



11th UK Geothermal Symposium

11th-13th November 2024

Hybrid Conference, Burlington House, and Zoom, BST

Final Programme

Day One	
08.30	Registration
08.50	Welcome
	Session One: Shaping the Future of Geothermal: Costs, Data, Networks, and Global Standards
09.00	KEYNOTE: Research on costs of Geothermal for heat and power in the UK Cantor Mocke, <i>Department for Energy Security and Net Zero</i>
09.40	Supporting heat decarbonisation through new BGS geothermal data, maps and products Alison Monaghan, <i>British Geological Survey</i>
10.00	Enabling geothermal heat networks in the context of Heat Network Zoning David Barns & Jessica Ryan-Smith, <i>Geosolutions Leeds, University of Leeds</i>
10.20	Introducing the IADC Geothermal Well Classification: Global Guidelines for Deep Geothermal Well Construction Kevin Gray, <i>Black Reiver Consulting</i>
10.40	The National Geothermal Centre: Defining a geothermal roadmap to 2050 Charlotte Adams, <i>National Geothermal Centre (NGC)</i>
11.00	BREAK AND POSTERS
	Session Two: Practical Insights and Innovations in Geothermal Projects: From Mine Water Heating to Living Labs
11.30	Operational findings from the UK's first multi-megawatt mine water geothermal heating schemes at Lanchester Wines Sally Jack, <i>TownRock Energy</i>
11.50	GeoEnergy NI - an example of an integrated approach to geothermal demonstration projects Michael MacKenzie, <i>Department for the Economy</i>
12.10	The United Downs Deep Geothermal Project: combining the generation of geothermal electricity and heat, with the extraction of critical raw materials Ryan Law, <i>Geothermal Engineering Ltd.</i>
12.30	Geothermal Campus – a living lab for geothermal research at the University of Leeds Emma Bramham, <i>University of Leeds</i>
12.50	Gateshead mine water "living lab" Fiona Todd, <i>The Coal Authority</i>
13.10	LUNCH AND POSTERS
	Session Three: Optimising Aquifer Thermal Energy Storage (ATES): Efficiency, Impact, and CO2 Reduction Potential in the UK
14.10	Multi-scale imaging of the Triassic Sherwood Sandstone Group, NW England: impact of heterogeneity on aquifer thermal energy storage efficiency Jingyue Hao, <i>University of Manchester</i>

14.30	Impact of aquifer properties, well spacing and vertical offsetting on ATES and Open-loop unidirectional systems Carl Jacquemyn, <i>Imperial College London</i>
14.50	Potential CO2 savings from widespread deployment of Aquifer Thermal Energy Storage across the UK Matthew Jackson, <i>Imperial College London</i>
15.10	BREAK AND POSTERS
15.50	Responsible deployment of Aquifer Thermal Energy Storage: A stakeholder approach to characterising societal desirability, opportunities and challenges Ting Liu, <i>Imperial College London</i>
16.10 Virtual	Evaluation of the fracture slippage potential in Low Temperature Aquifer Thermal Energy Storage systems Andre Efsion, <i>Imperial College London</i>
16.30	Evaluating the Impact of Chalk Aquifer Heterogeneity on LT-ATES Performance: A Case Study from London Hayley Firth, <i>Imperial College London</i>
16.50	WING Update Rebecca Bolton, <i>WING UK</i>
17.00	End of day one
17.15- 18.15	Drinks Reception

Day Two	
08.30	Registration
	Session Four: Exploring Mine Water Geothermal Energy: Characterization, Challenges, and Opportunities for Sustainable Heat
08.50	Drilling into shallow coal mine workings for heat: the importance of characterising the rocks Stuart Jones, <i>Durham University</i>
09.10	Challenges in Characterising Mine-Water Baseflow and Heat Transport With Tracer Tests Alejandro Perez, <i>University of Edinburgh</i>
09.30	A Local Hydrogeochemical Conceptual Model of the Midlothian Coalfield: Assessment of Risks Baseline Prior to Minewater Thermal Storage Samuel Graham, <i>University of Edinburgh</i>
09.50	Advancing Net Zero: Expanding Mine Water Geothermal Potential in Kent's Coal Mines Mimi Bleakley, <i>ERCE</i>
10.10	Investigating the potential impacts of climate change on mine water resources: Central Scotland as a case study Clodagh Gillen, <i>University of Strathclyde</i>
10.30	The Opportunities and Challenges of the Mine Water Heat Resource in Cornwall Tony Bennett, <i>EGS Energy Ltd. And Southwest Geothermal Alliance</i>
10.50	BREAK AND POSTERS
	Session Five: Advanced Techniques in Geothermal Reservoir Imaging, Monitoring, and Modelling

11.20	The potential of Large-N passive seismology to image meter scale reservoir heterogeneity Mark Ireland, <i>Newcastle University</i>
11.40 Virtual	Reinjection of CO₂-enriched spent fluids at the Kizildere geothermal field, Turkey: A numerical modelling study Ji-Quan Shi, <i>Imperial College London</i>
12.00	InSAR for geothermal field monitoring: case studies from New Zealand Nick Dodds, <i>SatSense</i>
12.20	New Approach to Modeling Fractured Reservoirs for Geothermal Energy and Lithium Recovery Tim Salter, <i>Baker Hughes</i>
12.40	Use of Rockwash Geodata integrated cuttings analysis for characterisation of deep wells in granite basement – an example from United Downs wells UD-1 and UD-2 Douglas Langton, <i>Rockwash</i>
13.00	LUNCH AND POSTERS
	Session Six: Integrating Renewable Technologies: Innovations in Shallow Geothermal and Heat Pump Systems
14.00	Integration of photovoltaic-thermal and passive cooling rejected heat within shallow geothermal networked heat pump systems Alister Henderson, <i>Kensa Engineering Ltd.</i>
14.20	Ground source heating and cooling (GSHC) systems – evidence for regulation Sian Loveless, <i>Environment Agency</i>
14.40	Geothermal heat with every beat – the BODYHEAT project two years into operation John Naismith, <i>TownRock Energy</i>
15.00	BREAK AND POSTERS
15.40	Comparative subsurface aquifer modelling: a Geothermal Campus case study Arka Sarkar, <i>University of Leeds</i>
16.00	Core to field-scale thermal characterisation of the Sherwood Sandstone Group aquifer at UKGEOS Cheshire, UK David Boon, <i>British Geological Survey</i>
16.20	Numerical Modelling of an Exceptionally Well Instrumented Thermal Response Test in the UK Chalk Aquifer Louisa Bahlali, <i>Imperial College London</i>
16.40	End of day two

Day Three

08.30	Registration
	Session Seven: Unlocking Geothermal Potential: Innovations in Exploration, Technology Transfer, and Sustainable Heat Solutions
08.50	Customer driven geothermal exploration approaches for industrial hubs and district heating Dave Waters, <i>Paetoro Consulting UK Ltd.</i>
09.10	The potential benefits of technology transfer from the US to the UK to accelerate the development of Geothermal Energy in UK Tony Pink, <i>Pink Granite Consulting Ltd.</i>

09.30	Deep Geothermal Heat Pumps: megawatt-scale, sustainable heat supply that is cost competitive with fossil fuels Huw Williams, <i>Causeway Geothermal (NI) Ltd & Agua Enodo Ltd</i>
09.50	A pathway to simplifying modelling of single coaxial deep borehole heat exchangers (DBHE) David Banks, <i>University of Glasgow</i>
10.10	Investigating the Potential for a 6 km Deep Borehole Heat Exchanger to Supply Heat and Power in Glasgow Tiorafi Muhammad, Christopher Brown, <i>University of Glasgow</i>
10.30	Challenges and opportunities for binary cycles in geothermal power applications Martin White, <i>University of Sussex</i>
10.50 Virtual	Global database of hot sedimentary aquifer geothermal projects: De-risking future projects by determining key success and failure criteria in the development of a valuable low-carbon energy resource Maëlle Brémaud, <i>University of Strathclyde</i>
11.10	BREAK
11.30	SEPARATE REGISTRATION REQUIRED Workshop 1: Advancements in Geothermal Drilling: Best Practices and Emerging Technologies for High-Temperature Operations and Enhanced ROP Workshop 2: Optimising Geothermal Deployments
13.00	LUNCH
14.00	SEPARATE REGISTRATION REQUIRED Workshop 1(continued): Advancements in Geothermal Drilling: Best Practices and Emerging Technologies for High-Temperature Operations and Enhanced ROP Workshop 2 (continued): Optimising Geothermal Deployments
15.30	End of day two

Posters Day 1	
Unlocking Hidden Deep Geothermal Potential: Leveraging Artificial Intelligence for Subsurface Exploration Mahmoud AlGaiar, <i>Robert Gordon University</i>	
Evaluating The Geothermal Potential of a Hot Sedimentary Aquifer (HSA) in the Denver Basin Using A Hybrid Discrete/Continuum Approach Mark Cottrell, <i>WSP UK Limited</i>	
How good is your fracture model? Examining how interpreter experience and approaches affect fracture model variability Leila Evans, <i>University of Strathclyde</i>	
Regional interpretation of Permo-Triassic aquifers in the Cheshire Basin, UK, for direct use geothermal energy David Johnstone, <i>University of Manchester</i>	
Aquifer geothermal potential of Upper Devonian strata in the Midland Valley of Scotland Tim Kearsey, <i>British Geological Survey</i>	
Innovative new closed loop horizontal well solution to universally harvest deep geothermal Energy Kim Gunn Maver, <i>Green Therma</i>	
Aquifer lithology and fluid composition across potential geothermal production intervals Will Norfolk, <i>Newcastle University</i>	
Community engagement for deep geothermal developments in the UK: an updated reflection on engagement for the United Downs Deep Geothermal Project, Cornwall	



Thomas Olver, <i>Geothermal Engineering Ltd.</i>
Levelised Cost of Heating Estimation of Deep Geothermal in Newcastle upon Tyne and North East England Daniel Samosir, <i>Newcastle University Alumni</i>
The Good, The Bad, and the Ugly Drillers Stuart Sinclair, <i>Consortium Drilling Limited</i>
Drilling geothermal wells with laser: Sci-Fi or new reality? Pawel Slupski, <i>University of Padua</i>
Cornish Lithium: Understanding lithium-enriched waters in Southwest England Jos Thio, <i>Cornish Lithium</i>
Posters Day 2
Modelling & Optimization of Geothermal Energy in the Gulf of Suez Amira Abdelhafez, <i>University of Manchester</i>
A new ground source heat pump installation and 'Living Lab' at BGS Headquarters, Nottingham, UK David Boon, <i>British Geological Survey</i>
Borehole exchangers as thermal batteries: towards a new standard in GSHP dimensioning Étienne Coudert, <i>Celsius Energy</i>
Geothermal Energy Collaborating with Fish Farms for Climate Adaption in East Africa Charles Ferguson, <i>Global Infrastructure Solutions Limited</i>
How far and how fast? Multiphysical monitoring of thermal plumes under mine water geothermal Andrés González Quirós, <i>British Geological Survey</i>
Assessment of shallow geothermal energy potential underneath Leeds Mohamed Gouiza, <i>University of Leeds</i>
Integration of photovoltaic-thermal captured heat within shallow geothermal networked heat pump systems Alister Henderson, <i>Kensa Engineering Ltd.</i>
Option of energy-free thermostat storage employing a near-surface aquifer system Arunangshu Mukherjee, <i>Manav Rachna International Institute of Research and Studies</i>
A feasibility study for the installation of mine water thermal energy storage (MTES) in an abandoned metalliferous mine in Cornwall, UK. Thomas Olver, <i>Geothermal Engineering Ltd.</i>
The shallow geothermal potential of Permian rocks beneath Belfast, Northern Ireland Rob Raine, <i>Geological Survey of Northern Ireland</i>
Evaluating the potential for heat storage in abandoned coal mine shafts in Scotland Zoe Shipton, <i>University of Strathclyde</i>
Mine Water vs Air Source Heat Pumps: a head to head between two low carbon heating solutions Sam Smith, <i>TownRock Energy</i>

The Energy Group of the Geological Society would like to thank the following for their support for this conference:

Corporate Sponsors:

