Editorial

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As a member of the Editorial Panel, I welcome you to the December 2020 issue of *Geotechnical Engineering*, which contains six papers and one discussion.

The first contribution by Zhou *et al.* (2020) describes the fascinating case of the leaning pagoda of Dinglin Temple in Nanjing, China – a seven-storey, eight-sided, pavilion-style brick tower with a supporting wooden structure. Images of the inside and outside of the pagoda are shown in Figure 1. The paper investigates the geological characteristics of the tower foundation soils and presents the complex techniques and processes adopted to rectify its tilt angle, which mainly include manually dug piles surrounding the base, a binding

scheme of the tower body composed of steel wire ropes connected to ground anchors and compaction grouting of the foundation layers. The case study recalls the stabilisation of the famous leaning tower of Pisa in Italy (Burland *et al.*, 1998, 2003), although the employed restoration works are quite different.

The next two articles report testing of ground anchors (Cui *et al.*, 2020) and micro pipe piles (Xu *et al.*, 2020). Cui *et al.* (2020) investigate the performance of a fully grouted anchor, assessing the influence of bolt diameter, slurry thickness and bond length on the bond strength measured through full-scale pull-out tests. The bond mechanisms between the bolt and the

Figure 1. The pagoda of Dinglin Temple: (a) tower body; (b) wooden frame supporting the spire column; (c) pot window and pot door; (d) Buddha niche; (e) cylindrical structure; (f) square frame; (g) brick wall (reproduced from Zhou *et al.* (2020))

slurry for different bolt types are discussed, and optimal matching values for the anchor parameters with each bolt type are proposed. Xu *et al.* (2020) present the results of a set of laboratory model tests carried out at 1g to study the bearing capacity and load transfer mechanisms of precast open-ended micro pipe piles in soft soils under vertical compression, uplift and horizontal loading conditions.

The following two contributions adopt a numerical modelling approach. Toromanovic *et al.* (2020) show how to perform an inverse analysis to identify the values of soil parameters for an embankment dam, using a genetic search algorithm combined with finite-element software. The identification is performed against inclinometer data containing known errors of different magnitudes. The results show that the genetic algorithm can search for solutions without experiencing numerical problems, even though the field data are substantially perturbed. The paper by Jamkhaneh *et al.* (2020) describes, instead, the three-dimensional finite-element modelling of geosynthetic-reinforced stone columns. The adopted numerical scheme is first validated against the laboratory test results presented by Ali *et al.* (2014) and then used to parametrically assess the benefit of three types of geosynthetic reinforcement (i.e. geotextile, geomembrane and geogrid) in reducing the settlement and bulging of the stone column.

The article by Kang *et al.* (2020) deals with the evaluation of the at-rest earth pressure coefficient (K_0) and shear wave velocity (V_s) of granular soils under one-dimensional compression loading through a sophisticated and unconventional testing system; that is, a floating wall consolidometer equipped with bender elements. A correlation between the measured K_0 and V_s values is attempted and, more interestingly, the effect of particle shape, surface roughness, angularity and stress level on K_0 and V_s anisotropy is investigated.

The final paper is a discussion article (Verreydt *et al.*, 2020) of a research paper by Verreydt *et al.* (2019). It is a typical example of how constructive comments and additional data/analyses presented in the form of discussion pieces can contribute to the literature. Prospective authors are always encouraged to publish discussions on the journal.

On behalf of the Editorial Panel, I hope that all readers will enjoy this issue of *Geotechnical Engineering*.

Notice

This year has seen great disruption to normal life and work due to the Covid-19 pandemic. In April, delivery of printed copies of the journal was halted due to reduced Airmail and delays at Customs. Readers can be reassured that purchased 2020 printed journal issues will be posted to them before

Christmas. In January, we will see another change as the journal moves to solely online-only format. PDF is now the most common format in which to read the journal, reflecting the preference of institutional libraries and the desktop convenience for readers of finding, receiving and sharing articles in PDF. We expect this trend to continue, with fewer subscribers opting to pay extra for issues to be printed and posted to them. If you are one of our readers who does like to receive a hardcopy, these will be available to purchase on a per issue and per volume basis. Prices will be announced in the New Year. Readers who require a printed copy for accessibility reasons should contact journals@ice.org.uk.

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