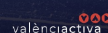


International Conference on Frontiers in Electrocatalytic Transformations · INTERECT22

València, Spain · 21st - 22nd November, 2022

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International Conference on Frontiers in Electrocatalytic Transformations (INTERECT22)

València, Spain, 2022 November 21st - 22nd

Conference organizers: Sara Barja, Nongnuch Artrith and Matthew Mayer

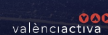
Conference Program

November 21st - Day 1 (Monday) 1	
08:30 - 09:45	Registration
09:45 - 09:50	nanoGe Introduction
09:50 - 10:00	Opening
	Session 1A Chair: Sara Barja
10:00 - 10:30	<u>Peter Strasser</u> (<i>Technische Universität Berlin</i>) 1A-I1 The Dark Side of Solar Fuels and Chemicals
10:30 - 11:00	<u>F. Pelayo García de Arquer</u> (<i>ICFO - Institut de Ciències Fòniques, The Barcelona Institute of Science and Technology</i>) 1A-I2 A Path Forward to Efficient CO ₂ Electrolysis
11:00 - 11:30	Coffee Break
	Session 1B Chair: Nongnuch Artrith
11:30 - 12:00	<u>Rosa Arrigo</u> (<i>School of Sciences, Engineering and Environment, University of Salford, Manchester M5 4WT, UK</i> r.arrigo@salford.ac.uk) 1B-I1 IN SITU DYNAMICS OF CARBON SUPPORTED METAL SYSTEMS FOR CARBON DIOXIDE ELECTROREDUCTION
12:00 - 12:30	<u>Edvin Lundgren</u> (<i>Lund University</i>) 1B-I2 2D Surface Optical Reflectance for Surface Studies in Harsh Environments
12:30 - 13:00	<u>Albert Bruix</u> (<i>Universitat de Barcelona</i>) 1B-I3 Modeling the Structural and Environmental Complexity in Working Catalysts
13:00 - 15:30	Lunch Break
	Session 1C Chair: Nongnuch Artrith
15:30 - 15:45	<u>Jim de Ruiter</u> (<i>Inorganic Chemistry and Catalysis, Department of Chemistry, Utrecht University</i>) 1C-O1 Probing the Dynamics of Low-Overpotential CO ₂ -to-CO Activation on Copper Electrodes with Time-Resolved Raman Spectroscopy
15:45 - 16:00	<u>Martin Munz</u> (<i>Helmholtz Young Investigator Group Nanoscale Operando CO₂ Photo-Electrocatalysis, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, 14109 Berlin, Germany</i>), Jeffrey Poon, Wiebke Frandsen, Beatriz Roldan Cuenya, Christopher S. Kley 1C-O2 In Situ Atomic Force Microscopy for Current, Friction and Morphology Imaging of Electrocatalysts
16:00 - 16:15	<u>Sven Brückner</u> (<i>The Electrochemical Energy, Catalysis, and Materials Science Laboratory, Department of Chemistry, Chemical Engineering Division, Technical University Berlin, Berlin, Germany</i>), Wen Ju, Peter Strasser 1C-O3 Efficient NiNC-GDEs for Near Neutral and Acidic CO ₂ Reduction in a Zero-Gap Configuration
16:15 - 16:30	<u>Moitaba Abdi Jalebi</u> (<i>Institute for Materials Discovery, University College London, Malet Place, London, WC1E 7JE, UK</i>), Nusrat Rashid 1C-O4 Tuning earth-abundant Cu, Fe, Ni electrocatalytic systems for low energy integrated anodic oxygen evolution reaction for direct CO ₂ reduction
16:30 - 16:45	<u>Timo Fuchs</u> (<i>Institute of Experimental and Applied Physics, Kiel University, Kiel (Germany)</i>), Valentín Briega-Martos, Jakub Drnec, Jan O. Fehrs, Chentian Yuan, David A. Harrington, Federico Calle-Vallejo, Serhiy Cherevko, Olaf M. Magnussen 1C-O5 In situ surface X-ray diffraction study of the oxide growth and dissolution of Pt single crystal electrodes
16:45 - 17:00	<u>Filippo Longo</u> (<i>Laboratory for Advanced Analytical Technologies, Empa, Dübendorf, Switzerland</i>), Emanuel Billeter, Zbynek Novotny, Andreas Borgschulte 1C-O6 Nickel Surface Modifications upon O ₂ /H ₂ O Oxidation and Alkaline Water Splitting
17:00 - 19:00	Poster Session
20:00 - 22:00	Social Dinner

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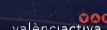


November 22nd - Day 2 (Tuesday) 2	
09:55 - 10:00	nanoGe Announcement
	Session 2A Chair: Matthew Mayer
10:00 - 10:30	<u>Livia Giordano</u> (Former address: Electrochemical Energy Laboratory, Massachusetts Institute of Technology, Cambridge, USA)
2A-I1	Activity descriptors and molecular level understating of perovskite oxide (electro)catalysts
10:30 - 11:00	<u>Andrew Akbashev</u> (Paul Scherrer Institute)
2A-I2	Operando Electrochemical Atomic Force Microscopy of Model Electrocatalysts
11:00 - 11:30	Coffee Break
	Session 2B Chair: Matthew Mayer
11:30 - 12:00	<u>Maytal Caspary Toroker</u> (Department of Materials Science and Engineering, Technion - Israel Institute of Technology, Haifa, 3200003, Israel)
2B-I1	Electronic Structure Study Reveals a Possible Design Strategy for Charge Transport Pathways
12:00 - 12:30	<u>David Tilley</u> (Department of Chemistry, University of Zurich, Zürich, Switzerland)
2B-I2	Operando Analysis of Water Splitting Photoelectrodes at High Current Densities
12:30 - 13:00	<u>Jennifer Strunk</u> (Leibniz-Institute for Catalysis at the University of Rostock)
2B-I3	Understanding the Formation of Solar Fuels on Titania and Related Materials by Studies under Conditions of Highest Purity
13:00 - 15:30	Lunch Break
	Session 2C Chair: Sara Barja
15:30 - 15:45	<u>Ranga Rohit Seemakurthi</u> (Institute of Chemical Research of Catalonia (ICIQ), Barcelona Institute of Science and Technology (BIST), ES),
2C-O1	Santiago Morandi, Núria López Delineating the Reaction Mechanism and Cation Effects for Electrocatalytic CO ₂ Reduction to C ₂ + products using Graph Theory and Microkinetic Modelling Analyses
15:45 - 16:00	<u>Jose Gracia</u> (Magnetocat SL)
2C-O2	Strongly Correlated Catalysts
16:00 - 16:15	<u>Albert Sabadell-Rendón</u> (Institute of Chemical Research of Catalonia (ICIQ)), Sergio Pablo-García, Santiago Morandi, Núria López
2C-O3	White-box statistical-learning techniques applied on catalysis
16:15 - 16:30	<u>Chiara Biz</u> (Magnetocat SL), Mauro Fianchini, Jose Gracia
2C-O4	Influence of Spin Potentials in Oxygen Chemistry: Magnetic Pt ₃ Co(111) as Case Study
16:30 - 16:45	<u>Camilo A. Mesa</u> (Institute of Advanced Materials (INAM), Universitat Jaume I (UJI), Avenida de Vicent Sos Baynat, s/n, 12071 Castelló de la Plana, Castellón, Spain.), Francisco Fabregat-Santiago, Elena Mas-Marzá, Sixto Giménez
2C-O5	The effect of oxygen vacancies in the photoelectrochemical performance of metal oxide photoanodes
16:45 - 17:00	<u>Liang Yao</u> (Max Planck Institute for Solid State Research, Stuttgart, Germany), Kevin Sivula, Bettina Lotsch
2C-O6	Organic Conjugated Semiconductors for Photoelectrochemical Solar-to-Chemical Conversion
17:00 - 17:10	Closing

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Poster Contribution

003	<u>Mauro Fianchini</u> (<i>MagnetoCat SL</i>), Chiara Biz, Jose Gracia Dedicated High-End Desktops as Cost-Effective Replacement for Large Server Infrastructures in Computational Chemistry and Machine Learning
022	<u>Enric Ibáñez-Alé</u> (<i>Institute of Chemical Research of Catalonia (ICIQ), Barcelona Institute of Science and Technology (BIST), ES</i>), Rodrigo García-Muelas, Florentine L. P. Veenstra, Tangsheng Zou, Antonio J. Martín, Núria López, Javier Pérez-Ramírez Chlorine-Promoted Copper Catalysts for CO ₂ Electroreduction into Highly Reduced Products
024	<u>Zan Lian</u> (<i>Institute of Chemical Research of Catalonia (ICIQ), The Barcelona Institute of Science and Technology, Avinguda Paisos Catalans 16, Tarragona 43007, Spain</i>), Federico Dattila, Nuria Lopez Understanding the Dynamic Behavior of Oxide-Derived Copper from a Large Scale Simulation Perspective
025	Shuang Yang, Bert M. Weckhuysen, <u>Ward van der Stam</u> (<i>Inorganic Chemistry and Catalysis, Department of Chemistry, Utrecht University</i>) In situ activation of post-transition metal electrocatalysts for CO ₂ reduction
026	<u>Jesús Redondo</u> (<i>Charles University</i>), Jan Michalička, Giada Franceschi, Břetislav Šmid, Nishant Kumar, Ondřej Man, Matthias Blatnik, Dominik Wrana, Florian Kraushofer, Benjamín Mallada, Martin Švec, Gareth Parkinson, Martin Setvin, Michele Riva, Ulrike Diebold, Jan Čechal Targeting challenges of α-Fe ₂ O ₃ cathodes in catalysis: a fundamental surface science approach
029	Erik Griffioen, <u>Rodrigo García-Muelas</u> (<i>Materials Chemistry and Catalysis, Debye Institute for Nanomaterials Science, Utrecht University. David de Wied building, University Road 99, 3584 CG Utrecht, the Netherlands.</i>), Vinzenz Koning, René van Roij, Nongnuch Artrith Machine Learning Framework and Materials Database for the Discovery of Earth-Abundant Electrolyser Materials
031	<u>Robin van der Kruit</u> (<i>Debye Institute for Nanomaterials Science, Utrecht University</i>), Nong Artrith Understanding the Composition and Activity of Tri-metallic Core/Shell Electrocatalytic Nanoalloys using First-Principles Calculations and Machine Learning