



The
Geological
Society

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Speaker:
Simon Price
University of Cambridge

Date:
Wednesday 18th July
2018

Meeting timings:
Tea/coffee 17:15
Start Talk 1: 18:00
Refreshments
Start Talk 2: 19:00

Post talk refreshments
available

Location:
Fugro House,
Wallingford,
Oxfordshire,
OX10 9RB.

Free to attend

Other:
This event will not be
livestreamed or
recorded; you will
need to attend in
person to view the talk

For further information please
contact the event convenor:
Chris Coleman,
c.coleman@fugro.com

Britains Icy Past: Implications for Ground Engineering

**A joint meeting by the Engineering Group (EGGS) and the Thames Valley
Regional Group of The Geological Society**

NB: This is talk one of a two talk evening

The ability to anticipate vertical and lateral changes in the physical properties and structure of the shallow geological subsurface remains a major challenge for ground engineers. Geological and geotechnical variability in natural engineering soils increases uncertainty in the design, construction and performance of infrastructure assets built on or in the ground.

Ground engineering in mid-latitude lowland landscapes affected by past cyclical glacial and periglacial processes intensifies the challenge of anticipating variability. Quaternary climate-driven events have the potential to change effective stresses and so change the original in-situ state of pre-existing frost-susceptible bedrock and sediments. Other geological sources of variability include glacial erosion, glacier-transport and deposition, loading by glacier-ice, ground-ice formation and periglacial weathering. Quaternary depositional and stress history therefore influences fundamental geotechnical behaviour which may change from regional to site-scale, within similar geological layers and may also overprint the depositional and erosional histories of bedrock.



This talk explores geotechnical variability in lowland British tills and bedrock of the Oxford Clay Formation around the margin of a former Middle Pleistocene ice margin of the British Ice Sheet (BIS). The talk will explore variations in index properties, undrained shear strength, stiffness and compressibility and compare them with the spatial distribution of Quaternary Provinces and Domains. The degree to which geotechnical variability can be explained because of glacial and/or periglacial history will be discussed. The talk will conclude with discussion of the potential implications for ground investigation, and the selection of geotechnical design parameters.



www.geolsoc.org.uk/engineeringgroup