

Call for Papers Shallow geothermal energy for buildings and infrastructure

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Environmental Geotechnics THEMED ISSUE

Editors: Marco Barla, Politecnico di Torino, Italy; Mroueh Hussein, Lille University, France; Fleur Loveridge, Leeds University, UK; and Ana Vieira, Laboratório Nacional de Engenharia Civil, Lisbon, Portugal

A themed issue of *Environmental Geotechnics* on shallow geothermal energy for buildings and infrastructure is planned for 2018.

In recent years, the growing need for renewable energy sources has led to the increased interest in shallow geothermal applications for the heating and/or cooling of buildings. The integration of heat exchangers in the elements of the structure that interface with the ground, such as foundations, tunnels and diaphragm walls, is particularly attractive due to the inherent cost savings involved in combining a required structural component with the harvesting of geothermal energy. Thermoactive geostructures present the additional benefit of relying on localised resources (the ground) and, therefore, do not need additional infrastructural investments. By providing an alternative to fossil fuels and reducing peak demand from the grid, they also provide an attractive tool towards energy independence and distributed generation with no adverse impact on the environment. However, the widespread application of this sustainable technology is currently hindered by the large disparity in development and uneven regulatory frameworks worldwide. The guest editors believe that up-to-date and reliable information from leading researchers and practitioners in this field would bring increased confidence and visibility to these applications. This themed issue will collect state-of-the-art knowledge on the topic, covering technical aspects, and benchmarking examples, guidelines and standards.

Specific topics to address could include

- ground investigation methods
- thermo mechanical behaviour of geomaterials
- energy performance assessment
- new techniques and technological developments for thermoactive geostructure design
- geotechnical and structural implications on buildings and infrastructures
- environmental issues, sustainability and urban planning
- applications and case studies
- construction innovation.

Engineering practitioners and researchers engaged in any of these general topics are invited to submit abstracts by 31 July 2017. The deadline for submissions is 15 December 2017. Relevant papers outside the main themes outlined above will also be considered.

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T: +44 20 7665 2450;

E: sam.hall@icepublishing.com

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