IChemE
Fluid Separations
Special Interest Group

**A one-day research event organised by the Fluid Separations Special Interest Group**

***What's new in fluid separations?***

Brunel University London, Uxbridge UBB 3PH, *Wednesday 26 June 2024*

This annual research event aims to promote interactions within the UK separations community. Presentations will be given by young academic or industrial researchers and PhD students in the final stages of their research. The event will give the participants a chance to discover the diverse and exciting research work currently underway in the UK and there will also be several opportunities for networking and discussions between the delegates throughout the day.

A panel of judges, from both industry and academia, will evaluate the presentations and give some general feedback at the end of the research event. The best contributions will receive prizes, from a total prize allocation of £750, to be awarded during a social gathering at the end of the day.

## Programme

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| **9:00** | **Registration and refreshments (Bannerman Room 208, Top Floor Library Building)** |
| **9:20** | **Welcome:** Professor Basu Saha, Lancaster University (UK), Professor Mohammad Kalbassi, Brunel University London (UK) |
| **9:30** | **Process Improvements of blue hydrogen production via exergy efficiency** William (Billy) George Davies, Brunel University London (UK) |
| **9:50** | **Nature-inspired hydrodynamic techniques to enhance membrane separation performance - a CFD-DEM case study,** Adriana Bernardes, University College London, UCL (UK) |
| **10:10** | **Fighting climate change with waste ash**, Mikhail Gorbounov, Brunel University London (UK) |
| **10:30** | **Coffee/Tea** |
| **11: 00** | **Polymer of intrinsic microporosity enabled pH-responsive adsorptive membrane: selectivity and mechanism**, Ching Yoong Loh, University of Bath (UK) |
| **11:20** | **Sustainable conversion of glycerol to acrylic acid in single step: optimizing reaction conditions and model validation**, Prashant Pawanipagar, University of Manchester (UK) |
| **11:40** | **Effect of polyelectrolytes and soaking time on stability of layer-by-layer membrane in highly saline solutions**, Jiarui Chen, University of Nottingham, (UK/China) |
| **12:00** | **Investigation of alkene epoxidation catalysed by polymer-supported Mo(VI) complex via response surface methodology for efficient epoxide separation from the reaction mixture**, Masud Bhuiyan, Lancaster University (UK) |
| **12:30** | **Lunch and New Chemical Engineering Department & Laboratory Tour** |
| **13:30** | **Impact of sub-ambient temperature on the aging rate and gas separation properties of polymers of intrinsic microporosity**, Pierre Dieudonné, University of Edinburgh (UK) |
| **13:50** | **Porous magnetic composites – attractive scrubbers for $CO_2$,** Luke Woodliffe, University of Nottingham (UK) |
| **14:10** | **Exploring the influence of microalgae growth phases on cake deposition and compressibility in crossflow membrane filtration**, José Ignacio Gayo-Peláez, University of Swansea (UK) |
| **14:30** | **Break** |
| **14:40** | **$H_2$ recovery in SMR PSA processes: the impact of using excess or absolute isotherms**, Riccardo Rea, School of Engineering, The University of Edinburgh (UK) |
| **15:00** | **Influence of polymer-functionalised reduced graphene oxide laminates on forward osmosis membranes: implications for efficiency and durability in water desalination**, Mohamed Edokali, University of Leeds (UK) |

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| **15:20** | **Coffee/Tea** |
| **15:40** | **Modification of recycled carbon fibre to enhance the adsorption of antibiotics from water,** Jessica Taylor**,** Brunel University London (UK) |
| **16:00** | **MGs and HMGs for wastewater treatment**, Faisal Ali, Loughborough University (UK) |
| **16:20** | **Synthesis and application of waste-derived sorbent for $CO_2$ capture**, Kofo Awodun, Brunel University London (UK) |
| **17:00** | **Announcement of prize winners, general feedback, and discussion** |
| **17:30** | **Close** |