

PROJECTS IN EPSRC remit		
Please talk to supervisors who work on your area of interest, as there may be updates or possibilities for alternative projects		
Dr Branko Bijeljic	Pore-scale Modelling and Analysis of Reactive Transport in Carbon Storage and Oil Recovery	Info Sheet - Bijeljic Reactive Transport
Prof. Martin Blunt	Pore-Scale Imaging, Analysis, and Data-Driven Pore-Scale Modelling	Info Sheet - Blunt Pore-Scale Imaging
Prof. Martin Blunt	Topology, wettability and fluid flow in porous materials	[Info Sheet - Blunt Topology]
Prof. Martin Blunt, Dr Branko Bijeljic, Prof. Jerry Heng (Department of Chemical Engineering)	Minimal surfaces in porous materials: wettability design for optimal flow performance	[Info Sheet - Blunt Infuse]
Dr Pablo Brito-Parada, Dr Stephanie Muller (BRGM, France), Jacques Villeneuve (BRGM, France)	Coupling Life Cycle Assessment and modelling tools to inform sustainable mineral resource management	[Info Sheet - Brito-Parada LCA]
Dr Pablo Brito-Parada, Prof. Stephen Neethling	Modelling and predicting flotation froth stability	[Info Sheet - Brito-Parada Froth Stability]
Dr Fangxin Fang, Prof. Christopher Pain	Rapid Response Modelling for Assessment of Pollution and Toxic Releases in Complex Urban Environments	[Info Sheet - Fang ROM]
Dr Fangxin Fang, Prof Christopher Pain	Optimisation of sensor locations for observation of air flows/pollutions	[Info Sheet - Fang Sensor]
Dr Fangxin Fang, Prof. Christopher Pain	New generation data assimilation and rapid response models for urban flooding	Info Sheet - Fang Flooding
Prof. Saskia Goes, Dr. Alexandra Renouard, Prof. Peter Stafford (Civil), Dr. Alex Whittaker	Earthquake Forecasting Using Machine Learning	[Info sheet - Earthquake Forecasting]
Dr Gerard Gorman, Prof. Paul Kelly (Department of Computing), Dr Fabio Luporini	Redundancy, retiming and data flow in compiling finite-difference applications for many core architectures	[Info Sheet - Gorman OPESCI]
Dr Claire Heaney, Prof. Christopher Pain	Applying Dimensionality Reduction to Solutions on Finite Element Meshes with Autoencoders	[Info Sheet - Heaney Autoencoders]
Dr Claire Heaney, Prof. Christopher Pain	Large Scale AI Modelling for Environmental Flows	[Info Sheet - Heaney Environmental Flows]
Dr Claire Heaney, Prof. Christopher Pain, Prof. Matthew Jackson	Simulation of geo-thermal wells with reduced order modelling and data assimilation	[Info Sheet - Heaney ROM DA NORMS]
Prof. Matthew Jackson, Dr Pablo Brito-Parada, Prof. Stephen Neethling	Electrokinetic enhanced in-situ resource utilisation (EK-ISRU) for green copper production	[Info Sheet - Jackson EK-ISRU]
Prof Matthew Jackson, Prof. Gary Hampson	Efficient numerical modelling of subsurface hydrogen storage for low carbon energy	[Info Sheet - Jackson Subsurface Hydrogen Storage]
Prof. Matthew Jackson, Prof. Gary Hampson, Dr Marko Aunedi, (Electrical and Electronic Engineering)	Developing the world's largest geobattery: ultra-hightemperature underground thermal energy storage for large-scale electricity storage in the UK	[Info Sheet - Jackson Geobattery]
Prof. Matthew Jackson, Prof. Gary Hampson, Prof. Alexandra Porter (Department of Materials), Dr Geoff Fowler (Department of Civil and Environmental Engineering)	Storage and transport of microplastics in groundwater	[Info Sheet - Jackson Microplastics]
Prof. Matthew Jackson, Prof. Chris Pain, Dr Claire Heaney	Rapid modelling of reactive flow using machine learning and dynamic mesh optimisation	[Info Sheet - Jackson Reactive Flow]
Prof. Matthew Jackson, Dr Haiyang Hu, Professor Jon Blundy (University of Oxford)	Fluid dynamics of magma reservoirs	[Info Sheet - Jackson CFD]
Dr Doyeon Kim, Prof. Matthew Jackson	Monitoring Global groundwater change using seismic methods	Info Sheet - Kim Groundwater Seismology

Prof. Anna Korre, Dr Andrew Hughes (British Geological Survey), Dr Evi Petavratzi (British Geological Survey)	Assessing the sustainability of lithium brine extraction in high Andean salars	Info Sheet - Hughes BGS Lithium Brine Extraction
Dr Sam Krevor	Global CO2 storage capacity: Modeling limitations of geography and injectivity	[Info sheet - Global CO2 Storage capacity]
Dr Sam Krevor and others TBA	Reservoir characterisation and modelling of CO2 storage underground	[Info sheet - Reservoir characterisation and modelling of CO2 storage underground]
Dr John-Paul Latham, Dr Jiansheng Xiang, Prof. Martin Blunt	Modelling the physics of granular rock compaction for characterisation of flow in reservoirs	[Info Sheet - Latham Compaction Modelling]
Dr Ben Moseley, Prof. Christopher Pain	Learning fast and generalizable climate models with neural differential equations	[Info Sheet - Moseley NDEs]
Prof. Adrian Muxworthy, and Prof. Wyn Williams (University of Edinburgh)	Using the magnetic signature of former hydrocarbon-rich environments to test for the suitability of carbon Sequestration: A numerical approach	[Info sheet - Magnetic Signature of Hydrocarbon-rich Environments]
Prof. Stephen Neethling	Simulation of charge-slurry interactions in tumbling and stirred mills	[Info Sheet - Neethling Simulation of Mills]
Prof. Stephen Neethling	The impact of mineral texture on the relationship between particle size, surface exposure and mineral liberation: A key to coarse particle flotation	[Info Sheet - Neethling Coarse Particle Flotation]
Prof. Christopher Pain, Dr Claire Heaney	AI modelling of underground water for heating buildings	[Info Sheet - Pain Underground Water Heating]
Dr Adriana Paluszny and Dr Ronny Pini	PhD Studentship: Numerical Modelling of Cycling Subsurface Fluid Storage	[Info Sheet - Paluszny Numerical Modelling]
Prof. Matthew Piggott	Understanding and minimising the potential environmental impacts of tidal range (lagoon) based renewable energy generation via advanced numerical modelling	[Info Sheet - Piggott Tidal Lagoons]
Prof. Matthew Piggott, Dr R. Iestyn Woolway (University of Reading), Prof. Stephen Maberly (UK CEH)	Accelerating Scientific Discovery of Complex Scientific Applications with Process-Guided Deep Learning: Aquatic Eco-Dynamics in Lakes	[Info Sheet - Piggott Lakes]
Prof. Mark A. Sephton, Dr Simon Davis, David Bell (Protium)	Forensic Detection of Microplastics	[Info sheet - Forensic Detection of Microplastics]
Prof. Mark A. Sephton, Prof Alexandra Porter	Atmospheric Pollution by Tyres	[Info sheet - Atmospheric Pollution by Tyres]
Prof. Mark A. Sephton, Prof. Craig Smalley, Prof. Al Fraser	Capture Carbon Dioxide on Shales	Info Sheet - Sephton Shales
Prof. Dominik Weiss	Nuclear Waste – How to deal with it safely	[Info Sheet - Weiss Nuclear Waste]
Dr. Gege Wen	Machine learning for subsurface multiphase flow in the energy transition	[Info sheet - Machine Learning for Multiphase Flow]