

WORKSHOP: SHALLOW GEOTHERMAL ENERGY SYSTEMS. APPLICATIONS AND PERSPECTIVES

Aveiro, May 8 2017

Increasing the use of renewable energy sources is a top political agenda item in developed countries. Employing shallow geothermal energy, which use ground top layers as thermal reservoirs for buildings and infrastructure heating and cooling, is being increasingly adopted, and especially in northern and central Europe, where most developments are taking place both in practice and in research. When evaluating and designing shallow geothermal solutions, various factors must be considered to ensure system sustainability, including three key aspects: operational climate, soil thermal properties, and system efficiency. Accordingly, accurate climate forecasting models, proper soil thermal characterization techniques, and effective system monitoring designs must be established. The study of shallow geothermal systems covers various areas of science and technology. This first Workshop of Project Success addresses some of the most important among them and will also review recent studies and perspectives across a variety of areas.

The workshop is open to poster submission

Information

Venue

Aveiro University, Campus Santiago, Aveiro, Portugal

Registration

<http://success.lnec.pt/index.php#formulario>

Language

The workshop will be in English

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COORDINATION

A. Vieira ; A. Figueiredo; A. Pinto ; C. Cardoso ; F. Rodrigues; F. Jeremias ; J. Maranhã ; J. Viegas ; J. Macedo ; J. Lapa ; L. Caldeira; R. Cardoso

PROGRAM

9:30 – 9:40 Opening session

Part I – Morning Session - Climate and Primary System (ground interaction)

9:40 – 10:20 **Design of thermoactive piles** *Lyesse Laloui (EPFL)*

10:20 – 11:00 **The role of the Geothermal Technology Panel in RHC. Shallow geothermal energy in European context** *Javier Urchueguia (UPV)*

11:00 – 11:15 Coffee-Break

11:15 – 11:55 **Climate change and its impacts on human environment** *Pedro Miranda, Pedro Soares (FCUL)*

11:55 – 12:35 **Aveiro University Campus challenge: Energy efficiency and Geothermal systems** *Claudino Cardoso, José Lapa, António Figueiredo (UA)*

12:35 – 13:15: **Soil thermohydromechanical processes in SGE systems** *João Maranhã (LNEC)*

13:15 – 14:30 Lunch

Parte II – Afternoon session - Secondary system (building performance)

14:30 – 15:10 **Sustainable and energy efficient building in Germany - New standards for federal buildings** *Merten Welsh (BBSR)*

15:10 – 15:50 **Intelligent Building Management Systems: State of the art and future directions** *Paulo Carreira (IST)*

15:50 – 16:00 Coffee-Break

16:00 – 16:40 **Energy efficiency of academic buildings': passive and geothermal contribution in University of Aveiro departments** *Fernanda Rodrigues (UA), Armando Pinto (LNEC), António Figueiredo (UA)*

16:40 – 16:50 **Presentation of Project SUCCESS** *Ana Vieira (LNEC)*

16:50 – 17:00 Closing session