

Catalyst Design Strategies for Photo- and Electrochemical Fuel Synthesis (ECAT23)**Keele, United Kingdom, 2023 December 4th - 5th****Conference organizers: Charles Creissen, Qian Wang and Julien Warnan****Conference Program**

December 4th - Day 1 (Monday) 1	
08:00 - 09:15	Registration & Welcome Coffee
09:15 - 09:30	nanoGe Opening
	Session 1.1
09:30 - 10:00	<u>Marc Fontecave</u> (<i>College de France</i>)
1.1-11	The new carbon economy: direct and indirect electroconversion of CO ₂ into organic chemicals
10:00 - 10:30	<u>Miao Zhong</u> (<i>Nanjing University</i>)
1.1-12	Leveraging Renewable Energy: Transforming CO ₂ , CO, and Beyond into Valuables
10:30 - 11:00	Coffee Break
	Session 1.2
11:00 - 11:30	<u>Anna Hankin</u> (<i>Imperial College London, Department of Chemical Engineering, London SW7 2AZ, UK</i>)
1.2-11	Dr
11:30 - 12:00	<u>Si-Thanh DONG</u> , <u>Benedikt LASSALLE-KAISER</u> (<i>Synchrotron SOLEIL, L'Orme des Merisiers Saint-Aubin, Gif-sur-Yvette, France</i>)
1.2-12	Electroreduction of CO ₂ into C1-C4 Products with an Iron Phthalocyanine
12:00 - 12:30	<u>Alex Cowan</u> (<i>University of Liverpool</i>)
1.2-13	Molecular electrocatalysts for the reduction of carbon dioxide
12:30 - 14:00	Lunch break
	Session 1.3
14:00 - 14:15	<u>Rafaël Vos</u> (<i>Catalysis and Surface Chemistry, Leiden Institute of Chemistry, Leiden University</i>)
1.3-01	How Temperature and Pressure Affect the Selectivity of the Electrochemical Reduction of CO ₂ at Au, Cu and Ni
14:15 - 14:30	<u>Domenico Grammatico</u> (<i>AIT Austrian Institute of Technology, Center for Energy, Energy Conversion and Hydrogen</i>), Janine Lichtenberger,
1.3-02	Helena Kern, Theodoros Dimopoulos
	Thin film Ag electrodes fabrication for sustainable and high-efficiency electroreduction of CO ₂ to CO
14:30 - 14:45	<u>Léonard Curet</u> (<i>Université de Pau et des Pays de l'Adour, IPREM (EPCP, CNRS-UMR 5254)</i>), Aurelien Viterisi, Laurent Billon, Emilio
1.3-03	Palomares
	Atomically Precise Silver Acetylides Nanocrystals as Efficient Catalysts for CO ₂ Reduction Under Industry Relevant Reaction Rates
14:45 - 15:00	<u>Eileen Yu</u> (<i>department of chemical engineering, loughborough university</i>), Preetam Sharma, Da Li
1.3-04	Electrochemical Reduction of CO ₂ using Gas Diffusion Electrodes
15:00 - 15:15	<u>Sayan Kar</u> (<i>University of Cambridge, Yusuf Hamied Department of Chemistry</i>), Motiar Rahaman, Virgil Andrei, Subhajit Bhattacharjee,
1.3-05	Souvik Roy, Erwin Reisner
	Integrated Capture and Solar-driven Utilization of CO ₂ from Flue Gas and Air into Solar Fuels
15:15 - 17:00	Poster Session
19:00 - 20:30	Social Dinner

December 5th - Day 2 (Tuesday) 2	
08:00 - 09:15	Welcome Coffee
09:15 - 09:30	nanoGe Introduction
	Session 2.1
09:30 - 10:00	<u>Erwin Reisner</u> (<i>Department of Chemistry, University of Cambridge, Lensfield Road, CB2 1EW Cambridge, U.K.</i>)
2.1-I2	Solar Devices for Sustainable Chemical Synthesis
10:00 - 10:30	<u>Andrea Pannwitz</u> (<i>Institut für Anorganische Chemie I Universität Ulm Albert-Einstein-Allee 11 89081 Ulm</i>)
2.1-I1	Creating an Artificial Photosystem
10:30 - 11:00	Coffee Break
	Session 2.2
11:00 - 11:30	<u>Akihiko Kudo</u> (<i>Faculty of Science & Carbon Value Research Center, Tokyo University of Science, Tokyo, Japan</i>)
2.2-I1	Heterogeneous Photocatalysts for water splitting and CO ₂ reduction
11:30 - 12:00	<u>Thomas Hamann</u> (<i>Chemistry Department, Michigan State University</i>)
2.2-I2	Mechanism of Electrocatalytic Ammonia Oxidation Reactions
12:00 - 12:30	<u>Katharina Brinkert</u> (<i>Department of Chemistry, University of Warwick, CV4 7AL, Coventry, United Kingdom.</i>)
2.2-I3	Utilization of Integrated Semiconductor-Electrocatalyst Systems for Small Molecule Activation and Phase Separation
12:30 - 14:00	Lunch Break
	Session 2.3
14:00 - 14:15	<u>Mariia Ferree</u> (<i>King Abdullah University of Science & Technology (KAUST), KAUST Solar Center (KSC), Physical Science and Engineering Division (PSE), Thuwal, 23955-6900, Kingdom of Saudi Arabia</i>), Jan Kosco, Catherine De Castro, Nisreen Alshehri, Lingyun Zhao, Iain McCulloch, Martin Heeney, Frédéric Laquai
2.3-O1	Unleashing the Potential of Organic Semiconductor Nanoparticles towards CO ₂ Photoreduction
14:15 - 14:30	<u>Marta Liras</u> (<i>Photoactivated Processes Unit, IMDEA Energy</i>), Alejandro García, Sandra Palenzuela Rebella, Tania Mazuelo, Teresa Naranjo, Mariam Barawi, Victor A. de la Peña O'Shea
2.3-O2	Nanostructuring as key to design Conjugated Porous Polymers for energy applications
14:30 - 14:45	<u>Shreyas Harsha</u> (<i>Photocatalytic Synthesis Group, MESA+ Institute for Nanotechnology, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands</i>), Rakesh Sharma, Martin Dierner, Chris Baeumer, Guido Mul, Igor Makhotkin, Paolo Ghigna, Erdmann Spiecker, Johannes Will, Marco Altomare
2.3-O3	Dewetted Pt nanoparticles for electrochemical hydrogen evolution: Role of Pt structure and Pt-substrate-electrolyte triple-phase boundary
14:45 - 15:00	<u>Kasper Wenderich</u> (<i>Photocatalytic Synthesis Group, MESA+ Institute for Nanotechnology, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands</i>), Yibin Bu, Kaijian Zhu, Nathália Tavares Costa, Kees-Jan Weststrate, Annemarie Huijser, Guido Mul
2.3-O4	Ru/TiO ₂ catalysts for photothermal CO ₂ methanization: a highly promising alternative to 'classic' photocatalysis
15:00 - 15:15	<u>Michela Simone</u> (<i>CSIRO Energy, Newcastle Energy Centre</i>)
2.3-O5	Innovative Double Catalysis for Water-Splitting: A Leap Forward to Sustainable Hydrogen
15:15 - 15:30	Closing

Poster Contribution

010	<u>Nathália Costa</u> (<i>Photocatalytic Synthesis Group, MESA+ Institute for Nanotechnology, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands</i>), Annemarie Huijser, Georgios Katsoukis, Jitte Flapper, Guido Mul Catalytically Active Coatings for the Removal of Indoor Pollutants
015	<u>Wissuta Boonta</u> (<i>Department of Chemistry, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand.</i>), Teera Butburee, Junjuda Unruangsri Synergistically Enhancing Photoreduction of CO ₂ on CdS Quantum Dots Stabilized by Amphiphilic Metallopolymer
023	<u>Alan Bowman</u> (<i>Laboratory of Nanoscience for Energy Technologies, EPFL</i>), Alvaro Rodríguez Echarri, Fatemeh Kiani, Fadil Iyikanat, Ted Tsoulos, Joel Cox, Ravishankar Sundaraman, Javier García de Abajo, Milad Sabzehparvar, Can Karaman, Giulia Tagliabue Quantifying photochemistry at the nanoscale
025	<u>Takumi Adachi</u> (<i>Graduate School of Engineering, Nagoya University, Japan</i>), Kazumi Yoshida, Naoki Katayama, Qian Wang Investigation of Reduced Graphene Oxide Incorporated Photocatalyst Sheets for Water Splitting
026	<u>Nadine Schmaus</u> (<i>Department of Chemistry, Technical University of Munich</i>) Metal-Organic Framework-Based Cathodes for Photoelectrochemical Fuel Production
027	<u>Lewis Cousins</u> (<i>School of Chemical and Physical Sciences, Keele University, UK</i>), Charlie Creissen, Finley Lloyd Catalyst Optimisation for the Electrooxidation of 5-(hydroxymethyl)furfural to 2,5-furandicarboxylic Acid Under Acidic Conditions
028	<u>George Creasey</u> (<i>Department of Chemical Engineering, Imperial College London, SW7 2AZ, UK</i>), Tristan McCallum, Liam O'Neil, John Wilman Rodríguez Acosta, Andreas Kafizas, Anna Hankin Demonstration of up-scalable BiVO ₄ -based materials from aerosol-assisted chemical vapour deposition with 36 cm ² irradiation area in a prototype photoelectrochemical water splitting device
029	<u>John Wilman Rodríguez Acosta</u> (<i>Imperial College London, Department of Chemical Engineering, London SW7 2AZ, UK</i>), George Creasey, Tristan McCallum, Andreas Kafizas, Anna Hankin Photoelectrocatalytic Water Splitting Using WO ₃ /BiVO ₄ -Mo/co-Catalyst Photoanodes
030	<u>Vanessa Ramm</u> (<i>Chair of Inorganic and Metal-Organic Chemistry, Department of Chemistry, Technical University of Munich, Garching Germany.</i>), Philip M. Stanley, Julien Warnan, Roland A. Fischer Towards Artificial Photosynthesis - Solar Fuel Production in Metal-Organic Frameworks