



Research and Innovation in Geotechnical Engineering

+ Short Course: Seismic Design

+ Laboratory Tour at ETH Zurich

Fall Conference 2023

Wednesday - Thursday, 22nd - 23rd November 2023

ETH Hönggerberg Zurich

Conference Theme

Research and Innovation in Geotechnical Engineering

Geotechnical engineering covers a wide range of applications, including foundations, retaining structures, dams, and underground structures, which are subjected to a variety of natural and eco-hazards. Novel and efficient design and construction techniques are urgently needed to reduce the carbon footprint of construction, which accounts for almost 40 % of global carbon emissions. Innovative mitigation techniques are necessary to cope with natural hazards, exacerbated by climate change. Research and innovation play a vital role in addressing these challenges.

The conference will bring together experts from the academia and the industry to share their innovations on a variety of cutting edge topics, including energy geostructures, seismic design, preservation of geotechnical structures, numerical modelling of large deformations, and recent advancements in tunnel boring machines. Furthermore, the participants will have the opportunity to visit the ETHZ Geotechnical Laboratories, including the ETHZ Geotechnical Centrifuge Centre (GCC), which encompasses Europe's largest capacity centrifuge.

On the preceding day, a complementary training course on geotechnical seismic design will be held, aligning thematically with the conference. This two-day event, which also includes a conference dinner, offers an exceptional platform for exchanging ideas, sharing research perspectives, and fostering the development of innovative concepts within the field of geotechnical engineering.

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Short Course Program - 22nd November 2023

Seismic Design

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| 13:00 | Official Welcome |
| 13:45 | Introduction to soil dynamics, ground response, dynamic soil properties (E)
Prof. Dr. Ioannis Anastasopoulos, ETH Zurich |
| 14:30 | Site effects and soil liquefaction (E)
Prof. Dr. Ioannis Anastasopoulos, ETH Zurich |
| 15:15 | Coffee Break |
| 15:45 | Dynamic soil-structure interaction (E)
Prof. Dr. Ioannis Anastasopoulos, ETH Zurich |
| 16:30 | Calibration of dynamic and cyclic constitutive models in Plaxis (E)
Dr. Kostas Kassas, ETH Zurich |
| 17:15 | Example application: retrofit of a bridge on liquefiable soil (E)
Dr. Lampros Sakellariadis |
| 18:00 | End |

18:30	Dinner at the Bellavista Restaurant, ETH Höggerberg
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Conference Program - 23rd November 2023

Research and Innovation in Geotechnical Engineering

- 09:15 Official Welcome
Dr. Erich Pimentel, ETH Zurich and Geotechnik Schweiz
- 09:20 Geotechnical Activities at ETH Zurich (E)
Prof. Dr. Ioannis Anastasopoulos,
Prof. Dr. Alexander Puzrin,
Prof. Dr. Georgios Anagnostou
- 10:15 Design guidelines for lattice type soil improvement with deep mixing for liquefaction mitigation: a novel approach (E)
Prof. Alain Pecker, École des Ponts Paris Tech
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- 11:00 Coffee Break
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- 11:30 Energy geostructures – geotechnical contributions to climate change mitigation (E)
Prof. Dr. Dietmar Adam, TU Wien
- 12:15 Current status & challenges of hydraulic simulation for Enhanced Geothermal Systems (E)
Prof. Dr. Marie Violay, Prof. Dr. Brice Lecampion, EPF Lausanne
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- 13:00 Lunch and Laboratory Tour
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- 15:00 Award ceremony for the best master's thesis
- 15:20 Numerical modelling of large deformation problems in geomechanics with the Material Point Method (E)
Dr. Francesca Ceccato, University of Padova
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- 15:50 Coffee Break
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- 16:20 Mechanized shaft sinking and pipe jacking solutions: new developments and application fields (E)
Dr. Gerhard Lang, Herrenknecht AG
- 16:50 Corrosion inspection of underground reinforced concrete structures (E)
Dr. Patrick Pfändler (speaker), Prof. Dr. Ueli Angst, Lukas Bircher, Dr. Federico Martinelli-Orlando, (authors)
ETH Zurich
- 17:15 Safety assessment of corroded cantilever retaining walls: A crossdisciplinary overview (E)
Dr. David Perozzi, Dr. Severin Häfliger, ETH Zurich
- 17:40 Closing
Dr. Erich Pimentel

Venue

ETH Zurich
Hönggerberg HIT E 51
Wolfgang-Pauli Strasse 73
8049 Zurich

For transportation info please visit www.ethz.ch under “Campus/Getting to the campus/Hönggerberg campus”.

Area plan of the Hönggerberg campus



Organization

Registration

Please register by visiting our website www.geotechnik-schweiz.ch.

In exceptional circumstances, you may also complete the registration form and send it via email.

Registration opening - 29th August 2023
Registration deadline - 9th November 2023

Fees CHF	Short Course	Conference	Dinner
GS Member	200.00	400.00*	100.00
Non-Member	200.00	400.00	100.00
Student	50.00	120.00	50.00
Retired	100.00	200.00	90.00

* GS Members receive a discount of 60.- on the 2024 membership fee.

Short Course: fees include documentation and coffee break.

Conference: fees include documentation, coffee breaks and lunch.

Overnight stay

To book your overnight stay, please contact the hotels directly.

If you need hotel suggestions, we will be happy to provide you with recommendations.

Information

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