The 70th Annual Meeting of the International Society of Electrochemistry

Electrochemistry: Linking Resources to Sustainable Development
4 to 9 August 2019
Durban, South Africa

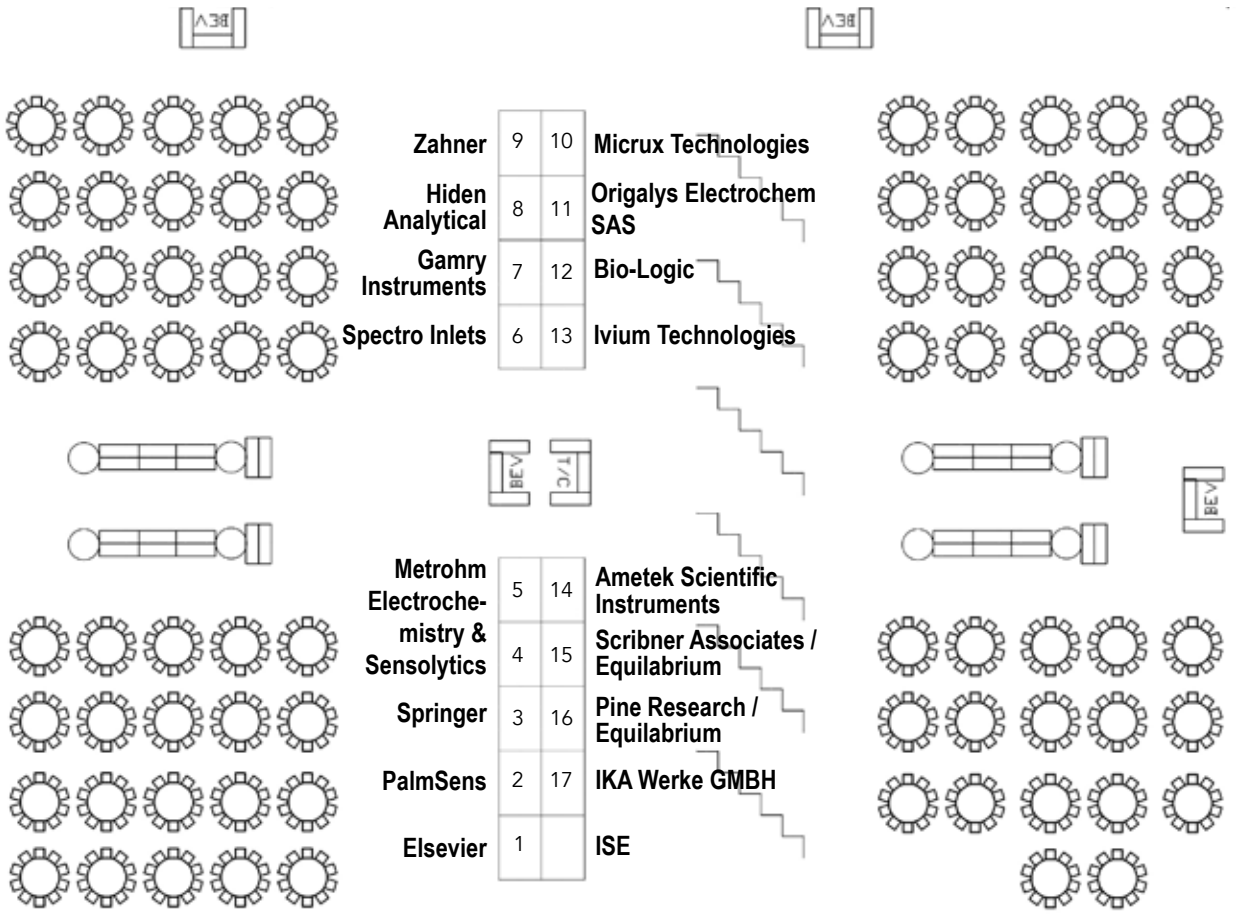
Contents List

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

First published on the website http://annual70.ise-online.org 1 July 2019

Printed in South Africa

Exhibitor booths



Exhibition Hours

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

Exhibitors

- Pine Research/Equilabrium
- Ivium Technologies
- Scribner Associates Inc.
- Origalys Electrochem SAS
- Gamry Instruments
- Zahner
- PalmSens
- ELSEVIER
- Hiden Analytical
- MicruX Technologies
- Bio-Logic
- Springer
- Ametek Scientific Instruments
- Metrohm Electrochemistry & Sensolytics
- Spectro Inlets
- IKA
- Sensolytics

Sponsors

South Africa KWAZULU-NATAL
Zulu Kingdom. Exceptional

DURBAN KWAZULU-NATAL CONVENTION BUREAU
www.durbankzncb.co.za

IUPAC

Organizing Committee

Christian Amatore, *Paris, France*
Priscilla Baker, *Cape Town, South Africa*
Justin Gooding, *Sydney, Australia*
Marilia Goulart, *Maceio, Brazil*
Pieter Levecque, *Cape Town, South Africa*
Janice Limson, *Grahamstown, South Africa (Co-chair)*
Mkhulu Mathe, *Pretoria, South Africa (Co-chair)*
Kenneth Ozoemena, *Johannesburg, South Africa (Chair)*
Zhong-Qun Tian, *Xiamen, China*
Gunther Wittstock, *Oldenburg, Germany*

Symposium Organizers

Symposium 1 **Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors**
Alain Walcarius (Coordinator), Nancy University
Pedro Estrela, University of Bath
Emmanuel Iwuoha, University of Western Cape
Ritu Kataky, University of Durham

Symposium 2 **Sensors and Biosensors for Biomedical and Environmental Applications**
Taek Dong Chung (Coordinator), Seoul National University
Priscilla Baker, University of the Western Cape
Ronen Fogel, Rhodes University
Anthony Guiseppi-Elie, Clemson University

Symposium 3 **Fuel Cells, Biofuel Cells and Electrolyzers**
Kiyoshi Kanamura (Coordinator), Tokyo Metropolitan University
Marian Chatenet, LEPMI
Pieter Levecque, University of Cape Town
Elisabeth Lojou, CNRS, BIP
Peter Strasser, Technische Universitaet Berlin
Hiroyuki Uchida, University of Yamanashi

Symposium 4 **Renewable Energy and Photo-Electrochemistry**
Federico Rosei (Coordinator), INRS, EMT
Baodan Liu, IMR, Chinese Academy of Sciences
Csaba Janaky, University of Szeged
Frank Marken, University of Bath
Malik Maaza, iThemba LABS, UNISA
Mmantsae Diale, University of Pretoria

Symposium 5 **Gold and Related Noble Metals in Electroanalysis, Electrocatalysis, and Electrochemical Devices**
Patrizia Mussini (Coordinator), Università degli Studi di Milano
Munkombwe Muchindu, Mintek
Francesco Paolucci, University of Bologna
Jessie Pillay, NMISA
Alain Walcarius, Nancy University

Symposium 6 **Advances in Bioelectrochemistry**
Seiya Tsujimura (Coordinator), University of Tsukuba
Renata Bilewicz, University of Warsaw
Rachel Fanelwa Ajayi, University of the Western Cape
Elena Ferapontova, Aarhus University
Justus Masa, Ruhr-Universitaet Bochum

Symposium 7 **Batteries for Powering Tomorrow's World**
Stefano Passerini (Coordinator), Karlsruhe Institute of Technology
Mesfin Kebede, CSIR
Robert Kostecki, Lawrence Berkeley National Laboratory
Hiten Parmar, Nelson Mandela University

Symposium 8 **Sustainable Resources, Processes and Design of High Power Supercapacitors**
Francesca Soavi (Coordinator), University of Bologna
Daniel Belanger, Universite du Quebec a Montreal
Katlego Makgopa, Tshwane University of Technology
Ncholu Manyala, University of Pretoria

Symposium 9 **Electro-physical Chemistry and Application of Platinum Group Metals**
Cobus Kriek (Coordinator), North-West University
Stanko Brankovic, University of Houston
Jessica Chamier, University of Cape Town
Angel Cuesta Ciscar, University of Aberdeen
Gary Patrick, Johannesburg

Symposium 10 **New Concepts and Opportunities in Electrochemical Synthesis: Fundamentals, Methods and Applications**
Giovanni Zangari (Coordinator), University of Virginia
Omotayo Arotiba, University of Johannesburg
Luca Magagnin, Politecnico di Milano
Nolwazi Nombona, University of Pretoria

Symposium 11 The Science, Technology and Engineering of Corrosion
Monica Santamaria (Coordinator) Università di Palermo
Esther Akinlabi, University of Johannesburg
Emeka Oguzie, Federal University of Technology Owerri
Sannakaisa Virtanen, University of Erlangen-Nuremberg
Vincent Vivier (Coordinator), University Pierre et Marie Curie

Symposium 12 Electrochemical Technology for Water and the Environment for Social, Health and Economic Development
Manuel A. Rodrigo (Coordinator), Universidad de Castilla-la-Mancha
Henry Bergmann, Anhalt University
Ioannis Ieropoulos, University of the West of England
Chi-Chang Hu, National Tsing Hua University
Heidi Richards, University of the Witwatersrand

Symposium 13 Electrografting of Materials: from Fundamentals to Applications
Olivier Buriez (Coordinator), Ecole Normale Superieure, Paris
Samuel Chigome, Botswana Institute for Technology Research and Innovation
Philippe Hapiot, Université de Rennes
Philani Mashazi, Rhodes University
Fetah Podvorica, University of Prishtina

Symposium 14 Molecular Electrochemistry: from Fundamentals to Applications
Magdaléna Hromadova (Coordinator), J. Heyrovsky Institute of Physical Chemistry
Jeanet Conradie, University of the Free State
Shankara Radhakrishnan, University of Pretoria
Guobao Xu, Chinese Academy of Sciences

Symposium 15 Computational Electrochemistry and Simulation: from Prediction of Properties to Optimization of Devices
Alejandro Franco (Coordinator), Université de Picardie Jules Verne
Krishna Bisetty, Durban University of Technology
Alex Quandt, University of the Witwatersrand

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces
Shaowei Chen (Coordinator), University of California at Santa Cruz
Dave Billing, University of the Witwatersrand
Charl J. Jafta, Oak Ridge National Laboratory
Katharina Krischer, Technische Universität München
Bin Ren, Xiamen University
Manuela Rueda, Universidad de Sevilla

Symposium 17 Electrochemical Technologies for Sustainable and Advanced Manufacturing
Gerardine Botte (Co-ordinator), Ohio University
Takayuki Homma, Waseda University
Peter Olubambi, University of Johannesburg
Herman Potgieter, University of the Witwatersrand
Dongping Zhan, Xiamen University

Symposium 18 Electrochemistry and Mining: Minerals and Metal Processing
Antoine Allanore (Coordinator), Massachusetts Institute of Technology
Bouzek Karel, University of Chemistry and Technology Prague
Jochen Petersen, University of Cape Town
Yasuhiro Fukunaka, Waseda University
Toru Okabe, University of Tokyo

Symposium 19 Imaging Heterogeneous Electrochemical Processes: From Single Molecules and Nanoparticles to Vesicles and Cells
Nongjian Tao (Coordinator), Arizona State University
Aziz Amine, Hassan II University of Casablanca
Ismael Diez-Perez, King's College London
Wei Wang, Nanjing University

Symposium 20 Carbon – A Starring Role in Electrochemistry
Ahmed Galal (Coordinator), Cairo University
Patrick Ndungu, University of Johannesburg
Vincent Nyamori, University of KwaZulu Natal
Zikhona Tetana, University of the Witwatersrand

Symposium 21 General Session
Bernard Tribollet (Coordinator), University Pierre et Marie Curie (bernard.tribollet@upmc.fr)
Paul Ejikeme, University of Nigeria
Chi-Chang Hu, National Tsing Hua University
Samson Khene, Rhodes University
Duduzile Nkosi, University of Johannesburg

Tutorial and Workshop Lectures

Sunday, 4 August 2019

Tutorial 1

Room : 11-CD

13:00 to 16:30

Computational Electrochemistry

Marc Koper, *Leiden University*
Alexander Oleinick, *Ecole Normale Superieure*
Wolfgang Schmickler, *Ulm University*

Tutorial 2

Room : 11-AB

13:00 to 16:30

Electrochemical Sensors

Emmanuel Iwuoha, *University of the Western Cape, South Africa*
Daniel Mandler, *Hebrew University of Jerusalem, Israel*
David Williams, *University of Auckland, New Zealand*

Wednesday, 7 August 2019

Workshop

Room : 21-ABC

11:00 to 12:20

Electrochimica Acta / ISE author workshop

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

Plenary Lectures

Room: Hall 1

Sunday, 4 August 2019

18:15 to 19:15
Juan M. Feliu
(University of Alicante, Spain)
Well-defined Pt(hkl) solution interfaces: charge, ionic adsorption and acid-base properties

Monday, 5 August 2019

08:15 to 09:15
Sir Fraser Stoddart
(Northwestern University, USA) 08:15 to 09:15

Tuesday, 6 August 2019

08:15 to 09:15
Tebello Nyokong
(Rhodes University, South Africa)
Methods of electrode surface modification using porphyrin-type molecules combined with nanomaterials

Wednesday, 7 August 2019

08:15 to 09:15
Peter G. Bruce
(University of Oxford, UK)
Oxygen Redox Electrochemistry - The Future of Lithium Batteries?

Thursday, 8 August 2019

08:15 to 09:15
Wolfgang Schuhmann
(Ruhr University Bochum, Germany)
From bioelectrocatalysis to electrocatalysis. A contribution to sustainability of energy provision

Friday, 9 August 2019

08:15 to 09:15
Peidong Yang
(University of California, USA)
Liquid Sunlight: the evolution of Photosynthetic Biohybrid Systems

Masterclasses

Monday 5 August 2019

09:30-10:30, Room MR 21-ABC
David E. Williams, *School of Chemical Sciences, University of Auckland, New-Zealand*
Mass transport and the electrochemical response

14:00-15:45, Room MR 21-ABC
Bernard Tribollet, *Sorbonne Université, Faculté de Sciences et Ingénierie, CNRS, Fance*
Graphical Impedance data analysis

Tuesday 6 August 2019

09:30-10:30, Room MR 21-ABC
Sir Frazer Stoddart, *Northwestern University, USA*
To be announced

14:00-15:45, Room MR 21-ABC
Ana Maria Oliveira-Brett, *Department of Chemistry, University of Coimbra, Portugal*
Bioelectrochemical Approaches to Sensing Biomolecules

Wednesday 7 August 2019

09:30-10:30, Room MR 21-ABC
Patrick Unwin, *Department of Chemistry, University of Warwick, United Kingdom*
Electrochemical Imaging: Why and how?

Thursday 8 August 2019

09:30-10:45, MR 21-ABC
Marc Koper, *Leiden Institute of Chemistry, Leiden University, Netherlands*
Electrocatalysis

14:00-15:00, MR 21-ABC
Hector Abruna, *Department of Chemistry and Chemical Biology, Cornell University, USA*
Applications of electrocatalysis

15:00-15:45, MR 21-ABC
Pieter Levecque, *Department of Chemical Engineering, University of Cape Town, Rondebosch, South Africa*
Polymer Electrolyte Fuel Cells and Electrolyers as models for electrochemical engineering principles

Friday 9 August 2019

09:30-10:30, MR 21-ABC
Andrea Russel, *School of Chemistry, University of Southampton Highfield, United Kingdom*
Design of electrochemical cells and the factors that affect experimental response

ISE Prize Winners 2018

Electrochimica Acta Gold Medal

Juan M. Feliu, *University of Alicante, Spain*

Sunday, 4 August 2019 - 18:15-19:15, Plenary Lecture, Hall 1
Well-defined Pt(hkl) solution interfaces: charge, ionic adsorption and acid-base properties

The Electrochimica Acta gold medal is awarded to Juan Feliu, University of Alicante, Spain, in recognition of his sustained outstanding intellectual contributions to the understanding of electrochemical phenomena at electrodes of defined surface structure, and to the establishment of fundamental relationships between electrode surface structure and reactivity.

Brian Conway Prize for Physical Electrochemistry

Patrice Simon, Université Paul Sabatier, Toulouse, France

Monday 5 August 2019 - 14:00-14:40, Symposium 16, MR MR 12-CD
Following in Prof Conway's footsteps: 3- and 2-Dimensional materials for (super)capacitive energy storage

The Brian Conway Prize for Physical Electrochemistry has been awarded to Patrice Simon, Université Paul Sabatier, Toulouse, France, for his groundbreaking contributions to the fundamental understanding of the mechanism of charge storage in electrical double layers confined to carbon nanopores, shaping the field of capacitive energy storage, as well as to the design of nano-architectured negative electrodes for Li-ion batteries.

Tajima Prize

Stefan Freunberger, *Graz University of Technology, Austria*

Monday 5 August 2019 - 16:40-17:30, Symposium 7, MR 21-DEF
Oxygen Redox and Singlet Oxygen in Non-aqueous Battery Chemistries

The Tajima Prize is awarded to Stefan Freunberger, Graz University of Technology, Austria, for his outstanding researches on Li-Air batteries by the use of a range of in-situ electrochemical methods to achieve comprehensive understanding of the reactions taking place at the oxygen electrode.

Jaroslav Heyrovsky Prize for Molecular Electrochemistry

Siegfried Waldvogel, *Johannes Gutenberg University, Main, Germany*

Monday 5 August 2019 - 09:30-10:10, Symposium 14, MR 12-AB
Concepts for Electrifying Organic Synthesis

The Jaroslav Heyrovsky Prize for Molecular Electrochemistry is awarded to Siegfried Waldvogel, Johannes Gutenberg University, Mainz, Germany, for his innovative and outstanding contributions to the field of organic electrosynthesis and particularly for the development of valuable methods/approaches allowing the preparation of high added value molecules.

Zhaowu Tian Prize for Energy Electrochemistry

Fabio La Mantia, *Universität Bremen, Germany*

Thursday 6 August 2019 - 14:00-14:40, Symposium 7, MR 21-DEF
Recent advancements in zinc-ion batteries based on Prussian Blue Analogues

The Zhaowu Tian Prize for Energy Electrochemistry is awarded to Fabio La Mantia, Universität Bremen, Germany, in recognition of his pioneering development of the mixing entropy battery based on salinity difference and his research on aqueous rechargeable metal-ion batteries.

ISE Prize Winners 2017

ISE Prize for Electrochemical Materials Science

Peng Bai, *Washington University in St. Louis, USA*
Understandings of Interphase Dynamics toward Uniform Electrodeposition of Alkali Metals in Nonaqueous Electrolytes

The ISE Prize for Electrochemical Materials Science is awarded to Peng Bai, Washington University in St. Louis, USA, in recognition of his research that uniquely combines theory and experiments at the intersection of electrochemistry, thermodynamics, and fluid and solid mechanics.

Bioelectrochemistry Prize of ISE Division 2

David Waldeck, University of Pittsburgh, USA
Wednesday 7 August 2019 - 09:30-10:00 Symposium 06, MR 22-G
Electron Charge and Spin Transfer in Films of Biomolecules

The Bioelectrochemistry Prize of Division 2 of ISE is awarded to David Waldeck, University of Pittsburgh, USA, in recognition of his fundamental work on charge transport phenomena associated with biomolecules, electron transport through proteins and nucleic acids, and electron transfer at biomolecule/electrode interfaces.

ISE-Elsevier Prize for Experimental Electrochemistry

Yu Huang, *University of California Los Angeles, USA*
Monday 5 August 2019 - 10:10-10:30 Symposium 03, Hall 1
Creating High-Performance Heterogeneous Catalysts through Surface Engineering

The ISE-Elsevier Prize for Experimental Electrochemistry is awarded to Yu Huang, University of California Los Angeles, USA, for her outstanding contributions to electrocatalyst design and experimental methods.

ISE-Elsevier Prize for Applied Electrochemistry

Kyle Smith, *University of Illinois at Urbana-Champaign, USA*
Tuesday 6 August 2019 - 14:00-14:40, Symposium 12, MR 11-AB
Understanding and Controlling Reaction and Transport Mechanisms in Prussian Blue Analogues for Faradaic Deionization

The ISE-Elsevier Prize for Applied Electrochemistry is awarded to Kyle Smith, University of Illinois at Urbana-Champaign, USA, in recognition of his mathematical rigour in simulating electrochemical systems for a range of applications, providing model predictions for experimental validation.

ISE-Elsevier Prize for Green Electrochemistry

Emmanuel Mousset, *CNRS/University of Lorraine, Nancy, France*
Monday 5 August 2019 - 14:00-14:40, Symposium 12, MR 11-AB
Electrochemical Advanced Oxidation as Wastewater Treatment Technology – From Kinetics to Modeling and Engineering Aspects

The ISE-Elsevier Prize for Green Electrochemistry is awarded to Emmanuel Mousset, CNRS/University of Lorraine, Nancy, France, in recognition of his significant contributions to applying advanced electrochemical approaches to wastewater treatment and soil remediation.

Early Career Analytical Electrochemistry Prize of ISE Division 1

Maria Cuartero Botia, *KTH Royal Institute of Technology, Stockholm, Sweden*

Tuesday 6 August 2019 - 09:30-10:10, Symposium 01, MR 21-G

Voltammetry Nanomembranes Coupled to Ferrocene Monolayers for Creatinine Detection

The Early Career Analytical Electrochemistry Prize of ISE Division 1 is awarded to Maria Cuartero, KTH Royal Institute of Technology, Stockholm, Sweden, for her continuous contribution to the electrochemical detection of various species in aquatic systems based mostly on potentiometric methods.

Oronzio and Niccolò De Nora Foundation Young Author Prize

Cigdem Toparli, *Massachusetts Institute of Technology, Cambridge, USA*

Thursday 8 August 2019 - 09:50-10:10, Symposium 16, MR 12-CD

Investigation of Electrochemical Interfaces for H2 Production

The Oronzio and Niccolò De Nora Foundation Young Author Prize 2018 is awarded to Cigdem Toparli, Massachusetts Institute of Technology, USA for her article In situ and operando observation of surface oxides during oxygen evolution reaction on copper, published in Electrochimica Acta 236 (2017) 104-115.

Electrochimica Acta Travel Awards for Young Electrochemists 2018

Philippe Dauphin Ducharme, *USA*
Felipe Conzuelo, *Germany*
Maria Komkova, *Russia*

ISE Travel Awards for Young Electrochemists 2018

Xinxin Xiao, *Denmark*
Francesco Di Franco, *Italy*
Kai S. Exner, *Bulgaria*
Elena Davydova, *Israel*
Anisha Patel, *UK*
Marco Tulio Fonseca Rodrigues, *USA*
Serena Arnaboldi, *Italy*

ISE Society Meetings

Sunday, 4 August 2019

Opening Ceremony

16:45 to 18:15 › Hall 1

Monday, 5 August 2019

Division Officers Luncheon Meeting

12:40 to 13:40 › MR 11-CD

Regional Representatives Luncheon Meeting

12:40 to 13:40 › MR 12-CD

Tuesday, 6 August 2019

Council Meeting

12:40 to 13:40 › MR 11-CD

Thursday, 7 August 2019

General Assembly

11:15 to 12:15 › Hall 1

Division Meetings

12:40 to 13:40

Division 1 Analytical Electrochemistry › Room 11-CD
Division 2 Bioelectrochemistry › Room 12-AB
Division 3 Electrochemical Energy Conversion and Storage › Room 12-CD
Division 4 Electrochemical Materials Science › Room 11-AB
Division 5 Electrochemical Process Engineering and Technology › Room 21-DEF
Division 6 Molecular Electrochemistry › Room 21-G
Division 7 Physical Electrochemistry › Room 22-ABC

Friday, 7 September 2018

Closing Ceremony

12:15 to 12:30 › Hall 1

See room locations on back cover

Poster presentations

Poster presentation session 1 - Monday

Hall 2

Symposia: s1, s3, s6, s8, s11, s15, s16

Poster set-up Monday: 08:30-10:30 *See poster locations map on page 142*

Poster Presentation: Monday, 5 August 2019: 10:50-12:20

Poster take-down Monday: 18:00-19:00

Poster presentation session 2 - Tuesday

Hall 2

Symposia: s2, s5, s9, s10, s12, s14, s17, s18

Poster set-up Tuesday: 08:30-10:30 *See poster locations map on page 143*

Poster Presentation: Tuesday, 6 August 2019: 10:50-12:20

Poster take-down Tuesday: 18:00-19:00

Poster presentation session 3 - Wednesday

Hall 2

Symposia: s4, s7, s13, s19, s20, s21

Poster set-up Wednesday: 08:30-10:30 *See poster locations map on page 144*

Poster Presentation: Wednesday, 7 August 2019: 10:50-12:20

Poster take-down Thursday: 14:00-16:00

General Information

Publications

A special issue of the Society's journal, Electrochimica Acta, is planned based on selected original contributions made at the conference. Selection will be made by an international editorial Committee comprising the following Editors* and Guest Editors, one for each of the Symposiums in which the meeting is articulated:

Symposium 1 **Alain Walcarius**
Symposium 2 **Priscilla Baker**
Symposium 3 **Marian Chatenet**
Symposium 4 **Csaba Janaky**
Symposium 5 **Patrizia Mussini**
Symposium 6 **Elena Ferapontova ***
Symposium 7 **Robert Kostecki ***
Symposium 8 **Daniel Belanger**
Symposium 9 **Angel Cuesta Ciscar**
Symposium 10 **Giovanni Zangari**
Symposium 11 **Monica Santamaria**
Symposium 12 **Henry Bergmann**
Symposium 13 **Olivier Buriez**
Symposium 14 **Magdaléna Hromadova**
Symposium 15 **Alejandro Franco**
Symposium 16 **Katharina Krisher**
Symposium 17 **Francois Lapicque**
Symposium 18 **Antoine Allanore**
Symposium 19 **Ismael Diez-Perez**
Symposium 20 **Ahmed Galal**

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

Submission only on invitation of one of the Editors/Guest Editors.
Submission of contributions: **From August 10, 2019 with deadline December 15, 2019.**

Social Program

RECEPTIONS

Welcome Reception

Sunday, 4 August 2019, 19:15-20:30 in the main foyer of the International Convention Centre Durban

Monday Reception

Monday, 5 August 2019, 18:40-20:10 Hall 2

Thursday Banquet

Thursday, 8 August 2019, 19:00
Restaurant Moyo uShaka
1 Bell Street, uShaka Marine World,
Point, Durban, KwaZulu-Natal, 4001
Price per person: EURO 45.-, Places are limited.
All tickets for the banquet must be pre-booked and are non-refundable.

Oral presentation program

Sunday 4 August 2019 - Afternoon

Opening Ceremony

Room: Hall 1

Chaired by: Kenneth Ozoemena and Janice Limson

16:45 to 18:15

Opening of 70th Annual Meeting of the International Society of Electrochemistry
2018 Award winner presentations

Plenary

Room : Hall 1

Chaired by : Janice Limson

18:15 to 19:15

Juan Feliu (*Institute of Electrochemistry, University of Alicante, Alicante, Spain*)

Well-defined Pt(hk*l*)|solution interfaces: charge, ionic adsorption and acid-base properties

Monday, 5 August 2019

ROOMS:	MR 21-ABC	HALL 1	MR 11-CD	MR 12-AB	MR 12-CD	MR 11-AB	MR 21-DEF	MR 21-G	MR 22-ABC	MR 22-DEF	MR 22-G
08:15 - 09:15	**Plenary Lecture**: Sir Fraser Stoddart (**Hall 1**)										
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 8**	**Symposium 14**	**Symposium 16**	**Symposium 12**	**Symposium 7**	**Symposium 1**	**Symposium 4**	**Symposium 2**	**Symposium 5**
09:30 - 09:50	David E Williams	Wendy Shaw	Yury Gogotsi	S. Waldvogel	Hector Abruna	Omotayo Arotiba	Kristina Edström	E. Tamiya	Hyunwoong Park	Kevin Plaxco	Marc Kopper
09:50 - 10:10											
10:10 - 10:30		Yu Huang	I. Habib	Kevin Moeller	Enrique Herrero	Lucia Mascaro	Bernhard Gollas	A. Morrin	P.J. Kulesza	Zong-Hong Lin	S. Antonello
10:30 - 10:50		A.K. Mechler	S. Dsoke	Cheng-Chu Zeng	Wei Chen	Enyioma Okpara	Alejandro Franco	Hongxia Luo	B.M. Alibeiglou	Justin Gooding	G. Wittstock
10:50 - 12:20	Coffee Break & POSTER SESSION 1										
12:40 - 13:40	Lunch		Division Officers Meeting		Regional Repres. Meeting	Lunch					
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 8**	**Symposium 14**	**Symposium 16**	**Symposium 12**	**Symposium 7**	**Symposium 1**	**Symposium 4**	**Symposium 2**	**Symposium 5**
14:00 - 14:20		Laetitia Dubau	A. Matic	Diane Smith	Patrice Simon	Emmanuel Mousset	A. Manthiram	D. Mandler	Artur Braun	P.D. Ducharme	Aicheng Chen
14:20 - 14:40			N. Manyala					A. Crespo		V. Krikstolaityte	
14:40 - 15:00	Bernard Tribollet	Marco Bellini	M. Hekmatfar	Richard Webster	Zhong-Qun Tian	R.C. Rocha-Filho	Makhlooghiazad	S. Arnaboldi	Seyedsina Hejazi	I. Michira	Munetaka Oyama
15:00 - 15:20		Junjie Ge	A.Nwanya	A. Enache	YuYe J. Tong	Henry Bergmann	M.T. F. Rodrigues	J. Dolinska	Xinsheng Zhang	Abongile Jijana	Denis Oehl
15:20 - 15:40		Kenji Kano	K. Makgopa	V. Del Colle	Olga Kasian	Ricardo Salazar	Bing Joe Hwang	A. Fdz-la-Villa	Fatemeh Davodi	Ben Ali Mounir	Aaron Marshall
15:40 - 16:00		Yun Wu	Yann Leroux	J. Conradie	Xiongwu Kang	Kanayo Oguzie	Aura Tolosa	E. Pargoletti	A. W. Maijenburg	Hua Cui	Zhe Weng
16:00 - 16:20		Olaf Rüdiger		I. Hoskovcova	Shen Ye	C. Martínez-Huitle	A. Rezqita	Jian-Jun Sun		Sixolile Centane	Mila Krstajic Pajic
16:20 - 16:40	Coffee Break										
16:40 - 17:00		Frederic Barriere	P-H Aubert	Jiri Ludvik	Robert Hillman	S. Garcia-Segura	S. Freunberger	K. De Wael	Bruce Koel	Emmanuel Iwuoha	Gregor Zwaschka
17:00 - 17:20			A. Gouda		K. Krischer	Ulli Kunz					Abhishek Kumar
17:20 - 17:40		Galad Smith	Francesca Soavi	Jose H. Zagal	Jingyuan Chen	Z. Neduvhuledza	Bingwei Mao	S. Moraes Silva	S. Haussener	Carlos Pereira	C.B. Njoku
17:40 - 18:00		Omer Yehezkeli	Qamar Abbas	Tankiso Ngake	Jiawei Yan		Jun Chen	Kosuke Ino	Maxime Savoie	Marilia Goulart	Fatma Fezai
18:00 - 18:20		R. Bennett	C. Pereira	K.B. Kokoh	Amanda Garcia		O. Bankole	Wei-Wei Zhao	S. Scarabino	Philippe Banet	L. Gaolatlhe
18:20 - 18:40		R. Kostecki	N. Vilas-Boas	E. Chiyindiko	Piret Pikma		M.F. Mousavi	Xing-Hua Xia	Petr Krtil	Victor Diculescu	K.K. Masibi
18:40 - 20:00	Reception										

Monday 5 August 2019 - Morning

Plenary

Room : Hall 1

Chaired by : Philip Bartlett

08:15 to 09:15

Sir Fraser Stoddart (*Department of Chemistry, Northwestern University, Evanston IL, USA*)

Radical Chemistry

Masterclass

Room : 21-ABC

Chaired by : Caren Billing

09:30 to 10:30

David E. Williams (*School of Chemical Sciences, University of Auckland, Auckland, New Zealand*)

Mass transport and the electrochemical response

Symposium 1 Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors

Room : 21-G

Chaired by : Serena Arnaboldi and Alain Walcarius

09:30 to 10:10 Keynote

Eiichi Tamiya (*Graduate School of Engineering, Osaka University, Suita, Japan*)

Electrochemical and electrochemiluminescent biosensor platforms based on screen printed electrodes for biomedical applications

10:10 to 10:30 Invited

Aoife Morrin (*School of Chemical Sciences, Dublin City University, Dublin, Ireland*)

Assessing Skin Physiology Using Non-Invasive Electroanalytical Wearable Sensing Platforms

10:30 to 10:50

Hongxia Luo (*Department of Chemistry, Renmin University of China, Beijing, China*), Yang Luo

A Flexible CVD Graphene Platform Electrode Modified with L-Aspartic acid for the Simultaneous Determination of Acetaminophen, Epinephrine and Tyrosine

10:50 to 12:20

Poster session with coffee

Symposium 2 Sensors and Biosensors for Biomedical and Environmental Applications

Room : 22-DEF

Chaired by : Taek Dong Chung and Emmanuel Iwuoha

09:30 to 10:10 Keynote

Kevin Plaxco (*Chemistry and Biochemistry, University of California, Santa Barbara, Santa Barbara, USA*)

Real-time Molecular Measurements in situ in the Living Body

10:10 to 10:30 Invited

Zong-Hong Lin (*Institute of Biomedical Engineering, National Tsing Hua University, Hsinchu, Taiwan*)

Self-Powered Electrochemical Systems for Biosensing and Nanoparticle Synthesis Applications

10:30 to 10:50

Justin Gooding (*School of Chemistry, The University of New South Wales, Sydney, Australia*), Roya Tavallaie, Joshua McCarroll, Sharmin Hoque, Long Zhang, Brynn Hibbert, Maria Kavallaris, Richard Tilley

Nucleic acid hybridization-induced electrically reconfigurable network of gold-coated magnetic nanoparticles enables ultrasensitive microRNA detection in blood

10:50 to 12:20

Poster session with coffee

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Anna K. Mechler and Shelley Minteer

09:30 to 10:10 Keynote

Wendy Shaw (*Physical and Computational Sciences Directorate, Pacific Northwest National Laboratory, Richland, USA*), Arnab Dutta, Nilusha Boralugodage, Olaf Ruediger, Wolfgang Lubitz, Patricia Rodriguez-Macia, Alaa Oughli, Nicolas Plumeré, Wolfgang Schuhmann, Adrian Ruff, Solene Gentil, Serge Cosnier, Alan Le Goff, Vincent Artero

Fuel Cell Activity from Non-Precious Metal Molecular Catalysts

10:10 to 10:30

ISE-Elsevier Prize for Experimental Electrochemistry

Yu Huang (*Materials Science and Engineering, University of California Los Angeles, Los Angeles, USA*)

Creating High-Performance Heterogeneous Catalysts through Surface Engineering

10:30 to 10:50

Anna K. Mechler (*Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Mülheim a.d. Ruhr, Germany*), Dongyoon Shin, Sabita Bhandari, Frédéric Jaouen

The Impact of Peroxide Scavenging in Platinum Decorated Iron-Based Electrocatalysts for the Oxygen Reduction Reaction

10:50 to 12:20

Poster session with coffee

Symposium 4 Renewable Energy and Photo-Electrochemistry

Room : 22-ABC

Chaired by : Frank Marken

09:30 to 10:10 Keynote

Hyunwoong Park (*School of Energy Engineering, Kyungpook National University, Daegu, Korea*), Guangxia Piao, Byeong Joo Kim, Seung Yo Choi, Wonjung Choi, Jae-Joon Lee, Dong Suk Han

Sunlight-Assisted Electrocatalytic CO_2 Conversion to Valued Added Chemicals Using Nanostructured Metals and Metal Oxides

10:10 to 10:30

Pawel J. Kulesza (*Department of Chemistry, University of Warsaw, Warsaw, Poland*), Ewelina Szaniawska, Anna Wadas, Ewelina Seta, Iwona A. Rutkowska

Stabilization and Activation of Copper(I) Oxide Photocathode for Efficient Reduction of Carbon Dioxide

10:30 to 10:50

Behzad Mahmoudi Alibeiglou (*Center for Innovation Competence (ZIK) "SiLi-nano", Martin Luther University Halle-Wittenberg, Halle, Germany)*

$CuGaSe_2$/$CuGa_3Se_5$ Thin Films as a Photocathodes for Photoelectrochemical Water Splitting

10:50 to 12:20

Poster session with coffee

Symposium 5 Gold and Related Noble Metals in Electroanalysis, Electrocatalysis, and Electrochemical Devices

Room : 22-G

Chaired by : Salvatore Daniele

09:30 to 10:10 Keynote

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

Electrocatalysis on gold

10:10 to 10:30 Invited

Sabrina Antonello (*Chemistry, University of Padova, Padova, Italy*), Tiziano Dainese, Mattia Reato, Jacopo Stefanelli, Flavio Maran

Conductivity Properties of Monolayer-Protected Gold Nanoclusters Films and their Application as Chemosensors

10:30 to 10:50

Gunther Wittstock (*Chemistry Department, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany*), Mareike Haensch, Luis Balboa Blanco, Matthias Graf, Jörg Weissmüller

New approaches for the study of Electrocatalysis and Transport in Nanoporous Gold

10:50 to 12:20

Poster session with coffee

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Arumugam Manthiram and Stefano Passerini

09:30 to 10:10 Keynote

Kristina Edström (*Department of Chemistry - Angstrom Laboratory, Uppsala University, Uppsala, Sweden*), Ida Källquist, Andrew Naylor, Christian Bauer, Johann Chable, Jolla Kullgren, Maximilian Fichtner, Daniel Brandell, Maria Hahlin

Degradation mechanisms in Li_2VO_2F Li-rich disordered rock-salt cathodes

10:10 to 10:30

Bernhard Gollas (*Institute for Chemistry and Technology of Materials, Graz University of Technology, Graz, Austria*), Christian Zelger, Birgit Pichler, Viktor Hacker

Status, Challenges and Prospects for Zinc-Air Redox Flow Batteries

10:30 to 10:50

Alejandro Franco (*Laboratoire de Réactivité et Chimie des Solides (LRCS)*, Université de Picardie Jules Verne & CNRS UMR 7314, Amiens, France), Alain Cabrel Ngandjong, Teo Lombardo, Alexis Rucci, Mehdi Chouchane, Abbos Shodiyev, Emiliano Primo

ARTISTIC: A Predictive Multiscale Simulation Platform of the Fabrication Process of Lithium Ion Batteries

10:50 to 12:20

Poster session with Coffee

Symposium 8 Sustainable Resources, Processes and Design of High Power Supercapacitors

Room : 11-CD

Chaired by : Ncholu Manyala and Assumpta Nwanya

09:30 to 10:10 Keynote

Yury Gogotsi (*Department of Materials Science and Engineering, Drexel University, Philadelphia, USA*), Xuehang Wang, Patrice Simon

High-rate Pseudocapacitive Energy Storage in MXenes with Fast Intercalation

10:10 to 10:30

Irfan Habib (*Physics, University of Witwatersrand, Johannesburg, South Africa*), Kenneth Ozoemena, Philippe Ferrer

Investigating the impact of onion-like carbons on the supercapacitance of Ti_2CT_X MXene

10:30 to 10:50

Sonia Dsoke (*Helmholtz Institute Ulm & Institute for Applied Materials, Karlsruhe Institute of Technology, Karlsruhe, Germany*)

Polyoxometallate-based redox supercapacitors

10:50 to 12:20

Poster session with coffee

Symposium 12 The Electrochemical Technology for Water and the Environment for Social, Health and Economic Development

Room : 11-AB

Chaired by : Emmanuel Mousset

09:30 to 10:10 Keynote

Omotayo Arotiba (*Applied Chemistry, University of Johannesburg, Johannesburg, South Africa*), Benjamin Orimolade, Babatunde Koiki, Moses Peleyeju, Eseoghene Umukoro, Jonathan Babalola, Nonhlangabezo Mabuba

Visible Light Driven Photoelectrocatalytic Semiconductor Heterojunction Anodes for Water Treatment Applications

10:10 to 10:30

Lucia Mascaro (*Chemistry, UFSCar, Brazil*), Hugo Santos

Investigation of the Electrodeposition of Ni-Mo-Cu Coatings as a Highly Active Catalyst for the Hydrogen Evolution Reaction

10:30 to 10:50

Enyioma Okpara (*Chemistry, North-West University, Mafikeng Campus, Mmabatho, South Africa*), Omolola Fayemi

Green Mediated ZnO/CuO Nanoparticles: Synthesis and Characterization

10:50 to 12:20

Poster session with Coffee

Symposium 14 Molecular Electrochemistry: from Fundamentals to Applications

Room : 12-AB

Chaired by : Jiri Ludvik

09:30 to 10:10 Keynote

Jaroslav Heyrovsky Prize for Molecular Electrochemistry

Siegfried Waldvogel (*Organic Chemistry, Johannes Gutenberg University, Mainz, Germany*)

Concepts for Electrifying Organic Synthesis

10:10 to 10:30

Kevin Moeller (*Chemistry, Washington University in St. Louis, St. Louis, USA*)

Exploring the Interplay Between Organic Synthesis and Electrochemistry. Capitalizing on a Synergistic Relationship

10:30 to 10:50

Cheng-Chu Zeng (*College of Lifescience & Biogineering, Beijing University of Technology, Beijing, China*), Ke-Jing Li

Electrochemically Oxidative C-H Functionalization of Quinoxalin-2(1H)-ones: An effective Synthesis of 3-substituted Quinoxalin-2(1H)-ones through Direct Electrolysis

10:50 to 12:20

Poster session with coffee

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

Room : 12-CD

Chaired by : Manuela Rueda

09:30 to 10:10 Keynote

Hector Abruna (*Department of Chemistry and Chemical Bilogy, Cornell University, Ithaca, USA*)

Energy Conversion and Storage:Novel Materials and Operando Methods

10:10 to 10:30 Invited

Enrique Herrero (*Instituto de Electroquimica, Universidad de Alicante, Alicante, Spain*), Adolfo Ferre-Vilaplana, Valentín Briega-Martos

Understanding ORR in nitrogen doped graphitic materials

10:30 to 10:50 Invited

Wei Chen (*State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, CAS, Changchun, China*), Zhihua Zhuang, Xiaohui Gao, Yizhong Lu, Minmin Liu, Xiaokun Li

Advanced Electrocatalysts Based on Metal Nanoclusters

10:50 to 12:20

Poster session with coffee

Monday 5 August 2019 - Afternoon

Masterclass

Room : 21-ABC

Chaired by : Caren Billing

14:00 to 15:45

Bernard Tribollet (*CNRS, Sorbonne Universite, Paris, France*)

Graphical Impedance data analysis

Symposium 1 Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors

Room : 21-G

Chaired by : Christopher Brett and Florence Geneste

14:00 to 14:20

Daniel Mandler (*Institute of Chemistry, Hebrew University of Jerusalem, Jerusalem, Israel*), Andrea Buffa

Sensitive, Fast and Cheap Approach for Electrochemical Monitoring of Pollutants in Water

14:20 to 14:40

Gaston A. Crespo (*Department of Chemistry, KTH Royal Institute of Technology, Stockholm, Sweden*)

New Decentralized Platforms for On-body Analysis of Sweat and Interstitial Fluid Using Potentiometric Sensors

14:40 to 15:00

Serena Arnaboldi (*Dipartimento di Chimica, Università degli Studi di Milano, Milano, Italy*), Daniele Vigo, Patrizia Romana Mussini, Mariangela Longhi, Sara Grecchi, Francesco Orsini, Tiziana Benincori

Artificial Enantiopure Inherently Chiral Membranes: Enantiodiscrimination Trough a New "Ion-Selective Like" Setup

15:00 to 15:20

Joanna Dolinska (*Department of Electrode Processes, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland*), Marcin Holdynski, Marcin Opallo

Electrochemical Detection of Prussian Blue Nanoparticles in Forced Convection Conditions: Rotating Disc Electrode vs. 3D Printed Flow System with Electrochemical Detection

15:20 to 15:40

Ana Fernández-la-Villa (*R&D, MicruX Technologies, Gijón, Spain*), Diego F. Pozo-Ayuso, Mario Castaño-Álvarez

Novel Printable Electrochemical Sensor on Flexible Substrate for Flow Analysis Applications

15:40 to 16:00

Eleonora Pargoletti (*Chemistry, Universita di Milano, Milan, Italy*), Antonio Tricoli, Mariangela Longhi, Vittoria Guglielmi, Giuseppe Cappelletti

Low Temperature Composite Sensors for Environmental and Medical Applications

16:00 to 16:20

Jian-Jun Sun (*College of Chemistry, Fuzhou University, Fuzhou, China*)

Temperature controllable electrodes

16:20 to 16:40 Coffee Break

16:40 to 17:20 Keynote

Karolien De Wael (*Chemistry, Antwerp University, Antwerp, Belgium*)

Bio-Inspired Laser-Induced Electrochemical Sensing Strategies

17:20 to 17:40

Saimon Moraes Silva (*Faculty of Science, Engineering and Technology, Swinburne University of Technology, Melbourne, Australia*), Anita F. Quigley, Robert M. I. Kapsa, George W. Greene, Simon E. Moulton

Lubricin Modified Platinum Electrode: An Ultra-low Fouling Surface

17:40 to 18:00

Kosuke Ino (*Graduate School of Engineering, Tohoku University, Sendai, Japan*), Ryosuke Yaegaki, Yuji Nashimoto, Hitoshi Shiku

Electrochemical Analysis of Three-Dimensional Cultured Cells Using Bipolar Array Devices

18:00 to 18:20

Wei-Wei Zhao (*Chemistry, Nanjing University, Nanjing, China*), Jing-Juan Xu, Hong-Yuan Chen

Liposomal Photoelectrochemical Immunoassay

18:20 to 18:40

Xing-Hua Xia (*School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China*), Yue Zhou

Importance of molecular orientation for direct electron transfer and (*photo*)electrochemical sensors

Symposium 2 Sensors and Biosensors for Biomedical and Environmental Applications

Room : 22-DEF

Chaired by : Zong-Hong Lin and Kevin Plaxco

14:00 to 14:20

Philippe Dauphin Ducharme (*Chemistry and Biochemistry, University of California at Santa Barbara, Santa Barbara, USA*), Kevin Plaxco

In Vein and In Brain Detection of Drugs using DNA Biosensors

14:20 to 14:40

Vida Krikstolaityte (*School of Civil and Environmental Engineering, Nanyang Technological University, Singapore, Singapore*), Ruzgas Tautgirdas, Sebastian Bjorklund

Biofouling Studies of Ion Selective Electrodes by Combining Simultaneous Potentiometric-Quartz Crystal Microbalance with Dissipation Measurements

14:40 to 15:00

Immaculate Michira (*Chemistry, University of Nairobi, Nairobi, Kenya*)

Nano-sized Polyphenol Stabilized Metallo-Polymer Composites for Various Applications

15:00 to 15:20

Abongile Jijana (*Nanotechnology Innovation Center, Mintek, Randburg, South Africa*), Ntsoaki Mputhi, Sibulelo Vilakazi

The Square-Wave Anodic Stripping Analysis of As(III) on L-Cysteine/α-Lipoic Acid Capped Gold Nanoparticles Modified on Screen Printed Carbon Electrodes (*SPCEs*)

15:20 to 15:40

Ben Ali Mounir (*Electronic Department, Higher Institute of Applied Science and Technology of Sousse, Sousse, Tunisia*)

Early stage detection of cancer biomarkers using Nano-materials based sensors

15:40 to 16:00

Hua Cui (*Department of Chemistry, University of Science and Technology of China, Hefei, China*), Zhili Han, Jiangnan Shu, Qiaoshi Jiang

Eletrochemiluminescence Immunosensor for Heart Disease Biomarker Copeptin Based on Luminescent Immuno-Gold Nanoassemblies

16:00 to 16:20

Sixolile Centane (*Chemistry, Rhodes University, Grahamstown, South Africa*), Tebello Nyokong

The antibody assisted detection of human epidermal growth factor receptor on a cobalt porphyrin organic framework and gold functionalized graphene quantum dots modified electrode

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Emmanuel Iwuoha (*University of Western Cape Sensor Laboratories (SensorLab)*, University of the Western Cape, Cape Town, South Africa), Lindsay Wilson, Samantha Douman, Usisipho Feleni, Unathi Sidwaba, Laura Pacoste

Impact of Nanobioelectrochemical Sensing and Signalling of Disease Biomarkers on UN's Sustainable Development Goal

17:20 to 17:40

Carlos Pereira (*Chemistry and Biochemistry, Porto University - FCUP, Porto, Portugal*), José Ribeiro, Tânia Rebelo, A. F. Silva

Electrochemical biosensors - can plastic antibodies (MIPs) replace natural antibodies as biorecognition element?

17:40 to 18:00

Marilia Goulart (*Institute of Chemistry and Biotechnology, Federal University of Alagoas, Maceio, Brazil*), Ana Caroline Ferreira Santos, Maria del Pilar Taboada-Sotomayor, Sabir Khan, Antônio Euzébio Santana, Rita de Cassia Luz, Flavio Damos

Magnetic MIPS for Separation and Electroanalysis of Biologically Active Thiols

18:00 to 18:20

Philippe Banet (*Laboratory of Physicochemistry of Polymer and Interfaces, University of Cergy Pontoise, Neuville sur Oise, France*), Jantina Upan, Kontad Ounnunkad, Jaroon Jakmunee, Pierre-Henri Aubert

Differential Pulse Voltammetric Immunosensor for Hepatitis B Surface Antigen Using Modified Screen-Printed Carbon Electrode

18:20 to 18:40

Victor Diculescu (*Laboratory of Multifunctional Materials and Structures, National Institute of Materials Physics, Magurele, Romania*), Madalina Barsan

Antibody-based Electrochemical Biosensors for 20S Proteasome

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Serge Cosnier and Laetitia Dubau

14:00 to 14:40 Keynote

Laetitia Dubau (*LEPMI, CNRS, Saint Martin d'Heres, France*), Raphael Chattot, Tristan Asset, Olivier Le Bacq, Pierre Bordet, Jakub Drnec, Frederic Maillard

Unifying ORR structure-activity-stability relationships of shape-controlled and highly defective PtNi/C electrocatalysts

14:40 to 15:00

Marco Bellini (*ICCOM, CNR, Sesto Fiorentino, Italy*), Maria Vincenza Pagliaro, Manuela Bevilacqua, Andrea Marchionni, Hamish Andrew Miller, Jonathan Filippi, Hansjorg Grutzmacher, Werner Oberhauser, Francesco Vizza

Organometallic Based Catalysts for Energy Production and Storage

15:00 to 15:20

Junjie Ge (*Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, China*)

Highly Efficient ORR Electro-catalysts with Finite Number of Metal Atoms as Active Center

15:20 to 15:40 Invited

Kenji Kano (*Graduate School of Agriculture, Kyoto University, Kyoto University, Kyoto, Japan*)

A Bio-Solar Cell with Thylakoid Membranes and Bilirubin Oxidase

15:40 to 16:00

Yun Wu (*Department of Materials Science and Engineering, Tokyo Institute of Technology, Tokyo, Japan*), Azhagumuthu Muthukrishnan, Shinsuke Nagata

Kinetic study of oxygen reduction reaction over nitrogen-doped and iron-nitrogen-doped carbon catalysts

16:00 to 16:20 Invited

Olaf Rüdiger (*Inorganic Spectroscopy, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany*), Karolina Lewandowska, Mustafa Al Samarai, Alaa A. Oughli, Nicolas Plumeré, Wolfgang Schuhmann, Wolfgang Lubitz, Wendy J. Shaw, Serena DeBeer

(*Spectro*)-Electrochemical Investigations of Water Splitting Enzymes, Bio-inspired Catalysts and Metal Oxides on the Electrode Surface

16:20 to 16:40 Coffee Break

16:40 to 17:20 Keynote

Frederic Barriere (*Institut des Sciences Chimiques de Rennes, University of Rennes 1, Rennes, France*)

Continuum in Abiotic, Enzymatic and Microbial (Bio)-Electrocatalysis in Fuel Cells

17:20 to 17:40

Galad Smith (*Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa*), Ronen Fogel, Janice Limson

Up-scaled, Single-Chambered, Photosynthetic Microbial Fuel Cells for In Situ Nutrient and Metal Remediation in Waste Water Streams

17:40 to 18:00

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

Enzyme-Based Photoelectrochemical Systems for Photobiocatalytic Processes

18:00 to 18:20

Richard Bennett (*Biomolecular Electronics Research Laboratory, Chem Dept, National University of Ireland Galway, Galway, Ireland*), Donal Leech

Approaches for improving enzyme electrode performance for application in biosensors and biofuel cells

18:20 to 18:40

Robert Kostecki (*ESDR, LBNL, Berkeley, USA*), Erin B. Creel, Elizabeth R. Corson, Jeffrey J. Urban, Bryan D. McCloskey

Directing selectivity of electrochemical carbon dioxide reduction

Symposium 4 Renewable Energy and Photo-Electrochemistry

Room : 22-ABC

Chaired by : Nosipho Moloto

14:00 to 14:40 Keynote

Artur Braun (*Functional Materials, Empa, Dubendorf, Switzerland*)

Intermediates in PEC Water Oxidation.How They Come and How They Go

14:40 to 15:00

Seyedsina Hejazi (*Institute of Surface Science and Corrosion* (LKO), University of Erlangen-Nuremberg, Erlangen, Germany), Shiva Mohajernia, Patrik Schmuki

Intrinsic Cu nanoparticle decoration of TiO2 nanotubes: A platform for efficient noble metal free photocatalytic H2 production

15:00 to 15:20

Xinsheng Zhang (*Chemcial Engineering, East China University of Science and Technology, Shanghai, China*), Yongxiang Zhu, Shuozhen Hu

The influence and understand of fluorine doping on photoelectrochemical water splitting property for hematite

15:20 to 15:40

Fatemeh Davodi (*Chemistry and Materials, Aalto University, Espoo, Finland*), Fatemeh Davodi, Tanja Kallio

Mechanistic Insights toward Design of Advanced Metal@C Electrocatalyst for both Alkaline and Acid media with Tunable Structure

15:40 to 16:00

A. Wouter Maijenburg (*Center for Innovation Competence SiLi-nano, Martin Luther University Halle-Wittenberg, Halle (Saale)*, Germany), Titus Lindenberg

PEC-GC-coupled In-situ analysis of 3D-nanowire networks for photocatalytic water splitting

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Bruce Koel (*Department of Chemical and Biological Engineering, Princeton University, Princeton, USA*)

Modified Oxide Catalyst Structures and Active Species for the Oxygen Evolution Reaction (OER)

17:20 to 17:40 Invited

Sophia Haussener (*Mechanical Engineering, EPFL, Lausanne, Switzerland*)

Thermal synergies in photo-electrochemical fuel processing – Concepts, designs and demonstrations

17:40 to 18:00

Maxime Savoie (*Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand*), Vladimir Golvoko, Aaron Marshall

Enhancing photoelectrochemical redox batteries by depositing gold nanoclusters on TiO_2 films

18:00 to 18:20

Sabina Scarabino (*Chemistry Department, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany*), Raffael Ruess, Derck Schlettwein, Gunther Wittstock

Influence of additives on the dye regeneration in ZnO-based dye-sensitized solar cells (*DSSCs*) investigated with scanning electrochemical microscopy (SECM)

18:20 to 18:40

Petr Krtil (*Low Dimensional Systems, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic*), Monika Klusácková, Roman Nebel, Katrina Macounová

Photoelectrochemical Activity and Selectivity of Alkaline Earth Nanocubes

Symposium 5 Gold and Related Noble Metals in Electroanalysis, Electrocatalysis, and Electrochemical Devices

Room : 22-G

Chaired by : Sabrina Antonello, Renata Bilewicz, Munetaka Oyama and Gunther Wittstock

14:00 to 14:40 Keynote

Aicheng Chen (*Department of Chemistry, University of Guelph, Guelph, Canada*)

Electroanalysis and Electrocatalysis of Gold Based Nanomaterials and Nanocomposites

14:40 to 15:00 Invited

Munetaka Oyama (*Department of Material Chemistry, Kyoto University, Kyoto, Japan*)

Noble Metals Modified Nickel Materials for Electroanalysis and Electrocatalysis

15:00 to 15:20

Denis Oehl (*Analytical Chemistry - Center for Electrochemical Sciences, Ruhr-Universitaet Bochum, Bochum, Germany*), Stefan Barwe, David Franzen, Melanie Paulisch, Jan Clausmeyer, Stefan Dieckhoefer, Alexander Botz, Corina Andronescu, Ingo Manke, Thomas Turek, Wolfgang Schuhmann

Nanoscale Studies Solve Macroscopic Problems: De - and Reactivation of Oxygen Depolarized Cathodes Under Process Conditions

15:20 to 15:40

Aaron Marshall (*Department of Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand*), Hani Taleshi Ahangari, Shailendra Sharma, Vladimir Golovko

Atomically Precise Gold Clusters for Electrocatalytic CO_2 Reduction

15:40 to 16:00

Zhe Weng (*School of Chemical Engineering and Technology, Tianjin University, Tianjin, China*), Hailiang Wang

Cu-based Electrocatalytic Reduction of CO_2 to Hydrocarbons

16:00 to 16:20

Mila Krstajic Pajic (*Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia*), Sanja Stevanovic, Vuk Radmilovic, Piotr Zabinski, Nevenka Elezovic, Velimir Radmilovic, Snezana Gojkovic, Vladislava Jovanovic

The Effect of Au in Shape-controlled Pt based Nanoparticles as Anodic Catalysts for Low-temperature Fuel Cells

16:20 to 16:40

Coffee Break

16:40 to 17:00

Gregor Zwaschka (*Physical Chemistry Department, Fritz-Haber-Institut, Berlin, Germany*), Igor Nahalka, Arianna Marchioro, Yujin Tong, Sylvie Roke, R. Kramer Campen

Imaging Oxygen Evolution Reaction Activity on Au(poly) Electrodes

17:00 to 17:20

Abhishek Kumar (*Fundamental Chemistry, Sao Paulo University, Sao Paulo, Brazil*)

Structure dependent electrocatalytic properties of nanoporous gold: A mechanistic study of ascorbic acid and dopamine electrode reactions kinetics

17:20 to 17:40

Chima Benjamin Njoku (*Chemistry, North West University, Potchefstroom, South Africa*), Cobus Kriek

A Robust and Efficient $Ce_{0.8}Sr_{0.2}Co_xFe_{1-x}O_{3-\delta}$ ($x = 0.2, 0.5, 0.8$) perovskite as electrocatalyst for application in the Oxygen Evolution Reaction in Alkaline Media

17:40 to 18:00

Fatma Fezai (*Département Procédés Electrochimiques, Laboratoire de Génie Chimique, Université de Toulouse, Toulouse, France*), Pierre Gros, Martine Meireles, David Evrard

Gold Nanoparticles Electrodeposition for Hg(II) trace Detection: Design and Optimization of a New Sensitive Electrochemical Sensor

18:00 to 18:20

Lesego Gaolatlhe (*Chemistry, University of the Witwatersrand, Johannesburg, South Africa*), Kenneth Ozoemena

Physico-chemistry of cobalt-enriched and cobalt-starved metal organic framework (MOF)-derived electrode platforms for the detection of dopamine

18:20 to 18:40

Kgotla Katlego Masibi (*Chemistry, North West University, Mafikeng, South Africa*), Omolola E Fayemi, Eno E. Ebenso

Electrochemical determination of Caffeine at Electrodes modified with Polypyrrole and green synthesized bimetallic nanoparticles.

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Kristina Edström and Alejandro Franco

14:00 to 14:40 Keynote

Arumugam Manthiram (*Materials Science and Engineering, University of Texas at Austin, Austin, USA*)

Metal-sulfur Batteries with Practically Necessary Parameters

14:40 to 15:00

Faezeh Makhlooghiazad (*Institute for Frontier Materials, Deakin University, Melbourne, Australia*), Patrick Howlett, Maria Forsyth

Novel solid-state sodium electrolytes based on organic ionic plastic crystals

15:00 to 15:20

Marco-Tulio Fonseca Rodrigues (*Electrochemical Energy Storage, Argonne National Laboratory, Lemont, USA*), Kaushik Kalaga, Dennis Dees, Ilya Shkrob, Daniel Abraham

Studying Extreme Fast Charging of Li-ion Batteries Using a Reference Electrode

15:20 to 15:40 Invited

Bing Joe Hwang (*Department of Chemical Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan*), Balamurugan Thirumalraj, Tesfaye Teka Hagos, Chen-Jui Huang

Chemistry of Lithium Metal Battery vs. Anode Free Lithium Metal battery

15:40 to 16:00

Aura Tolosa (*Energy Materials Group, INM-Leibniz Institut für Neuen Materialien, Saarbrücken, Germany*), Volker Presser

One-pot Synthesis of Electrospun Carbon/Metal Oxide Hybrid Fibers as Binder-free Electrodes for Lithium-ion Batteries

16:00 to 16:20

Arlavinda Rezqita (*Center for Low-Emission Transport, AIT Austrian Institute of Technology GmbH, Vienna, Austria*), Juergen Kahr, Marcus Jahn

Understanding Gas Evolution on Si-containing Electrodes Processed from Aqueous Slurries

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Tajima Prize

Stefan Freunberger (*Institute for Chemistry and Technology of Materials, Graz University of Technology, Graz, Austria*)

Oxygen Redox and Singlet Oxygen in Non-aqueous Battery Chemistries

17:20 to 17:40

Bingwei Mao (*Chemistry Department, Xiamen University, Xiamen, China*), Weiwei Wang, Yu Gu, Shuai Tang, Junwu He, Hongyu Xu, Jiawei Yan

Rapid Assessment of Solid-Electrolyte Interphases on Lithium Anodes by Atomic Force Microscopy

17:40 to 18:00

Jun Chen (*College of Chemistry, Nankai University, Tianjin, China*)

Selected Inorganic and Organic Electrode Materials for Rechargeable Batteries

18:00 to 18:20

Oluwatosin Bankole (*School of Chemistry, Molecular Science Institute, University of the Witwatersrand, Johannesburg, South Africa*), Adewale Ipadeola, Lesego Gaolatlhe, Kenneth Ozoemena

Metal Organic Framework (MOF)-Derived Carbons as Bifunctional Electrocatalysts for Oxygen Reduction (ORR) and Evolution Reactions (OER)

18:20 to 18:40 Invited

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

Synthesis of Nanostructured Materials for Sustainable Energy Storage

Symposium 8 Sustainable Resources, Processes and Design of High Power Supercapacitors

Room : 11-CD

Chaired by : Pierre-Henri Aubert and Francesca Soavi

14:00 to 14:20

Aleksandar Matic (*Department of Physics, Chalmers University of Technology, Gothenburg, Sweden*), Simon Lindberg, Marco Agostini, Patrik Johansson, Carmen Cavallo

New materials for high power and high energy devices

14:20 to 14:40

Ncholu Manyala (*Physics, University of Pretoria, Pretoria, South Africa*), Faith Ochai-Ejeh, Damilola Momodu, Moshawe Madito, Kabir Oyedotun

Hybrid capacitors based on activated carbon and manganese-based oxide/layered double hydroxide

14:40 to 15:00

Maral Hekmatfar (*Helmholtz Institute Ulm* (HIU), Karlsruhe Institute of Technology (KIT), Ulm, Germany), Ramtin Eghbal Shabgahi, Arianna Moretti, Stefano Passerini

Investigation of Electrolyte Additives on the Cathode/Electrolyte Interphase (CEI) Formed on $LiNiMnCoO_2$ (NMC)

15:00 to 15:20

Assumpta Nwanya (*UNESCO-UNISA Africa Chair in Nanosciences-Nanotechnology, C, University of South Africa, Muckleneuk Ridge, South Africa*)

Zea mays lea silk mediated bio-synthesized NiO nanoparticles as cathode material for assymmetry supercabattery

15:20 to 15:40

Katlego Makgopa (*Chemistry, Tshwane University of Technology, Pretoria, South Africa*), Ntwanano Chauke, Cheslin Brink, Mpho Ratsoma

Intrinsic Properties of Nanostructured Hausmannite Manganese Oxide, Cobalt and Manganese Phosphate Decorated on Carbon Supports for Supercapacitors Applications

15:40 to 16:00

Yann Leroux (*Institut des Sciences Chimiques de Rennes, CNRS - Université de Rennes 1, Rennes, France*), Philippe Hapiot, Yara Aceta

Evaluation of Click Chemistry Coupling Reaction to Functionalize Activated Carbon materials for Charge Storage Applications.

16:20 to 16:40

Coffee Break

16:40 to 17:00

Pierre-Henri Aubert (*LPPI, University of Cergy-Pontoise, Cergy-Pontoise, France*), Thomas Vignal, Philippe Banet, Quentin Mestre, Mathieu Pinault, Martine Mayne-L'Hermite

Poly(*3-methylThiophene*)/Vertically Aligned Carbon Nanotubes/Aluminium Nanocomposites Electrodes: Synthesis Electrochemical Characterizations and Devices

17:00 to 17:20

Abdelaziz Gouda (*Materials Engineering, Ecole Polytechnique Montreal, Montreal, Canada*), Clara Santato

On the Use of N_2-doped and Pristine CQDs to improve the storage performance of bio-sourced quinone-based electrodes

17:20 to 17:40

Francesca Soavi (*Department of Chemistry Giacomo Ciamician, Alma Mater Studiorum University of Bologna, Bologna, Italy*), Federico Poli, Antonio Terella, Giovanni Emanuele Spina, Nicola Mancuso, Maria Letizia Focarete, Mehrdad Mashkour, Mostafa Rahimnejad, Damilola Momodu, Bridget Mutuma, Ncholu Manyala

Natural binders and separators for green supercapacitors

17:40 to 18:00

Qamar Abbas (*Institute for Chemistry and Technology of Materials, Graz University of Technology, Graz, Austria*), Patryk Przygocki, Vladimir Pavlenko, Bernhard Gollas

Investigations of charge transfer at the positive electrode and enhanced capacitance of negative electrode for hybrid capacitor operating in redox active aqueous electrolyte

18:00 to 18:20

Naiza Vilas-Bôas *(CCNH, Universidade Federal do ABC, Santo André, Brazil)*, Sergio Machado, Marcelo Calegaro, Mauro Santos

Cation Doped Cryptomelane-Type Manganese Dioxide Nanorods With High Aspect Ratio Used as Supercapacitors Materials

Symposium 12 The Electrochemical Technology for Water and the Environment for Social, Health and Economic Development

Room : 11-AB

Chaired by : Carlos Alberto Martínez-Huitle

14:00 to 14:40 Keynote

Emmanuel Mousset (*Laboratoire Réactions et Génie des Procédés (LRGP)*, CNRS, Nancy cedex, France)

Electrochemical Advanced Oxidation as Wastewater Treatment Technology – From Kinetics to Modeling and Engineering Aspects

14:40 to 15:00

Romeu C. Rocha-Filho (*Department of Chemistry, Universidade Federal de São Carlos, São Carlos, Brazil*), Naihara Wachter, Nerilso Bocchi

Enhancement of Organics Electrooxidation in a Flow Reactor by the Optimization of the Hydrodynamic Conditions

15:00 to 15:20

M.E. Henry Bergmann (*Electroengineering and Process Technology 6&7, Anhalt University, Koethen/Anh., Germany*)

A technology for treating spent lubricants from wire drawing

15:20 to 15:40

Ricardo Salazar (*Chemistry of Materials, University of Santiago of Chile, Santiago, Chile*)

Electrochemical Raceway Pond Reactor: Performance and Degradation of Organic Pollutants

15:40 to 16:00

Kanayo Oguzie (*Environmental Management, Federal University of Technology Owerri, Owerri, Nigeria*), Emeka Oguzie

Electrochemical degradation of dyes in aqueous solution

16:00 to 16:20 Invited

Carlos Alberto Martínez-Huitle (*Institute of Chemsitry, Federal University of Rio Grande do Norte, Natal, Brazil*), José Eudes Santos, Marco A. Quiroz, Djalma Ribeiro da Silva

Cathodic hydrogen production by simultaneous oxidation of methyl red and 2,4-DNa aqueous solutions using Pb/PbO_2, Ti/Sb-doped SnO_2 and Si/BDD anodes

16:20 to 16:40

Coffee Break

16:40 to 17:00 Invited

Sergi Garcia-Segura (*School of Sustainable Engineering and the Built Environment, Arizona State University, Tempe, USA*), Paul Westerhoff

Successful translation of electrochemical technologies into market: Identifying and overcoming barriers

17:00 to 17:20

Ulli Kunz (*Institute of Chemical and Electrochemical Process Engineerin, Clausthal University of Technology, Clausthal-Zellerfeld, Germany*), Thorben Muddemann, Dennis Haupt, Michael Sievers

Treatment of wastewater with electrochemical methods: Opportunities and side reactions that should be considered

17:20 to 17:40

Zelda Neduvhuledza (*Chemistry, Rhodes University, Grahamstown, South Africa*)

Electrochemical Investigation of Tertbutylphenoxy Phthalocyanine Complexes towards Oxidation of 4-Chlorophenol.

Symposium 14 Molecular Electrochemistry: from Fundamentals to Applications

Room : 12-AB

Chaired by : Kevin Moeller

14:00 to 14:40 Keynote

Diane Smith (*Chemistry and Biochemistry, San Diego State University, San Diego, USA*), Hyejeong Choi, Mario Cedano, Ghazwan Darzi, Kyle Logan, Ahmed Elashmawy

Electrochemically-Controlled Hydrogen Bonding: Complications and Opportunities Resulting from Proton Transfer

14:40 to 15:00

Richard Webster (*School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore*), Malcolm Tessensohn

Using Voltammetry to Measure Hydrogen Bonding

15:00 to 15:20

Adrian Enache (*National Institute of Materials Physics, Magurele, Romania*), Mihaela Bunea, Monica Enculescu, Victor Diculescu

Redox Mechanism of Azathioprine and its Interaction with DNA

15:20 to 15:40

Vinicius Del Colle *(Chemistry, Universidade Federal de Alagoas, Arapiraca, Brazil)*, Juan Feliu, Hamilton Varela, Germano Tremiliosi-Filho

Electrochemical Studies of Glycerol Electrooxidation Onto Pt Stepped Surfaces - Pt(S)[*n(111 x 111)*]

15:40 to 16:00

Jeanet Conradie (*Chemistry, University of the Free State, Bloemfontein, South Africa*)

Redox Behaviour of [Ru(*beta-diketonato*)3] Complexes

16:00 to 16:20

Irena Hoskovcova (*Department of Inorganic Chemistry, UCT Prague, Prague, Czech Republic*), Miroslava Guricova, Martin Pizl, Tomas Tobrman, Dalimil Dvorak

Electrochemical Characterization of Fischer Carbene Complexes of Group 6 Metals Bearing Condensed Heterocyclic Substituents

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Jiri Ludvik (*Molecular Electrochemistry and Catalysis, J. Heyrovsky Institute of Physical Chemistry CAS, Prague 8, Czech Republic*), Ludmila Simkova

Singlet Fission and Electrochemistry

17:20 to 17:40 Invited

Jose H. Zagal (*Chemistry of Materials, University of Santiago de Chile, Santiago, Chile*)

Does the Sabatier principle applies to the reactivity trends in electrocatalytic activity of MN4 molecular catalysts? Hydrazine electro-oxidation

17:40 to 18:00

Tankiso Ngake (*Chemistry, University of the Free State, Bloemfontein, South Africa*), Jeanet Conradie, Johannes Hermanus Potgieter

Voltammetry of Imino-ß-diketones

18:00 to 18:20 Invited

Kouakou Boniface Kokoh (*Chemistry, Université de Poitiers / IC2MP, Poitiers, France*), Charly Lemoine, Yaovi Holade, Karine Servat, Claudia Morais, Teko Napporn

Glucose Oxidation on Carbon Supported Electrode Materials in Alkaline Medium

18:20 to 18:40

Emmie Chiyindiko (*Chemistry, University of Free State, Bloemfontein, South Africa*), Jeanet Conradie, Ernst Langner

Electrochemical reduction of bis(*n-diketonato*)copper(II) compounds.

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

Room : 12-CD

Chaired by : Hector Abruna, Wei Chen, Robert Hillman and Bin Ren

14:00 to 14:40 Keynote

Brian Conway Prize for Physical Electrochemistry

Patrice Simon (*Materials Sciences, Univerité Paul Sabatier, Toulouse, France*)

Following in Prof. Conway's footsteps: 3- and 2-Dimensional materials for (*super*)capacitive energy storage

14:40 to 15:00

Zhong-Qun Tian (*Department of Chemistry, Xiamen University, Xiamen, China*), Yuan Fang, Yi-Fan Huang, Song-Yuan Ding, Jian-Feng Li, De-Yin Wu, Christian Amatore

How can DFT and vibrational spectroscopies work synergistically to reveal electrochemical reactions and interfacial structures

15:00 to 15:20

YuYe Tong (*Chemistry, Georgetown University, Washington, USA*), Eric G. Sorte, De-Jun Chen, Hamed Ataee-Esfahani

Novel Operando NMR and IR Methods for Studying Battery Chemistries

15:20 to 15:40 Invited

Olga Kasian (*Renewable Energies, Helmholtz-Zentrum Berlin fur Materialien und Energie GmbH, Dusseldorf, Germany*), Kevin Schweinar, Serhiy Cherevko, Baptiste Gault, Karl Mayrhofer

Correlating Atomic Scale Structure with Reaction Mechanisms: Electrocatalytic Evolution of Oxygen

15:40 to 16:00 Invited

Xiongwu Kang (*School of Energy and Environment, South China University of Technology, Guangzhou, China*), Zhiwei Guo, Jie Huang, Xusheng Zheng

PdCu Alloy Nanoparticles Supported on CeO_2 Nanorods: Enhanced Electrocatalytic Activity by Synergy of PdO and Oxygen Vacancy

16:00 to 16:20

Shen Ye (*Department of Chemistry, University of Tohoku, Sendai, Japan*), Qiling Peng, Hengxing Ji, Akihiro Morita

Origin of the Overpotential for the Oxygen Evolution Reaction on a Well-defined Graphene Electrode Probed by in situ SFG Spectroscopy

16:20 to 16:40

Coffee Break

16:40 to 17:00

Robert Hillman (*Department of Chemistry, University of Leicester, Leicester, United Kingdom*), Asuman Unal, Hani Ismail, Robert Burrell, Karl Ryder

Optimizing Internal Wetting of Nanostructured Composite Films Exposed to Media of Diverse Solvation Characteristics

17:00 to 17:20 Invited

Katharina Krischer (*Physics Department, Technical University of Munich, Garching, Germany*), Antoine Bonnefont

The Impact of a Global Constraint on Electrochemical Many Particle Systems with Coexisting States

17:20 to 17:40

Jingyuan Chen (*Department of Applied Physics, University of Fukui, Fukui, Japan*), Koichi Aoki, Peng Tang, Keita Niwa

A concept of double layer capacitance motivated by nanotechnology: Double layer impedance in mixture solutions

17:40 to 18:00

Jiawei Yan (*Chemistry Department, Xiamen University, Xiamen, China*), Shuai Liu, Yunxin Zhong, Bingwei Mao

Water at electrode-ionic liquid interfaces: a combined study using AFM force curve and electrochemistry

18:00 to 18:20

Amanda Garcia (*Department of Sustainable Process and Energy Systems, TNO, Delft, Netherlands*), Thomas J. M. Touzalin, Marc Koper

The effect of the cation towards oxygen evolution reaction on NiOOH electrocatalyst.

18:20 to 18:40

Piret Pikma (*Institute of Chemistry, University of Tartu, Tartu, Estonia*), Carolin Siimenson, Liis Siinor, Enn Lust

Electrochemical study of electrolyte | non-noble metal electrode interface for application in SMC measurements

Tuesday, 6 August 2019

ROOMS:	MR 21-ABC	HALL 1	MR 11-CD	MR 12-AB	MR 12-CD	MR 11-AB	MR 21-DEF	MR 21-G	MR 22-ABC	MR 22-DEF	MR 22-G
08:15 - 09:15	**Plenary Lecture**: Tebello Nyokong (**Hall 1**)										
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 8**	**Symposium 14**	**Symposium 16**	**Symposium 12**	**Symposium 7**	**Symposium 1**	**Symposium 4**	**Symposium 2**	**Symposium 5**
09:30 - 09:50	Sir Fraser Stoddart	Jan Rossmeisl	Roberto M. Torresi	Wenjing Hong	Liwei Chen	Carlo Santoro	Shinichi Komaba	Maria Cuartero	Jerome Claverie	Haesik Yang	Salvatore Daniele
09:50 - 10:10				Vladimir Azov		Iwona Gajda					Renata Bilewicz
10:10 - 10:30		Xinxin Xiao	E.P. Yambou	L. Tshwenya	N. Garcia-Araez	Molopo Lipali	Hamdi Ben Yahia	C. Brett	Hanna Sopha	A.O. Adesina	De-Yin Wu
10:30 - 10:50		Serge Cosnier	Ove Oll	Guobao Xu	Manuela Rueda		Federico Bella	K. Rudnicki	Farai Dziike	Mambo Moyo	S.C. de Torresi
10:50 - 12:20	Coffee Break & POSTER SESSION 2				T. Rosser						
12:40 - 13:40	Lunch		Council Meeting	Lunch							
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 9**	**Symposium 10**	**Symposium 16**	**Symposium 12**	**Symposium 7**	**Symposium 1**	**Symposium 4**	**Symposium 2**	**Symposium 20**
14:00 - 14:20	Ana Maria Oliveira-Brett	P. Fernández	G. Jerkiewicz	Yue Kuo	Ilias Belharouak	Kyle Smith	Philipp Adelhelm	Anthony Killard	R.A. Solarska	Fethi Bedioui	S. Passerini
14:20 - 14:40		Colleen Jackson					M. Galceran	Ping Yu		Xolani Ngema	
14:40 - 15:00		Safia Jilani	N. Shakibi Nia	Marco Musiani	Wen-Feng Lin	Unathi Sidwaba	Darya Snihirova	S. Flanagan	Moritz Kuehnel	Rosa Rego	R. McCreery
15:00 - 15:20		B.M. Stühmeier	I.A. Rutkowska	John Graves	Jun Cheng	Thabo Nkaki	P. Barpanda	Meining Zhang	Shiva Mohajernia	Lance Ho	
15:20 - 15:40		E.S. Davydova	J. Quinson	Falk Muench	Antonio Rodes	D. Abrahams	Yong Yang	Egor Andreev	S.N. Stamatin	Narshone Soda	Timo Jacob
15:40 - 16:00		G. Braesch	Adrian Fortuin	Justus Masa	Christelle Gautier	Tybur Casuse	Edgar Ventosa	D. Silvester	Giovanni Zangari	M.T. Gebremdhin	C. Chen
16:00 - 16:20			Daniel Guay	Wei-Nien Su	V.A. Saveleva		Renjie Chen	F. Geneste		M. Matoetoe	C. Andronescu
16:20 - 16:40	Coffee Break										
16:40 - 17:00		C. Lafforgue	Bruno Pollet	D. Scherson	Katsuyoshi Ikeda	Vieira dos Santos	Maria Forsyth	Lauro Kubota	Nosipho Moloto	Damien Arrigan	S. Skrzypek
17:00 - 17:20		H.A. Miller			K.F. Domke	Jorge Vidal			Grace Ngubeni		Hengxing Ji
17:20 - 17:40		Kenichiro Ota	G. T-Filho	S. Pané Vidal	Andrea Russell	D. Suk Han	Viktor Nilsson	M. Opallo	S. Kuwabata	Jae Ho Shin	Ahmed Galal
17:40 - 18:00		Shelley Minteer	Fabian Waidhas	Luca Magagnin	P.H Reinsberg	Usisipho Feleni	P. Johansson	M. Komkova	Yong Zhou	Woonsup Shin	Dodzi Zigah
18:00 - 18:20		Calabrese Barton	Shi-Gang Sun	Astrid Delorme	Ingrid Ponce	H. Makelane	Hiroki Nara	L. Trnkova	Clara Santato	Lanqun Mao	Yuxiao Ding
18:20 - 18:40			Ludwig A Kibler	Enrico Bertero	Y. Tateyama		J-F Colin	Anca Aldea		C. Ozoemena	L. Landon-Lane

Tuesday 6 August 2019 - Morning

Plenary

Room : Hall 1

Chaired by : Jose H. Zagal

08:15 to 09:15

Tebello Nyokong (*Rhodes University, Grahamstown, South Africa*)

Methods of electrode surface modification using porphyrin-type molecules combined with nanomaterials

Masterclass

Room : 21-ABC

Chaired by : Alison Downard

09:30 to 10:30

Sir Fraser Stoddart (*Department of Chemistry, Northwestern University, Evanston IL, USA*)

Electrochemistry on the Hoof

Symposium 1 Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors

Room : 21-G

Chaired by : Ritu Kataky and Daniel Mandler

09:30 to 10:10 Keynote

Early Career Analytical Electrochemistry Prize of ISE Division 1

Sponsored by Origalys

Maria Cuartero (*Department of Chemistry, KTH Royal Institute of Technology, Stockholm, Sweden*), Gaston A. Crespo

Voltammetry Nanomembranes Coupled to Ferrocene Monolayers for Creatinine Detection

10:10 to 10:30

Christopher Brett (*Department of Chemistry, University of Coimbra, Coimbra, Portugal*), Wanderson da Silva, Mariana Emilia Ghica

Novel Sensor Platforms with Nanomaterial and Polymer-Modified Electrodes Prepared in Deep Eutectic Solvents

10:30 to 10:50

Konrad Rudnicki (*Department of Inorganic and Analytical Chemistry, University of Lodz, Lodz, Poland*), Lukasz Półtorak, Slawomira Skrzypek, Ernst R.J. Sudhölter

Ion Transfer Voltammetry for Analytical Screening of Veterinary Drugs at the Miniaturized Water - Oil Interface

10:50 to 12:20

Poster session with coffee

Symposium 2 Sensors and Biosensors for Biomedical and Environmental Applications

Room : 22-DEF

Chaired by : Damien Arrigan and Lanqun Mao

09:30 to 10:10 Keynote

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

Washing-Free Electrochemical Biosensors

10:10 to 10:30

Abiola Olanike Adesina (*Chemistry, Rhodes University, Grahamstown, South Africa*), Philani Mashazi

Electrochemical Impedimetric Immunobiosensor for the Direct and Indirect Detection of C-reactive Protein with Signal Amplification

10:30 to 10:50

Mambo Moyo (*Chemical Technology, Midlands State University, Gweru, Zimbabwe*)

Electrochemical Determination of Antibacterial Drugs in Aqueous Solutions Using An Electrode Modified with MWCNT Decorated with Fe_3O_4 Nanoparticles

10:50 to 12:20

Poster session with coffee

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Frederic Barriere

09:30 to 10:10 Keynote

Jan Rossmeisl (*Chemistry, Universty of Copenhagen, Copenhagen, Denmark*)

Electro-Catalysis at the atomic scale

10:10 to 10:30

Xinxin Xiao (*Department of Chemistry, Technical University of Denmark, Lyngby, Denmark*), Till Siepenkoetter, Edmond Magner, Jens Ulstrup, Jingdong Zhang

Flexible nanoporous gold film based enzymatic biofuel cells for wearable biopower sources

10:30 to 10:50 Invited

Serge Cosnier (*Molecular Chemistry Department UMR CNRS 5250, CNRS-University Grenoble-Alpes, Grenoble, France*)

Innovative Electrical Wiring of Enzymes via Non-covalent Binding of Redox Mediators on Buckypapers and Organic Nanoparticles

10:50 to 12:20

Poster session with coffee

Symposium 4 Renewable Energy and Photo-Electrochemistry

Room : 22-ABC

Chaired by : Bruce Koel

09:30 to 10:10 Keynote

Jerome Claverie (*Chemistry, University of Sherbrooke, Sherbrooke, Canada*)

Plasmonic Photocatalysts with Nanoparticles Free of Noble Metals

10:10 to 10:30

Hanna Sopha (*Center of Materials and Nanotechnologies, University of Pardubice, Pardubice, Czech Republic*), Raul Zazpe, Milos Krbal, Jan Prikryl, Siowwoon Ng, Martin Motola, Jan M. Macak

Superior Photocatalytic Activity of Anodic TiO_2 Nanotube Layers Coated with Secondary Materials using ALD

10:30 to 10:50

Farai Dziike (*School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa*)

Fabrication of Carbonized Semiconductor 2D nanocrystals materials for photocatalysis and photo-electrochemical applications

10:50 to 12:20

Poster session with coffee

Symposium 5 Gold and Related Noble Metals in Electroanalysis, Electrocatalysis, and Electrochemical Devices

Room : 22-G

Chaired by : Aicheng Chen

09:30 to 09:50 Invited

Salvatore Daniele (*Department of Molecular Sciences and Nanosystems, Cà Foscari University of Venice, Mestre-Venice, Italy*), Gregorio Bonazza, Dario Battistel, Franco Baldi

Silver-exopolysaccharide Nanoparticles: Electrochemical Charcaterization and Activity towards Gram-positive and Gram-negative Bacteria

09:50 to 10:10

Renata Bilewicz (*Faculty of Chemistry, University of Warsaw, Warsaw, Poland*), Michal Kizling, Maciej Dzwonek, Aleksandra Rekorajska, Agnieszka Wieckowska, Pawel Krysinski

Gold nanoparticles for improving performance of enzymatic electrodes

10:10 to 10:30

De-Yin Wu (*College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China*), Meng Zhang, Rui Wang, Jian-Zhang Zhou, Zhong-Qun Tian

Surface Plasmon Driven Chemical Reactions on Silver Electrodes of Nanostructures

10:30 to 10:50

Susana Cordoba de Torresi (*Instituto de Quimica, Universidade de Sao Paulo, Sao Paulo, Brazil*), Rafael N.P. Colombo, Rodrigo Moreira, Dalva L.A. Faria

Fast Production of a Low-Cost SERS Platform by Gold Electrodeposition on Porous Polymeric Templates

10:50 to 12:20

Poster session with coffee

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Philipp Adelhelm and Doron Aurbach

09:30 to 10:10 Keynote

Shinichi Komaba (*Department of Applied Chemistry, Tokyo University of Science, Tokyo, Japan*), Tomooki Hosaka, Kei Kubota, Tatsuo Matsuyama, Ayumi Noda, Yuki Matsuda, Kazuhiko Ida, Shigenobu Denzumi

Superconcentrated KFSA Solutions for Non-Aqueous and Aqueous Rechargeable Batteries

10:10 to 10:30

Hamdi Ben Yahia (*Qatar Environment and Energy Research Institute (QEERI 2.0)*, Hamda Bin Khalifa University, Qatar Foundation, Doha, Qatar), Alaa Alkhateeb, Rachid Essehli

$NaFe_{2-x}V_x(PO_4)(SO_4)_2$ as Electroactive Material for Na-ion Batteries

10:30 to 10:50

Federico Bella (*Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy*), Francesca Colò, Giulia Piana, Marisa Falco, Elisa Maruccia, Gabriele Lingua, Lucia Fagiolari, Giuseppina Meligrana, Claudio Gerbaldi

The Progressive Transition towards Solid Sodium Batteries: a Polymeric Approach

10:50 to 12:20

Poster session with coffee

Symposium 8 Sustainable Resources, Processes and Design of High Power Supercapacitors

Room : 11-CD

Chaired by : Daniel Belanger and Irfan Habib

09:30 to 10:10 Keynote

Roberto M. Torresi (*Instituto de Química, Universidade de São Paulo, São Paulo, Brazil*), Vitor L. Martins, Thiago Obana

Asymmetric Pseudo Capacitors Using Water-in-Salts as Electrolytes

10:10 to 10:30

Emmanuel Pameté Yambou (*Chemical Technology, Poznan University of Technology, Poznan, Poland*), Barbara Górska, Vladimir Pavlenko, François Béguin

Extending the operating temperature range of ionic liquid-based EDLCs down to -50 °C by implementing binary mixtures and carbons with optimised porous texture

10:30 to 10:50

Ove Oll (*Institute of Chemistry, University of Tartu, Tartu, Estonia*), Jinfeng Zhao, Georg Gorbatovski, Thomas Thomberg, Enn Lust

Effect of Alkali and Halide Ion Doping on the Capacitance Characteristics of Ionic Liquid based Supercapacitors

10:50 to 12:20

Poster session with coffee

Symposium 12 The Electrochemical Technology for Water and the Environment for Social, Health and Economic Development

Room : 11-AB

Chaired by : Omotayo Arotiba

09:30 to 09:50 Invited

Carlo Santoro (*Bristol BioEnergy Centre, University of The West of England, Bristol, United Kingdom*), Alexis Walter, John Greenman, Francesca Soavi, Ioannis Ieropoulos

Self-powered supercapacitive membraneless microbial fuel cell with air-breathing configuration

09:50 to 10:10

Iwona Gajda (*Bristol BioEnergy Centre, University of the West of England, Bristol, United Kingdom*), Oluwatosin Obata, John Greenman, Ioannis Ieropoulos

Electroosmotic Production of Clear Caustic Filtrate from Human Urine in Ceramic Microbial Fuel Cells

10:10 to 10:30

Molopo Lipali (*Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa*), Ronen Fogel, Janice Limson

Enhancing bioremediation efficiency and power generation in Microbial Fuel Cells through exogenous addition of biological and chemical surfactants.

10:50 to 12:20

Poster session with coffee

Symposium 14 Molecular Electrochemistry: from Fundamentals to Applications

Room : 12-AB

Chaired by : Jeanet Conradie

09:30 to 09:50 Invited

Wenjing Hong (*College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China*)

Electrochemical gating of quantum interference in single-molecule junctions

09:50 to 10:10

Vladimir Azov (*Department of Chemistry, University of the Free State, Bloemfontein, South Africa*)

Electrochemical Behavior of Tetrathiafulvalenes in Dynamic Molecular Systems

10:10 to 10:30

Luthando Tshwenya (*Applied Chemistry, University of Johannesburg, Johannesburg, South Africa*), Omotayo Arotiba, Frank Marken

Electrochemical Studies of a Curcumin Based Ionic Diode

10:30 to 10:50

Guobao Xu (*State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, CAS, Changchun, China*), Pan Hui, Jianrui Sun, Tadesse Haile Fereja, Zhongyuan Liu, Yunhui Li

Tris (*2,2'-bipyridyl*) ruthenium(II) Electrochemiluminescence of Some Oxygen-Containing Organic Additives in Food and Cosmetic

10:50 to 12:20

Poster session with coffee

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

Room : 12-CD

Chaired by : Katharina Krischer

09:30 to 10:10 Keynote

Liwei Chen (*I-Lab, Suzhou Institute of Nanotech and Nanobionics, CAS, Suzhou, China*), Yanbin Shen, Feng Guo, Zhenjie Cheng, Qingyu Dong

Characterization of Electrode | Electrolyte Interfaces in Batteries

10:10 to 10:30 Invited

Nuria Garcia-Araez (*Chemistry, University of Southampton, Southampton, United Kingdom*), Tom Homewood, James Frith, J. Padmanabham Vivek, Nieves Casañ-Pastor, Dino Tonti, John Owen

Promoting the desired reactions in metal-oxygen/sulfur batteries using redox mediators and environmentally-friendly electrolytes

10:30 to 10:50 Invited

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

FT-IR spectro-electrochemical study of DNA bases adsorptions and co-adsorptions on gold electrodes

10:50 to 11:10

Timothy Rosser (*National Physical Laboratory, National Physical Laboratory, Teddington, United Kingdom*), Jo J. L. Humphrey, Janyuan Xu, Xian-Kui Wei, Marc Heggen, Yury V. Kolen'ko, Andrew J. Wain

Performance Enhancement of Cobalt Phosphide Oxygen Evolution Catalysts by Aluminium Doping: Insights from In Situ Raman Spectroscopy

10:50 to 12:20

Poster session with coffee

Tuesday 6 August 2019 - Afternoon

Masterclass

Room : 21-ABC

Chaired by : Alison Downard

14:00 to 15:45

Ana Maria Oliveira-Brett (*Department of Chemistry, University of Coimbra, Coimbra, Portugal*)

Bioelectrochemical Approaches to Sensing Biomolecules

Symposium 1 Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors

Room : 21-G

Chaired by : Gaston A. Crespo and Marcin Opallo

14:00 to 14:20 Invited

Anthony Killard (*Department of Applied Sciences, University of the West of England, Bristol, United Kingdom*)

Blood coagulation monitoring using QCM

14:20 to 14:40

Ping Yu (*Institute of Chemistry, Institute of Chemistry, Beijing, China*)

Electroactive Supramolecular Ionic Material for Biosensing and Electronic Device

14:40 to 15:00

Shane Flanagan (*Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa*), Ronen Fogel, Janice Limson

Aptamer development against Plasmodium vivax lactate dehydrogenase for the selective detection of malaria subspecies.

15:00 to 15:20

Meining Zhang (*Department of Chemistry, Renmin University of China, Beijing, China*)

Minimizing Fouling of Microelectrode For in vivo Measurement

15:20 to 15:40

Egor Andreev (*Chemistry Faculty, M.V. Lomonosov Moscow State University, Moscow, Russia*), Maria Komkova, Elena Karpova, Arkady Karyakin

Sweat Lactate Detection by Prussian Blue Based Biosensors in Power Generation Mode

15:40 to 16:00

Debbie Silvester (*School of Molecular and Life Sciences, Curtin University, Perth, Australia*), Junqiao Lee, Ghulam Hussain, Holly Yu

Amperometric Gas Detection Using Planar, Low-Cost, Miniaturised Sensing Devices with Gelled Materials

16:00 to 16:20

Florence Geneste (*Institut des Sciences Chimiques de Rennes, University of Rennes 1, Rennes, France*)

Ti Catalyst Biomimetic Sensor for the Detection of Nitroaromatic Pollutants

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Lauro Kubota (*Analytical Chemistry, Unicamp, Campinas, Brazil*)

Electrochemical Behavior of Superlattice films Based on DNA and Metal Nanoparticles

17:20 to 17:40

Marcin Opallo (*Electrode Processes, Institute of Physical Chemistry PAS, Warszawa, Poland*), Joanna Dolinska, Marcin Holdynski, Anna Rola-Noworyta

Electrochemical Detection of Metal Oxide Nanoparticles in Forced Convection Conditions

17:40 to 18:00

Maria Komkova (*Chemistry faculty, M.V. Lomonosov Moscow State University, Moscow, Russia*), Olga Ibragimova, Alexander Zarochintsev, Arkady Karyakin

Catalytically Synthesized Prussian Blue Nanoparticles Defeating Peroxidase: Application for Electroanalysis

18:00 to 18:20

Libuse Trnkova (*Department of Chemistry, Masaryk University, Faculty of Science, Brno, Czech Republic*), Iveta Triskova, Martin Kejik, Zdenek Moravec, Jan Hrbac

New Strategy in Electroanalysis: Elimination Voltammetry on Polymer Pencil Graphite Electrodes

18:20 to 18:40

Anca Aldea (*National Institute of Materials Physics, Str. Atomistilor 405A, Magurele, Romania*), Victor Diculescu, Alexandru Evanghelidis, Elena Matei, Ionut Enculescu

Flexible Electrodes Based on Electrospun Metallized Fibers for Biomarkers Detection in Sweat

Symposium 2 Sensors and Biosensors for Biomedical and Environmental Applications

Room : 22-DEF

Chaired by : Fethi Bedioui and Haesik Yang

14:00 to 14:20 Invited

Fethi Bedioui (*Institute of Chemistry for Life and Health Sciences i-CLeHS, Cnhimie ParisTech-PSL Universite / CNRS, Paris, France*), Gerson Duarte Junior, Abdulghani Ismail, Sophie Griveau, Fanny D'Orlye, Alberto Fracassi da Silva, Wendell Coltro, Anne Varenne

Integrated microfluidic device for the separation, decomposition and detection of low molecular weight S-nitrosothiols

14:20 to 14:40

Xolani Ngema (*Chemistry, University of the Western Cape, Cape Town, South Africa*), Fanelwa Ajayi

Multifunctional electro active green method synthesized metal nanoparticles

14:40 to 15:00

Rosa Rego (*Chemistry, University of Trás-os-Montes e Alto Douro, Vila Real, Portugal*), Wasina Fins, Helena Gonçalves, António Valente, Cristina Antunes

Exploring Drug-DNA-Carbon Dots Binding for Electrochemical Sensing

15:00 to 15:20

Lance Ho (*Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa*), Ronen Fogel, Janice Limson

The Specific Detection of Histamine by an Impedimetric Aptasensor

15:20 to 15:40

Narshone Soda (*School of Environment and Science, Griffith University, Brisbane, Australia*), Muhammad Umer, Nam-Trung Nguyen, Muhammad J.A. Shiddiky

Electrochemical and colorimetric detection of HOTAIR long non-coding RNA

15:40 to 16:00

Merid Tessema Gebremdhin (*Chemistry, Addis Ababa Universty, Addis Ababa, Ethiopia*)

Highly Sensitive, Stable and Selective Hydrogen Peroxide Amperometric Biosensors Based on Peroxidases from Different Sources Wired by Os-Polymer: A Comparative Study

16:00 to 16:20

Mangaka Matoetoe (*Chemistry, Cape Peninsula University of Technology, Cape Town, South Africa*), Takunda Gwuanzura

Gold zeolitic imidazolate organic framework composite biosensor for detection of epidermal growth factor

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Damien Arrigan (*School of Molecular and Life Sciences, Curtin University, Perth, Australia*), Hum Bahadur Lamichhane, Shaheda Zannah, Mark J. Hackett

Biomolecular Sensing via Electrochemistry at Oil-Water Interfaces

17:20 to 17:40 Invited

Jae Ho Shin (*Chemistry, Kwangwoon University, Seoul, Korea*)

Continuous Interstitial Glucose Monitoring Sensors for In Vivo Evaluation in a Dog Model

17:40 to 18:00

Woonsup Shin (*Department of Chemistry and BioMedical Engineering, Sogang University, Seoul, Korea*), Enhua Zhu, Kyu-Yeon Jun

The development of implantable intrathecal delivery system based on electroosmotic pump

18:00 to 18:20 Invited

Lanqun Mao (*Institute of Chemsitry, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China*)

In Vivo Electrochemistry to Understand Physiological Roles of Ascorbate

18:20 to 18:40

Ozoemena Celestine (*Biomedical Sciences, Tshwane University of Technology, Constantia Park, Pretoria, South Africa*)

Polyacrylonitrile Fibres as Efficient Electrode Materials for The Detection of Vibrio cholera Toxins in Samples

TUESDAY PM

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Elena S. Davydova and Elisabeth Lojou

14:00 to 14:20

Pablo Fernández (*Physical Chemistry, State University of Campinas, Campinas, Brazil*), Matheus Souza, Rafael Vicente, Victor Yukuhiro, Cléo Pires, William Cheuquepán, José Bott-Neto, José Solla-Gullón

Effect of Bi and Pb adatoms on the activity and selectivity of glycerol electrooxidation in alkaline media

14:20 to 14:40

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

Catalysts for Electrochemical Hydrogen Purification and Compression

14:40 to 15:00

Safia Jilani (*Department of Chemistry, Georgetown University, Washington D.C., USA*), De-Jun Chen, Carter Cohen, YuYe Tong

Investigation of the role of Ni and Cu in PtNiCu Catalysts for the Study of the Ethanol Oxidation Reaction

15:00 to 15:20

Björn M. Stühmeier (*Chemistry and Catalysis Research Center, Technical University Munich, Garching, Germany*), Sören Selve, Manu U. M. Patel, Timon N. Geppert, Hubert A. Gasteiger, Hany A. El-Sayed

Highly Selective Pt/TiO_x Catalysts for the Hydrogen Oxidation Reaction

15:20 to 15:40

Elena S. Davydova (*Chemical Engineering Department, Technion - Israel Institute of Technology, Haifa, Israel*), Florian Speck, Serhiy Cherevko, Dario Dekel

Stability of Nanosize Ni-Based Hydrogen Oxidation Reaction Electrocatalysts in Alkaline Media

15:40 to 16:00

Guillaume Braesch (*LEPMI, UGA, CNRS, Grenoble-INP, Grenoble, France*), Alexandr G. Oshchepkov, Antoine Bonnefont, Elena R. Savinova, Marian Chatenet

Controlling the State of Surface of Nickel to Maintain Optimal Borohydride Oxidation Reaction Performances

16:20 to 16:40

Coffee Break

16:40 to 17:00 Invited

Clemence Lafforgue (*LEPMI, Universite Grenoble Alpes, CNRS, Grenoble INP, Grenoble, France*), Frederic Maillard, Laetitia Dubau, Marian Chatenet

Degradation of PGM-Based Carbon Supported Electrocatalysts in Alkaline Media Studied by in situ Fourier Transform Infrared Spectroscopy

17:00 to 17:20

Hamish Andrew Miller (*ICCOM, CNR, Sesto Fiorentino, Italy*), Marco Bellini, Maria Vincenza Pagliaro, Andrea Marchionni, Jonathan Filippi, Evangelisti Claudio, Dario Dekel, Qingying Jia, Sanjeev Mukerjee, Lianqin Wang, John Robert Varcoe, Francesco Vizza

Anion Exchange Membrane Fuel Cells: Enhanced Alkaline Hydrogen Oxidation Activity of Platinum-free Catalysts.

17:20 to 17:40

Kenichiro Ota (*Green Hydrogen Research Center, Yokohama National University, Yokohama, Japan*), Takayuki Nagai, Koichi Matsuzawa, Yoshiyuki Kuroda, Shigenori Mitsushima, Akimitsu Ishihara

Group 4 and 5 Metal Oxide Cathode Catalysts for Advanced PEFC

17:40 to 18:00 Invited

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

Catalytic Cascades in Fuel Cell Applications

18:00 to 18:40 Keynote

Scott Calabrese Barton (*Chemical Engineering & Materials Science, Michigan State University, East Lansing, USA*)

The Impact of Biocatalysis on Current Fuel Cell Technology

Symposium 4 Renewable Energy and Photo-Electrochemistry

Room : 22-ABC

Chaired by : Jerome Claverie

14:00 to 14:40 Keynote

Renata Anna Solarska (*Centre of New Technologies, University of Warsaw, Warsaw, Poland*), Krzysztof Bienkowski, Michal Jadwiszczak, Adrian Dubiel

Photo-Induced Charge Carriers Dynamics in Solar Semiconducting Systems

14:40 to 15:00 Invited

Moritz Kuehnel (*Department of Chemistry, Swansea University, Swansea, United Kingdom*)

Solar fuel generation from water, waste and CO_2

15:00 to 15:20

Shiva Mohajernia (*Institute of Surface Science and Corrosion* (LKO), University of Erlangen-Nuremberg, Erlangen, Germany), Seyedsina Hejazi, Patrik Schmuki

Conductive Cu doped TiO_2 nanotubes for enhanced photoelectrochemical methanol oxidation and concomitant hydrogen generation

15:20 to 15:40

Serban N. Stamatin (*3NanoSAE Research Centre, University of Bucharest, Magurele, Romania*), Vlad A. Antohe, Catalin Ceaus, Eugeniu Vasile, Stefan Antohe

Bandgap design by application: a case study of graphitic carbon nitride

15:40 to 16:00

Giovanni Zangari (*Materials Science and Engineering, University of Virginia, Charlottesville, USA*), Yin Xu

Short-Time Electrodeposition of Ni/CoNi Hydroxides on GaAs under Growth-Inhibition Condition for Photoelectrochemical Water Splitting

16:20 to 16:40

Coffee Break

16:40 to 17:20

Nosipho Moloto (*School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa*), Sharon Mphahlele, Tshwarela Kolokoto, Mildred Airo

Semiconductor nanocrystals as effective electrocatalysts

18:40 to 19:00

Grace Ngubeni (*Chemistry, University of the Witwatersrand, Johannesburg, South Africa*), Robert Warmbier, Alex Quandt, Nosipho Moloto

Metal chloride colloidal synthesis of semiconducting quaternary chalcogenides for application in photovoltaics

17:40 to 18:00

Susumu Kuwabata (*Applied Chemistry, Gratuate School of Engineering, Osaka University, Suita, Japan*), Taro Uematsu, Tomotaka Wajima, Wacharaporn Hoisang, Tatsuya Kameyama, Takahisa Yamamoto, Martin Vacha, Tsukasa Torimoto

Improvement of Photoluminescence Property of Band-edge Emission from AgInS2/Ga2S3 Core/shell Quantum Dots

17:20 to 17:40

Yong Zhou (*School of Physics, Nanjing University, nanjing, China*), Congping Wu, Zhigang Zou

Artificial Photosynthesis: Photocatalytic Conversion of CO_2 into Solar Fuels

18:00 to 18:40 Keynote

Clara Santato (*Engineering Physics, Polytechnique Montreal, Montreal, Canada*), Abdelaziz Gouda

Towards Green Solar Batteries

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Federico Bella and Shinichi Komaba

14:00 to 14:20 Invited

Philipp Adelhelm (*Institute of Technical Chemistry and Environmental Chemistry, Friedrich-Schiller-University Jena, Jena, Germany*), Thangavelu Palaniselvam, Mustafa Goktas, Lukas Medenbach, Wolfgang Brehm

Negative electrodes for Na-ion batteries and solid-state batteries

14:20 to 14:40

Montserrat Galceran (*Power Storage, Batteries and Supercaps, CIC energiGUNE, Miñano, Spain*), Carlos M. Berlanga, Marine Reynaud, Damien Saurel, Agnieszka Wizner, Jokin Rikarte, Maider Zarrabeitia, Iciar Monterrubio, Michel Armand, Teofilo Rojo, Montse Casas-Cabanas

Exploring Advances in Polyanionic Compounds for Na-ion Batteries: Pathways from Cathode to Anode Materials

14:40 to 15:00

Darya Snihirova (*Magnesium Innovation Centre-MagIC, Helmholtz-Zentrum Geesthacht, Geesthacht, Germany*), Linqian Wang, Min Deng, Sviatlana V. Lamaka, Daniel Höche, Bahram Vaghefinazari, Mikhail L. Zheludkevich

Tailoring the electrochemical activity of primary Mg aqueous batteries: anode and electrolyte perspective.

15:00 to 15:20

Prabeer Barpanda (*Materials Research Centre, Indian Institute of Science, Bangalore, India*), Krishnakanth Sada, Baskar Senthilkumar

Layered Sodium Manganese Oxide ($Na_2Mn_3O_7$) As a Versatile Battery Insertion Material

15:20 to 15:40 Invited

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

Toward highly reversible poly-anion cathode materials Na-ion batteries

15:40 to 16:00

Edgar Ventosa (*Electrochemical Processes Unit, IMDEA Energy, Mostoles, Spain*), Teresa Paez, Jesús Palma

Towards High-energy Alkaline Flow Batteries by Enabling Charge Storage in Solid Materials

16:00 to 16:20

Renjie Chen (*School of Materials Science and Engineering, Beijing Institute of Technology, Beijing, China*), Nan Chen, Li Li, Feng Wu

A Novel Organosilicon Groups Functionalized Ionic Liquid Electrolyte Boosts the Performance of Dendrite-Free Lithium Batteries

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Maria Forsyth (*Insititute for Frontier Materials, Deakin University, Burwood, Australia*), Patrick C Howlett, Douglas R MacFarlane, David Mecerreyes, Asier Fernandez, Shammi A. Ferdousi, Michel Armand, Xiaoen Wang

Ionic liquid electrolytes and ionogel composites that enable high capacity anodes for lithium and sodium batteries

17:20 to 17:40

Viktor Nilsson (*Physics, Chalmers University of Technology, Gothenburg, Sweden*), Antonia Kotronia, Matthew Lacey, Kristina Edström, Patrik Johansson

A highly concentrated non-volatile liquid electrolyte for Li metal cells

17:40 to 18:00

Patrik Johansson (*Department of Physics, Chalmers University of Technology, Gothenburg, Sweden*), Damien Monti, Alexandre Ponrouch, Jan Bitenc, Alen Vizintin, Toshihiko Mandai, Niklas Lindahl, Muhammad Abdelhamid, Rafael Araujo, Robert Dominko, Rosa Palacin

Promises, Problems and Proof-of-Concept for Ca and Al Batteries

18:00 to 18:20

Hiroki Nara (*Research Organization for Nano & Life Innovation, Waseda University, Tokyo, Japan*), Tatsuro Sasaki, Hiroshi Senoh, Masahiro Shikano, Hikari Sakaebe, Toshiyuki Momma, Tetsuya Osaka

Electrochemical Impedance Spectroscopy Analysis of FeF3 Cathode for Lithium-ion Battery in Initial Discharge and Charge

18:20 to 18:40

Jean-Francois Colin (*CEA,LITEN, Univ. Grenoble Alpes, Grenoble, France*), David Peralta, Adrien Boulineau, Carole Bourbon, Jean-Frederic Martin, Jean-Baptiste Ducros

Use Of Metal Fluoride Coatings To Enhance Disordered Li-Rich Material Performances

Symposium 9 Electro-physical Chemistry and Application of Platinum Group Metals

Room : 11-CD

Chaired by : Jessica Chamier

14:00 to 14:40 Keynote

Gregory Jerkiewicz (*Chemistry, Queen's University, Kingston, Canada*)

Platinum Electrochemistry and Electrocatalysis. From Hydrogen Adsorption to Platinum Dissolution

14:40 to 15:00

Niusha Shakibi Nia (*Physical Chemistry, Innsbruck University, Innsbruck, Austria*), Alessandro Martucci, Gaetano Granozzi, Julia Kunze-Liebhäuser

TiO_xC_y Supported Pt Catalysts for Anodic Ethanol Electrooxidation at Intermediate Temperature

15:00 to 15:20

Iwona A. Rutkowska (*Department of Chemistry, University of Warsaw, Warsaw, Poland*), Anna Wadas, Pawel J. Kulesza

Specific Interactions Between Noble Metals, their Alloys and Metal Oxide Supports in Efficient Oxidative Electrocatalysis

15:20 to 15:40

Jonathan Quinson (*Chemistry, University of Copenhagen, Copenhagen, Denmark*), Francesco Bizzotto, Jan Bucher, Masanori Inaba, Alessandro Zana, Matthias Arenz

Surfactant-free syntheses of precious metal nanoparticles for improved (*electro*)catalysts

15:40 to 16:00

Adrian Fortuin (*School of Chemistry, University of Birmingham, Birmingham, United Kingdom*), Guenther G. Scherer, Pieter Levecque

Studying Pt Dissolution on Carbon Surfaces using the Electrochemical Quartz Crystal Nanobalance

16:00 to 16:20 Invited

Daniel Guay (*Energie, Materiaux Telecommunication, INRS, Varennes, Canada*)

On the use of well-defined model systems in electrocatalysis: the case of NH3 oxidation

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Bruno Pollet (*Energy and Process Engineering, Norwegian University of Science and Technology (NTNU)*, Trondheim, Norway)

Power Ultrasound for the Fabrication of Fuel Cell and Electrolyser Catalysts and Low PGM Loading Electrodes

17:20 to 17:40 Invited

Germano Tremiliosi-Filho (*Institute of Chemistry of Sao Carlos, University of Sao Paulo, Sao Carlos, Brazil*), Vinicius Del Colle, Juan Feliu, Hamilton Varela

The Influence of Pt Step Sites Onto Methanol Electrooxidation: An Electrochemical and FTIR Studies

17:40 to 18:00

Fabian Waidhas (*Interface Research and Catalysis, Friedrich-Alexander University Erlangen-Nuremberg* (FAU), Erlangen, Germany), Maximilian Kastenmeier, Corinna Stumm, Sandra Haschke, Peyman Khanipour, Gabriel Sievi, Maria Montero, Lukas Fromm, Andreas Görling, Julien Bachmann, Ioannis Katsounaros, Karl Mayrhofer, Peter Wasserscheid, Olaf Brummel, Jörg Libuda

Secondary Alcohols as Rechargeable Electrofuels: Electrooxidation of 2-Prpoanol at Pt-Based Electrodes

18:00 to 18:20

Shi-Gang Sun (*Chemistry, Xiamen University, Xiamen, China*), Na Tian, Zhi-You Zhou, Yan-Xia Jiang, Rui Huang, Chun-Hua Zhen

Structure Design and Controlled Synthesis of Platinum Electocatalyst of Nanocrystals with High-Surface Energy and High-Activity

18:20 to 18:40 Invited

Ludwig A. Kibler (*Institute of Electrochemistry, Ulm University, Ulm, Germany*), Areeg Abdelrahman, Johannes M. Hermann, Timo Jacob

Surface Dynamics, Adsorption and Electrocatalysis: A Comparison of Au(111) with Platinum Group Metals

Symposium 10 New Concepts and Opportunities in Electrochemical Synthesis: Fundamentals, Methods and Applications

Room : 12-AB

Chaired by : Giovanni Zangari

14:00 to 14:40 Keynote

Yue Kuo (*Thin Film Nano & Microelectronics Research Laboratory, Texas A&M University, College Station, USA*)

Opportunities of Electrochemical Reaction Applications in Solid State Devices and Circuits Fabrication

14:40 to 15:00

Marco Musiani (*ICMATE, CNR, Padova, Italy*), Lidia Armelao, Sandro Cattarin, Nicola Comisso, Paolo Guerriero, Luca Mattarozzi, Marzio Rancan, Lourdes Vazquez-Gomez, Enrico Verlato

Investigation on the oxide-oxide galvanic displacement reactions employed in the preparation of electrocatalytic layers

15:00 to 15:20

John Graves (*Institute for Future Transport and Cities, Coventry University, Coventry, United Kingdom*), Nurul Omar, Simon Weale, Alan Greenwood

A Novel Procedure for the Preparation of Copper Nanowires and Nanomeshes

15:20 to 15:40

Falk Muench (*Department of Materials and Earth Sciences, Technische Universität Darmstadt, Darmstadt, Germany*), Aleksei Solomonov, Tatyana Bendikov, Leopoldo Molina-Luna, Israel Rubinstein, Alexander Vaskevich

Electroless Plating of Silver Nanoparticle Films with Controlled Particle Size and Areal Density: Production of Plasmonic Transducers for DNA Biosensing

15:40 to 16:00

Justus Masa (*Analytical Chemistry - Center for Electrochemical Sciences, Ruhr-University Bochum, Bochum, Germany*)

Elucidation of the mechanisms of electrochemical activation of nickel boride water splitting electrocatalysts through potential cycling

16:00 to 16:20

Wei-Nien Su (*Graduate Institue of Applied Science and Technology, National Taiwan University of Science and Technology, Taipei, Taiwan*), Tan-Thanh Huynh, Meng-che Tsai, Chun-Jern Pan, Bing-Joe Hwang

Synergetic Electrocatalytic Activities Towards Direct Synthesis of Hydrogen Peroxide: the Ordered Structure of PdNi Bimetallic Nanocatalysts

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Daniel Scherson (*Chemistry, Case Western Reserve University, Cleveland, USA*)

The Electrocatalytic Properties of Underpotential Deposited Metals for the Reduction of Selenate in Aqueous Electrolytes.

17:20 to 17:40

Salvador Pané Vidal (*Mechanical & Process Engineering / Multi-Scale Robotics Lab, ETH Zurich, Zurich, Switzerland*)

Electrodeposited Nanowires for Nanorobotic Applications

17:40 to 18:00

Luca Magagnin (*Chimica, Materiali e Ing. Chimica, Politecnico di Milano, Milan, Italy*), Gabriele Panzeri, Matteo Cristina, Gianlorenzo Bussetti

Electrodeposition of photoactive semiconductors for photoelectrochemical water splitting: production of Cu_2O/CuO with non-noble catalysts for improved photocurrent and stability

18:00 to 18:20

Astrid Delorme (*Chemistry, The University of Nottingham, Nottingham, United Kingdom*), Darren Walsh, Peter Licence, Victor Sans

TEMPO and RTILs for the sustainable development of TEMPO-mediated Alcohol Electrooxidation

18:20 to 18:40

Enrico Bertero (*Laboratory for Mechanics of Materials and Nanostructures, Empa, Thun, Switzerland*), Cristina V. Manzano, Patrik Schürch, Johann Michler, Laetitia Philippe

FeCrNi stainless-steel electrodeposition of coatings and micro-nano components from a "green" Cr(III)-based mixed solvent electrolyte

Symposium 12 The Electrochemical Technology for Water and the Environment for Social, Health and Economic Development

Room : 11-AB

Chaired by : Ricardo Salazar

14:00 to 14:40 Keynote

ISE-Elsevier Prize for Applied Electrochemistry

Kyle Smith (*Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Urbana, USA*), Aniruddh Shrivastava, Erik Reale, Sizhe Liu

Understanding and Controlling Reaction and Transport Mechanisms in Prussian Blue Analogues for Faradaic Deionization

14:40 to 15:00

Unathi Sidwaba (*Nanotechnology and Water Sustainability Research Unit, College of Science, Engineering and Technology (UNISA)*, Johannesburg, South Africa), Usisipho Feleni, Emmanuel Iwuoha, Bhekie B. Mamba

Membrane-based Electrosorptive Detection of Non-steroidal Anti-inflammatory Drugs in Water

15:00 to 15:20

Thabo Nkaki (*Chemistry, Rhodes University, Grahamstown, South Africa*), Samson Khene, Philani Mashazi

Synthesis, Spectroscopic and Electrochemical Characterization of Benzyl Thio Substituted Phthalocyanines for Application in Electrocatalytic Detection of 4-Chlorophenol in Water

15:20 to 15:40

Dhielnawaaz Abrahams (*Chemical Science, University of the Western Cape, Cape town, South Africa*), Priscilla Baker

Electro-Analytical Protocols for determining Polyphenols in Winery Cellar Effluent

15:40 to 16:00

Tybur Casuse (*Civil, Construction and Environmental Engineering, University of New Mexico, Albuquerque, USA*)

Electrochemical Detection of Arsenite with chemically deposited gold nanoparticles and vapor deposited film electrodes

16:20 to 16:40

Coffee Break

16:40 to 17:00

Elisama Vieira dos Santos (*School of Science and Technology, Federal University of Rio Grande do Norte, Natal, Brazil*), Déborah. C. Andrade, João M. M. Henrique, Vãtor j.p. Vilar, Carlos A. Martínez-Huitle

Remediation of soil polluted with hydrocarbons using reactive barrier and electrokinetic remediation

17:00 to 17:20

Jorge Vidal (*Facultad de Química Analítica e Inorgánica, Universidad de Chile, Santiago, Chile*), Manuel Rodrigo, Pablo Cañizares, Cristina Saez, Ricardo Salazar, Vicente Navarro

Electro-remediation of contaminated soil with Clopyralide using permeable reactive barriers of ZVI

17:20 to 17:40

Dong Suk Han (*Center for Advanced Materials, Qatar University, Doha, Qatar*), Sun Hee Yoon, Nimir Elbashir, Hyunwoong Park

Application of Nanostructured Titania for Renewable Energy Production and Water Treatment

17:40 to 18:00

Usisipho Feleni (*Nanotechnology and Water Sustainability Research Unit, University of South Africa, Johannesburg, South Africa*)

Tin Telluride Quantum Dot-Functionalised Membrane Reactor for the Removal of Emerging Pharmaceutical Contaminants from Domestic Wastewater

18:00 to 18:20

Hlamulo Makelane (*Department of Chemistry, Nelson Mandela University, Port Elizabeth, South Africa*), Emmanuel Iwuoha

Second Harmonic Alternating Current Voltammetric Dendritic Copolymer Electrode Signalling of Pyrene in Oil-Polluted Wastewater

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

Room : 12-CD

Chaired by : Helmut Baltruschat, Xiongwu Kang and Ingrid Ponce

14:00 to 14:40 Keynote

Ilias Belharouak (*Energy and Transportation Science Division, Oak Ridge, USA*), Marissa Wood, Zhijia Du, Jianlin Li, David L. Wood

Surface and bulk and Stability of Aqueous-Processed Ni-Rich NMC Cathode Materials

14:40 to 15:00

Wen-Feng Lin (*Department of Chemical Engineering, Loughborough University, Loughborough, United Kingdom*), Yafeng Chen, Dan Gayton, Alex Symillidis, Xiao Lin, Tian Sheng, Zhi-You Zhou, Shi-Gang Sun

Combined Studied of Variable-temperature in-situ FTIR Spectroscopy and DFT Atomistic Modeling on Electrocatalysis for Direct Alcohol Fuel Cells

15:00 to 15:20

Jun Cheng (*Chemistry, Xiamen University, Xiamen, China*), Jia-Bo Le, Lang Li

Ab initio modeling of electric double layers on single crystal electrodes

15:20 to 15:40 Invited

Antonio Rodes (*Institute of Electrochemistry, University of Alicante, Alicante, Spain*), William Cheuquepán, José Manuel Orts

In situ Infrared and DFT Studies on Adsorption and Reactivity Processes at Metal Electrodes

15:40 to 16:00

Christelle Gautier (*Chemistry, MOLTECH-Anjou - Université d'Angers, Angers, France*), Sihame Bkhach, Olivier Aleveque, Marius Cesbron, Tony Breton, Eric Levillain

Spectroelectrochemical Characterization of Redox Nanomaterials: an Asset to Understand Structure-Property Relationships at the Interface

16:00 to 16:20

Viktoriia A. Saveleva (*Electrochemistry Laboratory, Paul Scherrer Institut, Villigen PSI, Switzerland*), Kathrin Ebner, Lingmei Ni, Ulrike I. Kramm, Andrea Zitolo, Jingkun Li, Frederic Jaouen, Grigory Smolentsev, Olga V. Safonova, Maarten Nachtegaal, Thomas J. Schmidt, Juan Herranz

X-ray Emission Spectroscopic Studies of the Spin State of Iron in Fe/N/C Catalysts

16:20 to 16:40

Coffee Break

16:40 to 17:00 Invited

Katsuyoshi Ikeda (*Department of Physical Science and Engineering, Nagoya Institute of Technology, Nagoya, Japan*)

Low-frequency SERS spectroscopy for in-situ and simultaneous observation of both sides of electrochemical interfaces

17:00 to 17:20 Invited

Katrin F. Domke (*Molecular Spectroscopy, MPI for Polymer Research, Mainz, Germany*)

Operando Raman Nanoscopy: Watching Electrochemical Surface Reactivity with EC-TERS

17:20 to 17:40

Andrea Russell (*School of Chemistry, University of Southampton, Southampton, United Kingdom*), Alexander Keeler

Electrochemical SERS Studies of Functionalised Thiophenol Self-Assembled Monolayers

17:40 to 18:00

Philip Heinrich Reinsberg (*Institute for Physical and Theoretical Chemistry, University of Bonn, Bonn, Germany*)

SEIRAS Investigation of the Influence of the Cation on the Electrochemical Double Layer in Non-Aqueous Electrolytes

18:00 to 18:20

Ingrid Ponce (*Ciencias del Ambiente, Universidad de Santiago de Chile, Santiago, Chile*), Ruben Oñate, Ana Pizarro, Gabriel Abarca, Cristian Gutiérrez-Ceron, J. Francisco Silva, Diego Cortés-Arriagada, José H. Zagal

Electron Transport versus Inductive Effects on the Electrocatalytic Action of Self-assembled Iron Phthalocyanine

18:20 to 18:40

Yoshitaka Tateyama (*GREEN, National Institute for Materials Science (NIMS)*, Tsukuba, Japan), Shota Iizuka, Keisuke Natsui, Yasuaki Einaga

Theoretical Study on Termination Dependent Redox Reactivity of Boron-Doped Diamond / Water Interface

Symposium 20 Carbon - A Starring Role in Electrochemistry

Room : 22-G

Chaired by : Timo Jacob and Stefano Passerini

14:00 to 14:40 Keynote

Stefano Passerini (*Helmholtz Institute Ulm, Karlsruhe Institute of Technology, Ulm, Germany*), Xinwe Dou, Ivana Hasa

Hard Carbons for Sodium-Ion Batteries: Structure, Analysis, Sustainability and Electrochemistry

14:40 to 15:20 Keynote

Richard McCreery (*Chemistry, University of Alberta, Edmonton, Canada*), Anna Farquhar, Scott Smith, Mustafa Supur

Hybrid Carbon/Graphene Electrodes for Energy Storage in Supercapacitors

15:20 to 15:40 Invited

Timo Jacob (*Institute of Electrochemistry, Ulm University, Ulm, Germany*), Maximilian Eckl, Palanisamy Krishnaveni, Maximilian Ceblin, Daniel Gaißmaier, Hagar Hassan, Ahmed Galal

Carbon-based electrodes for metal deposition and electrocatalysis

15:40 to 16:00

ChangGuo Chen (*College of Chemistry and Chemical Engineering, Chongqing University, Chongqing, China*)

The Application of Hydrogen Substituted Graphyne in Lithium-sulfur Battery

16:00 to 16:20

Corina Andronescu (*Chemical Technology III, Faculty of Chemistry, University Duisburg-Essen, Duisburg, Germany*), Ariadni Apostoleri, Swapnil Varhade, Dulce Morales, Justus Masa

Non-noble metal nanoparticles embedded in N-doped carbon matrices as alcohol oxidation electrocatalysts

16:20 to 16:40 Coffee Break

16:40 to 17:00 Invited

Slawomira Skrzypek (*Department of Inorganic and Analytical Chemistry, University of Lodz, Faculty of Chemistry, Lodz, Poland*), Karolina Sipa, Mariola Brycht, Andrzej Leniart

Improved Electroanalytical Characteristics for the Determination of Nitroxinil in the Presence of Nanomaterials

17:00 to 17:20 Invited

Hengxing Ji (*Applied Chemistry, University of Science and Technology of China, Hefei, China*), Zhenzhen Du

Cobalt in Nitrogen-Doped Graphene as Single-Atom Catalyst for High-Sulphur Content Lithium-Sulphur Batteries

17:20 to 17:40 Invited

Ahmed Galal (*Faculty of Science, Cairo University, Giza, Egypt*), Hagar Hassan, Nada Atta, Timo Jacob

Metal-Based Perovskites/Reduced Graphene Hybrids for Energy Storage Applications

17:40 to 18:00

Dodzi Zigah (*Institute of Molecular Science, University of Bordeaux, Bordeaux, France*), Malinee Niamlaem, Chompunuch Warakulwit, Oranit Phuakkong, Alexander Kuhn, Valérie Ravaine

Wireless Synthesis of Thermoresponsive Nanostructured Janus Carbon Materials using Bipolar Electrochemistry

18:00 to 18:20

Yuxiao Ding (*Heterogeneous Reactions, Max-Planck Institute for Chemical Energy Conversion, Malheim an der Ruhr, Germany*)

An In-situ Formed Carbon-based Anode System for Water Splitting

18:20 to 18:40

Leatham Landon-Lane (*Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand*), Aaron Marshall, Alison Downard

Understanding Kinetic Performance of Carbon Felt Electrodes for Redox Batteries Using Individual Carbon Fibre Electrodes

Wednesday, 7 August 2019

ROOMS:	MR 21-ABC	HALL 1	MR 11-CD	MR 12-AB	MR 12-CD	MR 11-AB	MR 21-DEF	MR 21-G	MR 22-ABC	MR 22-DEF	MR 22-G
08:15 - 09:15	**Plenary Lecture**: Peter G Bruce (**Hall 1**)										
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 3b**	**Symposium 15**	**Symposium 16**	**Symposium 11**	**Symposium 7**	**Symposium 18**	**Symposium 4**	**Symposium 2**	**Symposium 6**
09:30 - 09:50	Patrick Unwin	A. Kucernak	Miguel Duarte	Thomas Turek	Jian-Feng Li	M. Zheludkevich	Doron Aurbach	T. Nohira	Ladislav Kavan	Chenzhong Li	David Waldeck
09:50 - 10:10		Natalia Levin	M.S.A. Balogun	C. Emereuwa					Mahmood Akbari	Morten Bertz	
10:10 - 10:30		Javier Recio	Adam Weber	Philippe Mandin	Naoya Nishi	S. Virtanen	I. Mokhosi	T. Ouchi	Penny Mathumba		Lital Alfonta
10:30 - 10:50		P. Wilde		Michael Busch	Elizabeth Santos	Stefano Rossi	R. Hempelmann	Adam Powell			Isao Shitanda
10:50 - 12:20	Electrochimica Acta / ISE author workshop	Coffee Break & POSTER SESSION 3						M. Bougouma			

Wednesday 7 August 2019 - Morning

Plenary

Room : Hall 1

Chaired by : Ozoemena Ken

08:15 to 09:15

Peter G. Bruce (*Departments of Chemistry and Materials, University of Oxford, Oxford, United Kingdom*)

Oxygen Redox Electrochemistry - The Future of Lithium Batteries?

Masterclass

Room : 21-ABC

Chaired by : Fabian Ezema

09:30 to 10:30

Patrick Unwin (*Department of Chemistry, University of Warwick, Coventry, United Kingdom*)

Electrochemical Imaging: Why and how?

Symposium 2 Sensors and Biosensors for Biomedical and Environmental Applications

Room : 22-DEF

Chaired by : Priscilla Baker and Xolani Ngema

09:30 to 09:50 Invited

Chenzhong Li (*Biomedical Engineering, Florida Intl University and Liaocheng University, Miami, USA*), Ming Hong, Qiaoli Yue, Xia Li, Yanhua Ma, Seyedeh Mozneb

Machine Learning Instigated Electrical Biomedical Sensors for Neuron Biomarkers Analysis: from Single Neuron to Brain Slice

09:50 to 10:10

Morten Bertz (*Research Organization for Nano & Life Innovation, Waseda University, Shinjuku, Japan*), Masahiro Yanagisawa, Masahiro Kunimoto, Takayuki Homma

Chemical Recognition Based on Deep Convolutional Neural Networks and Surface-enhanced Raman Spectroscopy

10:50 to 12:20

Poster session with coffee

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Anthony Kucernak

09:30 to 09:50 Invited

Anthony Kucernak (*Department of Chemistry, Imperial College London, London, United Kingdom*), L. Lin, K. Fahy, M. Laitz, C. Zalitis

Performance of electrocatalysts at high overpotentials for the HOR and ORR reactions – towards an understanding of the limiting factors

09:50 to 10:10

Natalia Levin (*Inorganic Spectroscopy, Max Planck Institute for Chemical Energy Conversion, Muelheim an der Ruhr, Germany*), Thomas Weyhermüller, Olaf Rüdiger, Serena DeBeer

In situ X-Ray Spectroelectrochemical Investigation on a Ru-based Water Oxidation Catalyst

10:10 to 10:30

F. Javier Recio (*Química Inorgánica, Universidad Católica de Chile, Santiago de Chile, Chile*)

High Active Fe-N-C Electrocatalyst For ORR Using Fe_3O_4 Nanoparticles As Template

10:30 to 10:50

Patrick Wilde (*Analytical Chemistry, Ruhr-Universitaet Bochum, Bochum, Germany*), Stefan Dieckhoefer, Martin Trautmann, Yen-Ting Chen, Tobias Loeffler, Wolfgang Schuhmann, Justus Masa

Formation of NixP@NiOx Core-Shell Heterostructures on Nickel Phosphide Particles for Oxygen Evolution Reaction - a Welcome Blessing or an Unavoidable Curse?

10:50 to 11:10

Coffee Break

WEDNESDAY AM

Symposium 3b Fuel Cells, Biofuel Cells and Electrolyzers

Room : 11-CD

Chaired by : Angel Caravaca

09:30 to 09:50

Miguel Duarte (*Research Group Advanced Reactor Technology, University of Antwerp, Antwerp, Belgium*), Bert de Mot, Jonas Hereijgers, Tom Breugelmans

Electrochemical Reduction of CO_2 – Effect of Convective CO_2 supply in Gas Diffusion Electrodes

09:50 to 10:10

Muhammad-Sadeeq Adetunji Balogun (*College of Materials Science and Engineering, Hunan University, Changsha, China*), Hongbing Ji, Yexiang Tong

Flexible Monolithic Electrocatalysts for Alkaline Electrolyzers

10:10 to 10:30

Adam Weber (*Energy Technologies Area, Lawrence Berkeley National Laboratory, Berkeley, USA*), Lien-Chun Weng, Lalit Pant, Anamika Chowdhury, Alexis Bell

Impact of Transport in Gas-Diffusion-Electrode Performance

10:50 to 12:20

Poster session with coffee

Symposium 4 Renewable Energy and Photo-Electrochemistry

Room : 22-ABC

Chaired by : Renata Anna Solarska

09:30 to 09:50

Ladislav Kavan (*Electrochemical Materials, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic*)

Semiconductor thin films for electron- and hole-selective interfaces in photovoltaics

09:50 to 10:10

Mahmood Akbari (*College of Graduate Studies, UNISA, Somerset West, South Africa*), Malik Maaza, Mohammed Kamruddin, Lebosans Kotsedi, Aiman Bashir, Razieh Morad

Electrical Transport Properties of Vertical-Oriented Graphene Grown on Different Substrates

10:10 to 10:30

Penny Mathumba (*Chemistry, University of the Western Cape, Cape Town, South Africa*), Emmanuel Iwuoha

Band gap engineered graphene quantum dots (GQDs) with potential for application as donor materials in solar cells

10:50 to 11:10

Coffee Break

Symposium 6 Advances in Bioelectrochemistry

Room : 22-G

Chaired by : Isao Shitanda and David Waldeck

09:30 to 10:10 Keynote

Bioelectrochemistry Prize of ISE Division 2

David Waldeck (*Chemistry, University of Pittsburgh, Pittsburgh, USA*)

Electron Charge and Spin Transfer in Films of Biomolecules

10:10 to 10:30

Lital Alfonta (*Life Sciences and Chemistry, Ben-Gurion University of the Negev, Beer-Sheva, Israel*), Eden Ozer, Itay Algov, Dror Aizik

Designer Electroactive Bacteria

10:30 to 10:50 Invited

Isao Shitanda (*Department of Pure and Applied Chemistry, Tokyo University of Science, Noda, Japan*)

Interfacial Design and Electrochemical Analysis of Printable Porous Carbon Inks for Improvement of Biofuel Cell Performance

10:50 to 12:20

Poster session with coffee

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Philipp Adelhelm and Stefano Passerini

09:30 to 10:10 Keynote

Doron Aurbach (*Chemistry, Bar-Ilan university, Ramat-Gan, Israel*)

The Challenge of Large Energy Storage

10:10 to 10:30

Itumeleng Mokhosi (*Chemistry, Wits University, Johannesburg, South Africa*), Kenneth Ozoemena

Synthesis of Fluorine- and Ceria-Doped Lithium Manganese Oxide Spinel Cathode Material for Lithium-ion Batteries

10:30 to 10:50

Rolf Hempelmann (*Transfercentre Sustainable Electrochemistry, Saarland University, Saarbrücken, Germany*), Frederik Philippi, Daniel Rauber

Boosting Transport Properties of Phosphonium and Guanidinium Ionic Liquids

10:50 to 12:20

Poster session with coffee

Symposium 11 The Science, Technology and Engineering of Corrosion

Room : 11-AB

Chaired by : Nadine Pebere

09:30 to 10:10 Keynote

Mikhail Zheludkevich (*MagIC - Magnesium Innovation Center, Helmholtz-Zentrum Geesthacht, Geesthacht, Germany*), Sviatlana Lamaka, Daniel Höche, Maria Serdechnova, Carsten Blawert, Bahram Vaghefinazari, Darya Snihirova

Active Modulators of Mg Surface Reactivity: from Corrosion Control to Primary Batteries

10:10 to 10:30

Sannakaisa Virtanen (*Materials Science, University of Erlangen-Nuremberg, Erlangen, Germany*)

Biocompatible Coatings for Mg Alloys

10:30 to 10:50

Stefano Rossi (*Industrial Engineering, University of Trento, Trento, Italy*), Marielle Eyraud, Luciana Volgare

The influence of electrolyte and treatment parameters on the properties of nanotubes obtained on Ti6Al4V titanium alloy substrate

10:50 to 12:20

Poster session with coffee

Symposium 15 Computational Electrochemistry and Simulation: from Prediction of Properties to Optimization of Devices

Room : 12-AB

Chaired by : Alejandro Franco

09:30 to 09:50

Thomas Turek (*Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany*), Ulrike Krewer, Ingo Manke, Melanie Paulisch, Philip Kunz, Ulrich Nieken, Christina Roth, Wolfgang Schuhmann, Tanja Vidakovic-Koch

Experimental and Model-Based Characterization of Gas-Diffusion Electrodes for Oxygen Reduction

09:50 to 10:10

Chigoziem Emereuwa (*Department of Mathematics and Applied Mathematics, University of Pretoria, Pretoria, South Africa*), Mamadou Sango

Homogenization of a stochastic model of flow through porous media

10:10 to 10:30

Philippe Mandin (*Lorient Institute of Technology, Thermal and Energy Dpt, Université de Bretagne Sud/ IRDL UMR CNRS 6027, Lorient, France*)

Electrodes Two-phase boundary layers multiphysics modelling in a hydrodynamic alkaline water electrolyzer

10:30 to 10:50

Michael Busch (*Department of Chemistry and Molecular Biology, University of Gothenburg, Gothenburg, Sweden*)

Exploring the Limits of Water Oxidation

10:50 to 12:20

Poster session with coffee

WEDNESDAY AM

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

Room : 12-CD

Chaired by : Wen-Feng Lin

09:30 to 10:10 Keynote

Jian-Feng Li (*Department of Chemistry, Xiamen University, Xiamen, China*), Jin-Chao Dong, Hua Zhang

Probing Surface Reactions and Intermediates using In Situ Raman Spectroscopy

10:10 to 10:30

Naoya Nishi (*Department of Energy and Hydrocarbon Chemistry, Kyoto University, Kyoto, Japan*)

Neutron reflectometry as a probe of the electrical double layer in ionic liquids

10:30 to 10:50

Elizabeth Santos (*Institut of Theoretical Chemistry, Ulm University, Ulm, Germany*), María Fernanda Juárez, Paola Quaino, Renat Nazmutdinov

Interfacial architecture of graphene – potential applications in an electrochemical environment

10:50 to 12:20

Poster session with coffee

Symposium 18 Electrochemistry and Mining: Minerals and Metal Processing

Room : 21-G

Chaired by : Antoine Allanore

09:30 to 10:10 Keynote

Toshiyuki Nohira (*Institute of Advanced Energy, Kyoto University, Uji, Japan*), Kouji Yasuda, Yutaro Norikawa, Tatsuya Ide, Tomonori Kato, Airi Kondo

Electrodeposition of Si, Ti and W in Molten KF-KCl and CsF-CsCl

10:10 to 10:30 Invited

Takanari Ouchi (*Institute of Industrial Science, The University of Tokyo, Tokyo, Japan*), Chenyi Zheng, Lingxin Kong, Toru H. Okabe

Electrochemical Deoxidation of Titanium in Molten Mixtures of Magnesium Chloride and Rare-Earth Chlorides

10:30 to 10:50 Invited

Adam Powell (*Mechanical Engineering, Worcester Polytechnic Institute, Worcester, USA*), Yan Wang, Uday Pal

Metal Processing for a Sustainable Future

10:50 to 11:10

Moussa Bougouma (*Laboratoire de chimie des matériaux et de l'environnement, Université Norbert Zongo, Koudougou, Burkina Faso*), Claudine Buess-Herman, Thomas Doneux, Fousséni Soma, Quentin Rayée

Recovery of Precious Metals by use of Non-traditional Electrolytes

10:50 to 12:20

Poster session with coffee

Thursday, 8 August 2019

ROOMS:	MR 21-ABC	HALL 1	MR 11-CD	MR 12-AB	MR 12-CD	MR 11-AB	MR 21-DEF	MR 21-G	MR 22-ABC	MR 22-DEF	MR 22-G
08:15 - 09:15	**Plenary Lecture**: Wolfgang Schuhmann (**Hall 1**)										
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 3b**	**Symposium 15**	**Symposium 16**	**Symposium 11**	**Symposium 7**	**Symposium 18**	**Symposium 4**	**Symposium 17**	**Symposium 6**
09:30 - 09:50	Marc Koper	Ziba Rajan	A. Yaremchenko	W. Schmickler	H. Baltruschat	A.W. Hassel	Michael Dippon	Jochen Petersen	David Fermin	Tetsuya Osaka	Lo Gorton
09:50 - 10:10		Mavis Lewis	C. Chen	Gustav Avall	Cigdem Toparli	F. Di Franco	Jie Ding	Chalwe Chibwe	S.B Mdluli		
10:10 - 10:30		Thomas Kadyk	Csaba Janaky	A.K. Lautar	I. Diez Perez	Sachiko Ono	Jochen Joos	Y. Fukunaka	H.H. Tesfay	Simon Bechtel	P. Gorostiza
10:30 - 10:50		P. Pearce	A. Bagger	Andrew Wang	A. Patel	Sungmo Moon	H. Teng	A. Allanore	Kang Shi	Balázs Endrodi	M. Grattieri
10:50 - 11:10	Coffee Break										
11:10 - 12:10	GENERAL ASSEMBLY										
12:40 - 13:40	Lunch		Division 1 Meeting	Division 2 Meeting	Division 3 Meeting	Division 4 Meeting	Division 5 Meeting	Division 6 Meeting	Division 7 Meeting		
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 3b**	**Symposium 15**	**Symposium 19**	**Symposium 11**	**Symposium 7**	**Symposium 13**	**Symposium 21**	**Symposium 17**	**Symposium 6**
14:00 - 14:20	Hector Abruna	Nagahiro Hoshi	L. Baumgartner	L. von Kolzenberg	Bin Ren	Herman Terryn	F. La Mantia	Daniel Belanger	Marc Tesch	Philip Bartlett	Christine Kranz
14:20 - 14:40			J. K-Liebhäuser	A.C. Ngandjong					Kai S. Exner	G.G. Botte	
14:40 - 15:00		Takuya Masuda	Guoxiong Wang	Adrian Schmidt	Jing-Juan Xu	Benjamin Wilson	A. Michaelis	A. Downard	R. Gonçalves	Tsuyoshi Hoshino	Gilbert Noell
15:00 - 15:20	Pieter Levecque	Marion Scohy	Minoru Umeda	Florian Baakes	V. M. Mirsky	Nadine Pebere	M.C. Soult	Tony Breton	Bhavana Gupta	Zulin Wang	Elisabeth Lojou
15:20 - 15:40		Toshihiro Kondo	Jia-Jia Chen	N.E. Benti	Frederic Kanoufi	Annick Hubin	Anna Freiberg	A. Walcarius	B.-B. Hangula	Dongping Zhan	A. Oleinick
15:40 - 16:00		A.L. R.Cárdenas	Guenter Schiller	Phuti Ngoepe	Weilin Xu	D.J. Blackwood	Stefan Oswald	González-Orive	Derek Esau	Hai-Chao Xu	K. Takeda
16:00 - 16:20		Zhi-You Zhou	C.F. Yan	Emiliano Primo	Bin Su	L. Murulana	M. Zukalova	Taek Dong Chung	Ji-Hyung Han	Michael Zirbes	Modupe Ogunlesi
16:20 - 16:40	Coffee Break										
16:40 - 17:00		M. Heinzmann	S. Shanmugam	S. Steinmann	Yi-Tao Long	Philippe Marcus	Catia Arbizzani	Jean Pinson	Samson Khene	Phumlani Mjwana	Priscilla Baker
17:00 - 17:20		Martin Prokop	Junyuan Xu	Shengli Chen		Bernard Tribollet	Julia Amici		P.V. Narangoda	Kirsi Yliniemi	A.J. Gross
17:20 - 17:40		P. Madus Ejikeme	Wei Xing	A. Mavrantonakis	Wojciech Nogala	David Williams	Naamo Suzuki	Guozhen Liu	Yanling Qi	R. Latsuzbaia	Fred Lisdat
17:40 - 18:00		Caren Billing	K. Nagasawa	Adebayo Adeniyi	V. Goncales	Jelena Bajat	Faduma Maddar	Philani Mashazi	Christina Roth		Felipe Conzuelo
18:00 - 18:20							Tomas Syrovy				Seiya Tsujimura
18:20 - 18:40											Alexandra Teodor
19:00	Banquet										

Thursday 8 August 2019 - Morning

Plenary

Room : Hall 1

Chaired by : Zhong-Qun Tian

08:15 to 09:15

Wolfgang Schuhmann (*Center for Electrochemical Sciences; Faculty of Chemistry, Ruhr University Bochum, Bochum, Germany*)

From bioelectrocatalysis to electrocatalysis. A contribution to sustainability of energy provision

Masterclass

Room : 21-ABC

Chaired by : Andrea Russell

09:30 to 10:45

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

Electrocatalysis

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Paul Pearce

09:30 to 09:50

Ziba Rajan (*HySA/Catalysis Centre of Competence, University of Cape Town, Cape Town, South Africa*), Tobias Binninger, Rhiyaad Mohamed

IrOx Supported on Antimony-Doped Tin Oxide as A High-Performing Electrocatalyst For the Oxygen Evolution Reaction

09:50 to 10:10

Mavis Lewis (*Chemical Engineering, Catalysis Institute, University of Cape Town, Cape Town, South Africa*), Jessica Chamier

Niobium-doped Titania as a Nanofibre Support for Iridium Oxide in Reversal Tolerant Anodes in Polymer Electrolyte Fuel Cells: The effect of dopant concentration on catalyst performance

10:10 to 10:30

Thomas Kadyk (*Department of Chemistry, Simon Fraser University, Burnaby, Canada*), Michael Eikerling

Bubble Formation at Porous Electrodes

10:30 to 10:50

Paul Pearce (*Laboratoire de chimie du solide et energie, College de France, Paris, France*), Chunzhen Yang, Antonella Iadecola, Juan Rodriguez Carvajal, Gwenaelle Rousse, Remi Dedryvere, Domitille Giaume, Michael Deschamps, Artem Abakumov, Jean-Marie Tarascon, Alexis Grimaud

An iridium based protonated oxide catalyst for efficient water oxidation in acidic media

10:50 to 11:10 Coffee Break

Symposium 3b Fuel Cells, Biofuel Cells and Electrolyzers

Room : 11-CD

Chaired by : Aleksey Yaremchenko

09:30 to 09:50

Aleksey Yaremchenko (*Department of Materials and Ceramic Engineering, CICECO - Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal*), Blanca Arias-Serrano, Kiryl Zakharchuk, Jorge Frade

Composite LnNiO3+PrOx Oxygen Electrodes for Solid Oxide Cells

09:50 to 10:10

Chusheng Chen (*Department of Materials Science and Engineering, University of Science and Technology of China, Hefei, China*)

Solid oxide electrochemical cells supported on the air electrode with large straight open pores and catalyst-coated surfaces

10:10 to 10:30

Csaba Janaky (*Department of Physical Chemistry and Materials Science, University of Szeged, Szeged, Hungary*), Dorottya Hursan, Angelika Samu

Carbon-dioxide Reduction on N-doped Carbon Electrodes: Structure-activity-stability Relationships.

10:30 to 10:50

Alexander Bagger (*Department of Chemistry, University of Copenhagen, Copenhagen, Denmark*), Jan Rossmeisl

The electrochemical CO_2 reduction reaction: Understanding the selectivity of the Cu catalyst.

10:50 to 11:10 Coffee Break

THURSDAY AM

Symposium 4 Renewable Energy and Photo-Electrochemistry

Room : 22-ABC

Chaired by : Ladislav Kavan

09:30 to 09:50

David Fermin (*School of Chemistry, University of Bristol, Bristol, United Kingdom*), Devendra Tiwari

Bismuth-based Solar Absorbers for Solar Energy Conversion

09:50 to 10:10

Siyabonga Beizel Mdluli (*Chemistry, University of the Western Cape, Cape Town, South Africa*), Morongwa Emmanuel Ramoroka, Suru Vivian John, Emmanuel Iwuoha

Novel Core-Shell Electroresponsive 3-Dimensional Poly(*propylenethiophenoimine*)-co-Poly(*3,4-ethylenedioxythiophene*) Dendritic Star Copolymers: Synthesis and Photophysical Properties

10:10 to 10:30

Hayelom Hiluf Tesfay (*Chemistry, University of the Western cape, Cape Town, South Africa*), Emmanuel Iwuoha

Characteristics of $Cu_2Zn_{1-x}FeSnS_4$ Nano-crystalline Kesterite Material towards thin Film PV Cell Application.

10:30 to 10:50

Kang Shi (*Department of Chemistry, Xiamen University, Xiamen, China*), Huiqin Hu, Liangliang Zhang, Yanzheng Xu

Photoelectrochemical Etching for Preparing Ultrasmooth Gallium Nitride Surface in Acidic Electrolyte

10:50 to 11:10

Coffee Break

Symposium 6 Advances in Bioelectrochemistry

Room : 22-G

Chaired by : Pau Gorostiza and Lo Gorton

09:30 to 10:10 Keynote

Lo Gorton (*Department of Biochemistry, Lund University, Lund, Sweden*)

Wiring of Bacterial Cells to Electrodes through Redox Polymers

10:10 to 10:30 Invited

Pau Gorostiza (*NPNS, ICREA & Institute for Bioengineering of Catalonia, Barcelona, Spain*)

Electrochemical Tunneling Spectroscopy to Study Charge Transport in Redox Proteins

10:30 to 10:50

Matteo Grattieri (*Chemistry and Materials Science & Engineering, University of Utah, Salt Lake City, USA*), Erin M. Gaffney, Shelley D. Minteer

Unveiling and Artificially Increasing Purple Bacteria Salt-Tolerance: from Biological to Engineering Approaches

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Fabio La Mantia and Stefano Passerini

09:30 to 09:50

Michael Dippon (*Institute for Applied Materials, Karlsruher Institute of Technology* (KIT), Karlsruhe, Germany), Dennis Wyschka, André Weber, Ellen Ivers-Tiffée

Advanced lifetime analysis of CCCV and pulse-charging routines for li-ion batteries

09:50 to 10:10

Jie Ding (*Land Division, Defence Science & Technology Department of Defence, Melbourne, Australia*), Bussell Tim Wang Caiyun, Shu Kewei Ge Yu

Shear Thickening Electrolyte Functions as Both Battery and Protection Materials

10:10 to 10:30

Jochen Joos (*Institute for Applied Materials (IAM-WET*), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany), Adrian Schmidt, Andre Weber, Ellen Ivers-Tiffée

Analyzing the Microstructure of Lithium Ion Battery Cathodes by using Tomography Methods

10:30 to 10:50

Hsisheng Teng (*Chemical Engineering, National Cheng Kung University, Tainan, Taiwan*), Ramesh Subramani, Yu-Hsien Tseng, Sheng-Shu Hou

Combination of Solid-Oxide Pellet and Gel Polymer as Electrolyte for Quasi-Solid Lithium-Ion Batteries

10:50 to 11:10

Coffee Break

Symposium 11 The Science, Technology and Engineering of Corrosion

Room : 11-AB

Chaired by : Mikhail Zheludkevich

09:30 to 09:50

Achim Walter Hassel (*CD-Lab. COMBOX and TIM, Johannes Kepler University Linz, Linz, Austria*), Khurram Shazad, Cezarina Cela Mardare, Jan Philipp Kollender, Andrei Ionut Mardare

Preparation of aluminium lanthanoid alloy material libraries and their electrochemical properties

09:50 to 10:10

Francesco Di Franco (*Dipartimento di Ingegneria, Università degli Studi di Palermo, Palermo, Italy*), Luca Bottini, Fabrizio Vitale, Domenico La Monica, Michele Curioni, Monica Santamaria

Anodizing and post-anodizing treatments for enhancing corrosion resistance of Al Alloys

10:10 to 10:30

Sachiko Ono (*Department of Applied Chemistry, Kogakuin University, Tokyo, Japan*)

Influence of Impurity Element Copper on Morphology of Porous Anodic Films on Aluminum

10:30 to 10:50

Sungmo Moon (*Surface Technology Division, Korea Institute of Materials Science, Changwon, Korea*)

Arc Generation Behavior During Anodic Oxidation of Aluminum Alloys in Aqueous Solutions

Symposium 15 Computational Electrochemistry and Simulation: from Prediction of Properties to Optimization of Devices

Room : 12-AB

Chaired by : Krishna Bisetty

09:30 to 09:50

Wolfgang Schmickler (*Theoretical Chemistry, Ulm University, Ulm, Germany*), Fernanda Juarez, Fabiola Domingo-Flores, Leila Mohammadzadeh, Elizabeth Santos, Paola Quaino, Aleksej Goduljan

Violating Coulomb's Law: An apparent attraction between $Li^{\pm}$ ions mediated by carbon nanotubes

09:50 to 10:10

Gustav Avall (*Department of Physics, Chalmers University of Technology, Gothenburg, Sweden*), Patrik Johansson

Solvation Shell Structure and Dynamics in Lithium-ion and Sodium-ion Battery Electrolytes from Ab Initio Molecular Dynamics

10:10 to 10:30

Anja Kopac Lautar (*Department of Materials Chemistry, National Institute of Chemistry, Ljubljana, Slovenia*), Tomaz Rejec, Robert Dominko, Jean-Sébastien Filhol, Marie-Liesse Doublet

Modeling of the Potential-Dependent Reactivity of Mg/Electrolyte Interfaces

10:30 to 10:50

Andrew Wang (*Engineering Science, University of Oxford, Oxford, United Kingdom*), Charles Monroe

Characterization of Solvent-in-Salt Electrolytes with Consideration for Solute-Volume Effects

10:50 to 11:10

Coffee Break

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

Room : 12-CD

Chaired by : Katrin F. Domke

09:30 to 09:50

Helmut Baltruschat (*Intitute for Physical and Theoretical Chemistry, University of Bonn, Bonn, Germany*), Ahmed S. Shatla, Inhee Park, Philip Heinrich Reinsberg

The Interface of Single Crystal Electrodes in Aprotic Solvents:Point of Zero Charge and Ionic Adsorption

09:50 to 10:10

Oronzio and Niccolò De Nora Foundation Young Author Prize

Cigdem Toparli (*Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, USA*), Andreas Erbe, Bilge Yildiz

Investigation of Electrochemical Interfaces for H_2 production

10:10 to 10:30

Ismael Diez Perez (*Chemistry, Kings College London, London, United Kingdom*)

Engineering Bioinspired Tunnelling Junctions

10:30 to 10:50

Anisha Patel (*WMG, University of Warwick, Coventry, United Kingdom*), Faduma Maadar, Melanie Loveridge

Real-Time Operando SEM Investigation into Lithium Ion Battery Degradation

10:50 to 11:10

Coffee Break

Symposium 17 Electrochemical Technologies for Sustainable and Advanced Manufacturing

Room : 22-DEF

Chaired by : Gerardine G. Botte; and Hai-Chao Xu

09:30 to 10:10 Keynote

Tetsuya Osaka (*Research Organization for Nano and Life Innovation, Waseda University, Tokyo, Japan*), Keishi Ohashi, Daikichi Mukoyama

Trial of realization of electrochemical nanotechnologies to advanced manufacturing

10:10 to 10:30

Simon Bechtel (*Process Systems Engineering, Max Planck Institute Magdeburg, Magdeburg, Germany*), Adam Weber, Tanja Vidakovic-Kocha, Kai Sundmachera

Electrochemical Gas Phase Oxidation of Hydrogen Chloride to Chlorine: Model-based Analysis of Transport and Reaction Mechanisms

10:30 to 10:50

Balázs Endrodi (*Department of Physical Chemistry and Materials Science, University of Szeged, Szeged, Hungary*), Nina Simic, Mats Wildlock, Ann Cornell

Electrochemical Selectivity in the Industrial Production of Sodium Chlorate

10:50 to 11:10

Coffee Break

Symposium 18 Electrochemistry and Mining: Minerals and Metal Processing

Room : 21-G

Chaired by : Takanari Ouchi

09:30 to 09:50

Jochen Petersen (*Chemical Engineering, University of Cape Town, Rondebosch, South Africa*), Buhle Manana, Rahul Ram

Study of the Diffusion of Cu(I)/Cu(II) through Simulated Particle Pores in an Electrochemical Model System

09:50 to 10:10

Chalwe Chibwe (*Department of Process Engineering, Stellenbosch University, Stellenbosch, South Africa*), Margreth Tadie

Influence of Electrolyte Composition on Electrodeposition of Copper

10:10 to 10:30 Invited

Yasuhiro Fukunaka (*Research Institute of Nano Life Innovation, Waseda University, Tokyo, Japan*)

Mass Transfer Rate along Gas Evolving Electrode

10:30 to 10:50 Invited

Antoine Allanore (*Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, USA*)

Electrochemical Extraction of Metals in Molten Sulfides

10:50 to 11:10

Coffee Break

Thursday 8 August 2019 - Afternoon

Masterclass

Room : 21-ABC

Chaired by : Andrea Russell

14:00 to 15:00

Hector Abruna (*Dept. of Chemistry and Chemical Biology, Cornell University, Ithaca, USA*)

Applications of electrocatalysis

15:00 to 15:45

Pieter Levecque (*Department of Chemical Engineering, University of Cape Town, Rondebosch, South Africa*)

Polymer Electrolyte Fuel Cells and Electrolyers as models for electrochemical engineering principles

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Nagahiro Hoshi

14:00 to 14:40 Keynote

Nagahiro Hoshi (*Department of Applied Chemistry and Biotechnology, Chiba University, Chiba, Japan*), Masashi Nakamura

Hydrophobic Species Activating the Oxygen Reduction Reaction on Single Crystal Electrodes of Pt

14:40 to 15:00

Takuya Masuda (*Research Center for Advanced Materials and Characterization, National Institute for Materials Science, Tsukuba, Japan*), Yuki Wakisaka, Toshihiro Kondo, Satoru Takakusagi, Wang-Jae Chun, Kiyotaka Asakura, Kohei Uosaki

In situ Structural Determination of Underpotentially Deposited Pd Monolayer on Au(111) Surface during Oxygen Reduction Reaction

15:00 to 15:20

Marion Scohy (*LEPMI, Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble, France*), Laetitia Dubau, Vincent Martin, Sofyane Abbou, Eric Sibert, Bruno Gilles, Frédéric Maillard

Oxygen Evolution Reaction Investigation on Model Catalysts in Acidic Medium: electro-oxidation and catalytic activity of Ir(111), Ir(210) and nanostructured Ir(210)

15:20 to 15:40

Toshihiro Kondo (*Chemistry, Ochanomizu University, Bunkyo-ku, Japan*), Tong Shengfu, Makoto Aoki, Takuya Masuda, Kohei Uosaki

Potential-Dependent Adsorbed Structures of Oxygen Species on Pt(111) Single-Crystal Electrode during Oxygen Reduction Reaction Investigated by In situ Surface X-ray Scattering

15:40 to 16:00

Angie L. Rangel-Cárdenas (*Chemical Engineering, TU Delft, Delft, Netherlands*), M. Fehse, S.J. Picken, Marc Koper, E.M. Kelder

Manganese Oxides as Electrocatalysts For Hydrogen Oxidation (HOR) and Oxygen Reduction (ORR) Reactions in PEMFCs

16:00 to 16:20

Zhi-You Zhou (*College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China*), Li-Yang Wan, Peng-Yang Zhang, Na Tian, Shi-Gang Sun

The origin for the instability of pyrolyzed Fe/N/C catalyst for oxygen reduction reaction

16:20 to 16:40

Coffee Break

16:40 to 17:00

Marcel Heinzmann (*IAM-WET, Karlsruhe Institute of Technology* (KIT), Karlsruhe, Germany), André Weber, Ellen Ivers-Tiffée

A 0-dimensional stationary performance model for PEM single cells

17:00 to 17:20

Martin Prokop (*Department of Inorganic Technology, University of Chemistry and Technology Prague, Prague, Czech Republic*), Roman Kodym, Tomas Bystron, Martin Paidar, Karel Bouzek

Pt/C Catalyst Degradation in Relation to High Temperature PEM Fuel Cell Operation

17:20 to 17:40

Paul Madus Ejikeme (*Department of Pure and Industrial Chemistry, University of Nigeria, Nsukka, Nigeria*), Katlogo Makgopa, Kenneth Ozoemena

One-Pot Microwave Synthesis of Onion-Like Carbon-Supported Pd-MnO_2 Nanoparticle Catalysts for Ethylene Glycol and Glycerol Electro-oxidation

17:40 to 18:00

Caren Billing (*School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa*), Sikhumbuso Masina, Mathias Kiefer, Dave Billing

Temperature Dependent Studies of Doped Bismuth Oxide Electrolytes - The Link Between Ionic Conductivity and Structure

Symposium 3b Fuel Cells, Biofuel Cells and Electrolyzers

Room : 11-CD

Chaired by : Minoru Umeda

14:00 to 14:20

Lorenz Baumgartner (*Chemical Engineering, Delft University of Technology, Delft, Netherlands*), David Vermaas

Scale-up limitation of gas diffusion electrodes for CO_2 conversion

14:20 to 14:40

Julia Kunze-Liebhäuser (*Institute of Physical Chemistry, University of Innsbruck, Innsbruck, Austria*), Eva-Maria Wernig, Christoph Griesser, Daniel Winkler, Thomas Götsch, Niusha Shakibi-Nia, Simon Penner

Mo_2C synthesis and characterization for use in electrochemical CO_2 reduction

14:40 to 15:00

Guoxiong Wang (*State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, CAS, Dalian, China*), Dunfeng Gao, Chengcheng Yan, Yuefeng Song, Xinhe Bao

Electrocatalytic reduction of CO_2 over nanostructured catalysts

15:00 to 15:20 Invited

Minoru Umeda (*Materials Science and Technology, Nagaoka University of Technology, Nagaoka, Japan*), Masatoshi Osawa, Shofu Matsuda

Highly selective and efficient methane generation by carbon dioxide electroreduction on carbon-supported platinum catalyst without overpotential

15:20 to 15:40

Jia-Jia Chen (*Department of Chemistry, Xiamen University, Xiamen, China*)

The Unusual Electron/Proton Coupling Behavior of Ultra-Reduced Polyoxometalate Clusters and Its Application for Flexible Energy Storage

15:40 to 16:00

Guenter Schiller (*Institute of Engineering Thermodynamics, German Aerospace Center* (DLR), Stuttgart, Germany), Michael Lang, Nathalie Monnerie, Patric Szabo

Solar heat integrated solid oxide steam electrolysis

16:00 to 16:20

Chang-feng Yan (*Hydrogen Production & Utilization Laboratory, Guangzhou Institute of Energy Converion, CAS, Guangzhou, China*), Zhuo-Xin Lu, Chang-qing Guo, Zhi-da Wang, Yan Shi, Hong-yi Tan

Highly Ordered 1D IrO_2 Electrode Synthesized with Titanium Oxide Nanotube Array for OER in Electrolyser

16:20 to 16:40

Coffee Break

16:40 to 17:00

Sangaraju Shanmugam (*Energy Science & Engineering, DGIST, Daegu, Korea*), Arumugam Sivanantham

Efficient and Durable Electrocatalyts for Sustainable Hydrogen Generation

17:00 to 17:20

Junyuan Xu (*Quantum & Energy Materials, Braga, Portugal*)

Ruthenium – Cobalt Phosphide Hybrid Clusters with Superior Electrochemical Hydrogen Evolution Performance

17:20 to 17:40

Wei Xing (*Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, China*)

Atomically Efficient HER Catalysts with Ultralow Precious Metal Loading

17:40 to 18:00

Kensaku Nagasawa (*Institute of Advanced Sciences, Yokohama National University, Yokohama, Japan*), Junpei Koike, Yoshiyuki Kuroda, Shigenori Mitsushima

Characterization and Analysis of Toluene Direct Electro-hydrogenation Electrolyzer for Hydrogen Energy Carrier Synthesis

Symposium 6 Advances in Bioelectrochemistry

Room : 22-G

Chaired by : Priscilla Baker, Andrew J. Gross, Christine Kranz and Gilbert Noell

14:00 to 14:40 Keynote

Christine Kranz (*Institute of Analytical and Bioanalytical Chemistry, Ulm University, Ulm, Germany*), Sven Daboss, Peter Knittel, Jing Lin

Modified conductive colloidal AFM probes towards sensing at the single entity level

14:40 to 15:00 Invited

Gilbert Noell (*Chem.-Biol.-Dept., Organic Chemistry, Siegen University, Siegen, Germany*), Manuel Heinelt, Tanja Noell

Spectroelectrochemical Investigation of Flavoproteins

15:00 to 15:20

Elisabeth Lojou (*BIP, CNRS-Aix Marseille university, Marseille, France*), Vivek Hitaishi, Romain Clément, Marianne Ilbert, Ievgen Mazurenko

Role of exogenous Cu^{2+} in the catalytic properties of Thermus thermophilus Laccase

15:20 to 15:40

Alexander Oleinick (*Dept. of Chemistry, CNRS - PSL Univ., ENS - SU, Paris, France*), Isabel Alvarez-Martos, Irina Svir, Elena Ferapontova, Christian Amatore

Surface Heterogeneities Matter in Fast Scan Cyclic Voltammetry Investigations of Catecholamines in Brain with Carbon Microelectrodes of High-Aspect Ratio: Dopamine Oxidation at Conical Carbon Microelectrodes

15:40 to 16:00

Kouta Takeda (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, Tokyo, Japan*), Tatsuki Minami, Masafumi Matsuda, Makoto Yoshida, Kiyohiko Igarashi, Hiroyuki Ohno, Nobuhumi Nakamura

Direct Electrochemistry of Fungal PQQ-Dependent Pyranose Dehydrogenase on SAM Modified Gold Electrodes

16:00 to 16:20

Modupe Ogunlesi (*Chemistry Department, University of Lagos, Lagos, Nigeria*), Wesley Okiei, Omolara Akerele, Sulaimon Akanmu, Edamisan Temiye

Characterization of Human Methaemoglobins Using Cyclic Voltammetric Studies on their Aquo-, Cyano-, Azido- and Fluoro Complexes.

16:20 to 16:40

Coffee Break

16:40 to 17:00 Invited

Priscilla Baker (*Chemistry, University of the Western Cape, Bellville, South Africa*), Siyabulela Hamnca

Spectroscopic and electrochemical sensing protocols based on dihydropteroate synthase inhibition for the detection of sulfonamide antibiotics

17:00 to 17:20 Invited

Andrew J. Gross (*Department of Molecular Chemistry, Grenoble Alpes University, Gieres, France*), Serge Cosnier

New Advances in Buckypaper Bioelectrodes: From Single Layers to Multilayer Structures for Energy In Vivo

17:20 to 17:40

Fred Lisdat (*Biosystems Technology, Technical University Wildau, Wildau, Germany*), Marc Riedel, Athina Zouni

A photobioelectrochemical cell based on the combination of two light-sensitive entities: quantum dots and photosystem II

17:40 to 18:00

Felipe Conzuelo (*Analytical Chemistry - Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany*), Fangyuan Zhao, Volker Hartmann, Sónia Zacarias, Marc M. Nowaczyk, Ines A. C. Pereira, Adrian Ruff, Matthias Rögner, Wolfgang Schuhmann

Photosystem 1 Monolayers with Controlled Orientation Enable Anisotropic Electron Flow for Photoelectrochemical H_2 Production

18:00 to 18:20

Seiya Tsujimura (*Faculty of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan*)

MgO-templated porous carbon for enzyme electrodes

18:20 to 18:40

Alexandra Teodor (*Genome Science and Technology, University of Tennessee Knoxville and Oak Ridge National Lab, Knoxville, USA*), Jyotirmoy Mondal, Michael Vaughn, Jesse Bergkamp, Barry Bruce

Bio-Hybrid Solar Cells: Putting Photosystem I to Work

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Room : 21-DEF

Chaired by : Catia Arbizzani and Edgar Ventosa

14:00 to 14:40 Keynote

Zhaowu Tian Prize for Energy Electrochemistry

Fabio La Mantia (*Energiespeicher- und Energiewandlersysteme, Universität Bremen, Bremen, Germany*)

Recent advancements in zinc-ion batteries based on Prussian Blue Analogues

14:40 to 15:00

Alexander Michaelis (*IKTS, Fraunhofer-Instute for Ceramic Technologies and Systems, Dresden, Germany*)

Advanced Ceramics for Battery Systems

15:00 to 15:20

Marta Cazorla Soult (*Materials and Chemistry, MACH, Vrije Universiteit Brussel, Brussels, Belgium*), Nestor Calabia Gascon, Dries Van Laethem, Xinhua Zhu, Philippe Vereecken, Annick Hubin

Study of the interfacial mechanical degradation in all-solid-state lithium batteries

15:20 to 15:40

Anna Freiberg (*Department of Chemistry and Catalysis Research Center, Technical University of Munich, Garching, Germany*), Johannes Sicklinger, Sophie Solchenbach, Hubert A. Gasteiger

Surface Impurities on Layered Transition Metal Oxide Cathode Materials - Li_2CO_3 Decomposition in Li-Ion Battery Electrolytes

15:40 to 16:00

Stefan Oswald (*Chair of Technical Electrochemistry, Department of Chemistry, Technical University of Munich, Garching, Germany*), Daniel Pritzl, Morten Wetjen, Hubert A. Gasteiger

Monitoring the Electrochemical Capacitance by In Situ Impedance Spectroscopy as Indicator for Particle Degradation of Ni-Rich Cathode Active Materials

16:00 to 16:20

Marketa Zukalova (*Electrochemical Materials, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic*), Jan Prochazka, Barbora Pitna Laskova, Arnost Zukal, Ladislav Kavan

Li-insertion into Nanocrystalline $LiNi_{1/3}Mn_{1/3}Co_{1/3}O_2$ (NMC)

16:20 to 16:40

Coffee Break

16:40 to 17:00 Invited

Catia Arbizzani (*Dept. of Chemistry Giacomo Ciamician, Alma Mater Studiorum University of Bologna, Bologna, Italy*), Antonio Terella, Francesca De Giorgio, Davide Fabiani, Maria Letizia Focarete, Laura Malavolta, Elena Paolasini

Functional separators for the batteries of the future

17:00 to 17:20

Julia Amici (*DISAT, Politecnico di Torino, Torino, Italy*), Daniele Versaci, Mojtaba Alidoost, Usman Zubair, Carlotta Francia, Silvia Bodoardo

Enabling Post Li-ion Technologies through Composite Polymer Electrolytes

17:20 to 17:40

Naamo Suzuki (*Applied Chemistry and Chemical Engineering, Graduate School of Kogakuin University, Hachioji, Tokyo, Japan*), Masaki Kato, Shiro Seki

New type polyether / $Li_{1.5}Al_{0.5}Ge_{1.5}(PO4)_3$ hybrid Li-conductive solid electrolyte

17:40 to 18:00

Faduma Maddar (*Warwick Manufacturing Group, University of Warwick, Coventry, United Kingdom*), Ronny Genieser, Chaou Tan, Melanie Loveridge

Monitoring Changes in Electrolyte Behavior of Commercial Li-ion Cells using NMR Spectroscopy

18:00 to 18:20

Tomas Syrovy (*Department of Graphic Arts and Photophysics, University of Pardubice, Pardubice, Czech Republic*), Tomás Kazda, J. Akrman, Lucie Syrova

Printed Accumulators Based on Organic Electrodes for Printed Electronics Applications

THURSDAY PM

Symposium 11 The Science, Technology and Engineering of Corrosion

Room : 11-AB

Chaired by : Bernard Tribollet

14:00 to 14:40 Keynote

Herman Terryn (*Department of Materials and Chemistry, Research group SURF, Vrije Universiteit Brussel, Brussels, Belgium*)

A need for better experimental and modelling approaches to understand and predict better corrosion of metals

14:40 to 15:00

Benjamin Wilson (*Chemical and Metallurgical Engineering, Aalto University, Espoo, Finland*), Arman Dastpak, Mari Lundström

Lignin as a coating for improved corrosion resistance of low carbon steel

15:00 to 15:20

Nadine Pebere (*CIRIMAT / CNRS, ENSIACET, Toulouse, France*), Yann Bulteau, Corinne Lacaze-Dufaure, Pierre Bonin, Nicolas Caussé

Corrosion inhibition of pure aluminium by quinoline derivatives: Electrochemical and DFT approaches

15:20 to 15:40

Annick Hubin (*Electrochemical and Surface Engineering, Vrije Universiteit Brussel, Brussels, Belgium*), Benny Wouters, Raf Claessens, Ehsan Jalilian, Guy Van Assche, Herman Terryn

Instantaneous electrochemical impedance spectroscopy as a powerful tool to characterize the breakdown of corrosion properties of model organic coatings

15:40 to 16:00

Daniel J. Blackwood (*Materials Science & Engineering, National University of Singapore, Singapore, Singapore*), Weixin Hou, Ya Gao, John Wang, Teo Serena

Novel polymer-graphene nanocomposite multi-layered coatings for improved anticorrosion and antifouling performance

16:00 to 16:20

Lutendo Murulana (*Chemistry, University of Venda, Thohoyandou, South Africa*), Eno Ebenso

Electrochemical Studies on the Corrosion Inhibitory Potential of Imidazolium-based Ionic liquids on Mild Steel in 1.0 M HCl Solutions

16:20 to 16:40

Coffee Break

16:40 to 17:00

Philippe Marcus (*Institut de Recherche de Chimie Paris, CNRS-Chimie ParisTech, Paris, France*), Elise Gardin, Sandrine Zanna, Antoine Seyeux, Audrey Allion

Electrochemical and Surface Spectroscopy Study of the Passivity of a Duplex Stainless Steel

17:00 to 17:20

Bernard Tribollet (*LISE UMR8235, CNRS, Paris, France*), Mark Orazem, Vincent Vivier

Impedance of a passive oxide layer at the OCP

17:20 to 17:40

David Williams (*School of Chemical Sciences, University of Auckland, Auckland, New Zealand*), Bridget Ingham, Monika Ko, M. Hassan Sk, Qi Jiahui, Aboubakr Abdullah, Nick Laycock, Mary Ryan

Electrocrystallisation of Corrosion Scales

17:40 to 18:00

Jelena Bajat (*Physical Chemistry and Electrochemistry, Faculty of Technology and Metallurgy, Belgrade, Serbia*), Mihael Bucko, Alexandre Bastos, Mario Ferreira

Corrosion stability of aluminum in aqueous solutions and deep eutectic solvents: advantages and disadvantages

Symposium 13 Electrografting of Materials: from Fundamentals to Applications

Room : 21-G

Chaired by : Alison Downard

14:00 to 14:40 Keynote

Daniel Belanger (*Chimie, Universite du Quebec a Montreal, Montreal, Canada*)

Chemical modification of electrochemical energy storage materials

14:40 to 15:00 Invited

Alison Downard (*School of Physical and Chemical Sciences, University of Canterbury, Christchurch, New Zealand*), Liam Carroll, Joel Schuurman, Alexandra McNeill, Rodrigo Gazoni, Roger Reeves, Martin Allen

Covalently grafted Aryl Layers on Tin(IV) Oxide: Tuning the Surface Conductivity

15:00 to 15:20

Tony Breton (*Chemistry Department, MOLTECH-Anjou - Université d'Angers, Angers, France*), Isidoro Lopez, Marius Cesbron, Laure Pichereau, Christelle Gautier

Diazonium Grafting Controlled by Redox Inhibitors:Generalization of the Approach

15:20 to 15:40

Alain Walcarius (*LCPME, CNRS - Lorraine University, Villers-les-Nancy, France*), Lin Zhang, Neus Vilà, Thi Xuan Huong Le, Mathieu Etienne

Interest of Diazonium Electrografting, Sequential Click Chemistry, and Sol-Gel Bioencapsulation for the Coimmobilization of Molecular and Biological Catalysts on Electrode: Towards Dehydrogenase-Based Bioelectrocatalytic Reactors

15:40 to 16:00

Alejandro González-Orive (*Technical and Macromolecular Chemistry, University of Paderborn, Paderborn, Germany*), Dennis Meinderink, Fatih Sahin, Juan Carlos Calderón-Gómez, Guido Grundmeier

Electrografting of Acrylic Acid on Steel for Enhanced Adhesion Properties

16:00 to 16:20

Taek Dong Chung (*Chemistry, Seoul National University, Seoul, Korea*), Sunmi Lee, Dahye Lee

Electrografting Organic Amines on Indium Tin Oxide of 3D Interdigitated Electrode Array for Immunosensing

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote Invited

Jean Pinson (*ITODYS, Université Paris Diderot, Paris, France*), Fetah Podvorica

Electrografting Beyond Diazonium Salts

17:20 to 17:40 Invited

Guozhen Liu (*Graduate School of Biomedical Engineering, The University of New South Wales, Sydney, Australia*)

Nanofabrication of multifunctional biosensing interface for detection of cytokines

17:40 to 18:00

Philani Mashazi (*Chemistry, Rhodes University, Grahamstown, South Africa*), Omotayo Adeniyi, Adesina Abiola

Biomolecular thin-films fabrication using electrografting for multiplexed detection of disease biomarkers

Symposium 15 Computational Electrochemistry and Simulation: from Prediction of Properties to Optimization of Devices

Room : 12-AB

Chaired by : Alejandro Franco and Wolfgang Schmickler

14:00 to 14:20

Lars von Kolzenberg (*Electrochemical Multiphysics Modeling, Helmholtz Institute Ulm, Ulm, Germany*), Birger Horstmann, Arnulf Latz

Chemical-mechanical modeling of SEI on silicon particles

14:20 to 14:40

Alain Cabrel Ngandjong (*Universite de Picardie Jules verne, Laboratoire de Reactivite et Chimie des Solides, Amiens, France*), Teo Lombardo, Emiliano Primo, Mehdi Chouchane, Su Zeliang, Alejandro Franco

Coarse Grained Molecular Simulation of Lithium Ion Electrodes Fabrication: Linking Computations with Experiments

14:40 to 15:00

Adrian Schmidt (*IAM-WET, Karlsruher Institut für Technologie* (KIT), Karlsruhe, Germany), André Weber, Ellen Ivers-Tiffée

An extended homogenized FEM model for Li-ion Batteries

15:00 to 15:20

Florian Baakes (*Institute of Energy and Process Systems Engineering, TU Braunschweig, Braunschweig, Germany*), Vincent Laue, Fridolin Röder, Ulrike Krewer

The influence of electrolyte phase transition on the thermal runaway in lithium ion batteries

15:20 to 15:40

Natei Ermias Benti (*Environmental Science, Energy stream, Addis Ababa University, Addis Ababa, Ethiopia*)

The Effects of CO_2 Contamination on Reaction Mechanism in Non-aqueous Na-air Batteries: A DFT Study

15:40 to 16:00 Invited

Phuti Ngoepe (*Materials Modelling Centre, University of Limpopo, Sovenga, South Africa*), Beauty Shibiri, Raesibe Ledwaba, Kenneth Kgatwane, Dean Sayle

Atomistic Simulations on Structure and Mechanical Properties of Nano-architectured Li-Mn-O Cathode upon Li-Intercalation

16:00 to 16:20

Emiliano Primo (*Laboratoire de Réactivité et Chimie des Solides (LRCS)*, Université de Picardie Jules Verne, Amiens, France), Teo Lombardo, Alain Cabrel Ngandjong, Matthieu Touzin, Alejandro Franco

Calendering process for thick and thin NMC cathodes: understanding the process parameters effect on the electrode structure and performance

16:20 to 16:40 Coffee Break

16:40 to 17:00 Invited

Stephan Steinmann (*Laboratoire de Chimie, ENS de Lyon, Lyon, France*)

Modelling Reactive Electrified Interfaces: From DFT to Force Fields

17:00 to 17:20

Shengli Chen (*Department of Chemistry, Wuhan University, Wuhan, China*), Yongting Chen, Peng Li, Xing Hua

Theoretical Insights into the pH Effects in Electrocatalysis

17:20 to 17:40

Andreas Mavrantonakis (*Electrochemical Processes Unit, IMDEA Energy Institute, Mostoles, Spain*), Rebeca Marcilla, Carlos de la Cruz

A Density Functional Theory study of the Redox Chemistry of Phenazines

17:40 to 18:00

Adebayo Adeniyi (*Department of Chemistry, University of the Free State, Bloemfontein, South Africa*)

Complementary Insight into the Experimental Reduction Potentials of the Tris(*b-Diketonato*)Iron(III) Complexes Using the DFT Methods

Symposium 17 Electrochemical Technologies for Sustainable and Advanced Manufacturing

Room : 22-DEF

Chaired by : Gerardine G. Botte and Dongping Zhan

14:00 to 14:20

Philip Bartlett (*Chemistry, University of Southampton, Southampton, United Kingdom*), David Cook, Wenjian Zhang, William Levason, Gillian Reid

The Electrodeposition of Tellurium from Non-Aqueous Solution

14:20 to 14:40

Gerardine G. Botte (*Center for Electrochemical Engineering Research, Ohio University, Athens, USA*), Alamgir Haque, Behnaz Jafari

Electrohemical Production of Rare Earth Elements from Coal and Coal By-products

14:40 to 15:00

Tsuyoshi Hoshino (*National Institutes for Quantum and Radiological Science and, QST, Obuchi, Omotedate, Rokkasho-mura, Japan*)

Recycling of Used Li-ion Batteries by Innovative Electrodialysis using Lithium Ionic conductor Membrane

15:00 to 15:20

Zulin Wang (*Department of Chemical and Metallurgical Engineering (CMET*), Aalto University, Espoo, Finland), Kirsi Yliniemi, Benjamin Wilson, Mari Lundström

Gold and Silver Nanostructures Prepared Directly from Leaching Solutions by Electrodeposition-Redox Replacement

15:20 to 15:40

Dongping Zhan (*Department of Chemistry, Xiamen University, Xiamen, China*), Lianhuan Han, Chengxin Guo, Zhong-Qun Tian, Zhao-Wu Tian

Electrochemical Machining on Semiconductor by Photocorrosion

15:40 to 16:00 Invited

Hai-Chao Xu (*Chemistry, Xiamen University, Xiamen, China*)

Electrochemically Enabled Radical Reactions

16:00 to 16:20

Michael Zirbes (*Institute of Organic Chemistry, Johannes Gutenberg-University, Mainz, Germany*), Siegfried R. Waldvogel

Selective Electrochemical Degradation of Kraft Lignin

16:20 to 16:40

Coffee Break

16:40 to 17:00

Phumlani Mjwana (*Chemical Engineering, University of Johannesburg, Johannesburg, South Africa*), Peter Olubambi

Modeling and Simulation of Current Density Distribution on Carbon Steel in Alkaline Environment

17:00 to 17:20

Kirsi Yliniemi (*Department of Chemistry and Materials Science, Aalto University, Espoo, Finland*), Zulin Wang, Petteri Halli, Ivan Korolev, Pyry Hannula, Benjamin P. Wilson, Mari Lundström

Towards Circular Economy of Metals via Electrodeposition-Redox Replacement

17:20 to 17:40

Roman Latsuzbaia (*Sustainable Process and Energy Systems, TNO, Delft, Netherlands*), Richard van Heck, Anca Anastasopol, Amanda Garcia, Marc Crockatt, Mark Roelands, Earl Goetheer

Electrochemical production of bio-based maleic acid

Symposium 19 Imaging Heterogeneous Electrochemical Processes: From Single Molecules and Nanoparticles to Vesicles and Cells

Room : 12-CD

Chaired by : Hong-Yuan Chen

14:00 to 14:40 Keynote

Bin Ren (*Department of Chemistry, Xiamen University, Xiamen, China*), Shengchao Huang, Tengxiang Huang, Sisi Wu, Haisheng Su, Yifan Bao, Xiang Wang

Electrochemical Tip-enhanced Raman Spectroscopy & Microscopy

14:40 to 15:00 Invited

Jing-Juan Xu (*Chemistry, Nanjing University, Nanjing, China*), Meng-Jiao Zhu, Ming-Ming Chen, Wei Zhao, Cong-Hui Xu, Hong-Yuan Chen

Electrogenerated Chemiluminescence Imaging of Electrocatalytic Activity at Single Nanoparticles

15:00 to 15:20 Invited

Vladimir M. Mirsky (*Nanobiotechnology, Brandenburg University of Technology, Senftenberg, Germany*), Veronika Laurinavichyute, Shavkat Nizamov

Application of wide field surface plasmon microscopy for analysis of initial stages of electrochemical nucleation

15:20 to 15:40 Invited

Frederic Kanoufi (*ITODYS, University Paris Diderot, Paris, France*), Jean-Francois Lemineur, Jean-Marc Noël, Catherine Combellas

Imaging single dielectric nanoparticle electrochemistry by interferometric microscopy

15:40 to 16:00 Invited

Weilin Xu (*Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, China*)

Single-Molecule Nanocatalysis Reveals In-situ Deactivation of Pt/C Electrocatalyst for Hydrogen Oxidation Reaction

16:00 to 16:20 Invited

Bin Su (*Chemistry, Zhejiang University, Hangzhou, China*), Linru Xu, Hao Ding, Weiliang Guo

Electrochemiluminescence Imaging: Latent Fingermarks, Cells and Multicolor Immunoassay

16:20 to 16:40

Coffee Break

16:40 to 17:20 Keynote

Yi-Tao Long (*Department of Chemistry, Shanghai, China*)

Nanopore-Based Single Biomolecule Interface for Single Molecule Sensing

17:20 to 17:40

Wojciech Nogala (*Department of Electrode Processes, Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland*), Fatih Celal Alcicek, Marcin Holdynski, Agata Roguska, Magdalena Michalak, Gunther Wittstock, Marcin Opallo

Simultaneous Imaging of Redox Activity and Topography with Single SECM Probe

17:40 to 18:00

Vinicius Goncales (*School of Chemistry, The University of New South Wales, Sydney, Australia*), Jiaxin Lian, Shreedhar Gautam, Yan Vogel, Rafael Colombo, Ying Yang, Richard Tilley, Susana Córdoba de Torresi, Simone Ciampi, Justin Gooding

Semiconducting junctions based on amorphous silicon: a possible platform for high-resolution light-addressable amperometric devices

Symposium 21 General Session

Room : 22-ABC

Chaired by : Marco Musiani and Roberto M. Torresi

14:00 to 14:20

Marc Tesch (*Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Muelheim an der Ruhr, Germany*), Praveen V. Narangoda, Sabita Bhandari, Sebastian Neugebauer, Anna Mechler, Robert Schlögl

On the Applicability of Manganese for the Electrocatalytic Oxygen Evolution Reaction - Results of the "MANGAN Project"

14:20 to 14:40

Kai S. Exner (*Department of Physical Chemistry, Sofia University, Sofia, Bulgaria*)

Recent Advancements Towards Closing the Community Gap between Electrocatalysis and Battery Science: The Computational Lithium-Ion Electrode and Activity-Stability Volcano Plots

14:40 to 15:00

Roger Gonçalves (*Materials Engineering, Federal University of São Carlos, São Carlos, Brazil*), Carlos Scuracchio

Impedanciometric study of the relative humidity effect over the electromechanical properties of an IPMC device

15:00 to 15:20

Bhavana Gupta (*Groupe Nanosystemes Analytiques, Bordeaux University, Bordeaux, France*), Lin Zhang, Mariana Afonso, Bertrand Goudeau, Patrick Garrigue, Nicolas Mano, Cedric Ayela, Alexander Kuhn

Bipolar Electromechanical Activity of Conducting Polymers for Wireless Actuation

15:20 to 15:40

Bollah-Braz Hangula (*Health and Applied Science, Namibia University of Science and Technology, Windhoek, Namibia*)

Biosynthesis of Gold Nano-particles Using Apple Fruit Extracts

15:40 to 16:00

Derek Esau (*Chemistry, Queen's University, Kingston, Canada*), Fabian M. Schuett, K. Liam Varvaris, Jonas Björk, Timo Jacob, Gregory Jerkiewicz

Flame Fusion Nickel Single Crystal Growth: Unravelling Decades of Impossibility

16:00 to 16:20

Ji-Hyung Han (*Marine Energy Convergence and Integration Laboratory, Korea Institute of Energy Research, Jeju, Korea*), Kyo-sik Hwang, Haejun Jeong, Namjo Jeong

Electrode system for Large-scale Reverse Electrodialysis: Water electrolysis, Bubble resistance, and Inorganic scaling

16:20 to 16:40

Coffee Break

16:40 to 17:00

Samson Khene (*Chemistry Department, Rhodes University, Grahamtown, South Africa*), Zainab Makinde, Philani Mashazi

Electrocatalytic Behavior of Single Walled Carbon NanotubesWith Alkylthio-substituted Cobalt Binuclear PhthalocyaninesTowards Oxidation of 4-chlorophenols

17:00 to 17:20

Praveen V. Narangoda (*Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Muelheim an der Ruhr, Germany*), Marc F. Tesch, Sebastian Neugebauer, Robert Schlögl, Anna K. Mechler

How Polymer Binders Influence Oxygen Evolution Catalysis in Alkaline Media

17:20 to 17:40

Yanling Qi (*Applied Chemistry, Tianjin University, Tianjin, China*), Xiaoqing Liu, Wei Wang

Analysis of Electrochemical Co-deposition Process of P-type $Bi_xSb_{2-x}Te_3$ Thermoelectric Materials in EDTA and Tartaric Acid Complex Solution

17:40 to 18:00

Christina Roth (*Institute for Chemistry and Biochemistry, Freie Universitaet Berlin, Berlin, Germany*)

Cyclic voltammetry of carbon-felt electrodes for application in all-vanadium redox flow batteries: Theory and experiment

Friday, 9 August 2019

ROOMS:	MR 21-ABC	HALL 1	MR 11-CD	MR 12-AB	MR 12-CD	MR 11-AB	MR 21-DEF	MR 21-G	MR 22-ABC	MR 22-DEF	MR 22-G
08:15 - 09:15	**Plenary Lecture**: Peidong Yang (**Hall 1**)										
SYMPOSIUM	**Masterclass**	**Symposium 3**	**Symposium 3b**	**Symposium 15**	**Symposium 19**	**Symposium 11**	**Symposium 18**	**Symposium 1**	**Symposium 21**	**Symposium 17**	**Symposium 20**
09:30 - 09:50	Andrea Russell	T. Benedetti	P. Levecque	Ulrike Krewer	Patrick Unwin	H. G. de Melo	O.E. Kongstein	Anne Varenne	Fabian Schuett	Patricia Santiago	Markus Gehring
09:50 - 10:10		T. Loeffler	M. Perez-Page	Maryam Shojaei		D. Thierry	Thandazile Moyo	Aziz Amine	Povilas Simonis	Xinsheng Zhang	M. Tavakkoli
10:10 - 10:30		V. Mashindi	J. Chamier	Niklas Russner	Tim Albrecht	N. LeBozec	Miao Chen	C. O'Sullivan	J. Souza-Garcia	Jonas Hereijgers	M. Muchindu
10:30 - 10:50			B. Marius	P.P. Bawol	Dong Wang	Dick Groot	Huayi Yin	M. Matsunaga	Yige Zhou	Zhaoting Liu	
10:50 - 11:10	Coffee Break										
11:10 - 11:30				C. Jung	Fei Li	F. Deflorian	S.M. Treceno	I. Katakis	Irvin Booysen	Tsuyoshi Ochiai	
11:30 - 11:50				J. Gertzen	H.B. Aiyappa	Michele Fedel		D. Mwanza	Yi Cao	Maximilian Röhe	
11:50 - 12:10				Krishna Bisetty	Yilun Ying	Emeka Oguzie		T. J. Ehirim	Sana Sabahat		
12:15 - 12:30	Closing Ceremony										

Friday 9 August 2019 - Morning

Plenary

Room : Hall 1

Chaired by : Marc Koper

08:15 to 09:15

Peidong Yang (*Department of Chemistry, University of California, Berkeley, Berkeley, USA*)

Liquid Sunlight: the evolution of Photosynthetic Biohybrid Systems

Masterclass

Room : 21-ABC

Chaired by : Fabian Ezema

09:30 to 10:30

Andrea Russell (*School of Chemistry, University of Southampton, Southampton, United Kingdom*)

Design of electrochemical cells and the factors that affect experimental response

Symposium 1 Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors

Room : 21-G

Chaired by : Emmanuel Iwuoha and Debbie Silvester

09:30 to 09:50 Invited

Anne Varenne (*Institut of Chemistry for Life and Health Sciences, Chimie ParisTech PSL, Paris, France*), Jérémie Gouyon, Sophie Griveau, Fanny d'Orlyé, Fethi Bedioui

Lab on a chip for the electrochemical quantitation and recycling of strategic materials

09:50 to 10:10 Invited

Aziz Amine (*Process Engineering & Environment, Hassan II University of Casablanca, Mohammedia, Morocco*), Abdellatif Ait Lahcen

Development of Electrochemical Sensors Based on Molecularly Imprinted Polymers for Emerging Pollutants Determination

10:10 to 10:30

Ciara O'Sullivan (*Chemical Engineering, Universitat Rovira i Virgili, Tarragona, Spain*), Ivan Magrina Lobato, Miriam Jauset Rubio, Mayreli Ortiz, Anna Simonova, Michal Hocek

Ferrocene-labelled 2'-deoxyribonucleoside triphosphates in advanced electrochemical genomic platforms

10:30 to 10:50

Mariko Matsunaga (*Electrical, Electronic, and Communication Engineering, Chuo University, Tokyo, Japan*), Sonoko Shinohara

Electrochemical Glucose Sensing using Mesoporous Platinum Electrode in Various Acidic Solutions with Different Ion Conductivity

10:50 to 11:10

Coffee Break

11:10 to 11:30

Ioanis Katakis (*Chemical Engineering, Universitat Rovira i Virgili, Tarragona, Spain*), Nihad Ahmed, Mayreli Ortiz, Ciara O'Sullivan

Screen-printed Microsystems for Molecular Diagnostics

11:30 to 11:50

Daniel Mwanza (*Chemistry, Rhodes University, Grahamstown, South Africa*), Philani Mashazi

Electrochemically grafted stable "clicked" -thin films of metallophthalocyanines onto gold electrode for hydrogen peroxide sensing

11:50 to 12:10

Tobechukwu J. Ehirim (*Chemistry, University of The Witwatersrand, Johannesburg, South Africa*), Kenneth Ozoemena

Electrochemical determination of tramadol at sulphonic acid-functionalized single-walled carbon nanotube electrode platforms

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

Room : Hall 1

Chaired by : Tobias Loeffler

09:30 to 09:50

Tania Benedetti (*School of Chemistry, University of New South Wales, Sydney, Australia*), Johanna Wordsworth, Corina Andronescu, Soshan Cheong, Patrick Wilde, Richard Tilley, Wolfgang Schuhmann, Justin Gooding

Improved ORR electrocatalysis inside nanochannels in nanozymes: nanoparticles that mimic enzyme architecture

09:50 to 10:10

Tobias Loeffler (*Analytical Chemistry - Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany*), Hajo Meyer, Alan Savan, Alba Garzon-Manjon, Michael Meischein, Patrick Wilde, Yen-Ting Chen, Edgar Ventosa, Christina Scheu, Alfred Ludwig, Wolfgang Schuhmann

Multi-principal element high-entropy alloys as universal and tailorable electrocatalysts - Fundamentals and application

10:10 to 10:30

Victor Mashindi (*School of Chemistry, University of the Witwatersrand Johannesburg, Johannesburg, South Africa*), Kenneth Ozoemena, Neil Coville

Hollow carbon spheres as a durable platinum catalyst support in fuel cells

10:50 to 11:10

Coffee Break

Symposium 3b Fuel Cells, Biofuel Cells and Electrolyzers

Room : 11-CD

Chaired by : Jessica Chamier and Pieter Levecque

09:30 to 09:50

Pieter Levecque (*Department of Chemical Engineering, University of Cape Town, Rondebosch, South Africa*), Nabeel Hussain, Cara Bea Davidson, Simone Daniels, Clayton Jacobs, Eric van Steen, Shiro Tanaka

Characterisation of water transport in fuel cells employing metal GDLs and microchannels

09:50 to 10:10

Maria Perez-Page (*School of Chemical Engineering and Analytical Science, The University of Manchester, Manchester, United Kingdom*), Stuart Holmes, Jose Miguel Luque-Alled, Patricia Gorgojo, Edwards Roberts

Nafion-Functionalized Exfoliated Graphene Oxide Matrix Membranes to Improve the Low Temperature Fuel Cell

10:10 to 10:30

Jessica Chamier (*Chemical Engineering, HySA Catalysis, University of Cape Town, Cape Town, South Africa*), Firdaus Hendriks, Tita Labi

Improving the durability of membrane electrode assemblies during voltage reversal

10:30 to 10:50

Bernhard Marius (*Ceet, Graz University of Technology, Graz, Austria*), Zeljko Penga

Voltage response analysis of polymer electrolyte fuel cells during dynamic load changes

10:50 to 11:10

Coffee Break

Symposium 11 The Science, Technology and Engineering of Corrosion

Room : 11-AB

Chaired by : Philippe Marcus

09:30 to 09:50 Invited

Hercilio G. de Melo (*Metallurgical and Materials Engineering, Universidade de Sao Paulo, Sao Paulo, Brazil*), Janeth Marlene Quispe Aviles, José Wilmar Calderon Hernandez, Helio Goldenstein

Electrochemical behavior and corrosion resistance of HSLA API 5L X65 pipes in CO_2 saturated aqueous media

09:50 to 10:10

Dominique Thierry (*R&D, French corrosion institute, Brest, France*)

Application of Scanning Kelvin Probe for In-situ Studies of Hydrogen Permeation in Steel

10:10 to 10:30

Nathalie LeBozec (*R&D, French Corrosion Institute, Brest, France*), Dominique Thierry, Dan Persson

Influence of microstructure of zinc-aluminium-magnesium alloyed coated steel on the corrosion behaviour in laboratory tests and outdoor marine atmosphere

10:30 to 10:50

Dick Groot (*Mining and Process Engineering, Namibia University of Science and Technology, Windhoek, Namibia*), Jonas Addai-Mensah, Sofya Mitropolskya, Eino Mvula, Harmony Musiyarira, Angela Nakale, John Sirunda

An Investigation Into Premature Galvanized Steel Pipeline Failures in the Otjimbingwe Area of Namibia

10:50 to 11:10

Coffee Break

11:10 to 11:30 Invited

Flavio Deflorian (*Depart. Industrial Engineering, University of Trento, Trento, Italy*), Maryam Eslami, Caterina Zanella, Michele Fedel

Electrochemical Study of the Corrosion Resistance of Rheo HPDC Al–Si Alloys and New Conversion Coatings

11:30 to 11:50

Michele Fedel (*Department of Industrial Engineering, University of Trento, Trento, Italy*), Sandra Diré, Emanuela Callone, Flavio Deflorian

Influence of Gd^{3+} Doping on Molecular Organization and Electrochemical Properties of Si-based Organic/Inorganic Sol-Gel Layers

11:50 to 12:10

Emeka Oguzie (*ACE-FUELS Centre, Federal University of Technology Owerri, Owerri, Nigeria*), Chrisogonus Akalezi, Maduabuchi Chidiebere, Kanayo Oguzie

Natural products for materials protection

Symposium 15 Computational Electrochemistry and Simulation: from Prediction of Properties to Optimization of Devices

Room : 12-AB

Chaired by : Stephan Steinmann and Thomas Turek

09:30 to 09:50 Invited

Ulrike Krewer (*Institute of Energy and Process Systems Engineering, TU Braunschweig, Germany, Germany*), Fridolin Röder

Coupled kmc-continuum Modelling of Processes at Electrodes

09:50 to 10:10

Maryam Shojaei (*Chemical and Process Engineering, University of Canterbury, Christchurch, New Zealand*), Maan Alkaisi, Leatham Landon-Lane, Aaron Marshall

Micro-structured Pyramidal Arrays as a Rough Electrode Model for Validating Electrode Simulations

10:10 to 10:30

Niklas Russner (*Institute of Applied Materials, Karlsruher Institute of Technology, Karlsruhe, Germany*), Jochen Joos, Ellen Ivers-Tiffée

Microscopic mass transport modelling for SOFC electrodes

10:30 to 10:50

Pawel Peter Bawol (*Institute for Physical and Theoretical Chemistry, University of Bonn, Bonn, Germany*), Jürgen Fuhrmann, Christian Merdon

Rotating Ring Disc Electrode simulations: A comparison of a classical finite differences to fully implicit finite volume scheme

10:50 to 11:10

Coffee Break

11:10 to 11:30

Christoph Jung (*Electrochemical Energy Storage, Helmholtz Institute Ulm* (HIU) Electrochemical Energy Storage, Ulm, Germany), Timo Jacob, Timo Jacob

Atomistic insights on the electrode material CuDEPP: Combining the advantages of batteries and super capacitors

11:30 to 11:50

Jonathan Gertzen (*Chemical Engineering, University of Cape Town, Cape Town, South Africa*), Tokoloho Rampai, Tracey van Heerden, Pieter Levecque

MAX Phases as an Electrocatalyst Support Material: A DFT Study

11:50 to 12:10

Krishna Bisetty (*Chemistry, Durban University of Technology, Durban, South Africa*), Bayu Tri Murti, Ashutosh Tiwari

Experimental and computational studies on sensing of DNA damage in Alzheimer's disease

Symposium 17 Electrochemical Technologies for Sustainable and Advanced Manufacturing

Room : 22-DEF

Chaired by : Tsuyoshi Ochiai and Olubambi Peter

09:30 to 09:50

Patricia Santiago (*CCNH, Federal University of ABC, Santo André, Brazil*), Camilo Angelucci, Janaina Souza-Garcia

Perovskites as electrocatalyst for glycerol oxidation

09:50 to 10:10

Xinsheng Zhang (*Chemical Engineering, East China University of Science and Technology, Shanghai, China*), Zhongqiao Ma, Dongfang Niu

Enhancing CO_2 electroreduction with Au/pyridine/carbon nanotubes hybrid structures

10:10 to 10:30

Jonas Hereijgers (*Advanced Reactor Technology, University of Antwerp, Antwerp, Belgium*), Jonathan Schalck, Tom Breugelmans

Screening of Structured 3D Electrode Geometries to Overcome Mass Transfer Limitation Problems in Electrochemical Reactors

10:30 to 10:50

Zhaoting Liu (*School of Resources and Environment, East China University of Science and Technology, Shanghai, China*), Jianguo Yu

Electrochemical Behaviors of B(III) and its Co-reduction with Mg(II) in molten chloride salts

10:50 to 11:10

Coffee Break

11:10 to 11:30

Tsuyoshi Ochiai (*Kawasaki Technical Support Department, Kanagawa Institute of industrial Science and Technology, Kawasaki, Japan*), Yosuke Ishikawa, Toshinari Nagura, Noritaka Kimura

Environment-friendly Treatments of Fabrics Using Electrochemically Generated O_3-water with UV Irradiation

11:30 to 11:50

Maximilian Röhe (*Institute of Energy and Process Systems Engineering, Technische Universität Braunschweig, Braunschweig, Germany*), Alexander Botz, Fabian Kubannek, Wolfgang Schuhmann, Ulrike Krewer

The key role of water activity in the (*dynamic*) operation behavior of oxygen depolarized cathodes

Symposium 18 Electrochemistry and Mining: Minerals and Metal Processing

Room : 21-DEF

Chaired by : Jochen Petersen

09:30 to 09:50

Ole Edvard Kongstein (*Corrosion and Tribology, SINTEF, Trondheim, Norway*), Karen Sende Osen, Anne Støre, Zhaohui Wang

Electrowinning of Cobalt from Sulphate Electrolytes

09:50 to 10:10

Thandazile Moyo (*Chemical Engineering Department, Dr, Cape Town, South Africa*), Jochen Petersen

The electrochemistry of chalcopyrite in ammonia-ammonium sulphate solutions - Anodic and cathodic reactions

10:10 to 10:30 Invited

Miao Chen (*School of Science, RMIT University, Melbourne, Australia*), Yalong Ma, Yi Yang

Scanning Electrochemical Microscopy (SECM) Study of Redox Potential Impact on Chalcopyrite Leaching

10:30 to 10:50 Invited

Huayi Yin (*School of Metallurgy, Northeastern University, Shenyang, China*)

Electrochemical reduction of sulfides/oxides in strongly alkaline solutions

10:50 to 11:10

Coffee Break

11:10 to 11:30

Samuel Martin Treceno (*Chemical and Process Engineering Department, University of Canterbury, Christchurch, New Zealand*), Nic Weaver, Catherine Bishop, Aaron Marshall, Matthew Watson

Exploring the Electrochemical Extraction of Titanium from Complex Molten Oxides Systems

Symposium 19 Imaging Heterogeneous Electrochemical Processes: From Single Molecules and Nanoparticles to Vesicles and Cells

Room : 12-CD

Chaired by : Ismael Diez Perez

09:30 to 10:10 Keynote

Patrick Unwin (*Chemistry, University of Warwick, Coventry, United Kingdom*)

Nanoscale Visualization of Structure-Activity at Complex Electrodes

10:10 to 10:30 Invited

Tim Albrecht (*School of Chemistry, University of Birmingham, Birmingham, United Kingdom*)

Exploring Complex Charge Transport Data with Novel Analysis Tools, from Single- to 'Many-Molecule' Devices

10:30 to 10:50 Invited

Dong Wang (*Institute of Chemistry, CAS, Beijing, China*)

Molecular Electrocatalytic Reaction at the Electrode/Electrolyte Interface by In-situ Scanning Tunneling Microscopy

10:50 to 11:10

Coffee Break

11:10 to 11:30

Fei Li (*School of Life Science and Technology, Xi'an Jiaotong University, Xi'an, China*), Yabei Li, Jinxin Lang, Meng Wang, Feng Xu

Investigation of cell microenvironment effect on cell behaviors using electrochemical scanning probe microscopy

11:30 to 11:50

Harshitha Barike Aiyappa (*Analytical Chemistry - Center for Electrochemical Sciences, Ruhr University Bochum, Bochum, Germany*), Patrick Wilde, Thomas Quast, Justus Masa, Corina Andronescu, Yen-Ting Chen, Martin Muhler, Roland A. Fischer, Wolfgang Schuhmann

Electrocatalysis at the tip: Evaluation of the OER activity of a single MOF-derived composite nanoparticle

11:50 to 12:10

Yilun Ying (*School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai, China*), Yi-Tao Long

Mining Nanopore Big Data to Reveal the Single Molecule Heterogeneity

Symposium 20 Carbon - A Starring Role in Electrochemistry

Room : 22-G

Chaired by : Ahmed Galal and Richard McCreery

09:30 to 09:50

Markus Gehring (*Institute of Energy and Climate Resarch - IEK 9, Forschungszentrum Juelich GmbH, Juelich, Germany*), Hermann Tempel, Hans Kungl, Rüdiger-A. Eichel

Carbonisation Temperature Dependence of Electrochemical Activity of Nitrogen-Doped Carbon Fibres from Electrospinning as Air Cathode for Aqueous-Alkaline Metal-Air Batteries

09:50 to 10:10

Mohammad Tavakkoli (*Department of Applied Physics, Aalto University, Espoo, Finland*), Emmanuel Flahaut, Esko Kauppinen

A nitrogen-doped carbon matrix with embedded Co nanoparticles as an advanced multifunctional electrocatalyst for oxygen reduction and water splitting

10:10 to 10:30

Munkombwe Muchindu (*Advanced Materials Division, Mintek, Johannesburg, South Africa*), Lucky Sikhwivhilu

Electrochemical Characterization of Carbon Nanomaterials Synthesized from Catalytic Coal Fly Ash

Symposium 21 General Session

Room : 22-ABC

Chaired by : Nadine Pebere and Bernard Tribollet

09:30 to 09:50

Fabian Schuett (*Institute of Electrochemistry, Ulm University, Ulm, Germany*), Derek Esau, K. Liam Varvaris, Jonas Björk, Johanna Rosén, Gregory Jerkiewicz, Timo Jacob

Flame Fusion Single Crystal Growth of Non-Noble fcc, hcp and bcc Metals Using the Example of Copper, Cobalt and Iron

09:50 to 10:10

Povilas Simonis (*Department of Material Science and Electrical Engineering, Center for Physical Sciences and Technology, Vilnius, Lithuania*), Rasa Garjonytie, Arunas Stirke

Electroporation Effects on Mediated Amperometry at Yeast-Modified Electrodes

10:10 to 10:30

Janaina Souza-Garcia (*Centre for Natural Sciences and Humanities, Federal University of ABC, Santo André, Brazil*), Eduardo S. Sardinha, Ailton C Araujo, Erick L. Bastos, Hugo B. Suffredini

Regeneration of oxidized vitamin E by vitamin C: insights from interfacial electrochemistry

10:30 to 10:50

Yige Zhou (*Department of Chemistry, Hunan University, Changsha, China*), Jiaxing Huang, Yijin Kang

Fatigue-resistant fluidized electrocatalysis

10:50 to 11:10

Coffee Break

11:10 to 11:30

Irvin Booysen (*School of Chemistry and Physics, Chemistry Building, Pietermaritzburg, South Africa*)

An investigation of the nitrite electro-oxidation capabilities of flavone tetrasubstituted metallophthalocyanines and their carbon nanotube conjugates

11:30 to 11:50

Yi Cao (*Department of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, China*), Pengjian Zuo, Shuaifeng Lou, Zhen Sun, Hua Huo, Yulin Ma, Chunyu Du, Yunzhi Gao, Geping Yin

The function mechanism of a novel quasi-solid-state Li-S battery

11:50 to 12:10

Sana Sabahat (*Chemistry, COMSATS University, Park Road, Chak Shahzad, Islamabad, Pakistan*), Naveed Janjua, Zareen Akhter

Electrochemical Behavior of Ferrocene Functionalized Gold Nanoparticles

Poster presentation program

Symposium 1 Recent Trends in Electroanalysis and Low-Cost Electrochemical Sensors

Drug profiling

s01-001

Caroline G. Sanz *(Institute of Chemistry, University of São Paulo, São Paulo, Brazil)*, Silvia H. P. Serrano, Christopher Brett

Electro-oxidation Pathway and Determination of Cefadroxil at Carbon Nanotube / Gold Nanoparticle Modified Glassy Carbon Electrodes

Electroanalysis

s01-002

Mateusz Gocyla *(Modified electrodes, Institute of Physical Chemistry PAS, Warsaw, Poland)*, Gabriela Winska, Marcin Opallo

Electrocatalytic Properties of Suspended Graphene Oxide in Flow

s01-003

Qingli Hao *(School of Chemical Engineering, Nanjing University of Science and Technology, Nanjing, China)*, Zongdeng Wu, Jiawei Fan

Electrochemical Reduction of CO_2 Based on Nanocomposite Catalysts

s01-004

Zhaoyan Luo *(Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, China)*, Changpeng Liu, Junjie Ge, Wei Xing

Chemically activating MoS_2 via spontaneous atomic palladium interfacial doping towards efficient hydrogen evolution

s01-005

Germana V. Lyimo *(Faculty of Dentistry, Restorative Dentistry, University of the Western Cape, Capetown, South Africa)*, Rachel F. Ajayi, Razia Z. Adam

Electroanalysis of Aspalathus linearis and Musa paradisiaca mediated zinc oxide nanoparticles against fungal pathogens

s01-006

Patrizia Romana Mussini *(Dipartimento di Chimica, Universita degli Studi di Milano, Milano, Italy)*, Serena Arnaboldi, Sara Grecchi, Mariangela Longhi, Francesco Sannicolò, Simona Rizzo, Emanuela Licandro, Silvia Cauteruccio, Armando Gennaro, Abdirisak Ahmed Isse, Roberto Cirilli, Lorenzo Guazzelli, Cinzia Chiappe

Electrochemistry of, and Electroanalysis in, Chiral and Inherently Chiral Ionic Liquid Media

s01-007

Gbenga Peleyeju *(Chemistry, University of Johannesburg, Johannesburg, South Africa)*, Omotayo Arotiba

Electro-oxidation of caffeine and acetaminophen at glassy carbon electrode modified with a sp3-sp2 hybrid carbon nanonmaterial

s01-008

Sebastien Picart *(DMRC, CEA, Bagnols-sur-Ceze, France)*, Marielle Crozet, Giacomo Canciani, Ygor Davrain, Daniele Roudil

Highly Accurate Controlled Potential Coulometry: Application to Plutonium Metrology

Modified Electrodes

s01-009

Harsha Devnani *(Chemistry, Indian Institute of Technology Delhi , Delhi, India)*, Nidhi Sandal, Pravin P. Ingole

Functionalized Carbon Nanostructure Platform for Efficient Electrochemical Removal of Heavy Metal from Aqueous System

s01-010

Isabela Mattioli *(Institute of Chemistry of São Carlos, University of São Paulo, São Carlos, Brazil)*, Priscila Cervini, Éder T. G. Cavalheiro

Application of new graphite-polyurethane screen printed electrodes modified with magnetite and chitosan-coated magnetite nanoparticles in the determination of epinephrine

s01-011

Reitumetse Nkhahle *(Chemistry, Rhodes University, Grahamstown, South Africa)*, Kutloano Sekhosana, Sixolile Centane, Tebello Nyokong

Enhancing the electrocatalytic activity of cobalt phthalocyanines through coupling with nitrogen-doped graphene quantum dots

s01-012

Samuel Piña *(Centro de Biotecnología y Facultad de Ciencias Químicas, Universidad de Concepción, Concepción, Chile)*, Ricardo Salazar, Natalia Hassan

C/Au nanostructured electrodes for electroanalytical environmental analysis in water

s01-014

Elisama Vieira dos Santos *(School of Science and Technology, Federal University of Rio Grande do Norte, Natal, Brazil)*, Mayra K. S. Monteiro, Emily Costa, Djalma R. da Silva, Vãtor j.p. Vilar, Carlos A. Martínez-Huitle

Voltammetric determination of caffeine in real sample based on the cork-graphite electrochemical sensor

Paper-based Electrodes

s01-015

Samantha Douman *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Wireless Electrochemiluminescence at Nafion-Carbon MicroparticleComposite Films

s01-016

Chenzhong Li *(Biomedical Engineering, Florida Intl. University and /Shaanxi Normal University, Miami, USA)*, Chengxiao Zhang, Nengying Wu

Nanozyme Integrated Paper Electrode Sensing Platform for DNA Oxidative Damage Assessment

s01-017

Clementine Juliat Luow *(Chemistry Department, University of the Western Cape, Cape Town, South Africa)*, Priscilla Baker

Paper based electrochemical sensor for environmental analysis

Sensors and Biosensors

s01-018

Egor Andreev *(Chemistry faculty, M.V. Lomonosov Moscow State University, Moscow, Russia)*, Vera Shavokshina, Maria Komkova, Ilya Aparin, Timofei Zatsepin, Arkady Karyakin

Enhanced Electrochemical Kinetics of Azidomethyl Substituted Poly(3,4-ethylenedioxythiophene) for DNA Sensor Elaboration

s01-019

Christian Candia Onfray *(Química de los Materiales, Universidad de Santiago de Chile, Santiago, Chile)*, Soledad Bollo, Claudia Yáñez, F. Javier Recio, Ricardo Salazar

Amperometric Detection of H_2O_2 using Fe-N-C pyrolyzed catalysts

s01-020

Filippo Cavalca *(R&D, Spectro Inlets, Copenhagen, Denmark)*, Daniel Trimarco

Molecular Stop-Motions: Unravelling Transient Electrochemical Phenomena at the Millisecond Timescale using EC-MS

s01-021

Phathisanani Hloma *(Chemistry, Durban University of Technology, Durban, South Africa)*, Krishna Bisetty, Myalo Sabela, S'vardhan Kanchi

Development of an electrochemical immunosensor for the detection of steviol glycosides by experimental and computational methods

s01-022

Ricardo Leote *(National institute of Materials Physics, University of Bucharest, Magurele, Romania)*, Victor Diculescu

Bienzymatic Biosensor for Phosphoenolpyruvate Determination Based on Pyruvate Kinase and Pyruvate Oxidase Cascade Reaction

s01-023

Sonoko Shinohara *(Electrical, Electronic, and Communication Engineering, Chuo University, Tokyo, Japan)*, Mariko Matsunaga

Highly Sensitive Electrochemical Glucose Sensing Using a Mesoporous Platinum Electrode in Alkaline Solutions

s01-024

Mei-Jywan Syu *(Chemical Engineering, National Cheng Kung University, Tainan, Taiwan)*, Yi Hu

Fabrication of an Immobilized Sensor for the Detection of Creatinine in Urine

s01-025

Marcos Teixeira *(Dep. of Chemistry and Biochemistry, Sao Paulo State University (UNESP), Presidente Prudente, Brazil)*, Nayara Alves, Andre Olean-Oliveira, Celso Cardoso, Patricia Seraphim

Application of Bismuth Vanadate Based Photochemiresistor Sensor for Chemical Oxygen Demand Determination

Symposium 2 Sensors and Biosensors for Biomedical and Environmental Applications

Aptasensors

s02-001

Kaylin Januarie *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Quantum dot Impedimetric Phase Angle based Aptasensor for TB biomarker detection

s02-002

Guozhen Liu *(Graduate School of Biomedical Engineering, The University of New South Wales, Sydney, Australia)*, Chaomin Cao

Nanotechnology Assisted Electrochemical Biosensing Devices for Continuous Monitoring of Cytokines in Inflammatory Mice

s02-003

Ntsoaki Mphuthi *(Advance Material Division, Mintek, Randburg, South Africa)*, Abongile Jijana, Sibulelo Vilakazi

Electrochemical Detection of Glucose from Whole Blood using CuS Modified Screen Printed Electrodes

s02-004

Adewoyin Ogunmolasuyi *(Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa)*, Ronen Fogel, Janice Limson

A Comparative Study of the Analytical Performance of Two Aptamers for the Impedimetric Detection of Plasmodium falciparum Lactate Dehydrogenase in Malaria-Parasitized Blood

s02-005

Dupe Ojo *(Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa)*, Ronen Fogel, Lance Ho, Janice Limson

Optimization of Aptamer Immobilization Parameters to Improve Sensitivity of Impedimetric Histamine Aptasensor

Drug profiling

s02-006

Asmaa El-Gohary *(Chemistry, Faculty of Science, Cairo University, Giza, Egypt)*, Nada Atta, Ahmed Galal

Electrochemical sensor based on crown ether/polymer/carbon nanotubes composite for simultaneous determination of levodopa, uric acid and tyrosine in biological fluids

s02-007

Atal Anudeep Singh Gill *(Pharmaceutical Chemistry, University of Kwazulu-Natal, Durban, South Africa)*, Sima Singh, Nikhil Agrawal, Zondi Nate, Tirivashe Chiwunze, Rajshekhar Karpoormath

Electrochemical detection and determination of vancomycin using a novel water soluble metal organic framework

s02-008

Zondi Nate *(Pharmaceutical Chemistry, University of KwaZulu-Natal, Durban, South Africa)*, Atal Anudeep Singh Gill, Rajshekhar Karpoormath

Novel flame Synthesis Of Iron Oxide Impregnated Carbon Nanotubes For Electrochemical Detection Of Antimalarial Drug: Proguanil

s02-009

Andisiwe Ngwekazi *(Chemistry Department, University of the Western Cape, Cape Town, South Africa)*, Priscilla Baker, Lulama Mciteka

Voltammetric determination of metformin and its analogues using Cu modified polymer electrodes

s02-010

Vernon Somerset *(Chemistry, CPUT, Bellville, South Africa)*, Charlton Van der Horst, Bongiwe Silwana, Emmanuel Iwuoha

Application of a bismuth-silver bimetallic nanosensor for improved ascorbic acid analysis in pharmaceutical samples

Environmental monitoring

s02-011

Colani Fakude *(Chemical Seiences, University of Johannesburg, Johannesburg, South Africa)*, Omatayo Arotiba, Nonhlangabezo Mabuba

A Glassy Carbon Electrode Modified with Nitrogen-doped Graphene for Selenium Detection

s02-012

Mugisa John *(Faculty of Engineering, International University of East Africa, Kampala, Uganda)*, Masa Justus

Low-Cost Electrochemical Micro Sensors for Technical Applications and Environmental Monitoring

s02-013

Suvardhan Kanchi *(Chemistry, Durban University of Technology, Durban, South Africa)*, Suvardhan Kanchi, Ayyappa Bathinapatla, Myalowenkosi Sabela, Krishna Bisetty

A High Performance Electrochemical biosensor for the detection of Sucralose in Food Samples

s02-014

Masaya Mitsumoto *(Department of Pure and Applied Chemistry, Tokyo University of Science, Chiba, Japan)*, Yoshinao Hoshi, Isao Shitanda, Tsutomu Mikawa, Masayuki Itagaki

Development of three - electrode type lactic acid sensor with flow path for continuous monitoring of perspiration

s02-015

Lekhetho Mpeta *(Chemistry, Rhodes University, Grhamstown, South Africa)*, Gertrude Fomo, Tebello Nyokong

Electrode modification with cobalt phthalocyanine via click chemistry, for application in electrocatalysis

s02-016

Xolani Ngema *(Chemistry, University of the Western Cape, Bellville, South Africa)*, Priscilla Baker, Fanelwa Ajayi, Pierre-Henri Aubert, Philippe Banet

Cytochrome P450 biosensor for the detection of TB drugs in a cocktail format in synthetic urine and environmental waters

s02-017

Nomaphelo Ntshongontshi *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Monica Mir, Samuel Dulay, Josep Samitier, Emmanuel Iwuoha

Development of a Poly(methacrylic acid)-co-Poly(3,4-ethylenedioxythiophene) Molecularly Imprinted Polymer Sensor for the Electrochemical Detection of 17ß-estradiol-An Estrogenic Endocrine Disrupting Compound

s02-018

Chaiya Prasittichai *(Chemistry, Kasetsart University, Bangkok, Thailand)*, Orrapa Cheycharoen, Kannika Jeamjumnunja

Electrochemical sensor of CO_2 based on surface modification of halloysite nanotube

s02-019

Vernon Somerset *(Chemistry, CPUT, Bellville, South Africa)*, Martin Makombe, Charlton Van der Horst, Bongiwe Silwana, Emmanuel Iwuoha

Application of an antimony film sensor for sensitive rare earth metal analysis in tap water samples

s02-020

Nanami Takahashi *(Department of Pure and Applied Chemistry, Tokyo University of Science, Chiba, Japan)*, Yoshinao Hoshi, Isao Shitanda, Hiroyuki Matsui, Shizuo Tokito, Masayuki Itagaki

Wearable dial ion sensor in sweat based on heat transfer printing

s02-021

Sapo Timakwe *(Chemistry, Cape Peninsula University of Technology, Cape Town, South Africa)*, Normasoldier Mngcwengi, Fredrick Okumu, Mangaka Matoetoe

Anodic Stripping Voltammetry analysis of Lead and Cadmium in Fruit Juices using Bismuth Modified Glassy Carbon Electrode

Genosensors

s02-022

Ciara O'Sullivan *(Chemical Engineering, Universitat Rovira i Virgili, Tarragona, Spain)*, Nassif Chahin, Laura Uribe, Mayreli Ortiz, Ahmed Mehdi Debela, Serge Thorimbert, Berni Hasenknopf, Ioanis Katakis

Electrochemical primer extension based on polyoxometalate electroactive labels for multiplexed detection of single nucleotide polymorphisms

s02-023

Narshone Soda *(School of Environment and Science, Griffith University, Brisbane, Australia)*, Muhammad Umer, Nam-Trung Nguyen, Muhammad J.A. Shiddiky

Graphene Loaded Iron Oxide nanoparticles as a new tool for electrochemical and naked-eye detection of global DNA methylation

s02-024

Ying Wan *(School of Mechanical Engineering, Nanjing University of Science and Technology, Nanjing, China)*, Yan Su, Shengyuan Deng

Ultrasensitive electrochemical detection of microRNA based on terminus-regulated DNA hydrogelation

s02-025

M. Angelica del Valle *(Quimica, Pontificia Universidad Catolica de Chile, Santiago, Chile)*, Manuel A. Gacitua, Fernando R. Diaz, Andres M. Ramirez

Electrosynthesis of Polypyrrole Nanowires with Enhanced Properties

Immunosensors

s02-026

Samantha Douman *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Highly Sensitive Electrochemiluminescence Signaling of Cardiac Troponin I based on Bipolar Electrochemistry

s02-027

Kwanele Kunene *(Chemistry, Durban University of Technology, Durban, South Africa)*, Myalowenkosi Sabela, S' vardhan Kanchi, Krishna Bisetty, Mikhael Bechelany

Label-free Electrochemical Immunosensor for Sensitive Detection Ochratoxin A in Coffee

s02-028

Francisco Martinez *(Quimica Inorgánica, Pontificia Universidad Catolica de Chile, Santiago, Chile)*, Victor Diculescu, Francisco Armijo

Low Detection Electrochemical Immunosensor to Proteasome 20S based on Poly-indole-6-carboxylic acid

s02-029

Nsovo Samuel Mathebula *(Chemistry, University of Pretoria, Pretoria, South Africa)*, Kenneth Ozoemena

Mycolic Acid Based Immunosensor for Active Tuberculosis

s02-030

Francis Muya *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Priscilla Baker

Polysulfone hydrogel nanocomposite alkaline phosphatase biosensor for the detection of Vanadium

s02-031

Juan Xiang *(College of Chemistry and Chemical Engineering, Central South University, Changsha, China)*

Co-immunocapture and Electrochemical Quantitation of Total and Phosphorylated Amyloid-beta40 Monomers

s02-032

Moeng Motitswe *(Chemistry, North West University, Mmabatho, South Africa)* Eno Ebenso, Pattern Ganesh, Omolola Fayemi

Electrochemical Detection of Pb (II) at PAN/Ag Modified Au Electrode

Symposium 3 Fuel Cells, Biofuel Cells and Electrolyzers

(Bio)catalyst

s03-001

Shibin Yin *(Collaborative Innovation Center of Sustainable Energy Materi, Guangxi University, Nanning, China)*

Nanostructured Materials with Boosting Efficiency for Hydrogen Evolution

Electrolyzer

s03-002

Sung Mook Choi *(Surface Technology Division, Korea Institute of Materials Science, Changwon, Korea)*

Highly Efficient Three-Dimensional Honeycomb-Like CuCo oxide Nanosheet Arrays Supported by Nickel Foam and as an Oxygen Evolution Electrode

s03-003

Anzel Falch *(Chemistry, North-West University, Potchefstroom, South Africa)*, De Wet Coertzen, Cobus Kriek, Pieter Levecque

Investigating reactive sputtered IrxNiyOz electrocatalysts for the oxygen evolution reaction in alkaline media

s03-004

Rhiyaad Mohamed *(HySA/Catalysis Centre of Competence, University of Cape Town, Cape Town, South Africa)*, Thobani G. Gambu, Tobias Binninger, Eric van Steen

Improving Electronic Conductivity of SnO_2 and TiO_2 via Doping: A Hybrid-Functional DFT Study

s03-005

Rhiyaad Mohamed *(HySA/Catalysis Centre of Competence, University of Cape Town, Cape Town, South Africa)*, Ziba Mohamed

Oxide Supported Electrocatalysts for Energy Conversion Devices: From Concept to Reality

s03-006

Praveen V. Narangoda *(Heterogeneous Reactions, Max Planck Institute for Chemical Energy Conversion, Muelheim an der Ruhr, Germany)*, Ioannis Spanos, Marc F. Tesch, Robert Schlögl, Anna K. Mechler

Rotating Disc Electrode vs. Electrochemical Flow Cell – New Pathways for Electrocatalyst Characterization

s03-007

Shakeela Sayed *(HySA/Catalysis Centre of Competence, University of Cape Town, Cape Town, South Africa)*, Ziba Rajan, Rhiyaad Mohamed

Investigation of doped carbon as a catalyst support for electrochemical energy conversion devices

s03-008

Pei Kang Shen *(Collaborative Innovation Center of Sustainable Energy Mater, Guangxi University, Nanning, China)*, Shibin Yin

Noble Metal Free Materials as Efficient Catalysts for Water Splitting

s03-009

Thomas Turek *(Chemical and Electrochemical Process Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany)*, Matthias Koj

Novel alkaline water electrolysis process with nickel-iron gas diffusion electrodes for oxygen evolution

s03-010

Aleksey Yaremchenko *(Department of Materials and Ceramic Engineering, CICECO - Aveiro Institute of Materials, University of Aveiro, Aveiro, Portugal)*, Blanca Arias-Serrano, Ekaterina Kravchenko, Kiryl Zakharchuk, Jekabs Grins, Gunnar Svensson, Vladimir Pankov

Oxygen-Deficient Perovskite-Related $(Nd_{0.4}Sr_{0.6})_2Ni_{0.8}M_{0.2}O_4$-δ; as Oxygen Electrode Materials for SOFC/SOEC

Enzymatic fuel cell

s03-011

Kuan-Zong Fung *(Materials Science and Engineering, National Cheng Kung University, Tainan, Taiwan)*, Shu-Yi Tsai, Jhih-Yu Tang, Jaroslaw Milewski, Tomasz Wejrzanowski

Mixed-Conducting Mechanism for High-Temperature Fuel Cell Applications

Failure mechanisms

s03-012

Hassan Moydien *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Nabeel Hussain, Pieter Levecque

Testing Protocol for Reversal Tolerant Anodes under Cell Reversal by Simulated Fuel Starvation

Fuel Cell

s03-013

Nurudeen Adewumi Adebare *(Chemical Sciences, University of the Western Cape, Cape Town, South Africa)*, Lindiwe Khotseng, Akindeji Jerome Sabejeje

Investigation of Ternary Catalysts as Anode Catalysts for Direct Methanol Fuel Cells

s03-014

Wei Chen *(State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, CAS, Changchun, China)*, Cheng Du, Chunmei Zhang, Ruizhong Zhang, Xiaokun Li

Design and fabrication of porous carbonaceous electrocatalysts for the oxygen reduction reaction

s03-015

Felipe De Moura Souza *(Centro de Ciencias Naturais e Humanas, Universidade Federal do ABC, Santo Andre, Brazil)*, Paula Böhnstedt, Victor dos Santos Pinheiro, Luanna Silveira Parreira, Bruno Lemos Batista, Mauro Coelho dos Santos

Pd_1Nb_1 Electrocatalyst Supported on Printex 6L Carbon Black with Improvement Performance for ADEFC

s03-016

Oeznur Delikaya *(Institute of Chemistry and Biochemistry, Freie Universitaet Berlin, Berlin, Germany)*, Mohammad Zeyat, Konstantin Schutjajew, Dieter Lentz, Christina Roth

Pt nanoparticles on porous hollow electrospun carbon nanofibers as electrocatalysts for high temperature polymer electrolyte membrane fuel cell (HT-PEMFC) applications

s03-017

Katrin F. Domke *(Molecular Spectroscopy, MPI for Polymer Research, Mainz, Germany)*

The Correlation between Microscopic Pore Structure and Macroscopic Water and Ion Mobility in Fuel Cell Membranes

s03-018

Pablo Fernández *(Physical Chemistry, State University of Campinas, Campinas, Brazil)*, Gabriela Soffiati, Carlos Lima, Cinthia Zanata, Miguel San-Miguel, Marc Koper

Electrochemical oxidation of polyols on Pt based electrodes

s03-019

Firdaus Hendricks *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Shiro Tanaka, Jessica Chamier

Improving PEM Fuel Cell Performance Using a Roll Press MPL on Metallic Gas Diffusion Layers.

s03-020

Adewale Ipadeola *(Chemistry, University of The Witwatersrand, Johannesburg, South Africa)*, Kenneth Ozoemena

Microwave-assisted synthesis of Pd/SnO_2 nanoparticles on metal organic frame-derived carbon as potential electrocatalyst for ethanol fuel cells

s03-021

Deborah Jones *(ICGM Aggregates, Interfaces and Materials for Energy, CNRS - University of Montpellier, Montpellier, France)*, Frederic Jaouen, Pierre-Yves Blanchard, Aaron Roy, Mathias Primbs, Asad Mehmood, Anthony Kucernak, Peter Strasser, Gaetano Granozzi, Christian Durante, Laura Calvillo Lamana, Stefano Agnoli, Alex Martinez Bonastre, Dharshini Fongalland, Geoffrey Spikes, Jonathan Sharman

Increased Understanding of non-PGM Catalysts for PEMFC Cathodes

s03-022

Tita Labi *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*

Iridium Oxide Supported on Graphitized Carbon for use as Reversal Tolerant Anodes in PEMFCs

s03-023

Augustus K. Lebechi *(School of Chemistry, Molecular Sciences Institute, University of the Witwatersrand, Johannesburg, South Africa)*, Kenneth Ozoemena

Manganese Oxide-Modified Carbon Nanofibres as Bifunctional Electrocatalysts for Oxygen Reduction and Oxygen Evolution Reactions

s03-024

Jong Min Lee *(Buan Fuel Cell Center, Korea Institute of Energy Research, Buan-gun, Korea)*, Song Jin, Mun Seon Kang, Beon Jun Kim, Young Woo Choi, Young Gi Yoon, Tae Hyun Yang, Min Ho Seo

Computational approaches for improving catalytic activity and stability as electrocatalyst support for ORR in PEMFC

s03-025

Tlaleng Lemeke *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Pieter Levecque, Tokoloho Rampai

Evaluation of the potential of MAX phases as alternative supports to carbon black in PEMFC's

s03-026

Suleiman Magaji *(Chemical Engineering, Ahmadu Bello University, Zaria, Nigeria)*, Bello Mukhtar, Abdulhamid Hamza, Kenneth Ozoemena

High performance nanostructured Pt-W/CeO_2-graphene composite Electrocatalysts for Application in Direct Methanol Fuel cell

s03-027

Thabo Matthews *(Applied Chemistry, House nr. 5A. Louisa Street. Corner of Siemert and Beit Stre, Doornfontein, South Africa)*, Nobanathi Wendy Maxakato, Patrick Ndungu

Effect of Mn doping into $NiCo_2O_4$ towards Oxygen Reduction Reaction in Alkaline Media

s03-028

Refiloe Modise *(Chemistry, Witwatersrand, Johannesburg, South Africa)*, Kenneth Ozoemena

Platinum nanoparticles supported on titanium dioxide nanoparticles for ethanol electro - oxidation.

s03-029

Nobuhle Mpofu *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Colleen Jackson, Andrea Russell, Denis Kramer, Pieter Levecque

Investigation of alternative support materials for platinum nanoparticles to beused as catalysts in PEM fuel cells

s03-030

Yoshihiro Mugikura *(Energy Engineering Reserach Laboratory, Central Research Institute of Electric Power Industry, Yokosuka, Japan)*, Akifumi Ido, Koichi Asano, Hiroshi Morita, Tohru Yamamoto

Degradation analysis of SOFC performance (6)

s03-031

Jimodo J. Ogada *(Chemical Engineering, University of Witwatersrand, Port Shepstone, South Africa)*, Kenneth Ozoemena, Adewale Ipadeola, Suhail Musa, Hamish Andrew Miller, Francesco Vizza, Daniel Wamwangi

Pd/CB-CeO_2 as Efficient Electrocatalyst for Alcohol Fuel Cell

s03-032

Martin Prokop *(Department of Inorganic Technology, University of Chemistry and Technology Prague, Prague, Czech Republic)*, Jakub Malis, Martin Paidar, Karel Bouzek

Optimisation of Catalyst Coated Membrane Fabrication Protocol

s03-033

Rosa Rego *(Chemistry, University of Trás-os-Montes e Alto Douro, Vila Real, Portugal)*, Sónia Salomé, Ana Maria Ferraria, Ana Maria Botelho do Rego, Pere Cabot

Facile Synthesis of New PdSnP/C Ternary Nanocatalysts as Highly Active and Stable for Ethanol Oxidation in Alkaline Media

s03-034

Akindeji Jerome Sabejeje *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Lindiwe Khotseng, Nurudeen Adewumi Adebare

Development of Carbon Supports for Direct Methanol Fuel Cells

s03-035

Min Ho Seo *(Buan Fuel Cell Center, Korea Institute of Energy Research (KIER)*, Buan-gun, Korea), Jong Min Lee, Mun Seon Kang, Beom Jun Kim, Young Woo Choi, Young Gi Yoon, Tae Hyun Yang, Wook Ahn

Computational approaches for durable electro-catalyst in ORR and OER with experimental studies

s03-036

Weihua Yang *(College of Materials Science and Engineering, Huaqiao University, Xiamen, China)*, Yangfan Zhan, Yanxue Feng, Xinwei Duan, Qinaxia Yang

The Synthesis and Characterization of S-Doped Complex Support ORR Catalyst

Microbial fuel cell

s03-037

Ioanis Katakis *(Chemical Engineering, Universitat Rovira i Virgili, Tarragona, Spain)*, Zaida Herrero, Ester Clavero, Abdulaziz Bashammakh, Abdulrahman Alyoubi

Biophotovoltaic Algal Fuel Cells for Sustainable Biorefineries

s03-038

Francesca Soavi *(Department of Chemistry Giacomo Ciamician, Alma Mater Studiorum University of Bologna, Bologna, Italy)*, Mehrdad Mashkour, Mostafa Rahimnejad, Mahdi Mashkour, Carlo Santoro

Bacterial cellulose-based microbial fuel cells

Symposium 4 Renewable Energy and Photo-Electrochemistry

Dye-sensitized solar cells

s04-001

Mildred Airo *(Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*, Tswarela Kolokoto, Nosipho Moloto

Pt-free counter electrode for dye sensitized solar cell based on nickel and niobium selenide nanostructure

s04-002

Francis Chindeka *(Chemistry, Rhodes University, Grahamstown, South Africa)*, Tebello Nyokong, Philani Mashazi

Optimizing Phthalocyanine Based Dye-Sensitized Solar Cells: the Role of Reduced Graphene Oxide

s04-003

Tshwarela Kolokoto *(Molecular science institute, School of Chemistry, University of Witwatersrand, Johannesburg, South Africa)*

$NbeSe_2$ and Nb_2Se_9 nanostructures as alternative to Pt electrodes in dye-sensitized solar cells

s04-004

Yuya Takekuma *(Graduate School of Engineering, Tokyo University of Science, Shinjuku, Japan)*, Morio Nagata

Photocurrent increase by Perylene Derivative as Light-Harvesting Antenna on TiO2 in Photosystem I-based Bio-Photovoltaic Device

Photo-electrocatalysis

s04-005

Bright Nsolebna Jaato *(Department of Chemistry, University of Ghana, Legon, Accra., Ghana)*, Robert Kingsford-Adaboh, David Dodoo-Arhin

H-doped TiO_2-X Nanoparticles for Hydrogen Generation and Environmental Remediation.

s04-006

Julian Kund *(Institute of Analytical and Bioanalytical Chemistry, University Ulm, Ulm, Germany)*, Maria Küllmer, Andrey Turchanin, Elisabeth Hofmeister, Max von Delius, Christine Kranz, S. Götz, P. Endres, S. Schubert

Scanning electrochemical microscopy: in-situ studies of photocatalytic processes at modified carbon nanomembranes

s04-007

Xiaoheng Liu *(School of Chemical Engineering, Nanjing University of Science and Technology, Nanjing, China)*, Jiacheng Yao

Facile fabrication of WO_3 film on FTO glass and its application in photoelectrocatalysis

s04-008

Potlako John Mafa *(Nanotechnology and Water Sustainability Research Unit, University of South Africa, Johannesburg, South Africa)*, Bulelwa Ntsendwana, Bhekie Mamba, Alex Kuvarega

Plasmonic Ag/Ag_3PO_4/MV/EG Photoanode for Photoelectrocatalytical Degradation of Diuretic Drug: A Case Study of Hydrochlorothiazide

s04-009

Yuki Tsunoda *(Electrical, Electronic, and Communication Engineering, Chuo University, Tokyo, Japan)*, Mariko Matsunaga

Influence of Benzyl Alcohol Addition on the Photocurrent of TiO_2-CNT Thin Film Electrode Prepared by Sol-Gel Dip Coating

Photo-electrochemical fuel production

s04-010

Patricia Corradini *(Chemistry, Sao Carlos Federal University, Sao Carlos, Brazil)*, Juliana de Brito, Lucia Mascaro

Optimization of Bismuth Vanadate Layers Synthesis for CO_2 reduction by photo and photoelectrocatalysis

s04-011

Thomas L. Maier *(Physics Department, Technical University of Munich, Garching, Germany)*, Simon Filser, Johannes Wuellenweber, Robin D. Nagel, Matthias Golibrzuch, Werner Schindler, Markus Becherer, Katharina Krischer

Hydrogen Evolution Reaction and CO_2 Reduction Reaction on Customizable Metal Nanostructures on Silicon Electrodes

s04-012

Frank Marken *(Chemistry, University of Bath, Bath, United Kingdom)*, Chris Bowen

Harvesting Electrochemical Energy from Oscillating Light Sources

s04-013

Litheko Legapa Nkabiti *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Development of Transition Metal Oxides as Possible Photoelectrodes for Fuel Cells

Photovoltaics

s04-014

Fabian Ezema *(Department of Physics and Astronomy, University of Nigeria, Nsukka, Nigeria)*, Assumpta Nwanya, Rose Osuji, A.B.C. Ekwealor, Paul Eijikeme, Malik Maaza

Studies on the Effects of Methylammonium Lead Iodide on Nickel Oxide as A Hole Transport Material For Perovskite Solar Cells

s04-015

Moleko Samuel Mkehlane *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Electrochemical and Optical Studies of Organo-chalcogenic Perovskite Nanomaterials with Potential Application in Single Junction Solar Cells

s04-016

Lebogang Mosiane *(Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*, Manoko Maubane-Nkadimeng, Boitumelo Matsoso, Daniel Wamwangi, Neil Coville

The effect of temperature on B and N configurations and properties of boron and nitrogen codoped multiwalled carbon nanotubes for use in photovoltaic cells

s04-017

Morongwa Emmanuel Ramoroka *(Chemistry, University of the Western Cape, Cape Town, South Africa)*

Copper Telluride Nanoparticles for Solar Cells

Semiconductors

s04-018

Delvina Tarimo *(Physics, University of Pretoria, Pretoria, South Africa)*, Nuru Mlyuka, Kabir Oyedotun, Ncholu Manyala

Effects of Deposition and Annealing Conditions on Properties of Thermochromic VO_2 Films

s04-019

Kazhmukhan Urazov *(Electrochemistry Technology, Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan)*, Margarita Dergacheva, Aleksey Tameev, Oksana Gribkova

Improving the photocurrent in electrodeposited polyaniline / $Cu_2ZnSn(S,Se)_4$ structures

s04-020

Kazhmukhan Urazov *(Electrochemistry Technology, Sokolsky Institute of Fuel, Catalysis and Electrochemistry, Almaty, Kazakhstan)*, Darya Puzikova, Gulinur Khussurova, Margarita Dergacheva

Two-stage method of producing thin films based on copper-bismuth complex oxide system

Solar-plus-storage

s04-021

Federico Bella *(Department of Applied Science and Technology, Politecnico di Torino, Torino, Italy)*, Alberto Scalia, Alberto Varzi, Pietro Zaccagnini, Andrea Lamberti, Elena Tresso, Claudio Gerbaldi, Stefano Passerini

Photovoltaic harvesters integrated with electrochemical double layer capacitors: novel approaches

Water-splitting

s04-023

Dyovani Coelho *(Department of Chemistry, Federal University of São Carlos - UFSCar, São Carlos, Brazil)*, Joao Pedro Gaudencio, Ernesto Pereira, Lucia Mascaro

Bi Electrodeposition on WO_3 Photoanode to Improve the Photoactivity of the WO_3/$BiVO_4$ Heterostructure to Water Splitting

s04-024

Marina Medina *(Chemistry, Federal University of São Carlos, São Carlos, Brazil)*, Lucia Mascaro

Amorphous Molybdenum Sulfide Deposited on Ti for Hydrogen Evolution Reaction

s04-025

Zakhele Ndala *(Chemistry, Wits University, Johannesburg, South Africa)*, Nosipho Moloto, Siziwe Gqoba, Cebisa Linganiso

Colloidal synthesis of rhenium diselenide nanomaterials and their carbon nanocomposites for applications in hydrogen evolution reactions

s04-026

Siyabonga Nkabinde *(School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*

Amorphous MoP and $\propto$ -WP_2 particles as non-noble electrocatalysts for Hydrogen Evolution Reaction

Symposium 5 Gold and Related Noble Metals in Electroanalysis, Electrocatalysis, and Electrochemical Devices

Composite Electrode Materials

s05-001

Seyedsina Hejazi *(Institute of Surface Science and Corrosion (LKO), University of Erlangen-Nuremberg, Erlangen, Germany)*, Marco Altomare, Shiva Mohajernia, Patrik Schmuki

Intrinsic Au-decoration on anodic TiO_2 nanotubes grown from metastable Ti-Au sputtered alloys-High density co-catalyst decoration enhances the photocatalytic H_2 evolution

s05-002

Lebogang Ramafoko *(Animal Health, North West University, Mafikeng South Africa, Mafikeng, South Africa)*, Mulunda Mwanza, Eno Ebenso

Synthesis and Cyclic voltammetry characterization of PANI-Au Modified Screen-Printed Carbon Electrode for electrocatalysis of Aflatoxins

s05-003

Hanna Sopha *(Center of Materials and Nanotechnologies, University of Pardubice, Pardubice, Czech Republic)*, Raul Zazpe, Milos Krbal, V.C. Anitha, Jan Prikryl, Jan M. Macak

ALD Pt Nanoparticles decorated Anodic TiO_2 Nanotube Layers for the Electrocatalytic Oxidation of Methanol

Electroanalysis

s05-004

Kevin Kantize *(Chemistry, University of KwaZulu-Natal, Pietermaritzburg, South Africa)*

Electrochemical sensing of acetaminophen using nanocomposites comprised of cobalt phathalocyanines and multiwalled carbon nanotubes

s05-005

Vuyelwa Ngwenya *(Department of Chemistry, University of KwaZulu-Natal, Pietermaritzburg, South Africa)*, Irvin Booysen, Allen Mambanda

A cobalt(II) phthalocyanine with indole substituents: Formation, Characterization and Electrocatalytic studies

s05-006

Vuyelwa Ngwenya *(Department of Chemistry, University of KwaZulu-Natal, Pietermaritzburg, South Africa)*, Irvin Booysen, Allen Mambanda

A cobalt(II) phthalocyanine with indole substituents: Formation, Characterization and Electrocatalytic studies

s05-007

Fabian Schuett *(Institute of Electrochemistry, Ulm University, Ulm, Germany)*, Jerome Mayer, Maren-Kathrin Heubach, Maximilian Ceblin, Ludwig A. Kibler, Timo Jacob

Differences in the Electrochemical Deposition of Zinc from the Ionic Liquid [MPPI][TFSI] on Au(111) and Au(100) Model Electrodes

s05-008

Patrick Marcel Seumo Tchekwagep *(Inorganic Chemistry, University of Yaounde I, Yaounde, Cameroon)*, Philip Bartlett

Electrochemical SERS to Mesure Redox Potential of Methylene Blue Bound to Bovine Serum Albumin.

s05-009

Patrick Marcel Seumo Tchekwagep *(Inorganic Chemistry, University of Yaounde I, Yaounde, Cameroon)*, Baudelaire Matangouo Sonkoue, Charles Péguy Nanseu-Njiki, Emmanuel Ngameni

Electrochemical Determination of Arsenic using Silver Nanoparticles.

s05-010

Eseoghene Umukoro *(Department of Chemistry, Obafemi Awolowo University, Ile-Ife, Nigeria)*, Azeez Idris, Benjamin Orimolade, Bilainu Oboirien, Omotayo Arotiba

Application of Electrodeposited Gold-Poly (Propylene Imine) Dendrimer on Expanded Graphite for the Voltammetric Detection of Lead (IV) in Water

Electrochemical Devices

s05-011

Siyabonga Shoba *(Chemistry, Nelson Mandela University, Port Elizabeth, South Africa)*, Adeniyi Ogunlaja

Polyaniline nanocomposite based electrochemical sensor for detection of organosulfur compounds in fuels

Gold, Silver, Copper

s05-012

Gcinisizwe Dlamini *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Patricia Kooyman

CuAg bimetallic nanoparticles for the electrochemical reduction of carbon dioxide

s05-013

Sphamandla Nqunqa *(Chemistry, University of the Western Cape, Cape Town, South Africa)*, Usisipho Feleni, Takalani Mulaudzi-Masuku, Rachel Ajayi

Cost-effective gold nanoparticles functionalized with *Musa paradisiaca* and *Vitis vinifera* extracts as sensing platforms for the detection of *E.coli O157:H7*

POSTERS

Molecular Electrocatalysis

s05-014

Serena Arnaboldi *(Dipartimento di Chimica, Università degli Studi di Milano, Milano, Italy)*, Armando Gennaro, Abdirisak Ahmed Isse, Christian Durante, Patrizia Romana Mussini

The Electrocatalytic Cleavage of Carbon-Halide Bonds on Ag, Au and Cu electrodes: from aprotic and protic traditional solvents to ionic liquids

s05-015

Patrizia Romana Mussini *(Dipartimento di Chimica, Universita degli Studi di Milano, Milano, Italy)*, Serena Arnaboldi, Mirko Magni, Ester Giussani, Chiara D'Aloi, Armando Gennaro, Abdirisak Ahmed Isse, Tiziana Benincori, Emanuela Licandro, Silvia Cauteruccio, Elena Cariati, Elena Lucenti

Electrocatalytic Reduction of Heteroaromatic Halideson Gold and Silver Electrodes: Synergy in Electrocatalysis

s05-016

Wei Zhou *(Department of Chemistry, Shanghai University, Shanghai, China)*, Xingyuan Qiu, Na Wang, Qi Qi, Chengzi Qi, Yukio Ouchi

Electrochemical oxygen reduction and evolution on graphene supported Au nanoparticles in ionic liquid

Spectroelectrochemistry and Electroluminescence

s05-017

David Hernández-Santos *(R&D, Metrohm Dropsens S.L., Llanera, Spain)*, Paula Caldevilla-Collado, David Ibañez, Alejandro Pérez-Junquera, María Begona González-García, Pablo Fanjul-Bolado

New alternatives to overcome the water limitation in NIR spectroelectrochemistry.

s05-018

David Hernández-Santos *(R&D, Metrohm Dropsens S.L., Llanera, Spain)*, Paula Caldevilla-Collado, David Ibañez, Alejandro Junquera-Pérez, María Begona González-García, Pablo Fanjul-Bolado

Resolution of mixtures of vitamins by electrochemical Surface-enhanced Raman spectroelectrochemistry (EC-SERS)

Symposium 6 Advances in Bioelectrochemistry

Biomarkers and drug carriers

s06-001

Yuki Fujimura *(Department of Pure and Applied Chemistry, Tokyo University of Science, Chiba, Japan)*, Yoshinao Hoshi, Isao Shitanda, Seiya Tsujimura, Masayuki Itagaki

Fabricated a Screen-printed Paper-based Glucose Biofuel Cell Array for Self-Powered Diaper Sensor

s06-002

Siwaphiwe Peteni *(Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*

Electrochemical detection of methyl nicotinate biomarker produced by mycobacterium tuberculosis

Electron transfer in biological systems

s06-003

Kosuke Ino *(Graduate School of Engineering, Tohoku University, Sendai, Japan)*, Noriko Taira, Yuji Nashimoto, Hitoshi Shiku

Electrodeposition of 3D hydrogels using 3D electrode arrays in applications of cell culture

s06-004

Alexandra Teodor *(Genome Science and Technology, University of Tennessee Knoxville and Oak Ridge National Lab, Knoxville, USA)*, Jyotirmoy Mondal, Michael Vaughn, Jesse Bergkamp, Barry Bruce

Bio-Hybrid Solar Cells: Putting Photosystem I to Work

s06-005

Xiaochun Tian *(CAS Key Laboratory of Urban Pollutant Conversion, Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China)*, Feng Zhao

Cathodic Electron Transfer of Shewanella Strains Revealed by Electrochemical Technologies

Lipid and biomimetic membranes

s06-006

Manuela Rueda *(Department of Physical Chemistry, University of Seville, Seville, Spain)*, Julia Alvarez-Malmagro, J. Jay Leitch, Zhangfei Su, Francisco Prieto, Jacek Lipkowski

Cytidine Nucleolipid Supported on Gold (111) electrodes as Biomimetic Membranes: A Photon Polarization Modulation Infrared Reflection Absorption Spectroscopy Study

Mechanism of enzymatic reactions

s06-007

Shota Harakawa *(College of the Science, University of Tsukuba, Tsukuba, Japan)*, Seiya Tsujimura, Masanori Kaneko

Electrochemical Methane Production Using Coenzyme F430 as an Electrocatalyst

Membrane proteins and peptides at electrodes

s06-008

Fred Lisdat *(Biosystems Technology, Technical University Wildau, Wildau, Germany)*, Dmitri Ciornii, Athina Zouni

3D and transparent photobioelectrodes based on photosystem I - analysis of performance factors

Symposium 7 Novel Energy Storage Materials and Devices: Batteries for Powering Tomorrow's World

Concentrated electrolytes

s07-001

Kohei Inaba *(Applied Chemistry and Chemical Engineering, Kogakuin University, Tokyo, Japan)*, Keitaro Takahashi, Yuki Ishino, Yusuke Ushioda, Satoshi Kato, Shiro Seki

Proposal of Sulfolane Electrolyte with High Lithium-salt Concentration for Realization of Next-generation Batteries

s07-002

Keitaro Takahashi *(Graduate School of Applied Chemistry and Chemical Engineerin, Kogakuin University, Tokyo, Japan)*, Yuki Ishino, Hiromitsu Takaba, Yasuhiro Umebayashi, Seiji Tsuzuki, Masayoshi Watanabe, Shiro Seki

Compatibility of High-Concentrated Solvate Ionic Liquids and Low-Viscosity Dilute Solvent for High-Performance Li-S Batteries

Electrode materials

s07-003

Aiman Bashir *(Material science, University of South Africa, Cape Town, South Africa)*, N. Mayedwa, K. Bharuth-Ram, K. Kaviyarasu, M.B.T Tchokonte, F.I. Ezema, M. Maaza

Investigation of electrochemical performance of the biosynthesized $\propto$-Fe_2O_3 nanorods

s07-004

Kuan-Zong Fung *(Hierarchical Green-Energy Materials Research Center, National Cheng Kung University, 7, Tainan, Taiwan)*, Li-Fu Chang, Shu-Yi Tsai

Role of Defect Reaction on Electrochemical Behavior of Electrode Materials for Li Batteries

s07-005

Yan-Xia Jiang *(Department of Chemistry, Xiamen University, Xiamen, China)*

NiFeP$_4$ semi-hollow nanocages as high performance electrocatalysts for hydrogen evolution reaction

s07-006

Kaviyarasu Kasinathan *(Materials Research Group, iThemba LABS, Cape Town, South Africa)*, Malik Maaza

Cadmium selenide nanoparticles under methylene blue performance: Investigation of bio-optoelectronic application

s07-007

Yajuan Li *(College of Chemistry and Chemical Engineering, Central South University, Changsha, China)*, Johnny Muya Chabu, You-Nian Liu

A Novel Graphene Oxide-Wrapped Pyramidal Sulfur Cathode with Ultra-High Sulfur Content for Lithium-Sulfur Battery

s07-008

Steffen Link *(Electrochemistry and Electroplating Group, Technische Universitat Ilmenau, Ilmenau, Germany)*, Svetlozar Ivanov, Andreas Bund

Electrodeposition of silicon from sulfolane-based electrolyte: Influence of substrate

s07-009

Nolubabalo Matinise *(Material Research Division, iThemba Laboratory for Accelerator Based-Science, Cape Town, South Africa)*, Noluthando Mayedwa, Kasinathan Kaviyarasu, Zebib Nuru, Itani Madiba, Nametso Mongwaketsi, Maaza Malik

Mixed-phase bismuth ferrite- carbon black nanocomposites by green approach as an efficient electrode material for supercapacitor application

s07-010

Phathutshedzo Murovhi *(Physics, University of Pretoria, Pretoria, South Africa)*

Nanocomposite Materials Comprising MnO_2 and Activated Expanded Graphite as Electrodes for Electrochemical capacitors

s07-011

Patrick Mwonga *(Physics, University of The Witwatersrand, Johannesburg, South Africa)*, Kenneth Ozoemena, Shunmugam Naidoo, Alex Quandt

Interrogating the Effects of Ion-Implantation-Induced Defects on the Energy Storage Properties of Bulk Crystalline and Powder Molybdenum Disulphide

s07-012

Madeleine Nwankwo *(Department of Physics and Astronomy,, University of Nigeria, Nsukka, Nigeria)*, Blessing Ezealigo, Assumpt Nwanya, Z. Khumalo, A.B.C. Ekwealor, Rose Osuji, Paul Ejikeme, Malik Maaza, Fabian Ezema

Synthesis and Characterizations of GO/Mn_3O_4 Nanocomposite Film Electrode Materials for Supercapacitor Applications

s07-013

Hiroshi Okano *(General Education, National Institute of Technology, Kagawa College, Takamatsu, Japan)*, Yuta Nakamura, Takashi Inoue, Toshihiro Hosokawa, Akiyoshi Takeda

Metal Air Battery using Expanded Natural Graphite Sheet as a Cathode

s07-014

Daniel Otokpa *(Department of Physics and Astronomy, University of Nigeria, Nsukka, Nigeria)*, Agnes Nkele, Ugochi Chime, Blessing Ezealiago, Assumpta Nwanya, A.B.C. Ekwealor, Rose Osuji, Paul Ejikeme, Malik Maaza, Fabian Ezema

Enhanced electrochemical property of graphite decorated with Mn_3O_4 thin films towards achieving high energy storage capacity

s07-015

Baoyu Sun *(School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, China)*, Geping Yin, Shuaifeng Lou, Zhengyi Qian, Chunyu Du

Novel Preparation of Hollow-Heterostructure Co_3O_4@SiO_2 Nanoparticles for Optimized Li-Ion Storage

s07-016

Vladimir Zhulikov *(Laboratory of Structure of Surface Layers, Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia)*

Amorphous Electrolytic Deposits (Re-Ni, Co-Mo, Ni-Mo etc.) as Efficient Catalysts for Hydrogen Evolution Reaction in Alkaline Solutions: Structure and Electrocatalytic Properties

Energy Conversion/Re-use

s07-017

Chengping Li *(Institute for Applied Materials - Energy Storage Systems (IA, Karlsruhe Institute of Technology (KIT)*, Karlsruhe, Germany), Angelina Sarapulova, Helmut Ehrenberg

Understanding the Lithium Storage Mechanism in Core-Shell Fe_2O_3@C Hollow Nanospheres Derived from Metal-Organic Frameworks: An In situ diffraction using synchrotron radiation and in situ X-ray absorption spectroscopy (XAS)

Inorganic and Polymeric Solid electrolytes

s07-018

Thomas Beuse *(MEET Battery Research Center, Münster University, Münster, Germany)*, Juan Pablo Badillo, Olga Fromm, Markus Börner, Philip Niehoff, Falko Schappacher, Martin Winter

Challenges for Processing of Cathodes for All-Solid-State Batteries: From Liquid to Solid System

s07-019

Yi Cao *(Department of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, China)*, Chuankai Fu, Zhen Sun, Yunzhi Gao, Geping Yin

Electrochemical Stability research on chain ether-based electrolyte with LiTFSI salt

s07-020

Funeka Nkosi *(Department of Chemistry-Ångström Laboratory, Uppsala University, Uppsala, Sweden)*, Mario Valvo, Nurul Akmaliah Dzulkurnain, Jonas Mindemark, Reza Younesi, Daniel Brandell, Kristina Edström

LLZO- Polyester Based Composite Electrolytes for Solid-State Li-ion Batteries

Li metal batteries

s07-021

Nan Chen *(School of Materials Science and Engineering, Beijing Institute of Technology, Beijing, China)*, Renjie Chen

A Novel Organosilicon Groups Functionalized Ionic Liquid Electrolyte Boosts the Performance of Dendrite-Free Lithium Batteries

s07-022

Ezequiel Leiva *(Departamento de Química Teórica y Computacional, Universidad Nacional de Córdoba, Córdoba, Argentina)*, Belén Suarez Ramanzin, María Rojas, Francisco García Soriano, Andrea Calderón, Manuel Otero, Daniel Barraco, Fabiana Oliva, Guillermina Luque

Suppressing lithium dendrite formation using electrolyte additives

s07-023

Sebastian Mai *(Electrochemistry and Electroplating Group, Technische Universtitä Ilmenau, Ilmenau, Germany)*, Svetlozar Ivanov, Pierre-Etienne Cabelguen, Stephane Levasseur, Karolien Vasseur, Andreas Bund

Rational design of Carbonate free High- and Local High Concentration Electrolytes for Lithium Metal Batteries

s07-024

Elena Markevich *(Chemistry, Bar Ilan University, Ramat Gan, Israel)*, Gregory Salitra, Doron Aurbach

Very Stable Cycling of Ni-rich Cathodes with Practical Loading in the Cells with Lithium Metal Anodes in Fluoroethylene Carbonate-Based Organic Electrolyte Solutions

s07-025

Tae-Sun You *(Chemical Engineering, Hanyang Unversity, Seoul, Korea)*, Jun Hwan Ahn, Sang-Min Lee

Improvement of Cycling Stability of Lithium Metal Cell by employing the Coated Mesh Interlayer for Selected Lithium-ion Deposition

Li-ion

s07-026

Susana Chauque *(Departamento de Quimica Fundamental, Universidade de São Paulo, Instituto de Química, São Paulo, Brazil)*, Adriano H. Braga, Liane M. Rossi, Roberto M. Torresi

Fe_3O_4@N-doped Graphene as Negative Electrode for Lithium Ion Batteries

s07-027

Dong Kwan Han *(Chemical Engineering, Hanyang University, Seoul, Korea)*, Seung Bo Hong, Bo Ra Jeong

High Voltage Cycling Performance of Lithium-Ion Cells Employing a Functional Additive

s07-028

Aderemi Haruna *(Chemistry, University of Witwatersrand, Johannesburg, South Africa)*

Nanorod-like $LiMn_{1.5}Ni0._5O_4$ for high-performance lithium-ion batteries

s07-029

Mesfin Kebede *(Energy Centre, Council for Scientific and Industrial Research, Pretoria, South Africa)*

The Use of $LiMn_2O_4$ Cathode and SnO_2 /(OLC) Anode for Lithium-Ion Battery Applications

s07-030

Ezequiel Leiva *(Facultad de Ciencias Químicas, Universidad Nacional de Córdoba, Córdoba, Argentina)*, Maximiliano Gavilán, Alexis Paz, Oscar Oviedo, Oscar Pinto, Beatriz López de Mishima, Manue Otero, Daniel Barraco

Thermodynamic and kinetic modeling of lithium insertion in graphite- Comparison with experiments

s07-031

Kabir Oyedotun *(Physics, University of Pretoria, Pretoria, South Africa)*, Tshifhiwa Masikhwa, Abdulmajid A. Mirghni, Oladepo Fasakin, Mpho Lekgoathi, Ncholu Manyala

Synthesis and fabrication of Lithiumâ-Ion Battery Anode via a Novel Graphene-Based Carbon nanofibre Material

s07-032

Khavharendwe Rambau *(Energy Storage, CSIR, Pretoria, South Africa)*, Nicholas Musyoka, Nithyadharseni Palaniyandy, Jianwei Ren, Ncholu Manyala

Recovery of Reusable Chemical Elements from Spent Lithium Ion Batteries for the Synthesis of Metal Organic Frameworks (MOFs)

s07-033

Ortal Tiurin *(Material Science and Engineering, Technion, Haifa, Israel)*

Li-Fluoride protective coating on $LiMn_{1.5}Ni_{0.5}O_4$ cathode for high-energy storage applications

Metal-ion batteries

s07-034

Isabelle Kroner *(Institute of Chemical and Electrochemical Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany)*, Steffen Krange, Thomas Turek

Studies on the influence of phosphate on the kinetics in a vanadiumredox flow battery

Na-ion

s07-035

Catia Arbizzani *(Chemistry Giacomo Ciamician, Alma Mater Studiorum Università di Bologna, Bologna, Italy)*, Francesca De Giorgio, Rossano Marras, Mariasole Di Carli, Paola Gislon, Pier Paolo Prosini

High-potential cathodes for sodium-ion batteries: synthesis, study of the intercalation process and improvement of the electrode interface

s07-036

Prabeer Barpanda *(Materials Research Centre, Indian Institute of Science, Bangalore, India)*, Lalit Sharma

Sodium Metal Fluorophosphate (Na_2MPO_4F) Family of Insertion Materials for Sodium-ion and Sodium-air Batteries

s07-037

Nkosikhona Nzimande *(Chemistry, University of Witwatersrand, Johannesburg, South Africa)*, Kenneth Ozoemena

Carbon/CeO_2 dual-coated NASICON-$Na_3Mn_2(PO_4)_2F_3$ cathode based materials for high-performance sodium-ion batteries

s07-038

Nithyadharseni Palaniyandy *(Energy Centre, CSIR, Pretoria, South Africa)*, Malewane R. Modibedi, Mkhulu K. Mathe

Synthesis and Characterization of F-doped α-MnO_2/Onion Like Carbon (OLC) Composite Cathode Material for Sodium Ion Batteries

s07-039

Kristina Pfeifer *(Institute for Applied Materials - Energy Storage Systems, Karlsruhe Institute of Technology, Karlsruhe, Germany)*, Julian Becherer, Chittaranjan Das, Stefanie Arnold, Helmut Ehrenberg, Sonia Dsoke

The Detrimental Impact of Sodium Metal Electrodes on Electrochemical Experiments

Post Li-ion technologies

s07-040

Philipp Adelhelm *(Institute of Technical Chemistry and Environmental Chemistry, Friedrich-Schiller-University Jena, Jena, Germany)*, Lukas Medenbach

Sulfur Spillover on Carbon Materials and Possible Impacts on Metal–Sulfur Batteries

s07-041

Helmut Baltruschat *(Intitute for Physical and Theoretical Chemistry, University of Bonn, Bonn, Germany)*, Andreas Koellisch, Tabea Lohrmann, Philip Heinrich Reinsberg, Pawel Bawol

The Mechanism of Li_2O_2-Monolayer Formation and Reoxidation - the Effect of Electrode Roughness

s07-042

Pawel Peter Bawol *(Institute for Physical and Theoretical Chemistry, University of Bonn, Bonn, Germany)*, Jan Hendrik Thimm, Philip Heinrich Reinsberg, Tabea Lohrmann

Towards the mechanism of the solution mediated ORR by benzoquinones in metal-O_2 batteries

s07-043

Natei Ermias Benti *(Environmental Science, Energy stream, Addis Ababa University, Addis Ababa, Ethiopia)*

The Effects of CO_2 Contamination on Reaction Mechanism in Non-aqueousNa-air Batteries: A DFT Study

s07-044

Nuria Garcia-Araez *(Chemistry, University of Southampton, Southampton, United Kingdom)*, Rinaldo Raccichini, Liam Furness, James Dibden, Ashley Brew, He Li, John Lampkin, John Owen

Simple impedance analysis of porous electrodes for the rational development of metal-sulfur batteries

s07-045

Bernhard Gollas *(Institute for Chemistry and Technology of Materials, Graz University of Technology, Graz, Austria)*, Sandra Steiner, David Moser, Gerald Kothleitner

Morphology Control of Aluminium Anodes in Secondary Aluminium Batteries

s07-046

Yuki Ishino *(Applied Chemistry and Chemical Engineering, Graduate School of Kogakuin University, Hachioji, Tokyo, Japan)*, Keitaro Takahashi, Yasuhiro Umebayashi, Seiji Tsuzuki, Masayoshi Watanabe, Minori Kamaya, Shiro Seki

Temperature dependence of lithium-sulfur battery performance

s07-047

Dawid Kasprzak *(Institute of Non-Ferrous Metals Division in Poznan, Department of Advanced Materials, Poznan, Poland)*, Paulina Pólrolniczak, Mariusz Walkowiak

The development of prototype lithium-sulfur battery for autonomous unmanned platforms

s07-048

Tomas Kazda *(Department of Electrical and Electronic Technology, Brno University of Technology, Brno, Czech Republic)*, David Skoda, Kamil Jasso, Pavel Cudek

Influence of Organic Binders to the Properties of Lithium-Sulfur Batteries

s07-049

Young Kim *(Applied Optics and Energy Research Group, KITECH, Gwqngju, Korea)*, SeoungHum Jung, Duck Rye Chang

Comprehensive study of the performance of alkaline organic redox flow batteries as large-scale energy storage systems

s07-050

Daniel Langsdorf *(Institute of Physical Chemistry, Justus-Liebig-University Giessen, Giessen, Germany)*, Julian Kreissl, Urmimala Maitra, Daniel Schroeder

A diamondoid-based additive to mitigate the growth of dendrites in sodium-oxygen batteries

s07-051

Yong Lu *(College of Chemistry, Nankai University, Tianjin, China)*, Jun Chen

Rechargeable Na-CO_2 Batteries: Configuration, Application, and Evolution

s07-052

Yulin Ma *(School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, China)*, Chuankai Fu, Yunzhi Gao, Geping Yin

Understanding and Improving Strategies of lithium-salt on Capacity Degradation for 4 V-Class Rechargeable All-Solid-State Lithium-metal Polymer Battery

s07-053

Paulina Polrolniczak *(Department of Advanced Materials, Institute of Non-Ferrous Metals Division in Poznan, Poznan, Poland)*, Dawid Kasprzak, Mariusz Walkowiak

Investigation of lithium polysulfide encapsulation mechanism in porous carbons derived from organic sources

s07-054

Kohei Shimokawa *(Institute for Materials Research, Tohoku University, Sendai, Japan)*, Masanobu Nakayama, Yu Kumagai, Fumiyasu Oba, Norihiko L. Okamoto, Kiyoshi Kanamura, Tetsu Ichitsubo

Zinc-Based Spinel-Oxide Materials Showing Reversible Spinel-Rocksalt Transition for High-Energy-Density Magnesium Rechargeable Batteries

s07-055

Hui Sun *(College of New Energy and Materials, China University of Petroleum-Beijing, Beijing, China)*, Zhuo-Liang Jiang, Wen-Ke Shi

P-doped Hive-like Carbon Derived from Pinecone Biomass as Efficient Catalyst for Li-O_2 Battery

s07-056

Mariusz Walkowiak *(Department of Advanced Materials, Institute of Non-Ferrous Metals, Poznan, Poland)*, Paulina Polrolniczak, Dawid Kasprzak

Study of the charge/discharge mechanism of lithium-sulfur cells using operando UV/Vis spectroscopy

s07-057

Cedrik Wiberg *(Chemistry and Chemical Engineering, Chalmers University of Technology, Göteborg, Sweden)*, Elisabet Ahlberg, Ergang Wang

Organic Molecules for Aqueous Organic Redox Flow Batteries:Synthesis and Electrochemical Investigation

s07-058

Min Hong Woo *(Applied Optics and Energy Research Group, KITECH, Gwqngju, Korea)*, Duck Rye Chang

A PEO/LLZO Solid Composite Electrolyte for Solid State Lithium Ion Battery

Supercapacitor

s07-059

Tjatji Tjebane *(Physics, University of Pretoria, Pretoria, South Africa)*, Damilola Momodu, Ncholu Manyala

Effect of Carbonization Time on Compactivated Samples from Plant Biomass Waste for Electrochemical Device Electrodes

Symposium 8 Sustainable Resources, Processes and Design of High Power Supercapacitors

Asymmetric and hybrid devices

s08-001

Simon Lindberg *(Physics, Chalmers University of Technology, Gothenburg, Sweden)*, Aleksandar Matic, Ncholu Manyala, Patrik Johansson, Thierry Brousse

Investigation of charge storage mechanisms in hybrid materials and novel electrolytes for next-generation supercapacitors

s08-002

Belinda Moyo *(Physics, Univeristy of Pretoria, Pretoria, South Africa)*, Damilola Momodu, Kabir Oyedetun, Ncholu Manyala

Electrochemical performance metrics of a mixed-assembly activated carbon-based capacitor

s08-003

Emmanuel Pameté Yambou *(Chemical Technology, Poznan University of Technology, Poznan, Poland)*, Barbara Górska, François Béguin

Hybrid capacitor based on a faradaic anthraquinone-grafted carbon electrode operating in low pH aqueous salt solution

s08-004

Clemence Rogier *(Thales Research and Technology / LPPI, Thales / Universite de Cergy-Pontoise, Palaiseau, France)*, Gregory Pognon, Christophe Galindo, Paolo Bondavalli, Giao Tran Minh Nguyen, Cedric Vancaeyzeele, Pierre-Henri Aubert

Development of a Nanostructured Carbon-MnO_2 Hybrid Framework by Spray Coating and Electrodeposition as High Performance Electrode Material for Supercapacitor

Capacitive/pseudocapacitive electrodes

s08-005

Cheslin Brink *(Chemistry, Tshwane University of Technology, Pretoria, South Africa)*, Ntwanano Chauke, Mpho Ratsoma, Letlhogonolo Mabena, Katlego Makgopa

Effect of Metal-Organic Framework (MOF) Decorated on N-doped rGO and N-doped CNT for Supercapacitor Applications

s08-006

Ntwanano Chauke *(Chemistry, Tshwane University Of Technology, Pretoria, South Africa)*, Cheslin Brink, Mpho Ratsoma, Letlhogonolo Mabena, Katlego Makgopa

Microwave-Assisted Synthesis Of N-rGO/$Mn_3(PO_4)_2$ and N-CNT/$Mn_3(PO_4)_2$ Nanohybrids and their electrochemical performance in Supercapacitors.

s08-007

Aleksandar Dekanski *(ICTM - Department of Electrochemistry, University of Belgrade, Beograd, Serbia)*, Milica Kosevic, Denis Sacer, Vladimir Panie

Physicochemical Characteristics and Pseudocapacitive Response of RuO_2/Reduced-Graphene-Oxide Composites Prepared by Microwave Assisted Hydrothermal Synthesis

s08-008

Abdulmajid A Mirghni *(Physics, University of Pretoria , Pretoria , South Africa)*, Kabir Oyedotun, Okikiola Olaniyan, Badr A. Mahmoud, Ndeye Fatou Sylla, Ncholu Manyala

Hierarchically Structured Bimetallic Phosphate Electrodes for Supercapacitors

s08-009

Thokozani Tsoari *(Chemistry, University of Witwatersrand, Johannesburg, South Africa)*, Kenneth Ozoemena, Funeka Nkosi

Enhanced Electrochemical Performance of Nickel(II)-tetrapyazino-porphyrazine Intercalated Two-Dimensional Titanium Carbide Nanosheets for Symmetric Supercapacitors in Aqueous Electrolyte

Renewable energy storage and distribution

s08-010

Otokpa Otseme *(Physics and Astronomy, University of Nigeria, Nsukka, Nigeria)*, Ezema Fabian, A.B.C Ekwalor, H. I. Zarma

Energy Managenent Techniques For Self Reliance And Sustainable Development In Nigeria

Supercapacitor

s08-011

Tobile Khawula *(School of Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*, Nkosikhona Nzimande, Guy Kabongo, Rasmita Barik, Sekhar Ray, Kenneth Ozoemena

Iron phthalocyanine modified carbon microfiber hybrids as high-performance supercapacitor

s08-012

Thapelo Mofokeng *(Chemistry, University of The Witwatersrand, Johannesburg, South Africa)*

Hierarchical material of carbon nanotubes grown on carbon nanofibers as electrode material for supercapacitors

s08-013

Carlos Pereira *(Chemistry and Biochemistry, Porto University - FCUP, Porto, Portugal)*, Ana Brandao, Renata Costa, Nuno Pereira, A. F. Silva

Deep eutectic solvent/carbon materials interfacial studies for potential energy storage applications - Effect of carbon modification

s08-014

Abigail Phori *(Physica and Institute of Applied Materials, University of Pretoria, Pretoria, South Africa)*, Kabir Oyedotum, Abdulmajid A. Mirghni, Nchulo Manyala

Nanostructured 2D Ti_3C_2/NiO Composite Material as Electrode for Supercapacitors Applications.

s08-015

Sebenzile Shabalala *(Chemistry, Witwatersrand University, Johannesburg, South Africa)*, Zikhona Tetana, Kenneth Ozoemena

Carbon Spheres-reinforced Electrospun Carbon Nanofiber Composites for the Development of Supercapacitors

s08-016

Bokome Shaku *(Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*

Physico-chemical properties of catalyst-free carbon nano-onions grown by the flame pyrolysis method for possible application in supercapacitors

s08-017

Ndeye Fatou Sylla *(Physics, University of Pretoria, Hatfield, Pretoria, South Africa)*, Ndeye Maty Ndiaye, Balla Diop Ngom, Damilola Momodu, Moshawe Jack Madito, Bridget Mutuma, Ncholu Manyala

Effect of porosity enhancing agents on the electrochemical performance of high-energy ultracapacitor electrodes derived from peanut shell waste

Sustainable raw materials

s08-019

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

Carbon Dioxide Sequestration using Electrochemical Technology

System integration

s08-020

Carlo Santoro *(Bristol BioEnergy Centre (BBiC), University of The West of England, Bristol, United Kingdom)*, Federico Poli, Jacopo Seri, Ncholu Manyala, Francesca Soavi

Improving power performance of microbial fuel cells by the use of supercapacitors

Symposia 9 Electro-physical Chemistry and Application of Platinum Group Metals

Catalysis (homo- and heterogeneous)

s09-001

Olawale Oloye *(School of Chemistry, Physics, and Mechanical Engineering, Queensland University of Technology, Brisbane, Australia)*, Anthony O'Mullane, Geoffrey Will

Evaluation of Highly Active PtGa Nanoparticles, Synthesized via the Galvanic Replacement of Liquid Metal Galinstan with Platinum

s09-002

Germano Tremiliosi-Filho *(Institute of Chemistry of Sao Carlos, University of Sao Paulo, Sao Carlos, Brazil)*, Pablo Fernandez, Camilo A. Angelucci, Giuseppe A. Camara, Juarez F. L. Da Silva

Establishing a link between well-ordered low-index Pt(hkl) surfaces and real catalyst systems: The case of the electro-oxidation of glycerol

Symposium 10 New Concepts and Opportunities in Electrochemical Synthesis: Fundamentals, Methods and Applications

De-alloying

s10-001

Christina Roth *(Institute for Chemistry and Biochemistry, Freie Universitaet Berlin, Berlin, Germany)*

Highly selective electrochemical reduction of CO_2 to CO observed on commercially available brass electrodes modified by galvanic Zn replacement

Electrodeposition

s10-002

Aleksandar Bojic *(Department of Chemistry, University of Nis, Nis, Serbia)*, Slobodan Najdanovic, Milica Petrovic, Milos Kostie, Danijela Bojic, Jelena Mitrovic, Nena Velinov

Basic Bismuth Nitrate Sorbent Synthesised by Electrochemical Procedure: Characterization and Isothermal Studies of Adsorption of Reactive Orange 16

s10-003

Elena Matei *(Multifunctional Materials and Structures, National Institute of Materials Physics, Magurele, Romania)*, Monica Enculescu, Victor Diculescu, Andreea Costas, Melania Onea, Ionut Enculescu

Influence of electrodeposition parameters and electrochemical bath composition on the electrical properties of multichannel ZnO nanowire field effect transistors.

s10-004

Noluthando Mayedwa *(Material Research Department, iThemba LABS, Cape Town, South Africa)*, Takalani Mulaudzi-Masuku, Nolubabalo Matinise, Nametso Mongwaketsi, Malik Maaza

Electrochemical, Optical, Structural and Microscopic Studies of $ZnCrO_4$ Nanomaterials Prepared Via Biosynthesis Using Natural Extracts of Hibiscus Rosa Sinensis

s10-005

Falk Muench *(Department of Materials and Earth Sciences, Technische Universität Darmstadt, Darmstadt, Germany)*, Sandra Schaefer, Alexander Vaskevich, Tim Boettcher, Wolfgang Ensinger

Surface-Selective Solution Deposition of Anisotropic Metal Nanostructures: Electroless Plating Meets Shape-Controlled Nanoparticle Synthesis

s10-006

Kuniaki Murase *(Department of Materials Science and Engineering, Kyoto University, Kyoto, Japan)*, Ken Adachi, Atsushi Kitada, Kazuhiro Fukami

Chrome Plating Using $CaCl_2$ Hydrate Melt-Based Trivalent Chromium Baths

s10-007

Melania Loredana Onea *(National Institute of Materials Physics, Atomistilor 405A, University of Bucharest, Faculty of Physics, Atomistilor 405, Magurele, Romania)*, Elena Matei, Monica Enculescu, Ionut Enculescu

Synthesis and Properties of CdTe nanowires fabricated electrochemically via template method

s10-008

Milica Petrovic *(Department of Chemistry, University of Nis, Faculty of Sciences and Mathematics, Nis, Serbia)*, Slobodan Najdanovic, Milos Kostic, Miljana Radovic Vucic, Danijela Bojic, Aleksandar Bojic

One Step Electrochemical Synthesis, Characterization and Photocatalytic Activity of Mono-phase Molybdenum (IV) Oxide

s10-009

Vladimir Zhulikov *(Laboratory of structure of surface layers, Frumkin Institute of Physical Chemistry and Electrochemistry, Moscow, Russia)*, Alexander Rudnev, Elena Molodkina, Mary Ehrenburg

Initial Stages of Metal Electrodeposition on Single Crystal Electrodes from Ionic Liquids with Dicyanamide Anion

Symposium 11 The Science, Technology and Engineering of Corrosion

Coatings and Inhibitors

s11-001

Muntathir AlBeladi *(NCCT, KACST, Riyadh, Saudi Arabia)*, Rashed AlSanea, Talal Aljohani

The effect of graphene addition on mechanical and corrosion properties of carbon steel Ni-P/Graphene coating

s11-002

Sami Aljadaan *(NCCT, KACST, Riyadh, Saudi Arabia)*, Bejad Alotaibi, Talal Aljohani

Corrosion performance of anodized Mg alloys by Micro-Arc Oxidation (MAO)

s11-003

Camila Canales *(Departamento de Ingenieria Hidraulica y Ambiental, Pontificia Universidad Catolica de Chile, Santiago, Chile)*, Francisco Armijo, Magdalena Walczak, Rodrigo de la Iglesia, Gonzalo Pizarro, Ignacio Vargas

Electrochemical functionalization of AISI 304 stainless steel coupons with conducting polymers: A comparative study of their performance against corrosion

s11-004

Sanaz Hesamedini *(Electrical Engineering and Information Technology, TU Ilmenau, Ilmenau, Germany)*, Andreas Bund

Formation of Cr(VI) in cobalt containing Cr(III)-based treatment solution

s11-005

Mohammad Jafar Mazumder *(Chemistry, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)*

Amino acid based new zwitterionic polymers for inhibition of mild steel corrosion in 1 M HCl

s11-006

Anitah Nkuna *(Chemistry, University of Venda, Thohoyandou, South Africa)*, Lutendo Murulana

Electrochemical and Surface Analysis Studies on Corrosion Inhibition of Mild Steel by Thiophenium-Based Ionic Liquids in Hydrochloric Acid Solution

s11-007

Taiwo Quadri *(Department of Chemistry, North-West University (Mafikeng Campus)*, Mafikeng, South Africa), Ekemini Akpan, Lukman Olasunkanmi, Ibanga Isaac, Eno Ebenso

Inhibition Potentials of Acridine-based Thiosemicarbazones for Mild Steel Corrosion in Acidic Medium: Experimental and Theoretical Studies

Corrosion protection and control

s11-008

Samuel Akinwamide *(Engineering Metallurgy, University of Johannesburg, Johannesburg, South Africa)*, Deon Marais, Serge Lemika, Babatunde Obadele, Andrew Venter, Ojo Akinribide, Peter Olubambi, Bolanle Abe

Effect of Residual Stress on Corrosion Behaviour of Hot and Cold Rolled Duplex Stainless Steel in Chloride Media

s11-009

Mohammad BinSabt *(Chemistry, Kuwait University, Kuwait, Kuwait)*, Faizah Al-Kharafi, Maryam Abditon, Ahmed Galal

Effect of nanoparticle incorporation in silane-polymer composite coating on corrosion protection of Mg-Zn-Al alloy in aggressive corrosive media

s11-010

Muteb Binrubayan *(NCCT, KACST, Riyadh, Saudi Arabia)*

Corrosion performance of anodized 2XXX Aluminum alloy by Plasma Electrolytes Oxidations (PEO)

s11-011

Daniel J. Blackwood *(Materials Science & Engineering, National University of Singapore, Singapore, Singapore)*, Mohsen Saeedikhani, Sudesh Wijesinghe

Simulation of Fe-Zn Sacrificial Corrosion under Dynamic Electrolyte Thickness Based on Real Time Monitoring Data in Singapore

s11-012

Tshimangadzo Nesane *(Chemistry, University of Venda, Thohoyandou, South Africa)*, Lutendo Chester Dr Murulana

Gravimetric and Adsorption Studies of Organic Synthesized Derivatives of Carboxylic Acids as Corrosion Inhibitors of Zinc Metal in Acidic Environment

s11-013

Monica Santamaria *(Dipartimento di Ingegneria, Università degli Studi di Palermo, Palermo, Italy)*, Francesco Di Franco, Fabio Miceli Soletta, Sannakaisa Virtanen, Keyvan Raeissi

Anodizing treatments of AZ31 alloys to control corrosion rate

s11-014

Célia Regina Tomachuk *(Departamento de Ciências Básicas e Ambientais, Universidade de São Paulo , Lorena, Brazil)*, Paula Letícia Corrêa de Toledo Cury, Franz Miller Branco Ferraz, Bruno Xavier de Freitas, Viviane Lima Freitas da Silva, Carlos Ângelo Nunes

Study of the Corrosion Resistance of a Magnesium Alloy Containing Rare Earth Elements for Orthopedic Implants

Passivity and oxide films

s11-015

Sanaz Hesamedini *(Electrical Engineering and Information Technology, TU Ilmenau, Ilmenau, Germany)*, Gernot Ecke, Andreas Bund

Structure and formation of trivalent chromium conversion coatings containing cobalt on zinc plated steel

s11-016

Célia Regina Tomachuk *(Departamento de Ciências Básicas e Ambientais, Universidade de São Paulo, Lorena, Brazil)*, Sandra Jesus Travassos, Hercílio Gomes de Melo

Monitoring of the Evolution of the Patina Layer Formed on Weathering Steel Exposed for up 2 Years to the Atmosphere of Sao Paulo City

s11-017

Aytac Yilmaz *(Department of Materials Science and Engineering, Delft University of Technology (TU Delft)*, Delft, Netherlands), Xiaolin Li, Sven Pletincx, Tom Hauffman, Jilt Sietsma, Yaiza Gonzalez-Garcia

Effect of Prior Austenite Grain size (PAGS) on Passive Layer Properties of Fully Martensitic Steels

Symposium 12 The Electrochemical Technology for Water and the Environment for Social, Health and Economic Development

Capacitive deionization

s12-001

Luis A. M. Ruotolo *(Department of Chemical Engineering, Federal University of Sao Carlos, Sao Carlos, Brazil)*, Kamilla M. Barcelos, Francisco G. E. Nogueira, Rafael L. Zornitta

Optimized Polyaniline-Derived Carbon Electrodes for Capacitive Deionization

Drinking water and disinfection

s12-002

M.E. Henry Bergmann *(Electroengineering and Process Technologies, Anhalt University, Koethen/Anh., Germany)*

Is all OH calculated correctly?

Electrolysis

s12-003

Woonsup Shin *(Department of Chemistry, Sogang University, Seoul, Korea)*

Investigation of highly selective and efficient conversion of CO_2 to fomate by dental amalgam electrode

s12-004

Juchan Yang *(Surface Technology Division, Korea Institute of Materials Science, Changwon, Korea)*, Sung-Mook Choi

An anode electrode for high performance water splitting system using copper cobaltite grown on Ni foam

Photocatalysis and materials

s12-005

Babatunde Koiki *(Applied Chemistry, University of Johannesburg, Johannesburg, South Africa)*, Omotayo Arotiba

Enhanced Visible Light Driven Activity of p-n Heterojunctions For Photoelectocatalysis of Pharmaceuticals By Electrodeposition of Cu_2O Films on Anodized TiO_2 Nanotube Arrays

s12-006

Alex Kuvarega *(Nanotechnology and Water Sustainability Research Unit, University of South Africa, Johannesburg, South Africa)*, Potlako John Mafa, Bulelwa Ntsendwana, Bhekie B Mamba

Plasmonic silver/silver phosphate/methyl viologen/exfoliated graphite (Ag/Ag_3PO_4/MV/EG) Photoelectrode for Photoelectrocatalytic Degradation of Diuretic Drug

s12-007

Benjamin Orimolade *(Applied Chemistry, University of Johannesburg, Johannesburg, South Africa)*, Omotayo Arotiba

Visible light driven photoelectrocatalysis of Ciprofloxacin at a FTO/$BiVO_4$/MnO_2 anode

s12-008

Juliet Sackey *(Material Research department, iThemba LABS, Cape Town, South Africa)*, Zebib Yenus, Jean Ngillirabanga, Malik Maaza, Alain Gibaud

Electrochemical Study of Calcium Carbonate Deposited on Metals

Process and Wastewater treatment

s12-009

Siphumze Bani *(Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa)*, Ronen Fogel, Janice Limson

Application of different cathodic modifiers in Single-Chambered Microbial Fuel Cells versus H-type Microbial Fuel Cells for wastewater treatment

s12-010

Agustin Bolzan *(Electrochemistry, Inst. Investigaciones Fisicoquimicas Teoricas y Aplicadas, La Plata, Argentina)*, Carlos Seijas, Gustavo Bianchi, Liliana Gassa

An electrocoagulation system for the removal of silica and reduction of alkalinity (carbonates): application to well waters and rejection water from reverse osmosis systems

s12-011

Emma Elmary Gamros *(Department of Natural and Applied Sciences, Namibia University of Science and Technology, Windhoek, Namibia)*

Development and comparison of non-imprinted and imprinted polythiophene sensors for the detection of polycyclic aromatic hydrocarbons in aqueous media

s12-012

Mohd Faidzul Hakim Mohd Adnan *(Laboratoire Réactions et Génie des Procédés, CNRS-Université de Lorraine, Nancy, France)*, Emmanuel Mousset, Marie-Noëlle Pons

Elimination of Pharmaceutics from Municipal Wastewater by Nanofiltration Coupled to Electrochemical Advanced Oxidation Process as Complementary Treatment

s12-013

Tshepiso Moremedi *(Chemistry, Mahikeng, South Africa)*

Cationic dye removal by grafted gum based polysaccharide as adsorbent: effect of various parameters

s12-014

Luis A. M. Ruotolo *(Department of Chemical Engineering, Federal University of Sao Carlos, Sao Carlos, Brazil)*, Alyne B Veroli, Kaíque Oliveira

Electrochemical Degradation of Caffeic Acid Using Boron-Doped Diamond Electrode: Minimization of the Energy Consumption Using Modulated Current

s12-015

Abdoulaye Thiam *(Programa Institucional de Fomento a la I+D+i, Universidad Tecnologica Metropolitana, Santiago, Chile)*, Constanza Droguett, Carlos Carlesi, Ricardo Salazar

Treatment of Antibiotic by Heterogeneous Electrochemical Fenton's based Process using Chalcopyrite as Sustainable Catalyst

Remediation and detoxification

s12-016

Ronen Fogel *(Biotechnology Innovation Centre, Rhodes University, Grahamstown, South Africa)*, Jan Kruid, Janice Limson

Metallophthalocyanine-catalysed Electrochemical Advanced Oxidation Processes for cost-effective destruction of Endocrine-Disrupting Compounds

s12-017

Carlos Alberto Martínez-Huitle *(Institute of Chemsitry, Federal University of Rio Grande do Norte, Natal, Brazil)*, Karyn N.O. Silva, João M. M. Henrique, Vãtor j.p. Vilar, Elisama Vieira dos Santos

Novel reactive barrier concept coupled to electrokinetic remediation to remove Pb^{2+} from soil

Symposium 13 Electrografting of Materials: from Fundamentals to Applications

Electrografting

s13-001

Juan Carlos Calderón Gómez *(Technical and Macromolecular Chemistry, Universität Paderborn, Paderborn, Germany)*, Jiangling Su, Alejandro González Orive, Guido Grundmeier

Surface Modification of Al-7075 Alloy by Electrografting of 4-Nitrobenzenediazonium Salts

Surface Modification

s13-002

Ana María Méndez-Torres *(Faculty of Chemical and Pharmaceutical Sciences, University of Chile, Santiago, Chile)*

Comparative study of inclusion abilities of methylated and non-methylated □-cyclodextrin immobilized on gold electrodes

s13-003

Guobao Xu *(State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, CAS, Changchun, China)*, Lishuang Fan, Saima Anjum

Diazonium Electrografting for Stripping Analysis an Fabrication of Biomembrane-like Film

Symposium 14 Molecular Electrochemistry: from Fundamentals to Applications

Activation and Reactivity

s14-001

Emmie Chiyindiko *(Chemistry, University of Free State, Bloemfontein, South Africa)*, Jeanet Conradie, Ernst Langner

Electrochemistry of gamma-substituted complexes of bis(beta- diketonato)copper(II)

s14-002

Jeanet Conradie *(Chemistry, University of the Free State, Bloemfontein, South Africa)*, Marrigje Marianne Conradie, Hendrik Ferreira

Redox behaviour of Substituted Tris(1,10-phenanthroline)cobalt(II) Complexes

s14-003

Nandisiwe Mateyise *(Chemistry, University of the Free State, Bloemfontein, South Africa)*, Marrigje Marianne Conradie, Jeanet Conradie

Redox behaviour [Rh(Î -diketonato)(CO)(PPh3)] Complexes

s14-004

Nandisiwe Mateyise *(Chemistry, University of the Free State, Bloemfontein, South Africa)*, Marrigje Marianne Conradie, Jeanet Conradie

Redox behaviour 1,3-substituted-propane-1,3-diones

s14-005

Tankiso Ngake *(Chemistry, University of the Free State, Bloemfontein, South Africa)*, Jeanet Conradie, Johannes Hermanus Potgieter

Electrochemical behaviour of Tris(beta-ketoiminato)ruthenium(III) complexes

Charge Transfer and Transport

s14-006

Xiao-Shun Zhou *(Institute of Physical Chemistry, Zhejiang Normal University, Jinhua, China)*, Fan Zhang, Bin Huang, Xu Liu, Ju-Fang Zheng, Shan JIn

Controlling quantum interference effect in single molecular junction by electrode potential

s14-007

Deidre van der Westhuizen *(Chemistry, University of the Free State, Bloemfontein, South Africa)*, Karel von Eschwege, Jeanet Conradie

Determination of electrochemical, spectral and computational properties of substituted $[Ru(phen)_3]^{2+}$ and $[Ru(bpy)_3]^{2+}$ complexes

Mechanisms

s14-008

Binbin Huang *(College of Environment Science and Engineering, Hunan University, Changsha, China)*, Qian Guo, Chao Lei

Fe_3O_4 Nanoparticles with Dual Electromagnetic Functions for Highly Efficient Catalytic Advanced Oxidation Processes

s14-009

Xiao Lin *(Department of Chemical Engineering and Biotechnology, University of Cambridge, Cambridge, United Kingdom)*, Tian Sheng, Yi-Jun Qi, P. Hu, Wen-Feng Lin, Shi-Gang Sun

Electro-reduction of Nitrobenzene to Aniline Over Pt Catalyst: Density Functional Theory Studies

s14-010

Olaf Rüdiger *(Inorganic Spectroscopy, Max Planck Institute for Chemical Energy Conversion, Mülheim an der Ruhr, Germany)*, Natalia Levin, Thomas Weyhermüller, Serena DeBeer

In situ X-Ray Spectroelectrochemical Investigation on a Ru-based Water Oxidation Catalyst

Structure-Property Relationship

s14-011

Veronica Anastasoaie *(Inorganic Chemistry, Physical Chemistry and Electrochemistry, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania)*, Mariana Apostoiu, Georgiana-Luiza Tatu, Liviu Birzan, Eleonora-Mihaela Ungureanu, Marius Enachescu

Carbon Based-Nanomaterials for Analytical Applications

s14-012

Vladimir Azov *(Department of Chemistry, University of the Free State, Bloemfontein, South Africa)*, Marcus Böckmann

Tetrathiafulvalene-Azobenzene Macrocycles: Controlling Electrochemical Properties of Tetrathiafulvalene by Light

s14-014

Shengyuan Deng *(School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing, China)*, Xutong Zhang, Guang Liu, Meng Yang, Kai Kang, Jialiang Chen

Enhanced Electrochemiluminescent Brightness and Stability of Porphyrins by Supramolecular Pinning and Pinching for Sensitive Zinc Detection

s14-015

Marilia Goulart *(Institute of Chemistry and Biotechnology, Federal University of Alagoas, Maceio, Brazil)*, Thaissa Silva, Fabricia Ferreira, Camila Vasconcelos, Paulo Costa, Chaquip Netto, Julio Silva

Medicinal electrochemistry of biologically active pterocarpanquinones

s14-016

Jiri Ludvik *(Molecular Electrochemistry and Catalysis, J. Heyrovsk Institute of Physical Chemistry CAS, Prague 8, Czech Republic)*, Jan Svoboda, Ludmila Simkova, Jiri Pinkas

Electrochemical Study of Titanocene Dihalides in Non-aqueous media

s14-017

Karina Muñoz-Becerra *(Departamento de Química Inorgánica, Pontifica Universidad Católica de Chile, Santiago de Chile, Chile)*, Pilar Herrasti, Nieves Menéndez, Ricardo Venegas, F. Javier Recio

Synthesis and Electrochemical Study of Fe-Ni Hofmann-type Polymers

s14-018

Ricardo Venegas *(Facultad de Química, Pontificia Universidad Católica de Chile, Santiago, Chile)*, Karina Muñoz-Becerra, F. Javier Recio, Carlos M. Sánchez-Sánchez

Electrocatalytic Studies of Mono- and Binuclear Copper Complexes for ORR by using Scanning Electrochemical Microscopy (SECM).

Symposium 15 Computational Electrochemistry and Simulation: from Prediction of Properties to Optimization of Devices

Theory and computational electrochemistry

s15-001

Yuan Fang *(Department of Chemistry, Xiamen University, Xiamen, China)*, Song-Yuan Ding, Jun Cheng, Jin-Chao Dong, Juan Feliu, Jian-Feng Li, Zhong-Qun Tian

Integrated approach towards quantitative prediction of electrochemical infrared and Raman spectra from single-crystal electrode/liquid interfaces

s15-002

Dong Suk Han *(Center for Advanced Materials (CAM), Qatar University, Doha, Qatar)*, Sun Hee Yoon, Hyunwoong Park, Nimir Elbashir

Theoretical Insight into Electrochemical Properties of Carbon Nanotubes as Doped with Nitrogen and Iron

s15-003

Jochen Joos *(Institute for Applied Materials (IAM-WET), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany)*, Remco Geurts, Steven Randolph, Andre Weber, Ellen Ivers-Tiffée

Detailed 3D Reconstruction and Quantification of Graphite Anodes from Lithium-Ion Batteries using Laser Tomography

s15-004

Christoph Jung *(Electrochemical Energy Storage, Helmholtz Institute Ulm (HIU) Electrochemical Energy Storage, Ulm, Germany)*, Timo Jacob

Atomistic insights on the electrode material CuDEPP: Combining the advantages of batteries and super capacitors

s15-005

Lesego Mmakgetjepe Mohlala *(Department of Metallurgy, University of Johannesburg, Auckland Park, Johannesburg, South Africa)*, Tien-Chien Jen, Peter Apata Olubambi

Density functional theory study of oxygen reduction reaction mechanism on TiO_2 coated platinum electrocatalyst

s15-006

Elizabeth Santos *(Instituto de Física Enrique Gaviola (IFEG-CONICET, Universidad Nacional de Córdoba, Córdoba, Argentina)*, Milagros Avila, Oscar Oviedo, Ezequiel P.M. Leiva

Grand Canonical Monte Carlo simulations for the co-adsorption of two electroactive species

s15-007

Wolfgang Schmickler *(Theoretical Chemistry, Ulm University, Ulm, Germany)*, Fabiola Domingo-Flores, Fernanda Juarez, Elizabeth Santos

Interactions of Ions Inside and Outside Carbon Nanotubes

Symposium 16 Spectroscopy, Microscopy and Theory for the Rational Design of Electrochemical Interfaces

in-situ characterization

s16-001

Andrea Auer *(Institute of Phyiscal Chemistry, University Innsbruck, Innsbruck, Austria)*, Eva-Maria Wernig, Xing Ding, Aliaksandr Bandarenka, Julia Kunze-Liebhäuser

The Electrified Cu(111)/Liquid Interface - Laser Induced Current Transients and In Situ Scanning Tunneling Microscopy

s16-002

Georg Gorbatovski *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Georg Gorbatovski, Ove Oll, Jinfeng Zhao, Enn Lust

Adsorption of Sulfonyl-group based Anions from Ionic Liquids: an in situ STM and Impedance Study

s16-003

De-Yin Wu *(College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China)*, Yuan-Fei Wu, Jian-Zhang Zhou, Zhong-Qun Tian

Theoretical and Experimental Study of Adsorption and Photon-Driven Charge Transfer of 4-Mercaptopyridine on Silver and Gold Electrodes of Nanostructures

Symposium 17 Electrochemical Technologies for Sustainable and Advanced Manufacturing

Electrochemical cell design and optimization

s17-001

Mokgadi Salome Masetla *(Chemical Engineering, University of Johannesburg, Gauteng, South Africa)*, Omotayo Arotiba, Peter Apata Olubambi

Development and Evaluation of Electrocoagulation Systems from Non-Conventional and Alloy-Based Electrodes

s17-002

Ndeye Maty Ndiaye *(Physic, University of Pretoria, Pretoria, South Africa)*, Ndeye Fatou Sylla, Balla Diop Ngom, Farshad Barzegar, Damilola Momodu, Ncholu Manyala

High-performance asymmetric supercapacitor based on vanadium dioxide/activated expanded graphite composite and carbon-vanadium oxynitride nanostructures

Electrochemistry for Sustainable Manufacturing

s17-003

Shofu Matsuda *(Department of Materials Science and Technology, Nagaoka University of Technology, Nagaoka, Japan)*, Yuuki Niitsuma, Minoru Umeda

Stationary-Potential CO_2 Reduction on Pt/C Occurs at a More Positive Electrode Potential than H_2 Evolution

s17-004

Stephen Nkwocha *(Chemistry, University of Lagos, Akoka, Nigeria)*, Isaac Akinbulu

Design of Glucose Oxidase-Coupled Polymeric Film of Dendrimer and Its Use as Amperometric Biosensor

Electrode materials and electrocatalysis

s17-005

Sunki Chung *(School of Earth Sciences & Environmental Engineering, Gwangju Institute of Science and Technology, Gwangju, Korea)*, Jaeyoung Lee

Highly Porous N-doped Carbon Nanofibers as Support Materials of Platinum Catalysts for Ammonia Electrooxidation

s17-006

David Franzen *(Institute of Chem. and Electrochem. Process Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany)*, Barbara Ellendorff, Melanie Paulisch, Ingo Manke, Thomas Turek

Silver-based gas diffusion electrodes for oxygen reduction reaction in alkaline electrolyte: Influence of PTFE content on pore system and electrochemical performance

s17-007

Pannan Kyesmen *(Physics, University of Pretoria, Pretoria, South Africa)*, Nolwazi Nombona, Mmantsae Diale

Combined dip-spin Coating Technique: a Feasible Approach of Preparing Hematite Thin Films for Photoelectrochemical Water Splitting

s17-008

Yoichi Makimizu *(Department of Materials Science and Engineering, WW4-LKO, University of Erlangen-Nuremberg, Erlangen, Germany)*, Nhat Truong Nguyen, Patrik Schmuki

Effect of Low Oxygen Annealing on Electrochemical Water Splitting Properties of α-Fe_2O_3 Prepared by Anodization

s17-009

Shiva Mohajernia *(Institute of Surface Science and Corrosion (LKO)*, University of Erlangen-Nuremberg, Erlangen, Germany), Seyedsina Hejazi, Patrik Schmuki

Versatile semimetallic core-shell TiO_2 nanotubes: a sustainable high conductivity scaffold for energy conversion and storage application

s17-010

Janaina Souza-Garcia *(Centre for Natural Sciences and Humanities, Federal University of ABC, Santo André, Brazil)*, Regiani Sandrini, Juliane R. Sempionatto, Germano Tremiliosi-Filho, Enrique Herrero, Juan Feliu, Camilo A. Angelucci

Final Glycerol electrooxidation on low index Pt single crystals in alkaline media. Effect of the surface structure

s17-011

Busisiwe Zwane *(Applied Chemistry, University of Johannesburg, Johannesburg, South Africa)*

Visible-light driven photoelectrocatalytic degradation of ciprofloxacin polluted water treated with WO_3/carbon nanodots heterostructured anode

Energy Conversion/Re-use

s17-012

Simphiwe Ndlangamandla *(Chemistry, University of Pretoria, Pretoria, South Africa)*

Electrochemical Reduction of Formic Acid to useful Fuels

Materials synthesis and/or recycling

s17-013

John Graves *(Institute for Future Transport and Cities, Coventry University, Coventry, United Kingdom)*, Mahsa Baniasadi, Derek Renshaw, Sebastien Farnaud

Electrowinning from WEEE Bioleachate

s17-014

Manaswita Kar *(Mechanical Engineering, University of southampton, Southampton, United Kingdom)*, Denis Kramer

First principles calculations on potential addivtives in Li-ion batteries to prevent thermal runaway

s17-015

Anna Rauen *(Institute of Organic Chemistry, Johannes Gutenberg-University, Mainz, Germany)*, Siegfried R. Waldvogel

Electroorganic Synthesis of Bio-based Carboxylic Acids

Process Efficiency

s17-016

Bongiwe Colleen Dhlamini *(Chemistry, North-West University, Mafikeng, South Africa)*

Preparation and physicochemical properties of nanoformulated N-P-K-S fertilizer

s17-017

Phumlani Mjwana *(Chemical Engineering, University of Johannesburg, Johannesburg, South Africa)*, Peter Olubambi, Yolanda Gegana

Evaluation of pitting corrosion in different chloride concentratrions

Symposium 18 Electrochemistry and Mining: Minerals and Metal Processing

Electrometallurgy

s18-001

Takara Tanaka *(Institute of Industrial Science, The University of Tokyo, Tokyo, Japan)*, Takanari Ouchi, Toru H. Okabe

Feasibility of Electrochemical/Thermochemical Reduction of Titanium Oxide Using Lanthanum as the Reducing Agent

Electrowinning

s18-002

Dick Groot *(Mining and Process Engineering, Namibia University of Science and Technology, Windhoek, Namibia)*, Jo-rien Jacobs

Improving Cathode Morphology at Tschudi Copper Mine (Namibia) by Optimising Magnafloc 333 and Chloride Concentrations

Hydrometallurgy

s18-003

Luis Beiza *(Department of Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Jochen Petersen, Lilian Velasquez-Yevenes

Electrochemical Behaviour of Chalcopyrite Oxidation in Chloride Solutions

s18-004

Kathija Shaik *(Chemical Engineering, University of Cape Town, Cape Town, South Africa)*, Jochen Petersen

Electrochemical study of the dissolution of platinum group minerals in various potential lixiviants

Metal Extraction

s18-005

Luca Magagnin *(Chimica, Materiali e Ing. Chimica, Politecnico di Milano, Milan, Italy)*, Alessandra Accogli, Luca Magagnin

Electrochemistry of Particulate Electrodes Based on Magnetite Aggregates for Electrochemical Extraction and Recovery of Metals

s18-006

Liis Siinor *(Institute of Chemistry, University of Tartu, Tartu, Estonia)*, Silvester Jürjo, Carolin Siimenson, Päärn Paiste, Enn Lust

Extraction and separation of REEs and d-metals from Estonian phosphorite using ionic liquids

s18-007

Claudia Weidlich *(Electrochemistry, DECHEMA-Forschungsinstitut, Frankfurt, Germany)*, Stefanie Hild, Jürgen Schuster, Klaus-Michael Mangold

Boron Doped Diamond Electrodes for Metal Recovery from Spoil Banks as well as for Water Treatment

Symposium 19 Imaging Heterogeneous Electrochemical Processes: From Single Molecules and Nanoparticles to Vesicles and Cells

Dark-field microscopy

s19-001

Wei Wang *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)*

Electrochemical impedance spectroscopy of single nanoparticles

Fluorescence microscopy

s19-002

Abdallatif Alshalfouh *(Physical chemistry, university of Oldenburg, Oldenburg, Germany)*, Carsten Dosche, Gunther Wittstock

Studying the interaction of NPs at the electrode surface by bipolar electrochemistry

Micro-spectro-electrochemistry

s19-003

Shasha Liu *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)*

Photo-assisted Electrochemical Micro-patterning of Gold Film

s19-004

Wei Wei *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjiing, China)*, Wei Wang

Tracking the Optical Mass Centroid of Single Electroactive Nanoparticles Reveals Electrochemically Inactive Zone

s19-005

Wei Wei *(School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)*

Tracking the Optical Mass Centroid of Single Electroactive Nanoparticles Reveals Electrochemically Inactive Zone

Raman microscopy

s19-006

Jonas H. K. Pfisterer *(Molecular Spectroscopy, Max-Planck-Institute for Polymer Research, Mainz, Germany)*, Masoud Baghernejad, Giovanni Giuzio, Katrin F. Domke

Electrochemical TERS under Reaction Conditions: Reactivity Mapping on the Nanoscale

Scanning probe microscope

s19-007

Oluwasegun Wahab *(Chemistry, University of Warwick, Coventry, United Kingdom)*, Minkyung Kang, Munehiro Asally, Patrick Unwin

Towards Antibiotic Susceptibility Testing with Scanning Ion Conductance Microscopy (SICM)

Symposia 20 Carbon - A Starring Role in Electrochemistry

Carbon-based electrodes

s20-001

Marina Bauer *(Institute for Applied Materials, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany)*, Frieder Scheiba, Ksenia Kutonova, Benjamin Bitterer, Raheleh Azmi

Functionalisation of Graphite Electrodes towards an artificial Solid Electrolyte Interface

s20-002

Aicheng Chen *(Department of Chemistry, University of Guelph, Guelph, Canada)*, Antony Thiruppathi, Joseph Cirone, Boopathi Sidhureddy

Synthesis and Electrochemical Study of Graphene Based Nanomaterials and Nanocomposites

s20-003

Badr A. Mahmoud *(Department of Physics, University of Pretoria, Pretoria, South Africa)*, Badr A. Mahmoud, Abdulmajid A. Mirghni, Kabir Oyedotun, Damilola Momodu, Moshawe J. Madito, Ncholu Manyala

Co-precipitation Synthesis of Cobalt Phosphate Material as Electrodes for Supercapacitor Application

s20-004

Chao Peng *(School of Engineering, University of Southampton, Southampton, United Kingdom)*, Denis Kramer

New insight into lithium intercalation and doping implications at edged graphite in Lithium-Ion Battery

s20-005

Mologadi Nkiyasi Rantho *(Physics, University of Pretoria, Pretoria, South Africa)*, Moshawe Jack Madito, Ncholu Manyala

Hybrid Electrochemical Supercapacitor Based on Birnessite-type MnO_2 as the Cathode and Carbonized Iron-Polyaniline/Nickel Graphene Foam as an Anode

s20-006

Slawomira Skrzypek *(Department of Inorganic and Analytical Chemistry, University of Lodz, Faculty of Chemistry, Lodz, Poland)*, Karolina Sipa, Mariola Brycht, Andrzej Leniart

Carbon Nanomaterials as Electrode Modifiers in Electrochemical Determination of Selected Veterinary Drug

Environmental applications of advanced materials based on carbon

s20-007

Yusuke Yamaguchi *(Electrical, Electronic, and Communication Engineering, Chuo University, Tokyo, Japan)*, Mariko Matsunaga

Electrocatalytic Activity of Carbon Nanohorn Film Electrodes with Silane Molecules for Oxygen Reduction Reaction

New surface designs for sensors

s20-008

Soledad Bollo *(Pharmacological Sciences, University of Chile, Santiago, Chile)*, Bárbara Gutierrez, Diego Venegas-Yazigi

L-cysteine modified MoS_2/reduced graphene oxide-based electrodes: Synthesis and Electrochemical Characterization

s20-009

Diego Venegas-Yazigi *(Chemistry of Materials, Universidad de Santiago de Chile, Santiago, Chile)*, Ilania Sotomayor-Santander, Patricio Hermosilla-Ibañez, Soledad Bollo

Modification of Carbon Nanomaterials with Organoimido-Polyoxometalates: Electrochemical Evaluation

New trends in carbon-materials in capacitors

s20-010

Annah Makhongoana *(Chemistry, University of the Witwatersrand, Johannesburg, South Africa)*, Manoko Maubane-Nkadimeng, Boitumelo Matsoso, Thomas Mongwe, Neil Coville, Daniel Wamwangi

Synthesis and properties of chain-like carbon nano-onions via a flame assisted pyrolysis technique using different oils

Symposium 21 General Session

Electrochemical Energy Conversion And Storage

s21-001

Sobhan Neyrizi *(Photocatalytic Synthesis, University of Twente, Enschede, Netherlands)*, Joep Kiewiet, Maarten Buitelaar, Guido Mul

Do Azolium Cations Catalyzes CO_2 Conversion?

s21-002

Nolwazi Nombona *(Chemistry, University of Pretoria, Pretoria, South Africa)*

Fabrication of Solar Cells With Electrically Enhanced Transition Metal Dichalcogenides As Charge Transporting Layers

s21-003

Ingrid Ponce *(Departamento de Ciencias del Ambiente, Universidad de Santiago de Chile, Santiago, Chile)*, Felipe Robles, Francisco Herrera, Domingo Ruiz, Cristhian Berrios, Eduardo Pino

Preparation of ITO/TiO/nanomaterials Electrodes and their Applications in Solar Cells

Electrochemical Materials Science

s21-004

Daniel Nicolae Crisan *(Multifunctional Materials and Structures Laboratory, National Institute of Materials Physics, Magurele, Romania)*, Teodor Adrian Enache, Victor Diculescu

Polyhydrazide Architectures for (bio)Sensing Applications

s21-005

Derek Esau *(Chemistry, Queen's University, Kingston, Canada)*, Nakkiran Arulmozhi, Gregory Jerkiewicz

Influence of the Potential Scan Rate and Temperature Variation on the Behavior of Rhodium Spherical Single Crystal Electrodes in Aqueous Acidic Media

s21-006

Rolf Hempelmann *(Transfercentre Sustainable Electrochemistry, Saarland University and KIST Europe, Saarbrücken, Germany)*, Daniel Rauber

Ionic Liquids in Experiments for School and Schülerlabor

s21-007

Mohammad Jafar Mazumder *(Chemistry, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)*

Preparation, characterization and zeta potential studies of polysulfone-blend-poly(styrene-co-maleic anhydride) membrane for heavy metal removal from wastewater.

s21-008

Pule Seboletswe *(Chemistry, North West university, Mahikeng, South Africa)*, Zimbili Mkhize, Lebogang Katata-Seru

Antioxidant and anticancer potentials of Protorhus longifolia leaves and its synthesized PCL nanoparticles

s21-009

Aline Simo *(Materials Research Department, iThemba LABS, Cape Town, South Africa)*, Nagla Numan, Mlungisi Nkosi, Malik Maaza

Electrochemical Properties of Nanocomposites Based VOx Prepared by Wet Chemistry

s21-010

Gloria Uwaya *(Chemistry, North-west, Mafikeng, South Africa)*

Electrochemical detection of serotonin in food at green mediated PPy/Fe_3O_4NPs nanocomposites modified electrodes

POSTERS

Electrochemical Process Engineering And Technology

s21-011

Amanda Garcia *(Department of Sustainable Process and Energy Systems, TNO, Delft, Netherlands)*, Thomas J. M. Touzalin, Roman Latsuzbaia, Marc Koper, Earl Goetheer

Challenges and advances in organic electrosynthesis: combining building blocks in electrochemical reactions.

s21-012

Byung Gi Park *(Energy & Environmental Engineering, Soonchunhyang University, Asan, Korea)*, Boongsoo Lee, Beom Kyu Kim

Co-reduction Behavior of Lutetium Ion on Tungsten Electrode in Molten LiCl-KCl Eutectic with Bismuth Ion

Electron transfer in biological systems

s21-013

Nokwanda Ngema *(Chemistry, University of the Western Cape, Western Cape, South Africa)*, Rachel Ajayi, Emmanuel Iwuoha

Electronic and structural properties of caffeine mediated indium nanoparticles for the electrochemical detection of lamivudine

s21-014

Mogomotsi Ranku *(Chemistry, North West University, Mafikeng South Africa, Mafikeng, South Africa)*

Fabrication of PAN/Fe_3O_4 nanofibers: photocatalysis and characterization antimicrobial properties