Editorial

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I wish to convey my deep sense of appreciation for the high-quality contributions in this issue of *Environmental Geotechnics*. The international professionals who have provided the papers have highlighted the current development, need and direction for further research. The journal has successfully completed the first year since its launch in 2013–2014, and I am happy to notice that a wide spectrum of views that cater practice-orientated and case-specific studies in different aspects of geoenvironmental engineering have been presented in this issue, which is quite encouraging for the society by and large and for the growth of the journal.

The first paper, by Barla and Perino (2015), deals with the critical issues related to the energy demand of society by employing the sustainable practices (e.g. geothermal energy resources for heating and cooling buildings) and contributing to legislative requirements for renewable energy in new construction. The study focuses on the potential usage of the tunnel linings of the Turin Metro Line as heat exchangers due to a large volume of ground and surface area available for heat exchange. To study the influence of these geothermal systems on the environment, several coupled thermal fluid flow-numerical analyses were executed by resorting to finite element analysis (FEA).

The second paper, by Lopes and Gomes (2015), explicitly deliberates the technical difficulties associated with the evaluation and prolonged monitoring of two landfills (the Maia and Santo Tirso landfills in Portugal) using conventional instrumentation techniques. Furthermore, the study dictates the glitches associated with the high landfill deformations, lack of sophisticated monitoring instruments, various enviro-physico-chemical aggressiveness, external causes and the limited in-house expertise and exposure available to handle these issues that could be hazardous.

The third paper, by Areghan *et al.* (2015), establishes a close comparison between the measured settlements from the laboratory tests (particle image velocimetry technique) and those estimated from the FEA for understanding the influence of suction caused by the 'tree-root system' on the surficial deformation of sandy soil. This study, which employs a specially designed artificial 'root system', has significant potential for practical application in real life as plant transpiration, which increases soil suction, thereby increasing the shear strength of the soil mass and subsequently decreasing the permeability. This has plausible effects on the slope stability.

The fourth paper, by Harbottle *et al.* (2015), conceptualises the employment of electrokinetic phenomena to enhance the bioremediation of soils contaminated with toluene. This study is

definitely one stage ahead of the other contamination remediation techniques known to us and presents a robust technology, which has a potential to tackle mixed contaminants by resorting to sparging, biosparging and electrokinetically enhanced bioremediation. The articulated economic value associated with electrokinetics also highlights the practical applicability of the technique for remediating soil and groundwater contamination.

The fifth paper, by O'Kelly (2015), documents the necessity of fundamental research on developing the strength and compression models for accurately understanding the soft and viscous nature of peats. This study – which is in light of recent unexpected failures of embankments, dykes, foundations, and slopes in peat deposits – is timely to review current laboratory practice and also to provoke discussion about the best way forward for understanding and determining the effective stress strength properties of peat.

The sixth paper, authored by Banasiak *et al.* (2015), deals with the utilisation of recycled concrete as reactive media of the permeable reactive barrier (PRB) for remediating acid-contaminated soils, which pose a major concern for coastal floodplains and estuaries in Australia. The utilisation of this material facilitates 100% removal of aluminium(3+) and total iron, and alkaline effluent waste water for replenishment, arrested reconditioning of the recycled concrete aggregates, thereby enhancing the acid-neutralising capacity. This technology opens a new arena of utilisation of waste material resources in the enhancing performance of the PRB.

The final paper, authored by Ganesalingam, Read and Sivakugan (2015), presents details of the axisymmetric radial consolidation carried out on a thin circular clay layer that drains only along its perimeter. It investigates the influence of the shape of the fill on the time-dependent consolidation behaviour, which in turn significantly influences the rate of pore-water pressure dissipation.

I am really enjoying my time as editor-in-chief in developing *Environmental Geotechnics* and would like to thank the editorial board members, reviewers and authors who have been instrumental in this endeavour during the journal's successful launch. I have been informed that there has been a good response to the promotion of the journal and total paper downloads have exceeded 10 000 articles in 2014. Our focus for 2015 will be to continue highlighting papers from volume 1 while promoting papers that can be found ahead of print on the ICE virtual library (<http://www.icevirtuallibrary.com/content/serial/envgeo>), with the hope of being indexed in 2016. We welcome your submissions to the journal and invaluable suggestions in the future. My best wishes for the year 2015.

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- Lopes M-L and Gomes CC (2015) Geotechnical landfill monitoring—adaptations needed. *Environmental Geotechnics* **2(1)**: 8–17.
- O’Kelly B (2015) Effective stress strength testing of peat. *Environmental Geotechnics* **2(1)**: 34–44.
- Retraction: Due to copyright issues, the paper by Azam (2014), ‘Study on large strain consolidation of mine waste trailings’ *Environmental Geotechnics* **1(1)**: 48–55, has been withdrawn from the first issue of 2014.