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BIRMINGHAM

Midlands Geotechnical Society Newsletter

Newsletter February 2013

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February 2013 Meeting

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Honorary Secretary:

Julian Hughes

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Meeting Venue

Lectures start: 7.00 pm

Location:

HAWORTH BUILDING,
University of Birmingham B15 2TT

Refreshments are available prior to the meeting in the Shell lounge, Department of Mechanical and Civil Engineering, from 6.15 pm onwards

Registered Charity Number: 514610

Monday February 4th 2013

Professor Chris Rogers,
Professor of Geotechnical Engineering,
University of Birmingham
Presents

Exploring the Underworld: Seeing Through the Ground, Discerning Anthropogenic Influences and Realising Opportunities for Growth in its Use

What is buried beneath the ground surface holds a fascination for us all. For geotechnical engineers, extending into all branches of geology, it forms the context of our profession, and we are keen to unlock the secrets of the natural ground and its changes due to anthropogenic activities. For utility service engineers the ground beneath our streets hides, and supports, the buried pipes and cables that transmit the essential services to those living in towns, cities, villages and rural communities. The ground equally hides the foundations for structures we see at the surface, as well as a host of other features that constitute the sub-surface built environment. Moreover it also hides our history – as settlements grow and develop, we bury the past in progressively building up the ground level. Being aware of this wide range of anthropogenic activity creates one of the challenges for the geotechnical engineer – we wish to proceed with sympathy for what is there, assuring that what we do is stable and will perform into the far future, while ensuring that we don't compromise the ability of future generations to utilise the underground space.

The presentation will build on these ideas in introducing the thinking from both Mapping the Underworld – an EPSRC project that combines various forms of shallow-surface geophysics – and research into the future use of underground space in cities. In so doing, the presentation aims to show that underground space is a greatly underused resource in our urban areas, and one that could contribute to far more sustainable urban environments. This is done in different parts of the world as a matter of course, for different reasons, and so should the first question that we ask when considering any urban development be “could part, or all, beneficially be sited below ground?” The tools required for exploring the deeper underground space in urban areas would, however, need to be refined, and thus we are presented with additional challenges. There is a need for new visions for the space below our cities in all senses of the word.

Professor Chris Rogers, Professor of Geotechnical Engineering, University of Birmingham

Chris Rogers spent three years in the civil engineering industry before researching pipeline soil-structure interaction in the Pavement Research Group at Nottingham University. He joined Loughborough University in 1986 and moved to his current position at the University of Birmingham in 1998. His research spans urban sustainability, resilience and futures, specifically the provision of utility services and use of underground space, building on prior research into trenchless technology, buried pipes, soil stabilization and road foundations. He leads the multi-university EPSRC Mapping the Underworld research initiative, which addresses the challenge of locating and mapping pipelines and cables buried beneath the streets. He led the multi-disciplinary *Urban Futures* consortium funded under EPSRC's Sustainable Urban Environments programme, and leads the *Liveable Cities* EPSRC Programme Grant, both exploring the performance of future cities to deliver urban resilience. He chairs the *Innovation & Research Panel* and the *Futures Group* at the Institution of Civil Engineers, and is an editor of *Tunnelling and Underground Space Technology*.

This months lecture is sponsored by

