Editorial

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As the new deputy chairman of the Editorial Advisory Board, I am pleased to introduce you to the second issue of *Geotechnical Engineering* (GE) in 2012. As a popular journal GE is always on the lookout for new panel members to contribute to its continuing success. Presently we have vacancies for experienced overseas geotechnical engineers from both industrial and academic backgrounds. Candidates should be at a senior level or above and be well respected both nationally and internationally. We are particularly keen to attract panel members from Brazil, Russia, India and China. Serving on the panel is both hard work and rewarding. It allows you to influence the quality of publications and international standing of the journal. If you are interested in joining the panel please send a copy of your CV to the editorial coordinator, Sarah Walker (sarah.walker@icepublishing.com) before the end of May 2012.

This issue contains four technical papers, one discussion and two book reviews. All papers are practical in nature and as such will be of great interest to practitioners, although I am sure that many researchers will find an abundance of interesting data too.

The first and longest paper, by Chau *et al.* (2012), is related to the embodied energy (EE) of two sections of the UK Channel Tunnel rail link (CTRL), a high speed railway line connecting the Channel Tunnel and St Pancras Station in London. This is a topical issue at the moment because a correlation exists between EE and carbon dioxide, which is one of the most significant greenhouse gases contributing to global warming. We might be more accustomed to see a paper like this in the ICE Proceedings of Civil Engineering rather than Geotechnical Engineering. However, an innovative and detailed EE calculation approach is presented and applied to geotechnical infrastructure considering three schemes: twin-bore tunnels, a piled slab and a hypothetical embankment. As such, it is valuable to the wider geotechnical community while at the same time it contributes to the diversity of topics covered by GE.

The second paper, by Cai *et al.* (2012), is related to soft clay ground improvement by T-shaped, bi-directional, soil cement deep mixing columns as identified by seismic cone penetration tests (SCPTU) on a project site in China. Diversity of the obtained test data, their repeatability and reliability have again demonstrated that SCPTU tests are one of the best methods to monitor and document the effects of ground improvement by deducing the pre-consolidation pressure, shear strength, stiffness and permeability of the clay materials involved.

The last two papers are devoted to the behaviour of compacted

soils. In fact, the papers were submitted for inclusion in the 2011 themed issue of GE on compacted fills. However, this topic turned out to be extremely popular and, in spite of two printed issues in April and August last year, unfortunately not all papers could be included. This proves not only the obvious interest in the subject of compacted fills (it should be recalled that a highly successful symposium at Queens University Belfast in May 2011 accompanied the two themed issues) but also the exceptionally high quality of the papers received. This year's themed issue will be published in GE in June and will concentrate on geotechnical engineering for embankment dams.

Marinho and Oliveira (2012) deal with the unconfined shear strength of compacted unsaturated plastic soils providing an empirical relationship between this soil property and a liquidity index that was specifically defined for compacted unsaturated soils. The concept behind this relationship is similar to that applicable for saturated soils. The proposed empirical correlation emphasises the role of suction and void ratio and can be used in many practical applications dealing with compacted soils.

Almeida *et al.* (2012) describe a comprehensive set of laboratory and in situ tests to characterise the behaviour of a compacted clayey silt fill used in construction of a piled embankment for a school project in Rio de Janeiro, Brazil. High quality block samples were used for triaxial testing under saturated and unsaturated conditions. Field studies included suction, water content and temperature measurements and were correlated with pluviometer data from a nearby weather station. Both laboratory and field data provided consistent bi-modal water retention curves, with the field data showing a large surface variation in suction and water content with time.

There is an interesting discussion on the phenomenon of negative skin friction and its effect on pile capacity prompted by the paper by Roohnavaz (2010) on driven pile construction control procedures and design. Discussion articles on any of our previous papers are particularly welcomed. If you are interested in contributing, instructions can be found at the end of each paper.

Two book reviews close the proceedings. The first review is of a valuable book on geotechnical engineering in residual soils. We learn that the author has provided us with an interesting personal view of the subject. However, the book should not be considered to be a definitive work on the complex matter of geotechnics in residual soils. The second book brings together all the papers published in two issues of the Geotechnique symposium in print

on stiff and sedimentary clays held in May 2007 together with two valuable keynote papers published subsequently. The reviewer correctly notes that the main advantage of the book is to put all the high quality papers under one cover.

I hope you will enjoy this issue of GE and, at the same time, I would like to encourage readers to submit further interesting and high quality papers. This is always the first and possibly most crucial step in maintaining the high standards of any journal.

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