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Editorial

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Editorial

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On behalf of the Editorial Board of *Geotechnical Research* we would like to sincerely thank our valuable Editorial Board Members (EBMs) who have recently retired or gone on sabbatical. The co-leadership and hard work of the EBMs are duly acknowledged; they are the backbone of our journal's success and technical excellence. We would also like to welcome applications from well-qualified researchers who share the same aspirations as our journal.

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The themed issue on 'Recent advances in biogeoscience applications in geotechnical and geoenvironmental engineering' announced a few months ago has gained some traction. We have so far received two submissions and hope we will get a few more before the deadline on 31 August 2023. The use of biogeoscience techniques as a viable ground improvement method (e.g., bioprecipitation, biomineralisation, biocementation, bioremediation, bio-geopolymerisation) has seen tremendous growth in recent years, especially in the fields of geotechnical and geoenvironmental engineering. These techniques may encourage waste valorisation for a sustainable and circular economy. Potential contributors are advised to visit the following website for further details: <https://www.icevirtuallibrary.com/page/ice-news/cfp-biogeoscience-geotechnical-geoenvironmental-engineering>.

As the first gold Open Access (OA) journal of the Institution of Civil Engineers, *Geotechnical Research* maximises the impact of research articles and knowledge-based case studies across a wide range of geotechnical topics. *Geotechnical Research* charges authors a publication fee, similar to the majority of other OA journals. However, it does provide disadvantaged researchers a range of discounts, especially to those from nations that are part of the International Network for the Availability of Scientific Publications (INASP). This kind of discount programme intends to lower the price of disseminating scientific findings from developing nations.

The fast-growing regions of Asia-Pacific, Africa and the Middle East, as well as the developed regions of Europe and North America, have made significant contributions to *Geotechnical Research*, for which we are grateful and thankful.

The themes of innovative and sustainable ground improvement and complex soil–structure interactions are popular, as witnessed in recent publications – see, for example, Liu *et al.* (2022), Nishizono *et al.* (2022), Lavanya and Kumar (2022) and Ahenkorah *et al.* (2021). Continuing the momentum are the four articles published in our fourth issue of volume 9 (2022).

Sobhee-Beetul and Kalumba (2022) utilised fibres from plastic waste as inclusions in granular columns embedded in silt beds. The vertical load-carrying capacity improved by about 3.5 times when compared against the un-improved, original granular columns. The inclusion of fibres also remarkably reduced the column length span over which maximum bulging occurred. However, the research indicated that the inclusion of fibres did not result in much improvement to the reduction of the maximum bulge, since the lateral confinement effect was not substantial under the sustained loads.

Fang and Fall (2022) investigated how the long-term development of sulfate ions would affect the interface shear characteristics between backfill material and the adjacent rock mass in the design of cemented paste backfill (CPB) structures used in mines. It was discovered that the improvement to the interface shear strength could be attributed to the longer curing time that helped with the generation of larger amounts of calcium silicate hydrates (C-S-H), gypsum and ettringite.

Shabani SoltanMoradi *et al.* (2022) studied soil–structure interactions using Flac^{3D} software to model a layer of saturated sand lens under seismic loads to determine the changes in pore water pressure so as to optimise the design of tunnel depth, diameter and lining thickness. It was found that the numerical outcomes support the use of the Pareto multi-objective optimisation technique, whose outcome was validated using an independent artificial neural network algorithm. This confirms the proposed method can optimise design in terms of ground subsidence, induced lining bending moment and axial force.

Dao *et al.* (2022) researched ground improvement using metakaolin (calcinated kaolin) mixed with lateritic soil, which otherwise would be geotechnically weak as a foundation material. The authors verified that the California bearing ratio and unconfined compressive strength showed consistent increase in strength when 2% to 6% of metakaolin by weight was added, but beyond 6% the strength would decline, depicting an 'over-saturation' phenomenon as with other ground improvement techniques. Obviously curing time is key in obtaining sufficient strength for practical application, such as improved subgrade for a sustainable pavement design.

Geotechnical Research encourages quick research article turnaround times. A few Ahead of Print articles can already be accessed: Azin and Roudsari (2022) on pipe–soil interaction subjected to faulting and Xu *et al.* (2022) on pile responses due to oblique loading.

Lastly, on behalf of the EBMs, we would like to wish everyone a very merry Christmas and a happy New Year 2023! Have a safe and joyful festive season.

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