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Editorial

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Welcome to the fourth issue of *Geotechnical Engineering* in 2011. This issue contains four technical papers, two discussions and two book reviews. As well as introducing the contents of this issue, I would like to introduce some of the recent journal developments and highlight ways in which you the readers and authors can contribute to the continuing success of the journal.

As you may be aware the April and June 2011 issues of *Geotechnical Engineering* were dedicated to two themed issues on compacted fills. Based upon the success of the themed issues and the obvious interest in the subject of compacted fills, a symposium in print was held at Queens University Belfast on 20 May 2011. The symposium was attended by 70 delegates from the UK and overseas. The day was very successful with 12 of the 15 published papers being presented, giving the chance for like-minded authors to engage in healthy discussion and debate. The opening and closing remarks were given by Dr P. Ingram (ARUP, GE panel member) and Mr D. Jones (United Utilities Engineering, GE panel Chairman) respectively. I would like to take this opportunity to thank Dr Sivakumar and his sub-committee for their hard work in making both the themed issues and symposium highly successful.

Hopefully you will be aware that as well as access to *Geotechnical Engineering* in the final printed form, subscribers can also get access to papers before they are published as the journal has introduced an 'ahead of print' (AOP) facility (www.geotechnicaljournal.com). This allows subscribers to download finished articles while they wait for a print issue to become available. All AOP articles are considered officially published and may be cited using each article's unique digital object identifier (DOI) which it will retain when published in its final form.

As panel members normally serve the journal for a 3-year period, we are frequently looking to appoint new members and will do so in November 2011. We would therefore like to invite both senior academics and industrialists to join the panel. 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. It also gives you the chance to meet and work with like-minded panel members and see the latest developments before anybody else. If you are interested in joining to the panel please send a copy of your CV to the editorial coordinator, Sohini Banerjee (sohini.banerjee@icepublishing.com) before the end of August 2011.

The first technical paper in this issue is a state-of-the-art review of piles for offshore wind turbines by Gavin *et al.* (2011). We would like to encourage submission of similar review or state-of-the-art papers on a range of themes of interest to geotechnical practice. Such papers are important to our discipline as they serve as a useful starting point for readers unfamiliar with an area and allow busy experts in the field to stay abreast of the latest developments. They also hopefully serve as the impetus for further discussion; highlight differences in points of view and perceptions; compare the performance of our design approaches; and highlight the direction of future developments.

The first, paper as mentioned above, is a state-of-the-art review of piles for offshore wind farms (Gavin *et al.*, 2011). The paper looks at the development of offshore pile capacity design methods (e.g. API, NGI, ICP, UWA, Fugro) and moves on to focus on the reliability of tensile shaft capacity prediction for open-ended tubular piles in sand. As the paper highlights, improved and reliable prediction of both compressive and tensile pile capacity will become more important with the increased deployment of wind turbines on jacket structures which rely on low pile numbers to be economic. The paper describes how cone penetration test (CPT)-based prediction methods show consistent estimates of pile capacity but perform less well for tensile capacity prediction at the relatively high tensile loads experienced by a 5 MW turbine. It is suggested that semi-empirical factors present in existing models do not account for the differences in the radial stress regime observed between open- and closed-ended piles and, similarly, the effect of friction fatigue with varying pile geometry and relative density is not well modelled. A new framework is suggested where friction fatigue effects are controlled by sand state.

The second paper, by Roohnavaz *et al.* (2011), looks at the evaluation of site-won metastable or collapsible loessial soil for sustainable reuse in large-scale earthworks. The investigation was undertaken for expansion of one of the world's largest processing facilities, south of the River Ural and close to the border between Kazakhstan and the Russian Federation. The loessial soils had previously been considered unusable leading to dredging and costly import of significant volumes of alternative material. Through careful laboratory characterisation (compaction, California bearing ratio, strength, deformation and suction) the paper highlights the suitability of the site-won material in earthworks where placement moisture contents and suction are controlled and monitored. The paper also highlights that it is important that such control and monitoring is based upon compaction trials at an early stage in the project.

Appended to the paper is a useful description of a laboratory procedure for suction probe measurements.

The paper by Zaimoglu (2011) is also based around the reuse of materials in geotechnical applications as it looks at the engineering properties of sand stabilised by borogypsum, an industrial by-product of the production of boric acid. The paper shows significant improvement in the properties of improved granular soils and suggests that this additive material could be used in a wider range of soils as a ground improvement technique. The paper by Moayed and Janbaz (2011) considers the relationship between subgrade reaction modulus (from plate load tests), elastic modulus and the standard penetration tests for cemented gravelly Tehran alluvium. The authors use data obtained from 75 different sites to derive correlations that are appropriate for the Tehran alluvium and highlight how this differs from commonly adopted correlations for non-cemented soils.

This issue also includes two discussions on previous papers (Barnes, 2009; Baxter *et al.*, 2008). Discussion contributions 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.

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