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# Western Regional Group

## Geophysics and Geohazards: Non-intrusive 3D ground models for mapping unseen hazards

**Dr Jim Whiteley,  
AtkinsRéalis**

Tuesday 17<sup>th</sup> September 2024

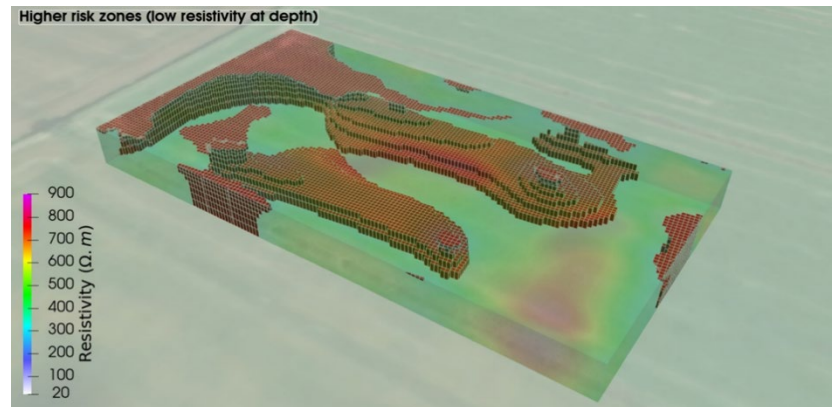
**Hybrid Talk:** Starts at 6:30pm (see below for details)

The Western Regional Group is pleased to welcome Dr Jim Whiteley who will provide an overview of modelling unseen hazards.

In the UK, near surface geophysical surveys have played a niche but important role in ground investigation for the past 60 years. Like many areas of engineering geology, near surface geophysics has embraced and benefitted from many of the leaps in digital technologies in recent decades. However, the manner in which geophysical models are used to support ground investigations has changed little in this time, typically being employed to screen sites prior to intrusive investigation, or to delineate unexpected features arising during intrusive works that might prove problematic or hazardous to further ground investigation or site development.

This talk looks at a recent case study using a phased and integrated geotechnical-geophysical approach to map karst geohazards in the east of England for the Strategic Pipeline Alliance (SPA) project. In particular, this talk demonstrates the use 3D geophysical models as a source of spatially-extensive ground investigation data that can be used to extend the interpretation of intrusive-only data, and shows how site risk can be minimised using an integrated approach to mapping unseen hazards.

Jim is Engineering Geophysics Lead at AtkinsRéalis with experience across the commercial, research and innovation sectors. He obtained his PhD from the University of Bristol whilst working for the British Geological Survey, where he developed novel geophysical approaches to characterise and monitor landslides. He specialises in the integration of 3D and 4D geophysical tomographic models with complementary engineering geological and geotechnical information to deliver integrated solutions for ground engineering problems. He is an Honorary Research Associate with the British Geological Survey and the Secretary for the Geological Society's Near Surface Geophysics Group, and is an advocate for raising the quality and profile of near surface geophysics within the UK engineering geology sector.



**Hybrid Event;** When: 17<sup>th</sup> September 2024 at 6:30 PM (room opens at 6pm), at The Hub, 500 Park Ave, Aztec W, Almondsbury, Bristol BS32 4RZ. Non-members welcome. Room opens from 6pm

**Zoom Details:** Zoom "room" opens from 6:15pm. [https://us02web.zoom.us/meeting/register/tZlsce-rzrkqHd1bBI\\_WNiv23GDWzCK7r6JT](https://us02web.zoom.us/meeting/register/tZlsce-rzrkqHd1bBI_WNiv23GDWzCK7r6JT)

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