



Header to be designed

Program Overview

Sunday 12 Aug	Monday 13 Aug	Tuesday 14 Aug	Wednesday 15 Aug	Thursday 16 Aug	Friday 17 Aug
	Registration 08:30-17:00	Registration 08:30-17:00	Registration 08:30-17:00	Registration 08:30-17:00	
	08:30-09:00 Opening Ceremony	08:30-10:30 Parallel sessions	08:30-09:30 Plenary lecture Richard Jardine	08:30-10:30 Parallel sessions	09:00 - 17:00 Technical Visit
	09:00-10:00 Plenary lecture Eduardo E. Alonso		09:40-10:40 Parallel sessions		
	10:00-11:00 Plenary lecture Zuyu Chen				
	11:00-11:20 Coffee break	10:30-10:45 Coffee break	10:40-10:55 Coffee break	10:30-10:45 Coffee break	
	11:20-12:45 Plenary lecture Michele Jamiolkowski	10:45-12:45 Parallel sessions	10:55-12:35 Parallel sessions	10:45-12:45 Parallel sessions	
	12:45-14:00 Lunch	12:45-14:00 Lunch	12:35-14:00 Lunch	12:45-14:00 Lunch	
14:00 - 21:00 Registration	14:00-15:00 Plenary lecture Pierre-Yves Hicher	14:00-16:00 Parallel sessions	14:00-16:00 Parallel sessions	14:00-15:00 Closing Ceremony	
	15:00-16:00 Plenary lecture Mario Manassero				
	16:00-18:20 Coffee Break	16:00-16:15 Coffee break	16:00-16:15 Coffee break		
	16:20-17:20 Plenary lecture Charles W. W. Ng	16:15-18:15 Parallel sessions	16:15-18:15 Parallel sessions		
	17:20-18:20 Plenary lecture Chang-Yu Ou				
18:00 - 22:00 Welcome Drink		20:10 - 22:10 Concert at the Golden Hall	19:10 - 22:10 Conference Dinner		

Parallel sessions Overview

		Room GS	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	
14 Aug	08:30-10:30	GS	5	12	2	3	7	9	
	10:45-12:45								
	14:00-16:00			6	10	11	1	4	
	16:15-18:15								
15 Aug	09:40-10:40			13	6	10	11	8	4
	10:55-12:35								
	14:00-16:00								
	16:15-18:15								
16 Aug	08:30-10:30								
	10:45-12:45								
	14:00-16:00								

GS. Gudehus session

Chair: Scheuermann Alexander (Queensland, Australia); Wichtmann Torsten (Weimar, Germany)

1. Constitutive model

Chair: Erich Bauer (Graz, Austria); Maosong Huang (Shanghai, China); Jun Yang (Hongkong, China)

2. Micro-macro relationship

Chair: Mingjing Jiang (Shanghai, China); Stefan Luding (Twente, Netherland)

3. Numerical simulation

Chair: Helmut Schweiger (Graz, Austria); Jidong Zhao (Hongkong, China)

4. Laboratory testing

Chair: Dariusz Wanatowski (Leeds, UK); Yu-Hsing Wang (Hongkong, China); Longtan Shao (Dalian, China)

5. Geotechnical monitoring, instrumentation and field test

Chair: Roberto Cudmani (Munich, Germany); Anbin Huang (Hsingchu, Taiwan)

6. Foundation engineering

Chair: Renpeng Chen (Changsha, China); Jana Frankovska (Brastilava, Slovakia);
Herbert Klapperich (Freiberg, Germany)

7. Environmental geotechnics

Chair: Rafiq Azzam (Aachen, Germany); Yanjun Du (Nanjing, China); Brendan O'Kelly (Dublin, Ireland)

8. Geotechnics in transportation, structural and hydraulic Engineering,

Chair: Vincenzo Fioravante (Ferrara, Italy); Erxiang Song (Beijing, China); Ashutosh Trivedi (Delhi, India)

9. New geomaterials and ground improvement

Chair: Jian Zhou (Hangzhou, China); Marcos Arroyo (Barcelona, Spain)

10. Underground construction

Chair: Hehua Zhu (Shanghai, China); Günther Meschke (Bochum, Germany)

11. Geohazards – risk assessment, mitigation and prevention

Chair: Stefano Uili (New Castle, UK); Xueyu Geng (Warwick, UK)

12. Unsaturated soils and energy geotechnics

Chair: Weimin Ye (Shanghai, China); Dariusz Łydźba (Wroclaw, Poland)

13. Cold regions geotechnical engineering

Chair: Seyed Amiri (Trondheim, Norway); Jilin Qi (Beijing, China)

Plenary lectures

Session chairmen: **Wei Wu (Vienna, Austria)**
Haisui Yu (Leeds, UK)

13 Aug 09:00-11:00

Session room PI

- 09:00-10:00 **Tunnelling in Urban Environments. Protecting Sensitive Buildings**
Eduardo E. Alonso
- 10:00-11:00 **Extensions to the Limit Equilibrium and Limit Analysis in Geomechanics**
Zuyu Chen

13 Aug 11:20-12:45

Session room PI

- 11:20-12:45 **Zelazny Most Tailings Disposal – Geotechnical Challenges**
Michele Jamiolkowski and Waldemar Świdziński

13 Aug 14:00-16:00

Session room PI:

- 14:00-15:00 **Multi-scale Modelling of Crushable Granular Materials**
Pierre-Yves Hicher
- 15:00-16:00 **Modelling Hydro-Chemo-Mechanical Behaviour of Active Clays Through the Fabric Boundary Surface**
Mario Manassero, Andrea Dominijanni, and Nicolò Guarena

13 Aug 16:20-18:20

Session room PI

- 16:20-17:20 **Bioengineering for Slope Stabilisation Using Plants: Hydrological and Mechanical Effects**
C. W. W. Ng, A. K. Leung and J. J. Ni
- 17:20-18:20 **Performance of Composite Buttress and Cross Walls to Control Deformations Induced by Excavation**
Aswin Lim, and Chang-Yu Ou

15 Aug 08:30-09:30

Session room PII

- 08:30-09:30 **Joint Research into the Behaviour of Driven Piles**
R. J. Jardine and Z. X. Yang

Sessions

Gudehus Session

Session chairmen: **Scheuermann Alexander (Queensland, Australia)**
Wichtmann Torsten (Weimar, Germany)

14 Aug 08:30-10:30

Session room GS

- 08:30-09:00 **Four major constructions in Japan and their geotechnical tasks**
Toshihisa Adachi
- 09:00-09:30 **Modelling of Grain Fragmentation in Hypoplasticity**
Erich Bauer
- 09:30-10:00 **Deformation and Strength of Transversely Isotropic Rocks**
Yang Zhao and Ronaldo I. Borja
- 10:00-10:30 **The Development of the Material Point Method for Simulating Nonlocal Failure Evolution Involved in Multi-Phase Interactions**
Zhen Chen

14 Aug 10:45-12:45

Session room GS

- 10:45-11:15 **Modelling of shaking-induced slope displacements during strong earthquakes**
Roberto Cudmani
- 11:15-11:45 **Fabric: a Missing Link Between Critical State and Critical State Theory**
A. I. Theocharis, E. Vairaktaris¹, Y. F. Dafalias and A. G. Papadimitriou
- 11:45-12:15 **Approaches to Multi-hazard Landslide Risk Assessment**
Limin Zhang
- 12:15-12:45 **Discrete Element Modeling of Free-standing Wire Reinforced Jammed Granular Columns**
Pavel S. Iliev, Falk K. Wittel and Hans J. Herrmann

14 Aug 14:00-16:00

Session room GS

- 14:00-14:30 **Hypoplastic prediction of path-dependent failure in true triaxial tests of granular soils**
Wen-Xiong Huang
- 14:30-15:00 **On why and where GSH is rate-independent**
Yimin Jiang and Mario Liu
- 15:00-15:30 **Cyclical softening of plastic soils: an energy approach**
Arcesio Lizcano
- 15:30-16:00 **Constitutive relations from particle simulations**
Stefan Luding

Sessions

14 Aug 16:15-18:15

Session room GS

- 16:15-16:45 **Modelling of Bentonite for Nuclear Waste Disposal Facilities with Hypoplasticity**
David Mašín
- 16:45-17:15 **Concepts of barodesy**
Gertraud Medicus, Wolfgang Fellin, Dimitrios Kolymbas and Fabian Schranz
- 17:15-17:45 **A model for trap door flow from a deep container**
H. B. Muhlhaus and L. N. Moresi

15 Aug 09:40-12:40

Session room GS

- 09:40-10:10 **Development of hypoplastic models: neo-hypoplasticity**
Andrzej Niemunis
- 10:10-10:40 **Mathematical Modeling of Deformation of Self-Stress Rock Mass Surrounding a Tunnel**
S.V. Lavrikov and A.F. Revuzhenko
- 10:40-11:10 **On how to look inside geo-materials**
Alexander Scheuermann
- 11:10-11:40 **The Biot Coefficient for a Low Permeability Geomaterial with a Heterogeneous Fabric**
A.P.S. Selvadurai
- 11:40-12:10 **Effective Stress and Effective Stress Equation**
Longtan Shao
- 12:10-12:40 **On the use of the Finite Element Method for the Design of Offshore Wind Turbine Foundations**
Hendrik Sturm

15 Aug 14:00-16:00

Session room GS

- 14:00-14:30 **Topic to be announced**
Claudio Tamagnini
- 14:30-15:00 **Significance and Usefulness of the tij Concept**
Teruo Nakai
- 15:00-15:30 **Fabric Evolution in Granular Materials under Strain Probing**
Mehdi Pouragha, Niels P. Kruyt, and Richard Wan
- 15:30-16:00 **Soils under high- and low-cycle loading experiments vs. predictions by constitutive models**
Torsten Wichtmann

Sessions

15 Aug 16:15-18:15

Session room GS

- 16:15-16:45 **An anisotropic hypoplastic model for granular soils**
Zhongxuan Yang
- 16:45-17:15 **Non-destructive evaluation of residual tension of ground anchor using resonance phenomenon**
A. Yashima, H. Saito, K. Aoike, M. Yamazaki, Y. Sone and T. Wachi
- 17:15-17:45 **On the simulation of the cyclic mobility effect with an ISA-hypoplastic model**
W. Fuentes and C. Lascarro
- 17:45-18:15 **On the Formulation of Multiphase Porous Geomaterials**
Fusao Oka and Sayuri Komoto

Sessions

1. Constitutive model

Session chairmen: Erich Bauer (Graz, Austria)
Maosong Huang (Shanghai, China)
Jun Yang (Hongkong, China)

14 Aug 14:00-16:00

Session room 5

- 14:00-14:30 **UH model for Granular Soils (invited talk)**
Yang-ping Yao, Lin Liu, and Ting Luo
- 14:30-14:50 **A visco-hypoplastic Constitutive Model and Its Implementation**
Guofang Xu, Wei Wu, Jilin Qi, Xiaoliang Yao, Fan Yu, and Aiguo Guo
- 14:50-15:10 **Constitutive Model for Granular-fluid Flows Based on Stress Decomposition**
Xiaogang Guo, Wei Wu, and Liangtong Zhan, Ping Chen
- 15:10-15:30 **Hypoplastic Simulation of Axisymmetric Interface Shear Tests in Granular Media**
Hans Henning Stutz, Alejandro Martinez
- 15:30-15:50 **Review of N Models in Simulating Mechanical Behavior of Clays**
Jianhong Jiang, Hoe I. Ling, and Victor N. Kaliakin

14 Aug 16:15-18:15

Session room 5

- 16:15-16:35 **A sand model incorporating an analytical back stress evolution rule**
Zhongxuan Yang
- 16:35-16:55 **A Simple Anisotropic Mohr-Coulomb Strength Criterion for Granular Soils**
Wei Cao, Rui Wang, Jian-Min Zhang
- 16:55-17:15 **Influence of Multidirectional Principal Stress Axes Rotation Sequences on Deformation of Sand**
Long Xue, Rui Wang, Jian-Min Zhang
- 17:15-17:35 **Transversely Isotropic Strength Criterion for Soils based on the Characteristic Mobilized Plane**
Dechun Lu, Jingyu Liang, Chao Ma, Xiuli Du
- 17:35-17:55 **A Multi-Phase-Field Anisotropic Damage-Plasticity Model for Crystal line Rocks**
SeonHong Na and WaiChing Sun
- 17:55-18:15 **The Equivalent Stress of Soil Skeleton**
Tong Dong, Liang Kong, Likun Hua, Xing Wang and Yingren Zheng

15 Aug 09:40-10:40

Sessions

Session room 5

- 09:40-10:00 **Towards a Better Understanding of the Mechanics of Soil Liquefaction**
Jun Yang, H.Y. Eric Sze, Liming Wei, Xiao Wei
- 10:00-10:20 **A Nonlinear Elastic Model for Dilatant Coarse-Grained Materials**
Si-Hong Liu, Yi Sun, Cao-Ming Shen
- 10:20-10:40 **Fractional plasticity modelling of the state-dependent non-associated behaviour of granular soils without using state variable and plastic potential**
Yifei Sun, Yufeng Gao

15 Aug 10:55-12:35

Session room 5

- 10:55-11:15 **Experience of Parameter Optimization of the High-Cycle Accumulation Model for Undrained Triaxial tests on Sand**
Yining Teng, Hans Petter Jostad and Youhu Zhang
- 11:15-11:35 **Strain-Rate and Temperature Dependency for Preconsolidation Pressure of Soft Clay**
Ting Li, Qi-Yin Zhu and Lian-Fei Kuang
- 11:35-11:55 **Modelling Root-reinforced Soils with Nor-Sand**
Barbara M. Switajla and E. James Fern
- 11:55-12:15 **Modelling Volumetric Behaviour of Nanyang Expansive Clay**
Weilie Zou, Xiequn Wang, Zhong Han, and Dongxing Wang
- 12:15-12:35 **Calibration and verification of a hypoplastic constitutive model for weathered and moisture sensitive rockfills**
Linke Li and Erich Bauer

Sessions

2. Micro-macro relationship

Session chairmen: **Mingjing Jiang (Shanghai, China)**
Stefan Luding (Twente, Netherland)

14 Aug 08:30-10:30

Session room 3

- 08:30-08:50 **Simulation of One-dimensional Compression of Sand considering Irregular Grain Shapes and Grain Breakage**
Fan Zhu, Jidong Zhao
- 08:50-09:10 **An Analytical Study of the Bi-Rock System considering Interface Effect**
Xing-wei Chen, and Zhong-qi Quentin Yue
- 09:10-09:30 **DEM Simulation of Wave Propagation in Anisotropic Granular Soil**
Xiaoqiang Gu and Shuocheng Yang
- 09:30-09:50 **DEM Investigation of Particle Crushing Effects on Static and Dynamic Penetration Tests**
Ningning Zhang, Marcos Arroyo, Antonio Gens, Matteo O. Ciantia
- 09:50-10:10 **Validation of synthetic images for contact fabric generated by DEM**
Max Wiebicke and Vaclav Smilauer and Ivo Herle and Edward Ando and Gioacchino Viggiani
- 10:10-10:30 **DEM Simulation of Oedometer Tests with Grain Crushing Effects**
Jia Lin, Erich Bauer, and Wei Wu

14 Aug 10:45-12:45

Session room 3

- 10:45-11:05 **DEM Investigation of Fracture Characteristic of Calcareous Sand Particles under Dynamic Compression**
Lei Wang, Xiang Jiang, Hanlong Liu, and Yang Xiao
- 11:05-11:25 **Evaluation of Grain Shape Parameters of Fujian Standard Sand**
Shuai Li, Wanhuan Zhou, Xueying Jing and Huaxiang Zhu
- 11:25-11:45 **Size Effects in Cone Penetration Tests in Sand**
Pei-Zhi Zhuang, Hai-Sui Yu
- 11:45-12:05 **Simulation of the Undrained Behavior of Particulate Assemblies Subjected to Continuous Rotation of Lode Angle**
Mohammadjavad Salimi, Ali Lashkari
- 12:05-12:25 **Investigating the Effect of Intermediate Principal Stress on Granular Materials via DEM**
Dunshun Yang, Xia Li, and Hai-Sui Yu

14 Aug 14:00-16:00

Session room 3

- 14:00-14:20 **Micromechanical Analysis of the At-Rest Lateral Pressure Coefficient of Granular Materials**

Sessions

Chaomin Shen and Sihong Liu

- 14:20-14:40 **Shortcomings of Existing Scan Line Void Fabric Tensors**
A. I. Theocharis, E. Vairaktaris, and Y. F. Dafalias
- 14:40-15:00 **Analytical Data Based Time-dependent Mechanical Responses of an Intergranular Bond Considering Various Bond Sizes**
Huaning Wang, Na Che, H. Gong, M. J. Jiang
- 15:00-15:20 **Kinematic Nature of Sand Strength**
Zenon Szypcio
- 15:20-15:40 **Natural State Parameter for Sand**
Katarzyna Dożyk-Szypcio
- 15:40-16:00 **The Effect of Particle Shape Polydispersity on Deformability of Granular Materials**
Yuxuan Che, Fang Liu, and Gang Deng

14 Aug 16:15-18:15

Session room 3

- 16:15-16:35 **Calibrating the Strength Ratio and the Failure Envelope for DEM Modeling of Quasi-Brittle Materials**
Yifei Ma, Haiying Huang
- 16:35-16:55 **DEM Simulation of the Behavior of Rockfill Sheared with Different Intermediate Principle Stress Ratios**
Juntian Hong, Ming Xu, and Erxiang Song
- 16:55-17:15 **Grain Learning: Bayesian Calibration of DEM Models and Validation Against ElasticWave Propagation**
Hongyang Cheng, Takayuki Shuku, Klaus Thoeni, Pamela Tempone, Stefan Luding and Vanessa Magnanimo
- 17:15-17:35 **Induced Crack Network Evolution in Geomaterials: μ ct Examination and Mathematical Morphology Based Analysis**
Maciej Sobótka, Michał Pachnicz, Magdalena Rajczakowska
- 17:35-17:55 **Investigating the Mechanical Behavior of Pore-Filling Type Methane Hydrate Bearing Sediments by the Discrete Element Method**
Mingjing Jiang, Jun Liu and Jie He

15 Aug 09:40-10:40

Session room 3

- 09:40-10:00 **Distinct Element Modelling of Constant Stress Ratio Compression Tests on Pore-Filling Type Methane Hydrate Bearing Sediments**
Mingjing Jiang, Wenkai Zhu, and Jie He
- 10:00-10:20 **DEM Simulation of Sand Liquefaction under Partially Drained Conditions**
Qiangqian Hu, Rui Wang, Jian-min Zhang
- 10:20-10:40 **Dilatancy Phenomenon Study in Remolded Clays – A Micro-Macro**

Sessions

Investigation

*Qian-Feng Gao, Mohamad Jrad, Lamine Ighil Ameer, Mahdia Hattab,
Jean-Marie Fleureau*

15 Aug 10:55-12:35

Session room 3

10:55-11:15

**Linking Microstructural Behavior with Macrostructural Observations
on Unsaturated Porous Media**

Hiram Arroyo, Eduardo Rojas

11:15-11:35

**Investigation on Stress-Fabric Relation for Anisotropic Granular
Material**

Jiangu Qian, Weiyi Li, and Xiaoqiang Gu

Sessions

3. Numerical simulation

Session chairmen: **Helmut Schweiger (Graz, Austria)**
Jidong Zhao (Hongkong, China)

14 Aug 08:30-10:30

Session room 4

- 08:30-09:00 **Applications of the Particle Finite Element Method in soil-tool interaction problems (invited talk)**
Lluís Monforte, Marcos Arroyo, Maxat Mamirov, and Jong R. Kim
- 09:00-09:20 **Numerical Simulation of a Post-Grouted Anchor and Validation with In-Situ Measurements**
Carla Fabris, Václav Račanský, Boštjan Pulko, Helmut F. Schweiger
- 09:20-09:40 **A Hard-sphere Model for Wet Granular Dynamics**
Kai Huang
- 09:50-10:00 **Dynamic Analysis by Lattice Element Method Simulation**
Zarghaam Haider Rizvi, Frank Wuttke, and Amir Shorian Sattari
- 10:00-10:20 **A GPU-accelerated Three-dimensional SPH Solver for Geotechnical Applications**
Chong Peng, Wei Wu, and Hai-sui Yu

14 Aug 10:45-12:45

Session room 4

- 10:45-11:05 **Numerical Simulation of Plane Wave Propagation in A Semi-Infinite Media with a Linear Hardening Plastic Constitutive Model**
Erxiang Song, Abbas Haider, and Peng Li
- 11:05-11:25 **Numerical Analyses with an Equivalent Continuum Constitutive Model for Reinforced Soils with Angled Bar Components**
Seyed Mehdi Nasrollahi, and Ehsan Seyed Hosseininia
- 11:25-11:45 **Numerical Analysis of Spudcan-Footprint Interaction Using Coupled Eulerian-Lagrangian Approach**
Jingbin Zheng, and Dong Wang
- 11:45-12:05 **Numerical Simulation of the Bearing Capacity of a Quadrate Footing on Landfill**
Dawei Xue, and Xilin Lv
- 12:05-12:25 **Modelling of Deep Excavation Collapse Using Hypoplastic Model for Soft Clays**
Jan Jerman, and David Mašín
- 12:25-12:45 **A Stress Correction algorithm for a Simple Hypoplastic Model**
Shun Wang, Wei Wu, Xuzhen He, Dichuan Zhang, and Jong Kim

Sessions

14 Aug 14:00-16:00

Session room 4

- 14:00-14:20 **Multiscale Modeling of Large Deformation in Geomechanics: A Coupled MPM-DEM Approach**
Jidong Zhao, and Weijian Liang
- 14:20-14:40 **Numerical modelling of a monopile for estimating the natural frequency of an offshore wind turbine**
David Igoe, Luke J. Prendergast, Breiffni Fitzgerald, and Saptarshi Sarkar
- 14:40-15:00 **Experimental and Numerical Study of the Mechanical Properties of Granite after High Temperature Exposure**
Suran Wang, and Youliang Chen
- 15:00-15:20 **Construction Simulation and Sensitivity Analysis of Underground Caverns in Fault Region**
Chao Su, and [Yijia Dong](#)
- 15:20-15:40 **Enriched Galerkin finite element method for locally mass conservative simulation of coupled hydromechanical problems**
Jinhyun Choo, and Sanghyun Lee
- 15:40-16:00 **Boundary Element Analysis of Geomechanical Problems**
Sha Xiao, and Zhongqi Yue

14 Aug 16:15-18:15

Session room 4

- 16:15-16:35 **An Optimization-Based Parameter Identification Tool for Geotechnical Engineering**
Zhenyu Yin, Yinfu Jin
- 16:35-16:55 **How Spatial Variability of Initial Porosity and Fines Content Affects Internal Erosion in Soils**
Jie Yang, Zhenyu Yin, Pierre Yves Hicher, and Farid Laouafa
- 16:55-17:15 **Seepage and Deformation Analyses in Unsaturated Soils using ANSYS**
Yangyang Li, Harianto Rahardjo, and K.N. Irvine
- 17:15-17:35 **Extrusion Flow Modelling of Concentrated Mineral Suspensions**
Chuan Chen, Damien Rangeard, and Arnaud Perrot
- 17:35-17:55 **MPM Simulations of the Impact of Fast Landslides on Retaining Dams**
Francesca Ceccato, Paolo Simonini, and Veronica Girardi
- 17:55-18:15 **Simulation of Caisson Foundation in Sand Using a Critical State Based Soil Model**
Zhuang Jin, Zhenyu Yin, Panagiotis Kotronis, and Zexiang Wu

15 Aug 09:40-10:30

Session room 4

- 09:40-10:10 **Global Method for Stability Analysis of Slopes with Anchor Reinforcement (invited talk)**

Sessions

Tan Zhang, Hong Zheng and Cong Sun

10:10-10:30 **Influence of Individual Strut Failure on Performance of Deep Excavation in Soft Soil**

Kamchai Choosrithong, Helmut F. Schweiger

15 Aug 10:45-12:45

Session room 4

10:45-11:05 **Effect of Principal Stress Rotation on the Wave-Induced Seabed Response around a Submerged Breakwater**

Hongyi Zhao, Jianfeng Zhu, and Dongsheng Zheng

11:05-11:25 **Implementation of Advanced Constitutive Models for the Prediction of Surface Subsidence after Underground Mineral Extraction**

Yury Derbin, James Walker, Dariusz Wanatowski, and Alec M Marshall

11:25-11:45 **SPH-FDM Boundary Method for the Heat Conduction of Geotechnical Materials considering Phase Transition**

Bing Bai, Dengyu Rao, Nan Wu, and Tao Xu

11:45-12:05 **An Improved Beam-Spring Model for Excavation Support**

Biao Huang, Mingguang Li, Jinjian Chen, Yongmao Hou, and Jianhua Wang

12:05-12:25 **Upper Bound Solution for Ultimate Bearing Capacity of Suction Caisson Foundation Based on Hill Failure Mode**

Wenbo Zhu, Guoliang Dai, Weiming Gong, and Xueliang Zhao

Sessions

4. Laboratory testing

Session chairmen: **Dariusz Wanatowski (Leeds, UK)**
Yu-Hsing Wang (Hongkong, China)
Longtan Shao (Dalian, China)

14 Aug 16:15-18:15

Session room 6

- 16:15-16:35 **Shear Band Between Steel and Carbonate Sand under Monotonic and Cyclic Loading**
Shengjie Rui, Zhen Guo, Lizhong Wang, Wenjie Zhou, and Kanmin Shen
- 16:35-16:55 **Digital Image Measurement System for Soil Specimens in Triaxial Tests**
Longtan Shao, Xiaoxia Guo, and Boya Zhao
- 16:55-17:15 **Adaptive Strength Criterion of Sandy Gravel Material Based on Large-scale True Triaxial tests**
Yuefeng Zhou, Jiajun Pan, Zhanlin Cheng, and Yongzhen Zuo
- 17:15-17:35 **Comparative Study on the Compressibility and Shear Parameters of a Clayey Soil**
Erik Schwiteilo, and Ivo Herle
- 17:35-17:55 **Different Oven-Drying Temperaturesies**
Brendan O'Kelly, and Weichao Li
- 17:55-18:15 **Creep of Reconstituted Silty Clay with Different Pre-Loading**
Minyun Hu, Bin Xiao, Shuchong Wu, Peijiao Zhou, and Yuke Lu

15 Aug 09:40-10:40

Session room 6

- 09:40-10:00 **Discrete Element Experiment and Simulation**
Zhaofeng Li, Jun Kang Chow, Yu-Hsing Wang, Quan Yuan, Xia Li, and Yan Gao
- 10:00-10:20 **True Triaxial Tests on Natural Shanghai Clay**
Guan-lin Ye, Shuo Zhang, Yun-qi Song, and Jian-hua Wang
- 10:20-10:40 **Introducing a New Test System for the Rock-Machine Interaction**
S.D. Li, Zhongming Zhou, and W.S. Hou

15 Aug 10:55-12:35

Session room 6

- 10:55-11:15 **Experimental Study of Small Strain Stiffness of Unsaturated Silty Clay**
Tomáš Mohyla, and Jan Boháč
- 11:15-11:35 **Undrained Shear Behaviour of Gassy Clay with Varying Initial Pore Water Pressures**

Sessions

Yi Hong, L.Z. Wang, and B. Yang

- 11:35-11:55 **Shear Modulus and Damping Ratio of Coarse Fused Quartz**
Gangqiang Kong, Hui Li, Qing Yang, Gang Yang, and Liang Chen
- 11:55-12:15 **A Parallel Comparison of Small-strain Shear Modulus in Bender Element and Resonant Column Tests**
Xin Liu, and Jun Yang
- 12:15-12:35 **On Shear Strength of Stabilized Dredged Soil from Izmir Bay**
Inci Develiogluand, and Hasan Firat Pulat

15 Aug 14:00-16:00

Session room 6

- 14:00-14:20 **Mechanical Behaviors of GRPS Track-Bed with Changing Water Levels and Loading Cycles**
Han-Lin Wang, and Ren-Peng Chen
- 14:20-14:40 **Study on the Influence of Moisture Content on Mechanical Properties of Intact Loess in Qinghai, China**
Anbang Guo, Wuyu Zhang, Lingxiao Liu, and Yanxia Ma
- 14:40-15:00 **Experimental Study of Temperature effect on Binding Properties of Resin Anchors**
Wenhua Zha, Zaobao Liu
- 15:00-15:20 **Dynamic Behaviour of Wenchuan Sand with Nonplastic Fines**
Tugen Feng, Qiuying Qian, Fuhai Zhang, Mi Zhou, and Kejia Wang
- 15:20-15:40 **Open Science Interface Shear Device**
Hans Henning Stutz, Ralf Doose, and Frank Wuttke
- 15:40-16:00 **Effects of Soil Fabric on Volume Change Behaviour of Clay under Cyclic Heating and Cooling**
Qingyi Mu, C. W. W. Ng, Hongjian Liao, and Yingjie Dang

15 Aug 16:15-18:15

Session room 6

- 16:15-16:35 **Direct Simple Shear Tests on Swedish Tailings**
Qi Jia, and Jan Laue
- 16:35-16:55 **Effects of Induced Anisotropies on Strength and Deformation Characteristics of Remolded Loess**
Yongzhen Feng, Wuyu Zhang, Lingxiao Liu, and Yanxia Ma
- 16:55-17:15 **Liquefaction of Firoozkuh Sand under Volumetric-Shear Coupled Strain Paths**
S.R. Falsafizadeh, and A. Lashkari
- 17:15-17:35 **Experimental Study on Static Liquefaction of Carbon Fiber Reinforced Loose Sand**
Xiaohua Bao, Zhiyang Jin, Hongzhi Cui, and Haiyan Ming
- 17:35-17:55 **Development of a Large Temperature-Controlled Triaxial Device for**

Sessions

Rockfill Materials

Hangyu Mao, and Sihong Liu

17:55-18:15

Study on Strength of Expanded Polystyrene Concrete Based on Orthogonal Test

Quan You, Linchang Miao, Chao LI, Shengkun Hu, and Huanglei Fang

Sessions

5. Geotechnical monitoring, instrumentation and field test

Session chairmen: **Roberto Cudmani (Munich, Germany)**
Anbin Huang (Hsingchu, Taiwan),

14 Aug 08:30-10:30

Session room 1

- 08:30-09:00 **Real-Time Monitoring to Inform the Construction of Large-Diameter Caissons (invited talk)**
Brian Sheil, Ronan Royston, and Byron Byrne
- 09:00-09:20 **Influences on CPT-Results in a Small Volume Calibration Chamber**
Florian T. Stähler, S. Kreiter, M. Goodarzi, D. Al-Sammarraie, T. Stanski, T. Mörz
- 09:20-09:40 **Evaluation of Engineering Characteristics of South China Sea Sedimentary Soil in Sanya New Airport Based on CPTU Data**
Kuikui Li, Wencheng Liang, Guojun Cai, Songyu Liu, Yu Du, Liuwen Zhu
- 09:40-10:00 **Evaluation of the variation of deformation parameters before and after pile driving using SCPTU data**
Wei Duan, Guojun Cai, Jun Yuan, Songyu Liu
- 10:00-10:20 **Cyclic Tests with a New Pressuremeter Apparatus**
Soufyane Aissaoui, Abdeldjalil Zadjajoui, and Philippe Reiffsteck

14 Aug 10:45-12:45

Session room 1

- 10:45-11:05 **Life-Cycle Analysis of Foundation Structures using Sensor-Based Observation Methods**
Arne Kindler and Karolina Nycz
- 11:05-11:25 **From Mobile Measurements to Permanent Integrity Control: New Geotechnical Monitoring Instruments for Leakage Detection and Localization**
Mike Priegnitz and Ernst Geutebrück
- 11:25-11:45 **An Internet Based Intelligent System for early concrete curing in Underground Structures**
Yongbin Wei, Jindi Lin, Wei Zhao, Chao Hou, Zhenhuan Yu, Maowei Qiao, and Bangan Liu
- 11:45-12:05 **Gravity Grouting and its Future Alternative for Soil Reinforcement Systems**
Mohammad Zahidul Islam Bhuiyan, Shanyong Wang, Scott William Sloan, Daichao Sheng, Liang Kee Ming
- 12:05-12:25 **Development of IoT Sensing Modulus for Surficial Slope Failures**
Wen-Jong Chang, An-Bin Huang, Shih-Hsun Chou, and Jyh-Fang Chen

Sessions

15 Aug 14:00-16:00

Session room 1

- 14:00-14:30 **Monitoring a Flexible Barrier under the Impact of Large Boulder and Granular Flow Using Conventional and Optical Fibre Sensors (invited talk)**
Jian-Hua Yin, Jie-Qiong Qin, Dao-Yuan Tan, and Zhuo-Hui Zhu
- 14:30-14:50 **Establishment of a Health Monitoring Assessment System for Hong-Gu Tunnel in China**
Xiangchun Xu, Songyu Liu, Liyuan Tong, Jun Guo, Xing Long
- 14:50-15:10 **Development of an FBG-sensed Miniature Pressure Transducer and Its Applications to Geotechnical Centrifuge Modelling**
An-Bin Huang, Kuen-Wei Wu, Mohammed Z. E. B. Elshafie, Wen-Yi Hung, and Yen-Te Ho
- 15:10-15:30 **Monitoring and Early Warning System in Earth Management - Based on Self-Organized Fusion Sensor Networks**
RaFig Azzam, Hui Hu, and Herbert Klapperich
- 15:30-15:50 **Long-Term Field Monitoring of Additional Strain of Vertical Shaft Linings in East China**
Guoqing Zhou, Lianfei Kuang, Guangsi Zhao, Hengchang Liang, Xiaodong Zhao

14 Aug 16:15-18:15

Session room 1

- 16:15-16:35 **Optimization of Location of Robotic Total Station in Tunnel Deformation Monitoring**
Bangan Liu and Yongbin Wei
- 16:35-16:55 **Simplified Vibration Control Technique of Monitoring Devices in Operating Tunnels**
Bangan Liu and Yongbin Wei
- 16:55-17:15 **CFD Analysis of Free-Fall Ball Penetrometer in Clay**
Yuqin Zhang, and Jun Liu
- 17:15-17:35 **Visual and Quantitative Investigation of the Settlement Behavior of an Embankment using Aerial Images under Large-size Field Loading**
Ali Alper Saylan, Okan Önal, Ali Hakan Ören, Gürkan Özden, and Yeliz Yükselen Aksoy
- 17:35-17:55 **Estimation of Relative Density in Calcareous Sands Using the Karlsruhe Interpretation Method**
Franz Tschuchnigg, Johannes Reinisch, and Robert Thurner

Sessions

6. Foundation engineering

Session chairmen: **Renpeng Chen (Changsha, China)**
Jana Frankovska (Brastilava, Slovakia)
Herbert Klapperich (Freiberg, Germany)

14 Aug 14:00-16:00

Session room 2

- 14:00-14:30 **Innovative Geotechnical Solutions in Practice (invited talk)**
Venu Raju
- 14:30-14:50 **New Method for Determining Foundation Bearing Capacity based on Plate Loading Test**
Guanghua Yang, Yan Jiang, Chuanbao Xu, Zhiyun Li, Fuqiang Chen, Kai Jia
- 14:50-15:10 **Effect of Vertical Shaft Resistance on the Lateral Behavior of Large-Diameter Pile Foundation**
Mingxing Zhu, Hongqian Lu, Guoliang Dai, Zhihui Wan
- 15:10-15:30 **Mechanically Stabilised Earthwalls with Uneven Reinforcement Lengths (Trapezoidal Walls) - Design Development and Challenges**
Ching Dai and James Livingston
- 15:30-15:50 **Design Charts and Simplified Approach for The Bearing Capacity of Strip Footings on Sand Overlying Clay**
Haizuo Zhou, Gang Zheng, Jiapeng Zhao

14 Aug 16:15-18:15

Session room 2

- 16:15-16:35 **Free Vibration Calculations of an Euler-Bernoulli Beam on an Elastic Foundation using He's Variational Iteration Method**
Alima Tazabekova, Desmond Adair, Askar Ibrayev, Jong Kim
- 16:35-16:55 **Numerical Analysis of Monopile Behavior under Short-term Cyclic Loading**
Anfeng Hu, Peng Fu, and Kanghe Xie
- 16:55-17:15 **Dynamic Response of Embedded Block Foundation under Vertical Vibration**
Kavita Tandon, Rohit Ralli, B. Manna, G. V. Ramana, M. Datta
- 17:15-17:35 **Vertical Response of 2×2 Pile Group under Rotating Machine Induced Vibrations**
Shiva Shankar Choudhary, Sanjit Biswas, Bappaditya Manna
- 17:35-17:55 **Influence of Rock Joint Orientation on the Natural Frequency of Dam-Foundation System**
Ajay Rampal, Prasun Halder, Bappaditya Manna, K. G. Sharma
- 17:55-18:15 **Parameter Identification of the High-Fill Foundations using Response**

Sessions

Surface Method

Ming Xu, Dehai Jin, and Erxiang Song

15 Aug 09:40-10:40

Session room 2

- 09:40-10:00 **Experimental Studies on Model Single Pile and Pile Groups Subjected to Torque**
Sagar Mehra, Ashutosh Trivedi
- 10:00-10:20 **Formation of Biomineralized Calcium Carbonate Precipitation and its Potential to Strengthen Loose Sandy Soils**
Sangeeta Shougrakpam, Ashutosh Trivedi
- 10:20-10:40 **Application of Semi-active Control Strategy for the Wall Retaining Granular Fills**
Nisha Kumari, Ashutosh Trivedi

15 Aug 10:55-12:35

Session room 2

- 10:55-11:15 **The Joint Inspector - A New Method of Quality Control for Diaphragm Walls**
Nikolaus Schneider
- 11:15-11:35 **Case Study: Moxy Hotel Bored Piles Wall**
Cláudia Carvalho, Alexandre Pinto
- 11:35-11:55 **Precast Concrete Piles in Europe – AARSLEFF's Experience**
Piotr Dziadziuszko, Dariusz Sobala
- 11:55-12:15 **Application Examples of Elastic Support Layers for High-Rise Buildings in China**
Alexander Tributsch, Silke Appel and Bertram Grass
- 12:15-12:35 **On Safety Alarm in Deep Excavations**
Xueshan Cao, Lisu E, Xiyang Lai

15 Aug 14:00-16:00

Session room 2

- 14:00-14:20 **An Innovative Bolt Fastener for Steel Tube Bracing in Deep Excavations**
Mingju Zhang, Meng Yang, Pengfei Li, Dechun Lu
- 14:20-14:40 **Soil characterisation based on Pipejacking Parameters and Spoil Characteristics**
Wenchieh Cheng, James C. Ni, Jack Shuilong Shen
- 14:40-15:00 **Excavation and Peripheral Earth Retaining Solutions for a Building at the Intendente Square, in Lisbon, Portugal**
Vanessa Aleixo, Rui Tomásio, Alexandre Pinto

Sessions

- 15:00-15:20 **Finite Element Analysis of Deep Excavation: A Case Study**
Tugce Aktas, Oguz Calisan, Erdal Cokca
- 15:20-15:40 **On Performance of Anchored Retaining Piles and Stability of Excavations**
Xiaoyi Yuan, Longzhu Chen, Chunyu Song
- 15:40-16:00 **Field Study on the Behavior Super-long and Large-diameter Grouted Drilled Shafts**
Zhihui Wan, Guoliang Dai, Weiming Gong, and Mingxing Zhu

15 Aug 16:15-18:15

Session room 2

- 16:15-16:35 **Nonlinear Analysis on Buried Pipelines Effected by Tunnelling**
Chenrong Zhang, Haili Li
- 16:35-16:55 **Vertical Capacity of Large and Deep Barrette Pile for Bangkok Subsoils**
Wanchai Teparaksa, Mike Sinkinson, Jirat Teparaksa
- 16:55-17:15 **Dynamic Responses of Mono-piles in the Presence of Scour Holes**
Rui He, Tao Zhu, Bo Ma, Wenyan Tao
- 17:15-17:35 **Measured and Predicted Response of a Post-grouted Pile in Cohesionless Soil**
Xiong Xiao, Shanyong Wang, Scott Sloan, Daichao Sheng
- 17:35-17:55 **Study on Penetration Resistance of Bucket Foundation Breakwater by Centrifuge Model Tests**
Yunfei Guan, Yongyong Cao
- 17:55-18:15 **Viscoplastic modeling of soft soils for shallow foundations**
Huan Wang, Giulio Sciarra, Panagiotis Kotronis

16 Aug 08:30-10:30

Session room 2

- 08:30-08:50 **Stability Analysis of L-Shape Slurry Trench During Concrete Diaphragm Wall Installation in c-φ Soils**
Wei Liu, Peixin Shi, Qiang Tang, Fei Wang
- 08:50-09:10 **Behavior of T-shaped Soil-cement Column-treated Soft Ground under Embankment**
Yaolin Yi, Pengpeng Ni, Songyu Liu
- 09:10-09:30 **Experimental Study on Dynamic Penetration of OMNI-Max Anchor in Clay**
Congcong Han, Jun Liu, Wei Zhao
- 09:30-09:50 **CPT-Based Approach to Study the Load-Displacement Behavior of Driven Piles by the New Method of Stress Characteristics**
Fatemeh Valikhah, Abolfazl Eslami, Mehdi Veiskarami
- 09:50-10:10 **On the Pseudo-Coupled Winkler Spring Approach for Soil-Mat Foundation Interaction Analysis**

Sessions

Dimitrios Loukidis, and Georgios-Pantelis Tamiolakis

10:10-10:30

Ageing Effect on Pull-out Capacity of Driven Micropiles in Dunkirk Sand

Imane Salama, C. Dano, M. Silva, Miguel Benz Navarrete

Sessions

7. Environmental geotechnics

Session chairmen: Rafiq Azzam (Aachen, Germany)
Yanjun Du (Nanjing, China)
Brendan O'Kelly (Dublin, Ireland)

14 Aug 08:30-10:30

Session room 5

- 08:30-08:50 **New Method to reduce Porosity of Rockfill Materials with Composite Slurry**
Tao Wang, Sihong Liu, Yan Feng
- 08:50-09:10 **NaCl Activation of Steel Slag upon Component Adjustment**
Li Liu, Qianwen Liu, Yongfeng Deng, Yu Zhao
- 09:10-09:30 **Experimental Study on Effects of NaCl Solutions on Soil-Water Characteristic Curves of Expansive Soil**
Xiujuan Yang, Wojciech T. Sołowski, Henghui Fan, Jinqian Dang
- 09:30-09:50 **Three-dimensional Numerical Analysis of the Air Phase Flow during Air Sparging in Sands**
Zhibin Liu, S.Y. Liu, Z.L. Chen, Y. Wang, L.L. Lu and G.Y. Du
- 09:50-10:10 **Long-Term Performance of a Three-Layer Capillary Barrier Cover System in Humid Climates**
Jian Liu, Yuedong Wu, Rui Chen, C. W. W. Ng
- 10:10-10:30 **Engineering Properties and Mechanism of Solidifying Materials Treated Sludge**
Zhenhua Wang, Wei Xiang, Qingbing Liu, Xueting Wu

14 Aug 10:45-12:45

Session room 5

- 10:45-11:05 **Numerical Modeling of Leakage, Transport and Remediation of Mixed DNAPL And LNAPL in the Unsaturated Clayey Soil Underlain by Saturated Sandy Soil**
Yuzhang Bi, Yanjun Du, Xingyuan You, Kaixuan Yuan, Jin Ni
- 11:05-11:25 **Field Pilot Scale Ex-Situ S/S of Electroplating Industrial Contaminated Soil using Two Novel Binders**
Yasong Feng, Yanjun Du, Weiyi Xia, Krishna R. Reddy
- 11:25-11:45 **Heat Transfer in a Geosynthetics Composite Liner System Containing Wrinkles**
Mayu Tincopa, Abdelmalek Bouazza and R. Kerry Rowe
- 11:45-12:05 **Effect of Liner Consolidation on Contaminant Transport through a Landfill Bottom Liner System**
Hefu Pu, Jinwei Qiu, Junjie Zheng, and Rongjun Zhang
- 12:05-12:25 **Soil Nutrient Effects on Suction and Volumetric Water Content in**

Sessions

Heavily Compacted Vegetated Soil

Rafa Tasnim, J. L. Coe, C. W. Ng and V. Capobianco

Sessions

8. Geotechnics in transportation, structural and hydraulic Engineering

Session chairmen: **Vincenzo Fioravante (Ferrara, Italy)**
Erxiang Song (Beijing, China)
Ashutosh Trivedi (Delhi, India)

15 Aug 14:00-16:00

Session room 5

- 14:00-14:30 **Construction, Requirements and Control of Compaction through Statistical Evaluation of Ramming Probes (DPH – Dynamic Probing Heavy) at the Sealing Wall of the Diavik Diamond (invited talk)**
Konrad Nübel, Joshua Schorr, Roberto Cudmani
- 14:30-14:50 **Geosynthetic Strain during Filling Stage of Geosynthetic-Reinforced Pile-Supported (GRPS) Embankments**
Haiyun Yan, Binglong Wang, Chengyu Liu
- 14:50-15:10 **Tentative Investigation of Structure Size Effect of High-Filled Geotechnical Structures**
Erxiang Song, Tianliang Zheng, Yufei Kong
- 15:10-15:30 **Design Improvement of Sandy Soil Levees in Hydro-engineering Projects, China**
Chunbao Yang, Feng Zhu, An Zhang, Shuli Jiang
- 15:30-15:50 **Deflection Mechanism and Stress Analysis of Large Steel Structure Derrick in Mine**
Zhishu Yao, Mingkai Liu, Xiaojian Wang, Bin Tang, Weipei Xue

15 Aug 16:15-18:15

Session room 5

- 16:15-16:35 **Dynamic Shakedown of Cohesive-Frictional Materials Under Moving Traffic Load**
Yuchen Dai, Jianqu Qian, Xiaoqiang Gu, and Maosong Huang
- 16:35-16:55 **Influence of Matric Suction on the Long-Term Behavior of Fouled Road Base Materials under Traffic Loading**
Jingyu Chen, Yuanqiang Cai, Zhigang Cao, Chuan Gu
- 16:55-17:15 **Kinematics of Piled Embankments with Defective Piles**
Louis King, Abdelmalek Bouazza, Stephen Dusky
- 17:15-17:35 **Mechanism of Isolated Piles in Reducing Tunnel Settlement of Hong Kong-Zhuhai-Macao Bridge Project**
Peng Li, Erxiang Song, Abbas Haider, Ming Lin, Xiaodong Liu
- 17:35-17:55 **Initial Sinking Method for Large Open Caisson in a Highway Bridge Project**
Peng Li, Erxiang Song, Tianliang Zheng

Sessions

16 Aug 08:30-10:30

Session room 5

- 08:30-08:50 **Using the FE-Method for Lock Repair Measures at the Main-Danube-Canal**
Oliver Stelzer and Annette Richter
- 08:50-09:10 **Numerical Analysis of Stone Columns for Road Embankment Construction**
Jakub Stacho, Jana Frankovska, and Peter Mušec
- 09:10-09:30 **Geotechnical Solutions for Linear Transport Infrastructure in Mining Areas**
Jacek Kawalec
- 09:30-09:50 **Analytical Investigation of the Dynamic Impaction of a Moving Surface Load on the Underground Tunnel**
Zhigang Cao, Si Sun, Zonghao Yuan, Yuanqiang Cai
- 09:50-10:10 **Fractional Derivative Approaches to Non-Darcian Flow in Porous Media**
R. Wang, Hongwei Zhou, S. Yang, and Z. Zhuo
- 10:10-10:30 **Seismic Behavior of Pile Supported Railway Track**
Jinsun Lee, Mintaek Yoo, Yunwook Choo

16 Aug 10:45-12:45

Session room 5

- 10:45-11:05 **Modelling stress distribution in Subgrade due to Staged Construction of Enlarged embankment**
Heng Wang, Cong Mou, Jianwen Ding, Xing Wan
- 11:05-11:25 **The Relation Between Static and Dynamic Shakedown Limits of Slab Track Substructures Under Moving Train Loads**
Juan Wang, Shu Liu
- 11:25-11:45 **Analysing the Permanent Deformation of Cohesive Subsoil Subject to Long Term Cyclic Train Loading**
Natalie M. Wride, and Xueyu Geng
- 11:45-12:05 **Study of the shallow groundwater dynamics in drainage and wetting sand column experiments**
Jincheng Hang, Haijiang Liu
- 12:05-12:25 **Field Test Study of Long-Term Displacement of Bridge Foundation Subjected to Lateral Loads**
Weiming Gong, Guangming Yu, Guoliang Dai

Sessions

9. New geomaterials and ground improvement

Session chairmen: **Jian Zhou (Hangzhou, China)**
Marcos Arroyo (Barcelona, Spain)

14 Aug 08:30-10:30

Session room 6

- 08:30-09:00 **The investigation of the Mechanical Properties of the Martian soils at the InSight Mission Landing Site (invited talk)**
Pierre Delage, M. Golombek, Foivos Karakostas, A. Demaided, P. Lognonné, B. Banerdt
- 09:00-09:20 **The Effects of Colemanite and Ulexite Additives on the Geotechnical Index Properties of Bentonite and Sand-Bentonite Mixtures**
Sükran Gizem Alpaydın, and Yeliz Yukselen-Aksoy
- 09:20-09:30 **Effect of Fly Ash on Swell Behaviour of a Very Highly Plastic Clay**
Inci Süt-Ünver, Musaffa Ayşen Lav, Erdal Çokça
- 09:30-09:50 **Engineering properties and microstructure feature of dispersive clay Modified by fly ash**
HengHui Fan, YingJia Yan, XiuJuan Yang, Lu Zhang, HaiJun Hu
- 09:50-10:10 **Compaction Characteristics and Shrinkage Properties of Fibre Reinforced London Clay**
JianYe Wang, Andrew Sadler, Paul Hughes, Charles Augarde

14 Aug 10:45-12:45

Session room 6

- 10:45-11:05 **Stress dilatancy Behavior for Fiber-reinforced Sand**
Yuxia Kong
- 11:05-11:25 **Strength Development of Lateritic Soil Stabilized by Local Nanostructured Ashes**
Duc Bui Van, Kennedy Onyelowe Chibuzor, Phi Van Dang, Dinh Phuc Hoang, Nu Thi Nguyen, Wei Wu
- 11:25-11:45 **Numerical Simulation on Pore Pressure in Electro-Osmosis Combined with Vacuum Preloading**
Tianjiao Zhang, Fanglei Zhan, Jian Zhou, Cunyi Li, Xiaonan Gong
- 11:45-12:05 **Enhancing the Strength Characteristics of Expansive Soil Using Bagasse Fibre**
Liet Chi Dang and Hadi Khabbaz
- 12:05-12:25 **Enhancement of Mechanical Properties of Expansive Clayey Soil Using Steel Slag**
Anurag Hirapure, Rupa Dalvi

Sessions

14 Aug 14:00-16:00

Session room 6

- 14:00-14:20 **Experimental Study on Calcium Carbonate Precipitates Induced by *Bacillus Megaterium***
Xiaohao Sun, Linchang Miao, Chengcheng Wang
- 14:20-14:40 **Effect of Fine Particles on Cement Treated Sand**
Ganapathiraman Vinoth, Sung-Woo Moon, Jong-Ryeol Kim, Taeseo Ku
- 14:40-15:00 **Laboratory carbonation model of single soil-mgo mixing column in soft ground**
Guanghua Cai, Songyu Liu, and Guangyin Du
- 15:00-15:20 **Improvement of Soft Soils using Bio-cemented Sand Columns**
Aamir Mahawish, Abdelmalek Bouazza, Will P. Gates

Sessions

10. Underground construction

Session chairmen: **Hehua Zhu (Shanghai, China)**
Günther Meschke (Bochum, Germany)

15 Aug 14:00-16:00

Session room 3

- 14:00-14:30 **Geotechnical VChallenges During Construction of Based Tunnel in Austria (invited talk)**
K. Bergmeister
- 14:30-14:50 **Semmering Base Tunnel, Austria**
Michael Proprenter and Enrico Soranzo
- 14:50-15:10 **Effects of Fault Zones on Failure Mechanism of Tunnel, an Experimental Study**
Ba Thao Vu, Hehua Zhu, Qianwei Xu, Xiaoying Zhuang
- 15:10-15:30 **Undrained Stability of Tunnel with a Longitudinal Gradient**
Fei Zhang, Guangyu Dai, Hu Wang, Yufeng Gao, and G.H. Lei
- 15:30-16:00 **Torque Fluctuation and Penetration Analysis of Shield Tunnel in Rock-Soil Mixed Ground**
Yu Zhao, Quanmei Gong, Runlai Zhang, Jie Xia

15 Aug 16:15-18:15

Session room 3

- 16:15-16:35 **Numerical Investigation of Impact of Non-Circular Tunneling in Sensitive Soft Clay Layers**
Tadashi Hashimoto, Yujian Liu, Teruo Nakai, Hossain MD. Shahin, Yahong Zhu, and Zibo Dong
- 16:35-16:55 **Thermo-hydromechanical modeling of excavation induced damage zone using phase-field method**
Zhan Yu, D. Seyed, J.F. Shao
- 16:55-17:15 **Adequate numerical simulation of tail void grouting for tunneling in saturated soil**
Chenyang Zhao, Arash A. Lavasan, and Tom Schanz
- 17:15-17:35 **Numerical Investigation on the Influence of the Excavation Rate on the Mechanical Response of Deep Tunnel Fronts in Cohesive Soils**
Luca Flessati and Claudio di Prisco
- 17:35-17:55 **Numerical Modeling of The Effects of Ground Fissure Dislocation on the Metro Tunnel**
Ming Wu, Jianbing Peng, Yahong Deng, Xin Liu

Sessions

16 Aug 08:30-10:30

Session room 3

- 08:30-09:00 **On Tunnel Design in Seismically Active Zones (invited talk)**
G. Dierssen
- 09:00-09:20 **Monitoring System for Previous Convergence Measurements in Tunnel Construction**
Stephan Großwig, and Maria-Barbara Schaller
- 09:20-09:40 **Validation of an In-situ Stress Level Rating Method**
Fei Chen, Jianhui Deng
- 09:40-10:00 **Distribution Patterns of Horizontal Foundation Modulus Under Pre-Excavation Dewatering**
Xiuli Xue, Miaokun Li, Chaofeng Zeng
- 10:00-10:20 **Responses of Retaining Wall to Pre-Excavation Dewatering under Staggered Layout of Dewatering Wells**
Chaofeng Zeng, ZhiCheng Yuan, Xiuli Xue, Wei Hu
- 10:20-10:40 **Soil-structure interaction in Computational Simulations of Mechanized Tunnel Advancement in Soft Soils**
Günther Meschke

Sessions

11. Geohazards – risk assessment, mitigation and prevention

Session chairmen: **Stefano Utili (New Castle, UK)**
Xueyu Geng (Warwick, UK)

15 Aug 14:00-16:00

Session room 4

- 14:00-14:20 **Upper Bound Stability Analysis of MSW Slope Layered by Fill Age Considering Particle Compressibility**
Maosong Huang, Xiping Fan, Haoran Wang and Xilin Lu
- 14:20-14:40 **On Stability of Embankments on Soft Clays**
Akzhunis Zhamanbay, Jong R. Kim, Sung-Woo Moon
- 14:40-15:00 **Numerical Investigation of Drilled Shafts near an Embankment Slope under Combined Torque-Lateral Load Scenario**
Aigul Mussabayeva, Jong Kim, Deuckhang Lee, Taeseo Ku and SungWoo Moon
- 15:00-15:20 **A Simple Method for Evaluating Progressive Failure Process of Rainfall-induced Shallow Landslide**
Yang Tang, KunLong Yin and Wei Wu
- 15:20-15:40 **Introduction to the Badong Field Test Site for Landslide Research in the Three Gorges Reservoir Area of China**
Jinqe Wang, Wei Xiang, Aijun Su, Chengren Xiong

15 Aug 16:15-18:15

Session room 4

- 16:15-16:35 **On Geological Hazards in Georgia**
Diana Egiazarova and Zurab Tchkonია
- 16:35-16:55 **Modelling of Castaño Viejo Tailings Flow Case History**
Francisco Zabala, Gustavo Navarta and Luciano A. Oldecop
- 16:55-17:15 **Geotechnical Issues of Landslides in Ukraine: Simulation, Monitoring and Protection**
Lurii Kaliukh, Gennadiy Farenjuk, Iegor Farenjuk
- 17:15-17:35 **Deformation and Instability Mechanism of Reservoir Landslide: A Case Study**
Changjun Zhao and Minghui Xu
- 17:35-17:55 **Factors Influencing Landslide Deformation from Observations in the Three Gorges Reservoir**
Beibei Yang, Suzanne Lacasse, Kunlong Yin, Zhongqiang Liu

16 Aug 08:30-10:30

Session room 4

- 08:30-08:50 **Influence of Bulk Density and Slope on Debris Flows Deposit**

Sessions

Morphology: Physical Modelling

Shuai Li, Xiaoqing Chen, Gongdan Zhou, Dongri Song, and Jiangang Chen

- 08:50-09:10 **Back Analysis Algorithm Based on Particle Swarm Optimization**
Abdoulie Fatty and A. J. Li
- 09:10-09:30 **Dimensionless Stability Charts for c - ϕ Slopes with Tension Cracks Subject to Seismic Action**
S. Utili, A. Abd
- 09:30-09:50 **Simulation of Building Failure by Landslide Impact**
Hongyu Luo, Limin Zhang
- 09:50-10:10 **Numerical modelling of main shock and aftershock line of Chuya earthquake 27.09.2003 Altay, Russia**
Mikhail Eremin, Pavel Makarov
- 10:10-10:30 **Effect of Air Compression and Counterflow on Shallow Landslides under Intense Rainfall**
Tongchun Han, Shiguo Ma and Riqing Xu

16 Aug 10:45-12:45

Session room 4

- 10:45-11:05 **Centrifuge Modelling of Slope Instability Due to Leakage of Buried Pipes**
Kit Chan, Limin Zhang, Hong Zhu, Te Xiao
- 11:05-11:25 **Centrifuge Model Test on Excavation-induced Failure of Soil Slopes Overlying Bedrock**
Yiyiq Zhao, Ga Zhang
- 11:25-11:45 **Characteristics and Application of Micropiles in Slope Engineering**
Li Ma, Yifu Hu, Desheng Gu, Chong Jiang
- 11:45-12:05 **Modeling of Landslides and Assessment of Their Impact on Infrastructure Objects in Ukraine**
Olena Ivanik
- 12:05-12:25 **Discrete Element Models of Soil-Geogrid Interaction**
Alina Irsainova, Marcos Arroyo, and Jong-Ryeol Kim

Sessions

12. Unsaturated soils and energy geotechnics

Session chairmen: **Weimin Ye (Shanghai, China)**
Dariusz Łydźba (Wrocław, Poland)

14 Aug 08:30-10:30

Session room 2

- 08:30-09:00 **Geothermal Uses in China: Potential, Projects and Experience (invited talk)**
Horst Kreuter
- 09:00-09:20 **Calculation of Osmotic Suctions for Bentonite in Saline Solutions**
Xiaoyue Li, X.J. Zheng, and Yongfu Xu
- 09:20-09:40 **Thermo-Mechanical Behaviour of Inventory Materials in a Packed Bed Thermal Energy Storage**
Xuetao Wang, and Christoph Niklasch
- 09:40-10:00 **Soil Texture Based Approach for Thermal Conductivity Evaluation**
Adrian Rózański
- 10:00-10:20 **Thermo-mechanical Behavior of Reinforced Concretes for Energy Piles**
Wei Huang, Wei Xiang, and Jin Luo
- 10:20-10:40 **Flow Behaviour of Fractured Geothermal Reservoir Rocks Under In-Situ Stress and Temperature Conditions**
W.G.P. Kumariand, and P.G. Ranjith

14 Aug 10:45-12:45

Session room 2

- 10:45-11:05 **Thermal Conductivity of Unsaturated Soil: Equivalent Microstructure Approach**
Dariusz Łydźba, Adrian Rózański, and Damian Stefaniuk
- 11:05-11:25 **A New Setup to Measure Hydraulic Properties of Unsaturated Soils**
Tiande Wen; Longtan Shao, and Xiaoxia Guo
- 11:25-11:45 **Experimental Study on Highly Compacted Bentonite Aggregates Subjected to Wetting and Drying**
Haiquan Sun, David Mašín, and Jan Najser
- 11:45-12:05 **Principle of Effective Stress is an Approximated Method**
Chenggang Zhao, Zhaoyang Song, Jian Li, Guoqing Cai and Weihua Li
- 12:05-12:25 **Dependency of Poisson's Ratio on Water Content for Unsaturated Soils**
Yi Dong
- 12:25-12:45 **Interpretation of Plate Load Tests on Unsaturated Sand**
Yi Tang, and Zhengyin Cai

Sessions

13. Cold regions geotechnical engineering

Session chairmen: **Seyed Amiri (Trondheim, Norway)**
Jilin Qi (Beijing, China)

15 Aug 09:40-10:30

Session room 1

- 09:40-10:10 **Thermal characteristics of Permafrost Subgrades in the Qinghai-Tibet Plateau (invited talk)**
Mingyi Zhang, Yuanming Lai, Wansheng Pei, Qihao Yu, Zhongrui Yan
- 10:10-10:30 **On the thaw consolidation of permafrost under roadway embankments**
Jilin Qi, Xiaoyu Sun

15 Aug 10:45-12:45

Session room 1

- 10:45-11:05 **Experimental Study of Elastic Properties of Saturated Clay subjected to Freeze-Thaw Cycles**
Feng Zhang, Bo Lin, Tao Li, Decheng Feng
- 11:05-11:25 **Experimental study on the strength characteristics of frozen clay on π plane**
Yanhu Mu, Wei Ma, Dun Chen, Zhiwei Zhou, Dayan Wang, Lele Lei
- 11:25-11:45 **Experimental Study on Anti-Frost Jacking of Belled Pile in Seasonally Frozen Ground Regions**
Xubin Huang, Yu Sheng
- 11:45-12:05 **Experimental Study on the Interaction Between Pipe and Soil under Frost Heave Condition**
Long Huang, Yu Sheng
- 12:05-12:25 **Study on the Stability of Spread-Footing Foundations on Permafrost Regions**
Zhi Wen, Zhizhong Sun, Shujuan Zhang
- 12:25-12:45 **Challenges and countermeasures of a power transmission line in permafrost regions—the Qinghai-Tibet Power Transmission Line**
Qihao Yu

15 Aug 14:00-16:00

Session room 1

- 14:00-14:30 **A Constitutive Model for Frozen Granular Soils (invited talk)**
Roberto Cudmani, Jian Sun and Wei Yan
- 14:30-14:50 **Numerical Modeling of Rate-Dependence Behavior of Saturated Frozen Soil**
Qiyin Zhu, Xiangyu Shang, Lianfei Kung, Li Gang
- 14:50-15:10 **Creep of frozen soils**

Sessions

- 15:10-15:30 *Xiaoliang Yao, Boxiang Dang, Jilin Qi*
Microstructural analysis of frozen clay with different water content and temperature by Cryo-SEM
Chengsong Yang
- 15:30-15:50 **The Crystallization and Salt Expansion Characteristics of a Silty Clay**
Jianhong Fang, Xu Li, Jiankun Liu, Chenyinan Liu
- 15:50-16:10 **Experimental Study on the Mechanical Properties of Coarse-grained Soils in High Altitude and Cold Areas under Freeze-Thaw Cycle**
Yonglong Qu, Guoliang Chen, Fujun Niu, Wankui Ni, Yanhu Mu, Tao Chen, Dun Chen

Sessions