Editorial

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As Chair and Honorary Editor of *Geotechnical Engineering*, it is with great pleasure that I introduce this first issue of the journal for 2020. The publication of high-quality geotechnical engineering articles could not be achieved without the support of the journal's volunteer reviewers and editorial panel. In particular, I wish to acknowledge all those editorial panel members who recently completed their terms; thank you for your valuable service! Finally, I wish to thank all readers and subscribers for their support to the journal.

This issue features ten articles. The first paper (Wen *et al.*, 2020) is a briefing article, which presents full-scale field testing of micropiles founded in a marine soil deposit with the aim of studying the effects of grouting. The second paper

(Lees, 2020) presents a simple calculation method for the two-layer bearing capacity (i.e. a granular layer on a clay soil) validated using centrifuge and numerical studies from the literature.

The next three articles by Naseem *et al.* (2020), Yin and Rui (2020) and Consoli *et al.* (2020) focus on correlations of various soil properties. Naseem *et al.* (2020) correlated the measured resistivity of soils from a site in Risalpur in Pakistan with geotechnical parameters such as the liquid limit, effective friction angle and optimum moisture content. The paper by Yin and Rui (2020) reports on the use of fall-cone testing to investigate the undrained shear strength (c_u) of kaolin and a natural submarine clay from the Red Sea. The effect of salinity

Figure 1. Failure modes of GFRP and steel anchors: (a) GFRP anti-floating anchor with failure mode (b); (b) GFRP anti-floating anchor with failure mode (c); (c) steel anti-floating anchor with failure mode (b); (d) steel anti-floating anchor with failure mode (c) (reproduced from Kuang *et al.*, 2020).

level on the measured fall-cone c_u values is investigated. The paper by Consoli *et al.* (2020) examines the effects of wetting and drying cycles on cement-stabilised silty sands. In this study, the authors vary the fines content, Portland cement content and the dry unit weight, and study the effects on the accumulated loss of mass, small-strain shear modulus and the tensile strength of the compacted materials, subjected to varying numbers of wetting and drying cycles.

The next four articles report testing of ground anchors (Kuang *et al.*, 2020), Y-shaped piles (Ren *et al.*, 2020), piers in sloped ground (Qian *et al.*, 2020) as well as centrifuge testing for piles of varying roughness (El Haffar *et al.*, 2020). Kuang *et al.* (2020) presents full-scale pull-out destructive testing on glass-fibre-reinforced polymer (GFRP) and steel anchors. Kuang *et al.* (2020) detail six potential anchor-rod failure modes and then report that two of them were observed in the field (*cf.* Figure 1). Ren *et al.* (2020) report load testing on Y-shaped piles and demonstrated (for the tests presented) an increase of around 15% for shaft and around 30% for base resistance. Qian *et al.* (2020) detail full-scale load test data of both straight-shafted and belled piers in sloped arid loess with a 20° inclination angle and concluded (in part) that the bellying can result in greater load transfer depths. El Haffar *et al.* (2020) describe centrifuge testing data of piles with different roughness and sand density levels and show that increases in pile roughness and sand density increase pile shaft resistance. El Haffar *et al.* (2020) then compare their results to the Imperial College pile (ICP) analysis method (Jardine *et al.*, 2005).

The final article in this issue is a discussion article (Faustin *et al.*, 2020) of a research paper by Faustin *et al.* (2018). I would like to encourage prospective authors to consider writing discussion pieces on our published papers. In my view, constructive comments, additional data or extended analyses presented in the form of discussions are valuable contributions to the engineering literature. I hope that all readers enjoy this February issue of *Geotechnical Engineering*.

REFERENCES

- Consoli NC, Carretta MS, Leon HB *et al.* (2020) Behaviour of cement-stabilised silty sands subjected to harsh environmental conditions. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 40–48, <https://doi.org/10.1680/jgeen.18.00243>.
- El Haffar I, Blanc M and Thorel L (2020) Impact of pile roughness on shaft resistance in sand. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 81–91, <https://doi.org/10.1680/jgeen.18.00135>.
- Faustin NE, Elshafie MZEB and Mair RJ (2018) Case studies of circular shaft construction in London. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **171**(5): 391–404, <https://doi.org/10.1680/jgeen.17.00166>.
- Faustin NE, Elshafie MZEB, Mair RJ and Quigg G (2020) Discussion: Case studies of circular shaft construction in London. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 92, <https://doi.org/10.1680/jgeen.19.00098>.
- Jardine R, Chow F, Overy R and Standing J (2005) *ICP Design Methods for Driven Piles in Sands and Clays*. Thomas Telford, London, UK.
- Kuang Z, Zhang M and Bai X (2020) Load-bearing characteristics of fibreglass uplift anchors in weathered rock. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 49–57, <https://doi.org/10.1680/jgeen.18.00195>.
- Lees AS (2020) The bearing capacity of a granular layer on clay. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 13–20, <https://doi.org/10.1680/jgeen.18.00116>.
- Naseem A, Jalal F and Naseem A (2020) Predicting sandy-clay soil properties using electrical resistivity testing. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 21–29, <https://doi.org/10.1680/jgeen.18.00102>.
- Qian Z, Liu X and Yang W (2020) Comparative lateral load field tests on straight-sided and belled piers in sloped ground. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 70–80, <https://doi.org/10.1680/jgeen.18.00151>.
- Ren LW, Guo WD and Yang QW (2020) Analysis on bearing performance of Y-shaped piles under compressive and tensile loading. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 58–69, <https://doi.org/10.1680/jgeen.18.00244>.
- Wen L, Kong G, Li Q and Zhang Z (2020) Equivalent diameter of grouted micropile embedded in marine soft clay under lateral load. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 3–12, <https://doi.org/10.1680/jgeen.19.00007>.
- Yin M and Rui Y (2020) Measurement of shear strength for marine clay. *Proceedings of the Institution of Civil Engineers – Geotechnical Engineering* **173**(1): 30–39, <https://doi.org/10.1680/jgeen.17.00184>.