

Editorial



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This issue of *Ground Improvement* features five papers that address various facets of ground improvement issues in soft soils and sands. The first paper by Cabalar and Canakci (2011) focuses on the bioimprovement of sandy soils by studying the shear strength of sand mixed with a biomaterial, xanthan gum. An increase in maximum shear stress was recorded with an addition of 3–5% of the additive. The authors note that this improvement is not dependent on the curing period. In a concluding statement, the authors explain the need for collaboration between geotechnical and biologists to understand the bioimprovement of soils.

The second paper (Bindu and Vinod, 2011) focuses on the preloading mechanism for ground improvement of soft compressible soils. The authors introduce a model that can be used to determine the preloading pressure to achieve a desired level of consolidation. Predicted settlements using the proposed model show a good agreement with the measured settlements.

The third paper focuses on the use of alkaline activation of fly ash to stabilise soft soils (Cristelo *et al.*, 2011). The authors attempt to use this treatment in the field by implementing it in jet grouting. Comparisons with the field results show that the alkaline activation of wastes is a simple process and provides grout without significant time delay. Strength results of these treatments show that the strength enhancements were similar to cement treatment methods.

The paper by Nair and Madhavi Latha (2011) focuses on the California bearing ratio properties of geosynthetic reinforced systems. Three types of geosynthetics: geotextile, geogrid and a geonet are used in these reinforcements. The beneficial treatment was attributed to the tensile stiffness of the geosynthetics. The improvements were also higher at higher compaction moisture contents. The authors recommend the use of geocells as this type of cell reinforcement is more effective than planar reinforcement.

The final paper by Nayak *et al.* (2011) focuses on the use of stone columns with circumferential nails to enhance the strength of soft soils. Laboratory investigations were conducted in large tanks in which soft clays treated with stone columns reinforced with nails were fabricated. Plate load tests were performed on these soils and the results indicate that the circumferentially-reinforced stone columns have much higher load-carrying capacity with significant reduction in settlement and less lateral bulging in comparison with plain stone columns.

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