Online Workshop

Shallow geothermal energy: from the ground to buildings, from the field to modelling

30 November-3 December 2020

Program of the workshop*

Timing: Central European Time (CET)

Monday, November 30, 2020

Session 1

Session 1: Introduction and overview of shallow geothermal systems

09:00 – 09:45 Welcome and introduction (F. Cecinato & D. Pedretti, UNIMI, Italy and J. Mádl-Szőnyi, ELTE, Hungary)
09:45 – 10:00 Break
10:00 – 10:45 Understanding the shallow geothermal potential in light of basin-scale groundwater flow and heat transport processes (A. Toth, ELTE, Hungary)
10:45 – 11:00 Discussion
11:00 – 11:45 The Lahti ATES - experiences and monitoring results. (T. Arola, GTK, Finland)
11:45 – 12:00 Discussion
12:00 – 12:45 Numerical modelling support in addressing design issues of open-loop geothermal systems (A. Casasso, POLITO, Italy)
12:45 – 13:00 Discussion

Tuesday, December 1, 2020

Session 2

Session 2: Analysis and design of vertical closed-loop geothermal heat exchangers

09:00 – 09:45 Geological and geotechnical insights related to vertical borehole heat exchangers design and realization / part 1 (G. Dalla Santa, UNIPD, Italy)
09:45 – 10:00 Break
10:00 – 10:45 Geological and geotechnical insights related to vertical borehole heat exchangers design and realization / part 2 (G. Dalla Santa, UNIPD, Italy)
10:45 – 11:00 Discussion
11:00 – 11:45 Innovative numerical methods for Borehole Heat Exchangers simulation and Thermal Response Test interpretation (M. Antelmi, POLIMI, Italy)
11:45 – 12:00 Discussion
12:00 – 12:45 Thermal and geotechnical analysis of thermo-active foundation piles (F. Cecinato, UNIMI, Italy)
12:45 – 13:00 Discussion

Wednesday, December 2, 2020

Session 3: Design and application of open-loop geothermal power plant systems

Session 3

09:00 – 09:45 Planning and design of low-enthalpy geothermal power plant (open-loop) (S. Lo Russo, POLITO, Italy)
09:45 – 10:00 Break
10:00 – 10:45 Geothermal heat pump on Canavese power plant: a district heating application in Milan / part 1 (M. Colombo, L. Della Pona, M. Magon, A2A Calore e Servizi, Italy)
10:45 – 11:00 Discussion
11:00 – 11:45 Geothermal heat pump on Canavese power plant: a district heating application in Milan / part 2 (M. Colombo, L. Della Pona, M. Magon, A2A Calore e Servizi, Italy)
11:45 – 12:00 Break
12:00 – 12:45 ENERAG Internal Meeting
12:45 – 13:00 Discussion

Thursday, December 3, 2020

Session 4: Analysis and design of energy tunnels and walls

Session 4

09:00 – 09:45 Energy tunnels: concept, design aspects and applications / part 1 (M. Barla, POLITO, Italy)
09:45 – 10:00 Break
10:00 – 10:45 Energy tunnels: concept, design aspects and applications / part 2 (M. Barla, POLITO, Italy)
10:45 – 11:00 Discussion
11:00 – 11:45 Energy walls: thermal performance and structural behaviour / part 1 (D. Sterpi, POLIMI, Italy)
11:45 – 12:00 Break
12:00 – 12:45 Energy walls: thermal performance and structural behaviour / part 2 (D. Sterpi, POLIMI, Italy)
12:45 – 13:00 Discussion

**We reserve the right to make minor changes in the program.*

The ENeRAG project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 810980.