

Unlocking Underground Energy

Design and construction
of geothermal applications for buildings and infrastructure

TORINO
June 25, 2025

Politecnico di Torino
Aula Magna



Politecnico
di Torino



www.energygeostructures.org



Energy Geostructures represent an innovative frontier in geothermal technology, transforming buildings and infrastructure into active sources of energy. This international event will explore the design and construction challenges to accelerate the adoption of these cutting-edge solutions in the market.

The workshop is organized in the framework of the annual meeting of the COST Action CA21156 “Fostering Large Scale Implementation of Energy Geostructures” (Foliage), the “Driving Urban Transitions project REuse for ENergy Exploitation and Storage of Existing Urban Tunnels in Europe” (Regenerate), and the National Research Project PRIN 2022 “Closing Knowledge Gaps on Energy Geostructures for Retrofitting Buildings and Infrastructures” (Geofit). Thanks to the research outcomes of these three projects, the workshop will provide an overview of the latest technologies and showcase successful international case studies.

World-renowned experts will present innovative solutions, while companies in the sector will share relevant examples applicable to the Italian market.

The workshop is open to professionals, students, and academics. It will be held in English and will offer professional continuing education credits for engineers, geologists, and architects.

A unique opportunity for professional development and networking with leading figures in the **Energy Geostructures** field!

Scientific coordinators

Marco Barla, Alessandra Insana

Politecnico di Torino, Italy

PROGRAMME

9:00 **Opening and introduction to energy geostructures.**
H. Mroueh (Université de Lille, France) - M. Barla, A. Insana (Politecnico di Torino, Italy)

Design and construction of energy geostructures

Chair: Hussein Mroueh (Université de Lille, France)

9:15 **Design of energy piles.**
Iulia Prodan (TUCN, Romania)

9:45 **Best practices of energy piles installation in France.**
Roxana Vasilescu (France)

10:15 **Design of energy walls and tunnels.**
Marco Barla (Politecnico di Torino, Italy)

10:30 **The thermal activation of the metro station in Rennes.**
Alice Di Donna (Université Grenoble Alpes, France)

10:45 **Coffee break**

Applications and case studies

Chair: Marco Barla (Politecnico di Torino, Italy)

11:15

High altitude applications of GSHPs.

Eugenio Andorno, Giulia Caldera (Geonovis - Torino)

11:30

Experiences with energy piles in Northern Italy.

Alberto Salmistraro (Eneren - Padova)

11:45

The thermal activation of the walls and slab of the ARV hub in Trento.

Martina Scerbo (Geosolving - Torino)

12:00

Debate on the application of energy geostructures to the built environment.

Moderator: Giuseppe Ferro (President Ordine degli Ingegneri)

The Foliage Core group: Hussein Mroueh (Université de Lille, France)

Diana Salciarini (Università di Perugia, Italy) - Rao Martand Singh (NTNU, Norway)

Tony Amis (Endurant Energy, USA) - Iulia Prodan (TUCN, Romania)

vs

Dino Chiaia (InfraTo) - Sandro Petruzzi (Regione Piemonte)

Alessandro Cimenti (Board of Architects Torino)

13:00

International Society for Energy Geostructures (ISEG) - Inauguration Ceremony

13:10

Lunch

and visit to the energy geostructure installation at PoliTo underground car park.

Energy Geostructures for retrofitting of buildings and infrastructures

Chair: Giorgia Dalla Santa (Università di Padova, Italy)

15:00

The opportunity of retrofitting to enhance energy performance.

Donatella Sterpi (Politecnico di Milano, Italy)

15:20

Energy micropiles for the built environment retrofitting.

Diana Salciarini (Università di Perugia, Italy)

15:40

Energy sheet piles: a dual opportunity for energy retrofitting.

Francesco Cecinato (Università di Milano, Italy)

16:00

Thermal retrofitting of tunnels.

Alessandra Insana (Politecnico di Torino, Italy)

16:20

Discussion and closing remarks.

INFORMATION

Venue

Politecnico di Torino, Aula Magna - Corso Duca degli Abruzzi 24.

Registration information and procedures

The registration is free of charge.

All registration procedures will be via the online registration form available at www.energygeostructures.org. You can sign up until all available spots are filled. Registrations will be accepted on a first-come, first-served basis. Individual badges with QR code for onsite check will be sent to all regularly enrolled participants a few days before the event.

Deadline for registrations: June 23, 2025.

Italian credits for Engineers and Architects

The event will be accredited for Engineers and Architects.

Segreteria Organizzativa

We are
SYMPOSIUM
SINCE 1993

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