TOR VERGATA
UNIVERSITÀ DEGLI STUDI DI ROMA

International Workshop on

Frozen Soil Engineering

Supervision:
Prof. Dr.-Ing. Roberto Cudmani
Chair and Testing Institute of Soil Mechanics and Foundation Engineering, Rock Mechanics and Tunneling, Center for Geotechnics
Technical University of Munich

Prof. Dr. Francesca Casini
Dipartimento di Ingegneria Civile e Ingegneria Informatica,
University of Rome Tor Vergata (TOR-DICII)

Venue:
TECHNICAL UNIVERSITY of MUNICH,
Oskar-von-Miller-Forum

Oskar-von-Miller-Ring 25, 80333 München

Tuesday, 23 January 2024

8:45 to 18:00

We are pleased to welcome you to our International Workshop on Frozen Soil Engineering. The aim of the workshop is to present and discuss the latest research results and practical experiences with experts from different fields of frozen soil engineering in order to share knowledge and create common value. We also aim to identify research gaps related to frozen soils, permafrost and ground freezing by sharing the latest scientific and practical experiences through presentations and discussions.

The first morning session will focus on new results from the international collaboration between the geotechnical departments of the University of Rome Tor Vergata and the Technical University of Munich, additional national research projects as well as recent developments and trends in permafrost research. Furthermore, a first case study will report on the implementation of an AGF measure at the railway station in Bern.

The first afternoon session will be dedicated to the planning and implementation of AGF measures, including a report from the international HS2 project in London.

The event will conclude with three more exciting examples of AGF implementation, including the status of AGF design standardization.

This international workshop is organised with the group of Prof. Francesca Casini of the Department of Civil Engineering and Computer Science Engineering of the University of Rome Tor Vergata. The initiation and international collaboration between the groups of Prof. Cudmani and Prof. Casini is supported by the German Research Foundation (DFG).

CONFERENCE PROGRAMME	
08:00 – 08:45	**Set-up and registration**
08:45 – 09:00	**Welcome speech** *Prof. Dr. -Ing. Roberto Cudmani; TU München* *Prof. Dr.. Francesca Casini; TOR-DICII Rome*
Current research trends	
09:00 – 09:25	**Frost heave of pile foundations in a centrifuge model: preliminary results** *Dr. Giulia Guida and Andrea Viglianti; TOR-DICII Rome*
09:25 – 09:50	**Basic and applied frozen soil research at TUM-ZG** *Prof. Dr.-Ing. Roberto Cudmani, Ulrich Schindler; Zentrum Geotechnik (TUM-ZG), TU München*
09:50 – 10:15	***Recent and ongoing research at RWTH (GUT): from ice lenses in AGF to industrial waste effects in permafrost in the Artic.*** *Univ.- Prof. Dr. Raul Fuentes; RWTH Aachen*
10:15 – 10:40	**Practical Insights from laboratory tests on frozen soils** *Prof. Dr.-Ing. Hans Henning Stutz, Jochen Zürn Karlsruher Institut für Technologie KIT*
10:40 – 11:15	**Coffee break**
Permafrost and Artificial Ground Freezing (I)	
11:15 – 11:40	**A rock ice mechanical model for permafrost rocks** *Prof. Dr. rer. nat. Michael Krautblatter; TU München*
11:40 – 12:05	**Industrial contaminants in permafrost environments: geotechnical challenges and solutions** *Dr. Michael Angelopoulos; Alfred-Wegener-Institut Potsdam*
12:05 – 12:30	**Bern railway station - experience with the implementation of an AGF measure** *Dr. Erich Pimentel; ETH Zürich*
12:30 – 14:00	**Lunch break**
Artificial Ground Freezing (II)	
14:00 – 14:25	**Physics of ice lens formation** *Dr.-Ing. Wolfgang Orth, Dr.-Ing. Oksana Solf, Dr.-Ing. Jens Döbbelin Dr.-Ing. Orth GmbH*
14:25 – 14:50	**Artificial ground freezing for soil improvement on HS2 London: From feasibility study to application** *Michael Löffler, Sven Keßler; CDM Smith GmbH*
14:50 – 15:15	**Lessons learned when artificial ground freezing was not according to plan** *Dr.-Ing. Benno Ring; Ring - Consultancy in Tunnelling*
15:15 – 15:45	**Coffee break**
Artificial Ground Freezing (III)	
15:45 – 16:10	**Execution of Artificial Ground Freezing – Status of Standardization** *Benno Müller; Max Bögl Bauservice GmbH & Co. KG*
16:10 – 16:35	**Modeling of the heat transfer at the freezing pipe: Comparison of simulations with real in-situ measurements and conclusions/recommendations for further investigations** *Christian Perl, Dr.-Ing. Christoph Niklasch; Ed Züblin AG*
16:35 – 17:00	**Holistic thermal assessment and control of ground freezing for a new underground station** *Joachim Meier; Implenia Bau GmbH*
17:00 – 18:00	**Closing of the event in the foyer**

Notes for conference participants

Conference management:

Prof. Dr.-Ing. Roberto Cudmani, Ordinarius
Lehrstuhl und Prüfamt für Grundbau, Bodenmechanik, Felsmechanik und Tunnelbau der Technischen Universität München

Costs / participation fee:

Standard / full-payer 120 €

After completing the online registration, an electronic invoice will be sent with details of the payment arrangements.

The amount is due upon registration. If payment is not received on time, participation may not be possible due to the limited number of participants.

Correspondence:

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Catering:

During lunch break, a lunch with a vegetarian alternative will be offered in the area in front of the lecture theatre. Coffee, refreshments, and snacks will also be provided here during the breaks.

Registration:

You can register online via the following website:

https://www.events.tum.de/frontend/index.php?sub=194

As your access data from previous events are still stored in the system, this allows for a quick and simplified registration. Please use credit card payment whenever possible to ensure timely receipt of payment.

The list of participants will be finalized on January 20, 2024.

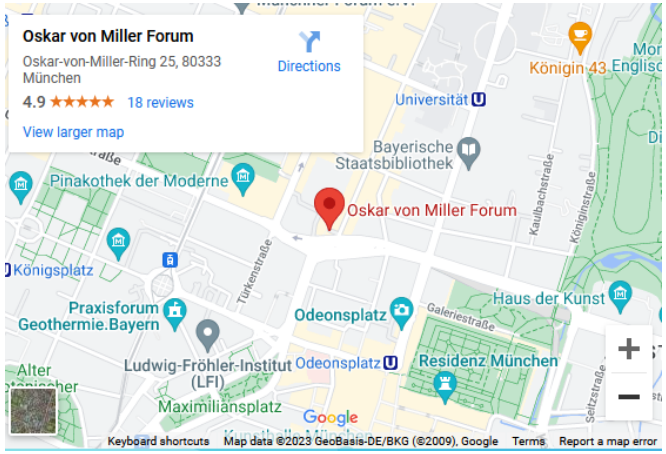
Please note that the number of participants is limited for fire safety reasons. We therefore ask you to register and pay in good time.

Venue and journey:

Oskar-von-Miller-Forum), Oskar-von-Miller-Ring 25, 80333 München, Conference room on the ground floor

You can find a map of the Oskar-von-Miller-Forum and directions at: https://www.oskarvonmillerforum.de/kontakt/

It is recommended to use public transport (stop "Odeonsplatz" of the underground line U3/6, U4/5 or bus line 58, 100), as there are only very few public parking spaces available in the area of the Oskar-von-Miller-Forum.



Room reservations:

Participants are requested to book hotel rooms themselves or via the Munich Tourist Office (tel. 089/233-96500, fax 089/233-30233, www.muenchen-tourist.de) as early as possible. Bookings via internet reservation systems, e.g. www.hrs.de or www.booking.com, are often cheaper.

CURRENT INFORMATION

for the event can also be found on our website:

https://www.cee.ed.tum.de/gbft/tagungen/aktuelle-tagungen/

Please only use the
online registration
via the following website:

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