



# Energy Expertise

## // Geothermal Energy

### Specialist Skills

- Geothermal prospecting and resource recovery.
- Assessment of low to medium grade geothermal opportunities associated with deep sedimentary basins and radiogenic granites.
- Structural geology of geothermal regions.
- Opportunities for power generation using geothermal energy from oilfield production waters.
- Development of mathematical models to describe geothermal systems.
- Understanding the micro-seismicity of high enthalpy geothermal sites.
- Minewater geothermal development

### Resources

- Experience of developing numerical models for geothermal systems.
- Application of 4D seismic tomography and focal mechanism analysis to earthquake activity induced by hydraulic stimulation of geothermal fields.
- Hydrogeochemical assessment of geothermal systems.

### Other Activities

- Leading the establishment of a National Agency for Geothermal Innovation – due to launch in spring 2023
- Founding Shift Geothermal, a not for profit company aimed at using geothermal energy to decarbonise the petroleum industry <http://www.shiftgeothermal.com>
- Hosted an international geothermal / petroleum/ CCS crossover workshop in 2017 and will do a second in 2023
- We hold the presidency of the global Geothermal Energy Advancement Association
- Track record in geothermal energy research since 1960s when the Rookhope Borehole was drilled.
- Links to university spin out company [www.geoenergydurham.co.uk](http://www.geoenergydurham.co.uk)



### Postgraduate Opportunities

The following relevant masters courses are available at Durham University:

- [Risk Masters](#) in collaboration with the Institute of Hazard Risk and Resilience at Durham University
- [MSc in New and Renewable Energy](#) within the School of Engineering and Computing Sciences at Durham University
- [MSc in Energy and Society](#) in collaboration with the Department of Anthropology at Durham University

We welcome enquiries about PhD and Masters research projects from prospective students. You can find details of Masters or PhD research projects currently on offer or being undertaken at Durham University in geo-energy at <https://www.durham.ac.uk/dei/training/postgraduate.topics/hydrocarbons.geo/>

### Recent Projects

- NERC Oil and Gas catalyst funding to research the geothermal potential of onshore oilfields.
- Assessment of the geothermal potential of abandoned mine workings at various UK sites.
- Geothermal potential of low enthalpy deep sedimentary basins – completed PhD project.
- Drilled Eastgate and Science City Geothermal Boreholes with Newcastle University.
- Studies of microseismicity in high-temperature geothermal areas and associated with EGS stimulations.
- Assessment of the geothermal potential of radiogenic granites for heat and power generation on behalf of a property developer.
- Undertaken a nationwide geothermal evaluation for the UK Government (2022)
- Assessment of underground heat storage potential of the UK
- Assessment of the geothermal potential in NE England

### Geothermal team

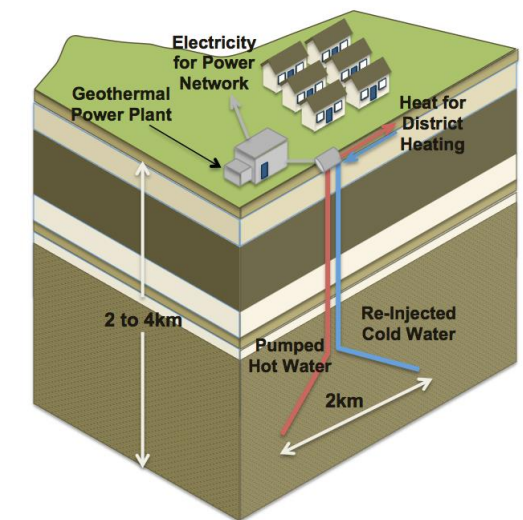
**Prof. Jon Gluyas** is Professor in CCS & Geo-Energy & in Department of Earth Sciences, Director Durham Energy Institute

**Prof. Jeroen van Hunen** is Professor of Geophysics in the Department of Earth Sciences.

**Prof. Gillian Foulger** is Emeritus Professor of Geophysics in the Department of Earth Sciences.

**Prof. Robert Holdsworth** is Professor of Structural Geology in the Department of Earth Sciences.

**Prof. Simon Mathias** is Professor in Computational Geoscience. Department of Engineering



#### Contact Details:

Durham Energy Institute (DEI)  
Durham University  
Durham, DH1 3LE, U.K.

Tel: +44 (0)191 334 2649

Email: [dei.admin@durham.ac.uk](mailto:dei.admin@durham.ac.uk)