Editorial

Trevor Orr PhD, Eur. Ing, CEng, FICE, FIEI

Associate professor, Department of Civil, Structural & Environments Engineering, Trinity College, Dublin, Ireland

As honorary editor of *Geotechnical Engineering* and chair of its Editorial Advisory Panel, I welcome you to this issue – the last of 2017. This will be my final Editorial contribution before I step down as chair. During my time as chair, the journal has continued to publish high-quality papers that are relevant for practice. This has been achieved through the hard work of many people, including the Journal Editors from ICE Publishing (initially Josephine Francis and then Cherise Lopes-Baker), the peer review coordinator Naomi Connelly, and the many panel members, including the Deputy Chair Minh Nguyen, who have given up lots of their time to support me and ensure the continued quality of the published papers. I extend my thanks to all of them for their help and commitment.

During the past year, an aspect that has received particular attention by ICE Publishing and the Advisory Panel has been the Impact Factor (IF) and its significance and relevance for journals such as *Geotechnical Engineering*. In my Editorial in the February issue (Orr, 2017), I presented the results of a survey that found that the number of authors of research papers, particularly in science and medicine, has increased significantly in recent years. This is partly because advancement in academia is dependent on the quantity and quality of one's publication record, including the IF of the journals in which one publishes, and the number of citations. Having more authors on a paper makes it more likely that paper will be cited by one of the co-authors, which helps increase a journal's IF and the authors' citations. In 2014, the year before I became chair, the IF of GE was 1.056 and this year it has reduced to 0.544. While this reduction is certainly disappointing, it should be viewed in the context of the IF values of the other ICE Proceedings journals, which in 2017 have an average IF of 0.378 and range from 0.196 to 0.547. Hence *Geotechnical Engineering's* IF is at the top of the range for the ICE Proceedings journals.

Ben Ramster, ICE Publishing's Journals Manager, investigated the IF value for *Geotechnical Engineering* in 2014, which was an all-time record value, and discovered that, with regard to citations in 2013 by other journals to the 39 articles published by *Geotechnical Engineering* in 2011 (one of the two years that contributed to the 2014 IF value), the high IF value was largely determined by only three of the 39 articles in 2011. Based on this analysis of the IF of *Geotechnical Engineering*

and some other ICE Proceedings journals, the following conclusions were made.

- (i) Citation of a journal volume is heavily skewed toward a minority of papers. This handful of articles largely determines the IF.
- (ii) The authors of these highly-cited articles tend to publish annually, citing their previous work.
- (iii) Cited articles may share an author with their citing article, or are, by the way of contacts, in that author's professional network.

The low *Geotechnical Engineering* IF value does not correctly reflect the high quality of the papers published in the journal, which is an applied research and practice-focused journal covering all aspects of geotechnical research, design, construction and performance, nor the journal's impact. Practising engineers form a significant portion of the *Geotechnical Engineering* readership, but tend not to publish frequently. One indicator of the journal's international impact is provided by the total of 47 countries from which paper submissions have been received during my time as chair; 11% of these have been from the UK and 32% from China. The IF is a crude method for measuring a journal's quality and impact and alternative metrics, such as the h-index, are becoming more widely used.

During 2017, a total of 41 papers have been published together with one Briefing, six Discussion contributions and a book review. As in recent years, there was a themed issue in 2017, which was on 'Geotechnics in Energy Provision' and championed by Anthony Leung and Minh Nguyen. A well-attended and successful symposium based on this themed issue was held in the University of Dundee in June. This was the first *Geotechnical Engineering* symposium since the symposium on 'Compacted Fills' held in Queens University Belfast in 2011 and based on papers in the April and June issues that year.

The coming year will be a very active year for *Geotechnical Engineering* as two themed issues are planned. One is on 'Engineering in Chalk' and championed by Carlos Lam and Sarah Glover. This issue aims to provide a platform for researchers and industry practitioners involved in the major international conference on 'Engineering in Chalk', hosted by the British Geotechnical Association in September 2018, to

publish their findings in fuller detail. The other themed issue is on 'Advances in geotechnical seismic design' and championed by Paul Vardanega and James Go.

This issue contains six full-length Papers and a Discussion, all of which have practical relevance. In the first paper, Bagbag *et al.* (2017) address a critical issue facing geotechnical design engineers, which is the suitability of widely accessible and popular constitutive models for soil behaviour in numerical analyses. They show that the hardening soil small model with a small strain overlay can successfully predict the behaviour of medium and dense sand in pressuremeter and footing experiments, but note that poor predictions in the case of looser sand serves as a general reminder of the imperfect nature of constitutive models.

The next three papers are all concerned with piles. The paper by Ali and Khan (2017) is likely to be of interest to the designers of anchored retaining walls in clay as it is based on 35 case histories. In this paper the authors investigate how different factors, such as soil undrained shear strength, wall stiffness and embedment depth, affect the deformation characteristics of the walls. In the next paper, Fahmy and El Naggar (2017) use numerical analyses to investigate the efficiency and construction advantages of novel tapered helical piles to support solar energy panels, especially in the case of high uplift and lateral loading. They compare the performance of the tapered piles with that of other piles shapes, examining the pile deflections and moment–horizontal force interaction. The third pile paper by Duan *et al.* (2017) is also related to renewable energy. In this paper, the authors present a distinct-element study of the dynamic behaviour of a bored monopile for an offshore wind turbine subject to cyclic lateral loads. They compare their predictions with the results of centrifuge tests and provide evidence of the development of shear zones in the soil due to cyclic lateral loading.

In the fifth paper, Seo *et al.* (2017) present a combination of analytical studies and the results of numerous field pullout tests on soil nails to determine the shear interaction behaviour between the soil, grout and steel bar in soil-nail systems. The findings of this paper will be useful to practising engineers for estimating the displacement of soil-nail structures, particularly during the construction stage. The paper by Chai *et al.* (2017) provides an investigation of a clay in Japan containing volcanic ash. This strongly structured clay has unusual characteristics that designers should be aware of and include a high compression index indicating some degree of cementation, a high rate of reduction in permeability with void ratio and low stiffness.

The Discussion submitted by Shirlaw (Newman *et al.* 2017) on the performance of a tunnel-boring machine in chalk provides some further useful information about the paper by Newman *et al.* (2016). Like this example, Discussion contributions are welcome and can provide additional interesting insights. Hence if you would like to raise any points regarding the papers in this or other issues, please consider contributing a Discussion. Instructions on the preparation and submission of Discussions, Briefings and Papers are included at the end of each paper. For up-to-date information on *Geotechnical Engineering* and to see articles already published Ahead of Print, please visit <http://www.icevirtuallibrary.com/content/serial/geng>.

I hope you enjoy reading the articles in this issue and wish you a happy and productive year in 2018.

REFERENCES

- Ali J and Khan AQ (2017) Behaviour of anchored pile wall excavations in clays. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 493–502, <https://doi.org/10.1680/jgeen.16.00071>.
- Bagbag AA, Lehane BM and Doherty PD (2017) Predictions for footing and pressuremeter response in sand using a hardening soil model. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 479–492, <https://doi.org/10.1680/jgeen.17.00040>.
- Chai JC, Hino T and Shen SL (2017) Characteristics of clay deposits in Saga Plain, Japan. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 548–558, <https://doi.org/10.1680/jgeen.16.00197>.
- Duan N, Cheng YP and Xu X (2017) Distinct-element analysis of an offshore wind turbine monopile under cyclic lateral load. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 517–533, <https://doi.org/10.1680/jgeen.16.00171>.
- Fahmy A and El Naggar MH (2017) Axial and lateral performance of spun-cast ductile helical tapered piles in clay. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 503–516, <https://doi.org/10.1680/jgeen.16.00116>.
- Orr TLL (2017) Editorial. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(1): 1–2, <https://doi.org/10.1680/jgeen.2017.170.1.1>.
- Newman T, Bellhouse M, Corcoran J, Sutherland R and Karaouzen R (2016) TBM performance through the engineering geology of the Lee Tunnel. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **169**(6): 299–313, <https://doi.org/10.1680/jgeen.15.00133>.
- Newman T, Bellhouse M, Corcoran J, Sutherland R, Karaouzen R and Shirlaw JN (2017) Discussion: TBM performance through the engineering geology of the Lee Tunnel. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 559–560, <https://doi.org/10.1680/jgeen.17.00148>.
- Seo HJ, Pelecanos L, Kwon YS and Lee IM (2017) Net load–displacement estimation in soil-nail pullout tests. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **170**(6): 534–547, <https://doi.org/10.1680/jgeen.16.00185>.