

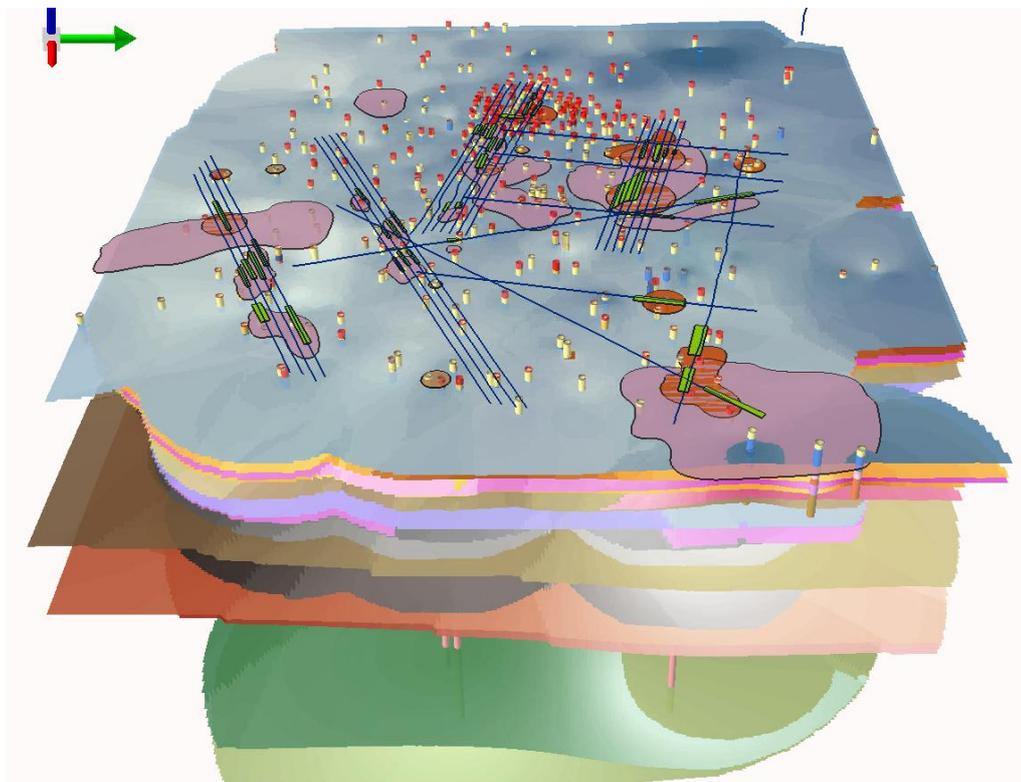
Appropriate Site Characterisation: Benefits of Integrated & Dynamic Investigation - 8th January 2019

Dr. Chris Coleman, UK Consultancy Manager, Fugro

(A joint meeting of the Geological Society's West Midlands Regional Group and the Engineering Group)

Abstract:

Identification and visualisation of the variable subsurface through good quality ground investigation are critical components of managing uncertainty in geotechnical engineering, alongside design method applicability and assurance of construction quality. These themes will be discussed with respect to advances in, and increasing use of, surface and downhole geophysics in UK ground investigations as well as the availability and practicality of site-specific verification and calibration. The talk will have an emphasis on the approaches, best practice and pitfalls of integrating geophysical and intrusive investigation data and collectively deriving suitable ground parameters. The role of the engineering ground model and use of this tool will be explored and discussed from investigation design to later stages of the Building Information Modelling process. Using case studies from across the UK it will be demonstrated how the phased approach to site investigation can be successfully optimised via the timely inclusion of geophysics and verification testing, and how undertaking the investigation in a reactive or dynamic fashion through the use of a simultaneously evolving ground model in time with the progress of the investigation can adapt the GI to the ground conditions as they are revealed. The case studies will demonstrate the benefit of these integrated and dynamic approaches to site characterisation with timely identification of geohazards and more cost-efficient design with a reduced need for overengineering.



Biography

Chris Coleman is the head of onshore and nearshore consultancy services for Fugro in the UK and Ireland. A practitioner in the fields of Engineering Geology and Quaternary Geology he has been developing large site and regional scale GIS based ground models for site characterisation since the early 2000s with a focus on remote sensed and surface geophysical data integration. He is co-author of the site investigation approaches chapter of the Geological Society special publication 'Engineering Geology and Geomorphology of Glaciated and Periglaciated Terrains'.