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Award-winning paper in 2021.

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## Announcement

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# Award-winning paper in 2021

Papers published in *Ground Improvement* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be

nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Friday 14 October 2022, ICE president Ed McCann presented an award to the following paper published in *Ground Improvement* in 2021. The editorial panel nominated their best papers and an awards committee chaired by Tim Broyd allocated the awards.

### Telford Premium Prize

The Telford Premium Prize, presented to the best paper published in *Ground Improvement*, was awarded to Massarsch *et al.* (2021).

### Abstract

Three case histories were analysed where three different methods of deep vertical vibratory compaction were used to treat loose, water-saturated sand. Vertically oscillating probes not only generate cylindrical waves with strong ground vibrations that cause compaction of the soil but may also result in liquefaction. Cone penetration tests (CPTs) were performed before and after treatment to evaluate the compaction effect. Soil liquefaction could be observed on all sites during the start of deep vibratory compaction. On two sites, the onset of liquefaction could be documented by vibration measurements. A conventional CPT-based liquefaction analysis was performed, which suggested that liquefaction could be expected at all sites. The case histories analysed in this study suggest that vertically oscillating probes have the potential of being used as full-scale liquefaction testing machines. A new concept is outlined that could be used to establish the liquefaction hazard at a particular site.

### REFERENCE

Massarsch KR, Wersäll C and Fellenius BH (2021) Liquefaction induced by deep vertical vibratory compaction. *Proceedings of the Institution of Civil Engineers – Ground Improvement* **174(3)**: 194–205, <https://doi.org/10.1680/jgrim.19.00018>.



Telford Premium Prize winners Carl Wersäll (left) and Rainer Massarsch (right) with ICE president Ed McCann