International Conference on Frontiers in Electrocatalytic Transformations (INTERECT)

València, Spain, 2021 November 22nd - 23rd
Conference organizers: Elena Mas Marzá, Ward van der Stam and Núria López

Conference Program

November 22nd - Day 1 (Monday) 1	
08:00 - 08:45	**Registration**
08:45 - 08:50	**Announcement of the day**
08:50 - 09:00	**Opening Organisers**
	Electrode surface characterization and mechanistic studies through in situ (micro)spectroscopy Chair: Ward van der Stam
09:00 - 09:30 (micro)spectroscopy-I1	Nejc Hodnik *(Department of Materials Chemistry, National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia)*, Ana Rebeka Kamšek, Francisco Ruiz-Zepeda, Andraž Pavlišič, Armin Hrnjić Restructuring of Electrocatalysts and our Electron Microscopy Approach
09:30 - 09:45 (micro)spectroscopy-T1	Laura C. Pardo Perez *(Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Hahn-Meitner-Platz 1, 14109 Berlin, Germany.)*, Zora Chalkley, Alvaro Diaz Duque, Matthew T. Mayer A Versatile Synthetic Method for Screening Bimetallic Catalysts for CO2 Electroreduction
09:45 - 10:15 (micro)spectroscopy-I2	Menny Shalom *(Department of Chemistry, Ben Gurion University, Beer sheva, Israel)* Photo- and electro-catalyst development: carbon nitride and NiFe-oxide for catalytic oxidation of organic molecules to value-added chemicals
10:15 - 10:45	**Coffee Break**
10:45 - 11:15 (micro)spectroscopy-I3	Laura C. Pardo Perez, Sasho Stojkovikj, Alexander Arndt, Ibbi Y. Ahmet, Joshua T. Arens, Federico Dattila, Núria López, Matthew Mayer *(Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany)* Applications of X-ray Spectroscopy for in situ Study of CO2 Conversion Electrocatalysts
11:15 - 11:30 (micro)spectroscopy-T2	Stefan Popovic *(Department of Materials Chemistry, National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia)*, Nejc Hodnik, Marjan Bele Reconstruction of Copper Nanoparticles at Electrochemical CO2 Reduction Conditions: Identical Location Scanning Electron Microscopy (IL-SEM) Study
11:30 - 11:45 (micro)spectroscopy-T3	Pranit Iyengar, Manuel Kolb *(University of Barcelona)*, Federico Calle-Vallejo, Raffaella Buonsanti Size Dependent Product Selectivity for Shape-Controlled Ag/Cu Tandem Catalysts
11:45 - 14:00	**Lunch Break**
	Building Bridges between experiments and theory in photoelectrocatalysis Chair: Núria López
14:00 - 14:30 photoelectrocatalysis-I1	Federico Calle-Vallejo *(University of Barcelona)* Towards Predictive and Affordable Computational Models for CO2 Electroreduction
14:30 - 14:45 photoelectrocatalysis-T1	Jesus Barrio *(Department of Materials, Imperial College London)*, Angus Pedersen, Jingyu Feng, Maria-Magdalena Titirici, Ifan E.L. Stephens Targeted Synthesis of Metal Dual Atom Electrocatalysts
14:45 - 15:15 photoelectrocatalysis-I2	Nongnuch Artrith *(Debye Institute for Nanomaterials Science, Utrecht University)* Learning What Makes Catalysts Good
15:15 - 15:45	**Coffee Break**

15:45 - 16:00 photoelectrocatalysis-T2	Idan Hod *(Ben-Gurion University of the Negev, Israel)* A MOF-Based Membrane that Provides Molecular-Level Control Over Heterogeneous CO2RR
16:00 - 16:30 photoelectrocatalysis-I3	Ludmilla Steier *(Department of Chemistry, University of Oxford, UK)* Insights into material design for solar fuel production
16:30 - 17:00 photoelectrocatalysis-I4	Jan Rossmeisl *(Department of Chemistry, Center for High Entropy Alloy Catalysis, University of Copenhagen)* electrocatalysis on high entropy alloys
17:00 - 18:30	**Poster Session**
20:00 - 22:00	**Social Dinner**

November 23rd - Day 2 (Tuesday) 2	
08:55 - 09:00	**Announcement of the day**
	Novel photo- and electrocatalytic processes for the synthesis of added value chemicals Chair: Elena Mas Marzá
09:00 - 09:30 chemicals-I1	María Escudero-Escribano *(University of Copenhagen)* Tailored interfaces for the production of renewable fuels and chemicals
09:30 - 09:45 chemicals-T1	Sergio Gonell Gómez *(Institute of Chemical Research of Catalonia (ICIQ), The Barcelona Institute of Science and Technology, 43007 Tarragona, Spain)*, Julio Lloret-Fillol, Alexander J. M. Miller Mechanistic comparisons on Ru and Fe carbene-supported complexes for electrocatalytic CO2 reduction
09:45 - 10:00 chemicals-T2	Josep Albero *(Max Planck Institute of Colloids and Interfaces, Research Campus Golm, D-14424 Potsdam, Germany; University of Potsdam, D-14424 Potsdam, Germany)*, Enrico Lepre, Julian Heske, Michal Nowakowski, Ernesto Scoppola, Ivo Zizak Zizak, Tobias Heil Heil, Thomas D. Kühne, Markus Antonietti, Nieves López-Salas Ni-Based Electrocatalysts for Unconventional CO2 Reduction Reaction to Formic Acid
10:00 - 10:30	**Coffee Break**
10:30 - 11:00 chemicals-I2	Laia Francàs Forcada *(Department of Chemistry, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Barcelona 08193, Spain)* Alcohol oxidation using α-Fe2O3 and BiVO4: mechanistic and kinetic insides
11:00 - 11:15 chemicals-T3	Marcelo Chavez *(Catalonia Institute for Energy Research–IREC)*, Sebastian Murcia, Joan Ramon Morante Generation of Ammonia by High Concentrated Nitrate Electrolyte Electroreduction
11:15 - 11:30 chemicals-T4	Andrés F. Gualdrón-Reyes *(Institute of Advanced Materials (INAM), Universitat Jaume I, 12071 Castelló de la Plana, Spain)* Photo(electro)catalytic properties of high-quality halide perovskite nanocrystals
11:30 - 12:00 chemicals-I3	Ifan Stephens *(Imperial College London, Department of Chemistry)* Is lithium unique for nitrogen electroreduction?
12:00 - 12:15	**Closing Remarks**
15:30 - 18:00	**Guided Tour**

Poster Contribution

007	Udit Tiwari *(University of Central Lancashire)*, Karen Syres, Andrew Thomas, Mark Jackman, Alexander Generalov, David Lewis, Michael Wagstaffe A Comparison of Thermal Stabilities of Methylammonium Lead Iodide and Methylammonium Lead Bromide Perovskites Using X-Ray Photoelectron Spectroscopy.
009	Sara GOBERNA *(Instituto Universitario de Tecnologia Quimica (CSIC-UPV), Universitat Politecnica de Valencia, Av. De los Naranjos s/n, 46022 Valencia, Spain.)*, Hermenegildo GARCIA Atomically precise metal nanoclusters for electrochemical CO2RR
011	Federico Dattila *(Institute of Chemical Research of Catalonia (ICIQ), Barcelona Institute of Science and Technology (BIST))*, Mariana Monteiro, Rodrigo García-Muelas, Bellenod Hagedoorn, Marc Koper, Núria López Modeling the Electrochemical Interface with Cations and Electric Field
012	Laura Montañés *(Institute of Advanced Materials (INAM), Universitat Jaume I (UJI))*, Camilo A. Mesa, Ana Gutiérrez-Blanco, Christian Robles, Beatriz Julián-López, Sixto Giménez Facile Surfactant-Assisted Synthesis of BiVO4 Nanoparticulate Films for Solar Water Splitting
013	Jim de Ruiter *(Debye Institute for Nanomaterials Science, Utrecht University)*, Ward van der Stam Probing the Dynamics of CO2 Electroreduction with Time-Resolved SERS
014	Camilo A. Mesa *(Institute of Advanced Materials (INAM), Universitat Jaume I (UJI))*, Ramón Arcas, Sacha Corby, Francisco Fabregat-Santiago, James R. Durrant, Elena Mas-Marzá, Sixto Giménez The effect of oxygen vacancies in the photoelectrochemical performance of metal oxide photoanodes
022	Carvajal David *(Institute of Advanced Materials (INAM), Universitat Jaume I (UJI))*, Arcas Ramón, Mesa Camilo, Giménez Sixto, Mas Elena, Fabregat Francisco STUDY OF THE ELECTROCHEMICAL HYDROGENATION OF NITROBENZENE IN Cu AND CuPd ELECTRODES.
025	Roser Fernández-Climent *(Institute of Advanced Materials (INAM), Universitat Jaume I (UJI))*, Camilo A. Mesa, Sixto Giménez, Miguel Garcia-Tecedor Superstable Copper Sulfide Electrodes for Hydrogen Evolution
027	Sixto Giménez *(Institute of Advanced Materials (INAM), Universitat Jaume I (UJI))*, Camilo Arturo Mesa, Andrés F. Gualdrón-Reyes, Roser Fernández-Ciment, Laura Montañés, Iván Mora-Seró, Elena Más-Marzá, Beatriz Julián-López (Photo)Electrochemical Production of Fuels and High Added-Value Chemicals. Materials, Components and Devices
028	Bianca Ligt *(Department of Chemical Engineering and Chemistry, Eindhoven University of Technology (TU/e))*, Marta Costa Figueiredo, Emiel Hensen Flame Spray Pyrolysis Derived CuO Nanoparticles for the Electrochemical Reduction of CO2 to C2+ Products
029	Rodrigo García-Muelas *(Institute of Chemical Research of Catalonia (ICIQ), Barcelona Institute of Science and Technology (BIST))*, Sergio Pablo-García, Louisa R L Ting, Florentine L P Veenstra, Antonio J Martin, Jason Boon Siang Yeo, Javier Pérez-Ramírez, Núria López Mechanistic Routes toward C3-C4 products in Copper-Catalysed CO2 Electroreduction
031	Jose Solera Rojas *(Institute of Advanced Materials (INAM), Universitat Jaume I, ES12006 Castelló, Spain)*, Antonio Guerrero, Elena Mas-Marzá Electrochemical Reduction of Dicarboxylic Acids
032	Nihal El Guenani Mir *(Institute of Advanced Materials (INAM), Universitat Jaume I, 12006 Castelló, Spain.)*, David Carvajal, Andrés Mollar Cuni, José Antonio Mata, Antonio Guerrero, Elena Más Marzá Electro-oxidation of amines to nitriles with Ti-Ni electrodes.
033	Ramón Arcas *(Institute of Advanced Materials (INAM), Universitat Jaume I, 12006 Castelló, Spain)*, Yuuki Koshino, Elena Mas Marzá, Ryuki Tsuji, Hideaki Masutani, Eri Miura Fujiwara, Yuichi Haruyama, Seiji Nakashima, Seigo Ito, Francisco Fabregat Santiago Pencil graphite rods decorated with nickel and nickel–iron as low-cost oxygen evolution reaction electrodes

035	Laura Mallón *(Universitat Autònoma de Barcelona (UAB), Campus UAB, 08193, Bellaterra, Barcelona, Catalonia, Spain)*, Heting Hou, Álvaro Lozano, Ignacio Álvarez, Jordi Creus, Jonathan De Tovar, Roger Bofill, Karine Philippot, Jordi García-Antón, Xavier Sala Tunable Surface-Functionalized Nanocatalysts for Artificial Photosynthesis
036	Marina Peña-Díaz, John F. Vélez, Weronica Linpé, Gary S. Harlow, Edvin Lundgren, Celia Rogero, Sara Barja *(Centro de Física de Materiales CFM/MPC (UPV/EHU-CSIC), Donostia-San Sebastián 20018, Spain)* Au(111) electro-oxidation: A surface science approach
037	Shuang Yang *(Utrecht University, Debye Institute for Nanomaterials Science, Inorganic Chemistry and Catalysis)*, Hongyu An, Bert M. Weckhuysen, Ward van der Stam Near-unity CO2-to-CO electroreduction over Sn-doped CuO nanoparticles with prolonged stability