

Editorial

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Welcome to volume 4, issue 2 of *Geotechnical Research*, a gold open access journal for geotechnical engineering published by the Institution of Civil Engineers (ICE), UK. This issue includes five invited technical papers from the 19th Southeast Asian Geotechnical Conference (SEAGC) & 2nd Association of Geotechnical Societies in Southeast Asia Conference (AGSSEAC), successfully held in Kuala Lumpur, Malaysia from 31 May to 3 June 2016. The theme of the conference was ‘Deep excavation and ground improvement’. There were 179 papers presented to an approximate audience of more than 500. In view of it being an important regional conference, some of the authors of the papers were invited to contribute full-length articles to *Geotechnical Research* because their topics were of interest and relevance to the objectives of the journal. These articles are extended versions with new material and have been through rigorous peer review before being accepted for publication. We hope readers will find this issue interesting and useful for their research and engineering careers in academia and/or geotechnical industry.

The first paper, by Ng *et al.* (2017), describes the procedure in carrying out the design of vertically loaded piles considering the pile set-up phenomenon in cohesive soils, drawing experiences from 32 documented local case histories with detailed information on the hammer used, pile driving process, pile properties and subsurface information for wave equation analysis programme (WEAP) analyses and load and resistance factor design (LRFD) resistance factor calibration. To aid with LRFD design of driven piles, 12 step-by-step design examples were created. These examples were presented in three different tracks considering four pile types, three soil categories and four special design considerations. The design guide and examples were developed specifically for a region but its commendable concept and advantages could be emulated for other regions.

In the next paper, Ng and Sullivan (2017) studied the common practice in Wyoming, USA where steel H-piles are driven to penetrate rock materials. Current static analysis methods, originally developed for soil, provided inconsistent and potentially conservative geotechnical resistance estimations for a driven pile on soft rocks. Hence, this study highlights the importance of establishing methods to distinguish rock materials for driven pile

design and construction as well as of developing methods to predict better the resistances of piles driven on soft rocks.

In the paper by Choo and Ong (2017) a novel method was developed by the authors to derive equivalent rock strength characteristics based on the interpretation of results obtained from direct shear testing of reconstituted tunnelling rock spoils. The established theories on power law and the generalised tangential approach were successfully used to capture the nonlinear behaviour of the reconstituted sheared rock samples. By applying the interpreted strength parameters to four pipe-jacking drives in varying geology, it was found that geology had significant effects on lubricant use and arching around the tunnel, thus affecting the accrued jacking forces in each drive. The applicability of the interpreted parameters to the back-analysed jacking forces was also validated through the use of three-dimensional finite-element modelling. This research contribution could lead to the development of a predictive jacking force model for drives in soft and highly fractured rock formations.

Mohamed Jais (2017) described a ground improvement method using a polyurethane foam resin, which can be used for ground repairs and resolving settlement issues of roadways, embankments and building structures. In this method, the liquids polyol and isocyanate are injected in small drilled holes without the need of excavation. In the paper, the author introduces the chemistry of polyurethane resin, the concept of grouting using the polyurethane foam resin, its properties and case studies conducted in Malaysia for rapid ground remediation.

Finally, reconstituted kaolin of high-plasticity silts (MH) with varying clay contents were used by Wong *et al.* (2017) to investigate the transitional behaviour of silts by way of Atterberg limit tests, particle size analysis, isotropically consolidated undrained (CIU) triaxial tests and oedometer tests. It was proposed that the thresholds for (i) sand-like and (ii) clay-like silts be (i) P_1 (plasticity index) $\leq 13\%$ and (ii) $P_1 > 13\%$, respectively. Based on the newly postulated framework, all the well-documented data points obtained from past significant experimental studies as well as the MH data points from this research could be simultaneously included. With this

knowledge, for example, the modified Cam Clay model will not be wrongly applied to silts with sand-like behaviour.

While 2017 is underway, we would like to take this opportunity to look back at 2016, which was a very successful year for *Geotechnical Research*. Similarly to previous years, the editorial advisory panel together with ICE Publishing have made a huge effort in promoting the journal to an international audience. The journal was actively promoted at several international conferences around the world. The journal's presence at important international conferences will continue in the future: for example, the 19th International Conference on Soil Mechanics and Geotechnical Engineering that will be held in Seoul (South Korea) in September 2017.

Last year, 11 articles were published in volume 3, covering 191 pages in total, which is a noticeable increase compared to volumes 1 and 2. More importantly, the high quality of the articles published in the journal resulted in successful admission to Scopus, which clearly proves the journal is headed in the right direction. Apart from Scopus, *Geotechnical Research* is indexed by the Directory of Open Access Journals (DOAJ) and Thompson Reuters' Emerging Sources Citation Index (ESCI), which is a required initial step before inclusion into the Web of Science.

The *Geotechnical Research* editorial advisory panel and ICE Publishing would like to extend their invitation to geotechnical engineers from all over the world to consider *Geotechnical Research* as a platform for disseminating their research, design and construction projects. In particular, we would like to invite state-of-the-art review papers and outstanding case histories from leading scientists and geotechnical engineers around the world. Full publication fee waivers are available for outstanding contributions to 2017 issues and beyond. We are also actively looking for potential collaborations with organisers of international conferences, symposia and workshops who would like to promote further outstanding contributions from their events.

The editorial advisory panel would like to emphasise that despite slightly different publication criteria compared to other ICE

journals, *Geotechnical Research* maintains ICE's reputation of publishing high-quality work. All articles submitted to the journal undergo rigorous peer review, based on initial editor screening and blind peer review by the panel members and independent reviewers. The review process is closely monitored by an international editorial advisory panel, minimising the time from submission to acceptance. It is also worth mentioning that the ICE Publishing and its editors are members of the Committee on Publication Ethics (COPE).

We would also like to encourage our readers to submit discussion on articles published in *Geotechnical Research* last year. Constructive discussions are extremely valuable for all technical publications and are always welcome for open access articles such as those published in *Geotechnical Research*.

The chair of the editorial advisory panel would like to take this opportunity to thank all the members of the panel for their hard work in promoting the journal as well as their timely reviews and assessments of submitted papers. Last but not least, the chair would like to thank Ben Ramster, Dannielle Whittaker and Sam Hall from ICE Publishing for their excellent support to the journal. Without them, the significant progress *Geotechnical Research* has made in 2016 and 2017 would not have been possible.

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