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Editorial

In the opening Editorial in March 2024, the current timeline of the *Géotechnique* print queue was raised as a matter of concern and we continue to address it by limiting the length of papers on submission and tightening up on acceptance rates. Also, our publisher Emerald has projected around 10% increase in page numbers for 2025. This would certainly help but we are still exploring a possibility for this percentage to increase. In the meantime, Emerald has offered a publication of an additional, thirteenth, journal issue comprising a selection of papers from the print queue. This has come to fruition as an *In Focus* volume in May 2024, published alongside a regular May issue of *Géotechnique*.

While reviewing the print queue, a set of papers was identified with a common topic of piling in chalk and the associated characterisation of chalk as a geomaterial together with chalk site conditions in which piles were driven. The five selected papers that form this *In Focus* issue are introduced in this Editorial.

A common thread through the papers is the need for better offshore pile design in low-to-medium density chalks, whose sensitivity and brittleness often lead to very low driving resistances and indications of potentially poor field performance. Previous field studies reported by Carotenuto *et al.* (2018) and Buckley *et al.* (2020) have shown that existing design rules for chalk do not give reliable predictions for pile resistances under offshore field loading conditions. The *In Focus* papers summarise how the ALPACA and ALPACA Plus Joint Industry Projects (JIPs), led by Imperial College and Oxford University, addressed the current lack of knowledge through comprehensive field, laboratory and theoretical research.

The first of the papers, by Vinck *et al.* (2024) describes the intensive logging, in-situ probing and laboratory stress-path testing conducted to characterise the St Nicholas at Wade (NE Kent, UK) field test site employed in the project. The next two papers, by Ahmadi-Naghadeh *et al.* (2024) and Liu *et al.* (2024), cover laboratory investigations of the cyclic loading behaviour of both natural chalk and the de-structured chalk ‘putty’ that forms around pile shafts during driving. It is emphasised that while natural chalk behaves in a ‘rock-like’ manner, the chalk putty (which controls the pile shaft resistances) responds in similar way to normally consolidated silty soils.

The fourth and fifth papers, by Jardine *et al.* (2024) and Buckley *et al.* (2024) describe the axial field tests that were conducted, under dynamic, cyclic and monotonic conditions, on 43 piles with diameters between 0·139 m and 1·8 m, fabricated with a range of materials, wall thicknesses and tip conditions, driven to depths between 3 m and 18 m. All pile driving was monitored dynamically and over 100 post-installation tests were completed, after ageing for up to 400 days. Most test piles were instrumented with fibre-optic strain gauge systems. The monotonic axial pile experiments demonstrated the considerable impact on behaviour of pile set up, which developed through a range of processes at rates that were markedly different above and below the ground water table. The cyclic axial pile tests showed normalised trends comparable to those seen in equivalent tests on piles driven in sands, where high-level two-way loading led to far more marked degradation and losses of shaft capacity than one-way cycling. New dynamic (driving resistance), monotonic and cyclic axial design methods developed from the project show better representation of the observed field behaviour than existing approaches.

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