

Award-winning paper in 2016

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 6 October 2017, ICE president Tim Broyd presented an award to the following papers published in *Ground Improvement* in 2016. The editorial panel nominated their best papers and an awards committee chaired by Nigel Wright allocated the awards.

Telford Premium Prize (best paper in the journal)

The Telford Premium Prize, awarded for the best paper on ground improvement, was awarded to Hashimoto *et al.* (2016).

Abstract

Field tests are conducted on permeation grouting of ultra-microfine cement to examine whether zones of improved soil of a sufficient size can be created economically in sand deposits, which would be expected to contribute to improving ground conditions as a countermeasure against soil liquefaction. Four different tests are carried out under different grouting conditions, where grouting is conducted with and without forcible injection pressures, using cement solutions of different concentrations of $(w/c)_{cs} = 8$ and 12. After two and a half months, the testing site is excavated and the surface appearances of improved soil are confirmed. The study proves that columns of improved soil of diameter 1.5–2 m and height of about 2.5 m can be built up in sand deposits of depth 3 m. Some discussions are given on the filling ratio α and the ratio of mass of water to cement particles $(w/c)_{is}$ of the overall improved soil, leading to the presumption that, as far as relatively clean sand deposits are concerned, the radius of a column of improved soil can be estimated solely from the volume of cement solutions injected into sand deposits.

Mokshagundam Visvesvaraya award

The Mokshagundam Visvesvaraya Prize, awarded to the two best paper on a subject connected with works carried out outside the British Isles, was awarded to Hosseinpur *et al.* (2016).

Abstract

This paper compares the field response of two test embankments constructed on similar soft soil deposits. The un-strengthened foundation had vertical drains underneath the embankment and the strengthened foundation had geotextile-encased granular columns, both provided with basal geogrid reinforcement. The effectiveness of the encased granular columns was assessed by comparing the settlement below the embankments, the horizontal displacement of the soft foundation and the excess pore pressures in the middle of the soft clay layer. The results showed that the granular encased columns significantly reduced the maximum settlement occurring below the embankment as well as the maximum horizontal displacement in the clayey foundation. At the same settlement level, the load-carrying capacity of the strengthened foundation was found to increase by as much as around 2.5 times that of the un-strengthened one. It was also observed that the geotextile-encased granular columns caused a noticeable reduction in the maximum excess pore pressure following load application. Furthermore, the degree of consolidation achieved at the end of embankment construction was quite high when encased granular columns were used.

REFERENCES

- Hashimoto K, Nishihara S, Oji S *et al.* (2016) Field testing of permeation grouting using microfine cement. *Proceedings of the Institution of Civil Engineers – Ground Improvement* **169**(2): 134–142, <https://doi.org/10.1680/jgrim.15.00030>.
- Hosseinpur I, Almeida MSS and Riccio M (2016) Ground improvement of soft soil by geotextile-encased columns. *Proceedings of the Institution of Civil Engineers – Ground Improvement* **169**(4): 297–305, <https://doi.org/10.1680/jgrim.16.00009>.