

1ST WORLD CONGRESS ON ENERGY GEOSTRUCTURES & FOLIAGE MEETING

THURSDAY 3RD SEPTEMBER

DETAILED PROGRAM

9.00 - 9.45	Institutional greetings – <i>Cluj municipality representative, TU Cluj representative, Marco Barla (Politecnico di Torino, Italy), Iulia Prodan (Technical University of Cluj-Napoca, Romania), Hussein Mroueh (Université de Lille, France), Alessandra Insana (Politecnico di Torino, Italy)</i>
9.45 - 9.55	Cluj-Napoca: Road towards Climate Neutrality – <i>Liviu Purtator, Cluj-Napoca Municipality</i>
9.55 - 10.05	Cluj Metropolitan dynamic in integrating renewable energy systems – <i>Ciprian Comsulea, CREESC</i>
10.05 - 10.35	Towards a Renewable Energy Future: Challenges, Synergies and Opportunities for the Built Environment – <i>Dan Micu (Technical University of Cluj-Napoca, Romania)</i>
10.35 - 11.00	<i>Coffee break</i>
11.00 - 11.30	Fostering large-scale implementation of energy geostructures (COST Action 21156 recap) – <i>Hussein Mroueh & Iulia Prodan</i>
11.30 - 11.40	Non-technical issues – <i>Konstantinos Tsagarakis (Technical University of Crete, Greece)</i>
11.40 - 11.50	Unresolved technical issues – <i>Fabien Szymkiewicz (Université Gustave Eiffel, France)</i>
11.50 - 12.00	Case studies and performance data – <i>Diana Salciarini (Università degli Studi di Perugia, Italy)</i>
12.00 - 12.10	Integration of other energy sources – <i>Lazaros Aresti (Cyprus University of Technology, Cyprus)</i>
12.10 - 12.20	Dissemination, training and education – <i>Martand Singh (Norwegian University of Science and Technology) & Roxana Vasilescu (Pinto, France)</i>

12.20 - 13.30	<i>Lunch break</i>
13.30 - 14.50	Section 1. Thermo-Hydro-Mechanical Coupling and Soil Structure Interaction <i>Chair: Donatella Sterpi (Politecnico di Milano)</i> 13:30 – 13:40 A One-Dimensional Finite Element Model for Long-Term Thermomechanical Analysis of Energy Piles in Clay - <i>Changhao Qiu, Hussein Mroueh, Fabien Szymkiewicz, Roxana Vasilescu, and Anh Minh Tang</i> 13:40 – 13:50 Numerical Investigation on the Influence of Partially Saturated Soil Conditions on the Heat Exchanged by a Shallow Energy Wall - <i>Maria Romana Alvi, Alessandra Insana, and Marco Barla</i> 13:50 – 14:00 Thermo-Mechanical Behaviour of Tapered Energy Helical Piles under Lateral and Inclined Loading using Physical Modeling - <i>Ehsan Ahmadi, Navid Rezaei, Mahmoud Ghazavi, and Mohammadreza Bashiri</i> 14:00 – 14:10 Analytical and Numerical Simulation of the Charging Phase for an Underground Thermal Energy Storage System in an Air-raid Shelter - <i>Juliana Lopez Ochoa, Alessandra Insana, and Marco Barla</i> 14:10 – 14:20 System Efficiency Analysis of Thermo-Active Roads under Controlled Boundary Conditions - <i>Junjia Lyu, Nikolas Makasis, Liang Cui, Monika Kreitmair, and Benyi Cao</i> 14:20 – 14:30 Thermo-Mechanical Behaviour of Tapered Energy Helical Piles under Lateral and Inclined Loading using Physical Modeling - <i>Ehsan Ahmadi, Navid Rezaei, Mahmoud Ghazavi, and Mohammadreza Bashiri</i> 14:30 – 14:40 Centrifuge Modelling of an Energy Pile Subjected to Inclined Thermo-Mechanical Loading - <i>Eva Khamis, Matthieu Blanc, Thierry Dubreucq, Jean De Sauvage, Thibault Badinier, Fabien Szymkiewicz, Jean-Michel Pereira, Anh Minh Tang, Roxana Vasilescu, and Hussein Mroueh</i> 14:40 – 14:50 Temperature and Moisture Evolution near Energy Walls in Partially Saturated Soils: Preliminary Physical and Numerical Modelling - <i>Adriana Angelotti, Alberto Maspero, Michele Presutto, and Donatella Sterpi</i>
14.50 - 15:30	Section 2. Design of Energy Geostructures <i>Chair: Francesco Cecinato (University of Milan)</i> 14:50 – 15:00 Numerical Study on the Thermo-Mechanical Behavior of Energy Piles with Different Geometries - <i>Mahya Janalizadeh, Mohammadreza Bashiri, Mahmoud Ghazavi, Mona Siahkouhi, and Barbara Schneider-Muntau</i> 15:00 – 15:10 Soil-Dependent Frost Susceptibility and Thermal Performance of Energy Piles under Subzero Operation - <i>Francesco Scuderi, Giulia Guida, and Francesco Cecinato</i> 15:10 – 15:20 Numerical Modelling of the Cooling Efficiency of an Energy Quay Wall Application - <i>Riccardo Da Re, Giorgia Dalla Santa, Leonardo Bonini, and Francesco Cecinato</i> 15:20 – 15:30 Localized Radial and Circumferential Stress Development around Heat Exchanger Pipes in Energy Walls - <i>Mert Guner, Semra Polat, Ugur Can Erginag, Melis Sutman, and Ozer Cinicioglu</i>
15.30 - 15.50	<i>Coffee Break</i>
15.50 - 16.20	Section 2. Design of Energy Geostructures <i>Chair: Melis Sutman (University of Edinburgh)</i> 15:50 – 16:00 Corner Effects in the Energy Walls - <i>Aakash Gupta, Fleur Loveridge, and Ida Shafagh</i> 16:00 – 16:10 Numerical Investigation of the Thermal Performance of an Existing Tunnel Retrofitted by Radial Heat Exchangers - <i>Alessandra Insana, Simone De Feudis, Santina Aiassa, Martina Scerbo, and Marco Barla</i> 16:10 – 16:20 Impact of Thermal Interference on the Performance of Twin Energy Tunnels in the Presence of Groundwater Flow - <i>Alaaeldin Magdy, Alice Di Donna, and Hussein Mroueh</i>
16.20 - 17.20	Section 3. Construction, Monitoring and Operation <i>Chair: Ozer Cinicioglu (Boğaziçi University)</i> 16:20 – 16:30 Thermal Analysis of a Real-Scale Energy Piled Geothermal System installed beneath a University Campus Laboratory - <i>Arianna Lupattelli, Giulia Capati, and Diana Salciarini</i> 16:30 – 16:40 Thermal Performance of Driven Energy Piles during Intermittent Ground Source Heat Pump Operation - <i>Arvind Kumar Tiwari, Habibollah Sadeghi, and Rao Martand Singh</i> 16:40 – 16:50 Long-Term Monitoring of a Instrumented Energy Piles Foundation under Real Operating Conditions: Multi-Year Field Data from a Hospital - <i>Leyla Cogalan, Octavian Bujor, Hussein Mroueh, Roxana Vasilescu, Zsolt Nagy, and Iulia Consuela Prodan</i> 16:50 – 17:00 From a Simple Existing Basement Wall to a Renewable Energy Asset: the GeoWall a 2 in 1 Retrofit Solution Powering Student Dormitory Rooms - <i>Iulia Consuela Prodan, Octavian Bujor, Mihaela Crețu, Bogdan Țebrean, and Dan Doru Micu</i> 17:00 – 17:10 Technological Solution for the Thermal Activation of a Microtunnel - <i>Marco Barla, Alessandra Insana, Martina Scerbo, and Santina Aiassa</i> 17:10 – 17:20 Exploring Existing Underground Spaces in Europe for Thermal Energy Production and Storage - <i>Alessandra Insana, Marco Barla, Juliana Lopez Ochoa, Santina Aiassa, Martina Scerbo, Paola Merafina, Francesco Azzarone, Georg Kaml, Thomas Marcher, Matin Kabiri Tadi, Hauke Zachert, Simon Siegel, Iulia Consuela Prodan, and Octavian Bujor</i>
17.20 - 17.40	Discussion
17.40 - 17.50	Shaping the future of energy geostructures - <i>Marco Barla & Alessandra Insana (Politecnico di Torino, Italy)</i>
17.50 - 18.00	Closing session and awards
19:30	Social dinner “La Pensule” (Strada Henri Barbusse 59-61, 400000 Cluj-Napoca, Romania)



PARTNERS

