



# TRANSFORMING SUBSURFACE CHARACTERISATION: NEW APPROACHES AND THE ROLE OF AI

**3RD DECEMBER 2026**

The Geological Society, Burlington House,  
Piccadilly, London

Call for  
abstracts  
now open  
Deadline: 14th  
September

## Convenors:

Andrew Davies  
Halliburton

Dan Arnold  
Heriot-Watt University

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The evolving energy landscape means that the subsurface has never been more in demand. Subsurface storage, geothermal energy, water resources, and near-surface engineering all require optimal characterisation of the subsurface, in addition to the discovery and exploitation of more challenging hydrocarbon resources.

These different needs require new, innovative approaches. When combined with the rapid advancement of artificial intelligence we have a unique opportunity to fundamentally transform how we model, interpret, and understand the subsurface.

This conference will explore emerging approaches to subsurface characterisation, and how digital technologies and AI are reshaping workflows to deliver faster and more accurate insights and outcomes. By bringing together industry and academic perspectives, the event aims to crystallise key learnings that will empower geoscientists to address the energy and subsurface challenges of the coming decades.

Key themes include:

- From observations to insights: better detection, prediction, and forecasting for decision-making
- Transferring knowledge across emerging and established subsurface applications and disciplines
- How will the role of geoscientists evolve in interpretation workflows
- Managing uncertainty across scales
- Enhancing geological plausibility
- Transitioning from qualitative interpretation to quantitative subsurface analysis
- Developing AI-ready geoscience datasets
- Building the skills and capabilities for the next generation of geoscientists

These themes will be explored across multiple scales – from regional exploration to reservoir modelling and rock property characterisation – integrating petrographic, sedimentological, and structural perspectives.

[www.geolsoc.org.uk/events/transforming-subsurface-characterisation-energy-group](http://www.geolsoc.org.uk/events/transforming-subsurface-characterisation-energy-group)

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