PROJECT DETAILS

Project Title:

Advanced functional materials and membranes for hydrogen and carbon dioxide capture and purification

Project Summary: aims, significance, expected outcomes and potential research impact.

This project aims to revolutionise hydrogen purification and CO_2 capture through the development of functional polymeric membranes. With the global shift towards a carbon-neutral economy, efficient hydrogen production is paramount. This research targets cost-effective methods for purifying hydrogen, addressing significant environmental concerns associated with fossil fuels. By enhancing membrane technologies, we aim to achieve high-purity hydrogen production and facilitate the transition towards sustainable energy solutions, ultimately reducing greenhouse gas emissions while providing more hydrogen sources. The research will also investigate economic benefits, technological innovation, and global impact, contributing to energy security and stimulating economic growth in the emerging hydrogen economy.

Preferred applicant skill set, describe the capabilities of the HDR applicant:

We are seeking candidates with expertise in polymer chemistry, nanotechnology, membrane fabrication, and gas separation processes. The ideal applicant should possess strong analytical skills and a background in materials science or chemical engineering. Additionally, proficiency in characterisation techniques and a passion for sustainable energy research are highly desirable.

Internship opportunity:

There are plans to facilitate internship through industry contacts within the first 18 month of the candidate's enrolment.

Contact person for the project:

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