Funded PhD Position on Carbon Monoxide Electrolysis

CreissenLab at Keele University in Partnership with Veolia

Waste incineration is a safe and efficient treatment process that enables straightforward energy recovery and valorisation. However, these processes emit large amounts of carbon dioxide, contributing to global warming. To lower the carbon footprint of incineration, the waste sector is considering alternatives to conventional combustion processes with lower CO_2 emissions. These innovative routes can modify flue gas compositions and generate small molecules such as carbon monoxide. Innovative approaches to convert these output gases into valuable products will accelerate the transition towards low-carbon industrial activities. Electrolysis presents an exciting opportunity to meet this challenge by using electricity to convert waste carbon monoxide into carbon-based chemicals that have the potential to defossilise existing production routes.

The project will use electrolysis to convert waste carbon monoxide into high-value carbon chemicals and fuels such as ethanol, acetate, and ethylene. The research will develop electrocatalyst materials and devices to understand reactions and improve performance. Outcomes will be used to establish setups for practical application of carbon monoxide electrolysis in an industrial environment.

For informal enquiries, please contact c.e.creissen@keele.ac.uk

For more information on the lab, please visit www.creissenlab.com

Closing Date: 14th of April 2025

To be considered for this studentship, you must submit a formal application to Keele University by the 14th of April 2025 using this link.

Please Quote FNS_CCreissen_Veolia on your application