

Workshop on The Future of Renewable Energy & Fuels: Academia-Industry Dialogue

Date: Tuesday 2nd July 2019 9.00 am-5.00 pm

Venue: Institution of Mechanical Engineers, 1 Birdcage Walk,
Westminster, London SW1H 9JJ

Renewable energy and fuels play a crucial role in the UK's energy future for low carbon transport, heating, electricity and industrial processes. Supported by EPSRC, several research projects are currently underway in the organisers' groups to look into technological innovations towards high-performance and low-cost renewable (bio-, solar- or e-) fuel production and energy storage.

Stakeholder engagement, especially industrial engagement, is vital as it provides the foundation to share knowledge and increase linkages between different sectors to increase the momentum in renewable energy. In particular, this allows us, at an early stage of technological development, to gain a better understanding and to predict the key barriers to commercialization, other development drivers, policy support and regulations in addition to commercialization and scale-up potentials.

To this aim, we are organising a workshop to open academia-industry dialogue on renewable fuel generation and energy storage. The workshop comprises of talks, flash presentations and panel discussions on the topics of renewable biofuels, solar fuels, e-fuels and energy storage; their associated science and engineering fundamentals such as material development, reactor design, new in-situ characterisation techniques and modelling and simulation; as well as the entrepreneurial aspects such as techno-economics, market uptake, public acceptance and policies and regulations.

During the workshop you will be able to network with people in academia and industry with complementary knowledge and skills. Several keynotes will be invited around the major workshop topics to spark discussions and ideas. There will be plenty of opportunity for general discussions, focus group discussions around specific topics of interest as well as panel discussions.

This workshop is aiming to drive progress in the area and facilitate international and intersectoral collaborations by bringing people together to form new multidisciplinary teams, identify innovation gaps, shape future research directions and initiate new research proposals. The main themes of the workshop are: (1) Novel electrochemical technologies for energy storage and conversion; (2) Solar fuel: renewable hydrogen and fuels from the power of the sun; (3) Biofuels and renewable non-biofuel (e-fuels); (4) The interrelationship between the above novel technologies.

This event is supported by three EPSRC projects: an EPSRC-UKRI Innovation Fellowship entitled 'Smart Microfluidics Towards Low-Cost High-Performance Li-Ion Batteries', led by Dr Huizhi Wang from Imperial College, an EPSRC grant 'Solar Optofluidics (SOLO): Water Splitting beyond the 1.23 eV Thermodynamic Constraints' led by Dr Jin Xuan from Loughborough University; and a Supergen Bioenergy Hub project 'E-Bio-Fuel: Electrosynthesis of biofuels via co-valorisation of bio-fermentation products and captured CO₂-A feasibility study', collaboratively developed by Loughborough University and Heriot-Watt University.