



14 - 19 JUNE
VIENNA, AUSTRIA

2026

21st INTERNATIONAL CONFERENCE ON SOIL MECHANICS & GEOTECHNICAL ENGINEERING

*Geotechnical Challenges
in a Changing Environment*

PROGRAMME



Austrian
Geotechnical
Society



AUSTRIAN
SOCIETY FOR
GEOMECHANICS



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Welcome Message



In 1925, Karl Terzaghi published “Erdbaumechanik auf bodenphysikalischer Grundlage” in Vienna, a work widely regarded as marking the birth of modern soil mechanics. On this occasion, the Austrian Geotechnical Society and the Austrian Society for Geomechanics are proud to welcome delegates to Vienna for the **21st International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE)**, celebrating the 100th anniversary of this milestone in geotechnical engineering.

The programme has been designed to reflect the significance of this anniversary. In the exhibition area, delegates will be able to view original drawings and sketches by Terzaghi, and a special lecture on the development of experimental soil mechanics over the past 100 years will be presented by Cino Viggiani. The Terzaghi Archive, exhibiting original equipment designed by Terzaghi, will be inaugurated at the TU Wien at the time of the conference.

An impressive range of topics is covered by the Terzaghi Oration, State-of-the-Art Lectures, Invited Lectures and TC Honour Lectures, highlighting the vital role of geotechnical engineering in addressing the challenges of climate change. For the first time in this series of conferences a plenary session organised by the European Federation of Foundation Contractors (EFFC) will give industry representatives an opportunity to present their efforts in reducing the CO₂-footprint of construction industry.

In order to accommodate the large number of submissions to this conference a new format besides plenary lectures and presentations in parallel sessions, has been introduced, namely a combined short presentation/poster session. Authors are given two minutes to present their poster followed by a discussion session in front of their posters. The conference proceedings, containing more than 1 200 contributions, will be freely available to the geotechnical community via the ISSMGE website.

I sincerely hope that all delegates find the presentations inspiring, discover the latest technological developments in the exhibition featuring about 100 exhibitors, and enjoy valuable opportunities for networking and discussions with colleagues and friends. These personal exchanges are an essential part of a conference such as the ICSMGE, which is why the 21st ICSMGE has been planned strictly as an in-person event.

I would like to thank the members of the ISSMGE Technical Committees for their commitment to selecting presentations and posters, and for organising about 20 workshops reflecting the activities of Technical Committees.

Finally, I would like to express my sincere gratitude to an enthusiastic and dedicated team working with me to make this conference a success.

Helmut F. Schweiger
Chair 21 ICSMGE

SUNDAY 14		MONDAY 15		TUESDAY 16		WEDNESDAY 17		THURSDAY 18		FRIDAY 19	
09:00 - 18:00 Council Meeting	09:00 - 18:00 Industry Workshops	08:15 - 09:20 Opening Ceremony								Technical visits	
		09:20 - 10:45 Plenary Session 1: A Tribute to Karl Terzaghi	08:30 - 10:00 Plenary Session 4A: TC Honour Lectures	08:30 - 10:00 Plenary Session 4B: TC Honour Lectures	08:30 - 10:15 Plenary Session 7: "Contractors leading the transition of geotechni- cal practice"	08:30 - 10:30 Parallel Sessions TC Workshops TC Meetings					
			BREAK		BREAK						
		BREAK	10:30 - 11:40 Plenary Session 5: Terzaghi Oration + GeoWB		10:45 - 12:30 Plenary Session 8: CAPG / iYGEC / Bright Spark / Awards	BREAK					
		11:15 - 12:05 Plenary Session 2: State of the Art Lecture	11:40 - 12:30 - Plenary Session 6: State of the Art Lecture			11:00 - 12:30 Plenary Session 9A: TC Honour Lectures	11:00 - 12:30 Plenary Session 9B: TC Honour Lectures				
		12:05 - 12:45 Plenary Session 3: Heritage Time Capsule / FedIGS	LUNCH	British Geotechnical Association Meeting	LUNCH	LUNCH					
		LUNCH	13:45 - 15:45 Parallel Sessions TC Workshops TC Meetings		13:45 - 15:45 Parallel Sessions TC Workshops TC Meetings	13:45 - 15:45 Plenary Session 10: Invited Lectures					
		14:00 - 16:00 Parallel Sessions TC Workshops TC Meetings	BREAK		BREAK		15:45 - 16:45 Closing Ceremony				
		BREAK	16:15 - 17:45 Parallel Sessions TC Workshops TC Meetings		16:15 - 17:45 Parallel Sessions TC Workshops TC Meetings						
		16:30 - 18:00 Parallel Sessions TC Workshops TC Meetings									
19:00 - 21:00 Reception, Exhibition Opening			18:00 - 19:00 In memoriam Michele Jamiolkowski		19:30 - 23:30 Conference Banquet						
		18:45 - 19:45 Music Event 1									
			19:30 - 22:30 Get Together Young Members								
		20:45 - 21:45 Music Event 2									

WE THANK OUR SPONSORS

WATER BOTTLES EXCLUSIVE



PLATINUM



CONCERT



GOLD



SILVER



LANYARD



CONFERENCE BAGS



LUNCH (TUESDAY)



ADVERTISING SUPPLEMENT



ROLLUP



GENERAL INFORMATION:

LOCAL ORGANIZING COMMITTEE



CONFERENCE CHAIR
Helmut F. Schweiger
President of Austrian Geotechnical Society, Graz University of Technology



CONFERENCE CO-CHAIR AND SCIENTIFIC CHAIR
Dietmar Adam
Secretary General of Austrian Geotechnical Society, TU Wien



CONFERENCE SECRETARY
Christine Santos Martinez
Austrian Society for Geomechanics



EXHIBITION ORGANISATION
Thomas Pirkner
VÖBU Austria



SCIENTIFIC CO-CHAIR
Johannes Pistor
TU Wien



CHAIR IYGEC
Franz Tschuchnigg
Graz University of Technology

Wolfgang Fellin, *University of Innsbruck*
Robert Galler, *President of Austrian Society for Geomechanics*
Gerald Goger, *President of Austrian Association of Engineers and Architects*
Andreas Hausenberger, *TU Wien*
Robert Hofmann, *University of Innsbruck*
Andreas Körbler, *President of VÖBU Austria and Past President EFFC Europe*
Thomas Marcher, *Graz University of Technology*
Roman Markiewicz, *TU Wien, Terzaghi Archive*
Roman Marte, *Graz University of Technology*
Barbara Schneider-Muntau, *University of Innsbruck*
Wei Wu, *University of Natural Resources and Life Sciences, Vienna*

INTERNATIONAL ADVISORY BOARD

Marc Ballouz, *President of ISSMGE*
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 Helmut F. Schweiger, *Conference Chair 21st ICSMGE*
 Dietmar Adam, *Scientific Chair 21st ICSMGE*

INTERNATIONAL SCIENTIFIC COMMITTEE

Dietmar Adam (Chair), *Austria*
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 Jana Frankovska, *Czech & Slovak Republics*
 George Gaprindashvili, *Georgia*
 Louis Ge, *Taiwan*
 Bojana Grujic, *Bosnia & Herzegovina*
 David Igoe, *Ireland*
 Fardin Jafarzadeh, *Iran*
 Anil Joseph, *India*
 Jongwon Jung, *South Korea*
 Mahdi Karkush, *Iraq*
 Yuriy Kirichuk, *Ukraine*
 Edina Koch, *Hungary*
 Stefan Larsson, *Sweden*
 Anthony Leung, *Hong Kong*

Cheng Lin, *Canada*
 Duc-Long Phung, *Vietnam*
 Miguel Ángel Mánica Malcom, *Mexico*
 Diego Manzanal, *Argentina*
 Christian Moormann, *Germany*
 Agus Muntohar, *Indonesia*
 Satoshi Nishimura, *Japan*
 Rolando P. Orense, *New Zealand*
 Ervin Paçi, *Albania*
 Jovan Papić, *North Macedonia*
 César Pastén, *Chile*
 Carlos Quadros, *Mozambique*
 Sebastiano Rampello, *Italy*
 Ellen Rathje, *USA*
 Andrew Ridley, *United Kingdom*
 Stefan Ritter, *Norway*
 Alejo Sfriso, *Argentina*
 Rafael Sharafutdinov, *Russia*
 Haraldur Sigursteinsson, *Iceland*
 A.P. Singh, *India*
 Choo Chung Siung, *Malaysia*
 Šarūnas Skuodis, *Lithuania*
 Jasna Smolar, *Slovenia*
 Igor Sokolić, *Croatia*
 Peeter Talviste, *Estonia*
 Armen Ter-Martirosyan, *Russia*
 Dimitrios Terzis, *Switzerland*
 Andrey Totsev, *Bulgaria*
 Frans van der Merwe, *South Africa*
 Mirjana Vukićević, *Serbia*
 Katarzyna Zabielska-Adamska, *Poland*
 Mark Zarco, *Philippines*
 Sabid Zekan, *Bosnia & Herzegovina*
 Jianhong Zhang, *China*
 Askar Zhussupbekov, *Kazakhstan*

VENUE

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 1220 Wien
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CONFERENCE CONTACT PERSONS



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USEFUL INFORMATION

NAME BADGE

The name badge must be worn during the whole conference in order to gain entry to all parts of the conference (oral presentations, technical exhibitions, social programme & technical visits).

CONFERENCE BAG

You will receive your conference bag opposite the registration desk.

WATER BOTTLES

Drinking water in Austria is of excellent quality and is safe to drink directly from the tap almost everywhere in the country. It is strictly monitored and regularly tested, making it among the cleanest and highest-quality drinking water in the world.

You can refill your water bottle at the water stations located throughout the building at any time.

WLAN

SSID: ICSMGE

PASSWORT: Vienna2026

APP

We encourage you to use our conference app. It contains all up-to-date programme information as well as other useful information and features.



LUNCH & COFFEE BREAKS

Coffee stations and water dispensers are available throughout the entire event. Lunch stations are only open during the lunch break. Both can be found in the exhibition area on Level 0 as well as in the gallery on Level 1, and are included in the registration fee.

CERTIFICATE OF PARTICIPATION

All participants who attended will have the opportunity to download their certificate of participation directly from their Omnia Account after the event. To do so, go to your registration.

CONFERENCE LANGUAGE

The conference language is English.

PLENARY SESSIONS

All plenary sessions are held in the Hall A. The entrance is on Level 2.

On Tuesday and Thursday mornings, the honour lectures will take place in Rooms A and C in parallel. Both are located on Level 2.

SUBWAY

You will find the underground Station „Kaisermühlen – Vienna International Centre“ in the immediate vicinity. Upon exiting the congress centre, turn left along the corridor and go down the stairs. The underground station is located across the street.

Take the U1 and you'll reach the city centre in just a few minutes

SUBWAY TICKET

We recommend that you download the WienMobil app.

Travel quickly from A to B with the official Wiener Linien app: Plan your route, buy tickets, view real-time information, redeem special offers and much more. Available free of charge in the Play Store and App Store.



SUBWAY MAP



ACCOMPANYING PERSONS

All accompanying persons are cordially invited to the welcome reception. All options such as sightseeing programme, the congress dinner or the concert can be booked (subject to availability) at our Cash desk.

CHILDCARE

Childcare is located in Room 0.96 on Level 0. Please note that only childcare bookings made in advance can be accepted.

The opening hours are as follows:

Monday to Wednesday:	08:00 - 18:00
Thursday:	08:00 - 16:30

Lunch is provided.

MEDICAL ASSISTANCE

Qualified paramedics will be available in Room 0.11 to provide medical assistance and support if required.

The opening hours are as follows:

Sunday	17:00 - 21:00
Monday to Wednesday	08:00 - 18:00
Thursday	08:00 - 17:00

VIENNA INFORMATION DESK

A specialist from the Vienna Tourist Information team will be at the venue, giving our participants information on travel, sightseeing, cultural events, restaurants, and much more.

OPENING HOURS:

Monday:	10:30 - 16:30
Tuesday:	10:00 - 16:00
Wednesday:	10:15 - 16:15

SOCIAL PROGRAMME

WELCOME RECEPTION

We invite all participants of the conference as well as accompanying persons to the welcome drink in the Exhibition Area on Sunday at 19:00. A good opportunity to renew old friendships and build new ones.

CONCERT

The concert will take place on Monday, 15 June in the Wiener Konzerthaus, (Lothringerstraße 20, 1030 Vienna, Underground line U4, Stadtpark station, Exit Johannesgasse). Due to high demand, there will be two performances: one at 18:45 and one at 20:45. Please check your voucher to see which performance you have been allocated to. Tickets are mandatory and can still be purchased at our Cash desk, subject to availability.

We would like to thank our sponsor **ZUBLIN STRABAG** for their support!
WORK ON PROGRESS

CONFERENCE BANQUET

The Conference Banquet is held on Wednesday, 17 June in the Wiener Konzerthaus, (Lothringerstraße 20, 1030 Vienna, Underground line U4, Stadtpark station, Exit Johannesgasse) and starts at 19:30. A ticket is mandatory and can still be purchased at our Cash desk, subject to availability.

YOUNG MEMBERS EVENING

Tuesday, June 16th

Meeting point / time: Luftburg - Kolarik im Prater,
Prater 128, 1020 Wien / 18:30

INDUSTRIAL WORKSHOPS

Pre-conference workshops will be held on Sunday, June 14th

- **Workshop 1: Advances in Experimental Rock Mechanics: Techniques, Technologies, and Applications (afternoon)** Room: 1.16
- **Workshop 2: Practical Applications of Distributed Fibre Optic Sensing in Geotechnical Monitoring (full day)** Room: 1.86
- **Workshop 3: The Future of Geotechnical Workflows: From Data Collection to Modeling and Design (afternoon)** Room: 1.34
- **Workshop 4: Getting It Right: Data Quality and Ownership in CPT and In Situ Testing (afternoon)** Room: 1.14
- **Workshop 5: Advanced Soil Structure Interaction workflows (Afternoon)** Room: 1.33

TECHNICAL VISITS

Tickets can still be purchased at our Cash desk, subject to availability.

HYDROPOWER PLANT TRAUNFALL

Friday, June 19th

Meeting point / time: ACV / 07:30
End point / time: ACV / 18:30 (expected)

ZENTRUM AM BERG

Meeting point / time: ACV / 08:00
End point / time: ACV / 18:00 (expected)

THE RIVER LAB

Meeting point / time: ACV / 12:45
End point / time: ACV / 15:30 (expected)

WIENTAL COLLECTOR RELIEF TUNNEL

Meeting point / time: Visitor Centre (12th district, Gaudenzdorfer Gürtel, directly next to the exit of the U4 Margaretengürtel underground station) / 09:45
End point / time: on site / 12:00 (expected)

TERZAGHI ARCHIVE AT TU WIEN

Meeting point / time: TU Wien (depends on the booked time slot)
End point / time: TU Wien (depends on the booked time slot)

SIGHTSEEING-PROGRAMME

Tickets can still be purchased at our Cash desk, subject to availability.

PANORAMATOUR

Day: Sunday, June 14th
Meeting point / time: ACV / 14:00
Duration: approx. 3 hours

CLASSIC CITY WALK

Day: Wednesday, June 17th
Meeting point: ACV / 08:30
or 09:00, Ice cream parlour on Schwedenplatz (City Centre)
Duration: approx. 3 hours

IMPERIAL VIENNA

Day: Monday, June 15th
Meeting point / time: ACV / 13:30,
14:00 In front of the Albertina at the Albrecht Dürer fountain
Duration: approx. 3 hours

WACHAU

Day: Tuesday, June 16th
Meeting point / time: ACV / 08:30
Duration: approx. 8 hours

VIENNESE COFFEE HOUSE CULTURE – A STROLL THROUGH PLEASURE AND HISTORY

Day: Tuesday, June 16th
Meeting point / time: ACV / 08:30
or 09:00 Ice cream parlour on Schwedenplatz
Duration: approx. 3 hours

GRAND TOUR AT SCHÖNBRUNN PALACE

Day: Tuesday, June 16th
Meeting point / time: ACV / 17:15
or 17:45 Schönbrunn Palace
Duration: approx. 2,5 hours

IN THE FOOTSTEPS OF FRIEDRICH HUNDERTWASSER

Day: Wednesday, June 17th
Meeting point / time: ACV / 09:00
Duration: approx. 3 hours

GUSTAV KLIMT – LIFE AND WORK IN VIENNA

Day: Wednesday, June 17th
Meeting point / time: ACV / 14:00
Duration: approx. 3 hours

GARDENS AND PARKS IN VIENNA – A STROLL THROUGH GREEN OASES

Day: Thursday, June 18th
Meeting point / time: ACV / 08:30
or 9:00 Belvedere Quarter (main entrance, near Schweizergarten)
Duration: approx. 3 hours

INSTRUCTION FOR PRESENTERS

ORAL PRESENTATION

Presenters are requested to **arrive at the session room at least 15 minutes before the session begins**, in order to meet the session chairs and clarify any remaining queries.

The latest version of your presentation will be available on the presentation laptop. If you have an updated version or have missed to upload your presentation in advance, please submit it to the **Media Centre in Room 0.16** on the ground floor at least two hours before the session begins.

Opening hours of the Media Centre in Room 0.16:

Sunday, 14 June:	16:00–19:30
Monday, 15 June:	08:00–18:00
Tuesday, 16 June:	08:00–18:00
Wednesday, 17 June:	08:00–18:00
Thursday, 18 June:	08:00–13:45

There will be a computer on the lectern on stage, and a student will start your presentation for you. **No other devices** (personal computers etc.) than those provided in the session rooms are allowed for presentations. **No exceptions!**

Please adhere strictly to the time allocated for your presentation and kindly use the microphone when speaking. The session chair will alert you in case you exceed the time limit of your presentation. Please bear in mind that the conference has a tight schedule, so please **allow approximately two minutes for questions and answers within your dedicated presentation time**.

POSTER AND SHORT PRESENTATION

If you have booked our printing service, you can collect your poster from the **Media Centre in Room 0.16**. Please collect it at least two hours before the session begins. Please have your paper ID ready so that we can identify your poster quickly.

Presenters are requested to **arrive at the session room at least 20 minutes before the session begins**, in order to meet the session chairs and **install your printed poster** before the session starts. Fixing tape is available in the session room.

The latest version of your one-slide presentation will be available on the presentation laptop. If you have an updated version or have missed to upload your one-slide presentation in advance, please submit it to the **Media Centre in Room 0.16** on the ground floor at least two hours before the session begins.

Opening hours of the Media Centre in Room 0.16:

Sunday, 14 June:	16:00–19:30
Monday, 15 June:	08:00–18:00
Tuesday, 16 June:	08:00–18:00
Wednesday, 17 June:	08:00–18:00
Thursday, 18 June:	08:00–13:45

There will be a computer on the lectern on stage, and a student will start your presentation for you. **No other devices** (personal computers etc.) than those provided in the session rooms are allowed for presentations. **No exceptions!**

To ensure the short presentations run smoothly and on time, we kindly ask all speakers to line up next to the stage in presentation order and **strictly adhere to the two-minute speaking time**. Only in this way can we maintain the schedule. Once all the short presentations have finished, you can use the remaining session time to present your poster to interested participants.

Please dismantle your poster after the session.

The Level 1 gallery has several large screens where you can display your digital poster to interested participants at any time during the conference.

ELECTRONIC POSTER PRESENTATION

The Level 1 gallery has several large screens where you can display your digital poster to interested participants at any time. There is no dedicated session for presenting the posters during the conference, and a printed version is not required.

All posters of all sessions can be viewed on the screens. On the posters, the contact details of the authors are given.

SESSION CHAIRS

Session chairs are requested to arrive in the session room at least 20 minutes before the session is due to start, to meet the speakers and finalise all arrangements.

Please adhere strictly to the scheduled timings by starting and ending the session and individual presentations punctually, as any delay will affect subsequent sessions.

Each session will be supported by at least one student, who will assist by passing the microphone to participants who wish to ask questions

PROCEEDINGS

During the conference, a folder with a search interface (HTML-based) is available and allows download of individual contributions as PDF file.

The complete conference proceedings can be downloaded from the conference website (www.icsmge2026.org) after the conference.

KEY SPEAKERS

TERZAGHI ORATION



Soil Erosion: From Fundamentals to Applications
Jean-Louis Briaud

SPECIAL LECTURE



**From Oedometer to Computed Tomography:
100 years of experimental soil mechanics**
Gioacchino (Cino) Viggiani

STATE OF THE ART LECTURES



**The Discrete Element Method in geomechanics:
advances, challenges, and opportunities**
Catherine O'Sullivan



Jidong Zhao



Matt Evans



Geotechnics for offshore wind developments
Ana Page



Britta Bienen

INVITED LECTURES



The Observational Method – Lessons Learnt and Future Potential
Tony O'Brien



SEBRO: An Integrative Research Approach for Improving Subsoil Characterisation and Foundation Efficiency and Sustainability in Sensitive Lacustrine Clay
Roberto Cudmani



Human and organisational factors influencing safety in underground construction - Consequences for quality assurance and risk management based on analysis of a metro station box failure
Christian Moormann



Emerging monitoring and sensing technologies in geotechnical engineering
Kenichi Soga



Dimitrios Zekkos

CONTRACTORS: LEADING THE TRANSITION OF GEOTECHNICAL PRACTICE



Mobility below-ground: The Vienna underground as a key to sustainable urban development
Gudrun Senk



The role and mission of the European Federation of Foundation Contractors (EFFC) in the geotechnical industry
Fabrizio Leoni
Kevin Hague



Guideline work by EFFC and DFI – a practical supplement to normative regulations
Karsten Beckhaus



The roles geotechnical contractors should play in influencing sustainability
Paul Vidil



Alternative Drive Technologies and Energy Infrastructure for Mobile Machinery in Geotechnical Engineering
Frank Will

TC HONOUR LECTURES



TC307: Sustainability in Geotechnical Engineering Honour Lecture
Sustainability Innovations in Geotechnical and Geoenvironmental Engineering: Soil Mix Remediation Technology, Low Carbon Binders and Advanced Functionalities
Abir Al-Tabbaa



TC202: Proctor Lecture
Transportation Geotechnical Asset Management: Role of Novel Materials, Robust Designs, Innovative Technologies and Tools
Anand J. Puppala



TC203: Ishihara Lecture
Recent and Future Advances in Geotechnical Earthquake Engineering
Steven L. Kramer



TC215: R. Kerry Rowe Lecture
Bioreactor Landfills: Coupled-Process Modeling, Performance Assessment, and Sustainability Evaluation
Krishna R. Reddy



TC101: Bishop Lecture
Relating Fine-Grained Soil Mechanical Behaviour To Microstructural Features
Federica Cotecchia



TC 308: Honour Lecture on Energy Geotechnics
Subsurface Energy Solutions: Where Geotechnics Meets Innovation
Lyesse Laloui



TC 211: Louis Menard Lecture
Ground Improvement of Large Tanks Using Innovative Dynamic Replacement Techniques
Serge Varaksin



TC 102: James K. Mitchell Lecture
On the Strength Evaluation of Intermediate Soils and Tailings
Jason T. DeJong

BRIGHT SPARK LECTURES



**Reframing seismic vulnerability through the soil–structure interaction:
 implications for existing and heritage buildings**
 Maria-Victoria Requena-Garcia-Cruz



**How Structure–Soil–Structure Interaction Shapes Urban Seismic
 Resilience on Liquefiable Ground**
 Yu-Wei Hwang

FEDIGS LECTURE



**Geoengineering Education Across Disciplines: Where We Stand,
 What We Share, and the Way Forward**
 Chungsik Yoo

CONFERENCE PROGRAMME

MONDAY JUNE 15, 2026

08:15-09:20 | ROOM A

Opening Ceremony & Welcome Address

Helmut F. Schweiger, *Conference Chair*
Marc Ballouz, *President of ISSMGE*

09:20-10:45 | ROOM A

PLENARY SESSION 1: A TRIBUTE TO KARL TERZAGHI

Chair: *Helmut F. Schweiger, Marc Ballouz*

Personal Reflections

Sergei Terzaghi, *A O'Sullivan & Associates LTD*

The NGI Terzaghi Library

Suzanne Lacasse, *NGI*

The Vienna Terzaghi Archive

Dietmar Adam, *TU Wien*

From Oedometer to Computerized Tomography: 100 years of experimental soil mechanics

Gioacchino Viggiani, *Université Grenoble Alpes*
Ivo Herle, *Technische Universität Dresden*

10:45-11:15 | COFFEE / TEA BREAK

11:15-12:05 | ROOM A

PLENARY SESSION 2: STATE OF THE ART LECTURE

Chair: *Roger Frank, École nationale des ponts et chaussées*

The Discrete Element Method in geomechanics: advances, challenges, and opportunities

Catherine O'Sullivan, *Imperial College London*

T. Matthew Evans, *Oregon State University*

Jidong Zhao, *The Hong Kong University of Science and Technology*

12:05-12:45 | ROOM A

PLENARY SESSION 3: HERITAGE TIME CAPSULE / FEDIGS

Chair: *Charles Ng, The Hong Kong University of Science and Technology*

The Heritage Time Capsule Project, 2020 to 2026 – Coordinated actions towards a prominent profession

Sukumar Pathmanandavel, Hugo Acosta-Martínez, Emilio Bilotta, Roger Frank, Charles MacRobert, Pedro Sêco e Pinto, Harry Poulos

Geoengineering Education Across Disciplines: Where We Stand, What We Share, and the Way Forward

Chungsik Yoo, *President of the Federation of International Geo-Engineering Societies (FedIGS)*



Meet NGI at ICSMGE 2026
Booth 40 - Highlights

Tuesday 13:00

In Conversation

Join us for a discussion about the evolving role of the geotechnical engineer in today's society.



Suzanne Lacasse
Expert Adviser, NGI



Helmut F. Schweiger
Chair ICSMGE 2026
President of Austrian
Geotechnical Society



Fiona Hughes
Principal Geotechnical
Engineer, Arup



Tone Ratcliffe Smaavik
Head of Section
Onshore Foundations, NGI
(Moderator)

Wednesday 13:00

Live Demo: Field Manager

The future of ground data management.
An open, cloud-based platform for geotechnical ground investigation data:

- Seamless collaboration across project phases
- One shared data environment
- Better decisions, faster

Monday – Thursday

Booth Experience

Our experts are available every lunch break
– ready to talk geo, projects, and ideas.

- Daily golf challenge (great prizes!)
- Good coffee & sweets
- Meet NGI specialists



Field Manager



Want to join NGI?
Send us an open
application

Want to learn more about
Field Manager?



MO-01 Energy Geotechnics

Chair: Melis Sutman

Room A

14:00 - 16:00

- 14:00 **Thermo-mechanical field-scale testing of a partially activated energy pile in Vienna**
Adrian Thylbert Brunner, Roman Markiewicz, Johannes Pistor, Dietmar Adam
- 14:12 **Effect of Drainage System on the Stability of CAES Cavern**
Aohui Zhou, Wenbin Fei, Peng Li
- 14:24 **Application of machine learning algorithms for power output prediction in thermo-active diaphragm walls**
Javier Sánchez Fernández, David M.G. Taborda, Agustín Ruiz López
- 14:36 **Energy sheet pile walls for geothermal and aquathermal energy - project overview and evaluation of potential and economic efficiency**
David Koppmann, Martin Ziegler, Benjamin Aulbach
- 14:48 **Geotechnical challenges of large-scale PTES in abandoned open-pit mines**
Svenja Steding, Stefan Maretzki
- 15:00 **Numerical Simulation of CO₂ Injection and Hydrate Formation in Marine Sediment**
Sokpheapika Chea, Changhee Park, Jin Kim, Gye-Chun Cho
- 15:12 **Evaluating discontinuity behavior in CO₂ storage reservoirs: experimental data and numerical modelling**
Cecilia B. Laskowski, Diego Manzanal, Sandra Orlandi, Miguel Martín Stickle, José Allard, Pedro Navas, Ángel Yagüe, Nicola Tarque
- 15:24 **Thermo-mechanical interactions in uniformly thermally-activated pile groups**
Eduardo Rodrigues, **Teresa M. Bodas Freitas**, Peter John Bourne-Webb
- 15:36 **Earthworks Mass Balance for a Large Scale Nuclear New Build Site**
Isaac William Griffiths, Jathu Thillainadarajah, Ashley King, Paul Nowak
- 15:48 **A novel method to evaluate soil parameter influences on the transient thermal behaviour of soils**
Ali Pirjalili, Asal Bidarmaghzi, Arman Khoshghalb, Adrian R. Russell

MO-02 Ground Improvement I

Chair: António Alberto Correia

Room C

14:00 - 16:00

- 14:00 **Control of geotechnical behaviour after surcharge installation using prefabricated vertical drains and settlement monitoring**
Hamza MENACEUR, **Sacha CAHEN**, Jérôme RACINAIS, Luis PIRELA, Ruben FIGUERA
- 14:12 **Rétro-Analyse du calcul de tassement sous radier avec la gamme de déformation adaptée**
Stephane BRULE, **Pablo GERVU TEIXEIRA DOS SANTOS**
- 14:24 **Mechanical Characterization of DSM Materials for Structural Use**
Marissabelle MRAD, Olivier CUISINIER, Farimah MASROURI

MO-02 Ground Improvement I

Chair: António Alberto Correia

Room C

14:00 - 16:00

- 14:36 **The influence of soil type on the effectiveness of biocementation**
Mariola Wasil, Elżbieta Wołejko, Urszula Wydro
- 14:48 **Field trial results biobased vertical drain products IJburg Amsterdam**
Fien Louwerse, **Jeroen Dijkstra**, Martin op de kelder
- 15:00 **Artificial ground freezing under high-velocity seepage**
Petr Nikolaev, Andrey P. Jivkov, Majid Sedighi
- 15:12 **Application of a hybrid learning based quality control system for Vibro Ground Improvement**
Vincent Winter, Alexander Zöhrer, Negin Khalili-Motlagh-Kasmaei, Anika Terbuch, Paul O'Leary
- 15:24 **Deformation Mechanism and Prediction of Settlement of Soil Subjected to Vacuum Assisted Consolidation**
Liwen Hu, Deyong Wang, Jun Wang, Guohui Lei
- 15:36 **Experimental investigation and modeling of Impact Stages during Dynamic Compaction**
Benedict Löwe, Piotr Kanty, Johannes Kirstein, Ralf Thiele
- 15:48 **Numerical Analysis of Stability of Embankments over Aggregate Columns-Improved Soft Ground under Linked, Undrained and Drained Conditions**
Jie Han, Haohua Chen, Robert L. Parsons

MO-03 Laboratory Testing I

Chairs: Irene Rocchi, Masahide Otsubo

Room M1

14:00 - 16:00

- 14:00 **Mechanisms at the origin of size effects in coarse soils and rockfills**
Carlos Ovalle, Gilbert Girumugisha
- 14:12 **Taking anisotropy into account in the analysis of small deformations in Beauchamp sands.**
Sonia Fanelli, **Fabien Szymkiewicz**, Emmanuel Bourgeois, Philippe Reiffsteck
- 14:24 **Interpretation of the cyclic behaviour of a gassy-silty soil by energetic model based on cyclic tests**
Kadir Kocaman, Lucia Mele, Aşkın Özocak, Alessandro Flora
- 14:36 **Discussion on stiffness parameters for Hardening Soil and Hardening Soil-Small strain constitutive models based on results of laboratory tests**
Magdalena Kowalska, Małylda Tankiewicz
- 14:48 **Partially Drained Soil Behavior: Insights from Cyclic Tests**
Jochen Zürn, Hans Henning Stutz
- 15:00 **Influence of preconsolidation methods and end restraints on the rate dependent behaviour of reconstituted kaolin specimens in undrained triaxial compression**
Kenny Kataoka Sørensen, Sabine Gehring, Hans Henning Stutz

MO-03 Laboratory Testing I

Chairs: Irene Rocchi, Masahide Otsubo
Room M1
14:00 - 16:00

- 15:12 North Sea Chalk characterisation through laboratory testing in comparison with ALPACA findings
Toby Masters, Ivan Cazarez, Christopher Stephen Russell
- 15:24 Challenges in Morphological Characterization of Granular Materials: A Statistical Perspective
Farzad Kaviani Hamedani, Arman Khoshghalb, Nasser Khalili, Mohammad Esmailzade, Rahim Saffari
- 15:36 Laboratory testing of soil abrasiveness: results of the round robin test with the LCPC test
Christoph Budach, Naima von Taschitzki, Peter Erdmann, Danka Katrakova-Krüger
- 15:48 Advanced direct shear apparatus for constant normal stiffness testing improving soil-structure interface tests
Alvaro Boiero, Enrique Romero, Marcos Arroyo, Giovanni Spagnoli, Fernando Sossa

MO-04 Earthquake

Chairs: Jonathan D Bray, Francesco Silvestri
Room M2
14:00 - 16:00

- 14:00 Assessing the seismic behaviour of a sandy copper tailings with non-uniform shaking events in a novel biaxial shaking table
Arturo Jimenez, Adrian Russell, Rohit Tiwari
- 14:12 The effect of confining stress on the liquefaction resistance of two uniformly graded gravels with rounded and angular particles
Satuk Bugrahan Sari, Adda Athanasopoulos-Zekkos
- 14:24 Cyclic response of Adiyaman- Gölbaşı fine-grained soils shaken by 2023 Kahramanmaraş earthquakes
Moutasem Zarzour, Kemal Onder Cetin, Armin W. Stuedlein, Ahmed Al-Suhaily, Berkan Soylemez
- 14:36 Effect of the adopted constitutive relationship on the modelling of post-liquefaction reconsolidation
Shengjie Ma, David M.G. Taborda, Stavroula Kontoe
- 14:48 Effect of rubber inclusion on static and dynamic behaviour of sand
Bal Krishna Maheshwari
- 15:00 Three-dimensional analyses of a centrifuge model of an embankment on liquefiable soils treated with soil-cement walls
Ross William Boulanger, Katerina Ziotopoulou, Marie-Pierre Kippen
- 15:12 Liquefaction Potential Assessment and Damage Evaluation in Adiyaman Gölbaşı in Kahramanmaraş Türkiye Earthquake
İlknur Bozbey, Sadık Öztoprak, Mustafa Kubilay Keleşoğlu, Sinan Sarğın, Emirhan Altınok, Güldem Korkmaz, Ahmet Kaan Yıldırım, Fatma Tuğçe Çınar Özkan, Cihan Öser, Zülal Akbay Arama
- 15:24 Analysis of the seismic performance of structures on liquefiable fill in İskenderun during the 2023 Kahramanmaraş earthquake
Minh-Tam Doan, Jonathan D Bray, Jorge Macedo, Diane Moug, Chih-Wei Lu, Cody Arnold

MO-04 Earthquake

Chairs: Jonathan D Bray, Francesco Silvestri
Room M2
14:00 - 16:00

- 15:36 Effects of liquefaction history and partial drainage on post-liquefaction volumetric strain characteristics
Keisuke Ishikawa, Susumu Yasuda, Nozomu Yoshida
- 15:48 Damage to Residential Areas caused by Liquefaction-induced Lateral Flow during the 2024 Noto Peninsula Earthquake and Subsequent Recovery
SUSUMU YASUDA, KEISUKE ISHIKAWA, SEIYA KASAHARA

MO-05 Safety and Serviceability & Observational Method

Chairs: Duncan Nicholson, Ying Chen
Room N1
14:00 - 16:00

- 14:00 Probabilistic non-linear analysis of allowable bearing capacity for shallow foundations
Yuriy Kirichek, Olexandr Tregub
- 14:12 Probabilistic modeling of limit pressure with depth: massive data calibration and bias control
Arnaud Finiasz, Balasubramanian Ilango, Etienne De Rocquigny
- 14:24 Load redistribution in anchored structures due to anchor failure
Matthias J. Rebhan, Hans-Peter Daxer, Johannes Leo, Franz Tschuchnigg
- 14:36 Probabilistic analysis of deflection of an anchored diaphragm wall including spatial variability of soil and non-linear model of concrete
Marek Kawa, Wojciech Puła, Andrzej Tuty
- 14:48 Application of the observational method for the optimisation of supports: examples of the extension of the Knuedler car park and the Hosingen bypass in Luxembourg
Steve Gruslin, Tiffany Hennebaut
- 15:00 Application of the Observational Method to existing structures: quay walls
Mandy Korff, Rick Voortman, Geeralt van den Ham
- 15:12 Effective implementation of the Observational Method for the HS2 Old Oak Common station box
Joao Angelino, Stuart Hardy, Matthew Sharratt
- 15:24 Observational Method in Hong Kong's Context
Alvin LAM, James SZE, Jack YIU
- 15:36 Application of the observational method on high speed two retaining structures
Hock Liong Liew, Natalie Wride, Alice Smith, Joe Mazgajczyk, Anthony O' Brien
- 15:48 Back Analysis and Observational Method for Strut Removal for a Deep Underground Excavation in Singapore using Genetic Algorithm Tools
Rosemary Jia Jing Vong, Kannan Vinayagam, Nicholas Mace, Michael Gordon Williamson, Jasper Mong Kiak Sim

MO-06 Geo-Environmental

Chairs: Andrea Dominijanni, Takeshi Katsumi
Room N2
14:00 - 16:00

- 14:00 Semipermeable membrane behavior in clays – history, relevance, and limitations
Charles D. Shackelford
- 14:12 Bentonite-based barrier systems for the control of PFAS-contaminated leachates
Nicolò Guarena, Andrea Dominijanni, Mario Manassero, Andriy Yaroshchuk
- 14:24 Role of Nanoplastics in Microbial-Induced Cementation of Silica Sand
Yongjoon Choe, Shaivan Shivaprakash, Susan E Burns
- 14:36 Recent advances in microbial induced carbonate precipitation for waste management
Samantha Wilcox, **Catherine Mulligan**, Carmen Mihaela Neculita
- 14:48 Alkaline activation of mussel shells as an innovative binder for geotechnical soil improvement
Pietro Gian Pesce, Rossella Petti, Enza Vitale, Giacomo Russo, Michael Plötze, Alexander Puzrin, Claudia Vitone
- 15:00 Hybrid Biocementation Strategies for Engineering Performance and CO₂ Sequestration
Dimitros Terzis, Camilla Perego, Federica Mauri, Elisa Pianta, Margherita Cappa, Pamela Principi
- 15:12 Instrumentation and online monitoring of a landfill final cover pilot
Eivind Ånes, Stefan Ritter, Chuangxin Lyu, Thomas Pabst, Kristoffer Heian, Nils Grødem Nilsen, Kristin Hovland, Ann-Cathrin Stridal, Stig Roar Holmquist, Gudny Okkenhaug
- 15:24 Attenuation layer method for utilizing excavated soils and rocks with geogenic contamination
Tomohiro Kato, Atsushi Takai, Takeshi Katsumi

MO-07 Deep Foundations I

Chair: Raffaele Di Laora
Room 1.61_62
14:00 - 16:00

- 14:00 Numerical analyses and innovative design approaches for piled foundations
Francesco Potini, Giulia Viggiani, Riccardo Conti
- 14:12 Comparisons of rapid load test, dynamic load test and static load test on piles in a clayey ground in Thailand
Thitikarn Suwanawate, Thanabat Uaworakunchai, Pastsakorn Kitiyodom, Ram Krishna Mandal, Shuichi Kamei, Tatsunori Matsumoto
- 14:24 Understanding concrete flow mechanisms in deep foundation construction using numerical modelling
Thomas Mitchell, Chris Barker, Christopher Wilkes, Chenfeng Li
- 14:36 Experience with load-transfer method for analysis of deep foundations in the Czech Republic and Austria
Juraj Chalmovský, Jaroslav Havlíček, Václav Račanský, Martin Hayden
- 14:48 How meaningful are the results of pile load tests? From the pile load test, to the design basis, to the pile production of driven piles
Martin Hayden, Thomas Kirchmaier, Roman Marte

MO-07 Deep Foundations I

Chair: Raffaele Di Laora
Room 1.61_62
14:00 - 16:00

- 15:00 Prediction of shaft resistance of bored piles in stiff high plasticity clay based on undrained shear strength
Jannie Knudsen, Kenny K. Sørensen, Jørgen S. Steenfelt, Helle Trankjær
- 15:12 Effects of spatial variability of soft soil properties on the estimation of negative skin friction in pile groups
V. M. Pineda-Núñez, G. Auvinet, J. F. Rodríguez Rebolledo
- 15:24 Mechanical behavior of deformation cells for control piles based on uniaxial compression tests
Rodrigo RODRIGUEZ, Marco PÉREZ, Carlos SÁNCHEZ, Darío ARMENDÁRIZ, Rubén DOMÍNGUEZ, Gabriel AUVINET
- 15:36 ASPECTS OF THE FOUNDATION DESIGN FOR THE MERDEKA TOWER, MALAYSIA
Harry George Poulos, Helen Chow, Ashok Peiris, **Pawan Sethi**

MO-08 Slope Stability

Chair: Clarence Choi
Room 1.85_86
14:00 - 16:00

- 14:00 InSAR analysis of post-remedial measures on Ripley landslide, in southeastern British Columbia, Canada
Sohrab Sharifi, Renato Macciotta, Michael Hendry, David Elwood
- 14:12 Unveiling Complex Rock Mass Behavior: A Novel Approach Combining LiDAR Data and Numerical Simulation for Slope Design
Özgen Kökten, Seray Sezgin
- 14:24 Soil Nail Design for Surficial Slope Stabilization Using Flexible Facing Systems
Roman Gallus, Jean-Baptiste Payeur, Katharina Schwarz-Platzer, Lucie Sarthre, Théo Labourbe, Armin Roduner, Eberhard Gröner, Hélène Lanter
- 14:36 Influence of thermo-mechanical coupling on the stability of a slow-moving shallow landslide
Tomáš Kadlíček, Jan Jerman, Gianvito Scaringi, Om Prasad Dhakal, Bhargavi Chowdepalli
- 14:48 Enhanced assessment and mitigation design of slopes and embankments using globally optimized strengthening profiles
Colin Smith, **Jozef Jurko**
- 15:00 Stability assessment of rock slopes based on Discrete Fracture Networks (DFNs)
Alexander Preh, Illeditsch Mariella, Schagerl Alexandra
- 15:12 Hydraulic properties of the slip zone of slow, clayey, landslides and its influence on subsurface drainage effectiveness
Gaetano Ostuni, Roberto Vassallo, Caterina Di Maio
- 15:24 An early warning system for weather-induced landslide activity in clayey slopes: a novel stability chart for deep sliding bodies
Vito Tagarelli, Federica Cotecchia

MO-08 Slope Stability

Chair: Clarence Choi

Room 1.85_86

14:00 - 16:00

- 15:36 **Response characteristics of surface inclinometers during slope failure and influence of installation conditions**
Yoko Ohta, Yukio Nakata
- 15:48 **Empirical Model of Apparent Residual Shear Strength for Enhanced Landslide Prediction Using Machine Learning**
Batool Alomari, L. Sebastian Bryson, Tanner Eatherly

MO-09 Energy Geotechnics & Frost Geotechnics S

Chair: Camellia Atefi

Room A

16:30 - 18:00

- 16:30 **Evaluation of the energy pile performance through coupled thermo-mechanical modeling**
Josif Josifovski, Guxum Rudhani, Andrej Stojkoski
- 16:32 **Thermal groundwater utilization at the new campus of the Vienna University of Economics and Business - modelling and experience after 10 years of operation**
Roman Markiewicz, Dietmar Adam
- 16:34 **Thermal volume change behavior of compacted granular bentonite under high temperature**
Xufei Liu, Fatemah Behbehani, Yu Lu, John S. McCartney
- 16:36 **The role of water-temperature coupling effect on microstructure evolution of coal: Advance insights from CT scanning and lab studies**
R K S Maleesha, Kumari W G P, Jayan S Vinod
- 16:38 **Evaluation of shallow geothermal system as an inter-seasonal energy storage system for bridge deicing**
Aditya Deshmukh, Alireza Fakhrabadi, Puneet Bhaskar, Anand J. Puppala, Xinbao Yu
- 16:40 **Experimental and Numerical Investigation of a Thermal Energy Storage Sand Battery**
Imad El-Chiti, Shadi Najjar, Salah Sadek, Joseph Zeaiter, Siba Haidar, Clara El Sayegh
- 16:42 **Investigating the long-term thermal response of mine water geothermal systems through parametric numerical analyses**
Semra Polat, Daniel Friedrich, Melis Sutman
- 16:44 **Innovative utilization of tunnel drainage water for de-icing traffic areas**
Julius Rieckert, Till Kugler, Christian Moormann
- 16:46 **Thermo-mechanical response of hydronic asphalt pavement under heating and cooling operations**
Taher Ghalandari, Anh Minh Tang, Jean-Michel Pereira, Cedric Vuye
- 16:48 **Modeling geometrical effects on the mechanics of underground gas reservoir**
Chen Rotem Greenwald Khudadadi, Shmulik Pinkert
- 16:50 **Temperature effects on geotechnical soil properties around pit thermal energy storages**
Abdalla Almukashfi, Jan Dannemand Andersen, Elisabeth Lachner

MO-09 Energy Geotechnics & Frost Geotechnics S

Chair: Camellia Atefi

Room A

16:30 - 18:00

- 16:52 **Numerical analysis of long-term performance of group energy piles with a recovery system**
Sadri Shadabi, Moura Mehravar, Ahmed rezk, Fatemeh Ardakani, Patricia Thornley
- 16:54 **Evaluating the thermal and hydro-mechanical properties of fissured clays: the Pisciola case study**
Marialetizia Zizzi, Osvaldo Bottiglieri, Gianluca Gola, Gaetano Elia, Federica Cotecchia
- 16:56 **Technical and Financial Feasibility of Green Hydrogen Production with Geothermal Systems and Geological Storage**
Guillermo Narsilio, Maryam Hamlehdar, Alessio Ferrari, Michelangelo Cardin
- 16:58 **An Experimental and Digital Twin Approach to Thermal Efficiency and Resilience in Shallow Energy Geo-Structures**
Fatemeh Ardakani, Moura Mehravar, Wonjun Cha, Sadri Shadabi, Asaad Faramarzi
- 17:00 **Analysis of a Thermo-Active Pile Embedded in a Clay Layer Under an Earthquake Excitation**
Mehmet Göktuğ INAYET, Volkan ISBUGA
- 17:02 **Effect of Groundwater-Induced Heat Convection on Energy Wall Systems: A 3D Numerical Modeling Approach**
Huu-Ba Dinh, WonJun Choi, Jaehong Kim, Young-Sang Kim
- 17:04 **Probabilistic Analysis of Energy Piles Reliability Using Monte Carlo Simulations**
Daniela Fernández Carrillo, Norma Patricia López Acosta, David Francisco Barba Galdámez
- 17:06 **Temperature dependency of secondary consolidation in peats**
Taishi Kochi, Satoshi Nishimura
- 17:08 **Effects of the degree of saturation and density on the shear strength and stiffness of artificially frozen sand and gravel**
Christos Vrettos, Elisabeth Seibel, Ronald Günther
- 17:10 **A new non-equilibrium approach to soil freezing**
Chenjie Ruan, Wojciech Solowski
- 17:12 **Shear and creep behavior of frozen sand at different relative densities**
Ulrich Schindler, Roberto Cudmani
- 17:14 **A sensitivity analysis on pond size and distance in thermal behavior of adjacent permafrost affected soils – Hudson Bay Railway**
Zhina Rezvani, Shawn Kenny, Mehdi Pouragha
- 17:16 **Frost Jacking Phenomena of Solar Panels Piled Foundations Investigated by Centrifuge Scaled Models**
Giulia Guida, Andrea Viglianti, Francesca Casini, Giulia Viggiani, Giuseppe Favata

MO-10 Ground Improvement S

Chair: Clemens Kummerer
Room C
16:30 - 18:00

16:30	Modeling inherent variability of jet grouting columns Stefano Collico, <u>Giovanni Spagnoli</u>
16:32	Experimental laboratory study on the influence of the compaction energy and degree on the mechanical and durability properties of stabilised clays using line-based binder <u>Loretta Batali</u> , Gabriela Andries
16:34	Comparative study on soil improvement with classical binders and plastic waste materials <u>Nicoleta Maria Ilies</u> , Calin Bruchental, Vasile Stelian Farcas, Andor Csongor Nagy, Tudor Tamas, Sabrina Borgovan, Codruta Valea
16:36	Drying effect on the microstructure of lime-treated saline soil <u>Cen Gao</u> , Yujun Cui, Nadia Benahmed, Sylvie Nicaise
16:38	Effect of Geogrid Structure on Performance of Unpaved Roadways <u>Ghada Ellithy</u> , Munibhaskar Pagadala
16:40	Precursor-Free Geopolymer Stabilisation of Expansive Soils: A Novel Direct Alkali Activation Approach <u>Hadeel Alzghool</u> , Pan Hu, Chin Leo, Samantha Liyanapathirana, Qinghua Zeng, Jeff Hsi, Reza Karimi
16:42	Study of the lateral behaviour of a footing on reinforced soil with rigid inclusions <u>Louis FARGE</u> , Fanny MAUCOTEL
16:44	Instrumentation of CMC rigid inclusions in nuclear power plant context <u>Pierre BURTIN</u> , Jérôme RACINAIS, Laurent BRIANCON, Nicolas AYMARD, Pierre TACHKER
16:46	Innovative Design and Implementation of Tower Foundation for the 1915 Çanakkale Bridge <u>Ben Zhao</u> , Michael Schunk, Jørgen S. Steenfelt
16:48	Evaluation of the stabilization of sand liquefaction using colloidal silica Rafael Sharafutdinov, <u>Darina Kuznetsova</u> , Vladimir Morozov, Yuri Stolyarov
16:50	Analysis of diaphragm wall displacement caused by jet grouting <u>Florentin Dumesges</u> , Marc Cabrera
16:52	Comparison of 2D-3D finite element numerical models of an embankment on controlled modulus columns (CMC) <u>Fanny Maucotel</u> , Daniel Girault, Jérôme Racinais
16:54	Geotechnical challenges and design optimisation for embankments on compressible foundations: A case study of the Hexham Straight Widening project <u>Chenhui Lee</u> , Brendan Fu, Stephen Martin
16:56	A NOVEL MULTILAYERED SOIL CONSOLIDATION SOLUTION BASED ON THE SPECTRAL METHOD TO PREDICT LONG-TERM SETTLEMENT Bin-Hua Xu, <u>Buddhima Indraratna</u> , Cholachat Rujikiatkamjorn, Rohan Walker
16:58	Measurement results of instrumented full scale load tests of steel tanks supported by Rigid Inclusions <u>Christopher Tinat</u> , Birthe Knabe, Jérôme Racinais

MO-10 Ground Improvement S

Chair: Clemens Kummerer
Room C
16:30 - 18:00

17:00	Analysis of the effect of adding various additives to fine-grained soil on the improvement of the soil shear strength parameters <u>Nemanja Marinković</u> , Zoran Bonić, Elefterija Zlatanović, Nebojša Davidović, Nikola Romić, Snežana Djorić-Veljkić
17:02	Manufacturing and field application performance evaluation of cement-filled geotextile composite (CFGC) for ground reinforcement <u>Han-Yong Jeon</u> , Eunhee Ko, Kyunghwa Nam, Hyungho Lee
17:04	The valorisation of marine waste: the first results of the GL4S project <u>Marzieh Kianimehr</u> , Rossella Petti, Claudia Vitone
17:06	Extendable electrode electroosmosis in soft soils: investigating the influence of branching horizontal electrodes Yicheng Jiang, <u>Jian Zhou</u> , Shixin Mao, Chaoyang Xu, Jindi YU, Xiaonan Gong
17:08	Application of pressure surges as a resource-saving soil improvement technique for liquefaction mitigation <u>Florian Thurner</u> , Roman Marte
17:10	The application of an unconventional construction method to install jet grouting columns for the refurbishment of a wharf in the Genoa harbour. <u>Vittorio Manassero</u> , Giuseppe Sichel
17:12	Ground improvement to facilitate an on-grade concrete pour on a working platform over very soft dredged muds and natural marine soils. <u>Stephen Kelly</u> , Luke James-Hall, Richard Merifield
17:14	Embankments on Peat: Evaluating Rigid Inclusions and Load Transfer Platform with High Stiffness Geotextile Reinforcement <u>Agus Himawan</u> , Andhika Sahadewa, Masyhur Irsyam, Reguel Mikhail, Iwan Hermawan, Idwan Suhendra, Aji Prasetyanti, Aditya Novendra Jaya, Muchammad Rifai, Karsten Beckhaus, Randityo Widiutomo, Yasin Widodo, Christian Moormann, Helmut Schweiger, Abi Hakim, Hasbullah Nawir, Anthony Setiawan, Fahmi Aldiamar
17:16	Recent applications of deep soil mixing (DSM) in Türkiye <u>ALP GOKALP</u> , SENOL ADATEPE, AHMET DINC

MO-11 Laboratory Testing S

Chairs: Tingfa Liu, Kenny Kataoka Sørensen
Room M1
16:30 - 18:00

16:30	Multistage testing for direct shear tests in densely packed mixed-grain soils <u>María José Toledo Arcic</u> , Jens Engel
16:32	Robotic automated sample preparation (RASP) techniques for soil mechanics <u>Hans Henning Stutz</u> , Luis Mugele, Juan David Arroyo Lopez, Jochen Zürn

MO-11 Laboratory Testing S

Chairs: Tingfa Liu, Kenny Kataoka Sørensen
Room M1
16:30 - 18:00

- 16:34 **The influence of oedometer sample aspect ratio on the observed compression behaviour of sand under different initial states**
Ruan Andrew Murison, Yashay Narainsamy, Gerhard Heymann, SW Jacobsz, Tiago A.V. Gaspar
- 16:36 **Surface and soil particles degradation during large deformation sand-steel interface shear tests under different boundary conditions**
Jakub Konkol, Marta Moroz, Dominik Maciejewski
- 16:38 **Insights from the Eemdijk full-scale failure test - triaxial strength parameters of organic soils**
H.J. {Arny} Lengkeek
- 16:40 **Investigation of natural soil anisotropy using hollow cylinder tests**
Abdelilah ERRAHALI, Emmanuel BOURGEOIS, Thibault BADINIER, Alain LE KOUBY, Aurore HORABIK
- 16:42 **Effectiveness of various methods to determine stress history parameters in cohesive soils**
Malgorzata Wdowska, **Mirosław J. Lipinski**
- 16:44 **Some developments in laboratory testing of clays in Sweden**
David Gaharia, Sølve Hov, Rikard Kalén
- 16:46 **Development and Testing of a Temperature-Controlled Triaxial Device for Freeze-Thaw Cycles**
Edward Asamoah, Rupsa Roy, **Beena Ajmera**, Cassandra J. Rutherford, Yuderka Trinidad González, Lucas A. Walshire, Ethan Tyler Vroman, Benjamin Breland, Mohammed Mohammed
- 16:48 **Modern approach to triaxial testing of overconsolidated clays with extreme swelling pressure.**
Tomasz Szczepański
- 16:50 **Laboratory characterisation of the full-strain shearing behaviour of glauconite sand**
Yong Wang, Tingfa Liu, Erdin Ibraim, Andrea Diambra, Mingnan Li, Chris Brandish-Lowe, Toby Masters
- 16:52 **EFFECT OF SAMPLE PREPARATION ON SHEAR AND COMPRESSION BEHAVIOR CLAYS**
Abdullah Ekinci, **Hamza Saeed**
- 16:54 **Comparative study of effects particle morphology and size distribution on data from triaxial tests on synthetic abrasive granular media**
RAMON DUQUE FERRAZ RAMON, HANENE SOULI, JOEL RECH, FERNANDO SALVATORI, **KATIA VANESSA BICALHO**, SILVIO ROMERO DE MELO FERREIRA
- 16:56 **1-D consolidation theory developed based on in-depth experimental findings**
Hideki Ohta, Atsushi Iizuka, Yoshiyuki Morikawa, Kazuaki Uemura, Tomohide Takeyama, Shinya Tachibana
- 16:58 **Effect of pore pressure distribution on dynamic deformations moduli of soft clays**
Rigoberto Rivera, Carmelino Zea, Osvaldo Flores, Enrique Gomez, Alexandra Ossa, Enrique Elizalde, **Mary Morante**
- 17:00 **Clay content influence on static behavior of silty sands at low confining stress**
Davor Marušić, Vedran Jagodnik

MO-11 Laboratory Testing S

Chairs: Tingfa Liu, Kenny Kataoka Sørensen
Room M1
16:30 - 18:00

- 17:02 **An Evaluation of the Effects of In-situ and Compaction Induced Structures on the Compression and Strength Characteristics of a Lateritic Soil in the Laboratory**
Naa Korkoi Ayeh, Samuel Innocent Kofi Ampadu, Frederick Owusu-Nimo, **Felix Jojo Fianko Ayeh**, Frederick Charkley
- 17:04 **Effect of sample size on the critical state line for two sands**
David Reid, Simon Dickinson, Chang-Gyun Jeong, Wesley Tibbet, Riccardo Fanni, Ivan Orea, Andy Fourie
- 17:06 **Evaluating the Role of Organic Substrates and Microbial Activity on Sand Creep from 1D Consolidation Tests**
Gianmario Sorrentino, Alena Zhelezova, Otim Gerald Innocent, Irene Rocchi
- 17:08 **Development of an Electromagnetic Induction-Controlled Free Fall Penetrometer for Undrained Shear Strength Measurement**
Jiseok Oh, Byeong Hwi Ryu, Taehoon Lim, Hyunwook Choo
- 17:10 **Impact of Loading Frequency and Consolidation Level on the Mechanical Behaviors of Saturated Clayey Soils Under Cyclic Loading**
Jang-Un Kim, So Young Kim, Jeong Woo Kim, Chan Kim, Hyunwook Choo
- 17:12 **DRAINED SHEAR STRENGTH OF AN OVERCONSOLIDATED PALEOGENE CLAY OF VERY HIGH PLASTICITY**
Nik Okkels, **Janni Dolby**, Lars Bødker
- 17:14 **Correction of the compressibility curve and the oedometric modulus based on the effects of lateral ring-soil friction in the oedometric test**
Wagdi Naime, Duilio Marcial, Víctor Páez
- 17:16 **Shear mode and OCR effects on the mobilised shear strains of a laboratory Kaolin and Bothkennar Clay**
Mair Beesley, Erdin Ibraim, Paul J. Vardanega
- 17:18 **Experimental analysis of key factors governing effective thermal conductivity of granular media**
Marina S Bortolotto, David M G Taborda, Catherine O'Sullivan
- 17:20 **Effects of Apparatus Design Details on Constant Height Direct Simple Shear Test Results**
Amir Soltan, Mason Ghafghazi, Robert Cross, David Eden
- 17:22 **Effect of Xanthan gum biopolymer contents on cementation behavior of sandy soils**
Hyunmuk Cho, Heechang Hwang, Eun Sang Lee, **Won-Taek Hong**
- 17:24 **Characterisation of the mechanical behaviour of layered clay sedimented using a geotechnical centrifuge**
Sarah Elizabeth Stallebrass, Sam Divall, Eric Paul Ritchie, Akash Kirubakaran
- 17:26 **Comparison of Bender Element and Ultrasound Methods for Determining the Small Strain Shear Modulus of Treated Silt**
Mohamed Ali Marrakchi, Yu Jun Cui, Pascale Massaad, Patrice Chardard, Laurent Desmurs, Simon Bonne

MO-12 Earthquake S I

Chairs: Juan Manuel Mayoral, Katerina Ziotopoulou
Room M2
16:30 - 18:00

16:30	Seismic Metamaterial in Geotechnics Stephane BRULE , Sarah GUILLON
16:32	Comprehensive Site Response Analysis for Offshore Foundations: Evaluating Soil-Structure Interaction and Constitutive Model Effects under Seismic Loading Matthieu Tri Duong, Mostafa A. Ismail , Nobutaka Yamamoto, Peter Gaunt, Mark Richardson, Ian Finnie
16:34	Measured and predicted dynamic response of an embedded footing Dennis R. Hiltunen
16:36	Subsidence effects on the seismic performance of end-bearing piles Juan Manuel Mayoral, Mauricio Pérez , Azucena Román-de la Sancha, Ingrid Guzmán
16:38	Numerically derived fragility curves for bridges on soft clay accounting for subsidence effects Juan Manuel Mayoral , Azucena Román-de la Sancha, Mauricio Pérez, Ingrid Guzmán
16:40	Centrifuge Model Test of Seismic Response of an Immersed Tunnel on Liquefiable Sand Deposit Under Horizontal Excitation Huanzhu Zhou, Shengan Liu, Jun-jie Zheng, Yewei Zheng
16:42	Seismic fragility analysis of piled raft foundations under bi-directional motions Atul Raj , Sumanta Haldar, Shantanu Patra
16:44	Advanced numerical study on strain history and shear strain effects in reliquefaction resistance Rafael Edmundo Iglesias Alvarez de Araya , Stavroula Kontoe, Julia Möller
16:46	Impact of 3D Seismic Soil-Foundation-Structure Interaction on Damage and Settlement Patterns of a Masonry Tower in Southern Italy Onur Deniz Akan , Guido Camata, Carlo G. Lai, Enrico Spacone, Claudio Tamagnini
16:48	Effect of deep excavations on the construction site seismic demand during earthquake occurrence Ilaria Esposito , Grigorios Tsinidis, Marco Valerio Nicotera, Gianpiero Russo
16:50	Influence of basin parameters on seismic site response analysis Boominathan A , Vijaya R, Askar Zhussupbekov
16:52	Site-Specific Probabilistic Seismic Hazard and Ground Response Analysis in NSW Australia Ching Dai
16:54	One century with Mononobe–Okabe method: Seismic response of gravity walls. Louizos Tsantilas , Evangelia Garini, George Gazetas
16:56	Site effect evaluation at 21 earth dams in California using the HVSr and SSR method based on earthquake records Makbule Ilgac , Adda Athanasopouloos-Zekkos
16:58	Comparative Assessment of Damping Models for Small-Strain Ground Response Analysis: A Case Study at the Delaney Park Downhole Array site Nishkarsha Dawadi, Brady R. Cox , Kami Mohammadi, Mohamad M. Hallal

MO-12 Earthquake S I

Chairs: Juan Manuel Mayoral, Katerina Ziotopoulou
Room M2
16:30 - 18:00

17:00	Shear modulus degradation of liquefiable sand in strain-controlled cyclic simple shear tests Yung-Yen Ko , Po-Hsiang Chiang
17:02	Insights from CPTU analysis and liquefaction risk parameters for damage assessment in Gölbaşı Federico Valtucci , Emirhan Altinok, M.Kubilay Kelesoglu, Alessandro Flora
17:04	Understanding Soil Liquefaction Potential in Lebanon based on Nonlinear Modeling Hiba Labaki, Muhsin Elie Rahhal , Fabian Bonilla, Marleine Brax, Etienne Bertrand
17:06	Pullout Experiments for Field Testing of Soil-Nail Interface Seismic Behavior Ghida Hawwa , Jean de Sauvage, Jean-Pierre Rajot, Yannick Fargier, Patrick Joffrin
17:08	Bearing capacity assessment of a shallow foundation under cyclic inclined load in a liquefiable soil when the maximum deformation of the soil is limited: A case study José Luis Pastor , Rubén Galindo Aires, Fausto Molina-Gomez
17:10	On the Comparison of the Performance of Different Liquefaction Constitutive Models and Pore Water Pressure Generation Methods: The Golbasi Case Study Sinan Sargin , Sadik Oztoprak, Ahmet Kaan Yildirim, Guldem Korkmaz, Fatma Tugce Cinar Ozkan, Emirhan Altinok, Mustafa Kubilay Kelesoglu, Ilknur Bozbey
17:12	Site effect of deep alluvial soils: a case study in Batumi, Georgia Hande YUMUK CEYLAN , Hidayet Kemal UYAR, Önder AKÇAKAL, Emel SIKICI, Hilmi Turan DURGUNOĞLU
17:14	Liquefiable soils in the Sakarya region and their effects on settlement criteria of structures Hande YUMUK CEYLAN , H. Kemal UYAR, Sadik ÖZTOPRAK, Emel SIKICI, Hilmi Turan DURGUNOĞLU
17:16	Approaches for seismic soil-structure interaction analysis of a railway bridge pier on pile foundations Pierluigi Alesiani , Paolo Ruggeri, Giuseppe Scarpelli, Michele Di Tullio, Angelo Lambrughi, Nicola Valiante, Marco Orlandini
17:18	Evaluating the seismic performance of a structure founded on liquefiable soil at the Port of Wellington during the 2013 and 2016 New Zealand earthquakes Jonathan D Bray , William Z Zakka
17:20	Dynamic analysis of structures affected by soil cracking due to regional subsidence in abrupt transition zones Carlos Sánchez , Marco Pérez, Gabriel Auvinet, Haydee Román, Rodrigo Ramírez, Dario Armendáriz, Sergio Martínez
17:22	INFLUENCE OF DEEP FOUNDATIONS ON HIGH-RISE BUILDINGS DURING A SEISMIC IMPACT Cesar Alfonso Alanoca Chambi , Rashid Mangushev, Lidiia Kondratieva

MO-13 Physical Modelling & Underground Construction S

Chair: Tarek Abdoun
Room N1
16:30 - 18:00

16:30	Investigation on seismic response of deeply embedded nuclear power reactors considering soil-pile-structure interaction Dong Feng, Weiming Gong , Meng Chu, Yu Ren, Bing Li, Yugang Sun, Yanhua Wang, Jie Yang
16:32	Geotechnical centrifuge modelling of railway embankments on soft clay foundations Bas van Dijk , William Ovalle-Villamil, Cihan Cengiz, Agnes van Uiter, Edo Vink
16:34	Flow-Sediment-Foundation Interaction: From Flume to Centrifuge Modeling Ahmad Klait, Mark Adler, Seyedalireza Mirghafouri, Majid Ghayoomi , Ali Farhadzadeh, Tian-Jian Hsu
16:36	Experimental Assessment of the Stability of Masonry Retaining Walls Under Heavy Rainfall Using Reduced-Scale Models Hicham Cherifi , Anne-Sophie Colas, Denis Garnier, Benjamin Terrade
16:38	Distributed fibre optic sensing for monitoring soil deformation around piles: Insights from numerical simulations Rami Chalhoub , Orianne Jenck, Christophe Dano, Christelle N. Abadie, Mouhamad K. Al Katabi, Fabien Szymkiewicz, Carlos Minatchy, Alexander Kochnev, Joaquin Liaudat, Hauke Zachert
16:40	Directional Shear Resistance of Snakeskin-inspired Pile Under Monotonic Loading Tae-Young Kim , Song-Hun Chong
16:42	Experimental and theoretical studies of soil pressure on flexible barriers Askar Khasanov, Zokhir Khasanov , Bekhzod Toshmukumov
16:44	Group of bored piles in sands: interaction effects from centrifuge modelling tests Daniela Giretti , Vincenzo Fioravante
16:46	Deciphering the dynamics of immersed granular collapses via seismic signals: implications for submarine geophysical flows Meichen Liu , Clarence Edward Choi
16:48	Centrifuge Modeling of Silty Sand Liquefaction under Double Drainage Conditions: Validation of Scaling Laws Mohamed E. Ghazy , Tarek Abdoun, Waleed El-Sekelly
16:50	Centrifugal investigation of the response of segment-lined tunnel to driven pile construction Lu Hai , Asaad Faramarzi, Nicole Metje
16:52	Model tests on retaining walls with modified geocells Aarya Krishna, Gali Madhavi Latha
16:54	Investigating Railway Ballast Instability Under Flooding Conditions: A Physical Modeling Approach Pongsakorn Wongchana , Suchada Wutti, Peerapong Jitsangiam
16:56	Centrifugal model test and FEM simulation of a well-type vacuum consolidation method Yuki Umehara , Shigehiko Sugie, Toshihiro Takaine
16:58	Observation of damage process in an embankment during an earthquake in a centrifuge Ryuichi Ibuki , Kentaro Uemura, Tatsuya Doi, Jun Izawa, Sokkheang Sreng

MO-13 Physical Modelling & Underground Construction S

Chair: Tarek Abdoun
Room N1
16:30 - 18:00

17:00	Alternative method of pipe roof umbrella design using a simplified numerical model Sebastjan Kuder , Jure Klopčič, Boštjan Pulko, Janko Logar
17:02	Construction Lot U2/21- from geological ground model to successful excavation Alexander Poisel , Andreas Rohrmoser, Alexander Pekarek, Christian Nebois
17:04	Metro in Toulouse (France): First feedback on deep excavations in molassic soils for the new line C Maxime Fonty, Alvaro Barbosa, Paul Vidil , Agnès Marcon, Philippe Chouc
17:06	Effect of diaphragm wall construction process on adjacent building in braced excavation Yuepeng Dong
17:08	Assessing the Impact of Pipe Box Tunnel Installation with dual MTBM and Excavation Performance in Singapore's Soft Soil How Yen Pan , Yogarajah Indrayogan, Tiong Guan Ng, Sue Cing Teo
17:10	GEOPHYSICAL METHODS IN TUNNEL LOOK-AHEAD AND DEEP SOIL MIXING Siau Chen Chian , Yun Zhou Tan, Yanlong Niu, Yunyue Elita Li
17:12	Influence of Floating Diaphragm Wall Settlement on Lateral Earth Pressure Chu E. Ho
17:14	A 3D numerical case study of Sprayed Concrete Lining tunnel construction beneath an existing building Jiaming Liu , Aikaterini Tsiampousi, Agustin Ruiz López, David M G Taborda
17:16	Design and construction of an urban tunnel in uncontrolled fill materials deposited by dumping Luis Bernardo Rodriguez, Bardomiano Soria , Carlos Olivar, Edwing Flores
17:18	St John's Wood Square advanced modelling and monitoring back-analysis Paola Caporaletti , James William Lawrie
17:20	Protruding of tunnel shafts in Mexico City Rodrigo RODRÍGUEZ , Marco PÉREZ, Carlos SÁNCHEZ, Darío ARMENDÁRIZ, Rubén DOMÍNGUEZ, Gabriel AUVINET
17:22	Effectiveness of equivalent linear approach for analyzing tunnel-pipeline interaction Tomasz Durjasz, Assaf Klar , Varvara Zania

MO-14 Young Engineers S I

Chairs: Haris Felic, Johannes Leo
Room N2
16:30 - 18:00

16:30	Post-Cyclone Jasper remediation of landslide-impacted linear transport infrastructure in Far North Queensland <u>Ali Rukh</u> , Joseph Parisi
16:32	Experimental and numerical analysis of soil-geogrid composites under road-construction stress conditions <u>Mindaugas Zakarka</u> , Šarūnas Skuodis, Neringa Dirgėlienė
16:34	Parametric study of cylindrical shafts behavior <u>Elena-Mihaela Stan</u> , Horatiu Popa
16:36	Hydraulic conductivity of waste-based liners: Valorization of industrial by-products for sustainable systems <u>Leonardo Marchiori</u> , Maria Vitoria Morais, Josivaldo Sátiro, André Studart, Antonio Albuquerque, Luis Andrade Pais, Victor Cavaleiro
16:38	Soil Classification Chart based on MWD parameters <u>Guilherme de Oliveira Souza</u> , Catherine Jacquard, Michel Rispal, Philippe Reiffsteck, Fabien Szymkiewicz, Arnaud Finiasz
16:40	Factors influencing the adhesive strength of reconstituted illite in separation testing in the overconsolidated range <u>Maximilian Schroeder</u> , Megha Surya Narayanan, Jürgen Grabe, Marius Milatz
16:42	Terrestrial mobile LiDAR survey to manage rockfall risk along a motorway <u>Diana Bianchi</u> , Lucia Simeoni
16:44	Laboratory Investigation on the Application of Zeolite for Quick Clay Stabilisation <u>Mohammad Hemayati</u> , Seyed Ali Ghoreishian Amiri, Gustav Grimstad, Priscilla Paniagua
16:46	Laboratory evaluation of the performance of blended recycled glass and natural aggregates composite for flexible pavements <u>Yekta Nateghi</u> , Sanjay Nimbalkar, Piyush Punetha
16:48	Radar interferometry-based approach to assess damage patterns induced by the climate-driven geohazard of soil shrinkage <u>Julia-Isabelle Ruopp</u> , Hauke Zachert
16:50	Seismic Behaviour of Skirted Ring Foundations Under V-H Loading in Layered Soils for Offshore Wind Turbine <u>Pratik Goel</u> , Kaustav Chatterjee
16:52	Study on the interaction characteristics between giant composite diaphragm wall foundation and soil in deep soft soil interlayer area <u>Qian Yin</u> , Weiming Gong, Guoliang Dai, Xiaojuan Li, Mingxing Zhu
16:54	Finite element modeling of unbound granular pavements considering the effect of realistic moving loads <u>Piyush Punetha</u> , Sanjay Nimbalkar

MO-14 Young Engineers S I

Chairs: Haris Felic, Johannes Leo
Room N2
16:30 - 18:00

16:56	Application of parallel plate rheology to investigate shear strength of sensitive clay treated with inorganic salts <u>Kamila Zabłocka</u> , Mohammad Hemayati, Klaartje de Weerd, Ali Ghoreishian Amiri, Sølve Hov, Priscilla Paniagua
16:58	Aperture size effects on the behavior of geogrid-stabilized aggregates under constant radial stiffness triaxial test <u>Ziheng Wang</u> , Jianfeng Xue, Yue Chen, Amir Shahkolahi, Mark Jaksa, Chaminda Gallage
17:00	Small-strain shear modulus of carbonate sand: Importance assessment of key parameters <u>Samah Said</u> , Adel Ahmadinezhad, Babak Shahbodagh, Arman Khoshghalb, Nasser Khalili
17:02	Investigation on the engineering behavior and mechanism of enzyme-stabilized clays <u>Shuai Zhang</u>
17:04	Durability assessment of nonwoven hemp geotextiles for road infrastructures: field and laboratory ageing under alkaline conditions. <u>Sama Angèle Dabiret</u> , Fabienne Farcas, Dimitri Durin, Olivier Waterblez, Carlos Minatchy, Lamis Makki, Philippe Reiffsteck, Laetitia Van Schoors
17:06	Improved Assessment of Estuarine Soils via Nuclear Magnetic Resonance <u>Brian Dalton Harris</u> , Justin Shawler, Warren Caldwell, Anthony Priestas, Daniel Gallegos, Navid Jafari, Susan Bailey
17:08	Investigation of factors influencing the pull-out resistance of grouted anchors in coarse soils <u>Daniel Reinert</u> , Eva Dornecker, Fabian Heidenreich, Moritz Schwing, Markus Herten
17:10	Simplified calibration of hypoplastic model parameters based on grain size distribution characteristics <u>Joana Bombe</u> , Christoph Schmüdderich, Jan Machacek, Merita Tafili, Torsten Wichtmann
17:12	Analytical framework for stress-induced anisotropy in infinite sandy slopes under cyclic loading conditions <u>Revathy Manohar</u> , Sireesh Saride
17:14	Development of a Scalable Landslide Early Warning System Using Geospatial and Meteorological Data Fusion <u>Kunal Gupta</u> , Neelima Satyam Devarakonda
17:16	The influence of soil organic content and water content on rheological behaviour of very soft clays <u>Meghna V S</u> , Rakesh J Pillai
17:18	Geodata solutions contributing to sustainable development Clara Modeseni, <u>Niels Walrave</u> , Joek Peuchen
17:20	Impact of uniformity and biopolymer treatment on base-filter compatibility <u>Sungjun Cho</u> , Khiem Tran Gia Nguyen, Jongmuk Won
17:22	Assessing suffusion of sand-clay mixtures through laboratory experiments <u>Junhyeok Kwak</u> , Chaemin Kim, Jongmuk Won
17:24	Analysis of InSAR data and numerical modelling for the study of bridge-landslide interaction <u>Alice Vitaletti</u> , Erica Cernuto, Diana Salciarini

MO-15 Deep Foundations S

Chair: Barbara Schneider-Muntau

Room 1.61_62

16:30 - 18:00

16:30 Development of a model for the prediction of the bearing capacity of ductile driven piles from pile driving time

Juan Ignacio Corazza, Oliver Reul, Johannes Berndt, Bernhard Schrötter

16:32 Degradation of homometric sands mechanical properties during continuous flight auger piles installation

Julien HABERT, Sara MESSIKH, Fabien SZYMKIEWICZ, Micaela GAYONE

16:34 A Review of Thermal Integrity Testing of Marine Piles

Chris Barker, Anthony Fisher

16:36 pile tests in nuclear area: case of Chernobyl

daniel durot

16:38 Development of a Stop-driving Criterion for Vibro-driven Steel Sheet Piles

Thaleb Abdallah, Erika Tudisco, Kent Persson, Per-Erik Austrell, Kenneth Viking

16:40 Observed performance of turbine foundations of a power plant during February 2023 earthquakes

Oğuz ÇALIŞAN, Yüksel İlkey TONGUÇ

16:42 Leaving Temporary Casing in Place for Replacement Pile Construction – Better or Worse?

Albert T. Yeung, Andy Y.F. Leung, P.L. Ng, Thirapong Pipatpongsa

16:44 Theoretical and full-scale experimental evaluation of ‘installation friction’ in self-drilling hollow piles

Juan Carlos Balbuena Ponce, Jean De Sauvage, Patrick Joffrin, Philippe Robit, Anthony Martens, Jean-Pierre Rajot

16:46 Interpretation of large diameter preliminary pile tests in Chalk for HS2

Sergio Vitorino, Hoe Yeow, Sam Reynolds, Thomas Dennison, Leidy Bejarano, Allan Dishington

16:48 Indicative side resistance of bored piles socketed into Makassar claystones

Widjojo A Prakoso, Rustama Berangket, Arvila Delitriana

16:50 Load transfer mechanism on drilled shafts in Buenos Aires City

Pedro Agustin Covassi, Mauro Codevilla

16:52 Laboratory and in-situ study of the bored pile side resistance in rock

Rafael Sharafutdinov, Dmitrii Botanin

16:54 Use of Polymer and Bentonite support fluids, and their impact on bored piles

Anna Farooqy, Wuzhou Zhai, Ian Jefferson, Peter Braithwaite, Nicole Metje, Kieran Hansard, James De Waele, Andrew Heathcote, Ken Goodhue, Henry Spinks, Mark Pennington, Piotr Konieczny

16:56 Foundation design to minimise construction & programme risks: Collaborating to deal with soft soils, variable deep rockhead & Coal

Rachel Robinson, Jacob Phillips

16:58 Excavation Pit for a Multifunctional Sports Arena in Brno, Czech Republic

Jan Štefaňák, Jan Minarčík, Martin Vitek, Václav Račanský, Petr Svoboda

MO-15 Deep Foundations S

Chair: Barbara Schneider-Muntau

Room 1.61_62

16:30 - 18:00

17:00 Preliminary Test Piles in Weak Weathered Lias Group Jurassic Mudstone Rocks

Giorgos Economidis, Hoe Chian Yeow, Maria Dimitriadi, Harry Saroglou

17:02 New findings on the load-bearing behavior and innovative applications of ground screws

Conrad Boley, Paul Pratter, Yashar Forouzandeh

17:04 Design of stiffness sensitive foundations for large telescopes for the Square Kilometre Array project.

Gabi Wojtowicz

17:06 Axial stiffness of tensile elements in weak rock

Anna Wudzka, Christof Maier, Francesco Petrella, Mette Klogborg Mårbjerg

17:08 Full-scale static load test of CFA piles

Ninoslav Tomljanovic, Jelena Trajber, Krunoslav Minazek

17:10 Optimization of CFA Pile Foundations: A Sustainable Approach Through Static Load Tests and Numerical Simulations

Willians Perley Alexandre da Silva, Rodrigo Figueiredo Roma, Monique Hellen Firmino de Araújo, Pedro Eugênio Silva de Oliveira, Alexandre Duarte Gusmão, Gilmar Brito Maia

17:12 Settlement Characteristics of Prebored and Precast Pile under Full-scale Field Static Axial Load Testing in Clay Soils of Indonesia

Abdi Pasya Reihan Beyruni, Andhika Sahadewa, Masyhur Irsyam, Erza Rismantojo, Abi Maulana Hakim

17:14 Effect of vertical load on lateral resistance of end bearing short piles in sandy soils based on 3-D finite-element analyses

Sadayuki Ishizaki, Siau Chen Chian, Chun Fai Leung

MO-16 Risk & Safety and Serviceability & System Performance S

Chair: Wei Guo
Room 1.85_86
16:30 - 18:00

- 16:30 Adaptive Risk Management for Soft-Soil Bridge Foundations: Application of a Performance-Based Framework on the Boorloo Bridges Project
Matthieu Tri Duong, [Su Kwong Tan](#)
- 16:32 Geotechnical challenges and mitigation measures in bushfire-affected landscapes of Australia
Naveen Kumar Meena, [Piyush Punetha](#)
- 16:34 THE PERCEPTION AND COMMUNICATION OF GEOTECHNICAL RISK
[Christopher Bridges](#), Chaminda Gallage, Bo Xia
- 16:36 Application of Landslide Susceptibility Mapping on Power Transmission System in Northern Thailand
[Athiya Waleeittikul](#), Kriengkrai Tansupo, Kanchanika Maitachak, Worakamon Nudnara, Kraiwut Laothanathavorn
- 16:38 Modeling non-stationary subsoil spatial variability using high-resolution CPT data
[Joanna Pieczyńska-Kozłowska](#), Giovanna Vessia
- 16:40 Some Aspects of Applying a Probabilistic Approach in Geotechnical Practice During Reconstruction
[Oksana Kichaieva](#), Dietmar Adam
- 16:42 Reliability analysis of long slopes with spatially variable random properties
D. V. Griffiths, [Ashley P. Dyson](#)
- 16:44 A simplified rockfall hazard rating system for highways in the higher Himalaya: case study of NH-03, Nepal
[Abinash Aryal](#), Jibendra Misra, Kushalta Nyupane, Asmita Adhikari, Umesh Dhital
- 16:46 Automated Probabilistic Slope Stability Assessment Using Four-Moment Normal Transformation Integrated with ABAQUS
[Ekansh Agarwal](#), Ning Luo, Fangzhou Liu, Liming Zheng
- 16:48 Geotechnical spatial characterization of Buenos Aires soils
[Nicolas Tasso](#), Pedro Fernandez, Mauro Codevilla
- 16:50 Real-time soil liquefaction evaluation and impact analysis for earthquake emergency management
[Bing-Ru Wu](#), Ming-Wey Huang, Siao-Syun Ke
- 16:52 Identification of spatial distribution for ground stiffness by data fusion of geotechnical and geo-physical data
[Shin-ichi Nishimura](#), Toshifumi Shibata
- 16:54 Inverse analysis of density using muography with Lasso regression
[Toshifumi Shibata](#), Shin-ichi Nishimura
- 16:56 Earth retaining solutions and facades underpinning, for the refurbishment an historic building, in Lisbon
[Inês Braz](#), Alexandre Pinto, David Henriques, Rogério Santos, Eduardo Freitas

MO-16 Risk & Safety and Serviceability & System Performance S

Chair: Wei Guo
Room 1.85_86
16:30 - 18:00

- 16:58 Evaluation of Bridge Damage Risk During Heavy Rainfall Considering Driftwood Generation from Slope Failures and Riverside Forests
[Koichi Isobe](#)
- 17:00 EFFC-DFI Guide to working platforms - second edition
Moritz Schlee, Peter Faust, [Christian Moormann](#), Jim De Waele
- 17:02 Static and dynamic testing of pre-stressed grouted anchors
[Matthias J. Rebhan](#), Christian Gasser, Jörg Edler, Markus Schuch, Clemens Klass, Franz Tschuchnigg
- 17:04 Back-calculation of U-profile sheet pile walls stiffness
Cecilia Ezeononigbo, [Jean-Baptiste Payeur](#), Zohra Barhoumi
- 17:06 The effect of groundwater table on the bearing capacity of shallow foundations: An earth pressure analysis approach
[Lysandros Pantelidis](#), Eleyas Assefa, Costas Sachpazis
- 17:08 Integrating climate change models and geological hazard inventories provides a new approach for resilient natural hazard management
Volker Reinprecht, Georg Kaml, [Matthias Rebhan](#)
- 17:10 A damage-based numerical approach for the optimal arrangement of articulated sections in linear underground structures crossing active faults
[Guanxiong Zeng](#), Yasuo Sawamura, Kiyoshi Kishida
- 17:12 Successful interception of natural terrain landslides by reinforced concrete debris-resisting barriers at two sites in Hong Kong
Kevin Siu Pang Lam, [Saoirse Robin Goodwin](#), Eric Yam Ming Chan, Arthur Ka Chun Cheung
- 17:14 Impact of Diaphragm Wall Installation on Vertical Piles Behavior in Granular Soils
[Bosco Poon](#), Chia Weng Boon, Kim Chan
- 17:16 Extending the Lifespan and Increasing the Robustness of Port Quays: A Study on Anchor Tie Rods and Soil Settlements
[Janni Alrum Jørgensen](#), Christian Koch, Lars Vabbersgaard Andersen
- 17:18 Numerical Modeling of Circular and Rectangular Shafts During Excavation and Microtunneling: Assessing the Impact of jacking Forces on Structural Stability
[Roshanak Shafieiganjeh](#), Grace Stapley, Frank Remmert
- 17:20 Three-dimensional beam-plate finite element method and resilient retaining structures design in braced-excavations
Xuesong Cheng, [Chenkai Li](#), Fan Yi, Gang Zheng, Qinghan Li, Haibin Yang, Jing Zhao
- 17:22 PERMANENT STRAND ANCHORS: INVESTIGATION ON EXISTING WORKS
[Paolo Ruggeri](#), Matteo Senigagliales, Pierluigi Alesiani, Vivienne Marianne Esther Fruzzetti, Giuseppe Scarpelli

TUESDAY JUNE 16, 2026

08:30-10:00 | ROOM A

PLENARY SESSION 4A: TC HONOUR LECTURES

Chair: *Guillermo A. Narsilio, Jonathan Bray*

TC 308 HONOUR LECTURE ON ENERGY GEOTECHNICS

Subsurface energy solutions: where geotechnics meets innovation

Lyse Laloui, École Polytechnique Fédérale de Lausanne

Elena Ravera, GEOEG Consulting

Alessandro F. Rotta Loria, Northwestern University

TC 203 ISHIHARA LECTURE

Recent and Future Advances in Geotechnical Earthquake Engineering: A Personal Perspective

Steven L. Kramer, University of Washington

08:30-10:00 | ROOM C

PLENARY SESSION 4B: TC HONOUR LECTURES

Chair: *António Viana da Fonseca, Tatsuya Ishikawa*

TC 102 JAMES K. MITCHELL LECTURE

On the Characterization of Intermediate Soils and Tailings

Jason T. DeJong, University of California, Davis

Don J. DeGroot, University of Massachusetts Amherst

TC 202 PROCTOR LECTURE

Transportation Geotechnical Asset Management: Role of Novel Materials, Robust

Designs, Innovative Technologies and Tools

Anand J. Puppala, Texas A&M University

10:00-10:30 | COFFEE / TEA BREAK

10:30-11:40 | ROOM A

PLENARY SESSION 5: TERZAGHI ORATION

Chair: *Marc Ballouz*

Soil Erosion: From Fundamentals to Applications

Jean-Louis Briaud, Texas A&M University

The GeoWB ISSMGE Committee and Geodisasters, 2022 - 2026

Pierre Delage, Ahmed Chraïbi, Jan Kupec, Fernando A. M. Marinho, Daniela Pollak, Marc Ballouz

11:40-12:30 | ROOM A

PLENARY SESSION 6: STATE OF THE ART LECTURE

Chair: *Pedro Pinto, University of Coimbra-Faculty of Engineering*

Geotechnics for offshore wind developments

Ana Page, NGI

Britta Bienen, The University of Western Australia

12:30-13:45 | LUNCH BREAK / BRITISH GEOTECHNICAL ASSOCIATION MEETING

18:00-19:00 | ROOM M1

ITALIAN GEOTECHNICAL ASSOCIATION

In memoriam Michele Jamiolkowski



Geotechnical expertise applied to ground improvement and reinforcement



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TU-01 Numerical Methods I
Chairs: Jidong Zhao, Franz Tschuchnigg
Room A
13:45 - 15:45

13:45	Investigation of the Predictive Accuracy of Advanced Constitutive Models for Earthquake-Induced Excitations <u>Moritz Meyer</u> , Merita Tafili, Lukas Knittel, Torsten Wichtmann
13:57	Ground movement assessments for TBM excavation of three tunnels in a highly complex urban environment - 3D deformation analysis <u>Gebreselassie Berhane</u> , Igor Arsic, Jamal Hleibieh
14:09	Cone penetration testing in partially saturated clayey soils: a numerical approach <u>Luís Monforte</u> , Marcos Arroyo, Antonio Gens
14:21	Large deformation modelling of pile installation in clay and comparison with cavity expansion analysis <u>Lemuel Thompson</u> , Bipul Hawlader, Patrick Staubach, Kenichi Soga
14:33	Application of the Convected Particle Domain Interpolation Method in Modeling Offshore Vibratory Monopile Installation Shreyas Giridharan, Dieter Stolle, <u>Christian Moormann</u>
14:45	An anisotropic state-dependent elastic-viscoplastic multilaminate model for clays <u>Vahid Galavi</u> , Helmut Schweiger
14:57	Modelling coupled seepage-erosion-deformation process using the material point method and an advanced constitutive model <u>Danial Haider</u> , Chao Zhou
15:09	Modelling of fully saturated freezing soils Haitao Jing, <u>Wenjie Cui</u> , David M. Potts, Lidija Zdravkovic, Xiaotian Wu
15:21	Energy dissipation of clays during undrained cyclic triaxial tests <u>Francesca Palmieri</u> , David Taborda
15:33	Reduced Order Models for geotechnical predictions Mao Ouyang, Alexandros Petalas, William Coombs, <u>Charles Augarde</u> , Ahmed Alagha, Jonathan Knappett, Michael Brown

TU-02 Ground Improvement II
Chair: Fanny Maucotel
Room C
13:45 - 15:45

13:45	Experimental Evaluation of Jet Impact Behavior in Large-Diameter Grouting Using Stream Testing <u>Morris I-Min Wang</u> , Makara Nguon, Kuo Chieh Chao, Shih Hao Cheng, Ricky K. N. Wong, Louis Ge
13:57	Field testing of expanding resin injection for ground improvement in sands <u>Kyle Rollins</u> , David Blake, Frederick Wentz, Theo Hnat, Sara Amoroso
14:09	Predicting Elastic Modulus of Fibre-Reinforced Soil-Cement Mixtures Using Artificial Neural Network Joaquim Tinoco, Dominic Owusu-Ansah, <u>António S. Correia</u> , Paulo Venda Oliveira, José Matos

TU-02 Ground Improvement II
Chair: Fanny Maucotel
Room C
13:45 - 15:45

14:21	Vacuum consolidation at the port of Brisbane, paddock b1 <u>Jordan Jong</u> , Alexandre Hubaut, Zen Ng, Clinton Chan
14:33	Ground improvement for Burswood Point North Park <u>Babak Hamidi</u> , Jordan Jong
14:45	Cyclic behavior of geotextile-encased sand: resistance, stiffness and energy dissipation Hyeong-Joo Kim, Seokjae Lee, Hyeong-Soo Kim, Tae-Wong Park, Tae-Eon Kim, Soo-Woong Choi, <u>Voltaire Anthony Jr Corsino</u> , James Vincent Reyes
14:57	Soil densification with rigid inclusions for liquefaction mitigation <u>Catalina Mancilla</u> , Patricio Donoso, Oscar Taiba, Ana Belén Martínez Bacas, Pablo Ruiz-Terán
15:09	Soil reinforcement strategy for an EPR2 nuclear power plant project in northern France: contribution of back-analysis Minh Tuan Hoang, <u>Martin Cahn</u> , Jesús Pérez Herreros, Fahd Cuira, Van Son Vo, Cyril Simon
15:21	Study on the applicability of electro-osmotic consolidation to on-site ground improvement <u>Yuri Sugiyama</u> , Nagate Hashimoto, Fumitaka Arai
15:33	Preloading and Deep Dynamic Compaction to Facilitate Shallow Foundations <u>BS Qubain</u> , J Li, AM Donatelli, EJ Seksinsky

TU-03 Laboratory Testing II
Chairs: Lucia Mele, Carlos Ovalle
Room M1
13:45 - 15:45

13:45	Reliability of methods for determining the coefficient of radial consolidation (cr) from radial consolidation test with radial drainage toward a central drain <u>Tien Dung Nguyen</u> , Khin La Pyae Wunn, Phyu Sin Khin, Duc Long Phung
13:57	Volume change observations from giant direct shear box tests on recycled aggregates <u>Sam Divali</u> , Micheal CR Davies, Sarah E Stallebrass, Jayna Gorasia, Kasia Zamara
14:09	A unified framework for estimating monotonic and dynamic parameters of sand-silt mixtures through the equivalent intergranular theory. <u>Anthi Papadopolou</u>
14:21	Laboratory investigation of primary wave velocities and constrained moduli of offshore glauconite under anisotropic stress states Shuyin Feng, Parham Reyhanianasl, <u>Mingnan Li</u> , Tingfa Liu, Chris Brandish-Lowe, Toby Masters, Erdin Ibraim, Andrea Diambra, Peter Webster
14:33	Evaluation of static drained instability of sands subjected to constant shear using a critical state framework <u>Franklin Ricardo Olaya</u> , Guillermo José Zavala
14:45	The comprehensive experiments for evaluating the thermomechanical behavior of weathered granite soil taken from Gwangju metro line Young-Sang Kim, <u>Hanh Nguyen-Cong</u> , Ju-Won Ryu, Gyeong-O Kang, Bang-Yeon Lee

TU-03 Laboratory Testing II

Chairs: Lucia Mele, Carlos Ovalle
Room M1
13:45 - 15:45

- 14:57 **Multi-directional shear wave measurement during triaxial compression test of saturated sand using disk-shaped piezoelectric transducer**
Hiroyuki Hashimoto, Reiko Kuwano
- 15:09 **Crushing progression and critical state surface of Ta-d-p pumice in triaxial tests**
Itsuki Sato, Atsushi Mohri
- 15:21 **Alkali-activated binders in soil stabilization – A step towards waste valorization and environmental compatibility**
Stefanie Radinger, Martin Ehall, Cyrill Grengg, Roman Marte
- 15:33 **Stress-relaxation behavior in methane hydrate-bearing soils**
Itai Bar, Aram Yakoby, Lior Rake, Shmulik Pinkert

TU-04 Micro to Macro & Earthquake

Chairs: Adda Athanasopoulou-Zekkos, Kenichi Soga
Room M2
13:45 - 15:45

- 13:45 **Soil nonlinearity effect on dynamic responses of multi-degree-of-freedom structures supported by shallow foundation: centrifuge modelling**
Seong Jin Park, Yun wook Choo
- 13:57 **Integrating fragility functions into earthquake early warning systems for embankment dams**
Juan Manuel Barbagelata, Paolo Zimmaro, Gianluca Regina, Anna d'Onofrio, Luca Pagano, Francesco Silvestri
- 14:09 **Seismic Vulnerability Analysis of a CFRD Dam and Its Spillway Excavation**
Camilo Marulanda, Edwin Leon, William Ruiz, Gabriel Colorado
- 14:21 **Significance of the earthquake motion records of the 2023 Türkiye-Syria earthquakes**
Ikuo Towhata
- 14:33 **Simplified pile stress calculation method considering superstructure rocking during large earthquakes**
Takehiro Okumura, Junji Hamada
- 14:45 **Constitutive modeling of acid-assisted crack propagation in geomaterials**
Manman HU, Xiaojie Tang, Jing Chen
- 14:57 **A multi-scale numerical and experimental study of permeation of polymer fluids in soils (PoPFS)**
Catherine O'Sullivan, Brian Sheil, Stephan Jefferis, Martin Blunt, Chris MacMinn, Marina Bortolotto, Si Suo, Callum Cuttle, Yongxin Wang, Daniel McNamara
- 15:09 **Towards Studying Dynamic Heterogeneity and Facilitation in Sheared Granular Materials: Microscale Strain Localization in 3D Triaxial Testing**
Kwangmin Lee, Brett Kuwik, Mohmad Mohsin Thakur, Ryan Colt Hurley, Kianoosh Taghizadeh

TU-04 Micro to Macro & Earthquake

Chairs: Adda Athanasopoulou-Zekkos, Kenichi Soga
Room M2
13:45 - 15:45

- 15:21 **3D Characterization of Internal Deformation in Drying Fine Sediments Using X-ray Tomography and Micron-Sized Tracking Markers**
Ludi Li, Shuoshuo Xu, Budi Zhao
- 15:33 **Development of 3D structural filter for sandy soil**
Yukio Nakata, Yoko Ohta, Jun Yoneda

TU-05 Unsaturated Soils

Chair: Enrique Romero
Room N1
13:45 - 15:45

- 13:45 **Assessment of vegetated slope instability using field hydraulic and electrical data**
Ruimin Chen, Wei Wu, Wenbin Jian
- 13:57 **Electrowetting of water drops on hydrophobized soils**
Xin Xing, Yunesh Saulick, Glen McHale, Sergio Lourenco
- 14:09 **Measurement and modeling of the temperature-dependent thermal conductivity of freezing to thawing sands**
Aashish Pokhrel, Xinbao Yu, Laureano Hoyos
- 14:21 **Incorporating suction effects into DEM modelling of granular soils**
Nazanin Mahboobi Motlagh, Arman Khoshghalb, Nasser Khalili
- 14:33 **Evaluating bentonite performance in saline conditions through a chemically coupled dual-porosity model**
Han Ming Lai, Lidija Zdravkovic, David M. Potts, Matthew Kirby, Simon Norris
- 14:45 **Gas barriers in geotechnical engineering: from deep geological disposal to engineered barriers/seals**
Laura Gonzalez-Blanco, Enrique Romero
- 14:57 **Analysis of desiccation cracking in compacted soils using computed tomography**
David Encalada, Alberto Ledesma, Pere C. Prat, Auke Barnhoorn
- 15:09 **On the measurement of laboratory and field retention states of a loose coarse and vegetated topsoil**
Alessandro Fraccica, Manuela Cecconi, Andrea Lepri, Vito Tagarelli
- 15:21 **Suction and permeability characteristics of foam conditioned soils**
Hailong Wang, Yuansheng Leow, Issei Sato, Hideki Nagatani, Kenichi Kawano, Hirokazu Akagi
- 15:33 **Characteristics of transport paths of water vapor inside unsaturated sandy ground during evaporation from bare soil**
Yuta Jikuya, Motoyuki Suzuki

TU-06 Young Engineers I

Chairs: Johannes Leo, Haris Felic
Room N2
13:45 - 15:45

- 13:45 **Impact of installation method on soil plugging in clays**
Philipp Wiesenthal, Hannes Bars, Britta Bienen, Sascha Henke
- 13:57 **Validation of rotary cone penetration test for soil interface frictional coefficient estimation**
Xiaotong Yang, Jian-Min Zhang, Rui Wang
- 14:09 **Numerical Modeling of Application of Bamboo Piles on Ground Improvement**
Han Sheng Choi, Vera Hui Loo, Siew Wei Lee
- 14:21 **Ground movement mitigation for aging rising mains using numerical modelling**
Ali Monzer, Phatharaphong Yensri, Asaad Faramarzi
- 14:33 **Machine learning-driven design of bored piles: optimization of embedded depth and capacity assessment using spatial soil distribution**
Wanhuk Seo, Tae Sup Yun
- 14:45 **Natural soil stabilized with cellulose nanofiber and ionic crosslinked xanthan gum for sustainable rammed earth construction**
Taiwo Sesay, Yuekai Xie, Yue Chen, Jianfeng Xue
- 14:57 **Experimental investigations on the installation and bearing behaviour of full displacement bored piles**
Johannes Kuhlmann
- 15:09 **Feasibility of conditional VAE-based generative design for slope nail reinforcement**
Taeku Kim, Youngjong Sim, Hyunsoo Kim, Tae Sup Yun
- 15:21 **Enhanced PFEM simulations of cone penetration testing and vibratory pile driving using recombined quadrilateral elements**
Antaeus Bettmann, Jan Machaček, Juan Manuel Rodríguez Prieto, Hauke Zachert, Ralf Müller
- 15:33 **3D shape characterization of rock granule using artificial intelligence-based image processing techniques**
Jimin Park, Dong Min Shin, Tae Sup Yun

TU-07 Site Characterization

Chairs: Jason Theodore DeJong, Marcos Arroyo
Room 1.61 _62
13:45 - 15:45

- 13:45 **Advanced passive seismic survey for bedrock depth estimation in urban environments: cross-correlation seismic interferometry using traffic noise**
Seonho Hwang, Changho Shin, Taeseo Ku
- 13:57 **In-situ rate-dependent behaviour of Finnish silt by Dilatometer and Piezocone testing**
Sara Amoroso, Mohammadsadeh Farhadi, Marco D'Ignazio, Paola Monaco, Diego Marchetti, Tim Länsivaara

TU-07 Site Characterization

Chairs: Jason Theodore DeJong, Marcos Arroyo
Room 1.61 _62
13:45 - 15:45

- 14:09 **Thirty years of experience in the characterization, spatial modelling and valorisation of soft soils, subglacial sediments and deposits: Contemporary Insights from Chilean Patagonia**
Ramon Carrasco Poll, Pablo Villarroel Ulloa, Jorge Andrés Rojas Vivanco, Gabriel Villavicencio Aran-cibia, Pierre Breul, Hakan Garin, Miguel Angel Benz Navarrete
- 14:21 **VisCPT and large-scale calibration chamber testing for thin layer identification and characterization**
Tat Shing Thum, Lei Zhang, Kaleigh Yost, Roman D. Hryciw, **Russell A. Green**
- 14:33 **Determination of dynamic damping ratio from quasi-static pressuremeter loops**
Alexandre Lopes dos Santos, Julien Habert
- 14:45 **Developing a vane shear test with pore water pressure measurement capability for in-situ monotonic and cyclic shear strength measurement**
JAVIER ORLANDO UBILLA
- 14:57 **Lessons Learnt from fully equipped in-situ test galleries in Austrian tunnel projects**
Thomas Marcher
- 15:09 **Piezocone evaluation of geoparameters for sensitive clays of New England**
Paul Mayne, Priscilla Paniagua, Bruno DiBuo, **Shehab Agaiby**
- 15:21 **Enhancing parameter determination for offshore wind through machine learning and Bayesian statistics: Insights from Ijmuiden Ver Gamma**
Simon Oberhollenzer, Luke Griffiths, Rasmus Tofte Klinkvort, Mark Vardy, David Moellenbeck, Nezam Bozorgzadeh, Carol Cotterill, Maarten Vanneste
- 15:33 **The importance of fundamental soil sampling method**
Fusao Rito

TU-08 Offshore

Chairs: Ana Page, Fernando Danzinger
Room 1.85 _86
13:45 - 15:45

- 13:45 **Simplified modelling of shared anchor piles subjected to multi-directional cyclic loading**
Christelle Nadine ABADIE, Ana PAGE
- 13:57 **Multidirectional and irregular high-cyclic loading using the high-cycle accumulation model**
Patrick Staubach, Lukas Knittel, **Torsten Wichtmann**
- 14:09 **Development of a lifetime cyclic design method for offshore foundations**
Pishun Tantivangphaisal, David Martins Geraldo Taborda, Stavroula Kontoe
- 14:21 **Suction caisson performance under monotonic and cyclic loading: FE modelling using SANISAND-MS**
Raffaele Cesaro, Raffaele Di Laora, Gabriele Boccheri, Riccardo Conti, Pietro Marveggio, Luca Fles-sati

TU-08 Offshore

Chairs: Ana Page, Fernando Danzinger
Room 1.85_86
13:45 - 15:45

- 14:33 **Pushed-in piles, a silent piling method for offshore wind turbine foundations**
Benjamin Cerfontaine, Craig Davidson, Michael Brown, Yaseen Sharif, Scott Robinson, Marius Ottolini, Marco Huisman
- 14:45 **The importance of data management to drive innovation in geotechnics**
Oda Mohus, Ryan Stelzer, Kristin Paulsen, Truls Martens, Thomas Langford
- 14:57 **Experimental study of hybrid seabed anchors: anchor geometry, installation and pullout under inclined loading**
Yuqi Mi, Fernando Patino-Ramirez
- 15:09 **An experimental investigation on the performance of shared suction anchors under multi-directional loading in clay**
Ying Huang, Jianbin Cui, Chuheng Wu, Youhu Zhang
- 15:21 **Impact of cyclic soil degradation on the design of offshore wind turbine foundations**
Saad A. Faizi, Honest Tang, Amira Shkatova, Arthur K.C. Cheung, Aslan S. Hokmabadi
- 15:33 **CPTu-based identification of glauconite sand using Random Forest modeling**
Mertcan Geyin, Asitha Senanayake, Zack Westgate, **Federico Pisanò**

TU-09 Numerical Methods S I

Chairs: Francesca Ceccato, Yosuke Higo
Room A
16:15 - 17:45

- 16:15 **Comparative Analysis of Matsuoka-Nakai Criterion and Dilatancy Effects in Hyperplastic and Hypoplastic Soil Models**
Gustav Grimstad, Gertraud Medicus, Davood Dadrasajirlou, Seyed Ali Ghoreishian Amiri
- 16:17 **Evaluating Hypoplasticity, ISA-Model and Norsand in Laboratory Test Predictions: Insights from a Round-Robin Benchmarking Exercise**
Gertraud Medicus, Merita Tafili, Patrick Staubach, Mina Mofrad, Mehdi Pouragha, Paul Simms, David Mařin, Andy Fourie, Riccardo Fanni, David Reid
- 16:19 **Constitutive models for the cyclic soil-structure interaction of integral railway bridges**
Alexander Sandmann, **Gertraud Medicus**, Lukas Knittel, Vahid Galavi, Merita Tafili, Franz Tschuchnigg
- 16:21 **Development of methods for the stability assessment of slopes subjected to seismic loading based on dynamic FE analyses**
Christoph Schmüdderich, **Jan Machacek**, Luis Felipe Prada-Sarmiento, Patrick Staubach, Torsten Wichtmann
- 16:23 **Calibration of Interface Parameters in Soil-Structure Interaction Problems: An Experimental and Numerical Approach**
Bahram Salehi, Aliakbar Golshani, Jamal Rostami, Barbara Schneider-Muntaua
- 16:25 **3D Numerical Modelling of Thermal Performance and Optimisation of Thermo-Active Roads**
Junjia Lyu, Nikolas Makasis, Liang Cui, Benyi Cao

TU-09 Numerical Methods S I

Chairs: Francesca Ceccato, Yosuke Higo
Room A
16:15 - 17:45

- 16:27 **Investigating the distribution of the modulus of subgrade reaction for the structural design of mat foundations in clay under long-term conditions**
Gaby Saad, **Grace Abou-Jaoude**, Dimitrios Loukidis
- 16:29 **3d stochastic analysis of the vertical displacements of a tunnel (bubble effect) considering the spatial variability of the soil elasticity modulus**
Marcos Edgardo Delgado, Gabriel Auvinet, Moisés Juárez
- 16:31 **Advanced numerical multiphase simulations of triaxial tests**
Kemal Edip, Vlatko Sheshov, Julijana Bojadjeva, Toni Kitanovski, Dejan Ivanovski, Jovan Papic, Igor Pesevski
- 16:33 **Theoretical and numerical evaluation of tunnel-soil system stability using the second-order work criterion**
Ebtehal Hameed, Florent Prunier
- 16:35 **Application of the Equivalent Pier Method for Prediction of Pile Group /Piled Raft Performance - Case Study**
Desmond Lee, Sergei Terzaghi
- 16:37 **Optimization of advanced constitutive model parameters for deep excavation analysis using multi-objective particle swarm optimization**
Kevin Raharja, **Fu-Hsuan Yeh**, I-Tung Yang, Fu-Chen Teng, Bin-Chen Benson Hsiung
- 16:39 **Comparison of analytical and finite-element method for modelling excavations**
Jia Lin, Marijn De Volder, Tommy Zottl, Abdulaziz Abdelkadr, Kilian Wimmer, Thomas Wieser
- 16:41 **Three-dimensional finite element modelling of TBM-induced pile response using a simplified numerical approach: application to the TULIP project**
Hadia Zaiter, Hussein Mroueh, Emmanuel Bourgeois
- 16:43 **Numerical modelling of a deep excavation in the overconsolidated soil of Vienna**
Aleksandar Kostadinovic, Julian Sigmund, Dietmar Adam
- 16:45 **Geohydro-mechanical interactions in numerical stability analyses of geotechnical structures**
Jan Machacek, Emmanuel Bourgeois, Solveig Buscher, Holger Heidkamp, J.-Martin Hohberg, Eugen Perau, Tim Pucker, David Remaud, Oliver Reul, Christoph Schmüdderich, Oliver Stelzer, Herbert Walter
- 16:47 **Stability analysis for the rehabilitation of a wastewater treatment plant on cohesive soils in the Troina area (South-Italy)**
Valentina Lentini, Francesco Castelli, Karol Pinargote
- 16:49 **Finite element modelling of geometrical damping and near-field effects in wave propagation for practical applications**
Alireza Esmaeili Moghadam, Kamelia Atefi-Monfared, **Giovanni Cascante**
- 16:51 **Usage of the phase field method for describing wave-induced liquefaction**
Hannah Keese, Luise Zieger, Oliver Stelzer, Sebastian Aland, Thomas Nagel
- 16:53 **Coupled Biological-Chemical-Hydraulic-Mechanical Model to Predict Microbially Induced Calcite Precipitation in Mine Tailings**
Alireza Azizi, **Kamelia Atefi-Monfared**, Paul Simms

TU-09 Numerical Methods S I
 Chairs: Francesca Ceccato, Yosuke Higo
 Room A
 16:15 - 17:45

- 16:55 **40 years of numerical modelling of soil-structure interaction - how far have we come?**
Hoe Chian Yeow
- 16:57 **Application of a static surrogate model for the seismic analysis of multiple interconnected deep shafts, a case study**
 Carlos Menéndez-Vicente, José Concha-Riedel, Jörg Meier, **Laurent Pitteloud**
- 16:59 **Large deformation coupled hydro-mechanical CEL analysis of cone penetration into dense sand**
Ahmad Foroutan Kalourazi, Tingfa Liu, Andrea Diambra, Yinghui Tian, George Mylonakis

TU-10 Ground Improvement & Soft Soils S
 Chair: Ana Maria Alzate
 Room C
 16:15 - 17:45

- 16:15 **Safe and economical geotechnical design of wind farm foundations in seismic areas based on a project from the USA and Romania**
 Lukasz Pawel Ledzinski, **Andrzej Wolski**, Allen Bowers
- 16:17 **Numerical Investigation of Confining Pressure Effects on Fibre-Reinforced Soil Behaviour**
 Thomas Houghton, **Alireza Ahangar Asr**
- 16:19 **Quality control of strain dissipating boxes for the treatment of cracks in the ground**
Moisés Juárez-Camarena, Cinthya Cervantes-Barranco, Gabriel Auvinet-Guichard, Sergio Martínez-Galván
- 16:21 **Improvement of soft clay by preloading and vertical drains in Northern Egypt**
Marawan M. Shahien, Ahmed Farouk, Mona B. Anwar, Hassan Abo-Seada, Menna El-Semary, Rana Hassan
- 16:23 **Electrokinetic Stabilisation (EKS) Applications in South-East England, UK: Case Study**
Catarina Sofia Ladeira Lima, Ian Jefferson, Esdras Ngezahayo, Alan Tew, Richard Rollit
- 16:25 **Study on the mechanical properties of expandable foam grout (EFG) based on mixing ingredients**
Wooljin Han, Jinwook Kim, Jongchan Kim, Jong-Sub Lee
- 16:27 **A calibration chamber testing apparatus for grout injection testing**
Giada Bastianini, Matteo Oryem Ciantia, Riccardo Castellanza, Katia Boschi, Marco Maffei
- 16:29 **P- and S-waves testing to assess mechanical parameters on jet grouted sensitive clay: Case study in Moss railway project.**
Daniel Ryghseter, Stefan Ritter, Jian Dai, Chuangxin Lyu
- 16:31 **ON DRY DEEP MIXING OF NATURAL CLAY ACROSS SCALES**
Vijayashree Sadasivan, Dawn Yun-Cheng Wong, Anders Karlsson, Jelke Dijkstra
- 16:33 **Laboratory and Model-Scale Investigation of Biocementation Effects on Sand Behavior and Foundation Bearing Capacity**
Hanieh Babaeizad, Wiebke Baille, Torsten Wichtmann

TU-10 Ground Improvement & Soft Soils S
 Chair: Ana Maria Alzate
 Room C
 16:15 - 17:45

- 16:35 **Machine learning based verification of dry deep mixing**
Hilde Aas Nøst, Stefan Ritter, Priscilla Paniagua, Marit Skaug Løyland
- 16:37 **An investigation of soft soil electrokinetic biocementation**
Maria Mavroulidou, Michael J. Gunn, Sumit Joshi, Ottavia Rispoli, Louis Le Pen, Jonathan Garelick, Christopher Gray, Intisar Sanam
- 16:39 **Deep soil mixing from the pontoon with integrated GNSS measurement and online visualization of the drilling position**
 Cemal Can Maslak, Martin Rappl, Marcus Daubner, **Dorijan Gombac**
- 16:41 **RANDOM FINITE ELEMENT ANALYSIS ON SELF-SUPPORTED RETAINING WALL OF CEMENT-TREATED SOIL COLUMNS**
Tsutomu Namikawa
- 16:43 **A special case of geotechnical characterization for an electrical substation located in the Mexico Valley**
Rafael Ortiz Hernandez, Raúl Bernal Luna, Óscar Jesús Luna González
- 16:45 **Justification of an improved soil base model for buildings of different storeys**
 Oleksandr Samorodov, Sergii Tabachnikov, Svitlana Yesakova, **Oleh Krotov**
- 16:47 **From Fabric to Capacity: State-Parameter Interpretation and Installation Effects in Glaciogenic Silts**
Ri Hong Kee, Sergei Terzaghi, Andy O'Sullivan
- 16:49 **Theoretical investigation of the effect of soil compressibility in the context of the bearing capacity of shallow foundations**
Lysandros Pantelidis, Abdelaziz Meddah
- 16:51 **Evaluation of long-term settlement behavior of preload-improved soft clay using the isotache model**
Daisuke Niina, Yoichi Watabe
- 16:53 **Optimizing soil improvement works for soft soil reclamation based on a PVD trial area and numerical back-calculation**
Mathijs Maes, Patrick Mengé
- 16:55 **Sustainable land reclamation using locally dredged sediment improved by horizontal and vertical drains – a pilot test in Hong Kong**
Peichen WU, Zejian CHEN, Jianhua YIN
- 16:57 **Advanced finite element modelling for constructible and sustainable surcharge design using prefabricated vertical drains in Port of Brisbane land reclamation**
Nay Win, Jarreau Alinur, Darshi Kasturiaratchi, Clinton Chan, Zen Ng

TU-11 Laboratory Testing & Unsaturated Soils S

Chairs: Andy YF Leung, Abdullah Ekinci
Room M1
16:15 - 17:45

- 16:15 **Laboratory characterisation of the cyclic simple shear behaviour of Dunkirk sand for offshore pile foundation design**
Parham Reyhanianasl, Ali Zendeheel Nobari, Tingfa Liu, Chris Brandish-Lowe, Mingnan Li, Peter Webster
- 16:17 **Impact of lime stabilization on strength, permeability, and critical state characteristics of mine tailings**
Luis Gerardo Cruz Flores, Eduardo Botero Jaramillo, Miguel Ángel Mánica Malcom, Marcos Arroyo Alvarez de Toledo
- 16:19 **Cyclic simple shear strength of a liquefiable sand under combinations of relative densities and vertical stresses**
Fausto Molina-Gómez, José Luis Pastor, António Viana da Fonseca, Miguel Millán, Rubén Galindo-Aires
- 16:21 **Isotach behaviour for organic clays and peats**
Tom van Straaten, Cor Zwanenburg, Henk Kooi
- 16:23 **Liquefaction evaluation of a soft soil: remolded and undisturbed samples**
Mariana Tonini de Araújo, Patrícia Figueiredo de Sousa, André de Oliveira Faria, Mauro Pio dos Santos Junior, Jessé Joabe Vieira Carneiro
- 16:25 **Preliminary Results on Cyclic Degradation and Pore Pressure Generation in Sand-Fine Mixtures**
Vedran Jagodnik, Tea Sulovsky, Davor Marušić
- 16:27 **Nonlinear resilient behavior of unbound materials**
Jeb Tingle, Haley Mims, Alejandra Vega, Margarita Ordaz
- 16:29 **Clay structure and KO measurements**
Apollonia Gasparre, Matthew Coop, Serena Che
- 16:31 **Initial shear modulus of gravel and fines-containing sands**
Feiyun Shi, Yoshimichi Tsukamoto, Taichi Ishimaru
- 16:33 **Study on changes in mechanical properties of mudstone due to slaking and its modelling**
Jiapeng Yu, Xi Xiong, Shunichi Kobayashi
- 16:35 **Instability of partially saturated silty sand under suction-controlled constant shear drained condition**
Shafna Jamal, Jayan S Vinod, Kumari W G P, Partha Narayan Mishra
- 16:37 **A Double Compressibility Model for Gassy Soil**
Stephen David Thomas
- 16:39 **Influence of hydrochar addition on the hydraulic properties of compacted soils**
Huan DONG, Heng Hui FAN, Hong Jian LIAO, Qing Yi MU, Anthony Kwan LEUNG, Pui San SO
- 16:41 **Analytical and numerical modelling of pile foundation in fine-grained dual porosity unsaturated soil**
Zarina Onopriyenko, Alfrendo Satyanaga, Zhai Qian, Abdul Halim Hamdany, Sung-Woo Moon, Jong Kim

TU-11 Laboratory Testing & Unsaturated Soils S

Chairs: Andy YF Leung, Abdullah Ekinci
Room M1
16:15 - 17:45

- 16:43 **Unsaturated Shear Strength Characteristics of Filtered Tailings through Modified Direct Simple Shear (MDSS) Apparatus**
Udeshika Dilani Thenuwara Thenuwara Acharige, Dareeju Biyanvilage, Les Dawes, Chaminda Gallage
- 16:45 **Effect of Climate Change on Migration of Wetting Front in Expansive Soils**
Taskid Hossain Asif, Kuo Chieh Chao, John D. Nelson, Daniel D. Overton
- 16:47 **Monitoring Volumetric Water Content and Matric Potential in Variably Saturated Platinum Tailings**
Jean Visagie, Simon Lorentz
- 16:49 **Water retention behavior and hydraulic conductivity of HMA pavement**
Miklós Pap, Zsombor Illés, András Mahler
- 16:51 **In situ soil moisture monitoring of a disused road embankment using commercially available sensors**
Mario Schulz-Poblete, Tiago Gaspar
- 16:53 **Structured Soil Mixture (SSM) as a Performance-Based Specification for Planting Geobags in GeoBarrier Systems**
Yuan Shen Chua, Yongmin Kim, Alfrendo Satyanaga
- 16:55 **Influence of initial moisture content on geophysical response of soft clay during wetting and drying cycles**
Qasim Khan, Eadaoin Mccarron, Andrew Trafford, Shane Donohue
- 16:57 **Effects of base plate wettability on soil-liquid contact angles in the sessile drop tests**
Mai Sawada, Catherine O'Sullivan
- 16:59 **Changing of void ratio due to suction loading with micro porous membrane**
Tomoyoshi Nishimura
- 17:01 **Experimental Study about Recovery of Bearing Capacity Against Train Load by Reconstruction Work of Embankment Damaged by Rainfall**
Takaki Matsumaru, Taketo Sato
- 17:03 **Controlling moisture in historic site with low water retention sand covers**
Wei Wo, Mai Sawada

TU-12 Earthquake S II

Chairs: Ikoo Towhata, Duhee Park
Room M2
16:15 - 17:45

- 16:15 **Experimental study of the backfill condition for buried pipelines subjected to seismic induced ground displacement**
Che-Yu Chang, Hsuan-Chih Yang, Wei-Kuang Chang
- 16:17 **Application of the modified Finn-Bryne liquefaction model**
Jae-Kwang Ahn, Woo-Hyun Baek, Jae-Soon Choi, Yun-Hong Jin, Mintaek Yoo

TU-12 Earthquake S II

Chairs: Ikuo Towhata, Duhee Park
Room M2
16:15 - 17:45

16:19	Development of the 2025 Seismic Hazard Maps of Indonesia for earthquake-resistant design <u>Masyhur Irsyam</u> , Hendriyawan, Sri Widiyantoro, Andri Dian Nugraha, Irwan Meilano, Wahyu Triyoso, Iswandi Imran, Lutfi Faizal, Fahmi Aldiamar, H. Hendarto, M. Asrurifak, Nuraini Rahma Hanifa, Danny Hilman Natawidjaja, Bambang Setiadi, Windu Partono, Fatahillah Surya Yudha
16:21	GIS-Based Urban Seismic Vulnerability Assessment Integrating Geotechnical, Social, and Structural Indicators: A Case Study of Seoul Youngsuk Lee, Jinkwon Yoo, <u>Mincheol Park</u> , Jae-kwang Ahn, Suwon Son, Youngkarb Song
16:23	Cyclic triaxial test round-robin testing <u>Nathalie Dufour</u> , Hélène Calissano, Laurent Batilliot, Thomas Eon, Irina Rogoff, Cyril Simon, Anaïs Disantantonio, Mathieu Schohn, Thibault Lando, Etienne Bourguignon
16:25	Approaches for seismic soil-structure interaction analysis of a piled railway bridge abutment with fixed bearings <u>Michele Di Tullio</u> , Angelo Lambrughì, Nicola Valiante, Marco Orlandini, Pierluigi Alesiani, Paolo Ruggeri, Giuseppe Scarpelli, Andrea Francesco Rotunno
16:27	Effects of soil specific characteristics on site amplifications in the South Iceland Lowland <u>Elin Asta Olafsdottir</u> , Bjarni Bessason, Sigurdur Erlingsson
16:29	Improving Seismic Performance of Retaining Structures Using a Sustainable Geomaterial <u>Ayşe Edinçliler</u> , Bilge Sultan Demirtaş
16:31	Wave propagation in tailings dams by the finite element method. Numerical simulation of real observations using a linear elastic model <u>João Camões Lourenço</u> , Francisco Rocha Santos, Paulo Coelho, Gonçalo Nuno dos Santos Tavares, Mafalda Oliveira
16:33	Effective Stress-based Probabilistic Nonlinear Ground Response Analysis of Newtown Suburb, Kolkata, India <u>Harika Anupouju</u> , Shiladitya Mandal, Srijani Sett, Debangsu Mistry, Goudappa R. Dodagoudar
16:35	Vertical accelerations and directionality effects on the seismic response of a slope Ángel A. Morales, <u>Miguel A. Mánica</u> , Luis A. Pinzón
16:37	Fragility and functionality loss curves of geotechnical systems in road infrastructures Filomena De Silva, Francesco Dionisio, Valeria Abbatiello, <u>Francesco Silvestri</u> , Chiara Amendola, Riccardo Conti
16:39	Numerical prediction of the effects of rocking motion and soil nonlinearity on the performance of full-scale experimental prototypes on shallow foundations Teresa Lusi, Filomena de Silva, <u>Francesco Silvestri</u>
16:41	EFFECTS OF EARTHQUAKE MOTION CHARACTERISTICS ON SEISMIC PERFORMANCE OF BURIED PIPES: AN EXPERIMENTAL STUDY <u>Büşra Nur Kilinc</u> , Ayşe Edinçliler
16:43	Comparative study of the liquefaction behavior of three coastal sands in Peru <u>Guillermo Jose Zavala</u> , Dennys Javier Taipe, Franklin Ricardo Olaya, Miguel Angel Pando

TU-12 Earthquake S II

Chairs: Ikuo Towhata, Duhee Park
Room M2
16:15 - 17:45

16:45	Inclusion of non-linear site-effects in seismic hazard for a volcanic site with embedded soil layers <u>Victor Moises Hernández Aguirre</u> , Rajesh Rupakhety
16:47	Development of national deaggregation maps for earthquake source types, return periods, and structural vibration periods: a framework for ground motion selection and modification <u>Masyhur Irsyam</u> , Hendriyawan, Sri Widiyantoro, Jeremy S Kadarman., Lutfi Faizal, M. Asrurifak, Arifan J Syahbana, Bambang Setiadi, M. Ridwan
16:49	Site Amplification Characteristics Across Budapest <u>Ahmad Al-Azazmeh</u> , András Mahler
16:51	Experimental study on the seismic behavior of reinforced leaning-type retaining walls focusing on the effect of soil nail deformation <u>Keita Abe</u> , Noriaki Sento
16:53	Seismic behavior of seawall pile foundation in heterogeneous sandy ground <u>Masahiro Sawatsubashi</u> , Makoto Ishimaru, Takaaki Kobayashi
16:55	Hybrid ground response simulation and effective stress analysis considering steady state of sand <u>Tomoya Onodera</u> , Ryuichi Ibuki, Jun Izawa, Kiyoshi Fukutake, Takatoshi Kiriyaama
16:57	A new failure mechanism for breakwater due to the combined action of seismic motion and tsunami <u>Masahide Otsubo</u> , Hidenori Takahashi
16:59	Seismic observation of piled raft foundation supporting 36 story building mechanically connected with grid-form deep mixing walls <u>Junji Hamada</u> , KENJI UMEMURA, TSUYOSHI HONDA
17:01	A study on liquefaction strength of sandy soils containing different sizes of coarse and fine fraction <u>SHOJI KAMAO</u> , Satoshi Shigemura
17:03	Coupled soil-pile-superstructure interaction under earthquake loading using centrifuge modelling and 3-D finite element analysis <u>Anurag Sahare</u>
17:05	Softening behavior of volcanic ash soil containing Aso-4 pyroclastic flow deposits under cyclic loading <u>Kotori Kakazu</u> , Takayuki Yamashita, Toshifumi Mukunoki
17:07	Constant-volume cyclic shear characteristics and anisotropy of granular assemblies simulating fine sand <u>Yohta Chiba</u> , Takayuki Shibata, Akiyoshi Kamura, Shotaro Yamada
17:09	Factorial Analysis of Lateral Flow induced Damage in Uchinada Town due to the 2024 Noto Peninsula Earthquake, Japan <u>Shotaro Kubota</u> , Hemanta Hazarika, Anurag Sahare, Masanori Murai

TU-13 Sustainability & Transportation S

Chairs: Yaolin Yi, Akanksha Tyagi
Room N1
16:15 - 17:45

- 16:15 **Compaction degree distribution dependency on embankment shape due to roller compaction**
Katsuyuki Kawai, Koji Nakashima
- 16:17 **Evaluation of the bearing capacity characteristics of mattress-reinforced ground focusing on the geotextile's tensile stiffness**
Ryohei Ishikura, Adel Alowaisy
- 16:19 **Effects of Particle Size Distribution and Moisture Content on the Frost Heaving Behavior of Unsaturated Subbase Material**
Tetsuya Tokoro
- 16:21 **Ecological effects of MICP-based ground improvement on soil properties and microbes**
Zhan Chen, Bang Du, Bing Guo, Benyi Cao
- 16:23 **French working group "geotechnics and climate change" - Carbon footprint of geotechnical structures: assessment and integration into design**
Isabelle HALFON, Charles BERNUY, Jocelyn BOUCHUT, Yasmina BOUSSAFIR, Stéphane BRULE, Jean DE SAUVAGE, Walter EPTING, Agnes JOSEPH, Carole MINGRAT, Jean-Yves MUGNIER, Umur OKYAY, Lucas ROCHA BOTELHO, Myriam SAADE, Aurélien PRUGNAUD
- 16:25 **Biocomposite treatment for sand: enhancing shear strength and reducing carbon emissions**
Ziye Liufu, Jie Cui, Huawei Tong, Jie Yuan, Yi Shan
- 16:27 **Innovative Geotechnical Machinery Solutions for Sustainable Construction Sites**
Diego Bellato
- 16:29 **Performance assessment of construction and demolition waste as a sustainable alternative material in unbound granular pavements**
Nariman Khorsandiardebili, Sanjay Nimbalkar, Piyush Punetha
- 16:31 **The carbon footprint of bi-directional static load testing and its potential to help reach The Net-Zero Target**
Szilard Boroczky, Jonathan Calozo, Maarten Profittlich
- 16:33 **Relative effectiveness and sustainability assessment of low-carbon cement and geopolymer based soil stabilization methods**
Balaji Lakkimsetti, Muddassir Sanei, Sopharith Chou, Jianxin Huang, Shanmukha Sai Avinash Gon-nabathula, Nripojiyoti Biswas, Anand J. Puppala
- 16:35 **Damping ratio determination for prescribed cycles from the free vibration decay (FVD) curve by the example of RCA-RTW mixtures**
Katarzyna Urszula Gabryś, Wojciech Sas
- 16:37 **Sustainable Excavation Support: The Role of Sheet Pile Walls in Achieving Climate Neutrality**
Oleksandr Zimels, Raphaël Massi
- 16:39 **Stabilisation of iron mine tailings with high-Ca alkaline cement**
Sara Rios, Isabela Caetano, Nelson Mica, António Viana da Fonseca, Paula Milheiro-Oliveira, Luís Sousa, Nuno Cristelo
- 16:41 **Effect of Natural Fibers on desiccation cracking in fine grained soil**
Muhammad Taimur Shah, Adnan Anwar Malik, Syed Kamran Hussain Shah, Numan Ahmad, Shay Haq, Umair Ali

TU-13 Sustainability & Transportation S

Chairs: Yaolin Yi, Akanksha Tyagi
Room N1
16:15 - 17:45

- 16:43 **Stabilization of dispersive soils using nano-silica**
Waleed Ahmed Tanoli, Syed Kamran Hussain Shah, Umair Ali, Numan Ahmad, Adnan Anwar Malik, Khawaja Adeel Tariq
- 16:45 **Landscape integration of retaining structures**
Marie Pellereau-Payeur, Ladina Koeppel, Roman Gallus
- 16:47 **Life Cycle Metrics for Geosynthetic Reinforced Structures in Comparative Retaining System Assessment**
André V.A. Borgatto, Castorina Silva Vieira
- 16:49 **Carbonation process of lime treated soil: from field observations to laboratory studies**
Federica Bertola, Marcello Mutti, Jorrit Gillijns, Giacomo Russo, Enza Vitale
- 16:51 **Numerical investigation of rock removal performance based on abrasive size effect in abrasive waterjet drilling using a DEM-FEM coupled approach**
Sejin Park, Hyun-Joong Hwang, Gye-Chun Cho
- 16:53 **Relevance of environmental product declarations (EPDs) in slope stabilization and the challenges of technical assessment**
Eberhard Gröner, Mario Brunn, Helene Lanter
- 16:55 **A simple index for optimizing carbon dioxide utilization in recycled concrete aggregates using the wet carbonation method**
Adel Alowaisy, Jumana Hussary, Yasufuku Noriyuki, Kono Takao
- 16:57 **Effect of carbonation on the geo-mechanical behaviour of alkali-activated fine-grained soils.**
Elise Lefèvre, Agostino Walter Bruno, Pierre Gerard, Alessia Cuccurullo
- 16:59 **Impact of the concentration of sodium hydroxide NaOH on the compaction properties and strength of an alkali-activated-GGBS stabilized clayey silt**
Diana Chami, Alessia Cuccurullo, Pierre Gerard

TU-14 Young Engineers S II

Chairs: Haris Felic, Johannes Leo
Room N2
16:15 - 17:45

- 16:15 **Stability of slurry-supported diaphragm wall corners**
Johannes Stamm, Matthias Pulsfort, Markus Herten
- 16:17 **Integrating InSAR and numerical modelling to analyse landslide-bridge interaction**
Erica Cernuto, Diana Salciarini, Filippo Ubertini, Giorgia Giardina
- 16:19 **Integration of an electromagnetic sensor and neutron-based sensor for enhanced unexploded ordnance detection.**
Hasinee Anuththara Kasthurirathne, Daniel Boddice, Ian Jefferson, John Peterson
- 16:21 **Assessing Liquefaction Resistance in Granular Soils: A New Method Integrating Bulk and Particle-level Properties**
Mujeeb Ul Rehman, Ramesh Kannan Kandasami, Subhadeep Banerjee

TU-14 Young Engineers S II

Chairs: Haris Felic, Johannes Leo

Room N2

16:15 - 17:45

- 16:23 **Ca(II) Conversion Efficiency of Steel Slag Leachate via Enzyme Induced Carbonate Precipitation (EICP)**
Jeehoon Ma, Junghoon Kim, Won Hee Lee, Daehyun Kim, Tae Sup Yun
- 16:25 **Behavior of Stone Column Mitigation in Silt-Interlayered Liquefiable Deposits: Finite Element Analysis**
Arpit Jain, Abhijit Chakraborty, Sayanti Banerjee, Shivank Shekhar
- 16:27 **Monitoring and modelling of rock mass and structure stability in high Alps under global warming**
Yunlu Bai, Francesco Calvetti, Andrea Tamburini
- 16:29 **Advanced regional ground motion prediction equations for the Northeastern region of India**
Arindam Das, Deepankar Choudhury
- 16:31 **Enhanced quality control of dry deep mixing using machine data**
Marit Skaug Løyland, Egil Johannes Monsås
- 16:33 **A non-isothermal cavity expansion analytical model for the analysis of energy tunnels**
Arianna Lupattelli, Alessandro F. Rotta Loria, Diana Salciarini
- 16:35 **Desiccation shrinkage and cracking modelling of laboratory based free and constrained expansive soil using XFEM**
Grace Stapley, Yilin Gui
- 16:37 **Model and field tests to optimize and control deep vibratory compaction**
Marylin Hell, Wolfgang Wehr
- 16:39 **Automatic extraction of rock slope discontinuity orientations using image-based 3D reconstruction algorithms**
Yurok Choi, Young Seok Na, Eugene Ee, Tae Sup Yun
- 16:41 **Field Investigation on Performance of Trench Barriers under Impact Loading**
Koushik Das, Bappaditya Manna, Ramanathan Ayothiraman, Debjit Bhowmik
- 16:43 **Shallow foundation design using FDM method applied to eccentric and inclined loading study**
Tuan-Anh LUONG, Philippe REIFFSTECK, Fabien SZYMKIEWICZ, Miguel Angel BENZ-NAVARRETE, Quoc-Anh TRAN, Caroline FORESTTI OLIVEIRA
- 16:45 **Numerical Modelling of the Deeply Embedded Ring Anchor under Combined Loading**
Ragini Gogoi, Anas Aldawwas, Charles Aubeny, Alejandro Martinez, Don DeGroot, Sanjay Arwade, Ryan Beemer
- 16:47 **A novel approach using shrinkage curves for predicting sensitivity to hydraulic and structural property changes due to cyclic wetting-drying**
Lorenz Spillecke, Alexander Knut, Ralf Thiele, Antje Bornschein
- 16:49 **Study of geotechnical data to better inform compaction grouting projects in dolomitic areas.**
Savannah Courtney Canto

TU-14 Young Engineers S II

Chairs: Haris Felic, Johannes Leo

Room N2

16:15 - 17:45

- 16:51 **Landslide Risk Management in the City of João Pessoa, Paraíba, Brazil: Scenario Analysis and Strategy Development**
Geovanna Karla da Silva Simões, Arthur Vinícius Freire Silva Ramos, Igor Fernandes Gomes, Fábio Lopes Soares
- 16:53 **Influence of the concentration of dissolved gases in the pore fluid on the saturation behaviour and undrained shear strength of granular soils**
Jonathan Beil, Lukas Wasner, Alexander Knut, Ralf Thiele
- 16:55 **Validation of a simple method to predict the settlement of shallow foundations due to earthquake-induced excess pore water pressures**
Federico Valtucci, Stefania Elia, Stefania Lirer, Alessandro Flora
- 16:57 **Numerical investigation of the role of artesian pressure on the initiation of sensitive clay landslide**
Shishir Kumar Sikder Amit, Bipul Chandra Hawlader, Ripon Karmaker, Rajib Dey
- 16:59 **Simulation analysis for static compressive load test and rapid load test of steel pipe pile**
Kyoka Kono, Shihchun Lin, Shuichi Kamei, Koji Watanabe
- 17:01 **Evaluating crosshole sonic logging in Indonesia: A five-year Overview**
Rara dwi noviarti, Aksan kawanda, Ivan edison

TU-15 Geo-Environmental & Scour and Erosion S

Chair: Andrea Dominijanni

Room 1.61_62

16:15 - 17:45

- 16:15 **Plant-soil hydraulic interaction under biochar treatment in future elevated atmospheric CO2 condition**
Yuchen Wang, Junjun Ni
- 16:17 **Environmental aspects of designing deep construction excavations**
Andrey Emanuilov Totsev, Ilian Markov, Ralitsa Dadikusian, Melani Angelova, Stefani Jeljazkova, Iva Miteva
- 16:19 **Granulometric and Gravimetric Combined Method for Construction and Demolition Waste Characterization**
Paloma Santos Wolf de Mattos, Johana Marcela Carmona Whilches, Ana Paula do Nascimento, Roger Augusto Rodrigues, Giulliana Mondelli
- 16:21 **Microbial Mineralization for Enhancing Calcium Bentonite in Sustainable Contaminant Barriers**
Ningjun Jiang, Yu Zhang, XuanLi Luo
- 16:23 **Geological carbon dioxide injection efficiency considering SAG method at the pore scale**
Seokgu Gang, Seung Cheol Baek, Jae-Eun Ryou, Jongwon Jung
- 16:25 **Remediation of PFAS by immobilisation – and other options**
Peter Freitag, Thomas G. Reichenauer, Regine Patek, Blanka Kruzslicz-Luque
- 16:27 **Influence of precipitation kinetics on pore morphology during the biomineralization process**
Daehyun Kim, Dimitrios Terzis, Lyesse Laloui, Eugene Ee, Tae Sup Yun
- 16:29 **Permeability of Geosynthetic Clay Liners in Contact with Tyre Waste Microplastics**
Hakki O. Ozhan, M. Murat Monkul, Ozge Akin
- 16:31 **Compaction characteristics and hydraulic conductivity of a silty soil treated with sustainable binders**
Marta Di Sante, Ivo Bellezza, Luca Calò, Marta Grazi, Evelina Fratolocchi, Muhammad Khizar Khan, Francesco Mazzieri
- 16:33 **Quantifying the actual evapotranspiration using a residual energy balance approach: a case study from the south-eastern Italian Apennine**
Nico Stasi, Vito tagarelli, Francesco Cafaro, Federica Cotecchia
- 16:35 **Nickel-Dependent Enhancement of Microbially Induced Calcite Precipitation for Bio-cementation of Coal Mine Overburden**
Syamili Sarma, Anil Kumar Mishra
- 16:37 **Impact of Soil Water Characteristics Curves of Unsaturated Soil on Corrosion of Metal/Alloys**
Waqas Akhtar, Gemmina Di Emidio, Wim Cornelis
- 16:39 **Effective utilization of incinerated bottom ash as a geomaterial by combining carbonation treatment and specific gravity sorting**
Takuro Fujikawa, Kenichi Sato, Chikashi Koga, Hirofumi Sakanakura
- 16:41 **Mechanical behavior of soils recovered from disaster debris-soil mixed with wood chips during wood decay for effective utilization**
Masaki Nakano, Takayuki Sakai

TU-15 Geo-Environmental & Scour and Erosion S

Chair: Andrea Dominijanni

Room 1.61_62

16:15 - 17:45

- 16:43 **Improvement effect of soft clay using highly absorbent carbonized material**
Kiyoshi Omine
- 16:45 **Development and Application of Soil Cement with Added Biochar for Carbon Storage**
Yuhei Kurimoto, Yoshiharu Asaka
- 16:47 **Evaluation of specimen size effect on reaction rates of CO2 fixation tests of fly ash**
Haruya Suzuki, Hideo Komine
- 16:49 **NUMERICAL STUDY ON THE INFLUENCE OF ASYMMETRIC SCOUR ON THE LATERAL BEARING CAPACITY OF LARGE-DIAMETER MONOPILES**
Ben Wu, Siau Chen Chian
- 16:51 **Modeling sand boiling of a detention basin due to internal erosion during river flooding**
Kim Chan, Bosco Poon
- 16:53 **Pile Group Supported Bridges Under Scour Condition: Numerical Modelling**
Ansam Al-Karawi, Nick Thom, Luke J. Prendergast, Mo'men Ayasrah
- 16:55 **Finite element modeling of piping erosion process based on hole erosion test results**
Dalia Ayssami, Sahar Hemmati, Yasmina Boussafir, Christophe Chevalier, Philippe Reiffsteck
- 16:57 **Investigation of local scour development mechanism around river bridge piers with varied 3D shapes ~focusing on the flow velocity field and bed shear stress~**
Shinichiro WATANABE, Tokio MORIMOTO, Kenji WATANABE
- 16:59 **Effect of water content of sandy soils on erosion resistance characteristics**
Taketo Sato, Hideharu Sugimoto
- 17:01 **Effects of fluctuated hydraulic gradient in high-cycle range on suffusion process and soil strength properties**
Taichi Ishimaru, Motoyuki Suzuki

TU-16 Offshore S

Chairs: Christelle Nadine Abadie, Youhu Zhang

Room 1.85_86

16:15 - 17:45

- 16:15 **Accelerated implicit cyclic loading with an interface implementation**
Tomáš Kadlíček, David Mašín, Stanislav Pařez
- 16:17 **Modelling the installation and operational load response of drag embedment anchors in clay in a geotechnical centrifuge**
Duy Anh Dao, Jürgen Grabe, Anderson Peccin da Silva, Dirk A. de Lange, Suzanne J.M. van Eekelen
- 16:19 **Material factors in cyclic soil analysis of offshore structures: a definable challenge?**
Marco D'Ignazio
- 16:21 **Numerical modelling of composite foundation systems for offshore renewables**
Kenneth Gavin, Yeganeh Attari, Ozan Alver, Gulin Yetginer

TU-16 Offshore S

Chairs: Christelle Nadine Abadie, Youhu Zhang
Room 1.85_86
16:15 - 17:45

16:23	Site characterisation requirements for offshore piles and anchors in rock VICTOR TERENCE, LUCA MONTALTI, Conor McCue , Harry Bryan, Matthew Wetton
16:25	Site characterization and geohazards of floating wind developments in volcanic environments VICTOR WEBER, RAQUEL FRANCOS , VICTOR TERENCE
16:27	A revised Broms' theory to estimate the ultimate capacity of laterally loaded piles driven in chalk Giuseppe Pedone , Enrico Bellumat, Stavroula Kontoe, Richard Jardine
16:29	GPU-Parallelized HFDEM simulation of calcareous sand particle crushing based on Micro-CT mesh reconstruction Fei Liu , Hongyuan Liu, Jay Black, Yinghui Tian
16:31	A simple macroelement for predicting cyclic rotations of suction caissons in sand. Pietro Marveggio , Luca Flessati, Raffaele Cesaro, Raffaele Di Laora, Gabriele Bocchieri, Riccardo Conti
16:33	Insight into pile run risk of offshore piles during installation Indrasenan Thusyanthan, Anastasios Batilas , Martin Gichura, David Champness
16:35	Capturing the effect of installation induced locked-in stresses on the lateral behaviour of monopiles through centrifuge testing Juliano Nietiedt , Phil Watson, Conleth O'Loughlin, Jason Stubbs
16:37	Numerical analysis on CPT and pile installation in spatially variable clays Shujin Zhou , Wangcheng Zhang, Marti Lloret-Cabot, Ashraf S. Osman, Jonathan Nuttall
16:39	A critical appraisal of P-y models for laterally loaded piles in chalk Zijing Xu , Andrea Diambra, Tingfa Liu, Borui Ge
16:41	Poisson's effects on the compression and tension shaft capacity of piles in weak rocks Yuchen Yang , Tingfa Liu, Andrea Diambra, George Mylonakis
16:43	Centrifuge modeling of suction anchor under out-of-plane loading in soft clay Han Wu , Kunyu Li, Ying Lai, Bin Zhu, Yunmin Chen
16:45	Experimental analysis of skirt penetration resistance in scour protection systems Reza Jahanshahi , Marina Miranda, Enrique Rodriguez-Fernandez, Jorge Castro
16:47	Comparison of the lateral response of an in-flight vibratory-driven and a hand-driven at 1-g pile in sand in a geo-centrifuge Luc, Emile, Joseph Simonin, Pauline Andre , Hadrien Rattez, Tristan Quinten, William Ovalle Villamil, Miguel Angel Cabrera, George Anoyatis, Stijn François
16:49	Finite element analysis of a model monopile test using the PDMY02 model in OpenSees under unidirectional horizontal cyclic loading Mehmet Fahrettin Erener , Cihan Taylan Akdag, Devrim Sufa Erdogan, Tugce Tufan Erener
16:51	Geotechnical response of large diameter monopiles subjected to ship collision Abhinav K. A. , Lindita Kellezi

TU-16 Offshore S

Chairs: Christelle Nadine Abadie, Youhu Zhang
Room 1.85_86
16:15 - 17:45

16:53	Evaluation of CPT-based p-y curves for large diameter monopiles in clay Zhaoyao Wang , Hans Petter Jostad, Gudmund Reidar Eiksund
16:55	Effect of pile geometry during installation of model offshore monopiles David León-Vanegas, Lluís Monforte, Marcos Arroyo
16:57	Experimental investigation of vibratory extraction of monopiles for offshore wind turbines using 1g models Pauline André , Luc Simonin, Hadrien Rattez, Stijn François, George Anoyatis
16:59	Numerical modelling of laterally loaded piles driven in calcareous weak rocks Wan Hei Charles Wong , Tingfa Liu, Andrea Diambra, Kai Wen, Francesca Ciavaglia
17:01	Impact of installation-induced soil disturbance on thermal performance of submarine cables Zhixin Zhou , Andrea Diambra, Tingfa Liu
17:03	Thermal conductivity measurements for cable burial in the intertidal zone Bruno Stuyts, Anis Kheffach , Thijs Lanckriet, Roel Vanthillo
17:05	Simulation of scour around wind turbine monopiles using 1D and 3D approaches Anis Kheffache , Bruno Stuyts
17:07	Utility of microtremor array survey in offshore wind monopile design Shubham Trivedi , Yuko Kawakami, Hitoshi Sasaki

WEDNESDAY JUNE 17, 2026

08:30-10:15 | ROOM A

PLENARY SESSION 7: "CONTRACTORS LEADING THE TRANSITION OF GEOTECHNICAL PRACTICE"

Chair: *Andreas Körbler*

Mobility below-ground: The Vienna underground as a key to sustainable urban development
Gudrun Senk, Niclas Schubert, Therese Sulzer, Wiener Linien

The role and mission of the European Federation of Foundation Contractors (EFFC) in the geotechnical industry

Fabrizio Leoni, EFFC President, Trevi SpA-Italy
Kevin Hague, EFFC Vice-President, Aarsleff Ltd -UK

The roles geotechnical contractors should play in influencing sustainability
Paul Vidil, Soletanche Bachy

Guideline work by EFFC and DFI – a practical supplement to normative regulations
Karsten Beckhaus, BAUER Spezialtiefbau GmbH

Alternative Drive Technologies and Energy Infrastructure for Mobile Machinery in Geotechnical Engineering
Lukas Trommler, Frank Will, Technische Universität Dresden

10:15-10:45 | COFFEE / TEA BREAK

10:45-12:30 | ROOM A

PLENARY SESSION 8: CAPG / IYGEC / BRIGHT SPARK / AWARDS

Chair: *Loretta Batali, Ashe Cooper*

Corporate Associates Presidential Group
Roger Estephan, chairman CAPG

Report iYGEC
Franz Tschuchnigg, Graz University of Technology

Bright Spark Lecture: How Structure–Soil–Structure Interaction Shapes Urban Seismic Resilience on Liquefiable Ground
Yu-Wei Hwang, National Taiwan University

Bright Spark Lecture: Reframing seismic vulnerability through the soil–structure interaction: implications for existing and heritage buildings
Maria-Victoria Requena-Garcia-Cruz, University of Seville

AWARDS CEREMONY



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- Instrumentation and monitoring
- Liquefaction mitigation
- Relevelling structures
- Slope stabilisation
- Support of excavation
- Underpinning

WE-01 Numerical Methods II

Chair: Ha Bui

Room A
13:45 - 15:45

- 13:45 **Property Degradation of Natural Fractures and Rock Matrix on Failure Mechanisms and Consequences in Jointed Rock Slopes**
Shahrzad Roshankhah, Shivesh Shandilaya
- 13:57 **A continuum-discrete hierarchical multi-scale computational framework for modelling mechanical behaviors of MICP-treated soil**
Yupeng Jiang, Sarathi Saha Tirtho
- 14:09 **Improving undrained finite element analysis: Overcoming oscillating pore pressures**
Samila Bandara, Ravishankar Badry, Carol Matthews, Matthew Brown, Marcus Carneiro
- 14:21 **Long-term performance of tunnels with a yielding support system in clay formations**
Miguel Ángel Mánica, Eric Simo, Antonio Gens, Philipp Herold, Thomas Nagel, Efraín Ovando, David Seidel
- 14:33 **Numerical modelling 2D vs. 3D: practice-oriented strategies for efficient numerical modelling in geotechnical engineering**
Nataly Filipouskaya (MSc), Prof. Dr.-Ing. Tim Pucker, Lukas Brodersen (MSc)
- 14:45 **Objective modelling of failure processes in brittle materials: mesh dependence and regularisation in the material point method**
José L. González Acosta, Miguel A. Mánica, Philip J. Vardon, Michael A. Hicks, Antonio Gens
- 14:57 **Numerical analysis of block shape effects on bimsoils**
Luis Felipe Prada Sarmiento, Christoph Schmüdderich, Torsten Wichtmann
- 15:09 **Data assimilation for identifying hydro-mechanical parameters of an unsaturated slope during rainfall-induced seepage and deformation**
Ryosuke Uzuoka, Sanchitha, H.S. Jayakody, Kyohei Ueda
- 15:21 **Numerical technique of coupling peridynamics-DEM and its extension to tensile fracture of compacted clay**
Yutaka Fukumoto, Taiki Shimbo
- 15:33 **Equivalency of multiplicative hyperelasto-plastic and additive hypoelasto-plastic finite deformation Cam-clay models**
Toshihiro Noda, Takahiro Yoshikawa

WE-02 Ground Improvement & Soft Soils & Reinforced Fill Structures

Chair: Anand J. Puppala

Room C
13:45 - 15:45

- 13:45 **Diameter of jet grouting columns – analytical solution and artificial intelligence**
Wolfgang Jimmy Wehr
- 13:57 **Biocementation for sandy levee erosion protection: laboratory evaluation of ammonium-free biocementation**
Niels Walrave, Lia Mirensky, Dimitros Terzis, Maren Katterbach

WE-02 Ground Improvement & Soft Soils & Reinforced Fill Structures

Chair: Anand J. Puppala

Room C
13:45 - 15:45

- 14:09 **Groundwater and seasonal effects in geosynthetics-reinforced pile-supported embankments: Field measurements and 3D experiments.**
Suzanne van Eekelen, Rob Zwaan, Adam Bezuijen, Alain Nancey
- 14:21 **Parametric analysis of floating columns with basal reinforcement for embankments on soft soils**
Hans Dete, Carlos Quadros, Mounir Bouassida
- 14:33 **Application of Volume Averaging Technique for geotechnical problems on soft clays**
Sinem Bozkurt, Ayman Abed, Minna Karstunen
- 14:45 **Performance of pile foundations and soil improvement in sensitive lacustrine clay by large scale zone loading tests and loading tests on single elements**
Patrick Berz, Michael Niebler, Roberto Cudmani, Mohsen Miraei, Daniel Rebstock, Stefan Vogt
- 14:57 **Direct shear characteristics of rounded pumice gravel and its mixture with marine sand**
Yoichi Watabe
- 15:09 **Innovative Ground Improvement Strategies for Ultra-Soft Soils in Seismically Active Coastal Reclamation Projects: Insights from the Kalibaru Container Terminal, Jakarta**
Agus Himawan, Agus Himawan, Tita Kartika Dewi, Vernanda Yunan Hilmi, Andi Kurnia Setiadi Kartawiria, Jian Chu, Masyhur Irsyam, Hendriyawan Hasan, Uun Jayasaputra, Arzena Norega, Ikhsan Budi Prasetyo, Marcello Djunaidy
- 15:21 **Design and construction of a geogrid-reinforced soil wall using lightweight fill for Spalding Western Relief Road, Lincolnshire, East Anglia, UK (Paper 2 of 2)**
Mitul Jagdishbhai Dalwadi, Chaido Doulala-Rigby, Gareth Belton, Ganapati Sahoo
- 15:33 **Evaluation of extent of earthquake damage to reinforced soil wall through the settlement of backfill surface**
Jiro Kuwano

WE-03 Dykes and Levees & Tailing and Mine Wastes

Chairs: Norma Patricia López-Acosta, Arcesio Lizzano

Room M1
13:45 - 15:45

- 13:45 **An international report of TC201 on retrofitting and reinforcements of levees**
Meindert Van, Yida Tao, Esther Rosenbrand, Cor Zwanenburg, Remy Tourment, Alessandro Tarrantino, Kenichi Maeda, Hiroto Mori
- 13:57 **Durability of hydraulic structures reinforced with lime: a French onsite experience**
Federica Bertola, Marcello Mutti, Jorrit Gillijns, Lucile Saussaye
- 14:09 **Developing a full-scale experimental set-up for the simulation of backward erosion piping**
Elena Dodaro, Emanuele Tumedei, Ilaria Bertolini, Michela Marchi, Laura Tonni, Guido Gottardi
- 14:21 **A 3D finite element model of rockfill saturation collapse in tailings dams**
Nicolas Agustin Labanda, Roberto Cier, Felipe López Rivarola

WE-03 Dykes and Levees & Tailing and Mine Wastes

Chairs: Norma Patricia López-Acosta, Arcesio Lizcano

Room M1

13:45 - 15:45

- 14:33 **Influence of clay fraction and particle mineralogy on the critical and residual behavior of iron and bauxite tailings.**
Erwin Mimbando, Andy Fourie, David Reid
- 14:45 **Gold tailings database: parameters' variability and correlations**
Nicolas Tasso, Nicolas Agustin Labanda, Riccardo Fanni, Kuntan Chang
- 14:57 **Analytical seismic fragility curves for a tailings dam in Chile**
Cesar Pasten, Agustín Meriño, Pablo Heresi
- 15:09 **Assessment of Flow Liquefaction During the Transition from Conventional to Filtered Tailings Storage Facilities**
Jorge Guillén, Omar Vargas, Rubén Reyes, Emmanuel Vázquez, David Solans
- 15:21 **Integrated Analysis of Tailing Heaps: Constitutive Modelling, Failure Mechanisms and Engineering Applications**
Matthias Seip, Rolf Katzenbach, Eva Eden-Teutsch, Mohammadmasoud Badparva, Steffen Leppla
- 15:33 **Flow Liquefaction Triggering of a Spent Ore Dump in a finite element model**
Andrés Eduardo Gavidia Patiño, Camilo Ignacio Morales Bravo

WE-04 Transportation I

Chair: Erol Tutumluer

Room M2

13:45 - 15:45

- 13:45 **Impacts and adaption measure of state roads in Spain to climate change**
Felipe Collazos Arias, María Santana, Jose Estaire
- 13:57 **Performance Trends of Unpaved Roads Stabilized with Woven Geotextiles**
Araz Hasheminezhad, Halil Ceylan, Sunghwan Kim, Erol Tutumluer
- 14:09 **Multi-scale experimental investigation of soil-abutment interaction in integral bridges under cyclic thermal loading**
Sha Luo, Raffaele De Risi, George Mylonakis, Ziyang Huang, Nicole Metje, David Chapman, David Milne, William Powrie, Christopher D.F. Rogers, Anastasios Sextos, Flavia De Luca
- 14:21 **A Real-Time Decision-Making Framework for Post-Flood Road Closure in Moisture-Sensitive Unbound Granular Pavements**
Ayesh Dushmantha, Chaminda Gallage, Jinjiang Zhong
- 14:33 **Subgrade Soil Fluidization under Cyclic Loading of Heavy-haul Trains and Preventive Measures**
Buddhima Indraratna, Shashika Atapattu, Mandeep Singh, Joseph Arivalagan, Cholat Chak Rujikiat-kamjorn, Richard Kelly, Andy Warwick
- 14:45 **Use of GPR to Detect Cement Content in Soil Cement Subgrade Soils**
Damilola Arinola, Sung-Hee Sonny Kim
- 14:57 **Enhancing existing rail corridor by track lowering – a case study**
David Zhang, Weimin Deng

WE-04 Transportation I

Chair: Erol Tutumluer

Room M2

13:45 - 15:45

- 15:09 **Enhancing Flood Resilience of Railway with No-Fines Encapsulated Embankment Solutions**
Weimin Deng, Spencer Leach
- 15:21 **Comparison of simulation and field tests of subballast compaction with plate compactors during rail track rehabilitation**
Julian Sigmund, Johannes Pistrol, Dietmar Adam
- 15:33 **Shakedown Response of a Recycled Rubber and Coal Wash Mixture for Sustainable Rail Substructure**
Yujie Qi, Buddhima INDRARATNA, Rakesh Malisetty, Dipendra Badu

WE-05 Field Monitoring & System Performance

Chairs: Andrew Ridley, Xuesong Cheng

Room N1

13:45 - 15:45

- 13:45 **Optimization for groundwater recharge system of excavation with leaky aquifers considering the influences of periodic redevelopment**
Qinghan Li, Gang Zheng, Xuesong Cheng, Shilong Zhou, Xinwang Zhang, Yongsheng Ma, Bing Li
- 13:57 **Ground load assessment on buried flexible pipes subjected to lateral soil movement**
Saifa Anzum, Ashutosh Sutra Dhar
- 14:09 **Monitoring the performance of cast in-situ retaining walls using distributed fibre optic sensing.**
Anthony Nathan Fisher, Andrew Bell
- 14:21 **Optical fibre sensing for monitoring shallow buried utilities under dynamic loads**
Sha Luo, Harry Curtis, Nicole Metje
- 14:33 **Distributed Acoustic Sensing and Portable Active Seismic Sources: A Framework for Groundwater Monitoring**
Muhammad Yusoff Mohd Nasir, Hisham Mohamad, Takeshi Tsuji, Alarifi Hamzh Hamad Aboubakr
- 14:45 **Smart quay walls: case study Amaliahaven**
Chris van Marrewijk, Jan Putteman, Joris Bruens, Joppe Burgers, Alfred Roubos
- 14:57 **Long term monitoring of ground anchors using distributed fiber optic sensing**
Helmuth Woschitz, Václav Račanský
- 15:09 **Monitoring of curvature and bending characteristics along ductile driven piles using distributed fiber optic sensing**
Christoph M. Monsberger, Martin Hayden
- 15:21 **Integrating 3D printing in fibre optic sensor packaging for soil strain measurement**
Sina Fadaie, Moura Mehravar, David Webb
- 15:33 **Fiber Optic Inclometers – An Innovative Approach for Continuous 3D Tilt Measurement in Geotechnical and Structural Engineering**
Clemens Klass, Francisco Araujo, Andreas Klarer, Walter Weilingner, damjan Grba, Alfred Strauss

WE-06 Young Engineers II

Chairs: Andreas-Nizar Granitzer, Johannes Leo
Room N2
13:45 - 15:45

- 13:45 **Cracking of the cover layer leading to backward erosion piping**
Patricia Yida Tao, Cor Zwanenburg, Huub de Bruijn, **Benthe Charlie Noyons**, André René Koelewijn, Ulrich Förster
- 13:57 **Hydromechanical numerical modeling of climate change impacts on earthen dam stability and reservoir dynamics**
Amanda Sampaio, Yuderka Trinidad Gonzalez, Vernon Schaefer
- 14:09 **Rigid inclusions combined with stone columns as ground improvement technique in a high seismicity area prone to liquefaction**
Endri Duro, Ervin Paci, Ergys Anamali
- 14:21 **Bayesian Inference of Grouted Anchors for Reliability Analysis and Pull-Out Capacity Estimation**
Moritz Julius Paul Effenberger, Christian Moormann
- 14:33 **A data-driven framework to construct engineering soil profile**
Mingzhou Li, Shifei Yang, Jeen-Shang Lin
- 14:45 **Factors affecting the strength of cement stabilized sulfide soil**
Ramesh Kumar Thakur, Christian Maurice, Qi Jia, Tan Manh Do, Josef Macsik
- 14:57 **Numerical geomechanics: advancing oil and gas exploration and production**
Maximilian Haas
- 15:09 **Experimental and Numerical Investigation of Geosynthetic Encased Stone Columns using Construction and Demolition Waste as Alternate Filler Material**
Meenu Krishnan, Anasua GuhaRay
- 15:21 **Calibration of numerical model of regional subsidence for a site in Mexico City**
Rubén Domínguez-Alfaro, Gabriel Auvinet, Norma Patricia López-Acosta, Rigoberto Rivera, Walter Paniagua, Marco Pérez, Moisés Juárez, Rodrigo Rodríguez
- 15:33 **Numerical back analysis of a cantilevered sheet pile wall in sensitive, marine clay: Case study Campus Ullevål**
Egil Monsås, Simon Oberhollenzer, Einar John Lande, Marit Løyland

WE-07 Deep Foundations II

Chair: Johannes Pistor
Room 1.61_62
13:45 - 15:45

- 13:45 **Bi-directional Pile Loading Tests on Meta-sedimentary Rocks**
Eric HY Sze, Sylvia SW Chik, Kian YK Chiu, Rachel WY Lau, **Regis LG Chee**
- 13:57 **Numerical Investigation on Dynamic Response of Disconnected Piled Raft Foundation in Liquefiable Soil**
ANKIT KUMAR SUMAN, RAJESWARI J S

WE-07 Deep Foundations II

Chair: Johannes Pistor
Room 1.61_62
13:45 - 15:45

- 14:09 **BEARING CAPACITY OF PILE GROUPS UNDER GENERALIZED LOADING CONDITION**
Raffaele Cesaro, **Raffaele Di Laora**, Chiara Iodice, Alessandro Mandolini, Maria Iovino, Luca de Sanctis
- 14:21 **Numerical Analysis of Uplift Resistance for Winged Piles in Sandy Soil**
Maher M. Jebur, Firas Ghrairi, Adnan Qahtan, Khawla A. Aljuari, Askar Zhussupbekov, Mahdi Karkush, Gulnaz Zhairbayeva, **Abilkhair Issakulov**
- 14:33 **Downdrag on tapered concrete piles during full-scale blast-induced liquefaction tests**
Kyle Rollins, Sara Amoroso, Vincenzo Colella, Luca Minarelli
- 14:45 **BEHAVIOUR OF SINGLE PILE AND GROUP PILES UNDER NEGATIVE SKIN FRICTION BASED ON FIELD STRAIN MEASUREMENT AND ASSESSMENT USING 3D FINITE ELEMENT ANALYSIS**
Paulus Pramono Rahardjo, Stefanus Diaz Alvi
- 14:57 **Numerical study on the bearing behaviour of piled rafts under seismic loading**
Yimer Degu, **Oliver Reul**, Asrat Worku, Franz Tschuchnigg
- 15:09 **On the long-term behavior of piled foundations in a regional subsidence environment**
Manuel J. Mendoza, Daniel García
- 15:21 **Performance of Large-Diameter Driven Piles for Highway Bridge Foundations: Comparing Design Methods and Field Observations**
Saman Zargarbashi, Alireza Foroughi

WE-08 Offshore & Risk

Chairs: Michael Hicks, Federico Pisanò
Room 1.85_86
13:45 - 15:45

- 13:45 **Does seabed trenching necessarily reduce anchor holding capacity in clay?**
Khoa D.V. Huynh
- 13:57 **Impact of Larger Monopile Installations on Jack-Up Spudcan Foundations: A Numerical Study**
Sparsha Nagula, Jörgen Johansson, Harun Kursat Engin, Can Mollaibrahimoglu, Alkis Sideris
- 14:09 **Using NMR geophysics to obtain hydraulic conductivity data and mitigate ground risk for offshore wind substation installation in the Baltic Sea**
Balazs Bela Rigler, Denes Gaertner, Waqas Farrakh Latif, Suleyman Bilge Parlak
- 14:21 **Experimental investigation of the effects of installation method and soil ageing on the lateral response of hollow steel piles in Zeebrugge for the SAGE-SAND project**
Luc Simonin, Kristof Maes, Christophe Bayart, Alex Bertholet, Eli Hamels, Pauline André, Michail Spyridis, Thrasyvoulos-Konstantinos Elezoglou, Frédéric Collin, Stijn François, George Anoyatis, **Hadrien Rattez**
- 14:33 **Fundamental Study on Seismic Behavior of Offshore Wind Energy Monopile Foundation with Seismic Damper**
Yasuo Sawamura, Kouki Isobe, Toshiyasu Miyoshi, Makoto Yoshida

WE-08 Offshore & Risk

Chairs: Michael Hicks, Federico Pisanò
Room 1.85_86
13:45 - 15:45

- 14:45 **Recent advancement in the application of quantitative risk assessment in landslide risk management in Hong Kong**
Ivan Li, Helen W.M. Li, Anthony C.Y. Fu, Coco W.N. Yiu, Florence W.Y. Ko, **Dominic Y.F. Fung**
- 14:57 **Augmenting the role of soil test database in efficient reliability-based design of ultimate and serviceability limit states**
Horace Lo, **Andy YF Leung**
- 15:09 **Calibration of 2D load for railway embankment stability assessment based on 3D reliability analysis using RFEM**
Wei Huang, Michael A. Hicks, Zheng Guan
- 15:21 **Accelerating Monte Carlo Simulations in Reliability Analysis of Slope Stability Problems**
Andra Ebener, Kerstin Lesny, Colin C. Smith
- 15:33 **Reliability of buildings foundations on soft soils**
Erick Velasco-Rosas, Gabriel Auvinet-Guichard, Moisés Juárez-Camarena, Sergio Martínez-Galván, Edgar Méndez-Sánchez

WE-09 Numerical Methods S II

Chairs: Yosuke Higo, Charles Augarde
Room A
16:15 - 17:45

- 16:15 **Investigations on the influence of coupled numerical analysis applying rate-dependent constitutive laws based on the example of a piled raft**
Aljoscha Ganal, **Oliver Reul**
- 16:17 **A 3D Numerical Investigation of Arching Mechanism Using Discrete Element Method (DEM)**
Araz Salimnezhad, **Mostafa Almasraf**, Behzad Soltanbeigi, S. Feyza Cinicioglu, Ozer Cinicioglu
- 16:19 **Identification of realistic geotechnical subsoil models from the integration of HVSR data and 2D site response analyses**
Gaetano Falcone, Annamaria di Lernia, Giuseppe Calamita, Maria Rosaria Gallipoli, Angela Perrone, Sabatino Piscitelli, Jessica Bellanova, Francesco Cafaro, **Gaetano Elia**
- 16:21 **Quantification of energy dissipation in nonlinear time-history simulations**
Matthias Preisig
- 16:23 **Three-dimensional numerical soil-structure interaction analysis of deep excavations**
Attila Szepesházi, Balázs Móczár
- 16:25 **Numerical analysis on compaction grouting for lifting structures**
Lup Wong WONG
- 16:27 **Numerical simulation of dynamic soil compaction with an oscillatory roller to investigate improvement depth and measurement depth**
Ivan Paulmichl, Ralph Bergman, Christoph Adam

WE-09 Numerical Methods S II

Chairs: Yosuke Higo, Charles Augarde
Room A
16:15 - 17:45

- 16:29 **Thermo-hydro-mechanical modelling of flood embankments**
Milena Raković, Sanja Jocković, **Veljko Pujević**, Nikola Obradović, Andrijana Todorović, Irida Lazić, Lidija Zdravković, David Potts
- 16:31 **Seismic Earth Pressure on Basement Walls Underlain by Bedrock: A Numerical Study**
Yong-Gook Lee, Chung-hyun Lee, Duhee Park, Dongyeon Lee
- 16:33 **A numerical framework for modelling the soil-structure-interface using advanced constitutive models**
Michael Niebler, Stylianos Chrisopoulos, Roberto Cudmani, Daniel Rebstock
- 16:35 **Enhancing soil-structure interaction analysis: A comprehensive study of interface contact elements**
Samila Bandara, Ravishankar Badry, Stephen Hendry, Matthew Brown, Carol Matthews
- 16:37 **Morphological characteristics of soil arching and its effect on tunnels**
NIDHI VERMA, T. I. GEORGE, VENKATESHWARA REDDY K L, ANKIT KUMAR, SATYANARAYANA MURTY DASAKA
- 16:39 **Performance of Buried Pipelines Subjected to Surface Explosion**
Itha Jaya Krishna Prasad, **Chaidul Haque Chaudhuri**
- 16:41 **A Hardening Soil model with improved small-strain stiffness**
Ricardo J. N. Azeiteiro, Ilaria Del Brocco, Evira Eman, Ronald B. J. Brinkgreve, Tuan A. Bui, Sandro Brasile
- 16:43 **A decoupled model for static soil-foundation interaction using a beam and plate elements as structure foundation and interacting springs to represent the underlying soil.**
Luis Enrique Muciñoz Hernández, Rigoberto Rivera Constantino, Juan José Pérez-Gavilán Escalante, **Carmelino Zea Constantino**, Miguel Ángel Mánica Malcom
- 16:45 **An Unconventional Space for Evaluating Anisotropic Clay Plasticity Models: Insights into Predictive Deficiencies in Compression Plane**
Hesam Dejaloud, **Mohammad Rezaia**
- 16:47 **Reliability analysis based on the response surface method applied to the static liquefaction failure in a tailings dam**
Giosser Arica, Gregory Alvarado, Johann Suarez, Fabiola Serazo
- 16:49 **Minimal discrete matches for grain size distributions**
Lorne Arnold, Caleb Arnold
- 16:51 **Chartering a new era of embedded finite elements for pile simulations**
Andreas-Nizar Granitzer, Franz Tschuchnigg, Haris Felić, Sandro Brasile
- 16:53 **Modelling offshore cable-soil interaction during pull-in operations with the material point method (MPM)**
Mateu Maglia Espinàs
- 16:55 **Development of an expansive bedrock model considering differences in exchangeable cation species between clay mineral crystalline layers**
Keitaro Hoshi, Shotaro Yamada, Yuta Abe

WE-09 Numerical Methods S II

Chairs: Yosuke Higo, Charles Augarde
Room A
16:15 - 17:45

- 16:57 Numerical stability evaluation using spectral radius against soil-water coupled analysis based on u-p/u-w-p formulation
Tomohiro Toyoda
- 16:59 Influence of Fine Content on Ultimate Lateral Pile Capacity
Tomer Gans-Or, Shmulik Pinkert
- 17:01 Numerical investigations of the environmental impact of continuous caisson group penetration in undrained clay
Xiaoxiang Wang, Maosong Huang, Zhongjie Zhang, Jian Yu, Haoran Wang
- 17:03 The concept of pile foundation calculation and design
Adam Krasinski, Piotr Bergius
- 17:05 Revisiting bearing capacity for isolated helical piles loaded in compression and tension
Teresa M. Bodas Freitas, Peter John Bourne-Webb, Cláudia Alves Morais, Henrique Pereira, Paulo Gill
- 17:07 Static load-displacement curves of steel pipe piles installed in sandy ground from static load test and rapid load test with different interpretation methods
Atsushi Nakayama, Ram Krishna Mandal, Shuichi Kamei, Isaku Yamamoto, Tatsunori Matsumoto

WE-10 Micro to Macro & Geo-Education S

Chairs: Matteo Ciantia, Wenbin Fei
Room C
16:15 - 17:45

- 16:15 Interpreting fracture energy in granular particle crushing using acoustic emission for real-time NDT monitoring
Sha Luo, Erdin Ibraim, Thomas King, Andrea Diambra, Nicole Metje
- 16:17 Evolution of the force chain network beneath a strip foundation
Barbara Maria Świtała, Danuta Leśniewska, Justyna Sławińska-Budzich, Muzafar Ali Kalwar
- 16:19 Membrane-Bounded Simulations of Resonant Column Tests with Non-Spherical Sand Grains
Javier Necochea, Kevin Hanley, Esteban Saez
- 16:21 Coupled use of X-ray tomography and mercury intrusion porosimetry to characterize the effect of curing stress on a stabilized silt
Pigeot Lucile, Nathalie Dufour, Calissano Hélène, Batilliot Laurent, Vanwolleghem Michel, Lenoir Nicolas, Dermenonville Fabienne, Loukili Ahmed
- 16:23 New insights into the at-rest earth pressure coefficient of granular soils
Runze Zhang, Jun Yang
- 16:25 Discrete Modeling of the Fabric of Volcanic Scoria
José Armando Juárez Orta, Jesús Sánchez Guzman, Gabriel Auvinet Guichard
- 16:27 High-fidelity multiphysics and multiscale approach for modelling permafrost warming-related geohazards
Jidu Yu, Jidong Zhao

WE-10 Micro to Macro & Geo-Education S

Chairs: Matteo Ciantia, Wenbin Fei
Room C
16:15 - 17:45

- 16:29 Effect of salinity on Swedish sensitive clay: a rheological perspective
Dorsa Saaedifar, Eline Martin, Angela Casarella, Jelke Dijkstra
- 16:31 Geometric-learning-enabled data-driven discovery of interpretable water retention models for deformable porous media
Yejin Kim, Jinhyun Choo, Hyoung Suk Suh
- 16:33 A Micromechanical Model for Predicting the Dynamic Properties of Loose Dry Sands Subjected to Cyclic Loading in a Shear Rheometer.
Bernardo Caicedo, Maria Juliana Chaparro Lopez, Juan-Pablo Castillo-Betancourt, Miguel Cabrera, Pierre Delage
- 16:35 Multiscale Analysis of Thermal and Mechanical Damage in Sandstone: Linking Microstructural Evolution to Macroscopic Behavior
Marek Kawa, Irena Bagińska, Lesław Bagiński, Michał Pachnicz
- 16:37 Determination of Effective Strength Criteria for Random Geocomposites Using Finite Element Limit Analysis
Mariusz Myszor, Marek Kawa, Hubert Szabowicz
- 16:39 High-resolution microCT analysis of porosity and permeability in deep soil mixing (DSM) columns: a framework for material optimization and performance verification
Michał Pachnicz, Jarosław Rybak, Piotr Kanty
- 16:41 Full-Field Measurement of Three-Phase Microstructures in Partially Saturated Triaxial Specimen Using SPring-8
Ryunosuke Kido, Yosuke Higo
- 16:43 Influence of Intraparticle Pores on the Stiffness, Strength, and Failure Modes of Breakable Granular Materials
Yang Li, Masahide Otsubo, Itsuki Sato, Hidenori Takahashi
- 16:45 Influence of contact intensity fabric on sand mechanical response and its incorporation in a constitutive model
Zewei Zhang, Xiaotong Yang, Haitian Liu, Jian-Min Zhang, Rui Wang
- 16:47 Deformation and fracture studies in confined indentation of porous rock-like materials
Arzeena Imtiyaz Peerzadi, Shwetabh Yadav
- 16:49 Evaluating methods for direct determination of contact parameters for DEM-simulations involving sand
Natascha Heim, Sascha Henke
- 16:51 On the link between the contact fabric tensor and the intergranular strain tensor
Zekeriya Metehan Karslioglu, Sebastian Ullmann, Selma Schmidt, Ivo Herle
- 16:53 Effect of weathering on the mineralogy and hydromechanical behaviour of tropical sandy soils
Mateus Teixeira Crippa, José Wilson dos Santos Ferreira, Nelci Helena Maia Gutierrez, Avacir Casanova Andrello, Raquel Souza Teixeira
- 16:55 Microanalysis of the physico-mechanical properties of lateritic nodules in the south of Benin
Marinès Gloria KPAOUKPA, Benoit DUCHEMIN, Yvette Sèdjro TANKPINOU KIKI, Anne PANTET

WE-10 Micro to Macro & Geo-Education S

Chairs: Matteo Ciantia, Wenbin Fei
Room C
16:15 - 17:45

- 16:57 Exploring geotechnical design in teaching using parametric studies and an API with numerical models
Colin Smith, Thomas Pritchard
- 16:59 AI-assisted student grading system in geotechnics
Enrico Soranzo
- 17:01 Insights from the implementation of active learning approaches in geo-education
Luis Araújo Santos, Sara Proença, Vera Ribeiro
- 17:03 The Fundamental Friction Limit of $\frac{1}{4}$ in Lubricated Granular Materials
Assaf Miron, Rafael Tadmor, Shmulik Pinkert
- 17:05 The master in soil mechanics and geotechnical engineering organized by CEDEX of Spain
Juan Antonio Díez Torres, Carlos Laina-Gómez, Fernando Pardo de Santayana Carrillo, Enrique Asanza Izquierdo
- 17:07 Local-Gradient Optimization for CPRF Foundation
Yigal Hurvitz, Shmulik Pinkert

WE-11 Geotechnical BIM and DT & Machine Learning S

Chairs: Jelena Ninic, Zhongqiang Liu
Room M1
16:15 - 17:45

- 16:15 Geotechnical sensor monitoring towards digital twin application
Mats Svensson, Olof Friberg
- 16:17 Potentials and future directions in the development of an IFC based Digital Twin
Prof. Dr. Niels Bartels, David Schneider M.Eng., Prof. Dr. Christoph Budach
- 16:19 Innovative monitoring of railway tunnel deterioration using vibration analysis, LiDAR imaging, and drone technology
Roberto Pantoja Porro, John O'Donovan, Michael O'Shea, Xiaochuan Zhang, Zili Li
- 16:21 A Geotechnical Approach to Digital Twin Modelling of Embankment Dams
João Manso, Daniel Leite, Dora Roque, João Marcelino
- 16:23 Development of 3D Geo BIM Framework for Optimizing Pile Lengths in Large-scale Structures
Young Seok Choi, Hyen Young Song, Dong Hee Seo, Seok Jun Ko, Dae Young You
- 16:25 Building the future of geotechnics: A focus on data management and utilization
Magnus Rømoen, Kristin Paulsen, Truls Martens, Mats Kahlström
- 16:27 Enhancing Geotechnical Design and Construction: Integrating BIM in Large-Scale Deep Excavation Projects
Mathias Smesnik, Mario Ausweger, Ioannis Spyropoulos, Mauro Bernabei, Selami Güven
- 16:29 3D Geospatial Databases – Unlocking the Full Potential of Ground Investigation Data
Joost Gevaert, Mats Kahlstrom, Jules Blom

WE-11 Geotechnical BIM and DT & Machine Learning S

Chairs: Jelena Ninic, Zhongqiang Liu
Room M1
16:15 - 17:45

- 16:31 Hephasteion - a digital twin of the best-preserved temple of the Agora of Athens, Ancient Greece
Robert Kayen, John Papadopoulos, Andreas Kalyvas, Mikaela Liveri, Rodrigo Alejandro Tapia Corvalan, Wataru Kon, Shea Tim, Sneed Debby
- 16:33 Machine learning for predicting soil penetrometric profiles: key challenges and feature engineering
Eduardo Martínez García, Marcos García Alberti, Antonio Alfonso Arcos Álvarez
- 16:35 Integration of machine learning and physics-based approaches to analyse the stability of flooded mine shafts during geothermal heat extraction
Chamini S Waravita, W G P Kumari, Jayan S Vinod
- 16:37 Leveraging AI to Analyze Unstructured Site Investigation Reports in South Korea
Eomzi Yang, Jin-Tae Han, Byeong-Soo Yoo
- 16:39 A physics-informed neural network to simulate granular soil behavior
Merita Tafili, Nazanin Irani, Mohammad Salimi, Torsten Wichtmann
- 16:41 Discovering the shape of jet-grouting columns by thermal back analysis – application of ANN surrogate models
Marek Wojciechowski
- 16:43 Explainable artificial intelligence (XAI)-driven insights into the strength of cement-stabilized soils
Muhammad Hasnain Ayub Khan, Olivier Cuisinier, Adel Abdallah
- 16:45 Evaluating an unsupervised clustering-based approach for stratigraphic interpretation of Piezocone Penetration Testing (PCPT) data with statistical validation
Ivan Cazarez, Yu Hin Wong, Muhamad Safrizal Haji Kasri, Frederick Linley, Toby Masters, Nivethan Kanagarasa, George McElroy
- 16:47 Automatic and Manual Back-analysis for Embedded Retaining wall in Stiff Clay
Zoe Chan, Truong Le, David Foo, Paul Bailie, Jamie Standing, Ningxin Yang
- 16:49 Performance of Factors and Application of Graph Neural Networks in Landslide Susceptibility Assessment: A Case Study in Taiwan
Yi-Min Huang, Wei-Hao Huang, Tsung-Hsin Yeh
- 16:51 Generative AI for development of 3D subsurface stratigraphic models from limited site-specific borehole data and geophysical data
Yu Wang, Borui Lyu
- 16:53 Enhancing Pile Bearing Capacity Prediction for Prebored and Precast PHC Piles Using AI Models
Seunghwan Seo, Moonkyung Chung
- 16:55 Optimizing Geotechnical Site Investigation Strategies Using Random Forest and k-Nearest Neighbors for Shallow Foundation Design
Ardy Arsyad, Mark Jaksa
- 16:57 Data-driven prediction of soil compression behaviour using LSTM neural networks
Kacper Cerek, Elnaz Hadjiloo, Jürgen Grabe

WE-11 Geotechnical BIM and DT & Machine Learning S

Chairs: Jelena Ninic, Zhongqiang Liu
Room M1
16:15 - 17:45

- 16:59 **Preprocessing of MWD Data for Data-Driven Modeling: Advancing Techniques for Handling Missing Data**
Franziska Klein, [Alla Sapronova](#), Thomas Marcher
- 17:01 **From in-situ tests to probabilistic and sensitivity analysis using FEA and surrogate modelling**
Ashraf Zekri, [Ronald Brinkgreve](#)
- 17:03 **Bio-inspired algorithm for automated planning of ground investigations along linear construction projects: Balancing impact minimization and regulatory compliance**
[Lennart Rein](#), Torben Treffeisen, Andreas Henk
- 17:05 **Information system for monitoring the tilt of high-rise buildings**
[Bohdan Chorny](#), Andrey Shokarev
- 17:07 **UAV-based photogrammetry for displacement monitoring of temporary earth retaining structure: A novel approach to infrastructure management**
[Seokjun Ko](#), Jaeho Lee, Youngseok Choi, Daeyoung You, Wonseok Seo
- 17:09 **Data-driven subsurface geological mapping along tunnel infrastructure: a case study at CERN**
Zahra Hajighasemi, Biao He, Aohui Ouyang, Vanessa Di Murro, John Andrew Osborne, Andrea Visentin, [Zili Li](#)
- 17:11 **A machine learning approach to site classification**
[Charles MacRobert](#), Armand Brits

WE-12 Transportation S

Chairs: Johannes Pistor, Han-Lin Wang
Room M2
16:15 - 17:45

- 16:15 **Microbial-induced hydrated magnesium carbonate for stabilization of crushed rock base in road pavement**
Kehinde Lemboye, Mohamed Shatin, [Hayder Abdullah](#), Liang Cheng, Mohamed Arab
- 16:17 **Resilient modulus characterization of unbound granular materials through laboratory dynamic cone penetration test**
Siya Rimoy, [Gabriel Rugabandana](#)
- 16:19 **Determination of the variable contact geometry between a vibrating drum and the soil surface from measurements**
[Johannes Pistor](#), Mario Hager
- 16:21 **A machine learning-driven MATLAB platform for simulating and predicting ground surface settlement induced by shield tunneling**
[Cheng-Shuang Yin](#), Han-Lin Wang
- 16:23 **Fatigue Behavior of Lime and/or Hydraulic Binder Treated Soils: Database Analysis**
[Vincent Krzewinski](#), Nathalie Dufour, Christophe Chevalier, Julien Borderon, Muriel Gasc-Barbier
- 16:25 **Application of micropiles for resisting hydrostatic uplift forces in deep trench**
[Bing Lee](#), Barry Yan, Sri Srithar, Andrew Lochaden, Chris Chan

WE-12 Transportation S

Chairs: Johannes Pistor, Han-Lin Wang
Room M2
16:15 - 17:45

- 16:27 **Fibre Optic Movement Sensing as a track support sensor**
Ben Cooper, [Agnes Van Uiter](#), Kit Chambers, Paul Kootwijk, Toby Fisher, Ed Austin
- 16:29 **An innovative approach for the construction of small bridges**
[Freddy Lopez](#), Erich Steinlechner, Simon Hähnlein
- 16:31 **Ballast stiffness estimation based on measurements during dynamic track stabilization**
[Manuel Dafert](#), Johannes Pistor, Fritz Kopf, Dietmar Adam
- 16:33 **Performance comparison of Geosynthetic-embedded capping layers on soft subgrade constructed with RCA and crushed rock**
[Ravindu Ranasinghe](#), Chaminda Gallage, Jinjian Zhong
- 16:35 **Underslip Washout Remediation with Obstacles: A New Zealand Case Study**
[Ashe Cooper](#), Harry Wahab
- 16:37 **Stiffness and compressive strength of stabilized soil cured under stress**
[Lucile Pigeot](#), Nathalie Dufour, Hélène Calissano, Laurent Batilliot, Fabienne Dermonville, Ahmed Loukili
- 16:39 **Friction resistance for different sleeper-ballast contacts**
[María Santana](#), Jose Estaire, Mauro Muñoz, Miriam Martín
- 16:41 **Continuous stiffness monitoring of granular layers of pavements by bender elements**
[Carolina Briceño Melendez](#), Manuel Parente, Joyce Zaina Chidassica, João Rocha, Marcos Silva Martins, Mohammad Roshan, Miguel Azenha, António Gomes Correia, Erol Tutumluer, Ionut Dragos Moldovan
- 16:43 **Mechanical Properties and Bonding Mechanisms of Carbonated Recycled Fine Aggregates (RFA) with Industrial Wastes**
[Huan HE](#), Zhexun LIU, Man LI, Jing REN
- 16:45 **Thermo-mechanical assessment of ballasted railway subgrade deformation under heavy train axle loads and freeze-thaw conditions**
[MD EMAD UDDIN](#), LOHITHA B, M ROSHAN KHAN
- 16:47 **Resilient response of coarse soil to cyclic load in different load conditions**
Katarzyna Zabielska-Adamska, [Patrik Dobrzycki](#), Mariola Wasil
- 16:49 **Evaluation of Mechanical Properties of Stabilized Soils with Quick Lime under Extreme Moisture Conditions**
Natalia Pérez, [Francisco Javier Castañeda](#)
- 16:51 **Microstructure of non-plastic silty soils compacted at various moisture contents**
[Katarzyna Zabielska-Adamska](#), Dorota Małazkiewicz, Justyna Markowska
- 16:53 **Unexpected geology as part of the Hosingen bypass project: an example of the importance of geotechnical investigation**
[Steve Gruslin](#), Tiffany Hennebaut
- 16:55 **In-situ small strain stiffness measurements of deep soil mixing with PS-logging**
[Jörgen Johansson](#), Dylan Mikesell, Joonsang Park, Stefan Ritter, Jelke Dijkstra, Kenneth Viking, Siamak Feizi

WE-12 Transportation S

Chairs: Johannes Pistrol, Han-Lin Wang
Room M2
16:15 - 17:45

- 16:57 **Role of Particle Shape on Biopolymer-Treated Soil under Cyclic Loading**
Thanh Nguyen, Thien Q. Huynh, Buddhima Indraratna
- 16:59 **Mechanical properties of a RAP stabilized with lime, cement and foamed asphalt**
Natalia Pérez, Carlos Martínez, Francisco Castañeda
- 17:01 **Physical modeling of failure accompanied by near-surface collapse characterizing cyclic soil structure interaction in integral bridges**
Dunja Peric

WE-13 Field Monitoring & Site Characterization & Observational Method S

Chair: Andrew Ridley
Room N1
16:15 - 17:45

- 16:15 **Long-term monitoring of a seasonally active landslide in the semi-arid Thompson Plateau, British Columbia, Canada**
Kelvin Sattler, Allen Kelly, David Elwood, Sohrab Sharifi, Michael Hendry, Renato Macciotta, David Huntley
- 16:17 **Instrumenting and Monitoring a Geosynthetic-Reinforced Pile-Supported MSE Wall Built over Soft Soil**
Murad Abu-Farsakh, MohammadAli Izadifar
- 16:19 **Back-analysis of Eemdijk full-scale failure test on sheet pile reinforced dike**
H.J. {Arny} Lengkeek
- 16:21 **Satellite measurement techniques to evaluate the subsidence phenomenon in Mexico City**
Gabriel Yves Auvinet-Guichard, Edgar Méndez-Sánchez, Daniel Hernández-Andrade, Manuel Trejo-Echeagaray, María Clara de Lacy Pérez-de Los Cobos, Antonio Miguel Ruiz-Armenteros, Moisés Juárez-Camarena, Rosendo Romero-Andrade
- 16:23 **Application of Distributed Fiber-Optic Sensing in Large Geotechnical Structures: Insights and Challenges of Deformation and Displacement Monitoring**
Nils Nöther, Massimo Facchini
- 16:25 **Sedlitz monitoring field – The deformation behaviour of a Lusatian open-cast mine dump during groundwater rise**
Anja Schirmer, Julia Sorgatz, Tino Rosenzweig, Manja Walko, Wolfram Kudla, Thomas Nagel
- 16:27 **Expansive soil movement due atmospheric boundary interaction – a field study in semi-arid climate**
Bikash Devkota, Md Rajibul Karim, Donald Cameron, Md Mizanur Rahman, HBK Nguyen
- 16:29 **Verification of finite element modelled displacements using ShapeArray inclinometers**
Chantelize Visagie
- 16:31 **Impact of Ground Vibrations from controlled demolition by delayed detonation of High-Rise Structure Collapse on Adjacent Buried Pipelines and Mitigation Measures**
Alina Anil, Anil Joseph, Dhanya J S, Shini S Pomson

WE-13 Field Monitoring & Site Characterization & Observational Method S

Chair: Andrew Ridley
Room N1
16:15 - 17:45

- 16:33 **Monitoring of slopes, rock faces and masonry walls in a 19th century public park: the example of the Buttes Chaumont park (Paris, France).**
Marc Peruzzetto, Isabelle Halfon, Clara Levy, Florian Masson, Aurore Ramage, Gildas Noury, David Ribes, Daoud Benazzouz, Marina Kudla, Laurence Lejeune
- 16:35 **ASSESSMENT OF THE REGIONAL SUBSIDENCE IN MEXICO CITY USING A GEOSTATISTICAL MODEL**
Maria Clara Madrial Madrigal, Eduardo Botero Jaramillo, Carlos Diaz Avalos
- 16:37 **Development of a Smart Monitoring System for Urban Small-Scale Underground Excavation and Slope Safety**
Seungjoo Lee, Kiyeon Jeong, Taehoon Lee, YoungSeok Kim
- 16:39 **Earth structures with integrated distributed sensors for multi-parameter measurements**
Rafał Sieńko, Łukasz Bednarski, Tomasz Howiacki, Kamil Badura
- 16:41 **Monitoring Diaphragm Wall Performance in Egypt's 4th Metro Line: Insights on Lateral Earth Pressure**
Marawan Shahien, Nadia Abou Elfadl, Fayrouz Yasser, Abdelmoez Elgarf, Sara Elreweny
- 16:43 **Collaborative approach to establish an anchor stressing application for the entire industry**
Alexander Zöhrer, Thomas Pirkner, Jakob Stadlbauer, Andre Pura
- 16:45 **Application of terrestrial laser scanning and inclinometer for comprehensive monitoring of deep excavation**
Marek Wyjadłowski, Zbigniew Muszyński, Paulina Kujawa, Karolina Gorska
- 16:47 **Reliable and Replaceable Monitoring Systems for Ground Support Applications**
Florian Hude, Harald Gundelwein
- 16:49 **Data-driven framework for stress history prediction using machine learning with CPT data**
Daeun Gwak, Taesoo Ku
- 16:51 **Closed-loop parameter validation with APD system and CPTu simulation**
Andreas Erdian Wijaya, Islam Marzouk, Helmut F. Schweiger, Franz Tschuchnigg
- 16:53 **The estimation of shear wave velocity, Vs, from seismic piezocone penetration tests (sCPTu) in tailings storage facilities (TSFs) in northern Mexico and the development of local correlations based on soil behavior**
Jose Luis Rangel-Núñez, Enrique Ibarra-Razo, Luz V. Suárez-Quintero
- 16:55 **Automated method to generate soil model based on CPT results**
Andras Mahler, Márk Barta, Gyula Bögöly, Zsombor Illés, Bálint Pálkás, Vince Szigetvári, József Pusztai, Balázs Karner
- 16:57 **Energy-based interpretation of the dynamic probing light (DPL) in two experimental research sites**
Luis Pedro Rojas Herrera, Breno Padovezi Rocha, Heraldo Luiz Giacheti
- 16:59 **ALTERNATIVE APPROACH FOR TUNNELLING FACE PRESSURE**
Kok Sing Khoo, Teoh Yaw Poh, Kit Kuen Foong, Anastasia Maria Santoso

WE-13 Field Monitoring & Site Characterization & Observational Method S

Chair: Andrew Ridley

Room N1

16:15 - 17:45

- 17:01 Do partial factors have a role in verifying the ultimate limit state when adopting the Observational Method?
Stuart Hardy, Hock Liong Liew, Johan Spross, Duncan Nicholson
- 17:03 Ongoing Observational Method Applied to a Brine Pond
René Matías Calvente, Alejo Oscar Sfriso
- 17:05 Evaluation of geotechnical monitoring results of deep excavation support and back analysis using FEM
Tomasz Topoliński
- 17:07 Deep excavation solution at hill base using tie rods as passive ground anchors
Catarina Fartaria, Alexandre Pinto
- 17:09 The influence of prior on the simultaneous estimation of geometric features and physical property fields using Bayesian inference
Tatsuya Shibata, Michael Conrad Koch, Kazunori Fujisawa

WE-14 Tailing and Mine Wastes & Dykes and Levees & Megacities S

Chairs: Norma Patricia López-Acosta, Roberto Cudmani

Room N2

16:15 - 17:45

- 16:15 Recent development on the use of waste rock inclusions to improve the static and seismic stability of tailings dams
Michel Aubertin, Abtin Jahanbakhshzadeh, Samuel Yniesta
- 16:17 Characterization and management of waste stone dust – a case study
Biljana Kovačević Zelić, Mirela Burečić Šafran, Luka Tomac, Petar Hrženjak
- 16:19 Multivariate statistical approaches for source identification of heavy metal pollutants around copper mine tailings pond at Malanjkhhand, India
Akshay Kumar Singh, Anumita Mishra
- 16:21 Landslide risk in Polish lignite opencast mines and implementation of remote monitoring methods
Zbigniew Bednarczyk
- 16:23 Effect of Hydration Conditions on Shear Behavior of Geomembrane/Geosynthetic Clay Liner Interface
Kuo Tian, Hanrui Zhao
- 16:25 Evaluation of Mining Solid Waste: Physical, Mineralogical, and Rheological Characterization for the Study of Tailings Deposits
Javier Valenzuela Hernández, Alexandra Ossa López
- 16:27 Hard rock rockflour platinum tailings geotechnical characterization: case study
Edrie du Plessis, Hendrik Adriaan Cloete Meintjes

WE-14 Tailing and Mine Wastes & Dykes and Levees & Megacities S

Chairs: Norma Patricia López-Acosta, Roberto Cudmani

Room N2

16:15 - 17:45

- 16:29 Geotechnical Challenges and Solutions for an Innovative Filtered Tailings and Waste Stack in Brazil
Werner Bilfinger, Luiz Guilherme de Mello, Bruno Szpigel Dzialoszynski, Paulo Franca, Leone Cesar Meireles, Wanderson Silverio Silva
- 16:31 Geotechnical and Seismic Design Considerations in the Re-utilization of a Tailings Storage Facility in the Philippines
Gian Paulo Dumigpi Reyes, Patrick Adrian Selda, Roy Anthony Luna, Ramon Quebral, Marielle Gwen Martinez, Desz Justinne Ocampo
- 16:33 Critical state assessment of a tailings storage facility foundation: implications for design
Kate Lauwrens, Dr Andre Archer
- 16:35 Construction and evaluation of mine cover systems with upgraded soil experience gained from laboratory and pilot tests.
Abdalla Saafan, Christian Maurice, Jan Laue, Jasmina Toromanovic
- 16:37 Kinetic Leaching Studies on a Zinc Tailings Sample
MB Nikila, Partha Narayan Mishra, Jagdish Prasad Sahoo, Sarat Kumar Das
- 16:39 Impact of a ditch on dike stability for uplift conditions
C. Zwanenburg, C. Cengiz, B.C. Noijons, M.P. Fransen
- 16:41 Reliability-based internal erosion analyses on the Szigetköz floodplain area
Edina Koch, Richard Ray, Mais Mayassah
- 16:43 Geotechnical insights for sustainable coastal protection: embankment seawall solutions in high-risk zones
Angelica Lou Dolor Casibua, Jose Carlo Eric Lasola Santos, John Michael Bueno Gargullo, Jose Raphael Lazaro Japlos
- 16:45 Impact of ITZ around unmixed soil-aggregates on hydraulic properties of earth levees material reinforced by deep soil mixing method
Myriam Duc, Juba Amrioui, Alain Le Kouby
- 16:47 Feedback on 10 years experience of soil mixing cut-off walls in levees of the Loire River
Lucile SAUSSAYE, Alain LE KOUBY, Sébastien PATOUILLARD, Loic GERVAIS
- 16:49 Appropriate shear strength evaluation method for river embankments consist of fine or gravelly soils
Takeshi Kodaka, Keita Lee, Masanori Ishihara, Yuichi Kubo
- 16:51 APPLICATION OF GIS TECHNOLOGY IN ENGINEERING-GEOLOGICAL SURVEYS
Nurgul Alibekova, Askar Zhussupbekov, Assem Abisheva, Shugyla Amanzholova, Fayzulla Ikramov
- 16:53 DEEP AND LARGE EXCAVATION SOLUTIONS IN LISBON CITY CENTER
Carlos de Oliveira Martins, Rui Tomásio, Alexandre Pinto
- 16:55 Peripheral Earth Retaining wall solutions for the construction of EDEN Hotel Estoril
Ricardo Justiniano, Alexandre Pinto

WE-16 Slope Stability & Reinforced Fill Structures S

Chair: Giuseppe Pedone

Room 1.85_86

16:15 - 17:45

16:15 Innovative Framework for Railway Slope Performance Assessment in a Tropical Climate: Recent Advances
Luiz Felipe Goulart Fiscina, Felipe Pacheco Silva, Felipe Santos de Almeida, Silvia Suzuki, Luciano de Oliveira, Marcos Massao Futai

16:17 Stability of anchored slopes in macroporous volcanic rocks
Miguel Angel Millán Muñoz, Fausto Molina Gómez, Ruben Ángel Galindo Aires, David Mencías-Carrizosa

16:19 Investigating the risk of brittle behaviour in collapsible soils beneath a tailings storage facility: A case study
Massyn Vernon Harmse, Nicolaas Johannes Vermeulen, Hans Rudolf Aschenborn

16:21 Slope stability in low plasticity quick clay – Fv. 770 road project in Norway
Helene Alexandra Amundsen, Johannes Gaspar Holten, Anuj Thapa Magar, Åsmund Elgvasslien

16:23 Type B1 Predictions of Slope Performance during Rainfall Using Numerical Analysis
Rupsa Roy, Beena Ajmera, Željko Arbanas, Josip Peranić

16:25 Numerical modelling of Himalayan road-cut soil debris slope subjected to rainfall infiltration
Samita Baniya, Akanksha Tyagi, Narendra Kumar Samadhiya

16:27 Insights into Landslide Reactivation: Monitoring and analysis of failure mechanisms using instrumentation.
Asiri Karunawardena, Sanchitha Jayakody, Mihira Lakruwan, Ryosuke Uzuoka

16:29 Hydro-mechanical characterization of flysch-derived colluvial slopes affected by rainfall-induced landslide
Alberto Bolla, Marco Del Fabbro, Chiara Peloso, Isabel Camerotto, Josip Peranić, Josip Zorčić, Martina Vivoda Prodan, Sanja Dugonjić Jovančević

16:31 Stability Assessment of Embankments on Soft Soils in Goiana-PE, Brazil
Roberto Quental Coutinho, Danisete Pereira Souza Neto, Pedro Gomes dos Santos Pereira

16:33 Elastic solution for a head-restrained pile subjected to a passive load
Ivo Bellezza, Marta Di Sante, Evelina Fratolocchi, Francesco Mazzieri

16:35 Optimization of soil nailing designs through probabilistic approach
Mihira Lakruwan, Sanchitha Jayakody, Asiri Karunawardena, Akiyoshi Kamura

16:37 CLIMATE CHANGE INDUCED MEGALANDSLIDES: SANTA LUCIA DISASTER IN PATAGONIA
Felipe Ochoa, Sergio Sepúlveda, Marisol Lara, Shantal Palma, Karla Burgos, Paul Duhart

16:39 Hydro-mechanical numerical modelling of paleo-landslide reactivations due to river erosion
Vito Tagarelli, Federica Cotecchia, Alexander Puzrin

16:41 Design and validation of an early warning system for debris flows in Colombia
Luis Felipe Prada Sarmiento, Alfonso Mariano Ramos Cañón, Andrés Felipe Prieto, Maddy Munevar-Peña, Carolina Castro-Malaver

16:43 Digital assessment and prediction of rainfall-induced landslides using convolutional neural networks (CNN)
Sangseom Jeong, Sangmin Lee, Yongmin Kim, Yuan Shen Chua, Homin Park

WE-16 Slope Stability & Reinforced Fill Structures S

Chair: Giuseppe Pedone

Room 1.85_86

16:15 - 17:45

16:45 Comparison of undrained-a and undrained-c constitutive model in finite element method based on cptu results from embankment on very soft marine clay
Andi Kurnia Setiadi Kartawiria, Samira Albati Kamaruddin, Ramli Nazir, Idrus Muhamad Alatas, Agus Himawan, Pasca Hartasurya, Hendriyawan, Iswandi Imran, Masyhur Irsyam

16:47 Numerical modelling of a DSGSD affecting a motorway bridge – from field work to simulations
Maria Honisch, Barbara Schneider-Muntau, Marie-Amélie Dardoullier, Tom Deparday

16:49 Monotonic shear behavior of unsaturated volcanic ash soil from Atsuma compared with non-porous sand
Harue SHIROYAMA, Tokio MORIMOTO, Kenji WATANABE

16:51 A FLEXIBLE RETAINING WALL BUILT ON COMPRESSIBLE CLAY WITHOUT DEEP FOUNDATIONS
Burt Look, Roozbeh Mirjalili, Jared Priddle, Preba Nadarajah

16:53 Effect of secondary reinforcement layers on the performance of GRS walls: a numerical study
Luiz Augusto da Silva Florêncio, Mauricio Ehrlich, Sayed Hamed Mirmoradi

16:55 Pull-out mechanism evaluation of ribbed steel rods in 2D and 3D soil layers
Hyunbin Park, Munkyeong Baek, Chanjo Kwon, Ilhan Chang

16:57 Numerical analysis of a landfill stabilized with a Reinforced fill structure having geogrid and steel wire mesh as a reinforcing Element
Ahsan Rehman khan, Gemmina Di Emidio

16:59 Design and construction of a geogrid-reinforced soil wall using lightweight fill for Spalding Western Relief Road, Lincolnshire, East Anglia, UK (Paper 1 of 2)
Gareth Belton, Ganapati Sahoo, Mitul Jagdishbhai Dalwadi, Chaido Doulala-Rigby

THURSDAY JUNE 18, 2026

11:00-12:30 | ROOM A

PLENARY SESSION 9A: TC HONOUR LECTURES

Chair: *Anand J. Puppala, Babak Hamidi*

TC 307 SUSTAINABILITY IN GEOTECHNICAL ENGINEERING HONOUR LECTURE

Sustainability Innovations in Geotechnical and Geoenvironmental Engineering: Soil Mix Remediation Technology, Low Carbon Binders and Advanced Functionalities

Abir Al-Tabbaa, *University of Cambridge*

TC 211 LOUIS MENARD LECTURE

Ground Improvement of Large Tanks Using Innovative Dynamic Replacement Techniques

Serge Varaksin, *ISSMGE TC-211 & Apageo*

Babak Hamidi, *ISSMGE TC-211 Chair & Menard*

11:00-12:30 | ROOM C

PLENARY SESSION 9B: TC HONOUR LECTURES

Chair: *Satoshi Nishimura, Andrea Dominijanni*

TC 101 BISHOP LECTURE

Relating Fine-Grained Soil Mechanical Behaviour to Microstructural Features

Federica Cotecchia, *Politecnico di Bari*

TC 215 KERRY ROWE LECTURE

Bioreactor Landfills: Coupled-Process Modeling, Performance Assessment, and Sustainability Evaluation

Krishna R. Reddy, *University of Illinois Chicago*

12:30-13:45 | LUNCH BREAK

13:45-15:45 | ROOM A

PLENARY SESSION 10: INVITED LECTURES

Chair: *Antonio Gens, UPC-CIMNE*

SEBRO: An Integrative Research Approach for Improving Subsoil Characterisation, Foundation Efficiency and Sustainability in Sensitive Lacustrine Clay

Roberto Cudmani, *TU München*

Human and organisational factors influencing safety in underground construction - Consequences for quality assurance and risk management based on analysis of a metro station box failure

Christian Moormann, *University of Stuttgart*

Emerging Sensing and Monitoring Technologies for Geotechnical Engineering

Kenichi Soga, *University of California, Berkeley*

Dimitrios Zekkos, *University of California, Berkeley*

The Observational Method – Lessons Learnt and Future Potential

Tony O'Brien, *Mott MacDonald*

Hock Liong Liew, *Mott MacDonald*

15:45-16:45 | CLOSING CEREMONY



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TH-01 Numerical Methods & Earthquake

Chairs: Stavroula Kontoe, Ryosuke Uzuoka
Room A
08:30 - 10:30

- 08:30** **Advanced Soil Constitutive Models for Predicting Seismic Responses in Soil-Pile-Superstructure Interaction**
Mehdi Joneidi, Gertraud Medicus, Roshanak Shafieiganjeh, Iman Bathaeian, Barbara Schneider-Muntau
- 08:42** **A Smart Constitutive Model and Its Numerical Application Predicting the Cyclic Liquefaction of Sandy Soils through Deep Learning**
Muhammed Furkan Yilmaz, Ömer Tuğşad Birinci, **Mehmet Barış Can Ülker**
- 08:54** **Automated Calibration of Advanced Constitutive Models for Cyclic Liquefaction**
Sheng Zeng, Jan Machaček, Hauke Zachert, **Mahdi Taiebat**
- 09:06** **Numerical estimation of lagged coherency function at a hard rock site in Korea**
Dongyeon Lee, Yonghee Lee, Hak-sung Kim, Jeong-seon Park, Duhee Park
- 09:18** **High performance dynamic solid fluid coupled simulation for large-scale geotechnical earthquake engineering**
Rui Wang, Jian-Min Zhang
- 09:30** **A computational approach for predicting large deformation of geomaterials subjected to earthquake loading**
Trieu N. Hoang, **Ha H. Bui**, Giang D. Nguyen, Thang T. Nguyen, Tien V. Nguyen
- 09:42** **A comparison between numerical and theoretical methods for computing dynamic impedances of pile groups in layered soils**
Riccardo Ronci, Riccardo Conti
- 09:54** **Recent Advances in Material Point Method for Geotechnical Earthquake Engineering**
Zhi Lyu, Gang Wang
- 10:06** **Numerical modeling of cemented sands for earthquake engineering applications**
Laura M. C. Luna, Jason T. Dejong, Katerina Ziotopoulou, Ross W. Boulanger
- 10:18** **Optimizing pile foundation design using machine learning surrogate model**
Yoshimasa Shigeno, Tomohiro Tanikawa

TH-02 Physical Modelling

Chair: Suzanne van Eekelen
Room C
08:30 - 10:30

- 08:30** **Centrifuge Evaluation of Geosynthetic-Reinforced Structures Under Failure Conditions**
Fabiana Arriaga, Jorge Zornberg
- 08:42** **GEOLAB – Science enhancing Europe’s critical infrastructure**
Ton Peters, **Suzanne Van Eekelen**, Alexandru Marin, Ioannis Anastasopoulos, Sam Stanier, Giulia Viggiani, Miguel Cabrera, Stefano Muraro, Borut Macuh, Stanislav Lenart, Jose Estaire, Maria Santana, Luc Thorel, Matthieu Blanc, Hauke Zachert, Joaquin Liaudat, Emir Ahmet Oguz, Jean-Sébastien L’Heureux, Mallika Singh, William Hynes

TH-02 Physical Modelling

Chair: Suzanne van Eekelen
Room C
08:30 - 10:30

- 08:54** **Cyclic loading of railway trackbeds with and without geogrid stabilization: Experimental design and instrumentation**
Olatoundé Alexandre Yaba, Amine Dhemaied, Ahmad El Ayoubi, **Orianne Jenck**, Fabrice Emeriault, Lars Vollmert, Fabien Szymkiewicz, Karolina Makowska, Alexander Kochnev, Joaquin Liaudat, Hauke Zachert
- 09:06** **Block foundations for railway infrastructure: comparison of physical model test results to analytical design approaches**
Gregor Portmann, André Arnold, Ralf Herzog, Ioannis Anastasopoulos
- 09:18** **Short-term structural response of a model shaft linear as a baseline to inform a simulated shaft breakout in clay**
Mayda Ucur, Sam Divall, Sarah E Stallebrass, Neil R Taylor, Michael CR Davies, Andrew M McNamara
- 09:30** **Behavior of geotextile-encased columns under reloading: insights from centrifuge testing**
Viktor Poberezhnyi, Oliver Detert, Suzanne van Eekelen, Cihan Cengiz, Remco van den Berg, Diethard König, Steffen Taetz
- 09:42** **Investigation of multiple flexible barrier response to dynamic debris flow impact**
Sunil Poudyal, Aastha Bhatta, Charles Wang Wai Ng
- 09:54** **Preliminary analysis & testing of laterally loaded, helical steel piles in dense sand**
Peter Bourne-Webb, Teresa Bodas Freitas, Eduardo Rodrigues, Paulo Gill, Kostantinos Georgiadis, Alkmini-Chara Livanidou, Paulo Marques, Edgar Godinho, Joaquin Liaudat, Alexander Kochnev, Hauke Zachert
- 10:06** **Centrifuge Test and FEA on Uplift Resistance of Multi-Belled Piles in Dense Sand with Surface Pressure**
YOSHIHIRO HORII, KENTARO HAMA, TORU WATANABE, C F LEUNG, S C CHIAN
- 10:18** **Hydraulic conductivity anisotropy of a drainage geocomposite exposed to root growth: experimental insights for numerical modelling**
Adelaide Amato, Osvaldo Bottiglieri, Francesco Cafaro, **Daniele Cazzuffi**, Piergiorgio Recalcati

TH-03 Geotechnical BIM and DT & Machine Learning

Chairs: Magnus Rømoen, Dongming Zhang
Room M1
08:30 - 10:30

- 08:30** **Performance prediction of track granular materials using machine learning approaches with an emphasis on input parameter selection**
Rakesh Sai Malisetty, Buddhima Indraratna, Srinivas Alagesan, Haydn Hunt, Yujie Qi, Tim Neville
- 08:42** **Surrogate model of cofferdams based on physics informed neural networks**
Kacper Cerek, Marek Wojciechowski, Elnaz Hadjiloo, Jürgen Grabe
- 08:54** **A Database-Driven and Machine Learning-Based Approach for Estimating Consolidation Parameters and Drainage Conditions Using CPTu Data**
Iman Entezari, James Sharp, Dallas McGowan, Jason DeJong

TH-03 Geotechnical BIM and DT & Machine Learning

Chairs: Magnus Rømoen, Dongming Zhang

Room M1

08:30 - 10:30

- 09:06 **Improving Reliability of Slope Stability Predictions through Physics-Informed Machine Learning**
Ekansh Agarwal, Te Pei, [Ning Luo](#)
- 09:18 **Advancing Safety Risk Assessment in Subsea Tunnel Excavation: A Digital Twin Framework Integrating Computer Vision and Material Point Method**
[Mingliang Zhou](#), Jie Xu, Zeyu Li, Qihao Jiang, Dongming Zhang, Hongwei Huang
- 09:30 **Interpretable Artificial Intelligence for Subsidence Mapping Using City-Scale Geotechnical and Infrastructure Features**
[Homin Park](#), Yongmin Kim, Yuanshen Chua, Junghwan Kim, Taesik Kim, Ho Choi
- 09:42 **Data-driven discovery of rheological model for steady-state and transient granular flows**
[Xu Han](#), Fiona C.Y.Kwok, Lu Jing, Gengchao Yang, Yuri Dumaresq Sobral
- 09:54 **Superposition of Random Fields to model multi-output CPTu spatial variability**
[Stefano Collico](#), Lluís Monforte, Dani Tarragó, Amadeu Deu
- 10:06 **GIM-to-FEM: From digital ground information models to probabilistic numerical analysis of underground structures**
[Ksenija Micić](#), Novak Joksimović, Zehao Ye, Miloš Marjanović, Jelena Ninić
- 10:18 **Monitoring Ground Settlement Adjacent to Deep Urban Excavations Using a Multi-Sensor Unmanned Ground Vehicle**
[Young-Hoon Jung](#), Taesik Kim, Jinman Jung, Hong Min, Choong-Ki Chung

TH-04 Transportation II

Chairs: Mike G Winter, António Gomes Correia

Room M2

08:30 - 10:30

- 08:30 **Mass Soil Mixing: A Sustainable Solution for Infrastructure Stability**
[Adnan Sahyouni](#), Alexandre HUBAUT
- 08:42 **Effect of fines content on the compaction and CBR strength of a lateritic sub-base soil**
Albert Kwame Ampadu, Samuel Innocent Kofi Ampadu, Frederick Owusu-Nimo, [Felix Jojo Ayeh](#), Frederick Nai Charkley
- 08:54 **Geogrid-Reinforced Soil Retaining Wall Supporting Railway Lines at Riga Central Station**
[Hartmut Hangen](#), Victor Poberezhnyi, Hans Verbraken, Melvin Jimenez, Rob Demeersman
- 09:06 **A DEM study on the effects of particle angularity on the deformation and degradation behaviour of railway ballast**
Jing Chen, [Buddhima Indraratna](#), Trung Ngo, Pramod Thakur
- 09:18 **An innovative data-driven hybrid methodology for reliable prediction of rail track deformation**
Ana Ramos, [António Gomes Correia](#), Kourosh Nasrollahi, Jens C O Nielsen, Rui Calçada
- 09:30 **Geotechnical engineering for port structures built in the Port of Barcelona since the 15th century**
[Dani Tarragó](#), Antonio Gens

TH-04 Transportation II

Chairs: Mike G Winter, António Gomes Correia

Room M2

08:30 - 10:30

- 09:42 **Data-Driven Surrogate Modeling for Thermo-Active Road Design**
[Taher Ghalandari](#), David M.G Taborda, Cedric Vuze
- 09:54 **Seasonal features of temperature and moisture distribution in pavements and subgrade of highways in the South Kazakhstan**
[Bagdat Teltayev](#), Yerbol Aitbayev, Azamat Zhaisanbayev, Aizhan Muta, Umir Kalybayev
- 10:06 **Strength evaluation of limestone powder waste stabilized with cement using the needle penetration test**
[José Luis Pastor](#), Erick Gutiérrez, Miguel Cano, Ryohei Ishikura
- 10:18 **Development of a Method for Laying Geosynthetics in the Base Course with Consideration for the Long Service Life of Asphalt Pavements**
[Kenichi Sato](#), Takuro Fujikawa, Chikashi Koga, Yusaku Isobe

TH-05 Underground Construction & Megacities & Historic Sites

Chair: Alessandro Flora

Room N1

08:30 - 10:30

- 08:30 **Understanding the role of overburden pressure and temperature gradients in the freeze-thaw behavior of silty sand for ground freezing applications**
[Zeina JOUDIEH](#), Olivier CUISINIER, Adel ABDALLAH, Farimah MASROURI
- 08:42 **Sensitivity analysis of building features on damage induced by shallow tunnelling in soft ground**
Hozafa Khalid Eltahir Ahmed, Marialuigia Sangirardi, [Emilio Bilotta](#)
- 08:54 **MT-InSAR monitoring of deep excavations: a feasibility study of analytical kinematic constraints to assess three-dimensional surface movements.**
[Adriana Hernandez-Guardado](#), Diego Reale, Gianfranco Nicodemo, Dario Peduto, Francesco Petrella, Andrea Franza
- 09:06 **Optimising baseline monitoring to understand the timing, magnitude, and direction of seasonal movement of assets – a review of recent experience from a major infrastructure project**
[Fiona Hughes](#), Peter Ingram, Phil Allvey, Sarah Duckworth, Enric Cruzate, Mark Lemmon
- 09:18 **Frost action on supporting structures**
[Per-Anders Hermanrud](#), Egil Monsås, Stefan Ritter
- 09:30 **Assessment of the effects induced by mechanised tunnelling on masonry buildings in the urban area of Rome**
Valerio Guglielmotti, [Domenico Gaudio](#), Sebastiano Rampello
- 09:42 **Monitoring regional subsidence in Metropolitan Cathedral in Mexico City for its preservation as an architectural monument**
Rentat Alejandra Gonzalez Rodriguez, Efraín Ovando Shelly, [Alexandra Ossa López](#)

TH-05 Underground Construction & Megacities & Historic Sites

Chair: Alessandro Flora

Room N1

08:30 - 10:30

- 09:54** Frozen retaining structure (Berlin shoring with ice-infill) for inner city construction pit, Sturegalleria/Stockholm
Christoph Haidenthaler, Andrea Servetto, Robin Tvrdek
- 10:06** Interconnection section between Lisbon new metro line and the terminus of the existing metro line
Pedro Marques, Carlos Martins, Catarina Fartaria, Rui Tomásio, Alexandre Pinto
- 10:18** Evaluation of bearing capacity of conical foundations and conical models with a pile stand near the undermining territories
Askar Zhussupbekov, Baurzhan Bazarov, Assel Sarsembayeva, Fayzulla Ikramov, Aslan Zhussupbekov

TH-06 Young Engineers III

Chairs: Haris Felic, Andreas-Nizar Granitzer

Room N2

08:30 - 10:30

- 08:30** Effect of the construction of a shallow tunnel on surficial foundations in soft soil
Dario Augusto ARMENDÁRIZ, Marco Antonio PÉREZ, Rodrigo Artemio RODRÍGUEZ, Carlos Eduardo SÁNCHEZ, Gabriel AUVINET
- 08:42** Application of a quantitative goodness-of-fit criterion for pore pressure simulations during liquefaction behavior
Catherine Jiang, Liam Wotherspoon, Andy O'Sullivan
- 08:54** The Stone Column for Soil Liquefaction Mitigation Study: The Yogyakarta-Bawen Toll Road Section I & II Case
Paulus Kevin
- 09:06** Impact of subsurface urban heat islands on the performance of pile foundations
Giulia Capati, Diana Salciarini, Alessandro F. Rotta Loria
- 09:18** Comparative Assessment of Constitutive Models for Hydrate-bearing Sediments using Triaxial Compression Experiments
Mahima S Rao, Sahil Wani, Ramesh Kannan Kandasami
- 09:30** The effect of sand grading on cyclic resistance under direct simple shear
Yue Sun, Bruno Stuyts, Wim Haegeman
- 09:42** Groundwater control for the construction of a railway box culvert
George French, Stephen Thomas
- 09:54** The Importance of Unloading in Modelling Drained Cone Penetration Test
Xingyi Wu, Mason Ghafghazi, Yinghui Tian, Shiao Huey Chow, João Paulo de Sousa Silva
- 10:06** Enhancing cement-treated soil strength with short fibers: effectiveness and potential for cement reduction
Jakhongirbek Ganiev, Yasumasa Sotokoba, Shigeki Kinoshita, Masaki Nakano

TH-06 Young Engineers III

Chairs: Haris Felic, Andreas-Nizar Granitzer

Room N2

08:30 - 10:30

- 10:18** Hexavalent chromium suppression from wet carbonated recycled concrete aggregates using granulated blast furnace slag
Jumana Hussary, Ryohei Ishikura, Noriyuki Yasufuku

TH-07 Miscellaneous

Chair: Barbara Schneider-Muntau

Room 1.61_62

08:30 - 10:30

- 08:30** Digital twins for flood defense systems a case study in Amsterdam-Rhine Canal
Eleni Smyrniou, Kin Sun Lam, Antonis Mavritsakis, Stefan de Graaf, Brian de Vogel, Henk Scholten, Linneke van der Veen
- 08:42** Design concept for technical-biological bank protection measures at German waterways
Oliver Stelzer, Carolin Gesing, Volker Schlüter
- 08:54** Experimental and numerical investigation of concentrated leak erosion in unsaturated slopes
Jack Montgomery, Olaniyi Afolayan, Anna Lancaster, Leila Rahimikhameneh
- 09:06** A study on rapid diagnosis method for river bridge pier damaged by local scour
Susumu Nakajima
- 09:18** Numerical modelling of ground freezing - An overview
Heiko Neher, Christoph Niklasch, Christian Perl
- 09:30** Estimating frost depth using probabilistic analysis based on regional measurements
Tomasz Godlewski, Marcin Witowski, Łukasz Wodzyński, Mikołaj Grzybowski
- 09:42** Implementation of innovative teaching methods in geotechnical engineering education via a collaborative teaching network
Ansgar Kirsch, Katharina Kluge, Christoph Budach
- 09:54** Geotechnical design: "when it all began"
Jean-David VERNHES, Bassam BARAKAT, Philippe REIFFSTECK, Jean-Bernard KOVARIK, Jean-Pierre MAGNAN
- 10:06** Holistic analysis methods used to support education in geotechnical engineering: tunnel stability
Binh Thanh Le, Sam Divall, Sarah E Stallebrass, R Neil Taylor

TH-08 Sustainability

Chairs: Md Mizanur Rahman, Nuno Cristelo

Room 1.85_86

08:30 - 10:30

- 08:30** French working group on adaptation of geotechnical structures to climate change – Towards recommendations for owners and geotechnical designers
Isabelle HALFON, Grégory MEYER, Anh-Minh TANG, Umur OKYAY, Yasmina BOUSSAFIR, Samuel HEUMEZ, Sabrina PERLO

TH-08 Sustainability

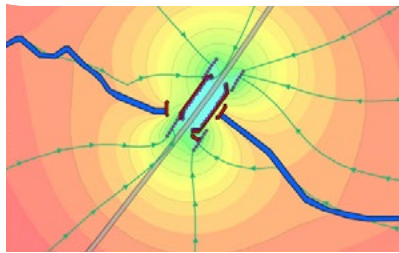
Chairs: Md Mizanur Rahman, Nuno Cristelo
Room 1.85_86
08:30 - 10:30

- 08:42 **The mechanical behaviour of a novel, sustainable foundation made of stone aggregates under vertical compressive loading**
Edgar Ferro, Renato Gjinaj, **Lucia Simeoni**
- 08:54 **Shear strength and stiffness characteristics of sands treated with biopolymer and enzyme-induced calcium carbonate precipitation: A comparative study**
Suhyuk Park, Dongcheon Lee, Saebom Kim, Ilhan Chang
- 09:06 **Strategies for geotechnical engineers to minimise environmental footprints of projects: from decision-support tools to innovative approaches**
Jasmine Targhaoui, Charles Bernuy
- 09:18 **CLARION Project: Smart & sustainable climate resilient Quay Walls**
Alfred Roubos, Luca Flessatie, Ozan Alver, Ken Gavin
- 09:30 **Optimizing the carbon footprint: Theoretical approaches and practical insights from a construction site case study**
Timo Ackermann, Thomas Kirchmaier, Alexander Zöhrer
- 09:42 **Influence of Atmospheric Conditions on the Structural Evolution and Mechanical Behaviour of Mine Tailings**
João Pedro S. V. Oliveira, Paulo A. L. F. Coelho, Luis M. Araújo Santos, Joana Ribeiro, António M. G. Pedro, David M. G. Taborda
- 09:54 **Geotechnical characterisation of Mg-hydroxy-interlayered smectite: a potential sustainable solution for soil stabilisation**
Wolfgang Jan Zucha, Ellina Bernard, **Michael Plötze**, Jonas Ackermann, Mateusz Wyrkowski, Puzrin Alexander
- 10:06 **Life Cycle Assessment of Wicking Geotextile for Pavements: A Case Study Approach**
Shanmukha Sai Avinash Gonnabathula, Puneet Bhaskar, Anand J. Puppala
- 10:18 **The efficiency of seismic geotechnical isolation configurations including soil-rubber mixtures for a bell tower in southern Italy**
Glenda Abate, **Angela Fiamingo**



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ICSMGE 2026 WORKSHOPS

MONDAY JUNE 15, 2026

14:00-16:00

TC 219 WORKSHOP: PERFORMANCE-BASED DESIGN IN GEOTECHNICAL ENGINEERING

Room 1.14

TC 218 WORKSHOP, IN COLLABORATION WITH IGS TC REINFORCEMENT: REINFORCED FILL STRUCTURES

Room 1.34

TC 307/TC202 JOINT WORKSHOP: SUSTAINABILITY AND TRANSPORTATION GEOTECHNICS FOR CIVIL INFRASTRUCTURE – I

Room L1

16:30-18:00

TC 221 WORKSHOP: SEISMIC STABILITY OF TAILINGS DAMS

Room 1.14

TC 105 WORKSHOP: GEOMECHANICS FROM MICRO TO ENGINEERING

Room 1.34

TC 106 WORKSHOP: DURABILITY OF TREATED GEOMATERIALS: ROLE OF SOIL-ATMOSPHERE INTERACTION

Room L1

TUESDAY JUNE 16, 2026

13:45-15:45

SC7 WORKSHOP: DESIGN AND VERIFICATION OF GEOTECHNICAL STRUCTURES – 2ND GENERATION EUROCODE 7 – WHAT'S NEW

Room 1.14

TC 205 WORKSHOP: SAFETY AND SERVICEABILITY IN GEOTECHNICAL DESIGN

Room 1.34

TC 307/TC202 JOINT WORKSHOP: SUSTAINABILITY AND TRANSPORTATION GEOTECHNICS FOR CIVIL INFRASTRUCTURE – II

Room L1

16:15-17:45

TC 308 WORKSHOP: ENERGY GEOTECHNICS

Room 1.14

TC 220 WORKSHOP 1: ENHANCING COLLABORATION AMONG INTERNATIONAL TECHNICAL COMMITTEES

Room 1.34

TC 206 WORKSHOP: ACHIEVING AGREEMENT TO USE THE OM AND RTBA

Room L1

WEDNESDAY JUNE 17, 2026

13:45-15:45

SC7 WORKSHOP: DESIGN OF GEOTECHNICAL STRUCTURES ACROSS THE WORLD: EUROCODE 7 AND OTHER INTERNATIONAL STANDARDS

Room 1.14

TC204, TC222, AND TC309 JOINT WORKSHOP: FROM CASE HISTORIES TO DATA-DRIVEN GUIDELINES – LEVERAGING PROJECT DATA

Room 1.34

TC102/203 JOINT WORKSHOP: SITE CHARACTERIZATION FOR EARTHQUAKE ENGINEERING

Room L1

16:15-17:45

TC 215 WORKSHOP: THE ROLE OF ENVIRONMENTAL GEOTECHNICS IN ADDRESSING EMERGING GLOBAL CHALLENGES

Room 1.14

TC 302 WORKSHOP: FORENSIC GEOTECHNICAL ENGINEERING

Room 1.34

THURSDAY JUNE 18, 2026

08:30-10:30

TC 221 WORKSHOP: UNDRAINED STRENGTH AND STABILITY ANALYSIS OF TSFS

Room 1.14

TC 220 WORKSHOP 2: ADVANCING EDUCATION AND TRAINING IN FIELD MONITORING FOR GEOMECHANICS

Room 1.34

TC 211 WORKSHOP: RIGID INCLUSIONS

Room L1

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TC 219 Workshop: Performance-based Design in Geotechnical Engineering	
Chair: Gang Zheng, Tianjin University, China	
Room 1.14	
14:00 - 16:00	
14:00	Opening and Introduction
14:02	Progressive failure of composite ground supported embankment and performance Gang Zheng, Tianjin University
14:30	Considering most probable, cautious and most unfavorable conditions in geotechnical design Kenichi Soga, UC Berkeley
15:00	Monitoring, control and back-analysis of the impact of shallow tunnelling in urban built Emilio Bilotta, University of Naples Federico II
15:30	A Cross-System Cascade-to-Recovery Framework for Resilient Underground Infrastructure Under Extreme Flooding Dongmei Zhang, Tongji University

DESCRIPTION:

Resilient cities and societies are significantly required for modern cities, social security, and sustainable development. However, lots of structures in geotechnical and underground engineering are of low resilience due to the uncertainties of soil properties and the surcharges, and the complex interaction between soil-water-structures. The damage accidents or even progressive collapse accidents happened from time to time in deep excavation, shield tunnel, pile foundation, and embankment projects all over the world. This workshop examines the recent studies and developments of resilience design in geotechnical engineering. The progressive collapses in the deep excavation engineering, underground engineering, shield tunnels, and embankment engineering are taken as examples to discuss the existing research studies on the resilience design to provide references for establishing design theories and frameworks.

SPEAKERS BIOGRAPHY:

Dr Gang ZHENG, *Tianjin University, China*



Prof Gang Zheng is a distinguished professor and vice president of Tianjin University. He is appointed as a Changjiang Scholar Distinguished Professor by the Ministry of Education, and selected as the National special support program for high-level personnel recruitment. His research focuses on deformation and overall safety control of geotechnical and underground engineering based on system performance. He leads the Major Civil Engineering Safety and Disaster Prevention Innovation Team of the Ministry of Science and Technology and serves as the Chair of the TC 219 of ISSMGE. He has received one First-class and Second-class of the National Science and Technology Progress Award, China, and eight Special Prizes and First-class Prizes at the provincial and ministerial levels.**Dr. Kenichi SOGA**, *UC Berkeley, USA*

Dr. Kenichi SOGA, *UC Berkeley, USA*



Kenichi Soga is the Donald H. McLaughlin Professor in Mineral Engineering and a Distinguished Professor of Civil and Environmental Engineering at UC Berkeley. He is the director of the Berkeley Center for Smart Infrastructure. His research focuses on infrastructure sensing, performance-based design and maintenance of infrastructure, energy geotechnics, and geomechanics from micro to macro. He has published more than 500 journal and conference papers and is the co-author of "Fundamentals of Soil Behavior" with Professors James K Mitchell and Catherine O'Sullivan. He is a member of the National Academy of Engineering, a fellow of the UK Royal Academy of Engineering, the Institution of Civil Engineers (ICE), the American Society of Civil Engineers (ASCE), and the Engineering Academy of Japan. He has received several notable awards, including the George Stephenson Medal and Telford Gold Medal from ICE in 2006, the Walter L. Huber Civil Engineering Research Prize from ASCE in 2007, the 63rd Rankine lecture in 2025, ASCE Peck lecture in 2026 and the UCB Bakar Prize for his work on commercializing smart infrastructure technologies in 2022.

Dr. Emilio BILOTTA, *University of Naples Federico II*



Emilio Bilotta is professor in Geotechnical Engineering at the University of Napoli Federico II (Italy). His main research interests concern tunnelling in urban areas, tunnels under seismic actions and ground improvement for seismic mitigation. He is author of more than 160 papers in peer reviewed journals and conferences. He is member of the Technical Committees TC 104 (Physical Modelling in Geotechnics) and TC 219 (System Performance of Geotechnical Structures) of the ISSMGE and editor of the Handbook on Tunnels and Underground Works. He is vice-editor in chief of the journal of the Italian geotechnical society Rivista Italiana di Geotecnica and editorial board member of the international journals Tunnelling and Underground Space Technology and Underground Space. He is actively involved in technology transfer as founder of a spin-off for innovative solutions in ground improvement and geotechnical engineering (Smart-G).

Dr. Dongmei ZHANG, *Tongji University, China*



Professor Zhang is the distinguished professor in the field of tunnel and underground engineering at Tongji University. Her primary research interests include the performance evolution, safety assessment and control for shield tunnel in soft soils. She is the author of over 180 research papers published in leading peer-reviewed journals and proceedings. She has won the First-class of Shanghai Science and Technology Award 2017 and 2023, the Second-class of National Science and Technology Award in 2008. She was selected as National special support program for high-level personnel recruitment.

TC 218 Workshop, in collaboration with IGS TC Reinforcement –Reinforced Fill Structures

Chair:

Room 1,34

14:00 – 16:00

- **Updates from ISSMGE TC 218 and IGS TC Reinforcement**
- **Presentations by the Marginal / Alternative Fills Subcommittee**
 - Aníbal Moncada Ramirez / Ivan P. Damians: **Pullout Response of Polyester Strap Reinforcements and Reclaimed Asphalt Pavement (RAP): Influence of Confinement and Environmental Conditions**
 - Castorina Vieira: **Use of Recycled Construction and Demolition Wastes as Backfill in Geosynthetic-Reinforced Soil Structures**
 - Oliver Detert: **Marginal Soils as Fill Material: Turning Environmental Challenges into Economic Opportunities**
 - Erol Guler: **Centrifuge and shaking table test results analysing MSE walls using clay backfill**
- **Presentations by the Bridge Abutments Subcommittee**
 - Lars Vollmert / Waldemar Pauls: **Large-Scale Trials and European Experience with Geosynthetic-Reinforced Bridge Abutments: QA and Construction Requirements**
 - Nicolas Freitag: **Integral Bridges on Load-Carrying MSE Abutments: Theory and Practice**
 - Richard Bathurst: **Design of Geosynthetic MSE Walls Supporting Bridge Abutment Footings Using the Stiffness Method**
 - Yewei Zheng: **Seismic Response and Performance Evaluation of GRS Bridge Abutments**
 - Mitul Dalwadi: **Load-Carrying Reinforced Soil Bridge Abutments – Integral and Semi-Integral Bridges: Design and Construction with UK Experience (Including Carbon Assessment)**

TC307/TC202 Joint Workshop: Sustainability and Transportation Geotechnics for Civil Infrastructure – I

Chair: Anand Puppala (TC307), Mike Winter (TC202)

Room L1

14:00 – 16:00

- | | |
|-------|---|
| 14:00 | Recovered Carbon Black (rCB) as a sustainable alternative to traditional stabilisers: A comparative study on stabilisation of highly expansive subgrade soil
Gayan Gedara, Dean Waschl, Chaminda Gallage, Jothi Ramanujam, Meera Creagh |
| 14:12 | Geotechnical sustainability through biocementation
Mizanur Rahman |
| 14:24 | Biochar-enhanced Self Compacting Material for Sustainable Road Base Construction: Mechanistic-empirical Performances, Field measurement, and Life Cycle Assessment
Thanon Bualuang, Peerapong Jitsangiam |
| 14:36 | GroundIQ: Reducing Uncertainty and Carbon in Geotechnical Design Through Digital Intelligence
Niels Walrave |
| 14:48 | Challenges in design of retaining system for a deep underground station box in Sydney, Australia
Bora Okumusoglu, Sujatha Manoj, Pawel Kozak, Harry Poulos |

TC307/TC202 Joint Workshop: Sustainability and Transportation Geotechnics for Civil Infrastructure – I

Chair: Anand Puppala (TC307), Mike Winter (TC202)

Room L1

14:00 – 16:00

- | | |
|-------|---|
| 15:00 | Physics-Based Time-of-Failure Prediction of Slopes for Climate Adaptation and Sustainability
Akanksha Tyagi |
| 15:12 | Geotechnical site assessment for ageing railway networks
Elliot James Fern |
| 15:24 | Turning problematic ground into opportunity: Sustainable Geotechnical Strategies for Reactive Shale and Complex Soils
Dongli Zhu |
| 15:36 | Real-Scale Investigation of the Washboard Phenomenon on Unpaved Roads
Laura Ibagón, Bernardo Caicedo, Juan P. Villacreses |
| 15:48 | Sustainability assessment of geotechnical structures within the framework of the 2nd generation of Eurocode-7
Anibal Moncada, Ivan P. Damians, Sebastià Olivella, Richard J. Bathurst |

TC 221 Workshop: Seismic stability of tailings dams

Chair: Jorge Macedo

Room 1.14

16:30 – 18:00

- | | |
|-------|---|
| 16:30 | On the probability of failure of tailings dams by flow liquefaction considering combined triggers
Lisandro Agustin Roldan, Florencia Lucia Spinazzola, Mauro Giuliano Sottile, Alejo Oscar Sfriso |
| 16:40 | Flow failure analysis of tailings dams
Ramon Verdugo |
| 16:50 | Effect of stress induced anisotropy on the undrained behaviour of coal mine waste geo-materials (CMWGs)
Hamed Taghavizade, Mohammad Rezanian |
| 17:00 | Representative geotechnical parameters of Chilean copper tailings and the calibration of PM4Sand and NorSand constitutive models
Jethro Ulaia, Diego Pavez, Emilio López |
| 17:10 | Evaluation of inter-site variability of NorSand calibrations and advancing screening level assessment of state parameter for platinum tailings dams in Southern Africa
Gregory Darren Mc Donald, Pieter Francios Oelofse, Bryce A. Marcotte, Nika Lizete Marques Mincione, Tinus Grobler, Dmitri Bohach |
| 17:20 | State parameter and undrained residual shear strength ratio of copper sand tailings using SCPTu calibrated with laboratory tests
Guillermo González, José Campaña, Ramón Verdugo |
| 17:30 | Dynamic behavior and liquefaction assessment of silver and gold tailings using cyclic direct simple shear (Cyclic DSS) tests and 1d nonlinear site response analysis
Carlos Omar Vargas-Moreno, Jorge Bricio Guillén-Guillén, Ruben Reyes-Hernández |
| 17:40 | Questions / Answers - Discussion |

TC105 Workshop: Geomechanics from Micro to Engineering	
Chair: Jinhyun Choo (Seoul National University), Catherine O'Sullivan (Imperial College London)	
Room 1.34 16:30 - 18:00	
16:30	Opening remarks
16:35	Effect of principal stress axis rotation on the thermal conductivity of granular materials Wenbin Fei, Fei Wang
16:50	Effect of anisotropy on thermally-induced strains of kaolin clay Angela Casarella, Alessandro Tarantino , Alice Di Donna
17:05	Multiscale Assessment of the Interface Shear Behavior Between Snakeskin-Inspired Surfaces and Coarse-Grained Soils Damon Nguyen, Alejandro Martinez
17:20	DEM modelling of OE pile installation in soft crushable rocks Matteo Ciantia, Jinhui Zheng
17:35	Moderated discussion on exploiting experimental and numerical research in micro-soil mechanics to develop solutions in geotechnical engineering
TC106 Workshop: Durability of treated geomaterials: Role of Soil–Atmosphere Interaction	
Chair: Enrique Romero	
Room L1 16:30 - 18:00	
16:30	Opening remarks Akbar Javadi
16:35	Opening by the TC106 Chair Enrique Romero
16:40	Unsaturated soil mechanics framework for predicting the long-term behaviour of treated geomaterials under atmospheric actions Nasser Khalili
16:52	Soil–atmosphere interactions and their role in the hydro-mechanical behaviour of unsaturated geomaterials Bernardo Caicedo
17:04	Suction evolution during curing as a method to monitor reactions in treated soils Adel Abdallah
17:16	Effect of wetting and drying cycles in the behaviour of stabilized geomaterials Sara Rios
17:28	Drying processes and reuse of excavated soils from mechanized tunnelling Giacomo Russo
17:40	Reuse of Waste Geomaterials in Engineered Cover Systems: Opportunities for Responsible Mine Closure Thomas Pabst
17:52	Final discussion and closing remarks

The shift of the civil engineering sector toward circular economy practices increasingly promotes the reuse of geomaterials generated by excavation and construction activities. These materials are commonly subjected to treatment processes aimed at enhancing their physical and mechanical properties, making them suitable for re-integration into construction projects. Ensuring their long-term durability, however, remains a critical challenge, as their performance over time is significantly influenced by their interaction with the surrounding atmosphere. In this context, soil–atmosphere interaction processes play a key role in governing the hydro-thermo-chemo-mechanical behavior of treated geomaterials.

Exchanges of moisture, heat, and gases at the ground surface—regulated by atmospheric conditions—induce variations in matric suction, degree of saturation, and chemical reactions and transport processes within the pore system. These coupled mechanisms, including evaporation and infiltration, carbonation due to atmospheric CO₂, and temperature fluctuations, interact and jointly drive the progressive evolution of material properties over time.

Durability of treated materials should therefore be regarded as the result of coupled multi-physical processes influenced by atmospheric boundary conditions. These processes are associated with degradation mechanisms, including physical weathering, cyclic wetting and drying, freezing and thawing cycles, and mechanical damage, all of which can progressively modify the microstructure and mechanical behavior of the material.

These effects are further influenced by climate change, which intensifies environmental loads such as rainfall variability, temperature fluctuations, and extreme weather events. As a result, the resilience of treated geomaterials to atmospheric actions becomes an important factor for long-term performance. In this context, atmospheric boundary conditions govern transient variations in matric suction and degree of saturation, which in turn control the effective stress state and the hydraulic regime of the material. The resulting hydro-mechanical coupling, commonly described through the soil–water retention curve and hydraulic conductivity functions, directly influences stiffness, shear strength, and the evolution of damage and degradation processes over time.

This workshop aims to provide a dedicated forum to discuss current knowledge, methodological approaches, and open challenges related to the durability of treated geomaterials, with particular attention to soil–atmosphere interaction processes. Particular attention will be given to materials improved through stabilization techniques and reused in earthworks, embankments, and other civil engineering applications. Key topics will include coupled hydro-thermo-chemo-mechanical processes, experimental observations across multiple scales—from microstructural to field scale—laboratory and in-situ testing methods that account for atmospheric boundary conditions, performance-based design approaches, and case studies from research and practice.

By bringing together researchers, engineers, and industry stakeholders, the workshop seeks to stimulate interdisciplinary discussion and promote the exchange of experiences and best practices. The ultimate goal is to contribute to the development of reliable frameworks and shared approaches for assessing durability, accounting for soil–atmosphere interactions, and ensuring the safe and sustainable reuse of treated geomaterials in civil engineering construction.

ICSMGE SC7 Workshop 1: Design and verification of geotechnical structures – 2nd generation Eurocode 7 – what’s new
 Chair:
 Room 1.14
 13:45 – 15:45

The 2nd-generation Eurocode 7 has been published, and within less than 2 years, it will replace the 1st-generation Eurocode 7. The preparation of the 2nd generation has involved numerous geotechnical engineers across Europe, who have contributed their time and expertise. The outcome is an updated framework for geotechnical design and verification, with improved ease of use and the addition of several key aspects and geotechnical structures. It is now a comprehensive framework for geotechnical engineers who use rock and soil as their building materials to create safe, functional, durable, and robust structures for a sustainable future.

This workshop will provide a comprehensive overview of the 2nd generation of Eurocode, with a focus on the key changes and additions. The discussion will focus on:

- What are the key changes and additions compared to the 1st generation?
- What are the motivations for the changes, and what value do they add?

Chair CEN TC250 SC7 Gunilla Franzén
 Vice Chair CEN TC250 SC7 Loretta Batali
 Vice Chair CEN TC250 SC7 Sébastien Burlon

G. Franzén, L. Batali, S. Burlon.
Overview
D. Hard, H. Garin
From ground investigation to implementation of design, with the Ground Model as a tool
G. Franzén, L. Batali
Geotechnical reliability and Representative value
S. Burlon.
Verification of limit state: use of partial factor and prescriptive methods
T. Schweckendeik, M. Korff
Verification of limit state: Reliability-based methods and the Observational Method.
J. Estaire, W. Bogusz, A. Bond
Verification of serviceability limit states
C. Smith, H. Walter
Numerical modelling of action effect factoring in geotechnical design to Eurocode 7
L. Lamas, R. Pereira, D. Virely, J. Estaire, N. Maca, P. Pinto, W. Boguzs,
Implementing rock
C. Moormann, K. Lesney
Foundation
A. Bond, K. Dietz, T. Jeanmarie
Reinforcing the ground – EN 1997-3, 7 Retaining structures and EN 1997-3, 8 Anchors

N. Denies, Bohn, Cecilia, P. Pandrea, M. Topolnicki, C. Plomteux, K. Trybocka
Ground improvement
 N. Maca, G. Bräu
Reinforcing the ground or engineered fill

TC 205 Workshop: Safety and Serviceability in Geotechnical Design
 Chair: Richard J. Bathurst, Royal Military College of Canada
 Room 1.34
 13:45 – 15:45

13:45	LRFD calibration of MSE wall limit states in new 2025 Canadian Highway Bridge Design Code Richard J. Bathurst
14:00	Numerical methods in Eurocode 7 Colin Smith
14:15	Reliability level achieved in limit state design of geotechnical structures following the design approaches provided in 2nd generation Eurocode 7 Kerstin Lesny
14:30	Proper Winkler spring stiffness distribution for the design of mat foundations Dimitrios Loukidis
14:45	Erosion protection for offshore wind turbine foundations using structurally cemented riprap Gang Wang
15:00	Zaldibar landfill collapse: a recent example on the geohazards imposed by operational activities (Or how design changes can have large unexpected consequences) Rafael Jimenez
15:15	Utilising random fields for developing reliable engineering geological models Joanna Pieczyńska-Kozłowska
15:30	Open Discussion

TC307/TC202 Joint Workshop: Sustainability and Transportation Geotechnics for Civil Infrastructure – II
 Chair: Tatsuya Ishikawa (TC202), Nuno Cristelo (TC307)
 Room L1
 13:45 – 15:45

13:45	Sustainability solutions for the Fv. 770 road project in Norway related to ground stabilisation in areas prone to quick clay Anuj Thapa Magar, Johannes Gaspar Holten, Åsmund Elgvasslien, Helene Alexandra Amundsen
13:57	The consideration of live loading in the design and assessment of earth structures Paul Antoni Nowak
14:09	Environmental sustainability - strategic geotechnical optimisation & efficiency for the delivery of resilient high-speed rail infrastructure in the UK Ouarda Boumendjel-Game, Joe Chappell, Gerhard Schulz, Simon Butler

TC307/TC202 Joint Workshop: Sustainability and Transportation Geotechnics for Civil Infrastructure – II

Chair: Tatsuya Ishikawa (TC202), Nuno Cristelo (TC307)

Room L1

13:45 - 15:45

- | | |
|-------|---|
| 14:21 | Value engineering creation with steel sheet pile bridge abutments
Daniel Neto |
| 14:33 | Contribution of thermally activated geotechnical structures to sustainable development
Claudia Klotz, Tomas Vardijan, Barbara Spuler |
| 14:45 | Toward an optimized trackbed design using geogrids
Marine Dangeard, Olatoundé, Alexandre Yaba, Amine Dhemaied, Ombeline Forest |
| 14:57 | An investigation of cement treated clay subjected to cyclic wetting and drying degradation: Influence of compaction conditions
Kyle Parr, Jianxin Huang, Jeb S. Tingle, Anand J. Puppala |
| 15:09 | Le projet ANR E-PILOT : études expérimentales et numériques en statique et en dynamique des interactions tunnelier-fondations profondes
Alain Le Kouby, Emmanuel Bourgeois, Luc Thorel, Nicolas Berthoz, Hussein Mroueh, Luca Lenti |
| 15:21 | Use of waste marine clay as alternative to bentonite for coastal seepage cut-off wall construction: a sustainable and economical solution to prevent seawater intrusion
Yaolin Yi |
| 15:33 | Structural Integrity Characterization of Chemically Stabilized Full-Depth Reclamation Base Layers
Nazmus Sakib Ahmed, Halil Ceylan, Sunghwan Kim |

TC308 Workshop: Energy Geotechnics

Chair

Room: 1.14

16:15–17:45

16:15 - 16:17 **Welcome & overview (Chair / TC leadership)**

16:17 - 17:05 **Interactive session**

Bridging research and practice
A short exchange between academia and industry on implementation challenges, especially for large-scale applications (geothermal, storage, infrastructure). Aim: foster discussion/future industry-research collaborations.

"Future Challenges in Energy Geotechnics" – interactive segment
16:30 - 16:45 A short introduction followed by live audience input (via Mentimeter), asking: What will be the key energy challenge in 10–20 years?

TC308 Workshop: Energy Geotechnics

Chair

Room: 1.14

16:15–17:45

Short "vision pitches" (3–4 min each)

Briefly present a bold idea, ongoing research tackling it or open research question. This is to keeps the pace and encourage discussion.

- McCartney, John S. (428 Thermal volume change behavior of compacted granular bentonite under high temperature, by Liu, Xufei; Behbehani, Fatemah; Lu, Yu; McCartney, John S.

- Sfriso, Alejo Oscar. Vision pitch

16:45 - 17:05 - Greenwald Khudadadi. (1334 Modeling geometrical effects on the mechanics of underground gas reservoir, by G Khudadadi, Chen Rotem; Pinkert, Shmulik.

- Leung, Anthony. (1167) Numerical simulation of driven and bored energy piles in sand under cyclic thermal loading, by Sun, Bo; Shi, Chao; Leung, Anthony; Sun, Bo)

- Pereira, Jean-Michel (1101 Thermo-mechanical response of hydronic asphalt pavement under heating and cooling operations, by Ghalandari, Taher; Tang, Anh Minh; Pereira, Jean-Michel; Vuys, Cedric)

17:05 - 17:10 **TC308 GIS Platform showcase & call for contributions**

17:10 - 17:45 **TC308 Energy Geotechnics committee meeting**

TC220 Workshop 1: Enhancing Collaboration Among International Technical Committees

Chair:

Room 1.34

16:15 - 17:45

Theme: Integration and strategic alignment

Objectives:

- Provide an opportunity for all TC's to gather and create connections for future collaboration
- Improve communication and collaboration between TC220 and related technical committees (e.g., instrumentation, data interpretation, slope engineering, underground works).
- Identify overlapping themes and joint research or guideline development opportunities.
- Develop a framework for co-organized activities, symposia/conference sessions and information exchange.

TC206 Workshop: Achieving Agreement to use the OM and RTBA

Chair: Tony O'Brien, Franz Tschuchnigg

Room L1

16:15 - 17:45

16:15 - 16:20
Welcome & Introduction
(Duncan Nicholson)

16:20 - 16:50
What Does the OM need to Succeed
(Chair: Tony O'Brien)

16:20 - 16:22
Introduction
Tony O'Brien, Mott MacDonald

16:22 - 16:32
Achieving Agreement to Use the OM
Hock Liong Liew, Mott MacDonald

16:32 - 16:40
From Contracts to Codes – what else does the OM need to Succeed?
Tony O'Brien, Mott MacDonald

16:40 - 16:50
Discussion

16:50 - 17:40
RTBA
(Chair: Franz Tschuchnigg)

16:50 - 17:04
Introduction to Real-Time Back Analysis and recent developments
Franz Tschuchnigg, Institute of Soil Mechanics, Foundation Engineering and Computational Geotechnics, Graz University of Technology

17:04 - 17:16
Back analysis of the Old Oak Common box using surrogate models
Yunxiang Yang, Imperial College London

17:16 - 17:28
Back analysis of a deep excavation - insights from manual and machine learning approaches
Ying Chen, Transport for London

17:28 - 17:40
Near Real-Time Back Analysis to support the application of the Observational Method on High Speed Two retaining structures
Natalie Wride, Mott MacDonald

17:40 - 17:45
Closing
(Duncan Nicholson)

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Graz, Steiermark



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ICSMGE SC7 Workshop 2: Design of geotechnical structures across the world: Eurocode 7 and other international standards
 Room 1.14
 13:45 - 15:45

Chair CEN TC250 SC7 Gunilla Franzén
 Vice Chair CEN TC250 SC7 Loretta Batali
 Vice Chair CEN TC250 SC7 Sébastien Burlon

Various sets of standards are used worldwide for the design and verification of geotechnical structures. The objective of this workshop is to present the similarities and the differences between these standards and better understand their pros and cons. Based on the experiences of geotechnical experts from different continents, various topics will be addressed: ground properties selection, calibration of partial factors, benefits and drawbacks of design approaches (LRFD, RFA, MFA, etc.), use of reliability-based-design, practice of numerical modelling, scope of these different standards, etc. Some design examples using Eurocode 7 will be also presented and discussed in order to illustrate its use outside Europe.

The discussion will focus on:

- What are the similarities and differences between some of the main standards, and hence the pros and cons?
- Looking at an international perspective, what are the benefits of applying Eurocode 7?
- What are the challenges and possibilities of using Eurocode outside Europe?
- What are the future features of an international standard?

Similarities and differences in international standards	Who
Welcome – Objectives of this workshop	Chairs
Overview of practices in Hong-Kong – Reliability-based methods, partial factors and other traditional safety approaches	Prof. Limin Zhang
Canada – Overview of the Canadian Codes – Calibration of partial factors and consequence factors	Prof. Richard J. Bathurst
Argentina and Latin America – Overview of standards used for geotechnical design throughout Latin America	Dr. Alejo O. Sfriso
Singapore and Southeast Asia – Overview of standards used for geotechnical design throughout Southeast Asia	Associate Professor Dr. Darren Chian Siau Chen
United Arab Emirates and Middle East – Overview of standards used for geotechnical design throughout Middle East	Prof.Dr.-Ing. Marwan Alzaylaie
Africa – Overview of standards used for geotechnical design throughout Africa	To be defined
Discussion and other questions – The potential of using Eurocode and other standards	Chairs

TC204, TC222, and TC309 Joint Workshop: From Case Histories to Data-Driven Guidelines – Leveraging Project Data
 Room 1.34
 13:45 - 15:45

13:45	Keynote Lecture: Intelligent underground space: physics-supervised machine learning Brian Sheil, University of Cambridge, UK
14:15	TC204 contribution: Data-Driven Design Guidance for Deep Excavations in Soft Clays: insights from 48 Norwegian Case Histories Stefan Ritter, Norwegian Geotechnical Institute, NO
14:30	TC222 contribution: Unlocking Underutilised Tunnel Inspection Data: Towards Automated, Data-Driven Asset Management with Large Vision Models Jelena Ninic, Durham University, UK
14:45	TC309 contribution: A Multi-Source Data Fusion Approach for Intelligent Prediction of Shield Tunnelling Posture Wengang Zhang, Chongqing University, China
15:00	Round table discussion Giulia Viggiani (TC204, moderator), Magnus Rømoen (TC222), Zhongqiang Liu (TC309)

TC102/203 Joint Workshop: Site Characterization for Earthquake Engineering
 Chair: Jason DeJong (UC Davis), Sebastiano Foti (Politecnico di Torino)
 Room L1
 13:45 - 15:45

13:45	A synthetic stratigraphic parameter to quantify the liquefaction susceptibility of layered soil deposits Lucia Mele, Kadir Kocaman, Stefania Lirer, Aşkın Özocak, Alessandro Flora
13:57	Subsurface investigation of key liquefaction areas in İskenderun following the 2023 Kahramanmaraş earthquake Cody Arnold, Jorge Macedo, Jonathan D. Bray, Diane Moug, Fikret Atalay, Patrick Bassal, Chenying Liu, Murat Bikçe, Turan Durgunoğlu
14:09	Integrated liquefaction hazard assessment using empirical and numerical approaches for a project site in Sonarpur, Kolkata, India Kaustav Das, Shiladitya Mandal, Abhipriya Halder, Kaushik Bandyopadhyay
14:21	Comparison and complementarity of in situ geotechnical tests (CPT, DCPT) and laboratory tests (cyclic triaxial) for the characterization of sandy liquefied layers along the Kupa River (Croatia) during the Mw 6.4 - Petrinja Earthquake Denis Moiriat, Sonia Fanelli, Reiffsteck Philippe, Benz-Navarrete Miguel, Luong Tuan-Anh, Soumounou Badara, Josipa Maslač Soldo, Branko Kordic
14:33	Evaluation of cyclic resistance ratio using in-situ and laboratory-measured shear moduli Takashi Kiyota
14:45	In-situ estimation of a pseudo-3D model of shear wave velocity and small strain damping ratio at a downhole seismic array site using surface wave testing Mauro Aimar, Aser Abbas, Nishkarsha Dawadi, Brady R. Cox, Sebastiano Foti
14:57	Enhancing surface wave site characterization by full-wavefield inversion Chih-Ping Lin, Tsai-Jung Wu, Quoc Kinh Tran, Ernian Pan

TC102/203 Joint Workshop: Site Characterization for Earthquake Engineering

Chair: Jason DeJong (UC Davis), Sebastiano Foti (Politecnico di Torino)

Room L1

13:45 – 15:45

- 15:09** **Post-earthquake site characterization and modelling using geophysics coupled with innovative portable geotechnical penetrometers (iDCPT)**
Sergio Espinoza, Denis Moiriat, Alaa Elsaid, Sefa Yildirim, Onder Kemal Çetin, Miguel Angel Benz Navarrete, Jorge Rojas, Pierre Breul, Gabriel Villavicencio, Phillipe Reiffsteck
- 15:21** **Seismic soil–tunnel–building interaction during high frequency earthquakes**
Juan Manuel Mayoral, Simón Tepalcapa, Mauricio Pérez, Azucena Román-de la Sancha
- 15:33** **Geotechnical characterisation of a landslide-prone slope subsoil for seismic risk assessment purposes: the Chieuti case study**
Annamaria di Lernia, Gaetano Elia

TC 215 Workshop: The role of Environmental Geotechnics in addressing emerging global challenges

Chair: Andrea Dominijanni, Takeshi Katsumi

Room 1.14

16:15 – 17:45

- 16:15** **Welcome & Introduction**
Andrea Dominijanni and Takeshi Katsumi
- 16:25** **Geomechanics of bentonite: insights for nuclear waste repositories**
Angelica Tuttolomondo
- 16:45** **Carbon sequestration in geoenvironmental applications**
Atsushi Takai
- 17:05** **Robot-based field characterization of spatial and temporal methane emissions from MSW Landfills**
Dimitrios Zekkos
- 17:25** **Discussion**

TC 302 Workshop: Forensic Geotechnical Engineering

Chair: J. David Frost, Georgia Institute of Technology

Room 1.34

16:15 – 17:45

- 16:15** **Forensic Geotechnical Engineering for Natural Hazards Impacts**
J. David Frost
- 16:25** **Failure analysis and proposed repair and retrofit schemes for a mechanically stabilized earth (MSE) retaining wall system in Metro Manila, Philippines**
Francis Jenner Bernales, Marielle Gwen Martinez, Desz Justinne Ocampo, Roy Anthony Luna
- 16:40** **Tunnel buildability in ophiolitic melange: a case history**
Vojkan Jovičić, Grega Juvan, Stefan Kordić

- 16:55** **Lessons learnt from a highway embankment failure on column-stabilized soft ground**
Frank Rackwitz, Maik Schüßler, Ralf Glasenapp, Daniel Aubram, Melina Gralle
- 17:10** **The role of rock damage in the development of expansions in anhydritic claystone formations**
Anna Ramon, Eduardo Alonso
- 17:25** **Listening to Geomaterials: Acoustic Pathways to Geotechnical Instability**
Prashanth Vangla
- 17:35** **Discussion**



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TC 221 Workshop: Undrained strength and stability analysis of TSFs
 Chair: Ramon Verdugo
 Room 1.14
 08:30 – 10:30

8:30	Estimating tailings undrained strength with in situ tests Marcos Arroyo
8:50	Challenges in Interpreting mine tailings CPTu responses under partially drained conditions Jorge Macedo
9:10	Vulnerability Before Trigger: A Case for State-Based Tailings Strength Assessment Arcesio Lizcano
9:30	Incorporating brittleness into stability evaluations Andy Fourie
9:50	Debate – Discussion
10:20	Formal handover of the presidency

Prof. Marcos Arroyo
Estimating tailings undrained strength with in situ tests
 In situ tests play a large role in the geotechnical characterization of tailings. Different methods have been proposed to estimate undrained strengths from in situ test results. The talk presents an overview of those methods, with particular emphasis on the cone penetration test (CPTu) and the field vane test (FVT). The effect of drainage conditions during the test on the different techniques is discussed with help from numerical simulation.

Dr. Jorge Macedo
Challenges in Interpreting mine tailings CPTu responses under partially drained conditions
 This presentation will discuss the challenges of interpreting mine tailings CPTu responses in mine tailings, presenting a framework where variable penetration rate CPTu are combined with numerical simulations to aid in constraining operative engineering parameters of interest, such as strength and consolidation pace.

Dr. Arcesio Lizcano
Vulnerability Before Trigger: A Case for State-Based Tailings Strength Assessment
 The historical failure record and the post-Brumadinho scientific debate converge on one conclusion: assessing material-state vulnerability must precede any discussion of triggers or strength selection. This presentation argues that tailings strength should not be selected as an input to stability analysis but should emerge from coupled deformation modelling grounded in critical-state constitutive frameworks. Field evidence and case histories are examined to support this shift.

Prof. Andy Fourie
Incorporating brittleness into stability evaluations
 Current stability analyses of tailings storage facilities continue to be based largely on limit equilibrium methods. These methods take no account of post-peak brittleness, other than accounting for the difference in peak strength and large strain post-peak strength. The strain required to reach minimum strength is disregarded, as is the need to account for strain compatibility between tailings and underlying foundation soils. These issues are explored, with examples of the impact on stability evaluation for some specific tailings facility.

Debate – Discussion:
 The objective of the session is to stimulate critical reflection, promote dialogue within the international community, and contribute to advancing current understanding and practice in tailings dam stability analysis. This session will be structured as an interactive panel discussion focused on the key challenges

related to the analysis of the physical stability of tailings dams. Strong interaction between the speakers and the audience is expected and encouraged, fostering constructive debate, exchange of perspectives, and active participation from attendees.
Formal handover of the presidency
New Chair TC221: Dr. Jorge Macedo

TC 220 Workshop 2: Advancing Education and Training in Field Monitoring for Geomechanics
 Chair:
 Room 1.34
 08:30 – 10:30

- Theme: Capacity building and knowledge transfer**
Objectives:
- Identify current gaps and priorities in education and training for practitioners, researchers, and students involved in field monitoring.
 - Develop strategies to integrate field monitoring concepts into geotechnical and geomechanical curricula.
 - Share best practices for professional development, including laboratory-to-field transitions and certification models.
 - Create a guide for tertiary institutions

TC 211 Workshop: Rigid Inclusions
 Chair: Babak Hamidi, Menard & TC211 Chair
 Room L1
 08:30 – 10:30

8:30	Numerical study of the behaviour of a treated load transfer platform on rigid inclusions Julien Mannah , Laurent Briançon, Daniel Dias, Caroline Chalak, Thomas Lenoir, Hassan Farhat, Alia Quirin-Hatem
8:47	Global case studies in design and execution of Rigid Inclusions - a contractor's perspective Clemens Kummerer, Jonathan Daramalinggam, Tanner Blackburn, Thibaut Clauvelin, Kenneth Kniss
9:04	Horizontal efficacy of a spread footing on soil reinforced by rigid inclusions Ana Maria Alzate, Fahd Cuira
9:21	Bearing capacity of a shallow foundation under inclined loading on soil reinforced with rigid inclusions Sarah Guillon, Jérôme Racinais, Cyril Plomteux, Pierre Burtin
9:38	Soil Reinforcement by FDC's below a Coal Stockpile to Reduce Impact on Adjacent Structures Philipp Schober, Pablo Forgoso
9:55	How can Controlled Modulus Columns (CMC) mitigate liquefaction Fanny Maucotel, Cyril Plomteux, Jérôme Racinais
10:12	Can DDCs Tolerate Cracking? A New Design Paradigm with Case Study Insights Matthieu Tri Duong, Su Kwong Tan

COMMITTEE MEETINGS

Monday June 15th

	Time	Room
TC 307	13:15 - 14:00	L1
TC 101	13:15 - 14:00	1.16
TC 310	13:15 - 14:00	1.33
TC 309	13:15 - 14:00	1.34
TC 219	13:15 - 14:00	1.14
TC 106	14:00 - 16:00	1.16
Computers and Geotechnics	14:00 - 15:00	1.33
TC 103	15:00 - 16:00	1.33
TC 305	16:30 - 18:00	1.16
TC 208	16:30 - 18:00	1.33

Tuesday June 16th

	Time	Room
IGS Board	09:00 - 17:00	1.33
TC 223	13:00 - 13:45	1.16
TC 217	13:00 - 13:45	1.34
TC 216	13:00 - 13:45	L1
TC 220	13:45 - 15:45	1.16
TC 222	16:15 - 17:45	1.16

COMMITTEE MEETINGS

Wednesday June 17th

	Time	Room
TC 204	13:00 - 13:45	1.34
TC 203	13:00 - 13:45	L1
TC 105	13:00 - 13:45	1.16
TC 201	13:00 - 13:45	1.33
TC 210	13:45 - 15:45	1.16
TC 207	13:45 - 15:45	1.33
TC 304	16:15 - 17:45	1.16
Soils & Foundations	16:15 - 17:45	1.33
GeoWB	16:15 - 17:45	L1

Thursday June 18th

	Time	Room
TC 102	08:30 - 10:30	1.16
Technical Oversight Committee	08:30 - 10:30	1.33
TC 202	13:00 - 13:45	1.16

TC101 Laboratory Stress Strain Strength Testing of Geomaterials

Reloading oedometer modulus for danish clay tills

[Jens Ole Steensen-Bach](#)

Evolution of bond stress for low and high plastic clays with time

[Balaji Bandaru](#), Robinson R.G., Ramesh Kandasami

Analysis of residual shear strength parameters of fine-grained sediments from open-pit 'Drmno' using different types of apparatus

[Stevan Čorluka](#), Ksenija Djokovic, Nikola Živanović, Tina Đurić, Nikola Božović

Determination of Undrained Shear Strength of Remolded and Undisturbed Samples from Different Laboratory Tests

[Tina Đurić](#), Dragoslav Rakić, Jovana Janković Pantić, Irena Basarić Ikodinović, Marija Milosavljević, Stevan Čorluka

Quantification of tensile stress states in fibrous organic and fiber reinforced soils

Akhila Palat, Michael Thomson Hendry, [Mahya Roustaei](#)

CPT Response of Carbonate Sand in Abu Dhabi: Miniature Cone Penetrometer Tests and Numerical Simulation

[Deepa Kunhiraman Nambiar](#), Marwan Alaa Naeem, Tadahi Kishida, George Mylonakis, Mouad Lambarki, Tae-Hyuk Kwon, Dong-Hyeong Choi, Juyeon Jeong

Conception géotechnique d'une écluse à bajoyers minces avec des remblais en limons traités aux liants hydrauliques

Rémy Matras, [Luc Boutonnier](#), Véronique Berche

A physics-informed evolutionary regression framework for constitutive models of soils

[Farah Foroughi Boroujeni](#), Asaad Faramarzi, Wonjun Cha, Bahman Ghiassi

Interface Friction Response between Snakeskin-Inspired Surfaces and Jumunjin Sand under Repetitive Loading

[Tae-Young Kim](#), Song-Hun Chong

Evaluation of fine-grained soil strength using a ring shear apparatus

Rafael Sharafutdinov, Nadezhda Remizova, Vladimir Morozov, [Egor Basakin](#)

Shear box tests to explore the soil-structure interface of model piles created using 3D printing techniques

[Sam Divall](#), Greta Sabaliauskaite, Andrew M McNamara, Sarah E Stallebrass

Analysis of the Geotechnical Behavior of Soil Mixtures: Evaluation of Strength Parameters in Mixtures of Organic Clay and Soils in the São Paulo/SP, Brazil.

Antonio Sérgio Damasco Penna, Cleiton Pereira, Mariane Souza

Impact of different nail lengths on the reinforcement effect of the soil nailing method based on mechanical behaviour and slip surface

Shintaro Kajiyama, Satoshi Goto

TC102 Ground Property Characterization from In-Situ Tests

An in-situ estimation of the grain size distribution of a Martian regolith

Nicolas Verdier, [Pierre Delage](#), Véronique Ansan, Khaled Ali, Eric Beucier, Constantinos Charalambous, Eddy Constant, Aymeric Spiga, Matt Golombek, Eloise Marteau, Rémi Lapeyre, Emilien Gaudin, Charles Yana, Ken Hurst, Philippe Lognonné, Bruce Banerdt

TC102 Ground Property Characterization from In-Situ Tests

Interdisciplinary approach for groundwater flow patterns identification

[Vlad-Constantin Ciulică](#), Sebastian Mustăţea, Anton Chirică

About geotechnical investigations for difficult soils conditions consisting in a salt dome in the foundation ground of a motorway

[Emilia Milutinovici](#), Erbil Balıkaya, Gürtan Doğu, Evren Güneşoğlu, Bahadır Boztepe

Seismic Crosswell Surveys using Distributed Acoustic Sensing (DAS) for Enhanced Geotechnical Monitoring and Subsurface Imaging: Insights from the Svelvik CO₂ Field Lab

Uta Koedel, Anna Stork, Sonja Mackens-Siemes, [Thomas Fechner](#)

Anisotropic shear strength response in Clearwater Formation Clayshales

[Julian Contreras](#), Michael Hendry, David Elwood

Piezocene penetration test (CPTU) based correlation of soil parameters for fluvio-swamp soil deposits

[ahmed hamza mridakh](#), houssine ejjaouani, Hassan Labied

Tension pile testing using distributed fibre optic sensing (DFOS) at the A63 Castle Street Improvement scheme

Nicholas de Battista, Owen Flowers, [Patrick Gabriel](#), Cedric Kechavarzi

CPT data interpretation for quantification of reduced effective stresses in foundation soil under a large-scale hydropower structure

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[Sébastien Haendel](#) [Emmanuel Volcy](#), Hamid Hosseini-Sadrabadi, Christophe Dano, Luc Sibille, Bruno Charreyre

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[Paul Vosloo](#), Philip Rob Stott, Elizabeth Theron

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[Fengwen Lai](#), Feng Chen, Dechun Lu, Franz Tschuchnigg, Helmut F. Schweiger

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Field-scale validation of a 3D hypoplastic contact model for tension piles in layered soils

[Diaa Alkateeb](#), Jürgen Grabe

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[Anatoly Mirnyy](#), Julia Kalugina, Mikhail Bulatnikov, Egor Orlov, Anastasia Shekhovtsova

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[Zhenyu He](#), Fiona Kwok, Sergio Lourenco

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Influence of the Constitutive Model on the Simulation of Pile Behavior Under Cyclic Lateral Loading

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[Ryo Yasuike](#), Tomohiro Toyoda

Parallel spring constitutive modeling of expansive soft rock describing degradation of cementation due to wetting-drying cycles

[Yoshifumi Kondo](#), Hiroyuki Kyokawa, Mamoru Kikumoto, Ying Cui

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[Shun Kawabe](#), Daichi Ito

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Jianhong Zhang, [Jiaqi Lin](#), Aixia Wang, Xiangsheng Chen

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[Fardin Jafarzadeh](#), Jafar Maleki

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[Yutaro Hara](#), Reiko Kuwano

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[Qizhuo Yang](#), Jian-Min Zhang, Rui Wang

Pore structure evolution of coral gravel during particle breakage: a multi-scale investigation

Xianwei Zhang, [Lei Yan](#), Hualiang Zhu

Influence of Back Pressure on Degree of Saturation of Sand Triaxial Experiments

Mohammed Elnur, [Khalid Alshibli](#)

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[Mohammad Amin Sayyah](#), Mahya Roustaei, Laurenz Schröer, Chandra Widyananda Winardhi, Arash A. Lava-san, Veerle Cnudde

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[Jesus Sanchez - Guzman](#), Gabriel Auvinet - Guichard

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[Muhammad Nouman Amjad Raja](#), Tarek Abdoun, Waleed El-Sekelly

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[Margherita Zimbardo](#), Anna Scotto di Santolo, Orazio Casablanca, Claudia Caporizzo, Giuseppe Mazzeo, Maria Vittoria Bramante, Bartolomeo Megna

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Image processing of desiccation crack patterns in a bentonite-sand mixture under wetting and drying cycles

Paniz Sourmanshahi, Pouya AliPanahi, [Hamed Sadeghi](#), Farshad Yazdani

Air-Entry Value in Unsaturated Soils: Implications for Geotechnical Design

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The Development of Soil Freezing Characteristic Curves for Fine-Grained Soils Classified According to the USCS

[Saltanat Orazayeva](#), Alfredo Satyanaga, Eriko Dewangga, Luiza Tanzhanova, Abdul Halim Hamdany, Martin Wijaya, Jong kim

TC106 Unsaturated Soils

Hydro-mechanical behavior of granular soil based on laboratory investigation using unsaturated soil mechanics approaches

[Piotr Osiński](#), Vasileios Matziaris, Eugeniusz Koda, David Toll

Modelling the movement of expansive soils due to moisture dynamics under current and future climate: a study in a semi-arid climate area

Bikash Devkota, [Md Rajibul Karim](#), Md Mizanur Rahman, Hoang Bao Khoi Nguyen, Donald A Cameron

Potential application of miniature equipment in determining unsaturated fine-grained soil structural capacity

[Aderito Guilamba](#), Carlos Quadros, Malaquias Macia

Influence of Silt Content Impact on Mechanical Behavior of Tuff Mixtures in Unsaturated Condition

[Mohammed Ezziane](#), Djamalddine Boumezerane

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[Eivind Wiik Ånes](#), Taeheon Kim, Thomas Pabst, Yusuke Suzuki

TC107 Tropical Residual Soils

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Olegario Alonso-Pandavenes, Gabriela Torres, [Francisco Javier Torrijó](#)

TC201 Geotechnical Aspects of Dykes and Levees and Shore Protection

Estimation of the mobilized shear strength of soft clays under different loading and unloading conditions

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Applications of Quantitative Risk Assessment for Debris Flow and Road Users

[Mike G Winter](#), Tanja Waaser

Dynamic effects and critical speed challenges in high-speed railway embankments on nordic soils

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Effect evaluation of geosynthetic drainage material on fatigue life extension of asphalt pavement

[Tatsuya Ishikawa](#), Junling Si, Yuwei Wu, Junichi Hironaka

TC203 Earthquake Geotechnical Engineering and Associated Problems

The effect of chemical stabilization on the behavior of slopes during shaking

Aly Ghanem, Mohamed I. Amer, [Shehab S. Agaiby](#)

Precise Liquefaction Assessment and Damage Mitigation of a Shopping Center by Accounting for Soil Fabric Effect

[Nikolay Yordanov Milev](#), Juan José Briones Contreras, Kwok-Kwan Lau

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[Oleg P. Minaev](#), Askar Zh. Zhussupbekov, Adil Zhakulin

Developing the FC and GC dependent Liquefaction Triggering Curve using In-Situ Correlation of SPT-N and Vs with these Factors

[Chi-Chin Tsai](#), Tadahiro Kishida, Chih-Wei Lu, Louis Ge

Liquefiable sand behavior under different applied consolidation pressures and cyclic stress

[Maarib M. Ahmed Albulmahdi](#), Sarmad M. Al-Tameemi, Raid R. Al-Omari, Qassun S. Mohammed Shafiqu, Abdulaziz A. Al-Kifae

Dynamic characterisation of an earth dam in eastern Sicily (Italy)

Francesco Castelli, Salvatore Grasso, [Valentina Lentini](#), Maria Stella Vanessa Sammito

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[Haowei Yang](#), Jie Cui, Wei Zhang, Pengfei Dang, Yadong Li, Yi Shan

Liquefaction Assessment for Offshore Wind Farm: Simplified vs. Numerical method

[Anastasios Batilas](#), Efsthathia Chioti, Indrasenan Thusyanthan

Liquefaction resistance of gravely sand under bidirectional cyclic loading

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[Ákos Wolf](#), Lizett Lampert

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[Alicia Walburger](#), Mario Bacic, Kyle Rollins, Meho Sasa Kovacevic

Dynamic analysis of accelerated post-earthquake ground settlement in the 2023 Kahramanmaraş earthquake sequence

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Investigation of Performances of Foundations on Improved Soil Conditions During Seismic Liquefaction

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Classification of microtremor H/V spectra and estimation of surface ground structure using deep learning

[Tetsuo Tobita](#), Taisei Takada, Hibiki Tochio

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Stability of Tunnel in Spatially Variable Cohesive Frictional Soils using Random Finite Element Limit Analysis

[Siddharth Pandey](#), Akanksha Tyagi

Development and deployment of a concrete jacking pipe instrumented with FBG strain sensors

[Asad Wadood](#), Bryan A. McCabe, Brian B. Sheil, Ronan Royston, Kevin O'Dwyer, Laura Willis, Bryn M. Phillips

TC204 Geotechnical Aspects of Underground Construction in Soft Ground

Study and improvement of soft soil in the eastern part of the Port of Durres, Albania

[Ardita Malaj](#), Skender Allkja, Julian Belliu

A Case Study for 3D Verification of Convergence-Confinement Method for Multi-Staged Cavern Construction in Weak Rock and Shear Zones

Mustafa Erdem Ispir, [Badesu Dumanoglu Bolat](#), Doga Uzunismail

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Reliability of Rockfall Protection Foundations: Insights from Full-Scale Tests

[Lukas Wimmer](#), Robert Hofmann, Andreas Koch, Markus Schuch, Michael Posch

Estimating the Impact Forces of Rock Avalanches on Protective Structures

Simon Berger, [Robert Hofmann](#)

Optimization of temporary anchor systems for high voltage electricity masts

Steffen Leppla, [Janin Christin Paninski](#)

Sand-based mechanical leveling system to mitigate the effects of subsidence on structures in Mexico City

[XIMENA PENELOPE AMEZCUA PASTRANA](#), RAUL FERNANDO VERDUZCO MURILLO, SALVADOR TRUJILLO LOZANO

TC206 Observational Method

Predicting the swell potential of expansive clays using machine learning models: a comparative study with experiments

[Uttara D.D Liyanage](#), Kumari W G P, Jayan S Vinod, Jun Sugawara, Bindumadhava Aery, Siva Sivakumar

Directional Sensitivity of Stereo Microphones in Cavity Localization

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Evaluation of moisture content by hyperspectral imaging

[Koji Nakashima](#), Katsuyuki Kawai

TC208 Slope Stability in Engineering Practice

Multiple landslides in a natural tourist area (Mullerthal, Luxembourg): causes and safety works

[Steve Gruslin](#), Tiffany Hennebaut

Stability of Infinite Slopes in Low-Density Pyroclasts

Noelia Esteban Rivera, Ruben Ángel Galindo Aires, Miguel Ángel Millán Muñoz, [Fausto Molina Gómez](#)

EFFECTS OF EICP TECHNIQUE ON VEGETATION GROWTH AND SOIL WATER RETENTION CAPACITY IN VEGETATED SOILS

[Changbing Qin](#), Cheng Yuan, Siau Chen Chian

Case study on emergency measures for maintenance and re-support of an embankment supporting a bridge abutment

[Sarmad Al-Tameemi](#), Oliver Bernecker

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Enhanced Urban Slope Surface Drainage Design Against Extreme Rainfall Events

Dominic Yat Fan Fung, Kevin Siu Pang Lam, Dong Sheng Chang, Florence Lai Fan Chu, Eric Yam Ming Chan, Edward Kei Hong Chu, Florence Wan Yee Ko

Experimental investigation and numerical simulation of rainfall-induced slope instability using soil-water characteristic curve

Shashikant, Raheena M

Probabilistic slope stability assessment of dikes along the Lek river in the Netherlands

Tuan Dobar Yos Firdaus Simanjuntak, Cor Bisschop

Geotechnical protection of an active landslide in relation to geological-engineering conditions: an example from the Cracow area (border zone of the Western Outer Carpathians and their Foreland)

Łukasz Kaczmarek, Kamil Kiełbasiński, Paweł Dobak, Piotr Nescieruk

Slope stabilization of highly weathered rock on Vydrice site in Bratislava

Daniela Piliarová, Ján Dobrovolský, Václav Račanský

TC209 Offshore Geotechnics

Influence of padeye depth on suction caisson anchor performance using 3DFE

Emma Gallagher, Stefan Buykx, David Igoe

Evaluation of long-term tensile loading behavior of suction foundation

Zhenhao Shi, Xinjun Dai, Maosong Huang

Mechanical analysis of hybrid offshore renewable energy harvest system under dynamic load

Yukun Ma, Liang Cui, Suby Bhattacharya

Finite element analysis of a combined caisson and plate system for the anchoring of floating offshore wind turbines

Lau Fogh, Andrea Franza, Felipe Prada, Lars Vabbersgaard Andersen

Impact of Loose Sand Layers on the Lateral Capacity of Offshore Wind Turbine Monopiles on Inclined Seabed

Hadi Valizadeh, **S. Feyza Çinicioğlu**, Özer Çinicioğlu

Advanced three-dimensional numerical modelling of Swift Anchors under combined VHM cyclic loading

Matteo Ciantia, Wei Wang, Marco Previtali, Nicholas Kaufmann, Nick Cresswell

Numerical analysis of helical pile foundations for offshore wind turbines

Alkmini-Chara Livanidou, Yannis K. Chaloulos, Konstantinos Georgiadis, David M G Taborda

Estimation of buoyancy factor during inclined lateral breakout of on-bottom pipelines in clay

Abhishek Ghosh Dastider, Santiram Chatterjee, Namburi Gowtham

Ultimate pullout capacity of horizontal plate anchors in shallow rock masses

Dowon Park

Clarification of elastoplastic seabed behavior including liquefaction and subsequent solidification under continuous wave loading with its numerical reproduction

Takumi Iijima, Toshihiro Noda

TC211 Ground Improvement

Effect of sugarcane bagasse-ash (BA) incorporating limestone calcined clay cement (LC3) on black cotton soil (BCS) stabilization relevant for construction applications

Horris NANGULAMA, Siya Rimoy

Arbitrary Lagrangian-Eulerian method to analyse the disturbed zone around controlled modulus columns

T Amarathunga, D S Liyanapathirana, W H Peellage, P Hu, C J Leo

Innovative concrete mix design for rigid inclusion columns: enhancing soil bearing capacity and minimizing settlement

Rayehe Khaghanpour, **Alireza Alemzadeh**, Saba Abedi Anaraki

Comparing CO2 emissions between two ground improvement schemes: prefabricated vertical drains vs. geosynthetic encased columns

Oliver Detert, **Erol Güler**, Duygu Erten, Steffen Taetz

Challenges and opportunities of exploring biochar as a sustainable alternative for soil stabilisation

Priscilla Paniagua, **Stefan Ritter**, Sølve Hov, Michael Long

Mechanical and microstructural characterization of fiber-reinforced polyurethane-treated clays under freeze-thaw cycles

Mehrnaz Ashournia, Maral Pouramin, Payam Zanganeh Ranjbar, Mahdi Salimi, **Meghdad Payan**, Mahya Roustaei, Bruno Stuyts

Macro and micro-structural analyses of expansive soils stabilized with calcium carbide residue and water treatment sludge under freeze-thaw cycles

Mohammad Dokaneh, Mahdi Salimi, Iman Hosseinpour, Reza Rezvani, **Mohammad Amin Sayyah**, Meghdad Payan, Mahya Roustaei, Bruno Stuyts

Assessing the performance of stabilized clay reinforced with waste fibrous materials under extreme environmental conditions

Mohammad Dokaneh, Mahdi Salimi, Iman Hosseinpour, Reza Rezvani, **Meghdad Payan**, Mahya Roustaei, Bruno Stuyts

Thermal treatment of fine-grained soil stabilized with paper sludge ash

Nima Mohammadizadeh, Alireza Tabarsa, Mohammad Hadi Aryaie Monfared

Response of Xanthan Gum Treated-Kaolinite to Freeze-Thaw Cycles in a Temperature Controlled Direct Shear Device

Rupsa Roy, Edward Asamoah, **Beena Ajmera**, Cassandra J. Rutherford, Yuderka Trinidad González, Lucas A. Walshire, Ethan Tyler Vroman, Benjamin Breland, Mohammed Mohammed

Compression and shearing behaviour of cement stabilized gyttja

Nicolas Fernandez Holdt-Olesen, Daniel Fernandez Holdt-Olesen, Kenny Kataoka Sørensen, Michael Rosenlund Lodahl

Laboratory-scale soil tank and GeoPIV utilization for assessing the lateral earth pressure behavior of biopolymer-based soil treatment as backfill material

Gi-Yun Kim, Juyoung Kim, Ilhan Chang

Reuse of Etna volcanic ash for construction of large civil infrastructures

Enza Vitale, Manuel Altieri, Filippo Claudio Furia, Stefano Ciufegni, Giacomo Russo

A laboratory and field investigation of the pullout performance of GFRP bars in gypsum

Libero Sandrini, Matteo Oryem Ciantia, Riccardo Castellanza, Gabriele Balconi, Fabio Baio, Gian Marco Orlandi

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TC211 Ground Improvement

Stabilization of dispersive soils in the Bolivian Amazon using magnesium chloride hexahydrate (bischofite).

Rubén Iván Enríquez Sivila, Christian Boris Camacho Peña, Jhojamn Franklin Arroyo Guzmán, Víctor Hugo Miranda Challapa

Comparative study of the use of green coconut fibre and tyre fibre in the improvement of expansive soils in Paulista, Pernambuco, Brazil – literature review

Arthur Vinícius Freire Silva Ramos, Geovanna Karla da Silva Simões, Silvio Romero de Melo Ferreira, Igor Fernandes Gomes, Fábio Lopes Soares

Soil Improvement Mechanism Using Biomass-Derived Polymers Based on Soil Mechanics and Reproduction of the Mechanical Behavior of Improved Soil

Takayuki Sakai

Study on strength enhancement and reduction of PVA assisted cement treated soil

Shogo AOYAMA, Kazuhiro KANEDA

Effective use technology for crushed solidified soil - Improvement of poor soil using solidification materials -

Atsuko Sato

A Strength Estimation Formula for Backfill Soil Following Existing Pile Removal and Its Validation Through Field Testing

Yuan Zhang, Kenjiro Kawasaki, Yasushi Furugaichi

Strength characteristics of ground improved using high-blast-furnace-slag-content cement

Takao KONO, Masamichi Aoki

Effect of moisture dilution rate on ground improvement materials using rice husk ash

Taichi Hyodo

TC212 Deep Foundations

Interpretation criteria of compression static load test in piles. A multiple case study

Eduardo Laborda, Pablo Ruiz-Terán, Belén Martínez-Bacas

Secant pile wall design and construction using cfa piles and deep soil mixing

Lorand Sata, Catalin Balaceanu

Evaluation of Long-term Capacity of Piles Subjected to Consolidation and Aging Setup using CPT Design Methods

Murad Abu-Farsakh

Consideration of piling technology during interaction with the soil at their contact

Vitaly Sidorov, Anastasiia Almakaeva, Armen Ter-Martirosyan

De nition and implementation of acceptance process for friction piles driven in sedimentary soils

Ira Gutjahr, Gustavo Pereira, Albert Falques Casanovas, Guilaine Boivent

Construction Technology and Bearing Characteristics of Rock Socketed Piles Using in Yantian Port

Liwen Hu, Qiongyu Wang, Zhenhua Hu, Jian Liu

Foundation design and geotechnical analysis of the Pelješac Bridge

Boštjan Pulko, Janko Logar, Marjan Pipenbaher, Gorazd Strniša

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Prediction of settlement for large diameter monopiles under axial loading

M. A. Baset, A. N. El-Attar, M. A. Bahr, A. A. Hassan

Database of instrumented static compression load tests: evaluation of the applicability of semi-empirical methods based on SPT in tropical soils

Ana Clara Takada Orsini, Yuri Barbosa, Marcos Massao Futai

Field and laboratory study of deviatoric creep of overconsolidated clayey soils

Rafael Sharafutdinov

Advanced Modelling and Testing for High-Precision Telescope Foundations

Craig Pitt, Frans van der Merwe

Experimental Study on the Group Behaviour of Displacement Piles Driven into Medium-Dense Sand

Felix Mitlmeier, Julius Rieckert, Christian Moormann

Case study of a piled raft foundation for a new air traffic control tower in Ghana

T E B Vorster, Nico le Roux

Investigations of the bearing capacity of CFA bored piles in cold climate

Askar Zhussupbekov, Abdulla Omarov, Bibigul Abdrakhmanova, Ainur Montayeva, Abilkhair Issakulov

Advanced testing methods by SLT and CSL for pile foundations at the Astana Light Rail Transit construction site

Askar Zhussupbekov, Abdulla Omarov, Nurgul Shakirova, Nurgul Alibekova, Diyar Mukhanov, Askar Yes-sentayev

Impact of Winter Conditions on Dynamic Load Testing and Bearing Capacity of Driving Piles

Askar Zhussupbekov, Abdulla Omarov, Ainur Montayeva, Adil Zhakulin, Maher Jebur

Effect of precast piles on densification of sandy silt deposits and improvement of load-movement response of piles

Kazem Fakharian, Arsalan Osouli, Iman H. Attar, Taghi Bahrami, Hamed Vaezian

Preliminary investigation on the vertical tip bearing capacity mechanism of steel pipe sheet-pile foundations

Kei Katayama, Takashi Matsushima

TC213 Scour and Erosion

Modeling of internal erosion with equations for a two-phase flow in analogy to flow of air and water using the Mixed Finite Element Method

Luisa Kagermeier, Eugen Perau, Abdulsalam Abdulrahman, Jonas Hülsbusch

X-ray CT Imaging of Internal Erosion in Sand with Loose Zones Under Seepage Flow

Shintaro Nohara, Toshifumi Mukunoki

TC214 Foundation Engineering for Difficult Soft Soil Conditions

Design and performance evaluation of geosynthetic-encased stone columns constructed under a roundabout in soft soil

Grace Stapley, Beatrice Beker, Frank Remmert

A Case Study of Multi-storey Buildings Construction in Urban Areas over Underground Limestone Mines

Yuriy Vynnykov, Vasyl Mitinsky, Maksym Kharchenko, Valentyn Marchenko

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TC215 Environmental Geotechnics

Quantifying the Influence of Preferential Flow on Soil Infiltration in the Loess Plateau

Yukai Fu, Dantong Lin

Effects of biological treatment and particle size on properties and microstructure of microbial cement recycled aggregate (MCRB)

Yuxin Wang, Jie Cui, Shihua Liang, Deluan Feng, Yadong Li, Yi Shan

Life cycle assessment of innovative biogeochemical cover systems for mitigating landfill gas emissions

Krishna R Reddy, Gaurav Verma

Integrated resiliency and sustainability assessment of contaminated site remediation: Case study

Banuchandra Nagaraja, Krishna R Reddy

An Overview of ML-Based Surrogate Models for MSW Landfill Performance Assessment and Optimization

Jagadeesh Kumar Janga, Krishna R. Reddy

Influence of Particle Size of Fillers on the Development of Foundry Sand-Polyurethane Composite Mixture: A Laboratory Investigation

Basil Jaimon, Ranita Ray, Sreedeeep Sekharan, Rajan Choudhary

AC-assisted Microbially Induced Carbonate Precipitation Improves Soil Strength

Angran Tian, Xiaojie Tang, Jing Chen, Manman Hu

Enhancing Portland Cement Resistance Against Sulfate Attack in Soil Stabilization Using CO₂-Induced Carbonate Minerals

hamed Abdeh keykha, Mike Gunna, Maria Mavroulidoua, Hadi Hadi Mohamadzadeh Romiani

TC216 Frost Geotechnics

Ice lens formation in frozen soils: Experimental and theoretical review

Lennert Husemann, Stefan Vogt, Ulrich Schindler, Roberto Cudmani

Lab-to-Field Characterization of Sand-Silt Mixtures in Cold Regions

Sang Yeob Kim, Jongwon Jung, Byung-Kyu Kim

Design, construction, and field monitoring of cross passage tunnels constructed using artificial ground freezing in London

Toru Higuchi, Kurt Zeidler, Michael Tinney, David Morgan

Experimental and numerical analysis of frost heave characteristics in organic-rich backfill soils

Hyun-jun Choi, Sewon Kim, Seungjoo Lee, YoungSeok Kim

Behaviour of frozen sand-kaolin mixtures across the scales

Nico Molls, Maylis Delautre, Tuna Sarac, Mingpeng Liu, Florian Amann, Raul Fuentes, Christelle Tabbiche, Anh-Minh Tang, Maria Camila Olarte, Jean-Michel Pereira, Patrick Dangla

TC217 Land Reclamation

INTEGRATED SOLUTIONS FOR RISING SEA LEVEL

Jian Chu, Hao Chen, Shifan Wu

TC218 Reinforced Fill Structures

Stabilization of a gabion wall at a substation in Coimbra, Portugal. Design solution and monitoring results

André Henriques, Rui Tomásio, Rui Carvalho, Ricardo Braga, André Lousinha

TC219 System Performance of Geotechnical Structures

Simulation of the spread of destruction of overloaded columns in a road embankment - a case study

Waldemar Szajna, Liudmyla Bondareva, Bartosz Szatanik

Challenges & Solutions in Uplift Anchor and Uplift Pile Testing under Complex Geotechnical Conditions: Insights from Water-Filled Excavation Pits

Nejla Yildiz Helvacioğlu, Robert Thurner, Florian Kainz

Quantitative evaluation of the behavior of the sand sandwiched by two sheet piles using X-ray CT

Hideharu Sugimoto, Hideki Nagatani, Jun Otani

TC220 Field Monitoring in Geomechanics

Cognitive biases in visual grain size distribution estimation

Georg Erharter, Santiago Quinteros, Matthias Rebhan, Franz Tschuchnigg

AI-Based Parametric Study: Learning from the Past for Resilient Designs

Ye Win {Douglas} Tun, Natalie Murphy, Nidula Jayawardana

Performance Review of Foundations on Karstic Marble Formation

Sylvia SW Chik, Regis LG Chee, Eric HY Sze, Patrick PC Wong

Finite element analysis of the interactions of a high rise building foundation erected nearby a tunnel with a masonry vault based on monitoring data assimilation

François Boureau, David Remaud, David Arribe

Revised approach to predict opencast backfill settlement

André Archer, Nico Vermeulen

Evaluation of the compacted embankment zone using shear wave velocity

Younggeun Yoo, Jong-Sub Lee, Dong Geon Son, Junghee Park

TC222 Geotechnical BIM and Digital Twins

Influence of subsoil geometry interpolation on embankment settlement

Johannes Beck, Sascha Henke

A data-driven approach for early phase CO₂ quantification of geotechnical measures in linear projects

Nikolaj Børner Hansen, Mats Kahlström, Magnus Rømoen

Shifting the geo-risk management paradigm through early screening

Rod Eddies, Wood Ray, Thaleia Travararou

TC301 Preservation of Historic Sites

Three-dimensional FE analysis of twin-tunnels excavation in green-field conditions

Luca Masini, Francesco D'Annunzio, Sebastiano Rampello

ELECTRONIC POSTERS

TC302 Forensic Geotechnical Engineering

Non-destructive methods for pile integrity evaluation based on mechanical, electromagnetic, and thermal approaches

Younghoon Lee, [Jong-Sub Lee](#), Min-Chul Park, Dongsoo Lee

TC304 Engineering Practice of Risk Assessment and Management

When theory meets interactive practice – Jet Grouting takes the complex stage at Liseberg West

Ralf Krutwig, Jan Derksen, [Robert Thurner](#), Ronald Veider

Geotechnical risk management of embankment construction over soft soils

[Chris Bridges](#), Jay Ameratunga

Investigation of seismic signature induced by grain-bed impact to determine the grain size distribution of fall-type granular geohazards

[Yihan Wang](#), Xinzhi Zhou, Yifei Cui, Clarence Edward Choi

Evaluation of Rainfall–Earthquake Induced Landslide Using Generative AI and Monte Carlo Simulation

[Changho Song](#), Yuntae Kim, Ho-Hong-Duy Nguyen, Yoohyeon Kim, Jisung Lee, Min-Ju Kim

On the role of boundary conditions in the simulation of large deformation rockfall barriers

Marco Previtali, [Matteo Ciantia](#)

TC305 Geotechnical Infrastructure for Megacities and New Capitals

Damage measures of low-rise building foundations on layered sands due to seismic impacts

[Der-Wen Chang](#), Askar Zhussupbekov, Shih-Hao Cheng, Louis Ge, Yu-Wei Hwang, Ricky K.-N. Wong, Diyar Mukhanov

Investigation and Comparison of Soil Mechanical Properties in Field and Laboratory Conditions

[Askar Zhussupbekov](#), Nurgul Shakirova, Askar Yessentayev, Almagul Mukasheva, Gulnaz Zhairbayeva, Diyar Mukhanov

TC306 Geo-engineering Education

Challenges and Opportunities of Virtual Education in Geotechnical Roads: A Case Study of graduate course in Road Infrastructure (2023–2024 Editions)

[Andres Bernardo Vargas Estrada](#), Christian Boris Camacho Peña, Luis Fernando Zambrana Juchani

TC307 Sustainability in Geotechnical Engineering

Effect of water content on the strength of soils treated with Xanthan gum-based soil conditioner

JASNA SMOLAR, BARBARA FORTUNA, [JANKO LOGAR](#)

One-dimensional compressibility and consolidation parameters of soil-quarry dust mixtures

[Iwona Chmielewska](#)

Innovative use of baking soda for sustainable cement treatment in soft ground improvement

[Jiahui Ho](#), Ming Ze Chai, Rynus Ernauld Lee, Yen Jee Moong

Enhancing Sustainability in Geotechnical engineering Projects: A Case Study of Old Thaba Nchu Road

Elizabeth Theron, Jonathan Steenkamp, [Samuel Waters](#)

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Impact of climate change on the hydromechanical behavior of clayey soils: contribution of a coupled experimental and numerical study

[Junior Dimitri EPOH KOLLO](#), Sahar HEMMATI, Lamis MAKKI, Myriam DUC, Philippe REIFFSTECK

TC308 Energy Geotechnics

Thermo-mechanical performance of driven energy piles in Norwegian quick clay

[Habibollah Sadeghi](#), Arvind Kumar Tiwari, Rao Martand Singh

Optimizing CAES Lined Rock Cavern Diameter

[Wenbin Fei](#), Aohui Zhou, Peng Li

Effect of Flow Velocity and Borehole Depth on Vertical U-pipe System on Shallow Geothermal Heat Exchangers: A Numerical Study

[Merillin Laishram](#), Dr. Sumeet Kumar Sinha

Impact of non-uniform temperature distributions on the stress behaviour of energy walls: a numerical study

[Mert Guner](#), Semra Polat, Ugur Can Erginag, Melis Sutman, Ozer Cinicioglu

Interaction effects in energy tunnels: A thermo-hydro-mechanical model incorporating small strain stiffness effects

Maria Julieta Rottemberg, [Asal Bidarmaghz](#), Arman Khoshghalb, Alejo Oscar Sfriso

Numerical simulation of driven and bored energy piles in sand under cyclic thermal loading

Bo Sun, [Chao Shi](#), Anthony Leung

Evaluation of hydraulic conductivity of bentonite in a wide range of hydraulic gradient up to 230,000

[Daichi Ito](#), Hailong Wang, Hideo Komine

TC309 Machine Learning and Big Data

Leveraging machine learning for enhanced load-settlement curve prediction of large-diameter piles in the Nile and Delta geoformations

[Hoda H. Mostafa](#), Mona B. Anwar, Mahmoud F. Awad Allah, Maggie Mashaly, Ziad A. Mostafa, Shehab S. Agaiby

Geo-ML: An online toolkit for probabilistic analysis of geotechnical assets using machine learning techniques

[Surya Sarat Chandra Congress](#), Raja Jaladurgam, Anas Hani Shaaban

Geo-risk assessment using GroundIQ® solution: Case histories on artificial intelligence-based method for 3D ground modelling

Simon Feller, Jean-François Vanden Berghe, Alexandre Boleve, [Malek Allani](#)

Use of computational design for analysing large CPT datasets for verification of ground improvement on high fill embankments

[Gabi Wojtowicz](#), Andre Broekman, Blaine Verhage, Hannes Taljaard

Application of Artificial Intelligence in Geotechnical Engineering: A Literature Review on Advances, Challenges, and Opportunities

[Mayssa Alves da Silva](#), Carmen Dias Castro

ELECTRONIC POSTERS

TC309 Machine Learning and Big Data

Proposal of estimation model for clay consolidation behavior using artificial neural networks and monte carlo cross-validation

Kazuhiro ODA

CEN/TC250/SC7 Eurocode 7

What remains true about hydraulic heave hundred years after the publication of Terzaghi's book "Erdbaumechanik"?

Markus Herten, Bernhard Odenwald

Advancing Pile Foundation Design: A Case Study on Bearing Capacity in Light of Second-generation Eurocode 7

Zsolt Szilvagy

Young Engineers (born after 1991)

Study of unpaved pavement layers under monotonic loading using scaled models

PHANINDRA GUDAPATI, UMASHANKAR BALUNAINI

DEM simulation of 1D compression tests on pumice sands using bonded element model

Denny Budiman, Rolando P. Orense

Shear strength properties of Tout-Venant material from large direct shear tests

Loïc Gatti, José Rocha, Patrick Mengé, Sylvie Nicaise

Enzyme-Induced Struvite Precipitation in Soils: Crystal Characterization and Soil Improvement

Junghoon Kim, Daehyun Kim, Tae Sup Yun

Effect of Treatment Volume on Bio-cemented Sand Under Cold Temperature

Pukar Joshi, Mohammad Khosravi, Adrienne Phillips, Alfred Cunningham, Sabine Olds, Jessica Rahn, Michael Carter

Frost heave in lime stabilized danish clay till

Arthur Kraglund Stës, Patrick Strandgaard Laursen, Rasmus Clement Bødtker

Numerical modelling of a box-type foundation with control piles, pile number effect

Rubén Domínguez-Alfaro, Gabriel Auvinet, Norma Patricia López-Acosta, Walter Paniagua, Rigoberto Rivera, Marco Pérez, Rodrigo Rodríguez

Geological Uncertainty and Its Consideration in Geotechnical Analysis by Means of the Finite Element Method

Johannes Leo, Georg Erharter, Franz Tschuchnigg

The laterally static loading test of the rock-socketed closed diaphragm walls

Zhenzhao Sun, Weiming Gong

Prediction of settlement for vertically loaded strip footings founded on clay

Ryan Sabzevari, George Mylonakis, Dimitris Karamitros, Jamie Crispin, Abigail Bateman

Diffusion through bentonite polymer composites and correlations with hydraulic and index properties

Daniel D. Adeleke, Kristin M. Sample-Lord, Jonathan Hubler

Beyond recycling: transforming municipal solid waste into sustainable middle distillate fuels

Ryann Khalil, Susan Elizabeth Burns

Young Engineers (born after 1991)

Mechanical behaviour of bitumen emulsion treated-lateritic gravels

Zinisom Giovanni KABORE, Mohammed NOUALI, Layella ZIYANI, Omar BOUAYAD, Myriam DUC

Assessment of the impact of vertical drainage system on dump stability

Jakub Rainer, Marek Kawa, Mikołaj Masłowski, Maciej Sobótka, Adrian Rózański, Dariusz Łydzba

Influence of soil water content on filter cake formation during drilling fluid injection

Richard INDOMBE AMBA, Nasre-Dine AHFIR, Saber IMANZEDEH, Abdellah ALEM, Tariq OUAHBI, Anne PAN-TET, Christophe JUSTINO, Olivier MADEC, Philippe GOTTELAND, Massinissa BENABDELLOUAHED

Numerical analysis of soil arching with consideration of suction effect

Shun Liu, Yu-Jun Cui, Chuang Zhao, Xuecheng Bian, Yunmin Chen

Numeric analysis of structurally different pile foundations under lateral loading

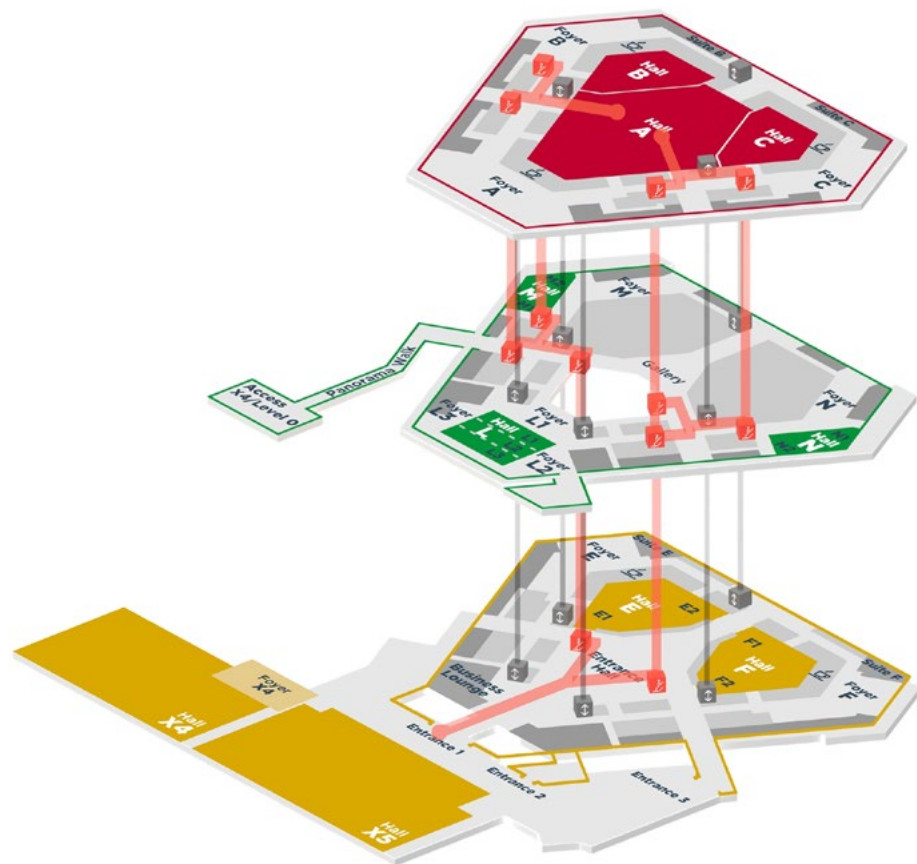
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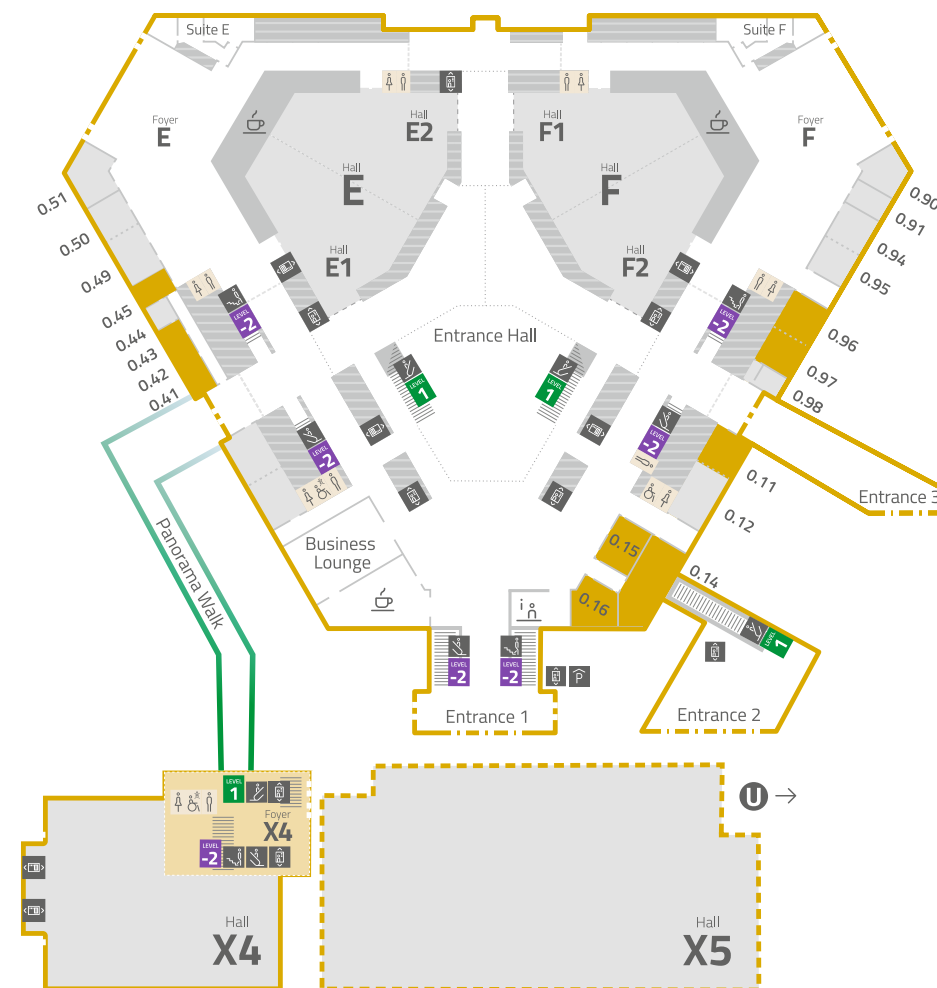
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WORK ON PROGRESS



OVERVIEW

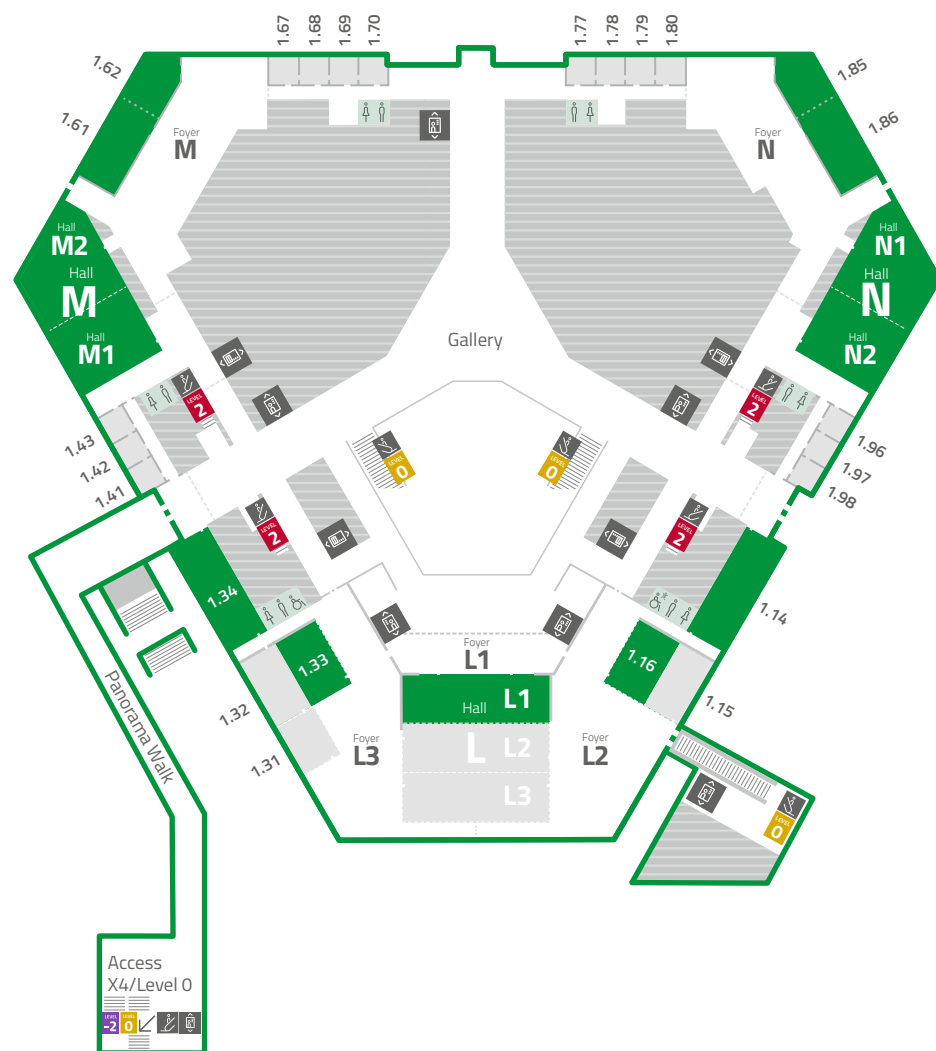


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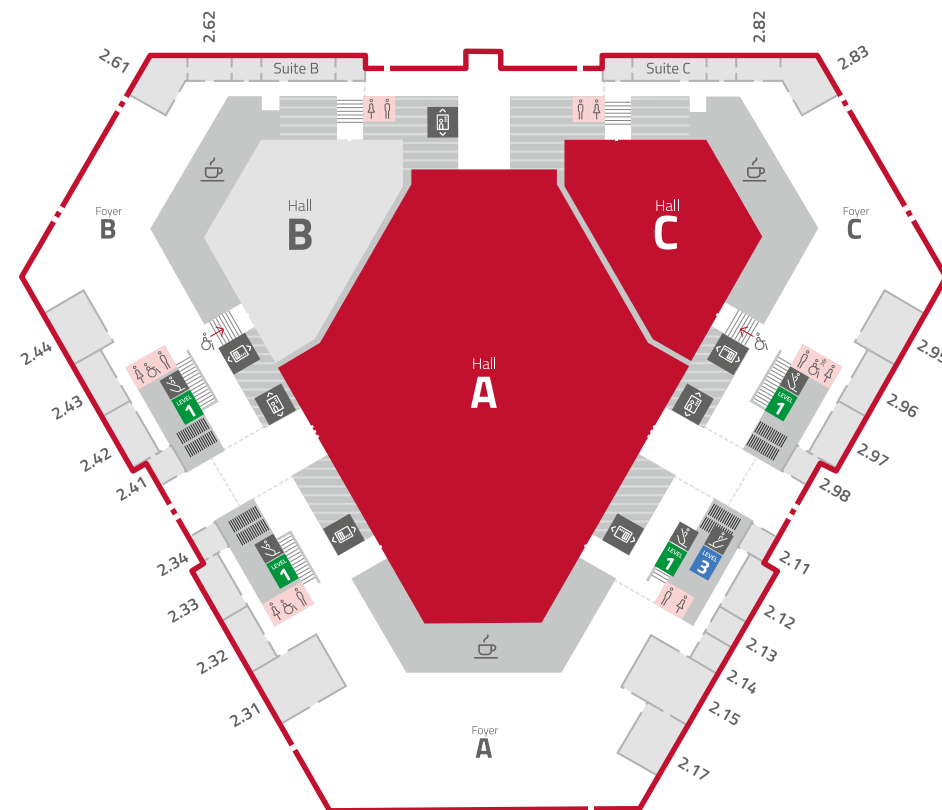


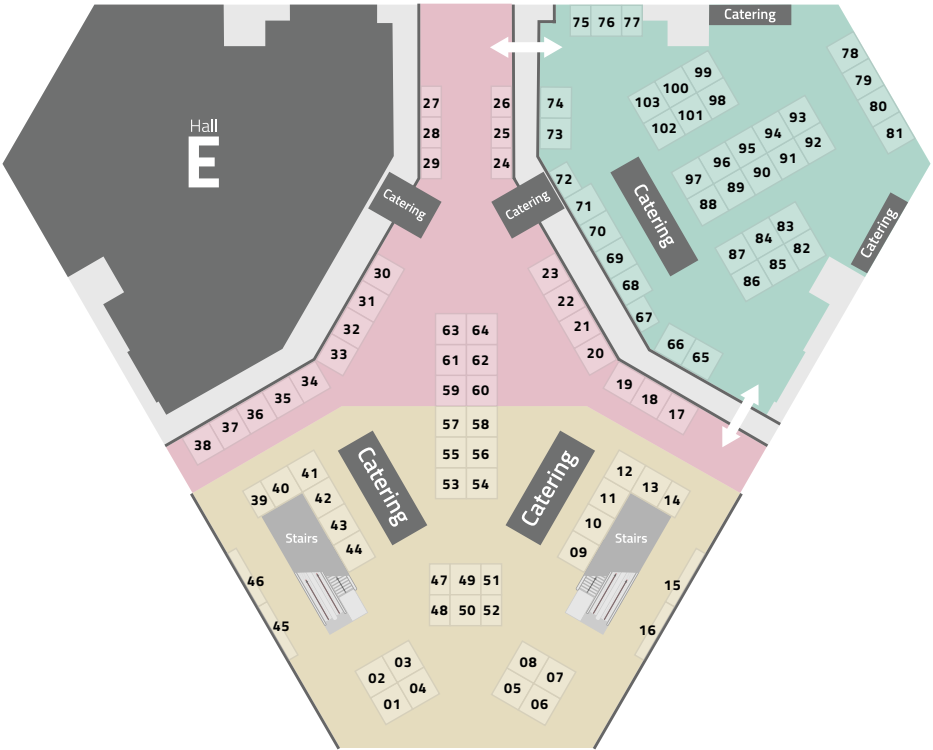
VENUE LEVEL PLANS

LEVEL 1



LEVEL 2





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We hope your time at the conference was
inspiring, insightful, and filled with valuable
experiences and new connections.

We look forward to welcoming you here again in
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