Editorial

Andrew Lees PhD, CEng, MICE

Senior Application Technology Manager – Geotechnical,
 Tensar International Ltd and Director, Geofem Ltd, Nicosia, Cyprus

This August issue of *Geotechnical Engineering* contains a typically diverse range of themes but they all have at least one thing in common: true to the aims of the journal, they present project experience and research outcomes that are ready for trial or application by civil, structural and geotechnical engineers in practice. The solution to a geotechnical design or construction challenge you are facing on your project may lie within this issue.

The first two papers present the results of experimental studies that have the potential for field trials and application in practice. Arshad and O'Kelly (2016) investigated reducing the rotation of monopiles subjected to sustained cyclic loading by support from a cruciform arrangement of small-diameter piles attached to the monopile by a grillage. They performed model tests on different arrangements of the piles and loading regimes and obtained interesting results. This paper follows a number of others on monopiles published in this journal in the previous issue (Murphy *et al.*, 2016) and last year (Chen *et al.*, 2015; Li *et al.*, 2015). We will no doubt see more papers published in this journal on this hot topic, perhaps in next year's themed issue on geotechnics in energy provision, for which we have received a remarkably high number of submissions and for which the peer-review process is well under way.

The second paper's experimental study involved undertaking characterisation tests on oil-contaminated lateritic soils in Nigeria with and without different proportions of added Portland cement (Akinwumi *et al.*, 2016). The results of these tests show promise for the use of such contaminated soils as earthworks construction material rather than being treated as waste and it would be very interesting to hear of field trials or applications of such material treated and used in this way.

The submission of case records is always very welcome because their dissemination is so valuable to the industry. Cabarkapa and Smith (2016) present a fine example of a well-documented foundation design and construction case record illustrating how a range of engineering challenges were overcome. A carefully executed site investigation undertaken in three stages enabled the geotechnical risks on site to be managed effectively. Tight serviceability constraints on poor ground conditions were overcome by the adoption of full displacement piles and extensive monitoring by means of the piling rig instrumentation and settlement measurements.

The measurement of earth pressure behind retaining walls has long presented a challenge to researchers and engineers alike and is still not undertaken on a routine basis. In the fourth paper, Schwager *et al.* (2016) present an intriguing and simple field technique to determine lateral earth pressure changes that could see these measurements undertaken more often in practice. In the same inclinometer tubes used to measure horizontal deflection in the ground behind the retaining wall to a large-scale excavation test, they measured the change in cross-sectional shape of the tube. Combining these data with displacement measurements they were able to back-calculate the change in lateral earth pressure and stiffness in each soil layer.

Two-dimensional limit equilibrium analysis methods are commonly used in slope stability calculations but they can involve some quite crude assumptions in the case of pile-reinforced slopes. Zhuang and Cui (2016) present an analytical method that has the potential to overcome this issue in the final paper. Their technique takes account of pile spacing and soil arching between piles in the analysis of two-dimensional sections through a slope. It will be interesting to read about the wider range of soils and pile types that they have undertaken to investigate in the future and to see the technique applied to the design of slopes in practice.

I hope you enjoy reading these articles.

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