Editorial

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Ground improvement offers a unique platform for authors to present a wide variety of papers on different stabilisation and modifications methods to improve weak and problematic soils in challenging environmental conditions. Another interesting feature of this journal is that it offers fundamental studies to practical and implementable investigations to study and understand a wide range of ground improvement technologies and their stabilisation mechanisms both in laboratory and field settings. The current issue is a fine example of this as it contains four quality papers that describe laboratory to field studies on various methods to solve the geotechnical problems.

The first paper by Mirzababaei *et al.*¹ describes a laboratory investigation that not only describes how polymers can be used to treat three types of expansive soils, but also provides some mechanisms on how the swell is suppressed with the polymer treatments. All three soils used were active and highly expansive with swell strain properties varying from 13 to 75%. Three polymers with one water insoluble and other two water soluble polymers were used. Aggregation was one of the reasons attributed to decrease in swell characteristics. Variations in improvements with the polymers were also explained.

The second paper by Bo *et al.*² is an interesting field study where loose granular soils were densified such they do not undergo either liquefaction or bearing capacity failure and excessive settlements. This case study focuses on densification of hydraulically placed sandfill at the Changi East reclamation project utilising dynamic compaction. Interesting conclusions with respect to geometry of the pounder and depth of treatment are mentioned along with recommendations on cone tests for quality control work locations in the field. Aging was found to have minimal influence on the effectiveness of the treatment.

The third paper by Deep and Vishwanatham³ focuses on comprehensive centrifuge studies to address the performance of slopes under seepage conditions with and without nails. Nail lengths and configurations were varied and studied. Instrumentation details using pore pressure and displacement sensors along with centrifuge model descriptions are given. Results showed that the inclusion of nails enhanced both stability and deformation of a slope. Decrease in length and an

increase in nail spacing has a detrimental effect on the stability enhancements. Analytical studies also matched with model observations.

The fourth and final paper by Al-Aghbari *et al.*⁴ describes the stabilisation of desert sands using Portland cement and cement bypass dust. This is a laboratory investigation focusing on the improvements of loose granular soils such they are not susceptible to collapse and bearing capacity failures. Compaction, UCS and direct shear tests were conducted on sands with both additives and at different dosages and the results showed improvement in the sand properties with the chemical additives. Authors also provided a section on how the study results can be extended to real field applications.

Overall, on behalf of Editor Michael Davies, editorial board members and staff, I would like to thank the authors for publishing their fine papers in the *Ground Improvement* and I certainly hope the readers will enjoy the articles as I did. In conclusion, I encourage readers to submit discussions on the subject matter ground improvement to the journal. I strongly believe a healthy and professional discussion on papers as is also included in this issue,⁵ will lead to further advancements of the topics or methods described in the particular paper. Details on how the discussion article(s) can be submitted can be found after each full paper in the journal.

REFERENCES

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