Editorial

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Over the past 35–40 years, the civil engineers have shown an increasing interest in geosynthetics and their field applications, mainly because the use of geosynthetics offers technically efficient, cost-effective, environment-friendly and/or energy-efficient alternative solution to many civil engineering problems. Moreover, geosynthetics have now been added to the list of traditional construction materials such as soil, rock, brick, lime, cement, bitumen and steel worldwide. The subject of geosynthetics and their applications is today known as *Geosynthetic engineering*, which can be defined as follows:

Geosynthetic engineering deals with the application of scientific principles and methods to the acquisition, interpretation and use of knowledge of geosynthetic products for the solution to the problems in geotechnical, transportation, environmental and hydraulic engineering, and also in some areas of agriculture, aquaculture and mining engineering.

This special issue of the *Indian Geotechnical Journal* contains contributions on several practical aspects and areas of *Geosynthetic engineering*, namely retaining structure/wall [1, 2], soil–geosynthetic/geosynthetic–geosynthetic interaction [3, 4], foundation [5], embankment [6], slope [7], landfill [8], and erosion control [9, 10]. I do hope the researchers and the engineers may find these contributions very useful.

The *first paper* by Bathurst and Zarnani [1] is a synthesis of the previous work carried out by the authors on the use of expanded polystyrene (EPS) geofoam buffers for the

seismic load attenuation against rigid basement and soil retaining walls. The major practical outcome of their research is the identification of buffer stiffness as the parameter of interest to design these systems. The *second paper* by Basha and Babu [2] outlines a reliability based methodology for developing the load and resistance factor design (LRFD) guidelines for reinforced soil walls. The approach presented considers uncertainties associated with the design of reinforced soil walls for their external stability. The *third paper* by Hatami et al. [3] examines the influence of selected geogrid index properties on their in-aggregate performance in roadway applications by conducting a series of in-isolation and pullout tests. The *fourth paper* by Lopes [4] presents the investigation of geosynthetic–geosynthetic interaction behaviour based on the inclined plane shear test. The *fifth paper* by Latha et al. [5] presents a simple equation based on the multiple regression of the data from laboratory model load tests to estimate the bearing capacity of square footings on dense sand reinforced with geosynthetics.

The *sixth paper* by Bhasi and Rajagopal [6] describes the finite element analyses performed to study the performance of large height embankments with basal reinforcement and supported on end bearing as well as floating piles. The *seventh paper* by Jha et al. [7] presents an analytical approach to determine the ultimate load-bearing capacity of a footing subjected to a vertical load and resting on the top of a fly ash slope without or with single or multi-layers geogrid reinforcement. The *eighth paper* by Touze-Foltz et al. [8] presents a study of how the design of composite landfill liners as per French and European regulations and the distribution of defects in the geomembrane affect the transfer through the liners of phenolic compounds. The *ninth paper* by Li et al. [9] compares soil loss performance results from both field and large-scale laboratory

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experiments on five rolled erosion control products and one spray-on bonded fiber matrix. The *tenth paper* by Maneecharoen et al. [10] presents the result of laboratory model tests using water hyacinth limited life geotextiles (LLGs) as well as using Vetiver and Ruzi grasses for erosion control.

In closing, I express my special thanks to Professor G. L. Sivakumar Babu, Editor-in-Chief of the *Indian Geotechnical Journal*, for inviting me to work as the Guest Editor of this special issue. The successful completion of this issue has been possible because of the timely submission of the research papers by the authors and also by the careful review of the papers by many reviewers. I am grateful to all the authors and reviewers for their effort and valuable contributions. I would also like to thank all the members of the journal team for their help and support during various stages of my editorial task.

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