



The
Geological
Society

servicing science & profession

Speakers:

Mike Winter

TRL

Ian Nettleton

Coffey Geotechnics

Oliver Pritchard

Arup

Date:

Wednesday 6th

February 2019

Tea / coffee: 17:30

Lecture: 18:00

Drinks reception

at Burlington

House follows

lecture

Location:

Burlington House

The lecture will also be
livestreamed at the

following web address:

<http://geolsoc.adobeconnect.com/eggs1902/>

Free to attend.

**Registration not
required.**

For further information
please contact:

Event Convenor:
Richard Brown

email:

richard.brown@aecom.com.com

Innovative Geotechnical Slope Repair Techniques: Part of Highways England's Geotechnical Resilience Programme

**An evening meeting by the Engineering Group of the Geological
Society (EGGS) and British Geotechnical Association (BGA)**

A brief overview of Highways England's Geotechnical Resilience Research Programme will be presented by Arup, Highways England's Programme Managers, followed by a more detailed session describing recently published work on the evaluation of Innovative Geotechnical Slope Repair Techniques.



The techniques evaluated are the planting of live willow poles, Fibre Reinforced Soil (FRS) and Electrokinetic Geosynthetics (EKG). These techniques were used in place of conventional approaches in order to reduce the overall impact of various challenges including environmental constraints (habitat and visual), access and utility constraints, and the need to reduce the scale and/or cost of traffic management and traffic delays. Trials of the techniques have been undertaken over 20 years. The available data and information has been assessed, detailed site visits undertaken to determine the effectiveness of each technique with the objective of recommended future use and where appropriate, developing design and specification guidance. Life Cycle Assessment has also been undertaken of the three techniques and conventional rock fill replacement to provide an intriguing comparison.

Monitoring was generally limited to just a few years post-construction. Longer term evaluation has not generally been undertaken and this and other generic lessons regarding the planning, design and execution of future trials will also be presented.





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Speaker Biographies

Professor Mike Winter

Mike is Head of Ground Engineering and Honorary Chief Scientist at the UK's Transport Research Laboratory (TRL) and Visiting Industrial Professor at the University of Portsmouth. He is a Chartered Civil Engineer, Fellow of the Institution of Civil Engineers, a Chartered Geologist and a UK Registered Ground Engineering Adviser with experience gained over 30 years.

His main areas of research and expertise include pioneering work on landslides (particularly debris flows) their hazard and risk assessment and management and mitigation as well as their socio-economic and network impacts, engineering in glacial tills, soil compaction, soil acceptability for earthworking, slope stability, soil slope strengthening, retaining systems, and the use of waste Geomaterials, and of waste materials in geo-structures including tyre bales.

Ian Nettleton

Ian has over 27 years experience in geophysics; deep hydro-geological testing; and geotechnical consultancy and research in engineering geology and geotechnical engineering. He provides specialist advice to government bodies, local authorities, infrastructure owners, quarry & mine owners, consultants, contractors, developers, and private clients. His work includes factual and interpretive reports, research reports, forensic investigations, designs, contract documentation and he acts as an Expert Witness. His principal areas of interest include rock & soil slope design, inspection, risk assessment and management; landslide & slope failure investigation and remediation; geotechnical / geological mapping; site investigation; digital terrain model hazard assessment, air photo interpretation, rock mass characterisation; foundations on rock, and research & development projects.

Dr Oliver Pritchard

Oliver is a Consultant in Arup's Infrastructure Advisory group. Principally, Oliver's work focuses on investigating the risks posed by severe weather and climate change to infrastructure earthworks. He uses data-driven approaches to try and understand the potential drivers and triggers for infrastructure earthworks failure, and has helped develop resilience-based asset management approaches as well as providing technical support to infrastructure resilience-related programmes. He has authored a number of peer-reviewed academic and industrial papers around the impact of ground-related hazards and climate change on infrastructure networks. Prior to undertaking his PhD, Oliver had several years' experience as a geologist working on a range of geotechnical and geoenvironmental site investigations, including large-scale infrastructure projects.

