Carbon capture using encapsulated CO_2 solvents

Keywords:
Extracellular vesicles, Bioengineering of Lipid Membranes, Soft Matter, Tissue Engineering

Project Description

A PhD studentship is available at the Department of Chemical Engineering of Loughborough University to develop novel carbon capture technologies based on CO_2 permeable polymer shells fabricated with new microfluidic techniques.

Encapsulated CO_2 solvents combine useful properties of both solid CO_2 adsorbents such as high surface area per unit volume and liquid absorbents such as high CO_2 capture capacity. In this project CO_2 solvents will be encapsulated within CO_2 permeable polymer shells using novel microfluidic technology combined with photopolymerisation of photocurable materials.

This project will be undertaken within the Particle Microfluidics group (www.particlemicrofluidics.com).

Entry requirements:
Applicants should have, or expect to achieve, at least a 2:1 Honours degree (or equivalent) in Chemical Engineering or a related subject. A relevant Master's degree and/or experience will be an advantage.

Supervisors:
Primary supervisor: Dr Goran Vladisavljević
Secondary supervisor: Dr Guido Bolognesi