



Seminar

” Energy GeoStructures: - A solution for long term economic and environmental benefits in urban development”

Technical University of Cluj-Napoca
Faculty of Civil Engineering, Cluj-Napoca March 22nd 2016
25 Baritiu Street , Floor 1 New Auditorium

COST ACTION TU1405 - *European network for shallow geothermal energy applications in buildings and infrastructures (GABI)*

Supported by the Technical University of Cluj-Napoca, Faculty of Civil Engineering, Department of Structures (UTCN) and National Society for Geotechnical Engineering and Foundations (SRGF)

Summary

The increased need for renewable energy sources has led to expansion of shallow geothermal applications for heating and/or cooling of buildings and infrastructures. The integration of heat exchangers in those elements of the structure that interface with the ground, such as foundations, tunnels and diaphragm walls, is particularly attractive because of the inherent cost saving involved in combining a required structural component with the harvesting of geothermal energy. Thermoactive geostructures present the additional benefit of relying on localized resources (the ground) and therefore do not need additional infrastructural investments.

This workshop is integrated in COST Action TU1405 and focuses on energy geostructures applications. The main objective of this event is to disseminate knowledge among the local technical and scientific community on this subject. The main issues to be addressed include operational, design, testing and interaction effects. Some application cases will be presented.

Organising Committee

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Program – March 22nd 2016
(Open by registration to iulia.prodan@dst.utcluj.ro)

15:00-15:10 Reception of Participants. Welcome: (*Vice Rector of Technical University of Cluj-Napoca*)

15:10-15:15 Introduction (*Sébastien Burlon, IFSTTAR*)

15:15-16:45 Session 1 – Energy geostructures behaviour

Lecture 1: Energy and geotechnical performance of energy piles for different design solutions (*A. Rotta Loria, École Polytechnique Fédérale de Lausanne, Switzerland*)

Lecture 2 : Thermo-mechanical behaviour of energy piles in clayey soil (*Minh Tang, École des Ponts ParisTech, France*)

Lecture 3: Long Term Energy Pile Monitoring Sites (*Fleur Loveridge, SouthHamptom University, UK*)

Lecture 4: Thermal soil investigation for geothermal applications in Romania (*Horia Ban, Termoline, Romania*)

16:45-17:00 Coffee break

17:00-18:30 Session 2 – Energy geostructures monitoring and examples

Lecture 5: The initial state of underground heat reservoir and the interaction with existing and neighbouring buildings - in situ measurements and numerical modelling (*Robert Charlier, University of Liège, Belgium*)

Lecture 6: Strategy for the geostructures development for the Grand Paris (*Cristina Valean, TPFI, Efficacy, France*)

Lecture 7: Implementation of First Energy Wall in Romania (*Nagy Levente, Uponor, Romania*)

18:20-18:30 Conclusion (*Iulia Prodan, UTCN*)