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| **NERC SSCP PhD Projects List 2024** |
| **Project Title** | **Lead Supervisor** |
| Structure and tsunamigenic potential of the Lesser Antilles fore-arc | Prof Jenny Collier |
| Exploring origin and composition of the lowermost mantle structures with machine learning methods and seismology | Dr Doyeon Kim |
| Monitoring Global Groundwater Change Using Seismic Methods | Dr Doyeon Kim |
| Geological and geophysical investigation of the environmental evolution of the southern North Sea for offshore wind applications | Dr Rebecca Bell |
| Cadmium Enrichment in Cocoa Beans – A Stable Isotope Investigation of Cd Sources and Mitigation Strategies | Prof Mark Rehkämper |
| Understanding modern biogeochemical cycles in the context of the international GEOTRACES project – Lead, zinc, cadmium and neodymium isotopes | Prof Mark Rehkämper |
| Sources and climate impacts of Indian Ocean aerosols – constraints from trace metal concentrations and isotope compositions | Prof Mark Rehkämper |
| The transition metal isotope signatures of metalloproteins | Dr Rebekah Moore |
| Machine learning for subsurface multiphase flow in the energy transition | Dr Gege Wen |
| An evaluation of the feasibility of the global scaleup of CO2 storage for climate change mitigation | Dr Sam Krevor |
|  Artificial Intelligence and geoelectrical imaging – can AI replace conventional resistivity inversion? | Prof Christopher Pain |
| Hot rocks in cold places: Quantifying mantle dynamic impacts on Antarctic Ice Sheet evolution | Dr Fred Richards |
| Reconstructing erosion and sediment supply from the continents: palaeo-topography, climate models and palaeo-hydrology | Dr Alexander Whittaker |
| Landscape, seismic hazard and fault growth: Normal faulting in the Gulf of Evia and Apennines compared | Dr Alexander Whittaker |
| Using Advanced Multi-Scale Numerics and Machine Learning to Assess Coastal Flood Risk | Prof Matthew Piggott |
| Teleseismic full-waveform imaging of active volcanoes with massive arrays of seismic nodes | Dr Michele Paulatto |
| Megathrust Earthquake Hazards and Coastal Erosion of the Cascadia Subduction Zone (Pacific Northwest, USA) | Dr Dylan Rood |
| Advanced imaging techniques to enhance energy efficiency in the processing of critical raw materials | Dr Pablo Brito-Parada |
| The role of aquifer hydrodynamics on CO2 storage: quantifying impact on fresh water resources | Prof Ann Muggeridge |
| Crust and mantle seismic structure of the East African rift system: implications for magmatism, seismic hazard, and geothermal energy potential | Dr Ian Bastow |
| Deciphering the influence of mantle dynamics on Cenozoic records of sea-level change | Dr Fred Richards |
| Probabilistic Joint Inversion of Geophysical and Physicochemical Data from Iceland | Dr Fiona Simpson (Physics/Grantham Institute) |
| Magnetically quantifying Urban Dynamic Exposure to Nanoparticulate | Prof Adrian Muxworthy |
| Mapping the Mantle Zoo: Integrating geodynamics, seismology and mineral physics to characterize Earth’s internal chemical reservoirs | Dr Fred Richards |
| Assessing the sustainability of lithium brine extraction in high Andean salars | Dr Andrew Hughes (British Geological Survey)/ Prof Adrian Butler\* |
| Reconstructing vertebrate faunal dynamics in Central Asia through the last mass extinction | Prof Anjali Goswami (Natural History Museum)/ Dr Mark Sutton\* |
| Detrital mineral records of magmatism and fertility in porphyry copper districts | Prof Jamie Wilkinson (Natural History Museum and Department of Earth Science and Engineering)\* |
| Developing a chemical audit approach for characterisation of mine site material: implications for magmatic and hydrothermal transport, critical element recovery, environmental impacts and waste repurposing | Prof Jamie Wilkinson (Natural History Museum)/ Dr Pablo Brito-Parada\* |