ángela Molina

Voltammetry under bounded/unbounded finite diffusive mass transport conditions. An analytical approach

10:40 to 11:00

Munetaka Oyama *(Graduate School of Engineering, Kyoto University, Japan)*

Formation of Noble Bimetallic Nanoelectrocatalysts on Nickel Wire via Galvanic Replacement Reactions

11:00 to 11:30

Coffee Break

11:30 to 11:50

Lars Fabian Brämer *(Chair of Analytical Chemistry II, Ruhr-University Bochum, Bochum, Germany)*, Paolo Cignoni, Kristina Tschulik, Kevin Wonner

Nanoparticle-Electrocatalysis Revealed via Fluorescent Dye Indication of Local Activity Differences

11:50 to 12:10

Lukas Forschner *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Peter Awakowicz, Albert K. Engstfeld, Lionel Fogang, Jan-Luca Gembus, Andrew R. Gibson, Timo Jacob

Contact Glow Discharge Electrolysis – Nanomaterial Synthesis at the Electrode-Plasma Interface

12:10 to 12:30

Ridha Zerdoumi *(Analytical Chemistry - Center for Electrochemical Sciences, Ruhr-Universität Bochum, Bochum, Germany)*, Alfred Ludwig, Thomas Quast, Alan Savan, Wolfgang Schuhmann, Ridha Zerdoumi

From Macro to Nano Scanning Electrochemical Droplet Cells: High-Throughput Screening of Multi-Metal Materials Toward a Rational Design in Electrocatalysis

12:30 to 12:50

Matej Velický *(Dept. of Electrochemical Materials, J Heyrovský Institute of Physical Chemistry, Prague, Czech Republic)*, Ghulam Abbas, Otakar Frank, Iryna Ivanko, Martin Jindra

Tuning the Fermi Level of Graphene by Electrolyte Gating

12:50 to 13:10

Jessica Smith-Osorio *(Dept. of Chemical Sciences and Engineering, University of Limerick, Limerick, Ireland)*, José Manzanares, Iván Robayo Molina, Micheál Scanlon

Kinetic constants effect on the dynamic photocurrent responses of self-assembled porphyrins at the liquid|liquid interfaces

Symposium 3 - Nanomaterials for analysis & environmental protection

Room : 2A.011

Chaired by Alvaro Colina until break & then Felice Carlo Simeone until lunch

09:50 to 10:20 Invited

Felice Carlo Simeone *(ISSMC, CNR-National Research Council of Italy, Faenza, Italy)*

Understanding and controlling environmental risks of engineered nanomaterials

10:20 to 10:40

Anna Dettlaff *(Chemistry, Gdańsk University of Technology, Gdańsk, Poland)*, Sylwia Fudała-Książek, Yisong Han, Daniel Houghton, Agata Kamieńska-Duda, Piotr Prasuła, Michał Sobaszek, Małgorzata Szopińska, Marc Walker, Geoff West

Utilising sp^2-Rich Dendrite-Like Carbon Nanowall Electrodes for Environmental Monitoring of Nitroaromatic Compounds

10:40 to 11:00

Elizabeth Christie *(Chemistry, Loughborough University, Loughborough, United Kingdom)*, Mark Platt

Advancement of Resistive Pulse Sensing for Particle Identification and Use on Environmental Samples

11:00 to 11:30

Coffee Break

11:30 to 11:50

Alvaro Colina *(Chemistry, Universidad de Burgos, Burgos, Spain)*, Aranzazu Heras, Fabiola Olmo, Martin Perez-Estebanez, Javier del Campo

Combination of Simultaneous Spectroelectrochemistry Techniques for Studying Electrochemical Processes

11:50 to 12:10

Bryan Pichún *(Química de los Materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Maria Aguirre, Fabiana Liendo, Amaya Paz de la Vega, Johisner Penagos, Rodrigo Segura

Single Walled Carbon Nanohorns Decorated with Silver Nanostructures as an Enhanced Voltammetric Platform for Nitrate Determination in Food and Water Samples

12:10 to 12:30

M. Asunción Alonso-Lomillo *(Analytical Chemistry, University of Burgos, Burgos, Spain)*, Olga Dominguez-Renedo, M. Elena Meléndez-Álvarez, A. Marta Navarro-Cuñado, Paula Portugal-Gómez

Headspace amperometric detection of organoleptic defects in wine

Monday 9 September 2024 - Afternoon

Symposium 1 - Nanomaterials for energy storage

Room : 2A.014

Chaired by Robert Dryfe until break & then by Volker Presser

14:30 to 15:00 Invited

Volker Presser *(Energy Materials, INM - Leibniz Institute for New Materials, Saarbrücken, Germany)*

MXene and hybrid electrodes for high performance energy storage

15:00 to 15:20

Aldo Zarbin *(Dept. of Chemistry, Federal University of Paraná, Curitiba, Brazil)*, Carla Klimpovuz, Amanda Pereira, Maria Ramos, Ariane Schmidt

Nanocomposite thin film electrodes for aqueous and transparent Na- or K-ion batteries

15:20 to 15:40

Chloe Balhatchet *(Yusuf Hamied Dept. of Chemistry, University of Cambridge, Cambridge, United Kingdom)*, Alexander Forse, Kangkang Ge, Jamie Gittins, Thomas Kress, Xinyu Liu, Shivani Sharma, Seung-Jae Shin, Patrice Simon, Pierre-Louis Taberna, Teedhat Trisukhon, Aron Walsh

Revealing Ion Adsorption and Charging Mechanisms in Layered Metal-Organic Framework Supercapacitors with Solid-State Nuclear Magnetic Resonance

15:40 to 16:10

Roman Mysyk *(EES, Center for Cooperative Research on Alternative Energies, Vitoria-Gasteiz, Spain)*, Daniel Carriazo, Nahom Enkubahri, Juan Miguel López del Amo, Manuel Pinzón

Dynamics Of Ion Adsorption Into Porous Carbon Electrode Materials From Water-In-Salt And Ionic Liquid Electrolytes

16:10 to 16:30

Coffee Break

16:30 to 17:00 Invited

Takuya Masuda *(Research Center for Energy and Environmental Materials (GREE, National Institute for Materials Science (NIMS), Tsukuba, Japan)*

Electrochemical Lithiation and Delithiation Reactions of a Si Thin Film Electrode Analyzed by in situ X-ray Photoelectron Spectroscopy and Atomic Force Microscopy

17:00 to 17:20

Naveed Ashraf *(Faculty of Physical Sciences, University of Iceland, Reykjavik, Iceland)*, Younes Abghoui

A DFT study of Borophene/Graphene heterostructure for the application of Alkali ion batteries

17:20 to 17:40

Elliot Craddock *(Chemical Engineering, University of Manchester, UK)*

Incorporation of GO-APTS nanoparticles into a Nafion Matrix Structure to Enhance the Membrane Selectivity for Vanadium Redox Flow Batteries

Symposia 2 & 4 Session A - Water electrolysis, CO2RR, FCs, ORR

Room : Theatre A

Chaired by Vasilica Badets until break & then by Toshimasa Wadayama

14:30 to 14:50

Caillean Convery *(Dept. of Chemical Engineering, Newcastle University, Newcastle , United Kingdom)*, Simon Doherty, Mohamed Mamlouk

Coordination Catalysts for Oxygen Evolution Reaction in sea water and alkaline electrolytes

14:50 to 15:10

Toshimasa Wadayama *(Graduate School of Environmental Studies, Tohoku University, Sendai, Japan)*, Yoshihiro Chida

Pt-High Entropy Alloy Single Crystal Lattice Stacking Surface: Oxygen Reduction Reaction Model Catalyst Study

15:10 to 15:30

Daniel Houghton *(Chemistry, University of Warwick, Coventry, United Kingdom), Richard Beanland, Louis Godeffroy, Yisong Han, Frédéric Kanoufi, Julie Macpherson (corresponding)*, Jonathan Sharman, Viacheslav Shkirkiy

Evaluating Fuel Cell Electrocatalyst Degradation in the Absence of Carbon Corrosion using BDD TEM Substrates.

15:30 to 15:50

Atef Iqbal *(Faculty of Physical Sciences, University of Iceland, Reykjavik, Iceland)*, Younes Abghoui, Viktor Ellingsson, Egill Skúlason

Advances in Electrocatalytic Nitrogen Reduction to Ammonia: Insights from Theoretical Analysis

15:50 to 16:10

Jesus Iniesta *(Institute of Electrochemistry, University of Alicante, Alicane, Spain)*, Conchi O. Ania, Alicia Gomis-Berenguer, José Solla-Gullón, Sebastián Torres

Hydrophobicity, porosity and functionalization of nanoporous activated carbon/carbon paper electrodes and their performance of CO_2 electroreduction

16:10 to 16:30

Coffee Break

16:30 to 16:50

Antonio Jesús Medina Olivera *(Dept. of Inorganic Chemistry, Faculty of Sciences. University of Cadiz, Puerto Real, Spain)*, Laura Cubillana Aguilera, Juan Carlos Hernández Garrido, Ana Belén Hungría Hernández, Luc Cyrille Jacques Lajaunie, Ramón Manzorro Ureba, José María Palacios Santander, C. Pardanaud, Juan José Quintana González, Rong Sun

Defect Engineering in 2D-Based Core@Shell Nanostructures for Hydrogen Evolution Reaction: Comparative Study of Au@MoS_2 and Au@ Mo(W)S_2 Systems

16:50 to 17:10

Vasilica Badets *(Institut de Chimie, LECPCS, University of Strasbourg, Strasbourg, France)*, Antoine Bonnefont, Laurent Ruhlmann, Jing Sun, Shen Xin

Hydrogen Evolution and Other Electrochemical Reactions Catalyzed by 3D-Micromettalic Foams with Nanometric Features

17:10 to 17:30

Jhonatan Rodriguez Pereira *(Center of Materials and Nanotechnologies (CEMNAT), University of Pardubice, Pardubice, Czech Republic)*, Jan Macak, Jhonatan Rodriguez Pereira, Hanna Sopha, Sitaramanjaneya Thalluri, Raul Zazpe

Ruthenium Nanostructures by Atomic Layer Deposition towards Alkaline Hydrogen Evolution Reaction

17:30 to 17:50

Christian Leppin *(Analytical Chemistry II – Shape-dependent Electrochemistry, Ruhr University Bochum, Bochum, Germany)*, Julia Linnemann, Oliver Röth, Ravindra Shashindra

Fast, Advanced EQCM-D Measurements for (Sub-)Nanoscale Insights into Electrochemical Processes in Layered Electrode Materials

Symposia 2 & 4 Session C - Enzymatic electrochemistry, organic oxidation and electrosynthesis, corrosion and electrodeposition

Room : 2A.012 & 13

Chaired by Angel Cuesta

14:30 to 14:50

Anastasios Orestis Grammenos *(Colloid Chemistry, Max Planck Institute of Colloids and Interfaces, Potsdam, Germany)*, Rémi André, Markus Antonietti, Mateusz Odziomek

Sustainable Electrochemical Hydrogenation of Maleic Acid on Nitrogen-Doped Carbon Electrodes in Aqueous Media

14:50 to 15:10

Shibin Thomas *(Chemistry, University of Southampton, Southampton, United Kingdom), Nema M Abdelazim, Philip N Bartlett, Victoria K Greenacre, Yasir J Noori, Gillian Reid, Jiapei Zhang, Nikolay Zhelev, C. H. (Kees)* de Groot

Lateral Growth of 2D Transition Metal Dichalcogenides and Their Heterostructures by Electrodeposition

15:10 to 15:30

Fefiei Li *(The Laboratory of Physical Chemistry and Microbiology for Ma, University of Lorraine, Nancy, France)*, Mathieu Etienne, Wassim Ei Hossein, Lin Zhang

Functionalized MOF for NADH Regeneration by Hydrogen

15:30 to 15:50

Clare Megarity *(Chemistry, The University of Manchester, Manchester, United Kingdom)*

Interactive Control of Enzyme Cascades in a Porous Electrode.

15:50 to 16:10

Edmond Magner *(Chemical Sciences, University of Limerick, Limerick, Ireland)*

Nanostructured Electrodes for Biocatalysis

16:10 to 16:30

Coffee Break

Symposia 2 & 4 Session B - Fundamentals and double Layer

Room : 2A.012 & 13

Chaired by Matěj Velický

16:30 to 17:00 Invited

Yvonne Grunder *(Dept. of Physics, University of Liverpool, Liverpool, United Kingdom)*, Yves Joly, Christopher Lucas, Yvonne Soldo-Olivier

In situ x-ray diffraction studies of the atomic structure and charge distribution at the electrochemical interface

17:00 to 17:20

Richard Nichols *(The Dept. of Chemistry, The University of Liverpool, Liverpool, United Kingdom)*

Electrochemically Addressable Nanoscale Junctions

17:20 to 17:40

Enrico Daviddi *(Chemistry, Université Paris Cité, Paris, France)*, Alex Colburn, Andre Geim, Marcelo Lozada-Hidalgo, Patrick Unwin, Oluwasegun Wahab, Benhao Xin

High Resolution Electrochemical Imaging of Proton Transport Through 2D Nanomaterials

Symposium 3 - Nanomaterials for analysis & environmental protection

Room : 2A.011

Chaired by Frank Marken until break & then by Grégoire Herzog

14:30 to 15:00 Invited

Grégoire Herzog *(LCPME, Université de Lorraine - CNRS, France, France)*

Electrochemical Assembly of Au Nanoparticle Film at Liquid-Liquid Interfaces for SERS Applications

15:00 to 15:20

Anastasios Economou *(Chemistry, National and Kapodistrian University of Athens, Athens, Greece)*, Christos Kokkinos, Electra Mermiga, Varvara Pagkali

Paper-Based Biosensing of Carcinoembryonic Antigen with Dual Optical-Electrochemical Detection

15:20 to 15:40

Oluwasesan Adegoke *(Leverhulme Research Centre for Forensic Science, School of S, University of Dundee, Dundee, United Kingdom)*

Molecularly Imprinted Quantum Dots Superlattices for the Electrochemical Detection of Viruses

15:40 to 16:00

Stanko Brankovic *(ECE, University of Houston, Houston, USA)*

Chloride Sensing Using Fiber Brag Grating

16:10 to 16:30

Coffee Break

16:30 to 17:00 Invited

Frank Marken *(Dept. of Chemistry, University of Bath, Bath, United Kingdom)*

Intrinsically Microporous Polymers in Electrochemical Processes

Tuesday 10 September 2024 - Morning

Keynote

Room : Theatre A

Chaired by Clotilde Cucinotta

09:00 to 09:40 Keynote

Patrice Simon *(CIRIMAT, Université Toulouse III, Toulouse, France)*

Unravelling Charge Storage Mechanisms in Materials for Energy Storage using Advanced Electrochemical Techniques

Symposium 1 - Nanomaterials for energy storage

Room : 2A.014

Chaired by Robert Dryfe until break & then by Nuria Garcia-Araez

09:50 to 10:20 Invited

Nuria Garcia-Araez *(Chemistry, University of Southampton, Southampton, United Kingdom)*, Sacha Fop, Andrew Hector, Denis Kramer, Min Zhang

Nanostructured materials for safer batteries and sustainable lithium production

10:20 to 10:40

Imgon Hwang *(Dept. of Chemistry, University of Manchester, Manchester, United Kingdom)*, Ryan Bragg, Robert Dryfe, John Griffin, Mantas Leketas

Investigating “water-in-salts” trifluoroacetate as a promising electrolyte to boost energy storage

10:40 to 11:00

Francisco Garcia-Soriano *(Dept. of Materials Chemistry, National Intitute of Chemistry, Ljubljana, Slovenia)*, Robert Dominko, Volker Presser, Delvina Japhet Tarimo, Alen Vizintin

Design of Novolac-Derived Carbons for Lithium-Sulfur Batteries in Carbonate Electrolytes

11:00 to 11:30

Coffee Break

11:30 to 12:00 Invited

Axel Groß *(Institute of Theoretical Chemistry, Ulm University, Ulm, Germany)*

Nanomaterials for Energy Storage from First Principles

12:00 to 12:20

Rekha Narayan *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Elisabeth Addes, Robert Dominko, Irina Profatilova

Mixed Electron/Ion Conductive Coatings for Ni-rich Cathodes in Li-ion Batteries: Understanding the Surface Degradation probed by Operando Gas Analysis

12:20 to 12:40

Jameela Karol *(Helmholtz Institute Ulm, Karslruhe Institute Technology, Ulm, Germany)*

Understanding the impact of nanoconfinement geometry in pillared V2O5 on electrochemical Li+ intercalation kinetics

12:40 to 13:00

Jaehoon Choi *(Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany)*, Simon Fleischmann

Modifying MoS_2 nanoconfinement geometry and chemistry by interlayer pillaring for pseudocapacitive ion intercalation hosts

Symposia 2 & 4 Session A - Water electrolysis, CO2RR, FCs, ORR

Room : Theatre A

Chaired by Angel Cuesta until break & then by Clotilde Cucinotta

09:50 to 10:20 Invited

Wataru Sugimoto *(Research Initiative for Supra-Materials, Shinshu University, Ueda, Japan)*

Platinum Group Metal Nanosheet Catalysts and Co-catalysts for Fuel Cells

10:20 to 10:40

Clotilde Cucinotta *(Chemistry, Imperial College London, London, United Kingdom)*

Exploring the Pt(111)-Electrolyte Interface Under Applied Potentials with Ab Initio Molecular Dynamics

10:40 to 11:00

Selda Ozkan *(School of Chemistry, University of St Andrews , St Andrews , United Kingdom)*, John Irvine, Seo Jin Kim

Comparison Between Electrocatalytic Activity of Exsolved Precious and Non-precious Metal Nanoparticles on Perovskite Oxides for ORR

11:00 to 11:30

Coffee Break

11:30 to 11:50 Invited

Dusan Strmcnik *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Pedro Farinazzo Bergamo Dias Martins, Matjaž Finšgar, Miran Gaberšček, Boštjan Genorio, Matej Huš, Dževad K. Kozlica, Anja Logar, Maris M. Mathew, Milena Martins, Ožbej Vodeb, Taja Žibert

Hydrogen Evolution Reaction on Ni-based Catalysts: From Extended to Nano-scale Surfaces

11:50 to 12:10

Sharmin Sharna *(Experimental Divission, Synchrotron Soleil, Saint-Aubin, France)*

Operando XAS on Bio-Inspired Metal Oxides/Polymer for Electrocatalytic Water Oxidation

12:10 to 12:30

Angel Cuesta *(Advanced Centre for Energy and Sustainability, University of Aberdeen, Aberdeen, United Kingdom)*, Andrew Burley, Jun Cheng, Xianlong Du, Pavithra Gunasekaran, Jiabo Le

Water at electrode-electrolyte interfaces: combining HOD vibrational spectra with ab initio-MD simulations

Symposia 2 & 4 Session C - Enzymatic electrochemistry, organic oxidation and electrosynthesis, corrosion and electrodeposition

Room : 2A.012 & 13

Chaired by Maria Perez-Page

09:50 to 10:10

Chularat Wattanakit *(School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand)*, Sunpet Assavapanumat, Sopon Butcha, Alexander Kuhn, Watinee Nunthakitgoson, Supattra Somsri

Nanoengineering of chiral encoded metal surfaces for the synthesis of chiral compounds and pharmaceutical products

10:10 to 10:30

Hannah Lane *(Engineering, Lancaster University, Lancaster, United Kingdom)*, Colin Boxall, Thomas Carey, Kamil Klimczak

Exploration of how the Electrochemical Corrosion Behaviour of AISI 304 Stainless Steel in Nitric Acid and THORP Dissolver Simulant Changes with both Molarity and Temperature

10:30 to 10:50

Zeliha Ertekin *(School of Chemistry, University of Glasgow, Glasgow, United Kingdom)*, Ahmed Aboorh, Zeliha Ertekin, Mark D. Symes

Decoupled Electrolysis for Direct Hydrogenation of Organic Substrates under Mild Conditions

10:50 to 11:10

Rashid Al-Heidous *(Chemistry, Imperial College London, London, United Kingdom)*, Dr. Clotilde Cucinotta, Dr. Matthew Darby, Prof. Nicholas Harrison

Ab Initio study of the onset of Al corrosion

Symposia 2 & 4 Session B - Fundamentals and double Layer

Room : 2A.012 & 13

Chaired by Robert Dryfe

11:30 to 12:00 Invited

Marc Koper *(Leiden Institute of Chemistry, Leiden University, Leiden, Netherlands)*

Electric double layer of platinum and gold

12:00 to 12:20

Alexander Kuhn *(Institut of Molecular Science, University of Bordeaux, Pessac, France)*, Mohsen Beladi-Mousavi, Ruchao Gao, Gerardo Salinas, Lin Zhang

Highly Controlled Elaboration of Multi-functional Graphene Monolayers via Bipolar Electrochemistry

12:20 to 12:40

Ahyoun Lim *(Electrochemistry, Max-Planck-Institut für Chemische Energiekonversion, Mülheim an der Ruhr, Germany)*, Kahyun Ham, Ioannis Spanos

Operando Analysis of Underlying Mechanisms of Reversible Deactivation and Reactivation of Iridium-Based OER Catalysts

Tuesday 10 September 2024 - Afternoon

Keynote

Room : Theatre A

Chaired by Laurence Hardwick

14:25 to 14:30

Short presentation on Electrochimica Acta (society journal) by Laurence Hardwick

14:30 to 15:10 Keynote

Clare Grey *(Yusuf Hamied Dept. of Chemistry, University of Cambridge , Cambridge, United Kingdom)*

Magnetic Resonance and Optical Operando Studies of Supercapacitor and Battery Function

Symposium 1 - Nanomaterials for energy storage

Room : 2A.014

Chaired by Dominic Bresser until break & then by Nuria Garcia-Araez

15:10 to 15:30

Mesfin Kebede *(Institute for Nanotechnology and Water Sustainability, University of South Africa, Johannesburg, South Africa)*

Strategies to improve the electrochemical performance of Mn-based cathode materials for lithium-ion battery: Core/Shell, $LiMn_2O_4$ @ $LiMn_{1.5}Ni_{0.5}O_4$ to attain high-rate capability and cycling stability

15:30 to 15:50

Navid Solati *(Laboratoire Chimie de la Matière Condensée de Paris, Sorbonne University, Paris, France)*, Sarp Kaya, Christel Laberty-Robert, Sathiya Mariyappan

Enhanced Sodium Ion Storage Capacity in 2-Dimensional Heterostructures with Modified interfaces

16:10 to 16:30 Coffee Break

16:30 to 17:00 Invited

Dominic Bresser *(Helmholtz Institute Ulm (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany)*, Yunjie Li, Yanjiao Ma

Unexpected Redox-Activity of Dopants in Stable Insertion-type Anode Materials for Alkali Metal-Ion Batteries

17:00 to 17:20

Robert Dryfe *(Chemistry, Univ of Manchester, Manchester, United Kingdom)*

Capacitance, Surface Chemistry and Wetting Properties of Carbon (Nano)materials

Symposia 2 & 4 Session A - Water electrolysis, CO2RR, FCs, ORR

Room : Theatre A

Chaired by Michael Eikerling until break & then by Clotilde Cucinotta

15:10 to 15:30

Luís Pinho *(Chemistry, Lancaster University, Lancaster, United Kingdom)*, Kathryn Toghill

Benchmarking Nanosized Electrocatalysts for the Redox-Mediated Alkaline Hydrogen Evolution Reaction

15:30 to 15:50

Richard Clark *(Chemical Engineering, University of Birmingham, Birmingham, United Kingdom)*, Eman Alharbi, Gazimagomed Aliev, Jesum Alves Fernandes, Emerson Kohlrausch, Neil Rees, Wolfgang Theis

Platinum Nanocluster Catalysis: Fabrication, Characterisation and Applications.

15:50 to 16:10

Jonathan Filippi *(Institute of Chemistry of Organometallic Compounds, National Research Council, Sesto Fiorentino, Italy)*, Roberto Gobetto, Alessandro Lavacchi, Hamish Miller, Carlo Nervi, Riccardo Rocca, Laura Rotundo, Francesco Vizza

Efficient Electroreduction of CO_2 to CO and HCOOH in a gas-liquid buffer layer flow cell employing carbon cloth electrodes functionalized with a fac-Mn(apbpy)$(CO)_3$Br complex as gas diffusion cathodes

16:10 to 16:30

Coffee Break

16:30 to 17:00 Invited

Michael Eikerling *(Institute of Energy and Climate Research, IEK-13, Forschungszentrum Jülich GmbH, Jülich, Germany)*, Jun Huang, Xinwei Zhu

Deciphering Electrocatalytic Reactions with Theory and Computation

17:00 to 17:20

Zain Abdulrahman Asif *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Pedro Martins, Milena Martins, Dusan Strmcnik

Promoting the Oxygen Reduction Reaction at Platinum Surfaces Through Molecular Patterning

17:20 to 17:40

Vladislav Mints *(Chemistry, Biochemistry and Pharmaceutical Sciences, University of Bern, Bern, Switzerland)*, Matthias Arenz

A Statistical View on Heterogeneous Alloy Catalysis

Symposia 2 & 4 Session B - Fundamentals and double Layer

Room : 2A.012 & 13

Chaired by Mira Todorova until break & then by Karsten Reuter

15:10 to 15:40 Invited

Karsten Reuter *(Theory Dept., Fritz-Haber-Institut der MPG, Berlin, Germany)*

Computational Electrocatalyst Design beyond Crystalline Active Sites

15:40 to 16:00

Noah Al-Shamery *(School of MSE/Dept. of Chemistry, NTU Singapore/ University of Warwick, Coventry, United Kingdom)*, Bethanie Dean, Pooi See Lee, Patrick R. Unwin, Dimitrios Valavanis, Paul Wilson

Optimizing the Micro-/Nanoscale Fabrication of Conducting Polymers Using Scanning Electrochemical Cell Microscopy (SECCM)

16:10 to 16:30

Coffee Break

16:30 to 17:00 Invited

Mira Todorova *(Computational Materials Design, Max-Planck-Institute for Sustainable Materials, Duesseldorf, Germany)*, Florian Deißenbeck, Jörg Neugebauer, Sudarsan Surendralal, Stefan Wippermann

Atomic insights into fundamental processes at electrochemical solid/liquid interface by ab initio calculations

17:00 to 17:20

Oliver Waszkiewicz *(Dept. of Materials, Imperial College London, London, United Kingdom)*

Resolving Nanoscale Confinement Effects of Iodide in Nanoporous Gold Using Cryogenic Atom Probe Tomography

17:20 to 17:40

Silvia Voci *(Laboratoire Interfaces Traitements Organisation et Dynamique, Université Paris Cité, Paris, France)*, Frédérik Kanoufi, Jean-François Lemineur, Vincent Noël, Valérie Ravaine, Neso Sojic, Zhu Zhang

Nanohydrogels Surprising Spatiotemporal Dynamics Towards an Electrified Interface Revealed by Interference Scattering Microscopy

Wednesday 11 September 2024 - Morning

Keynote

Room : Theatre A

Chaired by Robert Dryfe

09:00 to 09:40 Keynote

Radha Boya *(Physics and Astronomy, University of Manchester, Manchester, United Kingdom)*

Angstrom-scale channels made from 2D materials: Molecular Transport

Symposium 1 - Nanomaterials for energy storage

Room : 2A.014

Chaired by Isidora Cekic-Laskovic until break & then by Laurence Hardwick

09:50 to 10:10 Invited

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

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

10:10 to 10:30

Laurence Hardwick *(Chemistry, University of Liverpool, Liverpool, United Kingdom)*, Jacqui Everitt, Alex Neale

Careless Crosstalk Causes Loss in Cycle-Life

10:30 to 10:50

Sima Lashkari *(Chemical Engineering, POLYMAT, San Sebastian, Spain)*, Ousmane Camara, Rafael Del Olmo Martinez, Nicolas Goujon, David Mecerreyes, Anto P. Varghese, Irune Villaluenga, Daniela de Morais Zanata

Charge Storage Mechanism Analysis of Liquid and Solid-state Electrolytes for Design Optimization of Hybrid Redox-Active Pseudocapacitor

10:50 to 11:10

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

Atomic Layer Deposition of Lithium Metal: A Strategy for Enhanced Stability in Lithium Batteries

11:10 to 11:30

Coffee Break

11:30 to 12:00 Invited

Isidora Cekic-Laskovic *(Helmholtz-Institute Muenster, IEK-12, Forschungszentrum Juelich GmbH, Münster, Germany)*

Multifunctional Electrolytes for Lithium-based Batteries: Drop that Zero and Get with the Hero

12:00 to 12:20

Thukshan Samarakoon *(Chemistry, The University of Liverpool, Liverpool, UK)*, Elliot Coulbeck, Laurence J. Hardwick, Alex R. Neale, Dan Saccomando

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

Symposium 2B - Nitrogen electrocatalysis

Room : 2A.012 & 13

Chaired by Clotilde Cucinotta

09:50 to 10:20 Invited

Raphael Nagao *(Chemistry, University of Campinas, Campinas, Brazil)*, João B. Souza Jr, Marta C. Figueiredo, Manuel E. G. Winkler, Gabriel F. Costa, Thiago Mariano, Igor Messias, Nirala Singh, Itamar T. Neckel

Oxide-Derived Copper as a Highly Selective Electrocatalyst for Nitrate Reduction Reaction to Ammonia

10:20 to 10:40

Ruba Hendi *(Chemical Engineering, University of Birmingham, United Kingdom)*

Investigating Ni, Cu and Pt Single Atoms and Nanoclusters as Electrocatalyst Material for the Ammonia Oxidation Reaction

10:40 to 11:00

David Eisenberg *(Schulich Faculty of Chemistry, Technion - Israel Institute of Technology, Haifa, Israel)*

Nano-scale Tuning of the Catalytic Pocket of a Fe-N-C Electrocatalyst:A Breakthrough in Hydrazine Oxidation Electrocatalysis

Symposium 2A - Photoelectrocatalysis and photoelectrochemistry

Room : 2A.012 & 13

Chaired by Angel Cuesta

11:30 to 12:00 Invited

Susana Cordoba de Torresi *(Quimica Fundamental, Universidade de São Paulo, São Paulo, Brazil)*, Leonardo D. De Angelis, Lucas D. Germano

Plasmon-enhancement electrochemical strategies for sustainable energy development

12:00 to 12:20

Andrew Bagnall *(Dept. of Chemistry - Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Sagar Ganguli, Alina Sekretareva

Nanoscale Strategies for Amplifying the Enhancement in Plasmon-Enhanced Electrocatalysis: Insights and Challenges

12:20 to 12:40

Chun-Yi Chen *(Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan)*, Tso-Fu Mark Chang, Yi-Hsuan Chiu, Yung-Jung Hsu, Masato Sone

Enhanced Photoelectrochemical Water Splitting by Anodized Ti-Nb-Ta-Zr-O Mixed-Oxide Nanotube Arrays

Symposia 2 & 4 Session A - Water electrolysis, CO2RR, FCs, ORR

Room : Theatre A

Chaired by Robert Dryfe until break & Kathryn Toghill

09:50 to 10:10 Invited

Kathryn Toghill *(Chemistry, Lancaster University, Lancaster, United Kingdom)*, Craig Armstrong, Mark Potter, Daniel Smith

Tailoring Decoupled Electrochemical CO_2 Reduction Using Nanostructured Catalysts

10:10 to 10:30

Michele Del Moro *(Applied Electrochemistry and Catalysis (ELCAT), University of Antwerp, Antwerp, Belgium)*, Tom Breugelmans, Daniel Choukroun

Engineering of Cu_2O nanowires – based photoelectrodes for CO_2 reduction

10:30 to 10:50

Yuxiang Zhou *(Dept. of Materials, Imperial College London, London, United Kingdom)*, Benjamin Bowers, Ayman El-Zoka, James Murawski, Rose P Oates, Mary P Ryan, Ifan E L Stephens

Strain Engineering of Nano-porous Cu for Electrochemical $CO_{(2)}$Reduction

10:50 to 11:10

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

Electrochemically Decoupled Reduction of CO_2 to Syngas Enabled by Gold on Carbon Nanoparticles

11:10 to 11:30

Coffee Break

11:30 to 12:00 Invited

Christopher Hardacre *(Chemical Engineering, University of Manchester, Manchester, United Kingdom)*

Utilisation of ionic liquids for the capture and electrochemical conversion of CO_2

12:00 to 12:20

Xiang Li *(Chemistry, Queen Mary University of London, London, United Kingdom)*

Structural and Morphological Design of Transition Metal-based Nanomaterials as High-Performance OER Electrocatalysts

12:20 to 12:40

Albertus Handoko *(Emerging Technologies, ISCE2, A*STAR, Singapore, Singapore)*, J. M. Arce-Ramos, Yang Bai, Kedar Hippalgaonkar, Mark Isaacs, Zi Hui Jonathan Khoo, C. Y. J. Lim, Yee-Fun Lim, Ming Lin, Chee Koon Ng, Ivan P. Parkin, Gopinathan Sankar, Michael B. Sullivan, Teck Lip Dexter Tam, W. J. Teh, Boon Siang Yeo, Meltem Yilmaz, Jia Zhang, Yuangang Zheng

Surface charge as activity descriptors for electrochemical CO_2 reduction to multi-carbon products on organic-functionalised Cu

Poster Presentations

Event Space 1 & Blended Lecture Theatre GA.056

Monday, 9 September, *18:00-19:00*
Symposia 2 & 4 *(Drinks & canapés)*

Tuesday, 10 September, *18:00-19:00*
Symposia 1 & 3 *(Drinks & canapés)*

S1 - Nanomaterials for Energy Storage

S1-P-001

Younes Abghoui *(Engineering and Natural Sciences, University of Iceland, Reykjavik, Iceland)*

Hydrogen Fuel Cells vs Lithium-Ion Batteries in Electric Vehicles

S1-P-002

Maria Apostolopoulou *(Dept. of Electrical and Computer Engineering, Hellenic Mediterranean University, School of Engineering, Heraklion, Greece)*, Christina Floraki, Nikolaos Kavousanos, Dimitra Vernardou

Growth and electrochemical evaluation of sustainable electrodes for aqueous lithium-ion batteries

S1-P-003

Ananya Bansal *(Institute Instrumentation Centre, Indian Institute of Technology Roorkee, Roorkee, India)*, Ramesh Chandra, Pramod Kumar

Enhancing Battery Performance with Vanadium Oxide (V_2O_5) Thin Film Cathodes via Reactive Magnetron Sputtering: A Lithium-Free Approach

S1-P-004

Alisa Bogdanova *(School of Chemical Engineering, Aalto University, Espoo, Finland)*, Tanja Kallio, Eldar M. Khabushev, Xiangze Kong, Filipp A. Obrezkov

Binder- and Solvent-free $LiNi_{0.8}Mn_{0.1}Co_{0.1}O_2$ Electrode Enabled by Single-walled Carbon Nanotube Coating for Li-ion Batteries

S1-P-005

Filipe Braga *(Chemistry, University of Liverpool, Liverpool, United Kingdom)*, Laurence Hardwick

In situ Raman microscopy studies on manganese oxide pseudocapacitors in highly concentrated electrolytes

S1-P-006

Xianhong Chen *(Dept. of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hong Kong, China)*, Guozhao Fang, Wai-Yeung Wong

Thermodynamics and Kinetics of Conversion Reaction in Zinc Batteries

S1-P-007

Praeploy Chomkhuntod *(Materials, Imperial College London, London, United Kingdom)*, David Anthony, Gabriel Coulter, Monaly Depala, Milo Shaffer

Pre-activation Strategy for Small Organic Molecules Towards Sustainable and High-Performance Aqueous Na-ion Batteries

S1-P-008

Enrico Daviddi *(Chemistry, Université Paris Cité, Paris, France)*, Nikan Afsahi, Frédéric Kanoufi, Jean-François Lemineur, Aleksei Makogon, Jean-Marc Noël, Zhu Zhang

Single Entity and Pseudo-Single Entity Analysis of Palladium nanoparticles for Hydrogen Storage with Scanning Electrochemical Cell Microscopy

S1-P-009

Juliana Diaz-Reyes *(Chemical Sciences, University of Limerick, Limerick, Ireland)*, Micheál Scanlon

Interfacial Electropolymerization of PEDOT Thin Films Via Fe(III) Mediators

S1-P-010

Ran Dong *(KIT Faculty of Chemistry and Biosciences, Karlsruhe Institute of Technology, Ulm, Germany)*, Dominic Bresser, Xu Dong

Hybrid Electrolytes with 3D $Li_7La_3Zr_2O_{12}$ Matrix and Single-ion Conducting Polymer for Solid-state Lithium Batteries

S1-P-011

Anook Nazer E A *(Chemistry, IISER Thiruvananthapuram, Thiruvananthapuram, India)*, Azhagumuthu Muthukrishnan

Mechanochemical Doping of Boron & Nitrogen on Graphite Metal-Free Bi-functional Electrocatalysts for Zinc-Air Battery

S1-P-012

Mian Muhammad Faisal *(Dept. of Physics, Durham University, Durham, United Kingdom)*, MRC Hunt

Optimising Electrochemical Storage Performance of 2D MoS_2 in Aqueous Electrolytes

S1-P-013

Nuria Garcia-Araez *(Chemistry, University of Southampton, Southampton, United Kingdom)*, Philip Bartlett, Nikolay Zhelev

Correlative SEM, EDX and Raman for battery characterization

S1-P-014

Emmanuel Iwuoha *(Dept. of Chemistry, University of the Western Cape, Cape Town, South Africa)*, Chinwe Ikpo, Miranda Ndipingwi

High-Performance Solvothermal Zinc-Doped Lithium Manganese Silicate Supercapattery

S1-P-015

Amrita Jain *(Dept. of Mechanics of Materials, IPPT PAN, Warsaw, Poland)*

Modification of Carbon Network for Enhanced Electrochemical Properties

S1-P-016

Randy Jalem *(Research Center for Energy and Environmental Materials, National Institute for Materials Science, Tsukuba, Japan)*, Manas Likhit Holekevi Chandrappa, Shyue Ping Ong, Ji Qi, Yoshitaka Tateyama

Lithium Dynamics Study at Grain Boundaries of β-Li_3PS_4 Solid Electrolyte by Nanoscale Molecular Dynamics Method

S1-P-017

Taylan Karakoç *(Electrochemistry, ICPEES/Université de Strasbourg, Strasbourg, France)*, Katia Araujo da Silva, Dominique Bégin, Sylvie Bégin-Colin, Batiste Clavier, Malika El Ghozzi, Régis Porhiel, Sergey N. Pronkin

Nanostructured iron- and manganese-based spinel oxides / composites and their fluorination as effective conversion-type negative electrode in lithium-ion batteries and supercapacitors

S1-P-018

Anna Kobets *(Dept. of Chemistry and Material Science, Aalto University, Espoo, Finland)*, Basit Ali, Tanja Kallio, Janez Kosir, Ulla Lassi

Investigating Doping and Calcination Effects on Nickel-Rich Layered Oxide Positive Electrode Material Enhancing the Lithium-Ion Batteries Performance

S1-P-019

Cansu Kök *(Materials Science and Engineering, Leibniz Institut for New Materials, Saarbrücken, Germany)*, Volker Presser, Antje Quade, Jean Gustavo Ruthes, Matthew E. Suss, Lei Wang

Continuous Lithium-Ion Extraction via Fuel Cell Desalination

S1-P-020

Xiangze Kong *(Dept. of Chemistry and Materials Science, Aalto University, Espoo, Finland)*, Tanja Kallio, Donglin Li

The impact of morphology and doping on the functionality of $LiNiO_2$ positive electrode material

S1-P-021

Pramod Kumar *(Institute Instrumentation Centre, Indian Institute of Technology Roorkee, Roorkee, India)*, Ramesh Chandra

Additively Manufactured Mo_2C MXene Electrode for High-Performance Supercapacitor Electrode

S1-P-022

Elisabeth Leeb *(Institute of Physical Chemistry, Johannes Kepler University, Linz, Austria)*, Nadine Kleinbruckner, Jozef Krajcovic, Helmut Neugebauer, Jan Richtar, Niyazi Serdar Sariciftci, Corina Schimanofsky, Dominik Wielend

Homogeneous and Heterogeneous Riboflavin Catalysts for Oxygen Reduction Reactions

S1-P-023

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

Organic Redox Mediators and Targets for Flow Battery Applications

S1-P-024

Yaqi Li *(Dept. of Energy, Aalborg University, Aalborg Øst, Denmark)*, Daniel-Ioan Stroe, Hongbo Zhao

Enhancing Fast-Charging Performance through Battery-Positive Electrode Material Optimization

S1-P-025

Yunjie Li *(Chemistry and Biosciences, Karlsruhe Institute of Technology; Helmholtz Institute Ulm, Ulm, Germany)*, Johannes Biskupek, Dominic Bresser, Thomas Diemant, Francesco d'Acapito, Ute Kaiser, Giovanni Orazio Lepore, Yueliang Li, Xilai Xue

Uncovering the Mechanism of Atomic Ru Doping to Improve the Performance of Insertion-Type Anode for Lithium-Ion Battery

S1-P-026

Alex Neale *(Stephenson Institute for Renewable Energy, University of Liverpool, Liverpool, United Kingdom)*, Andrew Cooper, Hui Gao, Laurence Hardwick, Marc Little

Multi-step carbonyl lithiation redox mechanism in high specific capacity covalent organic frameworks revealed via operando Raman spectroelectrochemistry

S1-P-027

Yi Sak Noh *(Hydrogen energy research, Korea Research Institute of Chemical Technology, Daejeon, Korea)*, Hwan Yeop Jeong, Jeonghun Kim, Duk Man Yu

Impact of well-dispersed cerium oxide nanoparticles on hydrocarbon-based composite membranes in proton exchange membrane water

S1-P-028

Roberto Luigi Oliveri *(Dipartimento di Ingegneria, Università degli Studi di Palermo, Palermo, Italy)*, Alberto Affranchi, Giuseppe Aiello, Nicola Campagna, Maurizio Cellura, Salvatore Geraci, Rosalinda Inguanta, Sonia Longo, Rosario Miceli, Nadia Moukri, Bernardo Patella, Filippo Pellitteri

Design of Zero-Gap Alkaline Electrolyzer with Nanostructured Electrodes for Hydrogen Production

S1-P-029

Daranphop Pikulrat *(School of Energy Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC), Rayong, Thailand)*, Samutr Assavachin, Teera Butburee, Kajornsak Faungnawakij, Montree Sawangphruk, Phatsawit Wuamprakhon

Electrospun Nanotubular $NiCo_2O_4$ Composites as Bifunctional Photoelectrocatalysts for Enhanced Oxygen Evolution and Reduction in Zinc-Air Batteries

S1-P-030

Matthew Quarrell *(Dept. of Chemistry, University of Liverpool, Stephenson Institute for Renewable Energy, Liverpool, United Kingdom)*, Robert Batty, Laurence Hardwick, Alex Neale, Matthew Quarrell, Dmitry Shchukin

Micro-encapsulated Phase Change Materials for Lightweight Battery Thermal Management Systems

S1-P-031

Guido Spanu *(Electrochemical Energy Storage, Vitoria-Gasteiz, Spain)*

Investigating the structure and electrochemistry of coated single-crystalline Ni-rich layered oxides

S1-P-032

Egle Usoviene *(Physical and Inorganic Chemistry, Kaunas University of Technology, Kaunas, Lithuania)*, Egidijus Griskonis

Hydrothermal Synthesis of C/FexS Composites for Applications as Electrode Materials in Sodium-Ion Batteries

Symposia 2 & 4 Session A: Water Electrolysis, CO2RR, FCs, ORR

S2-4A-P-001

Alaa Abbas *(Dept. of Chemical, Materials and Production Engineering, Università degli Studi di Napoli Federico II, Napoli, Italy)*, Mirella Di Lorenzo, Mostafa M. Omran, Antonio Marzocchella, Ehab N. El Sawy

Carbon-Felt Modified with Molybdenum-Based Bimetallic Oxidesas Anodes for Microbial Fuel Cells

S2-4A-P-002

Sami M Alharbi *(Chemistry, University of Bristol, Bristol, United Kingdom)*, Mohammed A Alkhalifah, Veronica Celorrio, David J Fermin, Sami M Alharbi, Athi N. A Rahmah

Structure-Activity Relationship of La1-XNdxCoO$_3$ Nanostructures Toward Oxygen Electrocatalysis

S2-4A-P-003

Caio Almeida *(Dept. of Chemistry, Federal University of São Carlos, São Carlos, Brazil)*, Mariolino Carta, Frank Marken, Lucia Mascaro, Neil McKeown

Enhancing the Electroreduction of N_2 on MoS_2 using a Nanoparticulate Intrinsically Microporous Polymer (PIM-1)

S2-4A-P-004

Huma Amber *(Dept. of Catalysis, National Physical and Technological Sciences Center (NFTMC), Vilnius, Lithuania, Lithuania)*, Eugenijus Norkus, Loreta Tamasauskaite-Tamasiunaite

Electroless Deposited Cobalt-Phosphorus Catalysts for Hydrogen and Oxygen Evolution Reactions

S2-4A-P-005

Hamza Annath *(Chemistry, Lancaster University, United Kingdom)*, Daniel E. Smith, Kathryn Toghill

Cu nanoparticles encapsulated in ZIF-8 on a Gas Diffusion Electrode for the targeted electrochemical reduction of CO_2

S2-4A-P-006

Asa Ashley *(Chemistry, Western Kentucky University, Bowling Green, USA)*, Yat Li, Qiu Ren

Novel Synthesis of Maghemite Nanospheres on Nickel Foam as a bifunctional Electrocatalyst for Alkaline Water Splitting

S2-4A-P-007

Naveed Ashraf *(Faculty of Physical Sciences, University of Iceland, Reykjavik, Iceland)*, Younes Abghoui

Exploring CO_2 Reduction through Electrochemical Conversion for Harnessing Tomorrow's Sustainable Energy

S2-4A-P-008

Aya Assafiri *(Chemistry, UNSW, Sydney, Australia)*, David B. Hibbert, Chen Jia, Donald S. Thomas, Chuan Zhao

Fast and Sensitive Detection Ammonia from Electrochemical Nitrogen Reduction Reactions by ^{1}H NMR with Radiation Damping

S2-4A-P-009

Andrew Bagnall *(Dept. of Chemistry - Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Sagar Ganguli, Alina Sekretareva

Nanoscale Strategies for Amplifying the Enhancement in Plasmon-Enhanced Electrocatalysis: Insights and Challenges

S2-4A-P-010

Filippo Bano *(Chemical Sciences, University of Padova, Padova, Italy)*, Stefano Agnoli, Laura Calvillo, Biagio Di Vizio

A Novel $Ni(OH)_2$-Graphene Acetic Acid Hybrid Material for Decoupled Water Splitting and Urea Oxidation

S2-4A-P-011

Kinga Bilska *(Dept. Physical Chemistry and Electrochemistry, Jagiellonian University, Krakow, Poland)*, Agnieszka Brzózka, Renata Palowska

Effect of the anodization parameters on nanostructured TiO_2 layer produced in Deep Eutectic Solvent-based electrolytes

S2-4A-P-012

Alexander W. Black *(School of Chemistry, University of Bristol, Bristol, United Kingdom)*, David J. Fermin, Paul W. May

Electrodeposition of Nanostructured Nickel onto Boron Doped Diamond for the Hydrogen Evolution Reaction

S2-4A-P-013

Dominik Böhm *(Institute of Physical Chemistry, Johannes Kepler University Linz, Linz, Austria)*, Elisabeth Leeb, Niyazi Serdar Sariciftci

On Metal-Organic Frameworks comprising redox-active Tetrathiafulvalene-analogous Linkers

S2-4A-P-014

Gabriel Boitel-Aullen *(Chemistry, Ruhr University Bochum, Bochum, Germany)*, Sascha Chur, Paolo Cignoni, Andriana Loukovitou, Samira Mansourzadeh, Celia Millon, Clara Saraceno, Thais Schroeder Rossi, Steffen Schuettler, Luca Sicking, Kristina Tschulik

Confinement Controlled Nanocatalyst Synthesis in Reverse Micelles driven by Electrochemistry, Plasma Jets or Ultrafast Pulsed Lasers

S2-4A-P-015

Daniel Choukroun *(Applied Electrochemistry and Catalysis, University of Antwerp, Wilrijk, Belgium)*, Sven Arnouts, Sara Bals, Tom Breugelmans

The Effectiveness of Soft-Landed Copper Oxide Nanocrystal-based Catalyst Layers

S2-4A-P-016

Jacqui Everitt *(Stephenson Institute for Renewable Energy, University of Liverpool, Liverpool, United Kingdom)*, Alexander Cowan, Laurence Hardwick

EC-SHINERS: Investigating Iridium Oxides for OER

S2-4A-P-017

Abdulhai Faqeeh *(Chemistry, University of Glasgow, Glasgow, United Kingdom)*, Mark Symes

A Standard Operating Procedure for Air-spray Deposition of Oxygen Evolution Reaction Electrocatalysts in Proton Exchange Membrane Water Electrolysis

S2-4A-P-018

Magdalena Gurgul *(Dept. of Physical Chemistry and Electrochemistry, Jagiellonian University, Krakow, Poland)*, Bartłomiej Orczykowski, Leszek Zaraska

Investigation on the effect of morphological characteristics on the photoactivity of SnO_2 nanocones fabricated via a simplified CVD approach

S2-4A-P-019

Hiroki Habazaki *(Faculty of Engineering, Hokkaido University, Sapporo, Japan)*

Visible Light Photoelectrochemical Activity of Oxygen-deficient ZnO Nanoporous Films Formed by an Anodizing Process

S2-4A-P-020

Albertus D. Handoko *(Emerging Technologies, ISCE2, A*STAR, Singapore, Singapore)*, Soon Yee Chang, Yilin Guo, Nipun Kumar Gupta, Riko I Made, Zi Hui Jonathan Khoo, Edwin Khoo, Carina Yi Jing Lim, Yee-Fun Lim, Jing Lin, Wen Feng Lu, Zi En Ooi, Balamurugan Ramalingam, Mingyue Wu

How Machine Learning and 3D-Printed Electrodes can Accelerate Electro-organic Synthesis Using Sustainable Precursor: A Case Study of Electrofluorination

S2-4A-P-021

Biao He *(Institute of Materials, Ruhr-Universität Bochum, Bochum, Germany)*, Tong Li

Navigating Spatial Heterogeneity in Surface Dynamics of Co-Cr Spinel Nanoparticles through Atomic-Scale Insights

S2-4A-P-022

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

Development of Polymer Electrolyte Fuel Cells with Porous Foam Distributor

S2-4A-P-023

Joji Higuchi *(Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan)*, Tso-Fu Mark Chang, Chun-Yi Chen, Tomoyuki Kurioka, Masato Sone, Yoshishige Tsuchiya

Hybridization of Poly(3,4-ethylenedioxythiophene) with Au Particles via Oxidative Electrochemical Doping

S2-4A-P-024
Maria Huidobro *(Chemistry Dept., Universidad de Burgos, Burgos, Spain)*, Alvaro Colina, Aranzazu Heras, Juan V. Perales-Rondon, Martin Perez-Estebanez
Development of a New Cell for Simultaneous UV/Vis Absorption in Normal Configuration and Raman Spectroelectrochemistry

S2-4A-P-025
Atef Iqbal *(Faculty of Physical Sciences, University of Iceland, Reykjavik, Iceland)*, Younes Abghoui, Viktor Ellingsson, Egill Skúlason
Discovering Tomorrow's Catalysts: Mapping Nitrogen-to-Ammonia Conversion Horizons

S2-4A-P-026
Mitja Kostelec *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Matija Gatalo, Nejc Hodnik
Towards Understanding the Break-in of Proton Exchange Membrane Fuel Cells

S2-4A-P-027
Tomoyuki Kurioka *(Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan)*, Tso-Fu Mark Chang, Chun-Yi Chen, Masato Sone, Yoshishige Tsuchiya
Electrochemical Hybridization of Poly(3-methoxythiophene) with Au Particles Toward Applications in Electrochemical Alcohol Oxidation

S2-4A-P-028
Augustus K. Lebechi *(School of Chemistry, University of The Witwatersrand, Johannesburg, South Africa)*, Thapelo P. Mofokeng, Kenneth I Ozoemena
Carbon Nanofibers as The Favorite Conducting Additive for Mn_3O_4 Catalysts for Oxygen Reactions in Rechargeable Zinc-Air Battery

S2-4A-P-029
Justus Leist *(Institute for Electrochemistry, Ulm University, Ulm, Germany)*, Albert Engstfeld, Lukas Forschner, Timo Jacob
CGDE-Modified Ni as Oxygen Evolution Reaction Catalyst under Quasi-Industrial Conditions

S2-4A-P-030

Ana Lejtman *(Dept. of Chemistry, Technion - Israel Institute of Technology, Haifa, Israel)*, David Eisenberg

Investigating the Effect of Nickel Hydroxide Phases on the Oxidation of Small Molecules for Energy Conversion

S2-4A-P-031

Feifei Li *(The Laboratory of Physical Chemistry and Microbiology for Ma, University of Lorraine, Nancy, France)*

Functionalized MOF for NADH Regeneration by Hydrogen

S2-4A-P-032

Yuanwu Liu *(Physical Chemistry, Technische Universität Dresden, Dresden, Germany)*, Alexander Eychmüller, Johannes Kresse

Tuning the OH bond Strength on Ru Aerogel to Boost Alkaline Hydrogen Evolution Reaction

S2-4A-P-033

Anja Logar *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Miran Gaberscek, Nejc Hodnik, Dzevad Kozlica, Dusan Strmcnik

The quantification of the effects of bubbles and their role in the investigations of gas evolution reactions

S2-4A-P-034

Rahman MD Mizanur *(Dept. of Energy, Politecnico Di Torino, Torino, Italy)*, Alessandro Hugo Antonio Monteverde, Domenico Ferrero

Impact of Cathode Components on PEM Water Electrolysis: Performance, Degradation, and Future Directions

S2-4A-P-035

Larissa Melo *(Chemistry Dept., Federal University of the Jequitinhonha and Mucuri Valleys, DIAMANTINA, Brazil)*, Rodrigo A. A. Munoz, Luciano C. Arantes, Jian F. S. Pereira, Eduardo M. Richter, Lívia M. S. Aranha, Larissa Melo, Wallans T. P. dos Santos

Comprehensive screening method for detection of amphetamines, synthetic cathinones, piperazines, and phenylethylamines in forensic samples using oxygen plasma-treated graphite sheet electrodes

S2-4A-P-036

Dany S. Monje *(Chemistry and Biology, Universidad de Santiago de Chile, Santiago de Chile, Chile)*, Luis Acuña, Alvaro Muñoz, Ruben Oñate, Ingrid Ponce, Jose H. Zagal

Effect of Catalytic Copper-Iodine Cubane as Axial Ligand of FeN_4 Catalyst for the Oxygen Reduction Reaction

S2-4A-P-037

Inbal Offen Polak *(Schulich Faculty of Chemistry, Technion, Haifa, Israel)*, Tomer Y. Burshtein, David Eisenberg

Bringing Hydrazine Back: An Accessible FeN_4/C Site Enhancing Hydrazine Oxidation Electrocatalysis

S2-4A-P-038

Renata Palowska *(Faculty of Chemistry, Jagiellonian University, Krakow, Poland)*, Agnieszka Brzozka, Lifeng Liu, Mateusz M. Marzec, Krystian Sokolowski, Grzegorz D. Sulka, Zhipeng Yu

Synthesis of Ni-Ru-based Materials with Developed Surfaces for Electrocatalytic Applications

S2-4A-P-039

Daniel Piecha *(Dept. of Physical Chemistry and Electrochemistry, Jagiellonian University, Faculty of Chemistry, Krakow, Poland)*, Agnieszka Brzozka, Joanna Kapusta-Kolodziej

Copper selenide (Cu-Se) Films Electrodeposited from Deep Eutectic Solvents for Applications in Energy Field

S2-4A-P-040

Malgorzata Plachta *(Dept. of Physical Chemistry and Electrochemistry, Jagiellonian University, Faculty of Chemistry, Krakow, Poland)*, Marcin Koziel, Karolina Syrek, Leszek Zaraska

Electrodeposited Nanostructured Tin Dioxide Layers: A Promising Catalyst for Photoelectrochemical Water Splitting

S2-4A-P-041

Nicolò Rossetti *(Dipartimento di Scienze Chimiche, Università degli Studi di Padova , Padova, Italy)*, Laura Calvillo

Beyond Carbon Nitride: Nickel Single Atoms Stabilized in a Triazine-thiophene-based Organic Polymer for the Oxygen Evolution Reaction

S2-4A-P-042

Carol Salazar *(Chemical Engineering, Biotechnology and Materials, Universidad de Chile, Santiago, Chile)*, Melanie Colet-Lagrille, Sergio Gonzalez-Poggini, Bruno Sanchez

Magnesium-doped Hematite as a p-type Photoelectrode Material for the Hydrogen Evolution Reaction

S2-4A-P-043

Bruno Sanchez *(Chemical Engineering, Biotechnology and Materials, Universidad de Chile, Santiago, Chile)*, Melanie Colet-Lagrille

Effects of Assorted Metal Doping on $CuFeO_2$ Photocathodes for the Hydrogen Evolution Reaction

S2-4A-P-044

Marcela Sepúlveda *(Center of Materials and Nanotechnologies - CEMNAT, Univerzita Pardubice, Pardubice, Czech Republic)*, Jan M. Macak, Marcela Sepúlveda, Hanna Sopha

TiO_2 Nanotube Layers: Preparation Using Wireless Anodization

S2-4A-P-045

Yair Shahaf *(Chemistry, Technion - Israel Institute of Technology, Haifa, Israel)*

Nitrite electro-reduction on FeN_4 S2 Catalysts: effect of buffer on activity and selectivity

S2-4A-P-046

Smita Singh *(Chemistry, Institute of Science, Banaras Hindu University, Varanasi, India)*, Vellaichamy Ganesan

Enhanced Oxygen Reduction Activity of Sn-doped $MnCo_2O4$ on Carbon Support

S2-4A-P-047

Bhavin Siritanaratkul *(Chemistry, University of Liverpool, Liverpool, United Kingdom)*

Modelling Enzyme Cascades Confined Within a Porous Electrode for Cofactor Regeneration and Biocatalysis

S2-4A-P-048
Thierry Slot *(Schulich Faculty of Chemistry, Technion - Israel Institute of Technology, Haifa, Israel)*, David Eisenberg, Yair Shahaf, Omer Zaltzberg
Ammonia from Air; $SmMn_2O_5$ as novel catalytic phase for NO_3 reduction

S2-4A-P-049
Mateusz Szczerba *(Dept. of Physical Chemistry and Electrochemistry, Jagiellonian University, Faculty of Chemistry, Krakow, Poland)*, Agnieszka Brzozka, Joanna Kapusta-Kolodziej
Deep Eutectic Solvents as a Medium for Electrodeposition of Cu-S Films – Potential Electrodes for the Energy Sector

S2-4A-P-050
Punvinai Vinaisuratern *(Material Science and Engineering, Tokyo Institute of University, Kanagawa, Japan)*
Morphology Control of Electropolymerized Polypyrrole by Supercritical Carbon Dioxide Emulsified Electrolyte

S2-4A-P-051
Ožbej Vodeb *(Dept. of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia)*, Nejc Hodnik
ElektroKitty: A Simulation Tool for Electrocatalysis

S2-4A-P-052
Junan Wang *(School of Materials and Chemical Technology, Tokyo Institute of Technology, Kanagawa, Japan)*, Tso-Fu Mark Chang, Chun-Yi Chen, Yung-Jung Hsu, Tomoyuki Kurioka, Satoshi Okamoto, Masato Sone, Jhen-Yang Wu
Photocatalytic Activity Enhancement of $ZnFe_2O_4$ Nanocrystals by the Decoration with Gold Nanoparticle

S2-4A-P-035
Kengo Watanabe *(Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan)*, Tso-Fu Mark Chang, Chun-Yi Chen, Tomoyuki Kurioka, Takamichi Nakamoto, Keisuke Okamoto, Masato Sone, Shohei Yoshida, Chi-Hua Yu
Atomic-sized Platinum Clusters Decorated Polyaniline Electrodes Toward Electrochemical Alcohol Sensing

S2-4A-P-054

Jhenyang Wu *(Materials Science and Engineering, Tokyo Institute of Technology, Tokyo, Japan)*, Tso-Fu Mark Chang, Chun-Yi Chen, Wending Hou, Yung-Jung Hsu, Xinyu Jin, Tomoyuki Kurioka, Satoshi Okamoto, Masato Sone, Junan Wang

Electrical Polarization-Induced Enhancement of Photocatalytic Activity in $BiFeO_3$ Nanoparticles

S2-4A-P-055

Leszek Zaraska *(Faculty of Chemistry, Jagiellonian University, Krakow, Poland)*, Magdalena Gurgul, Bartłomiej Orczykowski, Małgorzata Płachta, Karolina Syrek

Tin Oxide Nanostructures for Photoelectrochemical Applications

S2-4A-P-056

Marion Giraud *(ITODYS Laboratory, Université Paris Cité, PARIS, France)*, Marie-Sophie Dias-Fernandes, Gaëlle Khalil, Benedikt Lassalle-Kaiser, Jennifer Peron, Cédric Tard

Synthesis of Ni-based Heterofunctional Catalysts with Ultra-low PGMcontent for the Alkaline Hydrogen Evolution Reaction

Symposia 2 & 4 Session B: Fundamentals and Double Layer

S2-4B-P-001

Aleksandra Swierkula *(Faculty of Chemistry, Jagiellonian University, Krakow, Poland)*, Leszek Zaraska

Application of acid mixtures as electrolytes for the preparation of anodic Al_2O_3

S2-4B-P-002

Katarzyna Grochowska *(Centre of Plasma and Laser Engineering, Institute of Fluid-Flow Machinery Polish Academy of Sciences, Gdansk, Poland)*, Saiful Islam Khan, Katarzyna Siuzdak

Laser-Processed Anodic Semitransparent Oxide Nanotubes Formed From a Ti-Au Co-Sputtered Alloy

S2-4B-P-003

Katarzyna Grochowska *(Centre of Plasma and Laser Engineering, Institute of Fluid-Flow Machinery Polish Academy of Sciences, Gdansk, Poland)*, Dujearic Kouao, Miroslaw Sawczak, Katarzyna Siuzdak

Photoelectrochemical Performance of Semitransparent Tubular Layer Decorated With Laser-Treated MXene

S2-4B-P-004

Jose Víctor Hernández Tovar *(Química Física, Universidad de Murcia, Murcia, Spain)*, Javier Cerezo-Bastida, Jose Pablo Gálvez-Reverte, Joaquín González

Unraveling the Electrocatalytic Ability of TEMPO: A Computational and Experimental Joint Study

S2-4B-P-005

Manuel Hofinger *(Institute of Chemical Technologies of Inorganic Materials, Johannes Kepler University Linz, Linz, Austria)*, Jiri Duchoslav, Achim Walter Hassel, Andrei Ionut Mardare, Gianina Popescu Pelin, Gabriel Socol

Combinatorial screening of structural properties and oxide growth on a co-evaporated Al-Yb Thin-Film library

S2-4B-P-006

Martin Jindra *(Electrochemical materials, J. Heyrovský Institute of Physical Chemistry of the CAS, Prague, Czech Republic)*, Otakar Frank, Luka Pirker, Matej Velicky

In-situ Raman (spectro)electrochemical Study of Monolayer Graphene

S2-4B-P-007

Seyedeh Marzieh Kalantarian *(chemistry, Western University, London, Canada)*, Cathleen Crudden, Yolanda Hedberg, Heng-Yong Nie, Angus Sullivan

Binding between L-Cysteine and NHC-Gold Nanoclusters

S2-4B-P-008

Chun-wei Lin *(Dept. of Chemistry, National Taiwan University, Taipei City, Taiwan)*, Chun-hsien Chen, Yu-lun Hsiao, Liang-chen Liu, Hao Howard Peng, Po-wei Tung

Underpotentially Deposited Nickel Monolayer-modified Electrodes for the Measurements of Single-molecule Junction Conductance

S2-4B-P-009

Antonio Jesús Martínez García *(Physical Chemistry, University of Murcia, Murcia, Spain)*

Mass transfer approach for the analysis of the electrochemical response of fast redox probes at porous electrodes.

S2-4B-P-010

Rahman MD Mizanur *(Dept. of Energy, Politecnico Di Torino, Torino, Italy)*, Alessandro Hugo Antonio Monteverde, Domenico Ferrero, Massimo Santarelli

Probing the Impact of Cathode Thickness and Ionomer Particle Size Distribution on Proton Exchange Membrane Water Electrolysis: Mass Transport and Hydrogen Crossover Analysis

S2-4B-P-011

Hao Howard Peng *(Chemistry, National Taiwan University, Taipei City, Taiwan)*, Chun-hsien Chen, Yen-chang Chiang, Chih-hsun Lin, Chun-wei Lin, Ting-hsuan Ning, Po-wei Tung, Bon-shen Wang

Tuning Electron Transport across Single-molecule Junction: Single-atomic p Metal Decorated Electrodes via Underpotential Deposition

S2-4B-P-012
Marco Schönig *(Catalysis and Surface Chemistry, Leiden, Netherlands)*, Marc Koper, Serge Lemay
Investigation of the electrical double-layer in nanometre sized Au slits

S2-4B-P-013
Ravindra Shashindra *(Analytical Chemistry II – Shape-dependent Electrochemistry, Ruhr Universität Bochum, Bochum, Germany)*, Christian Leppin, Julia Linnemann, Oliver Röth
Probing Transport Processes in Electrodeposited Films of LayeredMaterials by Combining Electroanalytical Methods

S2-4B-P-014
Mayane Sousa Carvalho *(Institute of Chemistry, Federal University of Uberlândia, Uberlandia, Brazil)*, Rodrigo A. A. Munhoz, Diele A. G. Araujo, Amanda Beatriz Nascimento, Osmando F. Lopes, Raquel G. Rocha, Eduardo M. Richter, Thiago R. L. C. Paixão
Improving the electrochemical performance of 3D-printed electrodes: A dual strategy for emerging contaminant detection using (electro) chemical activation and blue-laser irradiation

S2-4B-P-015
Chao Dun Tan *(EaStCHEM School of Chemistry, University of St Andrews, St Andrews, United Kingdom)*, Manfred Buck
Metal Electrodeposition Mediated by Carbon Nanomembranes

S2-4B-P-016
Alexander Vaskevich *(Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel)*, Lev Chuntonov, Gilad Haran
Giant Spectral Shifts of Electrochemically Polarized Plasmonic Nanoparticle on a Mirror

S2-4B-P-017

Dominik Wielend *(Technology, EDL Anlagenbau Gesellschaft mbH, Linz, Austria)*, Dogukan Hazar Apaydin, Josef M. Gallmetzer, Thomas S. Hofer, Mihai Irimia-Vladu, Stefanie Kröll, Sabine Lerch, Felix Mayr, Helmut Neugebauer, Engelbert Portenkirchner, Niyazi Serdar Sariciftci, Corina Schimanofsky, Daniel Werner, Dominik Wielend

Insights into electrochemical CO_2 capture of anthraquinone derivatives using spectroelectrochemistry

S2-4B-P-018

Leszek Zaraska *(Faculty of Chemistry, Jagiellonian University, Krakow, Poland)*, Aleksandra Swierkula, Agnieszka Brzózka, Michał Szuwarzynski

Conditions of Al Polishing Affect the Morphology of AAO Layers Obtained via One-step Anodization

S2-4B-P-019

Zhixu Zhu *(Dept. of Chemical Engineering, Imperial College London, London, United Kingdom)*, Andrea Gonzalez Minaya, Anna Hankin, Inyoung Jang, Callum Wootton

Carbon Nanotube Production from Molten Li_2CO_3 via High Temperature Electrolysis

S3 - Nanomaterials for Analysis and Environmental Protection

S3-P-001

Rodrigo Amorim Bezerra da Silva *(Chemistry Institute, Federal University of Uberlândia, Uberlândia, Brazil)*, Luciano Chaves Arantes, Augusto dos Santos Novais, Ettore Ferrari Júnior, Ricardo Francisco Brocenschi, Bruno Gabriel Lucca, Daiane Gabriela Ribeiro, Edmar Isaias de Melo, Larissa Magalhães de Almeida Melo, Wallans Torres Pio dos Santos

SMART-EC3D: A Simple, Miniaturized, Adaptable, Robust and Transportable 3D-printed electrochemical cell

S3-P-002

Rodrigo Amorim Bezerra da Silva *(Chemistry Institute, Federal University of Uberlândia, Uberlândia, Brazil)*, Edmar Isaias de Melo, Vicelma Luiz Cardoso, Maria Zizi Martins Mendonça de Oliveira

Square-wave voltammetric determination of carbendazim using a 3D-printed based sensor modified with biochar from coffee husks

S3-P-003

Claudio Barrientos *(CIEAM, Universidad Católica del Maule, Talca, Chile)*, Leonardo Albornoz, Silvana Moris

Electrocatalytic Reduction of Glutathione Mediated by Naphthoquinone.

S3-P-004

Vijay Chaudhry *(Environmental Sciences, IOU Foundation, Gurgaon, India)*

Hall's effect, Electrons, Magnetic Force and Gravitational Force.

S3-P-005

Anna Dettlaff *(Chemistry, Gdansk University of Technology, Gdansk, Poland)*, Robert Bogdanowicz, Paweł Jakóbczyk, Paweł Rutecki, Michał Sobaszek

Electrochemical Sensing Electrode Based on Boron-Doped Carbon Nanowalls for Pesticides Detection

S3-P-006

Olga Domínguez-Renedo *(Analytical Chemistry, University of Burgos, Burgos, Spain)*, M. Asunción Alonso-Lomillo, Paula Portugal-Gómez

Quantitative disposable determination of selected volatile phenols in wine using fullerene-modified electrodes

S3-P-007

L. Carolina Espinoza *(Química Farmacológica y Toxicológica, Universidad de Chile, Santiago, Chile)*, Soledad Bollo, Marcelo Kogan, David Vásquez

Inactivation of Escherichia coli using electrodes based on RuO_2, IrO_2 and TiO_2

S3-P-008

Carlos Hernández *(Ingeniería Matemática, Escuela Superior de Física y Matemáticas-IPN, Ixtapaluca, Mexico)*, María Estrella, Zulema Garma, Vianey Urdapilleta

Improvement the nanocomposite´s properties to clean water by mathematical modeling.

S3-P-009

Wei Jin *(School of Environmental Science and Engineering, Suzhou University of Science and Technology, Suzhou, China)*

Nanomaterials Design for the Precise Electrochemical Metal Recovery from Emerging Solid Waste

S3-P-010

Xinyu Jin *(School of Materials Science and Engineering, Tokyo Institute of Technology, Yokohama, Japan)*

Photodegradation of Malachite Green by Gold Decorated Multiferroic $NiFe_2O_4$

S3-P-011

Zulema Lara *(Metallurgy and Materials Engineering, Instituto Politécnico Nacional, Ciudad de México, Mexico)*, Marycarmen Avila, Vianey Urdapilleta

Synthesis Of Metal Nanoparticles with Different Natural Clays from Mexico for Enhanced Water Decontamination.

S3-P-012

Tong Liu *(Optical Biosensors, Institute of Photonics and Electronics, CAS, Praha 8, Czech Republic)*, Amirmansoor Ashrafi, Jiří Homola

Signal Amplification by Gold Nanoarchitectures Modification in a Microfluidics System for Environmental Monitoring

S3-P-013

Ana Clara Oliveira *(Institute of Chemistry, Federal University of Uberlândia, Uberlândia, Brazil)*, Diele Araújo, Rodrigo Muñoz, Eduardo Richter, Agata Rodak, Jacek Ryl, Jessica Stefano

D-printed Electrodes Loaded With Diamond Nanocarbons: An Innovative Approach Towards Improved Electrochemical Detection

S3-P-014

Johisner Penagos Llanos *(Química de los Materiales, Universidad de Santiago de Chile , Santiago , Chile)*, Fernando Gierco, Fabiana Liendo, Edgar Nagles, Amaya Paz de la Vega, Bryan Pichún, Rodrigo Segura

Electrochemical determination of uric acid using a nano composite electrode with molybdenum disulfide/multi walled carbon nanotubes (MoS_2@MWCNT)

S3-P-015

Martín Pérez-Estébanez *(Chemistry, University of Burgos, Burgos, Spain)*, William Cheuquepan, Alvaro Colina, Aranzazu Heras, Sara Orcajo, Luis Romay

Synthesis and Characterization of Raman Enchancing substrates Based on Silver Hexacyanoruthenate.

S3-P-016

Gulmira Rakhymbay *(Center of Physical Chemical Methods of Research and Analysis, Al-Farabi Kazakh National University, Almaty, Kazakhstan)*, Khaisa Avchukir

Electrochemical Synthesis of Molecular Bioimprinted Polymer as Sensor for Detection of Diclofenac

S3-P-017

Luis Romay *(Analytical Chemistry, University of Burgos, Burgos, Spain)*, Alvaro Colina, F. Javier del Campo, Aranzazu Heras, Maria Huidobro, Pello Nuñez Marinero, Martin Perez-Estebanez

CuCl as a new Surface Enhanced Raman Scattering Substrate.

S3-P-018

Rodrigo Segura *(Química de los materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Veronica Arancibia, Fabiena Liendo, Mitzy Nicul, Amaya Paz de la vega, Joshiner Penagos, Bryan Pichun, Jaime Pizarro

Determination of Se(IV) using modified electrodes with reduced graphene oxide and gold nanoparticles

S3-P-019

Onyinyechi Vivian Uhuo *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Emmanuel Iheanyichukwu Iwuoha

Trimetallic Chalcogenide-Sensitised Interferon Gamma Aptasensor for Tuberculosis

S3-P-020

Vianey Urdapilleta Inchaurregui *(Ingeniería y Ciencias Sociales, Instituto Politecnico Nacional, Ciudad de México, Mexico)*, María Verónica Estrella Suárez, Zulema Sarahi Garma Lara, Carlos Iván Hernández López

Improvement of the structural properties of the nanocomposite with Ag-NP, TiO_2-NP, recycled material and natural soils from Mexico employing Design of Experiments.

S3-P-021

Qiong Wu *(Chemical and Biological Engineering, The Hong Kong University of Science and Technology, Hong Kong, China)*, Wei Han, Mark Joseph Mitra Pasciolco, King Lun Yeung

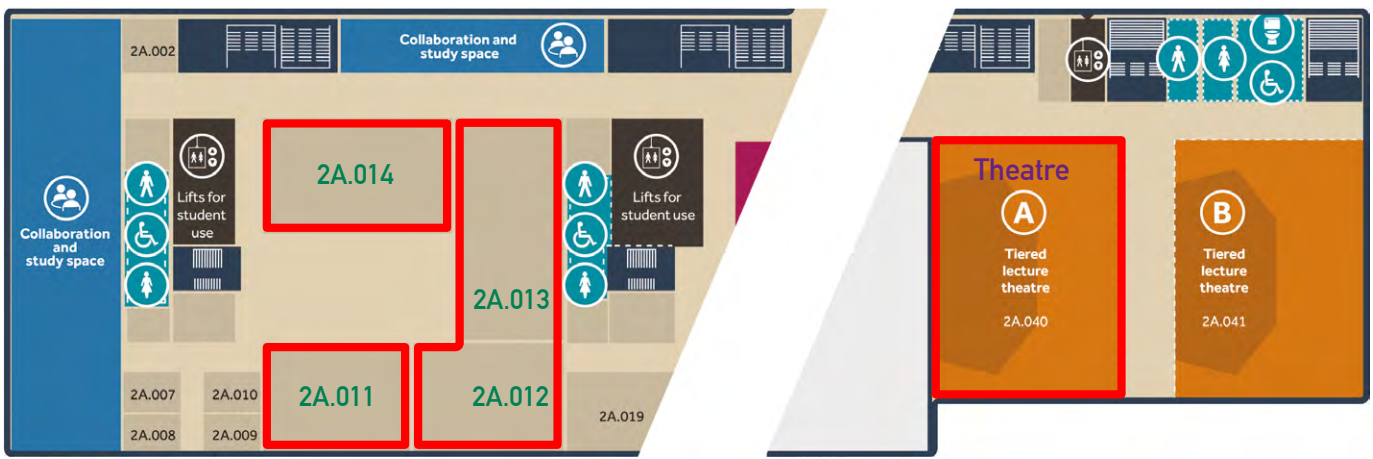
Development of Anti-corrosion and Anti-biodeterioration Coating Materials in Water Distribution Systems

Notes

Notes

MANCHESTER 1824
The University of Manchester
Conferences and Venues

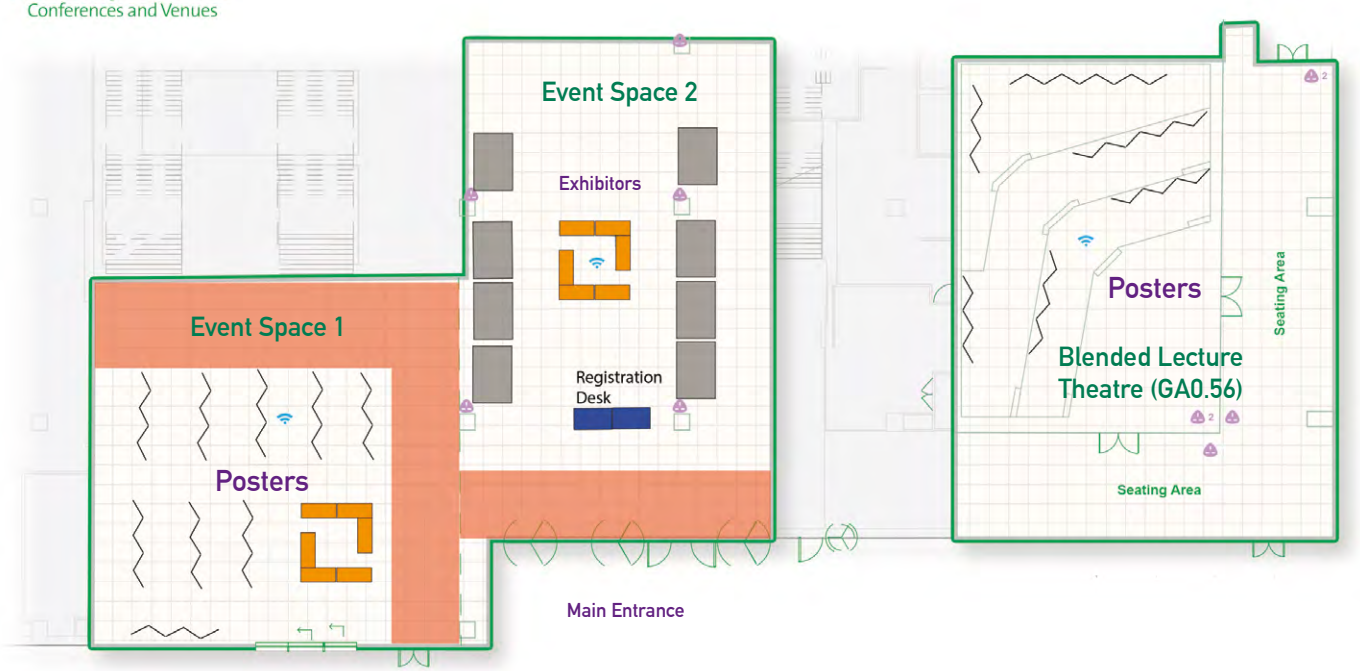
Lecture rooms



Second floor (Nancy Rothwell building)

Ground floor (Nancy Rothwell building)

MANCHESTER 1824
The University of Manchester
Conferences and Venues



38th Topical Meeting of the International Society of Electrochemistry
Conference Schedule

Key to Symposia:

- **S1** - Nanomaterials for energy storage
- **S2 & 4 A** - Water electrolysis, C02RR, FCs, ORR
- **S2 & 4 B** - Fundamentals and double layer
- **S2 & 4 C** - Enzymatic electrochemistry, organic oxidation and electrosynthesis, corrosion and Electrodeposition
- **S2 A** - Photoelectrocatalysis & photoelectrochemistry
- **S2 B** - Nitrogen Electrocatalysis
- **S3** - Nanomaterials for analysis & environmental protection

SUNDAY 8 Sept.

Registration
Event Space 2
16:00 - 18:20

Welcome Reception 18:20 - 20:30

MONDAY 9 Sept.

	Theatre A	2A.014	2A.012 & 13	2A.011
08:50 - 09:00	**Opening Ceremony** (Theatre A)			
09:00 - 09:40	**Keynote** (Theatre A) - Kristina Tschulik			
Room				
09:50 - 11:00	**S2 & 4 A** Invited	**S1** - Invited	**S2 & 4 B** Invited	**S3** - Invited
	S2 & 4 A Orals	**S1** - Orals	**S2 & 4 B** Orals	**S3** - Orals
11:00 - 11:30	Coffee break			
11:30 - 13:00	**S2 & 4 A** Orals	**S1** - Invited	**S2 & 4 B** Orals	**S3** - Orals
		S1 - Orals		
13:00 - 14:30	Lunch			
14:30 - 15:10	**S2 & 4 A** Orals	**S1** - Invited	**S2 & 4 C** Orals	**S3** - Invited
15:10 - 16:10		**S1** - Orals		**S3** - Orals
16:10 - 16:30	Coffee break			
16:30 - 17:50	**S2 & 4 A** Orals	**S1** - Invited	**S2 & 4 B** Orals	**S3** - Invited
		S1 - Orals		**S3** - Oral
Evening	**Poster Session S2 & 4 & Drinks** - 18:00-19:00 Event Space 1 & Blended Lecture Theatre			**S3** Discussion 18:00-18:40

TUESDAY 10 Sept.

	Theatre A	2A.012 & 2A.013	2A.011
09:00 - 09:40	**Keynote** (Theatre A) - Patrice Simon		
Room			
09:50 - 11:00	**S2 & 4 A** Invited	**S2 & 4 C** - Orals	**S1** - Invited
	S2 & 4 A Orals		**S1** - Orals
11:00 - 11:30	Coffee break		
11:30 - 13:00	**S2 & 4 A** Invited	**S2 & 4 B** - Invited	**S1** - Invited
	S2 & 4 A Orals	**S2 & 4 B** - Orals	**S1** - Orals
13:00 - 14:30	Lunch		
14:30 - 15:10	**Keynote** (Theatre A) - Clare Grey		
15:10 - 16:10	**S2 & 4 A** Orals	**S2 & 4 B** - Invited	**S1** - Orals
		S2 & 4 B - Orals	
16:10 - 16:30	Coffee break		
16:30 - 17:50	**S2 & 4 A** Invited	**S2 & 4 B** - Invited	**S1** - Invited
	S2 & 4 A Orals	**S2 & 4 B** - Orals	**S1** - Oral
Evening	**Posters S1 & 3** 18:00-19:00 Event Sp. 1 & Bl. lect.	**S2 & 4** Discussion 18:00-18:40	**S1** Discussion 18:00-18:40

WEDNESDAY 11 Sept.

	Theatre A	2A.012 & 2A.013	2A.014
09:00 - 09:40	**Keynote** (Theatre A) - Radha Boya		
Room			
09:50 - 11:00	**S2 & 4 A** Invited	**S2 B** - Invited	**S1** - Invited
	S2 & 4 A Orals	**S2 B** - Orals	**S1** - Orals
11:00 - 11:30	Coffee break		
11:30 - 13:00	**S2 & 4 A** Invited	**S2 A** - Invited	**S1** - Invited
	S2 & 4 A Orals	**S2 A** - Orals	**S1** - Orals
13:00 - 13:15	**Closing Ceremony** (Theatre A) - 13:00 - 13:15		