Editorial

Andrew Bond, Honorary Editor

Congratulations!

Congratulations are due to authors of papers that have appeared in this journal over the past 18 months. Dicky Bassett, James Kimmance and Chris Rasmussen have won the Halcrow Prize for their paper *An automated electrolevel deformation monitoring system for tunnels* which appeared in the July 1999 issue. Chris Raison has won the T. K. Hsieh Award for his paper *North Morecombe Terminal, Barrow: pile design for seismic conditions*, published in the same issue. Both these awards will be presented at the Institution of Civil Engineer's Annual Awards Ceremony on Tuesday 7 November at 1 Great George Street.

Congratulations are also due to the student members of the ICE who have recently won awards for papers on geotechnical topics. Martin Uren has won the Russell Allin Prize; Siobahn Catney (with Dr R. J. Lynch) has won the James Prescott Joule Medal; and Ian Hounsome has won the Miller Prize. In future issues of this journal, we hope to publish the papers that have won these awards so that you may judge for yourself the quality of the work being undertaken by student members of the ICE.

Details of all the prizes awarded by the ICE are provided on its website at www.ice.org.uk

In this issue

Three of the papers in this issue concentrate on one of the most important aspects of geotechnical engineering: predicting the settlement of structures.

Preene describes a simple method of risk assessment for buildings subject to settlement caused by groundwater lowering. The risk zones identified by this method can help determine the need for building condition surveys or settlement mitigation or avoidance measures. Fig. 6 of his paper is reproduced here.

Predicting the settlement of shallow foundations on cohesionless soils is hampered by the difficulty of retrieving representative samples for laboratory testing and by uncertainties in applying laboratory-measured stiffnesses in practice. Lehane and Cosgrove develop an expression for vertical stiffness that reflects the relative importance of the main controlling factors and they compare its predictions with field measurements.

Delpak, Omer and Robinson develop a semi-empirical method for predicting the load-settlement behaviour of large-diameter bored piles in Mercia mudstone. Their method has

been validated against a large database of full-scale pile tests and provides an improved predictive capability that promises more cost-effective construction.

Breaking from the settlement theme, Lilley describes a technique for confirming the presence of bulb or neck defects in cast-in-place piles, using resonant frequencies from vibration tests. The method provides additional information about the size and position of the defect.

Sridharan and Prakash present a classification system for expansive soils based on the free swell ratio of the soil. They argue that index properties such as liquid limit and plasticity index cannot predict soil expansivity satisfactorily—something the free swell index is able to do.

We also have a discussion of a paper by Basile on non-linear analysis of pile groups, which appeared in the April 1999 issue of *Geotechnical Engineering*.¹

Geotechnical engineers are blessed with a wide range of publications that cover their professional interests. To help readers of

Fig. 6. Deformations from groundwater control induced settlements (see page 182)

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Geotechnical Engineering keep abreast of related publications, we have decided to review the contents of other geotechnical journals on a regular basis. To get the ball rolling, this issue includes reviews of two of *Géotechnique's* recent issues.

In the next issue

Readers of *Geotechnical Engineering* can expect to see major changes both in the content and in the appearance of this journal, starting in January 2001. To mark the true start of the next millennium, we will be publishing a special issue featuring commissioned articles by leading authors from around the world.

Peter Cundall debates whether there is a discontinuous future for numerical modelling in geomechanics; Tom O'Rourke *et al.* describe the geotechnical aspects of lifeline engineering; Gaynor Dawson and Janet Bashaw explain how land reclamation technology can expand the geotechnical engineering envelope; and Emma

Hellawell *et al.* present details (as well as some stunning photographs) of metros under construction around the world.

Capping this, we will have the full text of Chris Clayton's Unwin Lecture entitled *Managing geotechnical risk: time for change?*

The journal is being redesigned to reflect the new content we have in store for you in forthcoming issues.

Time for change indeed!

References

1. BASILE R. Non-linear analysis of pile groups. *Proceedings of the Institution of Civil Engineers, Geotechnical Engineering*, 1999, **137**, No. 2, 105–115.