49TH COOLING PRIZE COMPETITION FINAL

hosted by
North West Geotechnical Group and ICE North West

Wednesday 28th February at 6.30 pm

at

The Friends Quaker Meeting House at 6 Mount Street, Manchester, M2 5NS

Finalists:

Candidate	Topic
Alexandra Clarà Saracho (University of Cambridge)	Microbially Induced Calcite Precipitation (MICP) to Mitigate Contact Erosion in Earth Embankment Dams
Joseph Newhouse (Mott MacDonald)	Ground Movement due to Shaft Construction
Christopher Krechowiecki-Shaw	Using Traffic as a Low-cost Treatment for Temporary Heavy Haul Roads

After the presentations, while the judges consider their verdict,
a short keynote lecture will be given by:

DR ANDREW SMITH

COFFEY GEOTECHNICS LTD

on

A645 Newland Bridge: major repair works

(synopsis overleaf)

For enquiries regarding the venue, please contact: Edouardos Karavakis on 01925 800722 or at Edouardos.Karavakis@arcadis.com

Book online at: https://www.ice.org.uk/events/49th-cooling-prize-competition-2018

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Wednesday 28th February at 6.30 pm

DR ANDREW SMITH

TECHNICAL DIRECTOR, COFFEY GEOTECHNICS LTD

on

A645 Newland Bridge: major repair works

Synopsis

Newland Bridge is a 3-span steel composite structure carrying the A645 over the River Aire between Drax and Goole.

Since construction in1992, the approach embankments have suffered up to 800mm of settlement, causing abutments to displace, damaging bearings, closing movement joints and introducing a large propping force into the bridge deck. If unresolved, the continued settlement could cause further significant if not catastrophic damage to the bridge.

The solution adopted was to replace the upper portion of the approach embankments with "Leca" light-weight fill, thus virtually eliminating future settlement. The damage to the bridge could then be repaired, enabling the structure to achieve its remaining design life.

The presentation describes the problems experienced by the bridge and the methods adopted to design the remedial works.

Dr Andrew Smith read engineering at Cambridge and then completed a PhD on reinforced soil walls with Peter Wroth. He has forty years' experience in geotechnical engineering, and has worked on a wide range of projects, ranging from highway works through deep piled foundations for both offshore and onshore structures to deep excavations. He is particularly known for his ability to address problems that require strong analytical skills and a thorough understanding of theoretical soil mechanics. He is also well known as a lecturer: he gave the presentations that won the 2008 Fleming prize and 2009 Engineers Ireland Geotechnical Prize, and has recently been invited to present a lecture to the City University's MSc course on the design of temporary works.

Tea and Biscuits will be available beforehand

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