

7th International Conference on Geotechnical and Geophysical Site Characterization

ISC'7 2024

18-21 June, 2024
Barcelona, Spain



PROGRAMME



**7th International Conference on
Geotechnical and Geophysical Site
Characterization.
ISC'7 2024**

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**Barcelona, Spain
June 18-21, 2024**

A publication of:

**International Centre for Numerical
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Spain

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PREFACE

The ISC (International Conference on Geotechnical and Geophysical Site Characterization) conferences are regular events promoted by ISSMGE's TC102 (Technical Committee for Ground Property Characterization from In-Situ Tests) to gather experts and practitioners in the areas of geotechnical characterization, with special emphasis on in situ mechanical and geophysical testing tools and procedures. Since 1998, geotechnical engineers, geologist and geophysicists from all over the world have gathered at ISCs in Atlanta (1998), Porto (2004), Taipei (2008), Recife (2012), Gold Coast (2016) and Budapest (2021) to share their knowledge and experiences.

That successful sequence will continue in Barcelona (Spain) where the 7th ISC will take place at the Campus Nord facilities of UPC BarcelonaTech from the 17th to the 21st of June 2024. Endorsed by the Spanish Society for Soil Mechanics, ISC7 aims to be a gathering point for all professionals and experts in the field. The conference sessions will blend applications and research in the field with focal points on aspects such as the development of ground models for large and small projects, the direct application of in situ tests for design of geotechnical structures, the development of new testing apparatus and procedures, the integration of monitoring techniques in site characterization, the role of big data and machine learning in site characterization, the use of numerical simulation techniques as an aid to geotechnical and geophysical testing or the specific challenges associated with the characterization of tailing storage facilities.

*Marcos Arroyo
Universitat Politècnica de
Catalunya, Barcelona, Spain*

*Antonio Gens
Universitat Politècnica de
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Universitat Politècnica de Catalunya, Spain

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NUESTROS PROYECTOS
DE INGENIERÍA



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- Antonio Viana da Fonseca
- Yu Wang
- Darren Ward
- Jędrzej Wierzbicki

PLENARY LECTURES

Plenary lectures will be delivered by scientists of international prestige in the field of the conference.

Prof. Barry Lehane

University of Western, Australia

11h James K. Mitchell Honour Lecture

Ongoing development of applications of the Cone Penetration Test in interpretation and design

Prof. Sebastiano Foti, Prof. Rodrigo Salgado & Prof. Renato Lancellotta

Politecnico di Torino, Italy; Purdue University, USA & Politecnico di Torino, Italy

Plenary session "In memoriam" Michele Jamiolkowski

The Legacy of Michele Jamiolkowski to Geotechnical Engineering

Prof. Pierre Breul & Dr. Philippe Reiffsteck

Polytech Clermont, France & University Gustave Eiffel, France

Instrumented dynamic penetrometers for geotechnical characterization and testing

Prof. Jianye Ching & Prof. Kok-Kwang Phoon

National Taiwan University, Taiwan & Singapore University of Technology and Design, Singapore

Recent advancements in data-driven site characterization

Prof. Cesare Comina

Università degli Studi di Torino, Italy

Combined resistivity and seismic measurements along linearly extended earth structures - acquisition and interpretation approaches

Dr. Cecille Cornou

University of Grenoble, France

Passive seismic methods for site characterization

Dr. Jose Estaire & Dr. Timo Schweckendiek

Laboratorio de Geotecnia – CEDEX, Spain & Deltares, The Netherlands

Treatment of uncertainties in site characterization in second-generation Eurocode 7

Prof. Alejandro Martinez, Dr. Yuyan Chen & Ms. Riya Anilkumar

University of California Davis, USA; Tianjin University, China; University of California Davis, USA

Bio-inspired site characterization - towards soundings with lightweight equipment

Dr. Lluís Monforte, Prof. Marcos Arroyo & Dr. Antonio Gens

CIMNE, Spain; UPC-CIMNE, Spain & UPC-CIMNE, Spain

Simulation-aided geotechnical site investigation

Dr. Bruno Stuyts

Department of Civil Engineering, University of Ghent, Belgium

Machine learning tools for the treatment of offshore site investigations

BRIGHT SPARK LECTURES

Dr. Alexandre Lopes

Terrasol (Setec group), France

Innovative procedures to derive ground moduli from pressuremeter tests

Dr. Maddy Murali

Fugro, The Netherlands

Soil spatial variability at monopile scale

Dr. Zhongkun “Frankie” Ouyang

Institute for Ocean Engineering at Tsinghua Shenzhen International Graduate School (Tsinghua SIGS) and Ocean Geotechnics Lab (OG Lab), China

Effective stress strength of sands, silts, and clays from In-Situ Testing

Dr. Shi Chao

School of Civil and Environmental Engineering at Nanyang Technological University, Singapore

A Machine Learning Paradigm for Subsurface Stratigraphy from Sparse Data

SILVANO MARCHETTI AWARD

Dr. Simon Oberhollenzer, Dr. Einar John Lande, and Dr. Stefan Ritter

Norwegian Geotechnical Institute, Norway; Norwegian Geotechnical Institute, Norway and Oslo Metropolitan University, Norway

The influence of soil structure on CPTu and SDMT results

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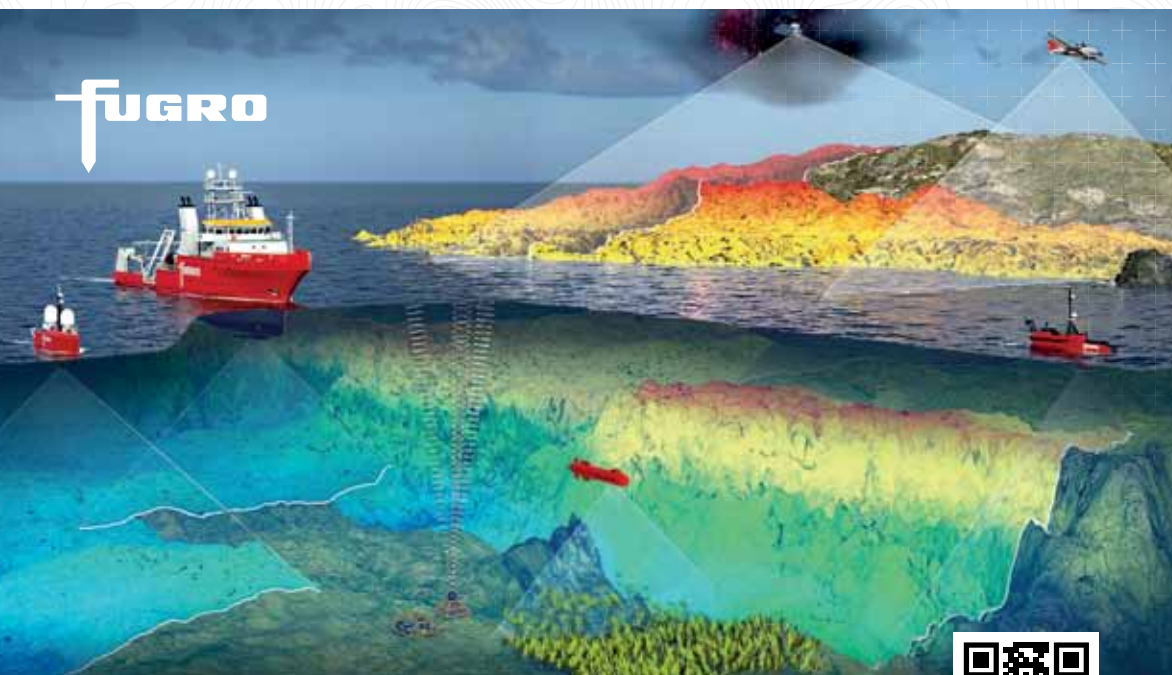
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Plenary session "In memoriam" Michele Jamiolkowsk



Prof. Michele (Mike) Jamiolkowski, who recently passed away, was, apart from his other academic, professional and organizational merits, an outstanding figure in the field of geotechnical and geophysical site characterization. For this reason, the organizing committee of ISC'7, with full support from TC102 took the decision of including in the program a plenary session in his memory.

The session will be dedicated to highlight the contributions of Prof. Jamiolkowski to the field of geotechnical and geophysical site characterization, emphasizing their originality and historical importance but also discussing their current relevance

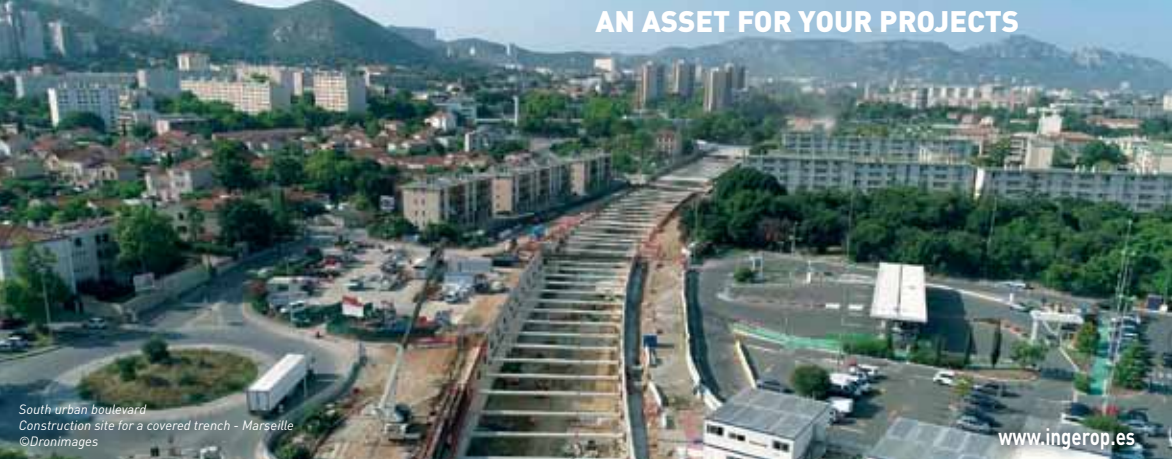
The session speakers will be Professor Sebastiano Foti (Politecnico Torino) and Professor Rodrigo Salgado (Purdue University, USA)

Prof. Sebastiano Foti
Politecnico Torino, Italy

Prof. Rodrigo Salgado
Purdue University, USA

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ISC'7 COURSES

COURSE 1: NON-INVASIVE SITE CHARACTERIZATION USING OPEN-SOURCE TOOLS

Day and time	Monday 17th of June 2024, all day, within 9 am and 6 pm (exact schedule to be confirmed)
Place	North Campus UPC (C4 Building, 204 room)
Total teaching hours	8 hours

Introduction and Background

Introduction and Background

09:00 – 09:10	Welcome and Participant Introductions
09:10 – 09:30	Overview of Seismic Site Characterization Methods

Fundamentals of Data Processing and Interpretation

09:30 – 10:45	Active-Source and Passive-Wavefield Surface Wave Methods
10:45 – 11:00	Coffee Break (Plaça Telecom)
11:00 – 12:30	Surface Wave Inversion
12:30 – 13:00	Horizontal-to-Vertical Spectral Ratio (HVSr)
13:00 – 14:00	Lunch Break (Plaça Telecom)

Demonstration of Open-source Software Tools

14:00 – 15:30	Using swprocess and Geopsy for active-source and passive-wavefield dispersion processing and quantification of dispersion uncertainty
15:30 – 15:45	Afternoon Break (Plaça Telecom)
15:45 – 16:15	Using hvsrpy for HVSr processing
16:15 – 17:45	Using Geopsy/Dinver and swprepost within the SWinvert workflow to perform rigorous surface wave inversion and quantify uncertainty.
17:45 – 18:00	Final Comments and Questions

Course Lecturers

Dr. Joseph Vantassel

University (Virginia Tech), United States

Dr. Brady Cox

Utah State University (USU), United States

COURSE 2: IN SITU TESTING USING THE DMT AND SHEAR WAVE VELOCITY MEASUREMENTS WITH SEISMIC PROBES (SDMT AND SCPT)

Day and time	Monday 17th of June 2024 Full day from 9 am to 6 pm Morning session from 9 am to 1 pm Afternoon session from 2 pm to 6 pm Lunch break from 1 pm to 2 pm, included for each option
Place	North Campus UPC (C4 Building, 205 room)
Total teaching hours	8 hours (4+4)

Course Outline

Main Speaker: Eng. Diego Marchetti

09:00 – 09:45	Flat Dilatometer (DMT) Equipment, Penetration Machines, Test procedures, Standards
09:45 – 10:45	Seismic Dilatometer (SDMT) and Seismic CPT (SCPT) Equipment, Wave Sources, Test Procedure, Shear Wave Velocity (V_s), Offshore Seismic Testing. Compression Wave Velocity (V_p): current state and major challenges
10:45 – 11:00	Coffee Break (Plaça Telecoms)
11:00 – 12:00	Fully Automated Dilatometer (Medusa DMT) Equipment, Standard test procedures, Innovative Test Procedures, Comparison with standard DMT equipment, Medusa SDMT, Deep Offshore Testing using Seabed Penetrometers and Medusa DMT
12:00 – 12:30	Sample Measurements with the equipment Simulation of measurements with DMT, SDMT and Medusa DMT equipment
12:30 – 13:00	Recommendations for field operators: Maintenance tools and procedures, training videos, avoiding pitfalls, refining data processing
13:00 – 14:00	Lunch Break (Plaça Telecoms)
14:00 – 15:00	<i>Speaker: Paola Monaco</i> DMT/SDMT geotechnical applications Settlements of shallow foundations, In situ G-y decay curves, Monitoring ground improvement, Detection of slip surfaces in OC clayey slopes, Design of laterally loaded piles (P-y curves), Design of diaphragm walls (FEM input parameters), Liquefaction assessment
15:00 – 15:30	<i>Speaker: Damasco Penna</i>

	Practical applications of the DMT test in geotechnical engineering: - Analysis of landfill compaction conditions; - Identification of the support capacity of warehouse floors for storing goods.
15:30 – 16:00	Coffee Break (Praça Telecom)
16:00 – 17:00	<i>Speaker: Sara Amoroso</i> Worked examples on DMT/SDMT applications Settlements of shallow foundations, Ground response analysis, Liquefaction assessment
17:00-18:00	Questions and Closing Remarks

Course Lecturers

Eng. Diego Marchetti

Studio Prof. Marchetti, Italy

Prof. Paola Monaco

University of L'Aquila, Italy

Prof. Sara Amoroso

University of Chieti-Pescara, Italy

Dr. Antônio Sérgio Damasco Penna

Mackenzie University, Brazil

COURSE 3: SIMULATION OF INSERTION PROBLEMS IN GEOTECHNICS USING G-PFEM

Day and time	Monday 17th of June 2024
Place	North Campus UPC (C4 Building, 206 room)
Total teaching hours	5 hours of teaching + 2 hours of supervised hands-on training

Course Outline

09:00 – 09:45	General introduction PFEM, previous work, Installation of G-PFEM
9:45 – 10:45	Introduction to modelling boundary value problems in G-PFEM Hands-on modelling of a footing problem
10:45 – 11:00	Coffee Break (Plaça Telecos)
11:00 – 13:00	Cone penetration testing using CASM (I) Model setup, processing CPTu data, introduction on CASM
13:00 – 14:00	Lunch break (Plaça Telecos)
14:00 – 15:30	Cone penetration testing using CASM (II) Continuation & hands-on modelling
15:30 – 16:00	Coffee Break (Plaça Telecos)
16:00 – 17:30	Hands-on session "Build your own model" & discussion/questions Pile penetration, modified CPTu geometry, etc.

Course Lecturers

Laurin Hauser
CIMNE, Spain

Lluís Monforte
CIMNE, Spain

Katia Boschi
Politecnico di Milano, Italy

Josep Maria Carbonell
UPC, Spain

COURSE 4: MONITORING WHILE DRILLING

Day and time	Monday 17th of June 2024 Mid-day, Afternoon (within 2 pm to 6 pm)
Place	North Campus UPC (C1 Building, 007 room – Sala Polivalent)
Total teaching hours	3 hours

Course Outline

Measurements While Drilling basics

14:00 – 14:30	Basic principles: Jean Benoit
14:30 – 15:00	MWD equipment: Michael Rodgers (MWD One) (remotely)
15:00 – 15:30	MWD standardization: Phillippe Reiffsteck (EN-ISO) Ben Rivers (FHWA) (remotely)
15:30 – 16:00	Coffee Break (Plaza Telecom)

Measurements While Drilling applications:

16:00 – 16:20	Site characterization: Jean Benoit and Bruma Souza
16:20 – 16:40	Deep foundations design and QA/QC: Michael Rodgers (remotely)
16:45 – 17:15	Measurement while drilling 101 - group exercises (all)
17:15 – 17:30	Discussion and Q&A

Course Lecturers

Jean Benoit

University of New Hampshire, United States

Michael Rodgers

University of Florida, United States

Phillippe Reiffsteck

Blaise Pascal University, France

Benjamin Rivers

Federal Highway Administration, United States

Bruma Souza

Federal University of Rio Grande do Norte, Brazil

INVITED MINISYMPOSIA

Monitoring While Drilling

J. Benoit (University of New Hampshire, United States), P. Reiffsteck (Université Gustave Eiffel, France) and M. Rodgers (University of Florida, United States)

Modelling Spatial Variability and Uncertainty in Site Characterisation for Geotechnical Applications

W. Pula (Wrocław University of Science and Technology, Poland), G. Vessia (University "G.d'Annunzio" of Chieti-Pescara, Italy), D. Di Curzio (Delft University of Technology, Netherlands) and J. Ching (National Taiwan University, Taiwan)

Mynisimposia on field monitoring in geomechanics

J. Raventos (SOCOTEC, Spain)

Pressuremeter tests minisymposium

J. Habert (Terrasol, France), P. Reiffsteck (uge, France) and J. Baud (Eurogé, France)

Innovation in DMT & SDMT Testing: Technological Developments, Advancements in Interpretation and Recent Applications

P. Monaco (University of L'Aquila, Italy), S. Amoroso (University of Chieti-Pescara, Italy) and D. Marchetti (Studio Prof. Marchetti, Italy)

Direct-push Seismic testing for Shear and Compression Wave Velocities

D. Marchetti (Studio Prof. Marchetti, Italy) and B. Cox (Utah State University, United States)

Dynamic penetrometers for soil characterization: instruments, models and applications

J. M. Benz Navarrete (Sol Solution, France), P. Reiffsteck (Université Gustave Eiffel, France), J. DeJong (University of California Davis, United States) and P. Breul (Université Clermont Auvergne, France)

Data-Driven Methods in Site Characterization: Opportunities and Challenges

J. Vantassel (Virginia Tech, United States) and B. Cox (Utah State University, United States)

Digital and Intelligent Site Characterization

Y. Wang (City University of Hong Kong, China, Hong Kong) and C. Shi (Nanyang Technological University, Singapore)

Real-time monitoring of natural and man-made land forms

C. Vulpe (The University of Western Australia, Australia) and A. Fourie (The University of Western Australia, Australia)

Field Monitoring of Variables and Processes in Unsaturated Soils

E. Romero (Universitat Politècnica de Catalunya / CIMNE, Spain) and C. Jommi (TUDelft, Netherlands)

New Insights on In Situ Testing through Numerical Modelling

L. Hauser (UPC, Spain), S. Collico (DMT, Germany) and L. Monforte (CIMNE, Spain)

Experimental and Numerical Techniques for Advanced Dynamic Characterization of Geomaterials

I. Moldovan (Lusófona University, Portugal), A. Gomes Correia (University of Minho, Portugal) and E. Ibraim (University of Bristol, United Kingdom)

Sources Of Error In CPT

A. McConnell (Insitu Geotech Services (IGS), Australia)

Advanced Characterisation of Soil Stiffness for Offshore Wind Foundations

R. Soage Santos (Ørsted, Spain), A. Augustesen (Ørsted, Denmark) and J. Powell (Geolabs, United Kingdom)

From measurement to reliable in situ geotechnical site characterization – statistical data processing

J. Wierzbicki (Adam Mickiewicz University, Poznań, Poland) and W. Wołyński (Adam Mickiewicz University, Poznań, Poland)

Minisymposium: Thermal site characterization for power cable and shallow geothermal energy design

L. Vrielink (Fugro, Netherlands), N. Parasie (Fugro, Netherlands) and J. Peuchen (Fugro, Netherlands)

Emerging Technologies in Geotechnical and Geophysical Site Characterisation for Offshore Wind Turbine Foundations

L. Prendergast (University of Nottingham, United Kingdom), K. Gavin (Delft University of Technology, Netherlands) and G. Eiksund (Norwegian University of Science & Technology, Norway)

OTHER CONFERENCE TOPICS

- 100 Technological developments in geotechnical and geophysical field testing instruments and procedures
- 200 Interpretation of in situ test results
- 300 Data driven site characterization
- 400 Ground models: procedures and results
- 500 Direct design of geotechnical structures based on in situ test results
- 600 Monitoring for site characterization
- 700 Thermal and thermomechanical site characterization
- 900 Remote sensing in site characterization
- 1000 Characterization of human-originated deposits (tailings, MSW, fills...)
- 1100 Simulation aided site characterization
- 1200 Uncertainty and variability in site characterization
- 1300 Rock and residual soil characterization
- 1400 Liquefaction risk assessment
- 1500 Sustainable site investigation
- 1600 Case histories
- 1700 Other topics

CONFERENCE INFORMATION

Conference Venue

Vèrtex Building – North Campus of Universitat Politècnica de Catalunya (UPC): Plaça d'Eusebi Güell, 6, 08034, Barcelona, Spain



The Universitat Politècnica de Catalunya - BarcelonaTech (UPC) is a university with a consolidated worldwide reputation and an international vision that generates technological innovation and attracts talent.

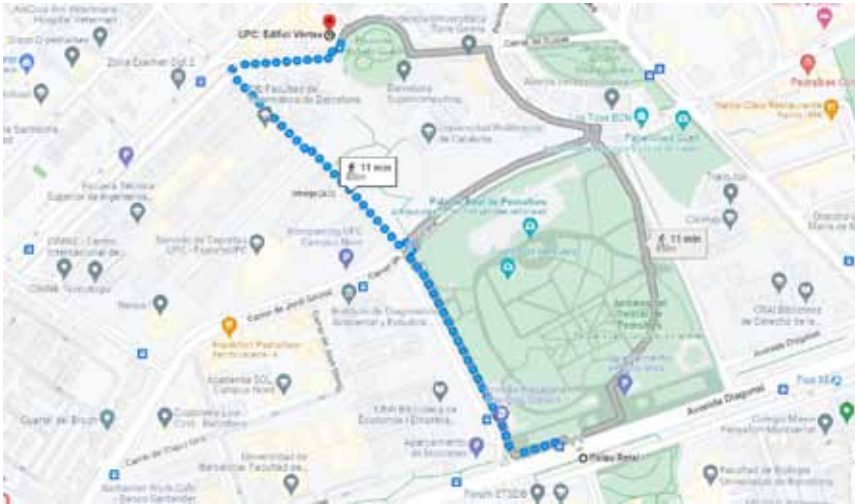
UPC main campus is located in Barcelona with other campus locations at Castelldefels, Manresa, Sant Cugat del Vallès, Terrassa and Vilanova i la Geltrú.

How to get to the Conference Venue:

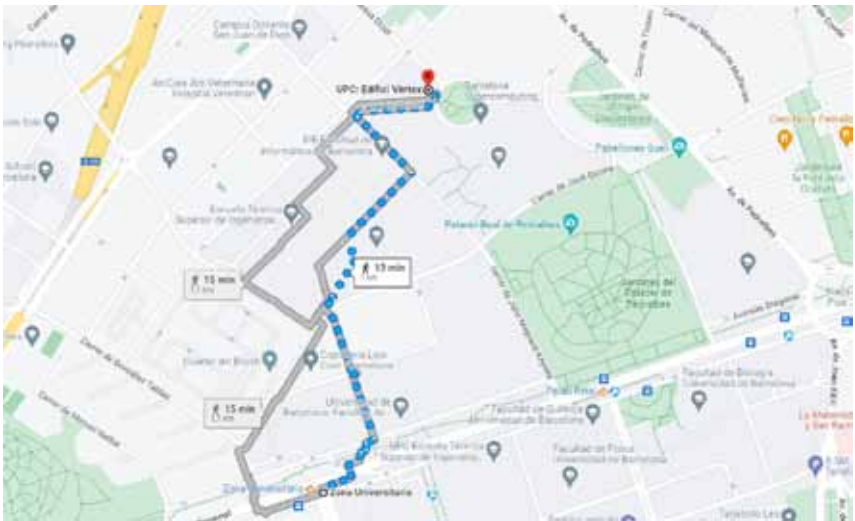
From Barcelona downtown:

The nearest metro stations to get to the conference venue are "Palau Reial" or "Zona Universitaria", both in Line 3 (green line).

Walking distance from Palau Reial (11 minutes):



Walking distance from Zona Universitaria (13 minutes):



From the Barcelona El Prat Airport:

By Metro:

The fastest way to get to the Conference Venue from the airport by public transportation is to take Line 9 from T1 or T2 in Barcelona El Prat Airport.

Last stop of Line 9 is "Zona Universitaria".

By train:

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From Airport to Estació de Sants.

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Conference Rooms

Main Auditorium at Vèrtex Building



The Conference Secretariat **registration desk** will be located at the ground level of the **Vèrtex Auditorium Building**.

The Main Auditorium will hold Plenary Lectures, technical sessions and both opening and closing ceremonies.

Capacity: 477 seated people



All the other technical sessions will take place at Vèrteç (Sala d'Actes), Màster Room (A3 Building) and Camins Auditorium (C2 Building, 001 room).



Courses Rooms

Courses will take place at A4 Building in rooms 204 (COURSE 1), 205 (COURSE 2) and 206 (COURSE 3), and C1 Building, 007 room (COURSE 4).



Poster Presentation Areas

The poster areas at ISC'7 will consist of the 2 different spaces: **Main Auditorium Hall & Polyvalent Hall** (right next to MÀster Room).



Exhibitors' Area

Exhibitors will be located at Plaça Telecos both in **Sala Àgora** and **Sala CENIT**.

You will be able to visit them throughout the conference, from **Tuesday June 18 to Thursday June 20, 2024**.

See the map below to check the exact location of both rooms at Plaça Telecos:



Registration

Registrations will start on **Monday June 17, 2024, from 8:00 to 19:00** at **Aula Màster**:

Universitat Politècnica de Catalunya (UPC)
Aula Màster (A3 Building) North Campusd
Carrer de Jordi Girona, 1, Les Corts, 08034 Barcelona, Spain

All participants (both course participants and conference participants) are invited to register at Aula Master throughout the day.



Please make sure to show the confirmation email (sent a few days before the conference) with your **conference ID** at the registration desk.

If you cannot come and register on Monday June 17, 2024, **you can also register during the following days at the Vèrtex Building (Conference Venue).**



The procedure will be the same for the rest of the days. You can come to the registration desk (at the Vèrtex Building) with your confirmation email and you will be able to collect your badge.

However, in order to be able to give you the best experience at the conference and to guarantee a smooth running of the organization, **we strongly advise you to register on Monday June 17, 2024 (from 8:00 to 19:00) at Aula Màster.**

Presentations

Time

Each regular presentation is allocated 10-15 minutes, at the discretion of the session chair, depending on the number of presentations in the session. Times quoted include time for 1-2 questions from the floor.

Equipment

All parallel session rooms will be equipped with a PC and a PC projector.

Please bring your presentation on a USB storage device and download and save your presentation in the PC located in the meeting room where you have been allocated to present. You can do it during the coffee-break before your schedule time.

If you have any technical problems during the sessions, you will have an assistant to help you.

Moderators of sessions will be asked to be strict on time.

Recommendations for your presentation

In order to prepare your slides for oral presentation please take also into account that, because of projects available at the conference venue, it is required a **16:9 aspect ratio**.

If you are using PowerPoint, we recommend you to adjust the slide size in Design->Page Setup menu and choose 16:9 ratio to ensure the compatibility.

We strongly encourage speakers to go to their conference room 10 minutes before the session starts in order to upload their presentation in the room's computer and do a quick test.

Social Programme

Welcome Reception

The **Welcome Reception** will be held on **Monday, June 17, 2024**, in Plaça Telecos at **18:30**.



Coffee breaks and Lunchs

Coffee breaks and lunchs for the courses on **Monday June 17, 2024**, will be held in Plaça Telecos.

During the conference, **coffee breaks** will take place from **Tuesday June 18 to Thursday June 20, 2024**, both in Plaça Telecos and Vèrtex Terrace.

Lunch breaks from **Tuesday June 18 to Thursday June 20, 2024** will take place at Plaça Telecos. Lunchs will consist of a lunch box for each participant.

Please check the programme overview section to see the exact schedules. We also invite you to take a look at the map below to see the exact location of the Welcome Reception, Coffee Breaks and Lunchs:



Conference Banquet

The **Conference Banquet** will take place at **Museu Marítim** (Barcelona, Spain) on Wednesday June 19, 2024, at 20:30.

Address: Avinguda Drassanes s/n, 08001 Barcelona, Spain



Emergency Calls

Emergency: 112

Ambulance: 061

Fire Emergency: 080

Police: 092

Conference Secretariat Congress Bureau

Phone: (+34) 93 405 46 94

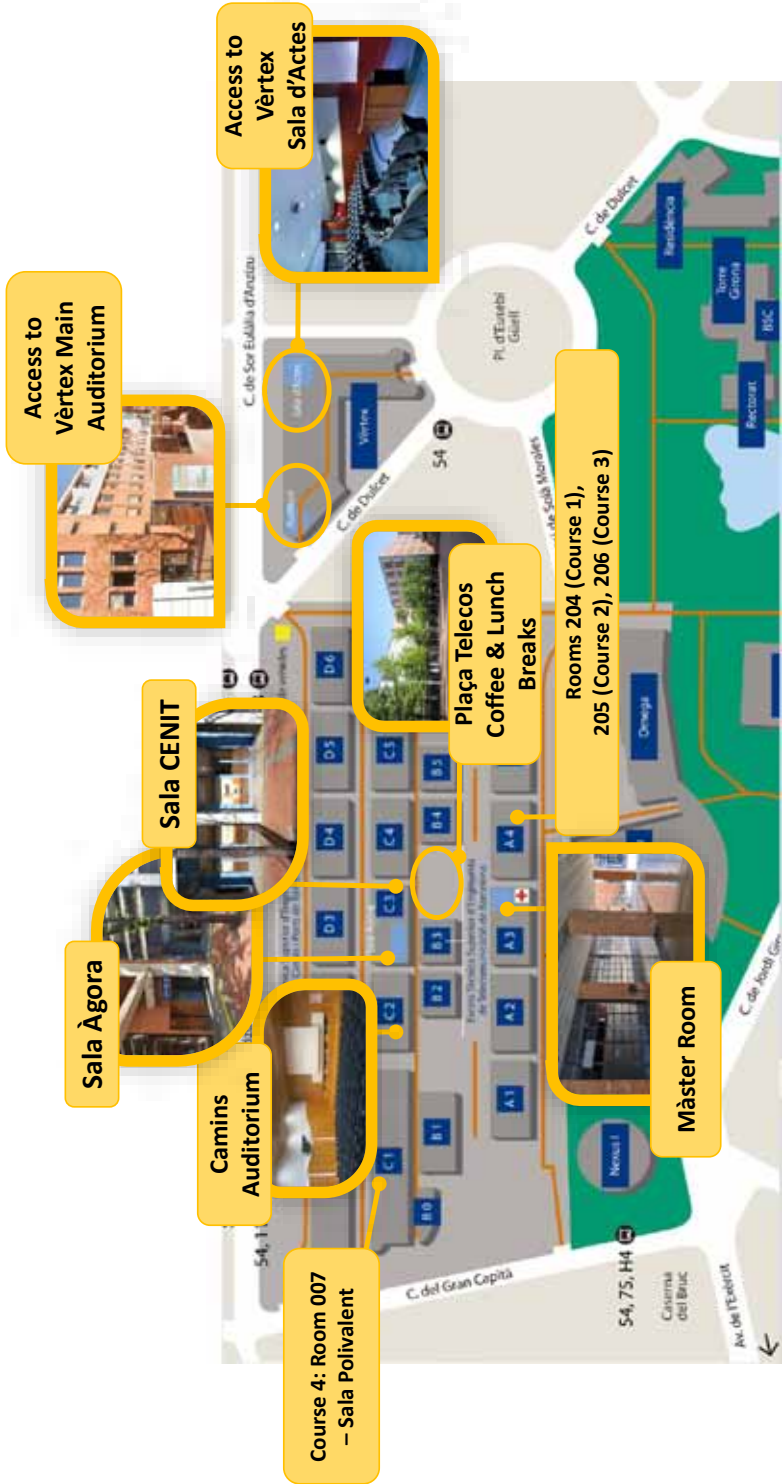
Email: isc2024sec@cimne.upc.edu

Campus Nord UPC, Building C1 - Office C4

C/ Gran Capità, S/N 08034 Barcelona, Spain



MAPA GENERAL



TECHNICAL PROGRAMME OVERVIEW

Time	Monday 17th June, 2024	Tuesday 18th June, 2024	Wednesday 19th June, 2024	Thursday 20th June, 2024	Friday 21st June, 2024
8:00-8:30					
8:30-9:00		Opening			
9:00-9:30	Courses	Plenary Lecture I	Plenary Lecture III	Plenary Lecture V	Technical Visits
9:30-10:00					
10:00-10:45					
10:45-11:00	Coffee Break		Coffee Break		
11:00-11:30		Coffee Break	Coffee Break	Coffee Break	
11:30-12:00	Courses	Parallel Session	Parallel Session	Parallel Session	
12:00-12:30					
12:30-13:00					
13:00-13:30	Lunch	Lunch / Exhibition / Poster	Lunch / Exhibition / Poster	Lunch / Exhibition / Poster	
13:30-14:00					
14:00-14:15					
14:15-15:00	Courses	Plenary Lecture II	Plenary Lecture IV	Parallel Session	
15:00-15:30					
15:30-16:00	Coffee Break				
16:00-16:15	Courses				
16:15-16:45		Coffee Break	Coffee Break	Coffee Break	
16:45-17:30				Plenary Lecture VI	
17:30-18:15			Parallel Session	Closure	
18:15-18:30		Parallel Session			
18:30-18:45	Welcome				
18:45-19:00					
19:00-19:30					
19:30-20:00					
20:00-20:30					
20:30-00:00			Gala Dinner		

DETAILED TECHNICAL PROGRAMME

ISC7 Technical Programme

Last updated: 2024-06-12 17:41

Monday, 17/06/2024

Mon, 17/06/2024 09:00 - 18:00

C1 - Course 1 - Non-Invasive Site Characterization Using Open-Source Tool

A4 Building - 204 Room

Mon, 17/06/2024 09:00 - 18:00

C2 - Course 2 - In Situ Testing Using the DMT and Shear Wave Velocity Measurements with Seismic Probes (SDMT and SCPT)

A4 Building - 205 Room

Mon, 17/06/2024 09:00 - 17:00

C3 - Course 3 - Simulation of Insertion Problems in Geotechnics Using G-PFEM

A4 Building - 206 Room

Mon, 17/06/2024 14:00 - 18:00

C4 - Course 4 - Monitoring While Drilling

C1 Building - 007 Room

Mon, 17/06/2024 18:30 - 20:00

Welcome Cocktail

Plaçã Telecos

Tuesday, 18/06/2024

Tue, 18/06/2024 08:30 - 09:00

Main Auditorium

OC - Opening Ceremony

Chaired by: Prof. Marcos Arroyo (CIMNE)

Tue, 18/06/2024 09:00 - 11:00

Main Auditorium

PSI - Plenary Session I

Chaired by: Prof. Jason DeJong (University of California Davis)

9h00 - 9h20 JK Mitchell

***H. S. Yu**

9h20 -10h20 The Eleventh J.K. Mitchell Honour Lecture - Ongoing development of applications of the Cone Penetration Test in interpretation and design

***B. M. Lehane**

10h20 - 11h00 Silvano Marchetti Award (SMA) in memory of Professor Silvano Marchetti 1943-2016

***D. Marchetti**

Tue, 18/06/2024 11:00 - 11:30

Plaça Telecoc and Vèrteç garden

Coffee Break

Tue, 18/06/2024 11:00 - 19:00

Polyvalent Hall

18A/18B - PSP - 18A/18B - POSTER SESSION MASTER

Development of international standard on the use of geotechnical instrumentation under the ISO umbrella

***J. Raventos**

Towards the development of a standard for the PS suspension logger

R. Hen-Jones, G. Comber, P. Worthington, S. Garantini, I. Jones, ***R. Buckley**

Reliability-based Assessment of Deep Cement Mixing Column Based on Core Strength

***T. Namikawa**

A Soil Base Model of Adjacent Various Story Structures

O. Samorodov, ***S. Tabachnikov**

In-situ Characterization of Strength and Small-strain Stiffness in a Weathered Mudstone Profile

***K. Briggs**, Y. Trinidad Gonzalez, G. Meijer, W. Powrie, N. Sartain, S. Butler

Identification of random field for ground stiffness by data assimilation based on surface wave method and sounding tests

***S. Nishimura**, Y. Ren, T. Shibata, T. Shuku

Modeling and Characterizing Locally Subsiding Ground for the Analysis and Design of Mat Foundations

***D. Coduto**

Case studies for temporal variability In site characterisation

***B. Look**

How much does the spatial variability of CPTu measurements affect the hydro-mechanical variables' estimation?

***G. Vessia**, D. Di Curzio, W. Pula

Pleistocene and early Holocene palaeo-landscapes of the Dogger Bank South Wind Farm Sites

***M. van Cappelle**, L. Arlott, W. van Kesteren

Ambient Seismic Noise Imaging for Tailings Storage Facilities Monitoring: a Benchmark between Accelerometers and DAS

***L. Vivin**, C. Vulpe, L. McNab, A. Fourie, J. Boshoff, N. Lester, C. Cai, T. Allemand, J. Lepine, T. Bardainne

Development of a Calibration Chamber System for Testing at High Confining Pressures

***M. Haynes**, D. Reid, R. Fanni, K. Smith

Record of long-term field observation of large-scale cutting slope

***S. Hijikata**, R. Kuwano, H. Nakamura

Restrictions of CPTu Based Interpretation Methods and Impact Thereof on Limit Equilibrium Modelling

***J. Visagie**, E. du Plessis

Methodology for Determining Optimum Vibrating Wire Piezometer Pairing Relationships in VWP Monitoring Clusters

***C. Meyer**

Using Combined Geotechnical and Geophysical Methods for Site Characterization of Ultra-Shallow Submerged Sites

***N. Stark**, M. Gardner, A. Lemnitzer

Site characterisation, data management and data integration for submarine cable landing Projects

V. TERENCE, ***M. Wetton**, H. Waterson, D. Hlxman

Prediction of Land Surface Subsidence in the U2 Metro Tunnel in Vienna

***O. Kichaleva**, D. Adam

Improving the reliability of sand-steel interface friction angle measurements based on the Ring Shear test

***A. Almukashfi**, S. Larsen, N. Katic

Tue, 18/06/2024 11:00 - 19:00

Main Auditorium Hall

18A/18B - PSV - 18A/18B - POSTER SESSION VERTEX

- Inherent and CPTu-measured Scale of Fluctuation of Undrained Geomaterials: a Numerical Perspective
***L. Monforte**, S. Collicio
- Impact of better pressuremeter interpretation on the cost of geotechnical structures
***R. Granjon**, J. Monnet
- CPTU Onshore Testing with Pre-Drilling and/or Re-Drilling of the Ground at the Port of Barcelona. Lessons Learned
J. RUBIO, ***L. CASAS**
- Geotechnical Characterization of an Earthfill Constructed from Schist Residual Soils
***N. Cruz**, J. Cruz, F. Paiva, C. Rodrigues, A. Ferreira
- Piezoball and T-Bar Application on a Brazilian Soft Soil Deposit
***J. Sosnoski**, A. Meier, G. Dienstmann, H. Nierwinski, E. Odebrecht, F. Mantaras
- Investigating crushing-induced particle shape change in granular material
***S. Allaev**, M. Kikumoto
- A practical method to derive shear modulus from pressumereter tests in clay
***J. HABERT**, A. LOPES
- A numerical analysis of CPT-based tip resistance prediction during pile installation in clays
***S. Zhou**, W. Zhang, A. Osman
- Finite element analysis of self-boring pressuremeter tests in clay
***Y. Dong**
- Plant Root Circumnutation-Inspired Penetration in Sand and Clay
***R. Anilkumar**, A. Martinez
- On the Effectiveness of MOSTAP Sampling in Tailings
***P. Oelofse**
- Nanotechnology Applied for Soil Stabilization - a Survey
***B. de Córdova Caetani**, H. Nierwinski, B. Karasiak Meneguz
- Analysis of Video Images obtained during Cone Penetration Testing
***G. Verbeek**, O. Khomiak, W. Bond
- When Did Geotechnical Data Become A Point Of View: A Case Of Numerical Analysis Vs Site Data
***B. G. Look**
- Geotechnical Characterization of Dredged Material from Rio Grande's Port, Brazil
***I. Soares Ribeiro**, H. Nierwinski, D. Freitas Fagundes, R. Pinheiro Maria
- Numerical study of viscous effects during CPTu
***L. Hauser**, D. Durán, L. Monforte, M. Arroyo, A. Gens
- Use of the Pocket G-PFEM to Predict Changes in Soil State
***J. Carneiro**, G. Pinto, A. Faria, M. Junior
- Use of geosynthetics to close a contaminated area in a metallurgical industry in the state of bahia
T. Andrade, I. Silva, L. Rezende, ***D. Eloi**, M. Neto
- Particle Crushing and Liquefaction Resistance of Crushable Aragonite Sands
***M. Saqib**, A. Das, N. Ranjan Patra
- Numerical and experimental assessment of steering forces during horizontal penetration in sand – a validation of a bio-inspired optimal tip shape
***F. Patino-Ramirez**, J. Salomon, Y. Yang, A. Holmes, C. O'Sullivan

Tue, 18/06/2024 11:30 - 13:00

Main Auditorium

18A - GS - 18A - GS Advances in geotechnical site characterization

Chaired by: Prof. Nilo Cesar Consoli (Universidade Federal do Rio Grande do Sul)

- Ground Model Workflow with DAARWIN
I. Jaqués, C. Cano, ***J. Llopart**, B. Solà, I. Aliguer
- Combining penetration resistance and shear-wave velocity to quantify soil microstructure for liquefaction assessment
***R. Andrus**
- Paired in situ tests for site characterization and geotechnical design optimization
***D. Berisavljević**, N. Božović, N. Stanić
- A CT-based approach to assess sample quality in soft soils
***J. Pineda**, N. Sau, K. Ouyang, M. Arroyo
- Interpretation of CPTu data using machine learning techniques to develop the ground model of a dam
***M. Sottile**, J. Crocker, L. Roldan

Tue, 18/06/2024 11:30 - 13:00

Vertex

18A - MS (II) - 18A - MS Pressuremeter Tests

Chaired by: Dr. Julien Habert (TERRASOL)

- Interpretation of the undrained pressuremeter test in unsaturated condition
***J. Monnet**, L. Boutonnier
- Expansion test with one unload-reload loop and pore pressure measurement, first interpretation of dissipation tests, Larivot site
V. Savatier, ***P. Reiffsteck**, A. Philippe, M. peronne
- Deriving Strength Parameters of Granitic Residual Soils from Menard Pressuremeter Tests
***C. Rodrigues**, N. Cruz, C. Mateus
- Comparative tests between Texam and Menard Pressuremeters
***L. Marçil**, G. Sedran
- Correlations Between The Pressuremeter And The Rigid Dilatometer Parameters In Soils
***C. JACQUARD**, T. BESSON, M. RISPAL, P. REIFFSTECK, F. SZYMKIEWICZ
- A Cylindrical Cavity Expansion Test on Sand
***S. Nachum**, M. Talesnick, M. Ghafghazi

Tue, 18/06/2024 11:30 - 13:00

Camins

18A - MS (III) - 18A - MS Emerging technologies in site characterization for Offshore Wind Towers

Emerging technologies in site characterization for Offshore Wind Towers
Chaired by: Dr. Luke Prendergast (University of Nottingham)

- Preliminary insights from Foundations for Offshore Wind Turbines (FRONTIERs) Doctoral Network
***L. Prendergast**, K. Gavin, M. Arroyo, G. Eiksund
- "Development and Preliminary Testing of a New Robotic Tool for Direct Determination of 'P-Y' Soil Reaction Curves for Offshore Geotechnical Applications"
***A. El Hajjar**, J. Creasey, E. Ibraim, A. Conn, G. Martin, A. Diambra, D. Igoe, D. White
- Linking multi-sensor core logger data with in-situ and laboratory testing: A North Sea case study
***S. Smith**, S. Quinteros, C. Bilici, P. Gjerde
- Small Strain Shear Modulus Derived From Offshore Seismic Reflection Data
 J. Peuchen, M. Murali, ***L. Sybrandy**, S. Atkins, S. Carpentier, B. Boullenger, V. Vandeweyer, M. Vrolijk
- Application of Physics-Informed Machine Learning to Geotechnical and Geophysical Site Investigation Data To Define Centimetre-Scale Design Parameters for Offshore Wind
***H. Marin Moreno**, S. Gourvenec, J. Charles
- Gassy Soils off the Llobregat Delta: Impact on Geomechanical Characterization
***D. Tarragó**, A. Gens, A. Deu
- Model CPTs in Chalk
***T. Riccio**, M. Ciantia, M. Previtali, M. Brown

Tue, 18/06/2024 11:30 - 13:00

Måster

18A - MS (IV) - 18A - MS Sources of error in CPTu testing

Chaired by: Mr. ALLAN MCCONNELL (Insitu Geotech Services (IGS))

- Importance of Calibration Laboratories in In-situ Test Methods
***N. Parasie**, G. Sinjorgo, L. Vrielink, J. Peuchen
- Does CPT Reference Value Drift Really Inform CPT Correctness?
***A. McConnell**, M. Chapman
- Technical Note on Calibration for Cone Penetration Testing in Soft Soils
***G. Scholey**
- Calibration Chamber Testing on Tailings for Interpretation of Partially Drained CPT
***L. Qi**, H. Zhao, W. Liu, M. Etezad, J. Sharp, M. Talesnick, M. Ghafghazi
- Quantitative Assessment of Tip Saturation for High Quality Piezocone Testing
***I. Rocchi**, L. Tonni, G. Gottardi
- Portable Pressiocone System for Carrying Out CPTU+FDP (Full Displacement Pressurimeter) Tests
***M. Sacchetto**, G. Vinco
- Interpretation of Cone Penetration Tests in Gravelly Soil
***K. Rollins**, A. Walburger, S. Amoroso, R. Dhakal, L. Minarelli, L. Marengi, J. Roy

Tue, 18/06/2024 13:00 - 14:15

Plaça Telecos

Lunch Break

Tue, 18/06/2024 14:15 - 16:15

Main Auditorium

PSII - Plenary Session II

Chaired by: Prof. Michael Hicks (Delft University of Technology)

- 14h15 - 14h45 BRIGHT SPARK LECTURE - Innovative procedures to derive ground moduli from pressuremeter tests
***A. Lopes**
- 14h45 - 15h30 PLENARY LECTURE - Instrumental Dynamic Penetrometers for Geotechnical Characterization
 P. Breul, P. Reiffsteck
- 15h30 - 16h15 PLENARY LECTURE - Simulation-aided geotechnical site investigation
***L. Monforte**, M. Arroyo, A. Gens

Tue, 18/06/2024 16:15 - 16:45

Plaça Telecos and Vértex garden

Coffee Break

Tue, 18/06/2024 16:45 - 19:00

Main Auditorium

18B - MS - 18B - MS Numerical modelling of in-situ tests

Chaired by: Dr. Laurin Hauser (CIMNE)

A DEM Study on the Effect of Chamber Boundary on CPT Calibration Chamber Tests

*A. Sadrekarimi, S. Hashemi

On the Determination of Soil Deformation Modulus by Means of a Penetrometer

*S. Volcy, C. Dano, L. Sibille, B. Chareyre, H. Hosseini-Sadrabadi

Experimental and Numerical Investigations of CPT End Resistance at Variable Penetration Rates in Mixed Soils

*A. Arafianto, Y. Tian, B. Lehane, Y. Suzuki, D. Reid

Interpretation of cone pressuremeter tests to estimate the strain dependent stiffness and strength of sensitive lacustrine clay

*J. Schorr, S. Vogt, R. Cudmani

Numerical Study of Cone Penetration in Calcareous Sands: Investigating Cone Tip Resistance Correction Factors for Crushable Soils

*S. Hyder, D. Moug

Prediction of state parameter based on CPT MPM simulations in sandy soils

*M. Martinelli, G. remmerswaal

Impact of evolving fabric anisotropy on CPT simulations for subsurface characterization

S. Moshfeghi, *M. Talebat, A. Lizcano

Types of Shearing and Anisotropy in Undrained CPTU

*D. Durán, L. Monforte, M. Arroyo, A. Gens

G-PFEM-aided Derivation of Undrained Shear Strength of Organic Clays from CPT Data

A. Halleux, *K. Boschi, L. Flessati, C. Jommi

Numerical Simulations of Cone Penetration Response via Accounting for State-Dependence and Full-Strain-Range Non-Linearity of Sand

S. Tong, M. Huang, *Z. Shi, J. Yu, B. Wang, C. Sun

Tue, 18/06/2024 16:45 - 19:00

Vértex

18B - GS (II) - 18B - GS Characterization of non-textbook materials

Chaired by: Dr. John Powell (Geolabs Limited)

Observational Method of Evaluating Secondary Compression Settlement in Artificial Fills

*D. Coduto

Experience of in situ geotechnical tests and their interpretation in organic soils and peat

*M. Long, C. Thrane Leth, G. Tucker

CPT based classification with focus on organic soils

*A. Lengkeek

Organic Soil Identification by CPTU

*C. Champagne, E. Peuse, R. Hryciw, E. Garcia

Challenges in Site Characterization and Work Verification of Compacted Crushable Sands

J. Redgers, P. Schober, *V. Bhushan

Cone Penetration Response in Carbonate Sediments

*S. Sharma, C. Cotreavy, N. Boylan

Drainage Effects in a Dilatant Carbonate Silty Sand

F. Farzameganpour, *F. Bransby, C. O'Loughlin

Considerations on the site characterization of tropical soils by in situ tests

B. Rocha, R. Rodrigues, *H. Giacheti

Comparison Between Eggshell Lime and Commercial Lime as a Soil Stabilizing Agent

B. meneguz, H. Nierwinski, *B. Caetani

Hydraulic Profiling Tool for Groundwater Vulnerability Assessment at an MSW Landfill

*P. Singh, D. Haritwal, G. Ramana, M. Datta

Tue, 18/06/2024 16:45 - 19:00

Camins

18B - MS (III) - 18B - MS Field monitoring in geomechanics

Chaired by: Mr. Josep Raventós (SOCOTEC SPAIN)

Installation of Load Cells in Ground Anchors

*T. Laqué, E. Acehero, O. Pérez

Event detection system for monitoring the cliff retreat and undermining of Castellfolit de la Roca village

*M. Navarro, M. Janeras, T. Carbonell, J. Pérez

Revealing Structures below Vegetation using UAV-BASED LIDAR

*M. Horn, M. Seitz

Piezometers: a very important instrument to which we need to pay more attention

*J. Raventós

Delivery added value using field measurements through the application of the Observational Method

*H. Liew, J. Martí, A. O'Brien

Crossing a Landslide Area by a Motorway

*N. M. Pinyol, G. Di Carluccio, J. Moya, J. M. Bertrand, E. Alonso

Monitoring of Tunnels in Urban Environments Complementing InSAR with in-situ Ground Instrumentation

*S. Palanisamy, U. Lobón, H. Cabrera, D. Albiol, A. Batalla, M. Camafort, N. Devanthery, L. Bento

The Role and Performance of Instrumentation and Monitoring in Managing Risk During Deep Shaft Excavation in the Mercia Mudstone

*J. Birks, I. Papadatos, M. Rufo

Combining Remote Sensing Techniques to Optimize Digital Surface Models for Change Detection – A Case Study at a Pit Wall in the Canadian Cordillera

*T. Gierc, R. Macciotta, F. Liu

Dark Fibre Optic Cables for Shallow Ground Characterization alongside Railroads

E. Obando Hernandez, *A. van Ultert, P. Hölischer, P. Doornbal, C. Mas, J. van 't Schip

Preliminary tests on the UAV-enabled installation of wireless sensors for monitoring inaccessible slopes

*J. Gill, M. Janeras, V. Salinas, O. Pedraza, A. Lluch, R. Carballo

Tue, 18/06/2024 16:45 - 19:00

Master

18B - MS (IV) - 18B - MS Modelling spatial variability and uncertainty (I)

Chaired by: Dr. Giovanna Vessia (Università di Chieti-Pescara)

Stratification identification and prediction of missing CPT data by Mixture of Gaussian Processes

*M. Durmaz, A. van den Eijnden, M. Hicks

Data-Driven Simulation of Multivariate Cross-Correlated Geotechnical Random Fields from Sparse Measurements

Z. GUAN, *Y. WANG

Comparative Assessment of the Vertical Scale of Fluctuation of Undrained Shear Strength of Clays From CPT and DMT Testing: a Case Study in Central Italy

*M. Uzielli, A. Galassi, M. Zei

Uncertainty Estimation on Active Surface-Waves Based Tests

*E. Saez, F. Hernandez, R. Vega, J. Tiznado, R. Gallardo, F. Leyton, G. Montalva, C. Pasten

Effect of clay activity and interface surface material on residual undrained interface strength: implications on pipeline-seabed interaction analysis

*R. Das, Z. Westgate, A. Sephoori, S. Garmon

A Case Study on Quantile and Percentile Regression to Select Design Lines for Complex, Real Work Profiles

*J. Valderrama, M. O'Neill, F. Bransby, P. Watson

Availability of artificial neural network for Estimation of Consolidation Properties of Holocene Clays in Osaka Bay

*K. Oda, S. Yamamoto, M. Kondo, T. Inui

Toward probabilistic ground models for time and cost estimation of tunnel projects

*J. Spross, J. Grasmick, I. Papaioannou

Statistical Uncertainty of Cyclic Resistance of Sand under Constant Volume Direct Simple Shear

*Y. Sun, B. Stuyts, W. Haegeman

Shear Wave Velocity Derived from Cone Penetration Tests In Clayey Soil Layers

*W. Li, X. Ma, L. Luo, Z. Ouyang

Wednesday, 19/06/2024

Wed, 19/06/2024 08:30 - 10:45

Main Auditorium

PSIII - Plenary Session III

Chaired by: Prof. António Viana da Fonseca (University of Porto - Faculdade de Engenharia)

8h30 - 9h00 BRIGHT SPARK LECTURE - Effective stress strength of sands, silts, and clays from In-Situ Testing

*Z. Ouyang

9h00 - 10h00 PLENARY LECTURE - Recent advancements in data-driven site characterization

*J. Ching, K. Phoon

10h00 - 10h45 PLENARY LECTURE - The Legacy of Michele Jamiolkowski to Geotechnical Engineering

*S. Foti, R. Salgado, R. Lancellotta

Wed, 19/06/2024 10:45 - 11:15

Plaçã Telecos and Vêrtex garden

Coffee Break

Wed, 19/06/2024 11:00 - 19:00

Polyvalent Hall

19A/19B - PSP - 19A/19B - POSTER SESSION MASTER

Cone Penetration Test-Based Correlations to Forecast Critical State Parameters

*J. Gamez, S. Olson

Calibration and Test Bed Simulation of a 40 Cm2 Cptu Cone

*E. Baziv

Improvement of Apparatus for Sampling and Cone Penetration Test

*R. Fujikata, K. Tani, S. Nomura

Comprehensive Geophysical Assessment of Complex Geological Terrain in Kadapa Basin, India

S. LAXMAN, A. KUMAR, *A. PANJAMANI

Application of handheld mobile terrestrial laser scanning for cultural heritage documentation.

*A. Liabani, N. Kopluku

A Numerical Study on Effect of Site Conditions on Connection Load in Geosynthetics-Reinforced Soil Wall

*A. Kumar, A. Prashant

Development of liquefiable zone mapping using semi-empirical methods

*B. Berkat, A. Akhssas

Effect on the Local Seismic Response Produced by the Construction of Rafted Piles Foundation

*M. Lago, A. Trevisan, F. Veronese

Artificial Intelligence in Dynamic Compaction for Geotechnical Site Characterization

*J. Park, C. Lee

Quasi-region-specific model uncertainties of simplified liquefaction triggering analysis

J. Wang, *J. Ching, Y. Tu

Predicting Soil Behavior Types Along the Danube: An AI-Driven Approach Using CPT Data in the Szigetköz Floodplain Area

*E. Koch, S. Alsamia

Effective Friction Angle of Intermediate Grain Size Soils from Variable Rate Piezocone Penetration Test

Y. Liu, *Z. Ouyang

Determination of rock foundation levels for the expansion of the Cañaverl shopping center from geophysical tests and its correlation with direct exploration

*C. BUENAHORA, F. CASTELLANOS, M. ANTONIO

Geotechnical characterization using geophysical tests in areas of high geological complexity and landslides for horizontal directional drilling design

*C. BUENAHORA, P. SALAMANCA, A. MARTÍNEZ

Calculation of heights for local datum points of tide gauges in Albania referred to the average sea level and albageo program

*B. Sina, G. Hasko, E. Biloshmi

Dynamic characterization of alluvial deposits through geophysical anda specialized test in Floridablanca santander

*C. Buenahora Ballesteros, D. Galvis Ballesteros, L. Ortiz, A. MARTÍNEZ, N. Amaya Perez, M. Silva

Taillings Characterization: Exploring Laser Granulometry with Machine Learning

*G. Frainz, I. Bernardes

Statistical analysis between intensity measures at the bedrock and the seismic response of the site

A. Avellaneda, *Y. Vargas-Alzate, A. Zapata-Franco, J. Vaunat, A. Di Mariano

Exploration for Wave Propagation Around Ground Loosening Using Discrete Element Method

*K. Kuwashiro, M. Otsubo, R. Kuwano

AI Modeling for Characterization of Paddy Rice Yields under Extreme Weather Conditions Using Remote Sensing and Geospatial Data

*J. Ahn, Y. Lee

Machine Learning-Based Modeling of Net Ecosystem Exchange Using Numerical Weather Data and Satellite Images

*N. Kim, J. Cho, Y. Lee

Prediction of Land Surface Subsidence in the U2 Metro Tunnel in Vienna

O. Kichaleva

Wed, 19/06/2024 11:00 - 19:00

Main Auditorium Hall

19A/19B - PSV - 19A/19B - POSTER SESSION VERTEX

Stress History and Effective Shear Strength Parameters Evaluation of a Dilative Stiff Clay

***G. Pinto**, M. Araujo, A. Faria, J. Carneiro, M. Junior

Engineering surveys for construction based on the concept of sustainability resource to external influences and nature-based solutions

***V. IEGUPOV**, G. STRIZHELCHIK, R. GOODARY

Upgrading a resonant column apparatus to reliably measure specimen void ratio

***C. Vulpe**

A Data Driven CPTu-PINNs Method to Predict Soil Settlement

H. Li, ***Z. Ouyang**

Characteristics of the Electroresistivity of a compacted Iron Ore Tailing

F. Mannho, M. Hora, B. Dos Santos, B. Delgado, ***J. Da Silva**

Effects of storage time on sample quality in Ballina clay

K. Ouyang, ***J. Pineda**

The Use Of Large-Scale 3D Numerical Modeling to Identify Areas of Increased Seismic Risk in Polish Underground Copper Mines.

***K. Fulawka**, R. Kolodziej, L. Stolecki, I. Jaśkiewicz-Proć

Estimation of Pore Pressure for Unsaturated-Saturated Bentonite Sand Mixture

***T. NISHIMURA**

Characterization of the Consolidation Coefficient Behavior from Piezocone and Piezoball Tests in a Brazilian Soft Soil

***J. Sosnoski**, A. Meier, G. Dienstmann, H. Nierwinski, E. Odebrecht, F. Mantaras

Effect of Precast Pile Driving on Liquefaction Potential Mitigation of Sandy Silts Based on CPTu

***K. Fakharian**, M. Hashemi, F. Kaviani-Hamedani, A. Osouli, H. Vaezian, M. Bahrani, T. Bahrani, I. H. Attar

Evaluation of the Liquefaction Resistance of Sandy Soil for Shaking Table Tests

F. Castelli, S. Grasso, V. Lentini, ***M. Sammito**

Development of a framework for automatic quantification of uncertainty in seismic cone penetration testing

***T. Zheng**, R. Buckley, E. Febrianto

Seismic P-, SH- and SV-Wave Cross-Hole Testing Using Direct-Push Technology for the Determination of Geotechnical Parameters

***T. Fechner**, U. Koedel, S. Mackens-Siemes

Uniaxial Compressive Strength versus Shear Seismic Wave Velocity

***M. Cabrera**, M. Combarros

Advances in the Characterisation of Sites Contaminated with Petroleum Hydrocarbons: Insights from a Collaborative Effort

***J. García-Rincón**, E. Gatsios, R. Lenhard, E. Atekwana, R. Naidu

Direct-Push Profiling Technologies for Sustainable Investigation of Contaminated Sites

***J. García-Rincón**

Engineering characterization of lacustrine soil deposits at the inner bay of Puno around Titicaca Lake

***S. Laura-Huanca**

Influence of geogeological conditions on estimation of undrained shear strength by CPTu tests: case study in a tropical soil

***I. Rigatto**, L. Ferreira

Open-source implementation of the new unified CPT-based axial method in sands

C. Sastre Jurado, ***B. Stuys**

Measurement of soil temperature with depth using multiple sensor arrays

***M. Zizzi**, G. Elia, O. Bottiglieri, F. Cotecchia

Geological and geotechnical study of a construction site in Porto Romano area-Albania

***A. Malaj**, S. Alkija, J. Belliu, I. Kero

Collapsible Behaviour of a Compacted Lateritic Sandy Soil

***I. Augusto Silveira**, H. Giacheti, B. Padovezi Rocha, R. Rodrigues

Influence of the Weathering Degree on the Dispersion Susceptibility of Allophanic Soils

***A. Castañeda Jaimes**, J. Colmenares Montañez, L. Viveros Rosero

Field Site Characterization of a Coastal Aeolian Sandy Subgrade for a Proposed Tank Farm Site in Peru

***J. Zamora**, M. Pando

Evolution of fracture permeability in active clayey formations

***A. Seiphoori**, U. Mok, P. Marschall

Development of a 3D Ground Model for an Offshore Wind Farm with Complex Interlayering of Silty Soils

***X. Peng**, Y. Gao, Y. Du, D. Wang, P. Li, X. Li, Y. Zhang

In situ and laboratory results of a bentonite-based block/pellet seal during saturation

***A. Mesa-Alcantara**, E. Romero

Wed, 19/06/2024 11:30 - 13:00

Main Auditorium

19A - MS - 19A - MS Data-driven site characterization

Chaired by: Dr. Joseph Vantassel (Virginia Tech)

Soil Variability From High-Resolution S-Wave Full-Waveform Inversion: Deriving Reliable Cone-Tip Resistance From Vs for Geotechnical Evaluations

***E. Revelo-Obando**, R. Ghose, M. Hicks

Can Seabed Spatial Uncertainty Be Quantified Using Advanced Statistical Approaches?

***J. Valderrama**, M. O'Neill, F. Bransby, P. Watson, M. Bertolacci, A. Zammit-Mangion

A Data-Driven Approach to Predict Shear Wave Velocity from CPTu Measurements: An Update

***I. Entezari**, J. Sharp, P. Mayne

Data-driven site characterization - Focus on small-strain stiffness

***H. Fellíc**, T. Peterstorfer, I. Marzouk, F. Tschuchnigg

Towards An Integrated And Automated Digital Workflow In Geotechnical Engineering

***R. Brinkgreve**, A. Zekri, A. Laera

AI-Based Digitization of Legacy Ground Information

***J. Llopert**, P. Behjati, I. Allguer

Comparison of Different Prediction Methods to Derive Synthetic CPT Profiles - An Offshore Wind Farm Case Study from the German North Sea

***L. Siemann**, P. Masoudi, R. Maraka, R. Opris, Y. Pande, N. Römer-Stange, N. Morales, T. Mörz

Wed, 19/06/2024 11:30 - 13:00

Vértex

19A - MS (II) - 19A - MS Real-time monitoring of natural and human-made landforms

Chaired by: Dr. Cristina Vulpe (The University of Western Australia)

Combined Monitoring Remote Sensing Systems: Ground-Based SSR and Satellite-Based SAR

*C. Vulpe, A. Fourie, L. Probst, H. Larkin, A. Lloyd, B. Conway-Jones, S. Donegan, D. Holden, G. Hanssens, A. Dianoff, E. Ronne

Site Characterization of a Restored Coastal Dune and Beach

*B. Harris, J. Hubler, J. Shawler, N. Stark, P. Tereszkievics, J. Moore, W. Caldwell, L. Provost

How to get a good match for consolidation coefficient

*R. Gómez Escoubés, S. Peña Fernández

Prediction of Future Settlement of Backfill at an Aggregate Mining Quarry Site in Irwindale, CA Using Numerical Method and Settlement Monitoring Data

*C. Pappo, A. Shafiee, M. Kamalzare

Relief well identification from satellite imagery using dual kernel filter unets

*L. Zhang, J. Tom, Z. Nick

Geotechnical monitoring at the speed of light: New insights from distributed acoustic sensing

*S. Ouellet, J. Dettmer, M. Lato, R. Crickmore, B. Dashwood, A. Chavarria, J. Chambers

Spatio-Temporal Prediction Surface Displacement in Urban Underground Excavation: A Case Study in Seville"

*M. Bahri, E. Mascort-Albea, R. Romero hernandez, C. Soriano Cuesta, A. Jaramillo Morilla

Wed, 19/06/2024 11:30 - 13:00

Camins

19A - GS (III) - 19A - Advances in CPTu testing and interpretation

Chaired by: Prof. Fernando Schnaid (Federal University of Rio Grande do Sul)

Determination of Geotechnical Parameters of a Heterogeneous Tropical Soil Deposit Through Different Penetration Rate CPTu Data

J. DUARTE, *V. JUNQUEIRA

Back Analysed Interpretation of Yield Pressure from CPT using Bq

*R. Kelly

Application of two analytical CPTu solutions to sensitive clay in Québec

*P. W. Mayne, J. Greig, E. Cargill

Interpretation of CPTu in Sensitive Fine-Grained Soils and Prediction of Residual Excess Pore Pressures in Consolidating Soils

*P. Rahardjo

A Review of Laboratory Cone Penetration Test (CPT) in Unsaturated Soil

*R. Li, A. Leung, A. Yerro, C. Yu, Z. Jiang

Investigation of the Relationship Between CPT Cone Resistance and Relative Density for a Range of Granular Soils

*Y. Tian, B. Lehane

Estimation of Cone Factor in Undrained Clay Using Spherical and Cylindrical Cavity Expansions

*J. Yu, J. Zhu, M. Huang, Y. Lin, Z. Shi

Towards a bio-inspired burrowing robot: Influence of the tip shape for soil vertical penetration.

I. Brodoline, *F. Anselmucci, H. Cheng, A. Sadeghi, V. Magnanimo

Wed, 19/06/2024 11:30 - 13:00

Master

19A - GS (IV) - 19A - GS Advances in geophysical ground characterization (I)

Chaired by: Prof. Cesare Comina (University of Torino)

Comprehensive geometric characterization of the subsurface using Microseismic Resonance: identifying sinkholes by modelling the bedrock surface and karstic features in a challenging environment

*M. Green, M. Jessop, P. Pires

Seismic Interferometry Technique for Characterization of Loose Soil Layers

*S. Gokyer Erbis, W. Marr, T. Bardainne, R. Tarnus

Estimating the fundamental frequency of a sand tailings dam using the H/V spectral ratio method

*C. Pasten

Passive Seismics Monitoring Applied to Rock Block Stability in the Montserrat Massif

*M. Janeras, A. Macau, J. Andrés, F. Parera

Standardization of Microtremor and Surface Wave Explorations

*C. Konishi, S. Tsuno, S. Senna, H. Yamanaka

Collapse Risk Evaluation of Subsurface Cavities in Pavements of Full-Scale Test Roads

*R. Kuwano, J. Kuwano, Y. Karasaki, R. Sera, T. Ihara

Critical Speed of Railway Rections Obtained Using Surface Wave Analysis Tests

*A. Tijera, R. Ruiz, J. Estaire

Bedrock Depth and Shear Wave Velocity Profile Estimation through HVSR Measurements in the Paraguayan Oriental Region

*T. Stanichevsky, M. Stanichevsky

Wed, 19/06/2024 13:00 - 14:15

Plaça Telesos

Lunch Break

Wed, 19/06/2024 14:15 - 16:15

Main Auditorium

PSIV - Plenary Session IV

Chaired by: Prof. Sebastiano Foti (Politecnico di Torino)

14h15 - 14h45 BRIGHT SPARK LECTURE - A Machine Learning Paradigm for Subsurface Stratigraphy from Sparse Data

*C. Shi

14h45 - 15h30 PLENARY LECTURE - Passive seismic methods for site characterization

*C. Cornou

15h30 - 16h15 PLENARY LECTURE - Machine learning tools for the treatment of offshore site investigations

*B. Stuyts

Wed, 19/06/2024 16:15 - 16:45

Plaça Telesos and Vértex garden

Coffee Break

Wed, 19/06/2024 16:45 - 18:45

Main Auditorium

19B - MS - 19B - Soil stiffness by direct push and other methods

Chaired by: Prof. Brady Cox (Utah State University)

Interface direct shear tests with novel binders

A. Boiero, E. Romero, M. Arroyo, *G. Spagnoli

Offshore shear wave velocity measurements for the assessment of soil sampling quality

*A. Deu, A. Gens, A. Viana Da Fonseca, M. Devincenzi, D. Tarragó

Assessing shear wave velocity profile uncertainty using multiple sCPT interpretation and processing methods

*L. Wotherspoon, A. Stolte, B. Cox

Estimating the Small Strain Modulus G₀ from DMT tests for loess subsoil as an example of the practical application of the non-seismic method

*K. Nepelski, T. Godlewski, M. Rudko, M. Witowski

A case study addressing the development of a novel marine seismic cone penetration testing system.

*D. Donaghy, S. Whyte, H. Christian

Multi-method in situ geophysical testing in a high porosity chalk mass

*R. Buckley, N. Shinde

Evaluation of the challenges present in the obtaining, processing and interpreting useful data from offshore seismic cone penetration testing

T. Masters, G. Verbeek, *I. Cazarez, N. Tejani

Site characterization of large hydropower projects

*T. Trick, K. Kontar, G. Klee, M. Stolz

Wed, 19/06/2024 16:45 - 18:45

Vértex

19B - MS (II) - 19B - Characterization for thermo-hydraulic problems

Chaired by: Prof. Enrique Romero (UPC)

In Situ Test Methods for Thermal Site Characterisation – A Comparison

*L. Vriellink, J. Peuchen, N. Parasie

Characterization of Thermal Conductivity of Backfill Materials for UPCS by Various Methods: Lab, in Situ and Numerical Analysis

B. Dinh, C. Nguyen, *Y. Kim, G. Kang

Multi-Sensor Core Logging of Marine Sediments for Continuous Thermal Conductivity Profiles

*S. Smith, M. Vanneste, T. Faleide, A. Bertrand

In Situ Measurement of Soil Thermal Properties: a New Prototype

*A. Garcia-Fontanet

Monitoring Climate Induced Degradation Processes of Dutch Regional Dykes

*I. de Wolf, C. Jommi

Interpreting repeated CPT in unsaturated soils

*C. Jommi, S. Muraro, C. Chao

On The Wildfire-Induced Changes In The Properties Of A Vegetated Clayey Slope Cover

*N. Stasi, V. Tagarelli, F. Cafaro, F. Cotecchia

Geotechnical investigation of a fissured highly expansive clay profile

*R. Murison, T. Gaspar, G. Heymann, S. Jacobsz, Y. Narainsamy

Wed, 19/06/2024 16:45 - 18:45

Camins

19B - MS (III) - 19B - MS Digital and intelligent site characterization

Chaired by: Prof. Yu Wang (City University of Hong Kong)

Data-Driven Two-Dimensional Near-Surface Seismic Imaging

*J. Vantassel, S. Bhochhibhoya

Inferring Spatial Variation of Soil Classification Using Clustered Bayesian Analysis by Both CPT and Borehole Data

*H. Kamyab Farahbakhsh

Digitization of subsurface geological stratigraphy using machine learning and neighborhood aggregation

*Y. Hu, Z. Wang, X. Guo

The stratigraphic reconstruction of longitudinal tunnel based on improved coupled Markov chains

*Q. Jiang, J. Zhang, D. Zhang

A combined approach to Automated Parameter Determination (APD)

*I. Marzouk, F. Tschuchnigg

Integrating laboratory and geophysical data considering measurement errors

J. Xie, *J. Huang, S. Huang

Data-driven Multi-stage Sampling Strategy for Machine Learning of Underground Digital Twins Considering Stratigraphic Uncertainty

*C. Shi, Y. Wang, V. Kamchoom

Integrated geophysical methods in identifying preferential flow paths in an earth dam

L. Rezende, *C. Aguiar, L. Soares, C. Lemos, L. Dias

Wed, 19/06/2024 16:45 - 18:45

Master

19B - MS (IV) - 19B - MS Modelling spatial variability and uncertainty (II)

Chaired by: Prof. Wojciech Puła (Wrocław University of Science and Technology)

Multivariate Gaussian Process for 3D subsurface stratigraphy prediction from CPT and labelled borehole data

*O. Zinas, I. Papaioannou, R. Schneider, P. Cuéllar

An Elaborate Seismic Study of Beirut: Integrating 3D Multidisciplinary Geotechnical Model Definition, Machine Learning Enhancements, and Numerical Simulations

*M. Safa, E. Bertrand, M. Brax, R. Abreu

On the Probability of Boulder Encounters for Piles Driven in Glacial Till

*C. Cannizzaro, A. Beijer-Lundberg, S. Larsson, J. Spross

A method to estimate the state parameter from CPTu soundings using Pocket G-PFEM

*K. Bernardo, N. Tasso, M. Sottile, A. Sfriso

A Case Study for Data-driven Soil-layer Delineation

*J. Ching, H. Kamyab, G. Vessia, D. Di Curzio

The importance of laboratory proficiency testing schemes in assessing and improving uncertainty

C. Wallace, *J. Powell, J. Reynolds

Material Subgrade Variability In Site Characterisation

*B. Look

Modelling the spatial variability of karstified processes in gypsum deposits – the case of a high-speed railway bridge in the Madrid

Miocene Basin

J. Pérez-Romero, *S. Sandoval, J. Díaz

Thursday, 20/06/2024

Thu, 20/06/2024 09:00 - 11:00

Main Auditorium

PSV - Plenary Session V

Chaired by: Prof. Rodrigo Salgado (Purdue University)

9h00 - 9h45 PLENARY LECTURE - Treatment of uncertainties in site characterization in second-generation eurocode 7

J. Estaire, T. Schweckendiek

9h45 - 10h30 PLENARY LECTURE - Combined resistivity and seismic measurements along linearly extended earth structures - acquisition and interpretation approaches

*C. Comina

10h30 - 11h00 BRIGHT SPARK LECTURE - Soil spatial variability at monopile scale

*M. Murali

Thu, 20/06/2024 11:00 - 11:30

Plaça Telecos and Vèrteix garden

Coffee Break

Thu, 20/06/2024 11:00 - 19:00

Polyvalent Hall

20A/20B - PSP - 20A/20B - POSTER SESSION MASTER

Site Characterization with Surface Waves in Kazakhstan

S. ABDIALIMI, D. TUZELBAYEV, Y. Shokbarov, V. Khomyakov, J. KIM, T. KU, *S. MOON

3D Resistivity Survey of a Weathering Profile of Metamorphic Rocks in State of Pernambuco, Brazil

*R. Coutinho, C. BORTOLOZO, M. Andrade, F. Silva

Using Dilatometer to Predict Stress Increase Component of Foundation Settlement

*R. Failmezger

MASW Joint Analysis of Rayleigh and Love Waves for Site Characterization

J. Hellin-Rodríguez, *P. Martínez-Pagán, I. Valverde-Palacios, A. García-Jerez, K. Suto, M. Martínez-Segura, J. Orta, J. Álvarez-Lozano

Comparative Assessment of DMT-Based and CPT-Based Transformation Models for the Estimation of Shear Wave Velocity: a Case Study in Central Italy

*M. Uzielli, D. Marchetti, S. Amoroso

In-Situ Cyclic Direct Shear Tests on Volcanic Soil in the Site of Landslide Due to Earthquake

*A. Sato, H. Hashimoto, R. Kuwano

The use of SDMT Data for Local Seismic Response Studies in the Catania Area

A. Cavallaro, S. Grasso, *M. Sammito, A. Scotto di Santolo

Soil Behavior and Shear Strength Parameters of an Organic Alluvium Soil Using the CPTu and DMT

*G. Pinto, B. Hoch, M. Junior

Subsurface Characterization of Coastal Deposits using Measurement While Drilling

B. Souza, J. Regan, *J. Benoit, A. Carr, K. Pelham, C. Buerkle

Variability of the seismic response of a liquefiable soil with the fines content as estimated via dilatometer tests

A. Chiaradonna, *P. Monaco, G. Tropeano

Dynamic properties of the Holocene age deposit in the Italian port of Ravenna

*M. Senigagliesi, P. Alesiani, P. Ruggeri, V. Fruzzetti, G. Scarpelli

New processing methodology of televiewer data for the definition of geotechnical and structural domains

*M. Heredia Bilbao, R. Sánchez Martín, R. Cano Martín, A. Deu Lozano, P. Martínez Díaz

Comparative Analysis of DMT, CPTt And DPH for Soil Characterization of Granular Rhine Soil

J. Labenski, *A. Poenaru

Long-Term ERT Monitoring Data Analysis to Set Slope Instability Attention Thresholds Based on Water Level Fluctuations

*R. Bianchi, F. Brambilla, A. Hojat, G. Tresoldi, L. Zanzi

Drying and wetting cycles in tailings dams: effects on physical, mechanical and hydraulic properties

R. Rodríguez-Pacheco, *J. Butianska, A. Onel Oliva, A. Muñoz-Moreno

Characterisation of Carse Clays Using Seismic DMT

A. O'Brien, *I. Murray

Thu, 20/06/2024 11:00 - 19:00

Main Auditorium Hall

20A/20B - PSV - 20A/20B - POSTER SESSION VERTEX

- Applicability of CPTU to characterize diatomaceous fine-grained soils: a case study in Euganean Hills (Italy)
***G. Dalla Santa**, F. Ceccato, P. Simonini
- Effect of Hammer Energy and Corrections on the Correlation between SPT N-Value and Shear Wave Velocity
***M. YADHUNANDAN**, P. ANBAZHAGAN
- Evaluating the dynamic liquefaction potential of tailings: a comparison of simplified methods
L. Roldan, ***F. Spinazzola**, M. Sottile
- Cone penetration test assessment to identify fluid-like tailings to support a tailings storage facility deconstruction
***G. Quaglia**, I. Cueto
- Dynamic Response of Marginal Soil using SPT, DCPT & Cyclic Simple Shear Tests
***S. DUTTA**, A. SACHAN
- Evaluation of Cone Resistance Results from Dutch Formula
C. Forestti Oliveira, ***M. Benz Navarrete**, P. Breul, B. Chevalier
- Temperature based Leakage Detection and Monitoring Systems in view of Tailings Storage Facilities
G. Dumont, ***A. Fabritius**
- Basic study for propagation characteristics of elastic wave around subsurface cavities
***Y. Hara**, R. Kuwano
- Analysis of Shear and Consolidation Behaviour of a Clay Foundation Below a Tailings Storage Facility
***T. Armstrong**, T. Grobler
- The Pseudo-N Values: Proposal and Practice
***K. Suto**
- Geotechnical Parameters of Filtered Tailings and Waste Rock from the Itabira Complex used in Stacking Projects
***D. Elol**, M. Paganin, D. Bastos, W. Maciel, M. Filho, R. Silva
- Dynamic modulus E_{kd} evaluation by dynamic penetration test
S. Lopez Retamales, ***M. Benz**, J. Canou, J. Dupla, S. Espinoza
- Characterization of residual soil in tailings dam foundations: A combined analysis of in-situ tests and geophysical surveys with emphasis on method correspondence
J. Oliveira Barbosa, ***J. Paulo Souza Silva**, B. Guimaraes Delgado, P. Pazzoto Cacciari
- Application of Swedish Weight Sounding Test for the Geotechnical Assessment of Solar Power Plant
***J. Gargullo**, R. Luna
- A review of 30 years French instrumented and variable energy dynamic cone penetrometer Panda
***M. Benz Navarrete**, P. Breul, G. Villavicencio Arancibia, P. Moustan, L. Teissier
- Geotechnical characterisation of tailing deposits with instrumented variable energy dynamic penetrometer: a state of art
***S. Espinoza**, G. Villavicencio, G. Suazo, M. Benz, P. Breul, L. Teissier
- Post-liquefaction analysis and shear wave assessment by means of instrumented DCP: application to Cephalonia island (Greece) and Petrinja region (Croatia)
D. Moiriat, M. Benz Navarrete, ***T. Luong**, P. Reiffsteck, B. Mravlija, N. Belic, P. Rischette, N. Theodoulidis, B. Kordic, S. Markusic
- The importance and influence of the interpretation of geological-geotechnical data on safety of earthen dams
***D. Elol**, T. Andrade, J. Fernandes, C. Honório, M. Neto, W. Fonseca
- Probabilistic soil model for seismic risk assessment based on SDMT results
***Y. Vargas-Alzate**, D. Tarragó, A. Zapata-Franco, A. Gens
- Correlation Between Shear Wave Velocity From Borehole Seismic and CPT Data for the Application of Numerical Analysis
***U. Matthiesen**, M. Pohl

Thu, 20/06/2024 11:30 - 13:00

Main Auditorium

20A - MS - 20A - MS Dynamic penetrometers for soil characterization

Chaired by: Prof. Jason DeJong (University of California Davis)

- Responses of Dynamic Penetrometers according to Hammer Weight and Drop Height
G. Park, N. Kim, D. Kim, S. Kim, ***J. Lee**
- Lighthweight and heavy-duty instrumented, servo assisted dynamic cone penetrometers for shallow soil characterisation
M. Benz Navarrete, P. Breul, ***Q. Tran**, C. Forestti, T. Luong
- Soil Characterisation Using a Dynamic Penetrometer
***J. Rong**, M. Nazem
- In-situ experimental tests for shallow foundation design using dynamic penetration testing method
***T. LUONG**, P. REIFFSTECK, M. BENZ-NAVARRETE, F. SZYMKIEWICZ
- Vibro-Penetration Tests for The Evaluation of Blasting Compaction in very loose Sandy dumps
***R. Cudmani**, R. Cudmani
- Liquefaction Assessment at Gravel Sites in Croatia Based on Vs and DPT Blow count
***K. Rollins**, S. Amoroso, G. Di Giulio, N. Belic, K. Urumovic, R. Fijak, L. Minarelli, G. Tarabusi, M. Vassallo

Thu, 20/06/2024 11:30 - 13:00

Vêrtex

20A - MS (II) - 20A - MS Experimental and Numerical Techniques for Advanced Dynamic Characterization of Geomaterials

Chaired by: Prof. Ionut Dragos Moldovan (Universidade Lusófona)

- The Next Generation of Testing with LWD to Assess the In-Situ Permanent Deformation of Geomaterials under Repeated Loading
***D. Kuttah**
- Improved Modeling and Inversion of Surface Wave Method
***T. Wu**, C. Lin, Q. Tran, E. Pan
- Impact of Damping Boundaries on the Quality of the Output Signal in Bender Element Experiments
M. Roshan, D. Bendea, ***I. Moldovan**, M. Martins, M. Pultorak, A. Gomes Correia, M. Azenha
- Use of Elastic Full Waveform Inversion for Monitoring of Dams and Levees
***J. Montgomery**, P. Alidoust, J. Coe
- Determination of the S-wave propagation velocity of ballast by Spectral Analysis of Surface Waves
R. Ruiz Bravo, ***A. Tijera Carrión**, J. Estaire Gepp, M. Santana Ruiz de Arbuló
- Impoundment characterisation for hydraulic mining of tailings
***C. Morales**, A. Sfriso

Thu, 20/06/2024 11:30 - 13:00

Camins

20A - MS (III) - 20A - MS Innovation in DMT and SDMT testing (1)

Chaired by: Eng. Diego Marchetti (Studio Prof. Marchetti)

DMT-based seismic liquefaction assessment accounting for the fines content effect: a case study in Emilia-Romagna, Italy
R. Cecchi, A. Chiaradonna, ***P. Monaco**

Analysis of DMT Results and Comparison with Other In Situ Tests in a Sensitive Clay of Eastern Canada
***V. Silvestri**, C. Tabib

The JELLYFISH Project: Medusa SDMT testing at the NGTS Geo-Test sites, Norway
***P. Monaco**, A. Chiaradonna, D. Marchetti, S. Amoroso, J. L'Heureux, T. Le

Comparison of Pore Pressure Parameters from Piezocone and Dilatometer
***J. Benoit**, B. Souza

Soil liquefaction assessment of Ecuadorian coastal region using SDMT test (Puerto Baquerizo site)
C. Ramirez, F. Arias, ***D. Besenon**, S. Amoroso, K. Chunga

Continuous Medusa DMT tests in a very soft clay
***F. Danziger**, G. Jannuzzi, A. Pinheiro, J. Souza

A novel strategy to digitalize, integrate and analyse data for the characterisation of landslides in turbiditic deposits
***N. Losacco**, V. Bufano, E. Tabak, F. Santaloia, F. Cotecchia

Thu, 20/06/2024 11:30 - 13:00

Master

20A - GS (IV) - 20A - GS Advances in geophysical ground characterization (II)

Chaired by: Dr. Cécile Cornou (IRD/ISTerre)

Muon Tomography for Mapping and Monitoring Tailings Storage Facilities

M. McLean, F. Scutti, R. Seikel, S. Krishnan, C. Webster, S. Collins, C. Goss, S. Palanisamy, P. Panchal, J. Donovan, A. Duffy, ***A. Christensen**

Early Screening for Improved Management of Geo-risks

***R. Eddies**, R. Wood, M. Staring

Identification of density of earth-fill dam using muography

***T. Shibata**, K. Takahashi, S. Nishimura, T. Shuku

Use of Macroseismic Intensity Data to Validate the Ground Motion Prediction Model in Albania

***A. Xhahysa**, M. Ceyhan, N. Kuka, E. Dushi, D. Koxhaj, K. Qoshi

Multi-Method Geophysical Assessment of a Shallow Complex Landslide

M. Rahimi, ***C. Wood**, S. Rahimi

Interpretation of geotechnical data from an upstream dam for preparation of the site response analysis

W. Durval Soares de Carvalho, T. Andrade, R. Viola, J. CCOTOHUANCA, M. Neto, ***D. Eloi**

Classification of an Exposed Mixed-Sediment Tidal Flat Using Synthetic Aperture Radar

***J. Paprocki**, N. Stark, F. Falcone, H. Graber

Thu, 20/06/2024 13:00 - 14:15

Plaçã Telecos

Lunch Break

Thu, 20/06/2024 14:15 - 16:15

Main Auditorium

20B - GS - 20B - Geotechnical characterization of mine tailings

Chaired by: Prof. Andy Fourie (University of Western Australia)

Characterization of coal combustion products using variable rate CPT in a geotechnical centrifuge

J. Chen, ***A. Martinez**

CPTu for Assessment of Flow Liquefaction of Tailings with Similar Physical Characteristics

***C. Lebron**, M. PIO DOS SANTOS JUNIOR, A. VIANA DA FONSECA

Evaluation of the susceptibility to flow liquefaction of an iron ore tailings using the state parameter and Yield Stress Ratio approach

A. Faria, ***M. Junior**, J. Carneiro, G. Pinto, M. Dias

On-site characterization of compacted iron ore tailings-Portland cement blends for dry stacking systems

***J. de Sousa Saillva**, H. Mansur Chaves, H. Scheuermann Filho, N. Consoli

Effects of Vane Size and Aspect Ratio on the Measurement of Undrained Shear Strength of a Fine-Grained Soil

***T. Chatfield**, C. Fontaine, R. Rinehart

Development of a 3D ground model to design the stabilisation of a downstream dam founded on weak and liquefiable units

J. Rola, M. Sottile, N. Rivas, ***L. Roldan**, A. Sfriso

Difficulties in Building a Ground Model When Lacking Historic Data Archives and its Impact in TSF Safety Assessment

***I. Lopes**, M. Garcia, G. Tavares

Integrated characterisation of bentonite pellet structures for in situ test installation

***J. Torres-Serra**, A. Mesa-Alcantara, E. Romero

Thu, 20/06/2024 14:15 - 16:15

Vértex

20B - MS (II) - 20B - MS From measurement to reliable in situ geotechnical site characterization – statistical data processing

Chaired by: Prof. Jędrzej Wierzbicki (Adam Mickiewicz University)

Cone Penetration Test Data Interpretation for Layered Tailings Storage Impoundments with Perched Phreatic Surfaces

*H. William, A. Scheinman, S. Nazem

Estimation of the Soil Unit Weight of Mining Tailings through the Application of Machine Learning Techniques

H. Nierwinski, *T. Menegaz, R. Pfitscher, E. Odebrecht, F. Schnaid, F. Mantarás

Peak Deviator Stress and Strain Uncertainty of Isotropically Consolidated Triaxial Compression Tests on Saturated Non-Cohesive Soils

*A. Milopoulou

Enhanced, statistically-controlled integrated model of geo-data based on CPTu

*J. Wierzbicki, K. Stefaniak

Susceptibility mapping for shallow landslides in Tierras Altas, Chiriqui, Panama : An integration of geophysical measurements

*C. Caballero, J. Castrellon, P. Castillo, S. Rodríguez, J. Gallardo

Critical Shear-Wave Velocity Case Histories for Liquefaction Triggering Curves in Gravel

K. Rollins, *N. Salvatore, B. Cox, T. Jackson

Vulnerability of levees impacted by seepage near the Kettős-Kőrös River in Hungary

*E. Koch, M. Mayassah, R. Ray

Investigation and monitoring to model the interaction between the Scrovegni's Chapel in Padova (Italy) and the underlying foundation soil

G. Dalla Santa, *P. Simonini

Thu, 20/06/2024 14:15 - 16:15

Camins

20B - MS (III) - 20B - MS Innovation in DMT and SDMT testing (2)

Chaired by: Prof. Paola Monaco (University of L'Aquila)

Compacted Landfill Quality Based on DMT

*A. Penna, A. Macedo, G. Freitas, L. Melo

(S)DMT Tests in Structured Soils. Lessons Learned from Portuguese Granitic Massifs Characterization

*N. Cruz, C. Rodrigues

Combined use of cptu-sdmt and geophysical test to assess liquefaction: case studies in Emilia-Romagna (Italy)

*S. Amoroso, C. Comina, L. Minarelli, K. Rollins, S. Bignardi, F. Vagnon, F. Di Buccio

SDMT VS profiles in heterogeneous granular soil deposits

*F. Totani, V. Tomei

Deformability Parameters in the Offshore In-Situ-Test Survey for the New Breakwater Project in Genova Italy

*M. Sacchetto, D. Marchetti

Comparative Liquefaction Triggering Assessment of Gravelly Reclamations using the CPT, DPT, and Shear-Wave Velocity

*R. Dhakal, M. Cubrinovski

Experimental Study of DMT Blade in Sand Using Particle Image Velocimetry

*J. Fumeron, F. Villalobos, F. Acuña, R. Moffat

Site Exploration for Anchoring of Wave Energy Converters

T. Tran, *T. Evans

Thu, 20/06/2024 14:15 - 16:15

Master

20B - MS (IV) - 20B - MS Monitoring while drilling and borehole based site investigation

Chaired by: Prof. Jean Benoit (University of New Hampshire)

Offshore rock investigations by a remotely operated submersible drilling rig with continuous drilling recording

*A. Deu, M. Pérez, R. del Castillo, M. Devincenzi

Comparative Analysis of Different Methods for Interpreting MWD Profiles

*G. de Oliveira Souza, P. Reiffsteck, F. Szymkiewicz, C. Jacquard, M. Rispal

Comparison of Direct and Indirect MWD Measurements

C. Caplane, M. Rispal, *G. de Oliveira Souza, M. Peronne, P. Reiffsteck

Organization and Analysis of Measurement While Drilling (MWD) Data in Montana, USA

C. Link, *D. Barrick, D. O'Meara, N. Jaynes

Using Drilling Data to Derive Geotechnical Properties of Variably Cemented Materials

*S. Sharma, J. Rice, P. Suzuki, A. Bertrand

The evolution of Menard pressuremeter cavity preparation in France

B. Hamidi, *S. Varaksin

use of a portable measurement while drilling system for shallow subsurface characterization

B. Souza, *P. reiffsteck, F. Piniere, J. Benoit, M. Bost

Thu, 20/06/2024 16:15 - 16:45

Plaça Telecos and Vértex garden

Coffee Break

Thu, 20/06/2024 16:45 - 18:15

Main Auditorium

PSVI - Plenary Session VI

Chaired by: Dr. Antonio Gens Solé (UPC)

16h45 - 17h30 PLENARY LECTURE - Geotechnical characterization of alluvial and lagoon soil deposits for robust design and geohazard mitigation

*L. Tonni

17h30 - 18h15 PLENARY LECTURE - Bio-inspired site characterization - towards soundings with lightweight equipment

*A. Martnez, Y. Chen, R. Anilkumar

Thu, 20/06/2024 18:15 - 18:30

Main Auditorium

CC - Closure Ceremony

Chaired by: Prof. Marcos Arroyo (CIMNE)

Friday, 21/06/2024

Fri, 21/06/2024 09:00 - 13:00

Technical Visit

Port of Barcelona on board the traditional "Las Golondrinas"

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