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Editorial
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Editorial

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Welcome to volume 3, issue 2 of *Geotechnical Research*, a gold open access journals for geotechnical engineering by the Institution of Civil Engineers, UK. This issue includes three invited technical articles from the XVI European Conference on Soil Mechanics and Geotechnical Engineering which was held in Edinburgh during 13–17 September 2015. These articles are extended versions with new material and have been through rigorous review before being accepted for publication in this themed issue on earthquake geotechnical engineering and liquefaction.

The first article, written by Nappa *et al*. (2016), discusses an innovative approach of installing a layer of artificially modified material into soil to isolate a soil mass and the structure on it to modify the propagation of shear waves in the ground. The authors used inclined soft barriers embedded into the soil to form a V-shaped structure of modified material which isolates a soil mass and modifies local site amplification. The numerical results that support this concept were verified with centrifuge tests on a reduced-scale model. The findings of this research have led to greater understanding on reducing seismic risk of historical buildings without the typical structural retrofitting that can affect the artistic integrity of historical structures.

The second paper is written by Andrianopoulos *et al*. (2016). The increasing pore water pressure during seismic events can be significantly reduced by introducing relatively compressible colloidal silica gel in the pores of non-cohesive soil, therefore reducing the liquefaction potential. Andrianopoulos *et al*. used an existing constitutive model (NTUA-Sand) but modified the bulk modulus of pore fluid to capture the effect of colloidal silica gel. The model simulations are in good agreement with element behaviour. Note that NTUA-Sand was implemented using Flac two-dimensional software by employing the user-defined-model capability, and the subroutine is readily available from the Itasca website (Itasca, 2016). The authors compared the results from their numerical model with dynamic centrifuge tests for stabilized sand and suggested that successful simulation of element tests does not necessarily guarantee successful simulation of the system response for the boundary value problem. The understanding of constitutive laws through partial/complete success/failure helps us to deal with complicated problems in soil mechanics – for example, liquefaction mitigation – and *Geotechnical Research* welcomes such effort. I would like to draw readers' attention in this regard to a previously published article in *Geotechnical Research* by Jefferies *et al*. (2015) for a better understanding of cyclic mobility behaviour during liquefaction.

The third paper is written by Taeseri *et al*. (2016); it discusses the uplift failure mechanism of a pipeline due to liquefaction during a seismic event. The authors used numerical and experimental data to validate an empirical formulation for uplift resistance of a horn-type structure suitable for mitigating uplift failure of pipelines. The findings of this study may help reduce pipeline failure observed in many seismic events, including recent earthquakes such as the Tohoku earthquake (Japan) in 2011 and the Christchurch earthquakes (New Zealand) in 2010–2011.

The above three articles are originally derived from research in the academic environment; however, I would like to emphasise that contributions from industry are particularly welcome in *Geotechnical Research*. Such articles are testimonial of success as a result of research and development. *Geotechnical Research* also welcomes review articles which are particularly helpful to practising engineers to synthesiss findings of different articles written by different research groups in different locations at different times. Such articles serve as a bridge between practising engineers and researchers.

Geotechnical Research, as a gold open access journal, maximises the availability of papers to readers and thus maximises its impact. It also covers a wide range of topics and allows an unlimited article length, which is an attractive feature for fundamental and elaborate research outputs in geotechnical engineering. Although *Geotechnical Research* has a publication charge, it offers a range of discounts for different group of researchers, particularly researchers from International Network for the Availability of Scientific Publications countries. This is a significant effort from *Geotechnical Research* to partially eliminate economic barrier for disseminating research output from developing countries.

On behalf of the editorial board and ICE Publishing, I would like to take the opportunity to invite academics and practitioners from all over the world to consider *Geotechnical Research* as a platform for disseminating their research output. I hope you will find this journal interesting and useful for your careers in academia or engineering industry.

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