Editorial

Conleth D. O'Loughlin

Chair of the Editorial Board of IJPMG; Director of the National Geotechnical Centrifuge Facility, University of Western Australia, Perth, Australia

On behalf of the editorial board of the *International Journal of Physical Modelling in Geotechnics*, it is my pleasure to introduce the first issue of 2021. 2020 was certainly a challenging year for us all, with many of us leaving our offices to work from home for several months in response to Covid-19. This affected the ways that we as a geotechnical modelling community collaborated and shared ideas – Zoom and Teams became the new normal, and the European and Asian physical modelling conferences were either run mainly online or postponed.

Despite these obstacles, we have continued to report our research, with the number of submissions to the journal up significantly from 2019. It is indeed pleasing to witness the growing popularity of the journal. Even more pleasing was the 2020 Journal Citation Reports, where the quality of the journal is reflected in our highest ever impact factor of 1.333, up from 1.067 in the previous year.

This issue contains four papers that consider physical modelling across all scales: at single gravity in a pressure chamber (Amuda *et al.*, 2021), at single gravity in both the laboratory and the field (Kotake and Sato, 2021) and at enhanced gravity in a geotechnical centrifuge (Fan *et al.*, 2021; Neves *et al.* 2021). The applications considered are diverse, ranging from site characterisation tools to understanding how installation methods influence the lateral capacity of a monopile, a reflection on the breadth of geotechnical problems that physical modellers are attempting to solve.

Amuda *et al.* (2021) return to the question of appropriate bearing factors for full-flow penetrometers in peat. The paper presents results from penetrometer tests conducted in a pressure chamber at different vertical effective stress levels. The penetration resistance data are remarkably consistent for such an inherently variable material, and indicate a normally consolidated undrained shear strength ratio of about 0.7, a further indicator of the unusual behaviour of peat soils.

Neves *et al.* (2021) report results from both centrifuge and finite-element modelling of a buried pipeline subjected to surface vehicle loading. The study showed that the deformations of the pipe were mainly elastic, allowing a simple constitutive model to be used in the finite-element simulations. The magnitude of the pipe deformations in the modelling was

an order of magnitude lower than allowed for in design codes, a reminder of the potential role that physical modelling can play in ensuring that design guidance is appropriate.

Kotake and Sato (2021) report results from field tests of a flexible bearing face plate for soil nailing. The flexible bearing plate is environmentally beneficial as it is made from reclaimed plastics, but in turn is deformable such that large nail displacements are required before the bearing pressure – and hence the advantage – of the bearing plate is mobilised. This is well demonstrated by the authors with analogous laboratory experiments on rigid and flexible surface footings indicating the importance of material flexibility.

Finally, Fan *et al.* (2021) report on centrifuge tests that focus on the effect of monopile installation method on the subsequent lateral monopile capacity. The apparatus described in the paper allows jacked installation of the monopile at either single or enhanced gravity, or for it to be impact-driven at enhanced gravity, followed by lateral loading without stopping the centrifuge. The authors show that pile stiffness and capacity are higher when the pile is impact-driven and raise questions as to the effect on the natural frequency and hence the fatigue life of the wind turbine.

On behalf of the editorial board I would like to express my appreciation for your continued support of the journal, through submissions and/or reviewing of papers. I trust you will enjoy the papers in this issue.

REFERENCES

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