

OVERVIEW PROGRAMME

Tuesday 2 September 2025

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| 10:00 | Registration | | |
| 12:30 | Lunch | | |
| 13:30 | Welcome & introductions Alex Cowan <i>University of Liverpool, UK</i> Jenny Zhang <i>University of Cambridge, UK</i> Session chair: Alex Cowan | | |
| 13:45 | PL01 - The Secret Life of Electrocatalysts unveiled by Operando Spectroscopy and Microscopy Beatriz Roldan Cuenya <i>Fritz-Haber-Institut der Max-Planck-Gesellschaft, Germany</i> | | |
| 14:30 | PL02 - Artificial Z-Scheme for Photocatalytic CO₂ Reduction Using Molecular Photocatalysts as Key Players Osamu Ishitani <i>Hiroshima University, Japan</i> | | |
| 15:15 | Refreshments | | |
| | Inorganic | Biological | Electrocatalysis |
| | Session chair: TBC | Session chair: TBC | Session chair: TBC |
| 15:45 | K01 Scalable and Efficient Artificial Photosynthetic Processes for Solar Fuel Production Qian Wang <i>Nagoya, Japan</i> | K02 Title TBC Peter Lindblad <i>Uppsala University, Sweden</i> | K03 Hybrid Photoelectrodes for Light-driven CO₂ reduction Jillian Dempsey <i>University of North Carolina, USA</i> |
| 16:15 | I01 Advanced photoelectrodes to enable solar fuel production under variable and diurnal conditions Emily Warren <i>National Renewable Energy Laboratory, US</i> | B01 Light-driven electron transfer and CO₂-reduction at and across artificial lipid bilayers Andrea Panowitz <i>Friedrich Schiller University Jena, Germany</i> | E01 CO₂/CO-to-C₃+ products electrochemical conversion for dinuclear cuprous molecular catalysts Naonari Sakamoto <i>Toyota Central R&D Labs Inc., Japan</i> |
| 16:35 | I02 Connecting the Dots for How Highly Nonuniform Nanoreactors + Discrete Photon Absorption Events + Stochastic Charge Separation = Near-Perfect Water Splitting Shane Ardo <i>UC Irvine, USA</i> | B02 A Versatile Bioconjugation Strategy for Photosystem II Engineering in Cyanobacterial Biohybrids Hyeryeong Lee <i>University of Cambridge, UK</i> | E02 Tetracationic Cobalt 3,4-pyridinoporphyrazine for Direct CO₂ to Methanol Conversion Escaping the CO Intermediate Pathway Chanjuan Zhang <i>VITO, Belgium</i> |
| 16:55 | I03 Semiconductor/metal-organic frameworks assemblies for photoelectrochemical hydrogen production Sascha Ott <i>Uppsala University, Sweden</i> | B03 Semi-artificial leaf interfacing organic semiconductors and enzymes for solar fuel synthesis Celine Wing See Yeung <i>University of Cambridge, UK</i> | E03 Electrografting of organic layer on Cu-based electrode surface for improving C-C coupling during CO₂ electroreduction Duy Thai Nguyen <i>College de France, France</i> |
| 17:15 | Welcome reception | | |
| 19:00 | Close | | |

Wednesday 3 September 2025

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| | Session chair: Julea Butt PL03 - 2024 Tilden Prize for Chemistry Solar Chemistry: Translating Concepts into Technologies Erwin Reisner <i>University of Cambridge, UK</i> | | |
| 9:00 | PL04 - Living bio-nano systems for solar hydrogen production Kara Bren <i>University of Rochester, USA</i> | | |
| 9:45 | Refreshments | | |
| 10:30 | Inorganic | Organic | Advanced methods |
| | Session chair: TBC | Session chair: TBC | Session chair: TBC |
| 11:00 | K04 Title TBC Marcella Bonchio <i>University of Padova, Italy</i> | K05 Title TBC Haining Tian <i>Uppsala University, Sweden</i> | K06 Charge carrier dynamics in organic semiconductor photocatalysts James Durrant <i>Imperial College London, UK</i> |
| 11:30 | I04 Light-driven catalysis of the CO₂ reduction reaction using heptacoordinated cobalt and iron complexes Mirco Natali <i>University of Ferrara, Italy</i> | O01 Rational design of organic conjugated polymers for efficient photocatalysis Xiong Chen <i>Fuzhou University, China</i> | A01 Catalyzing Change: The Role of Multifunctional Materials in Solar-chemistry technologies Victor A. de la Peña O'Shea <i>IMDEA Energy Institute, Spain</i> |
| 11:50 | I05 Integrated Experimental and Theoretical Investigation of Photocatalytic CO₂ Conversion to Hydrocarbons: Unraveling Mechanisms and Reaction Pathways SU IL In <i>Daegu Gyeongbuk Institute of Science and Technology, South Korea</i> | O02 Metal- and solvent-dependent recombination pathways in organic photocatalyst systems Sam Hillman <i>Imperial College London, UK</i> | A02 Full ThROTTLE tr-IR: Time resolved IR Spectroelectrochemistry with Controlled Sample Throughput for the Investigation of (Catalytic) Redox Intermediates Kerstin Oppelt <i>University of Zurich, Switzerland</i> |
| 12:10 | I06 Realization of a Photoelectrochemical Cascade for the Generation of Methanol Grace Rome <i>Colorado School of Mines/National Energy Laboratory, US</i> | O03 Floatable composites for solar chemistry at the liquid-liquid interface Andrea Rogolino <i>University of Cambridge, UK</i> | A03 Tracking interfacial redox dynamics of photoanodes by operando X-ray Absorption Spectroscopy Raffaello Mazzaro <i>University of Bologna, Italy</i> |
| 12:30 | Lunch | | |
| | Inorganic | Organic | Advanced methods |
| | Session chair: TBC | Session chair: TBC | Session chair: Libby Gibson |
| 14:00 | I07 Developing photoelectrochemical water splitting devices - from understanding charge carrier behaviour to testing prototypes in the field Andreas Kalifas <i>Imperial College London, UK</i> | O04 Photocatalytic hydrogen production coupled to glucose oxidation using a conjugated polyelectrolyte photocatalyst. Rhys Bourhill <i>University of Strathclyde, UK</i> | A04 High throughput experimentation for solar fuels materials and methods—12 years of deployment and discovery Joel Haber <i>California Institute of Technology, USA</i> |
| 14:20 | I08 Exchange of CO₂ with CO as Reactant Switches Selectivity in Photoreduction on Co- and Fe-ZrO₂ from C1-3 Paraffin to Ethylene and Propylene Yasuo Izumi <i>Chiba University, Japan</i> | O05 Electric bias-free solar-to-hydrogen peroxide conversion in a photoelectrochemical cell using an organic polymer photocathode Masayuki Yagi <i>Niigata University, Japan</i> | A05 Visualizing Spin Selective Electron Dynamics in Yttrium Iron Garnet Photoanodes Using Ultrafast, Circularly Polarized XUV Light Robert Baker <i>Ohio State University, USA</i> |
| 14:40 | I09 Biomimetic photocatalytic N₂ fixation based on MOFs Ling Wu <i>Fuzhou University, China</i> | O06 Boosting Solar Fuel and Chemical Production with Organic Heterojunctions and Hybrids Salvador Eslava <i>Imperial College London, UK</i> | A06 Microkinetic modelling of photocatalytic oxidation processes for sustainable hydrogen production Sergio Vernuccio <i>University of Southampton, UK</i> |
| 15:00 | I10 Photocatalytic CO₂ Reduction with Oxygen-Tolerance Hua Sheng <i>Institute of Chemistry, Chinese Academy of Sciences, China</i> | O07 Decoupled Solar Energy Conversion and Storage in a Two-Dimensional Covalent Organic Framework Photoanode Bibhuti Bhushan Rath <i>Maz Planck Institute for Solid State Research, Germany</i> | A07 Unravelling Charge Carrier Dynamics in Nanostructured Photoelectrodes for Water Splitting Via Intensity-Modulated Photocurrent Spectroscopy. Juan Carlos Exposito Galvez <i>Universidad Pablo de Olavide, Spain</i> |
| 15:20 | I11 Nanoscale Strategies for Directing the Enhancement in Plasmon Enhanced Electrocatalysis: Insights and Challenges Andrew Bagnall <i>Uppsala University, Sweden</i> | O08 Probing and tuning of ion-mediated excitonic effects organic photocatalysts Filip Podjaski <i>Imperial College London, UK</i> | A08 |
| 15:40 | Refreshments | | |
| | Inorganic | Organic | Electrocatalysis |
| | Session chair: TBC | Session chair: TBC | Session chair: TBC |
| 16:10 | I12 Title TBC Roland Marschall <i>Bayreuth, Germany</i> | O09 Neglected Role of Surfactant Tail on Modulating Metallic Pt Content in Y₆ Nanoparticles for Photocatalytic Hydrogen Evolution Zeinab Hamid <i>University of Oxford, UK</i> | E04 Pivotal proton-coupling of electron transfer in the oxygen evolution reaction – from biology (photosystem II) to inorganic oxyhydroxides Holger Dau <i>Freie Universität Berlin, Germany</i> |
| 16:30 | I13 Rational design of Zn:Sn overlayers to enhance the water splitting kinetics of hematite photoanodes Alejandro Galán-González <i>Instituto de Carboquímica, Spain</i> | O10 Controlling formation, performance, and degradation in bulk heterojunction organic nanoparticle photocatalysts Arnau Bertran <i>EPFL, Switzerland</i> | E05 Unraveling the Role of Crystal Structure and Polarization in Bi-Fe-O for Oxygen Evolution Reaction Shaswati Jyoti <i>Institute of Nano Science and Technology, India</i> |
| 16:50 | I14 Decoupling of Light and Dark Reactions in a 2D Niobium Tungstate for Light-Induced Charge Storage and On-Demand Hydrogen Evolution Yang Wang <i>Max Planck Institute for Solid State Research, Germany</i> | O11 Insights into Charge Dynamics in Y₆-Based Heterojunction Organic Nanoparticles for Hydrogen Evolution Keren Ai <i>Imperial College London, UK</i> | E06 Hierarchical (Ni, Co)_{1-x}Se Sheets as Efficient Electrocatalysts for Oxygen Evolution Reaction: Synergizing Fabrication Control with Mechanistic Insights Muhammad Sohail Riaz <i>University of Galway, Ireland</i> |

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| 17:10 | 115 | Unassisted solar syngas production by molecular dye-cobalt catalyst assembly in a tandem photoelectrochemical cell Murielle Chavarot-Kerlidou LCBM, Grenoble, France | O12 | Towards stable solar hydrogen generation by tandem organic bulk heterojunction photoanodes Matyas Doboczi Centre for Energy Research, Institute of Technical Physics and Materials Science, Hungary | E07 | Impact of cobalt intercalation on the electrochemical properties of layered birnessite under water oxidation potentials Sid Halder Imperial College London, UK |
| 17:30 | | Flash poster presentations | | Flash poster presentations | | Flash poster presentations |
| 17:50 | | Poster session 1 | | Poster session 1 | | Poster session 1 |
| 19:20 | | Close | | Close | | Close |

Thursday 4 September 2025

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|-------|-----|--|---|---|
| 9:00 | | Session chair: Martin Zwiengenburg P105 - Title TBC Andy Cooper University of Liverpool, UK | | |
| 9:45 | | P106 - Title TBC Xinchen Wang Fuzhou University, China | | |
| 10:30 | | Refreshments | | |
| | | Devices | Organic | Electrocatalysis |
| | | Session chair: Seb Sprick | Session chair: TBC | Session chair: TBC |
| 11:00 | K07 | Coupling hydrogen production and upgrading of chemicals in oxide-based photoelectrochemical device Fatwa Abdi City University of Hong Kong, Hong Kong | K08 Title TBC Junwang Tang Tsinghua University, China | K09 Colloidal nanocrystals to define design rules for selective and stable catalysts in CO2 and CO electroreduction Raffaella Buonsanti EPFL, Switzerland |
| 11:30 | D01 | Design and optimization of a 30 cm2 membraneless photoelectrochemical flow device Sven Schneider Helmholtz-Zentrum Berlin, Germany | O13 A Light(er) Approach towards Sustainable Solar Fuel Production: Curious Case of Heptazines Kamalakkannan Kalliasam INST, India | E08 The dual role of redox mediators in electrochemical CO2 capture and conversion Sonja Pullen University of Amsterdam, Netherlands |
| 11:50 | D02 | Perovskite-BiVO4 Tandem Devices for Scalable Solar Fuel Production Virgil Andrei University of Cambridge, UK | O14 Vapor-phase synthesis of potassium-ion-doped polymeric carbon nitride panels for efficient photocatalytic oxygen reduction Devesh Garg Ben-Gurion University of the Negev, Israel | E09 Iodide-mediated CO2 electroreduction for efficient and selective electrosynthesis of C2+ chemicals over CuI microcrystals Chia-Yu Lin National Cheng Kung University, Chinese Taipei |
| 12:10 | D03 | Development and on field testing of photoelectrochemical reactors for scaling up solar hydrogen production George Cressay Imperial College London, UK | O15 Coalescing solar-to-chemical and carbon circular economy: Mediated by metal-free triazine and porphyrin-based porous organic polymer under natural sunlight Neha Saini Institute of Nano Science and Technology, India | E10 Towards scalable CO2 reduction by molecular electrocatalysts in bipolar membrane electrolyzers Bhavini Sirtanarabul University of Liverpool, UK |
| 12:30 | | Lunch | | |
| | | 13:15 Making science greener: sustainable laboratories(RSC) | | |
| | | Devices | Biological | Electrocatalysis |
| | | Session chair: Libby Gibson | Session chair: TBC | Session chair: TBC |
| 14:00 | D04 | Triplet-Triplet Annihilation Upconversion for Overall Photocatalytic Water Splitting Gregory F Metha University of Adelaide, Australia | B04 Microbial Photohybrids for Semi-artificial Photosynthetic CO2-to-Chemical Conversion Cathal Burns Northumbria University, UK | E11 Indoor Renewable Energy: Harnessing Artificial Leaves for Hydrogen Generation Ji-Hyun Jung UNIST, Korea |
| 14:20 | D05 | Pilot scale deployment electrolyzer of CO2 direct air capture Tanushree Ghosh University of Toronto, Canada | B05 Solvent engineering for oxygen-tolerant solar fuel generation Moritz Kuhnel University of Hohenheim, Germany | E12 Exploring Reversible Electrocatalytic Hydrogen Production/Oxidation with a DuBois Complex Immobilized on an Edge-Plane Graphite Electrode Sriram Katapamula LCBM, Grenoble, France |
| 14:40 | D06 | demonstrating solar ethylene production, reactor integration in multi-step conversion from H2O and CO2 Pau Farràs Costa University of Galway, Ireland | B06 Semi-artificial photosynthesis for solar fuel production Yongpeng Liu University of Cambridge, UK | E13 Degradation studies on multi-metallic electrocatalysts for low grade water electrolysis Suraj Gupta Jozef Stefan Institute, Slovenia |
| 15:00 | D07 | Diurnal Considerations of a Three-Terminal Tandem Photoelectrodes for Solar Fuel Production Darci Collins National Renewable Energy Lab/ Colorado School of Mines, USA | B07 Novel semi-artificial enzyme- and bacteria-inorganic hybrids for light-driven valorisation of CO2 and H2O to fuels and chemicals Santiago Rodriguez Jimenez University of Cambridge, UK | E14 Role of the Oxide Species in Ni-based Catalysts for Alkaline Water Electrolysis Yifeng Wang Imperial College London, UK |
| 15:20 | | Refreshments | | |
| | | 15:40 Policy/funding panel session | | |
| | | Inorganic | Biological | Electrocatalysis |
| | | Session chair: TBC | Session chair: TBC | Session chair: TBC |
| 16:20 | I16 | Charge carrier collection at buried Cu(In,Ga)S2 interfaces with opaque front contact for photoelectrochemical hydrogen generation Valentina Corsetti University of Bristol, UK | B08 Autotrophic growth of Escherichia coli biomass through semi-artificial photosynthesis Lin Su Queen Mary University of London, UK | E15 Ammonia production via electrochemical dinitrogen reduction: addressing parameters control in the metal-mediated systems Anna Mangini Politecnico di Torino, Italy |
| 16:40 | I17 | Driving Photoelectrochemical Reactions on Bare Cu(In,Ga)S2 Surface: Addressing the Stability and Selectivity Challenge in Photocathode Materials Sudhanshu Shukla IMEC, Belgium | B09 Enhancing Acetate Production in Synechocystis PCC 6803: A Farmer Strain for Photosynthetic Butanol Production Stamatina Roussou Uppsala University, Sweden | E16 Laser-Driven Solid-State Route to Ultrasmall Nanocatalysts Huize Wang Helmholtz-Institut Erlangen-Nürnberg für Erneuerbare Energien (HIERN), Germany |
| 17:00 | I18 | Tuning the intrinsic catalytic activity of W and V doped MoSx for hydrogen evolution reaction Ching Thian Moi French Alternative Energies and Atomic Energy Commission (CEA), Grenoble, France | B10 A robust, versatile biohybrid assembly for solar chemical generation Motair Rahaman University of Liege, Belgium | E17 Theory Guided Design of MoO3/NiMoO4 Heterostructures Hybridized Active Pt co-catalyst for Efficient Water Splitting Nikhil Komalla The Pennsylvania State University, USA |
| 17:20 | | Flash poster presentations | | |
| 17:40 | | Poster session 2 | | |
| 19:10 | | Close and walk to conference banquet | | |
| 19:30 | | Conference banquet | | |

Friday 5 September 2025

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| | | Session chair: Libby Gibson | | | | | | | | | | |
| | | P107 - Title TBC Sophia Haussener École Polytechnique Fédérale de Lausanne (EPFL), Switzerland | | | | | | | | | | |
| 9:00 | | | | | | | | | | | | |
| | | P108 - Liquid Sunlight®, Made from CO2 Peidong Yang University of California, Berkeley, USA | | | | | | | | | | |
| 9:45 | | | | | | | | | | | | |
| 10:30 | | Refreshments | | | | | | | | | | |
| | | Inorganic | | | | Biological | | | | Electrocatalysis | | |
| | | Session chair: TBC | | | | Session Chair: TBC | | | | Session chair: TBC | | |
| 11:00 | | | | | | | | | | | | |
| 11:00 | I19 | 2024 Beilby Medal and Prize Developing stable inorganic light harvesters for PECs – defect tolerance and electron-phonon coupling Robert Hoyer University of Oxford, UK | | | | K10 | 11:00 | Title TBC Yannis Ieropoulos University of Southampton, UK | | E18 | 11:00 | Mechanistic Understanding of Homogeneous and Heterogeneous Electrocatalysts for Energy Conversion Reactions Vincent Wang National Sun Yat-Sen University, Chinese Taipei |
| 11:20 | I20 | Quantitative Analyses of Photovoltages and Electron Transfer Kinetics at Illuminated p-Si Hybrid Photoelectrodes Renato Sampaio, UNC Chapel Hill, USA | | | | B12 | 11:30 | Harnessing natural oxygenic photosystem for sustainable hydrogen production via biophotovoltaics Bin Lai Helmholtz Center for Environmental Research - UFZ, Germany | | E19 | 11:20 | A Geometric Interpretation of Kinetic Zone Diagrams for Mechanistic Understanding of Electrocatalytic Systems Ben Johnson Technical University of Munich (TUM), Germany |
| 11:40 | I21 | Investigating photovoltage in Fe2O3 photoanodes Louise Oldham Imperial College London, UK | | | | B13 | 11:50 | Guided Re-design of 3D Porous Electrodes for Biophotoelectrochemical Systems Linying Shang University of Cambridge, UK | | E20 | 11:40 | Ligand-based oxidative and reductive catalysis Javier Concepcion Brookhaven National Lab, USA |
| 12:00 | I22 | Simulation of Photoinduced Processes in Photoelectrochemical Cells for Solar Fuel production Jan Paul Menzel Yale University, USA | | | | B14 | 12:10 | Microbial photohybrids for solar fuel and chemical production from carbon dioxide Shafeer Kalathil Northumbria University, UK | | E21 | 12:00 | |
| 12:20 | | ECR best talk | | | | 12:30 | | | 12:20 | ECR best talk | | |
| 12:40 | | Closing remarks | | | | | | | | | | |
| Lunch and close of conference | | | | | | | | | | | | |