University of Nottingham
UK | CHINA | MALAYSIA

Faculty of Engineering Research for a Sustainable Future

Projects for the BBSRC DTP

Faculty of Engineering at Uni of Nottingham

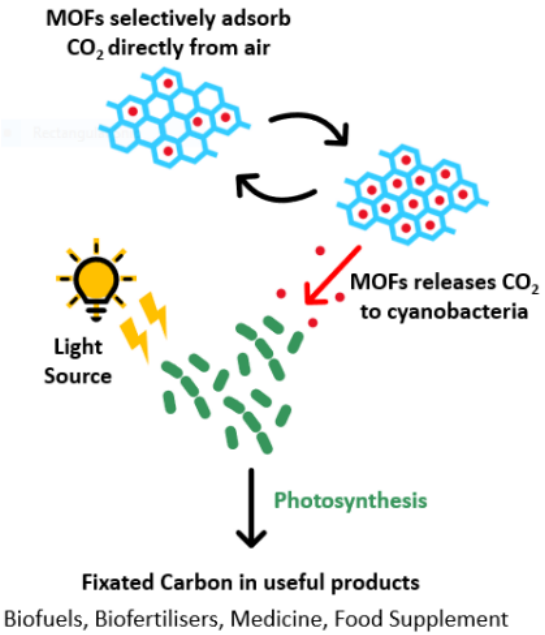
- Sustainable manufacturing
- Sustainable energy
- Next generation materials
- Enhanced healthcare technologies

Inter / transdisciplinary research at the interface with biology

Microbial biotechnologies - 1

Carbon capture with metal organic frameworks and cyanobacteria

PI: Andrea Laybourn, expertise in MOFs



Bioleaching to recover precious metals from waste

PI: Helena Gomes, expertise in bioleaching

- isolation of microorganisms from the environment
- solubilisation of metals

Microbial biotechnologies - 2

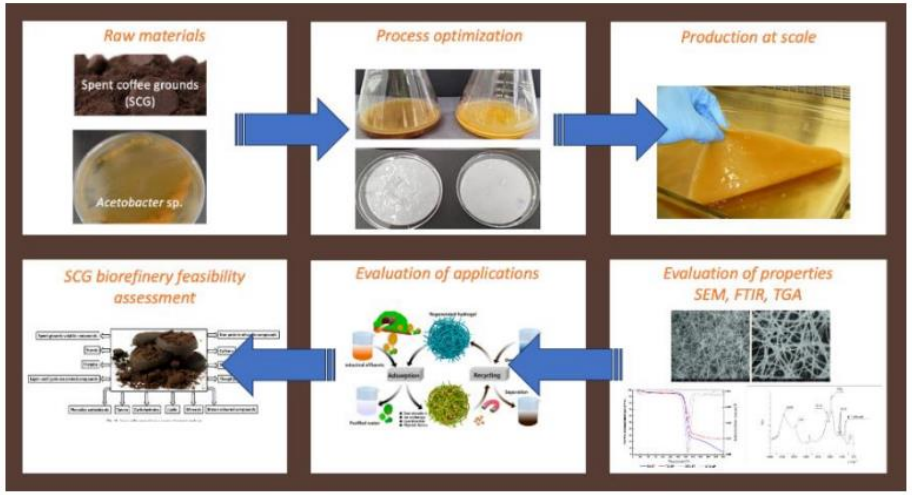
Life on plastic: microbial communities for plastic degradation

PI: Samantha Bryan, expertise in microbiology

- identify and characterise bacterial communities from the environment, which can survive on plastic as carbon source

Bacterial cellulose production from spent coffee grounds

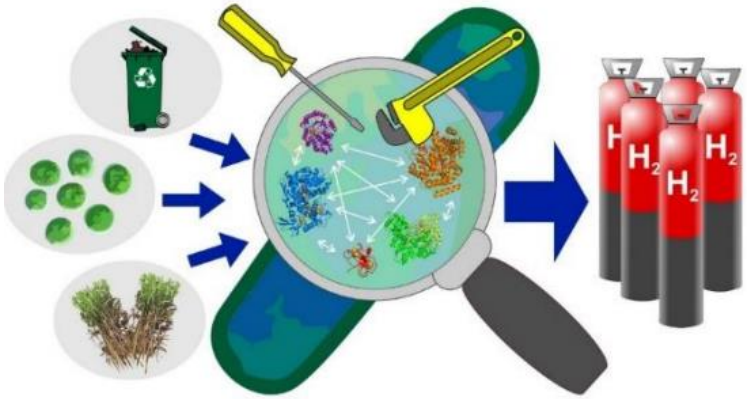
PI: Konstantina (Nadia) Kourmentza, expertise in bio-based and biodegradable polymers



Enzymes as sustainable catalysts - 1

Green hydrogen

PI: Simone Morra, expertise in hydrogenases, enzyme engineering



Also check out Simone's CASE project!

Production of pharmaceutical intermediates

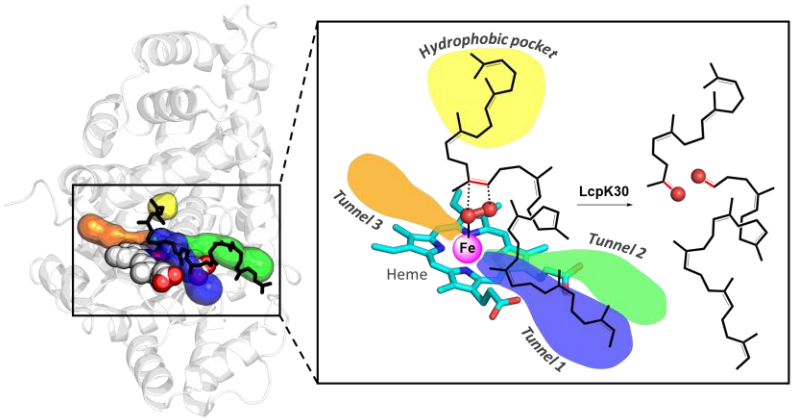
PI: Parimala Shivaprasad, expertise in reactor design for process intensification

Immobilisation of an enzyme – chemical catalyst cascade on a spin disk reactor

Enzymes as sustainable catalysts - 2

Degradation of rubber

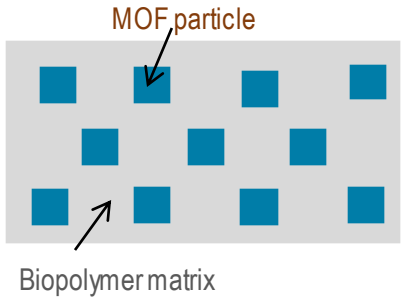
PI: Anca Pordea, expertise in biocatalysis

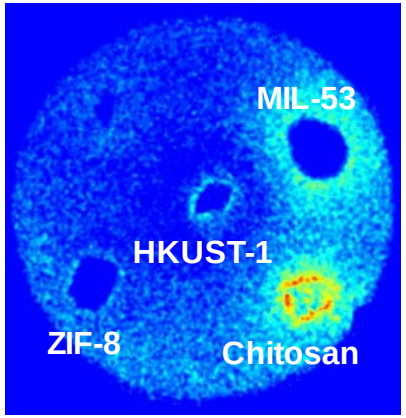


Bioactive molecules

Antimicrobial films based on metal organic frameworks combined with biopolymers

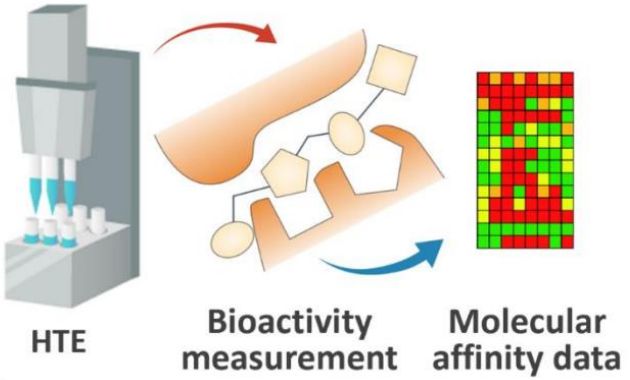
PI: Begum Tokay, expertise in composite materials





Machine learning combined with high throughput screening for the discovery of bioactive molecules

PI: Connor Taylor, expertise in automated experimentation



Agriculture and Bioscience for Health

Smart adsorbent materials to mitigate antimicrobial resistance in dairy farm wastewaters (SAM-FARM)

PI: Rachel Gomes, expertise in wastewater treatment

Optimise signal and functional performance in genetically expressed fluorophores

PI: Kevin Webb, expertise in applied optics and electrophysiology

- characterise and optimise the response of genetically expressed fluorophores

Also check out Kevin's CASE project!