

Sustainable chemistry of electrofuels and electrochemicals

14-16 September 2026 | Manchester, UK



Faraday Discussions

Monday 14 September 2026

11:30	Registration with lunch served from 11:45
12:45	Welcome and introductions <i>Chair of Scientific Committee</i>
12:55	Outline of Discussion format <i>Royal Society of Chemistry Publishing Editors</i>
13:00	Introductory Lecture – Spiers Memorial Lecture (Session chair: TBC) André Bardow <i>ETH, Zurich</i>
	Session 1: Power to hydrogen (Session chair: TBC)
14:00	Electrolysis without electrodes: thermodynamic and kinetic insights into decoupled alkaline water electrolysis Kathryn Toghill <i>Lancaster University, UK</i>
14:05	Comparing electro- and thermo-catalytic ammonia decomposition, a crucial component in the green ammonia value chain as an H₂ vector Daivide Cosio <i>University Messina, Italy</i>
14:10	Role of iron incorporation in the structural and chemical stability of spinel cobalt oxide under oxygen evolution reaction conditions in neutral media Etsushi Tsuji <i>Tottori University, Japan</i>
14:15	Discussion
15:30	Refreshments
	Session 1 continued: Power to hydrogen (Session chair: TBC)
16:00	From amorphous to crystalline: The impact of crystallisation on iron-nickel boride electrocatalysts Veronica Sofianos <i>University College Dublin, Ireland</i>
16:05	Modelling of gas transport in high-temperature electrolyzers for power-to-hydrogen applications Christos Kalyvas <i>University of Hertfordshire, UK</i>
16:10	Discussion
17:00	Lightning presentations – (by invitation of the Scientific Committee)
17:15	Poster session and drinks reception
18:45	Close

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	Session 1 continued: Power to hydrogen (Session chair: TBC)
09:00	Metal supported solid oxide technology for green hydrogen and sustainable electrofuels and electrochemicals Subhasish Mukerjee <i>Ceres Power, UK</i>
09:05	Glucose electrooxidation reaction on Ni-based nanocatalysts for replacing OER in alkaline electrolyser Teko Napporn <i>Universite de Poitiers, France</i>
09:10	Discussion
10:00	Refreshments
	Session 2: Power to hydrocarbons (Session chair: TBC)
10:30	Multiscale-particle organic hybrid materials as electrolyte additives for electrocatalytic reactive carbon capture Alissa Park <i>UCLA Samueli School of Engineering, USA</i>
10:35	Interfacial engineering for redirecting CO₂ electroreduction selectivity on boron-doped diamond: from formic acid to carbon monoxide Takashi Yamamoto <i>Keio University, Japan</i>
10:40	Kinetically controlled proton removal via bio-inspired hybrid bilayer membrane functionalized electrode for ethylene glycol oxidation to generate C₂ Products Edmund Tse <i>University of Hong Kong, Hong Kong</i>
10:45	Fractal gas flow field architectures for enhanced transport and performance in electrochemical CO₂ reduction flow cells Abdullah A. Alyahya <i>The University of Edinburgh, UK</i>
10:50	Discussion
12:30	Lunch
	Session 2 continued: Power to hydrocarbons (Session chair: TBC)
13:30	Investigating halogen-bond-mediated through-space activation of CO₂ for electrocatalytic reduction by iron porphyrins Niklas von Wolff <i>Sorbonne University, France</i>
13:35	Influence of Cu and oxide content in CuAl Layered Double Hydroxides on C₂₊-selective CO₂ electroreduction Asier Grijalvo Rodriguez <i>Vito & Ghent University, Belgium</i>
13:40	Induction catalysts for intermittent power to hydrocabons and hydrogen John Andresen <i>Heriot-Watt University, UK</i>
13:45	Effect of Fe on Ni-based catalysts for electrochemical glycine oxidation to ammonia Marta Hatzell

	<i>Georgia Institute of Technology, USA</i>
13:50	Discussion
15:30	Refreshments
	Session 3: Power to ammonia (Session chair: TBC)
16:00	Catalyst-driven pathways to novel reactors for green ammonia synthesis Lukas Gottheil <i>Clausthal University of Technology, Germany</i>
16:05	Electrolyte and gas flow rate balance in flow cell for lithium-mediated ammonia electrosynthesis Anna Mangini <i>Politecnico di Torino, Italy</i>
16:10	Photoinduced structural modulation of CuO/C photocathode governs product selectivity in photoelectrochemical nitrate reduction Neena John <i>Centre for Nano and Soft Matter Sciences, India</i>
16:15	Discussion
17:30	Close of session
18:30	Pre dinner drinks
19:00	Conference dinner

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Wednesday 16 September 2026

	Session 4: Sustainability challenges of e-fuels and e-chemicals (Session chair: TBC)
09:00	E-fuels for maritime decarbonisation: A well-to-wake life cycle perspective on pathway readiness and policy alignment Marcelle MacManus <i>University of Bath, UK</i>
09:05	Competing pathways in electrocarboxylation on copper electrode: defining reactivity regimes through substrate activation and CO₂ reduction Amanda Garcia <i>University of Amsterdam, The Netherlands</i>
09:10	Discussion
10:00	Refreshments
	Session 4 continued: Sustainability challenges of e-fuels and e-chemicals (Session chair: TBC)
10:30	N-doped iron-cobalt alloy and tungsten oxide composites: Active electrocatalysts for hydrogen evolution in alkaline media Rachel Caruso <i>RMIT University, Australia</i>
10:35	Supporting-electrolyte-free electrosynthesis of hydroquinone in solid polymer electrolyte electrolyzers Naoki Shida <i>Yokohama National University, Japan</i>
10:40	Leveraging co-operative redox enhancement (CORE) for efficient electrochemicals production Steven McIntosh <i>Lehigh University, USA</i>
10:45	Discussion
12:00	Concluding remarks lecture (Session chair: TBC) Nigel Brandon <i>Imperial College London, UK</i>
12:30	Acknowledgements and presentation of poster prizes
12:40	Close of meeting and lunch