13th UK Geothermal Symposium

9-10 November 2026

Cloth Hall Court, Leeds and Virtual

Provisional Programme

Geothermal Core Workshop 13th UK Geothermal Symposium
10.00-13.00, 11 November 2026 (*Separate registration required)*
School of Earth and Environment, University of Leeds
Shallow aquifers present an opportunity to decarbonise through accessing their fluids and harnessing heat pump technology for geothermal heating and cooling. The Carboniferous Lower Coal Measures and Millstone Grit groups contain sandstone aquifers (the Elland Flags formation and Rough Rock Flags formation, respectively) that are present below the West Yorkshire region and have been targeted by the University of Leeds Geothermal Campus project. Sandstone aquifers such as these with mixed permeability systems represent analogues for other potential geothermal target aquifer systems nationally. With access to core samples recovered for these intervals, participants will gain firsthand experience in the characterisation and analysis of geothermal aquifer systems via a hands-on core workshop. Weather permitting participants will also get a tour of the sites belonging to the Leeds Living Lab. Hosts: Dr Arka Dyuti Sarkar and Dr Richard Collier

Day One Monday 9th November 2026	
08.30	**Registration**
09.00	**Welcome**
	Session One: Strategy, Policy & Regulation
09.15	**The Resource Is Ready: A Strategy to Build a Geothermal Nation** Charlotte Adams, *National Geothermal Centre*
9.30	**Next-generation geothermal: global market momentum and the UK opportunity** Kate Adie, *Wood Mackenzie*
9.45	**Navigating England's Geothermal Regulations: Current Requirements and Recent Changes** Diane Steele, *Environment Agency*
10.00 Virtual	**Governance and Regulation of High-Temperature Energy Storage within the European PUSH-IT project: Results from Interviews with Regulators and Operators** Margaret Stewart, *British Geological Survey*

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10.15	**Understanding Gender and Inclusion in the UK Geothermal Sector: Insights from a National Survey** Rebecca Nye, *WING UK*
10.30	**BREAK**
	Session Two: Campus Geothermal, Cities & Heat Networks
10.45	**Building a Geothermal Exemplar City: pathways for place-based urban heat decarbonisation** Emma Bramham, *University of Leeds*
11.00	**Assessing the potential for geothermal energy deployment in Greater Manchester: first steps towards a place-based solution for heating and cooling** Cathy Hollis, *University of Manchester*
11.15	**Geothermal Meets the Real World: Lessons from Delivering Open-Loop Geothermal on a Live University Campus** Richard Lane, *Drift Group*
11.30	**Deep Geothermal: Tales from a Project in Process** Paul Bushnell, *University of York*
11.45	**Oxford Brookes University Case Study** Rachel Feeney, *Erda Energy*
12.00	**Beyond the Borehole: Lessons from Szeged** Richard Toy, *Ventosus UK*
	Session Three: Community Engagement & Social Licence
12.15	**Community-led geothermal: developing a replicable model for rural heat decarbonisation in Pickering** James Van Alstine, *University of Leeds*
12.30	**The Heat Beneath Our Feet: Creatively inspiring public audiences with geothermal technologies** Rory Padfield, *University of Leeds*
12.45	**CeraPhi Case Studies** Karl Farrow, *CeraPhi Energy*
13.00	**LUNCH**
14.00 Virtual	**Cross-Atlantic Lessons in Community-Led Geothermal** Saxon Metzger, *Wilmington University*
	Session Four: Numerical Modelling & Digital Workflows
14.15	**Sketch-based Geological Modelling and Flow Diagnostic for Geothermal Exploration** Carl Jacquemyn, *Imperial College London*
14.30	**A novel approach to modelling Advanced Geothermal Systems using a 3D Geological Modelling Software** Rifky Wijanarko, WSP
14.45	**A probabilistic approach for rapid assessment of open-loop Ground Source Heating and Cooling (GSHC) and Aquifer Thermal Energy Storage (ATES) deployments** Matthew Jackson, *Imperial College London*
15.00	**BREAK**
15.15	**POSTER SESSION**
16.20	**High-density ATES design for a spatially constrained urban campus: Imperial College London's South Kensington campus** Meissam Bahlali, *Imperial College London*

16.35	**Exploring Challenging Subsurface Settings for ATES** Luka Tas, *Ghent University*
16.50	**Long-Term Performance and Sustainability of Asymmetric Open-Loop Geothermal Heating: Numerical Modelling of an 8-Month Extraction, 4-Month Recovery Strategy** Allegra Giblin Torlucci, *University of Leeds*
17.05	**End of day one**
17.05-18.05	**Drinks reception**

Day Two Tuesday 10th November 2026	
08.30	**Registration**
08:45	**Welcome**
	Session Five: Minewater Geothermal & Thermal Energy Storage
09.00	**Project IMPACT: Investigating Mine Potential for Cooling and Storage** Fiona Todd, *Mining Remediation Authority*
09.15	**Mine-Groundwater Interactions and the Effects on Mine Water Geothermal Resource Feasibility** Callum Thomas, *Durham University*
09.30	**Time-dependent GEMSToolbox: fast, accurate heat exchange for mine water heat storage** Difu Shi, *Durham University*
09.45	**Thermal Conductivity of the Lower Pennine Coal Measures & Upper Millstone Grit at the University of Leeds Geothermal Living Lab** Fleur Loveridge, *University of Leeds*
10.00	**Effective Thermal Conductivity of the Sherwood Sandstone, evaluated from time-lapse Electrical Resistivity Imaging** Adam Booth, *University of Leeds*
10.15	**BREAK**
	Session Six: Fractures, Reservoir Characterisation & UK Exploration
10.30	**De-risking UK Lower Carboniferous Limestone geothermal resources using legacy seismic and potential-field data** Mohamed Gouiza, *University of Leeds*
10.45	**From outcrop to reservoir: multi-scale fracture analysis for potential deep geothermal development in Cornwall** Priyanka Paul, *British Geological Survey*
11.00	**Seismic Anisotropy of Hengill geothermal area, southwest Iceland** Esme Glastonbury-Southern, *University of Leeds*
11.15	**Modeling fracture networks and fluid flow in the Þeistareykir geothermal area** Aastha, *University of Leeds*
11.30	**GEMINI Integrated Geophysical Surveys for Deep Geothermal Exploration in County Antrim** Michael MacKenzie, *Geological Survey of Northern Ireland*

11.45	**Imaging Aberdeen with seismic noise: passive seismic methods for geothermal exploration** David Cornwell, *University of Aberdeen*
12.00	**LUNCH**
	Session Seven: Innovative Techniques, Data & Monitoring
13.00	**Using Heat to Characterise Groundwater Flow in a Fractured Chalk Aquifer** Joseph Kelly, *University of Leeds*
13.15 Virtual	**Characterisation of ground source heat pump boreholes at the BGS Keyworth Campus 'Living Lab' in Nottingham, UK** David Boon, *British Geological Survey*
13.30	**Revisiting Borehole Heat Flow Estimates from the British Isles Using a Reproducible Computational Framework** Mark Ireland, *Newcastle University*
13.45	**Thermogeological tidbits from the Caledonian table: preliminary findings of THERMOCAL in the UK** Sean Watson, *University of Glasgow*
14.00	**Making Shallow Geothermal Work: Lessons from Deep Drilling** Ian Farmer, *Independent Drilling Consultant*
14.15	**The Geothermal Potential of the Humber Region** Eddie Dempsey, *University of Hull*
14.30	**Testing Geothermal Hypotheses beneath Corbetti, Ethiopia with 3D S-wave seismic tomography** Andy Nowacki, *University of Leeds*
14.45	**Trace Element Geochemistry of the Sorik Marapi Geothermal Field, Indonesia** Konstantin Nazarov, *University of Oxford*
15.00	**BREAK**
	Session Eight: Geothermal From Around the World
15.15 Virtual	**Structural Controls in the Hengill Geothermal System, Iceland** Brandon VanderBeek, *University of Oxford*
15.30 Virtual	**Geothermal Energy Applications in Poultry Farming: Opportunities for Climate Change Mitigation and Sustainable Development** Abdelmalek Atia, *University of El Oued, Algeria*
15.45 Virtual	**Expecting the Unexpected: The Geology of the Granite City** Clare Bond, *University of Aberdeen*
16.00	**Conference Summary & Discussion**
16.15	**Energy Group Update**
16.30	**Closing Remarks**
16.45	**End of day two**

Posters

The Missing Data Layer: Why Global Borefield Geometry Remains Undigitized and How Machine Learning Can Unlock Actionable Subsurface Insights
Tunca Alikaya, *borelogger.io*

MRMOLES: Mitigating Risks of Mineralisation and biofilms in Open Loop thermal Energy Systems Matt Bailey, *University of Plymouth*
Ultra-High-Temperature Underground Thermal Energy Storage (UHT-UTES) for Large-scale, Inter-seasonal Electricity Storage Ruixiao Liu, *Imperial College London*
Interpolation-free adaptive mesh Machine-Learning Surrogate for Rapid Simulation of Aquifer Thermal Energy Storage Hadrian Fung, *Imperial College London*
Experimental Study of PET-Derived Nitrogen-Doped Carbon Quantum Dots for Tailoring Soil Thermal Conductivity and Heat Storage in Shallow Geothermal Systems Amany Aboulrous, *Unviersity of Bradford*
A multi-method analogue study of fracture-controlled geothermal reservoirs in Cornubian granite, Cornwall Samuel Grainger, *University of Liverpool*
Neuro-Algebraic Digital Twinning Approach to Predict Critical States in Abandon Mineworkings Geothermal Flow. Oleksandr Letychevskyi, *Heriot-Watt University*
Updated national-scale geothermal data and maps from the British Geological Survey Alison Monaghan, *British Geological Survey*
Measuring thermal plumes and breakthrough in mines for geothermal exploitation and thermal storage Alison Monaghan, *British Geological Survey*
Subsurface characterisation of the UK Geoenergy Observatory using borehole distributed acoustic sensing (DAS) monitoring before and during geothermal testing David Fairweather, *University of Leeds*
Three-Dimensional Characterisation of Fracture Arrays in the Leeds Geothermal Campus Borehole Core: Implications for Fluid Flow in Mechanically Layered Reservoir Analogues Renato Diamanti, *University of Leeds*
Learnings from research to date at the UK Geoenergy Observatories and how these factor into future geothermal experiment design Mike Spence, *British Geological Survey*
Mixture Density Network-based Electrical Tomography Inversion: a Rapid Probabilistic Approach for Geophysical Geothermal Monitoring Theethach Phiranram, *University of Leeds*
The GEMINI project: Tackling communications and engagement challenges in a cross-border geothermal energy project Nicola Noller, *RML / GEMINI*
History Matching an Operating Aquifer Thermal Energy Storage (ATES) System Operating in the Heterogeneous Chalk Aquifer under London, U.K. Hayley Firth, *Imperial College London*
Monitoring shallow geothermal aquifers with active-source distributed acoustic sensing: feasibility studies on the University of Leeds Geothermal Campus Adam Booth, *University of Leeds*
Assessment of the feasibility for installation of high temperature mine thermal energy storage technologies in the Great Consolidated Mines, Cornwall: final results of the PUSH-IT Project. Poppy Edgecombe, *GEL*
An update on the operation of the United Downs Geothermal Plant, Cornwall. Poppy Edgecombe, *GEL*

The Potential for Geothermal Energy to Provide Low Carbon Heat to the Scottish Whisky Industry Callum Inglis, *Independent*
Heat When It Matters Most: Can High-Temperature Underground Thermal Energy Storage (HT-UTES) Improve UK Energy Resilience and What Role Can UKGEOS Play? Mark Griffiths, Arup

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