ISGSR2025

PROGRAM

25th – 28th AUGUST 2025
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Monday, 25 August		
08:00 - 09:00	**Registration (at hotel)**	
Rooms	***Skagerak & Eidsvoll***	***Christiania, Lofoten & Finnmark***
Event	**Short course 1**	**Seminar**
09:00 - 12:00	**Reliability based geotechnical design** *Speakers:* *Gordon A. Fenton (Dalhousie University, Canada)* *Timo Schweckendiek (Deltares & Delft University of Technology, The Netherlands)* *Tea/coffee/water is provided, simple lunch is provided afterwards.*	**The 6th Machine Learning in Geotechnics Dialogue** *Moderators:* *Enrico Soranzo (BOKU University, Austria)* *Negin Yousefpour (The University of Melbourne)* *Andy Y.F. LEUNG (The Hong Kong Polytechnic University)* *Tea/coffee/water is provided, lunch is not provided.*
12:00 - 13:00	Lunch (for participants of short courses)	
12:00 - 17:00	**Registration (at hotel)**	
Rooms	***Skagerak, Eidsvoll & Bergen***	***Christiania, Lofoten & Finnmark***
Event	**Short course 2**	
13:00 - 16:00	**An Introduction to Bayesian Data Analysis** *Speakers:* *Nezam Bozorgzadeh (Norwegian Geotechnical Institute)* *Iason Papaioannou (Technical University of Munich)* *Tea/coffee/water is provided, simple lunch is provided beforehand.*	
16:00 - 17:00		GEOSNet board meeting
Location	***Oslo City Hall***	
17:30 - 18:00	**Icebreaker (security control)** *Note: Participants MUST register at the hotel before arriving at Oslo City Hall, to receive a special invitation for the Icebreaker.* *Meet at Oslo City Hall at 17:30 for an airport-style security check before the Icebreaker begins .*	
18:00 - 19:00	**Icebreaker**	

Tuesday, 26 August				
07:30 - 08:15	**Registration (at hotel)**			
08:15 - 08:45	**Opening Ceremony**			
08:45 - 09:15	**Wilson Tang Lecture - 'Digital-twin Empowered Landslide Risk Management'** Limin Zhang, Hong Kong University of Science and Technology, HKSAR, China *Chairs: Farrokh Nadim, Jinsong Huang*			
09:15 - 9:45	**Keynote Lecture - 'Application of Random Finite Element and Material Point Methods to Slope Stability'** Michael A. Hicks, Delft University of Technology, The Netherlands *Chair: Vaughan Griffiths*			
9:45 - 10:15	**Keynote Lecture - 'Numerical safety assessment of the dams of the "Zelazny Most" tailings pond'** Dariusz Lydzba, Wroclaw University of Technology, Poland *Chair: Kerstin Lesny*			
10:15 - 10:45	Tea break + group photo			
Hall	***NGI Hall (Helsingfors)***	***Keller Hall (København)***	***Rocscience Hall (Stockholm)***	***OsloMet Hall (Oslo)***
Sessions	**IS6** **Climate change impact on geotechnical safety and risk** *Session chairs: Emir A. Oguz, Ivan Depina*	**IS2-1** **Spatial variability assessment for engineering design and geohazard mapping** *Session chairs: Giovanna Vessia, Wojciech Puła*	**IS3-1** **Machine learning-enhanced geotechnical safety and risk assessment** *Session chairs: Wengang Zhang, Ze Zhou Wang*	**IS0-1** **General session** *Session chairs: Yutao Pan, Hilde Aas Nøst*
10:45 - 10:52	**56: Assessing the impact of climate change on extreme hydraulic head levels and dry-wet cycles of Dutch canal dikes** *Bart Strijker, Matthijs Kok*	**13: Probabilistic settlement prediction for neighbouring footings at different spacing distances in rotated spatial anisotropic multi-layered soil** *Boru Tesfaye Yada, Pieczyńska-Kozłowska Joanna, Puła Wojciech*	**Invited lecture: Multi-Scale Degradation and Fracture Mode Analysis of Grotto Rock Masses based on Machine Learning** *Wengang Zhang*	**265: Probabilistic runout analysis of the Gjerdrum sensitive clay landslide using the NGI-ADPsoft model** *Meng Lu, Zengliang Xing, Pengli Huang, Zhongqiang Liu, Mingliang Zhou*
10:52 - 10:59	**101: An insight into climate change-related geotechnical uncertainty** *Patrizia Vitale, Marco Uzielli, Zhongqiang Liu*	**77: Geotechanical characterization of the levees of Tagliamento river (Italy): insights and implications for levee vulnerability** *Giorgia Dalla Santa, Francesca Ceccato, Paolo Simonini*	**63: Landslide susceptibility map based on machine learning: a validation based on the heavy rainfall event of May 2023 in Emilia Romagna, Italy** *Jibran Qadri, Francesca Ceccato*	**354: A 3D shallow translational landslide susceptibility model with DEM cells accounting for side resistance and vegetation effects** *Enok Cheon, Emir Ahmet Oguz, Amanda DiBiagio, Luca Piciullo*
10:59 - 11:06	**113: Climate change risks and hydraulic stability of masonry retaining walls: a yield design perspective** *Cherifi Hicham, Colas Anne-Sophie, Garnier Denis, Terrade Benjamin*	**92: Emphasizing statistical relationships between pavement surface roughness index and subgrade ground properties on spatial feature extraction** *Frank Amofa-Agyemang, Yu Otake, Daijiro Mizutani, Kenneth Adomako Tutu*	**89: SHAP-augmented neural networks for landslide susceptibility mapping in Darjeeling-Gangtok region** *Manohara K N, Rishikesh Bharti, Arindam Dey*	**370: Hazard and risk assessments of seismic landslides for the loess plateau of China** *Lanmin Wang, Xingyu Ma, Shaofeng Chai, Ping Wang*
11:06 - 11:13	**131: Impact of depth distributed plant water uptake on slope safety** *Maryam Sadat Maddah Sadatieh, Aikaterini Tsiampousi, Athanasios Paschalis*	**132: Integrating probabilistic approaches in site characterization for bearing pressure evaluation of circular footing** *Sivani Remash Thottoth, Vishwas N Khatri*	**95: Machine learning surrogate modeling for reliability analysis of spatially varying slopes in 3D** *Jort Vermeer, Wei Huang, Guillaume Rongier, Michael A. Hicks*	**381: Study on verification of critical continuous rainfall amount for triggering shallow landslide in Korea** *Joon-Young Park, Seung-Rae Lee, Young-Suk Song*
11:13 - 11:20	**173: Assessing the impacts of climate change on landslide susceptibility in northwestern alps** *A. Pourfatollah, A. Insana, V. De Biagi, M. Barla*	**138: Uncertainty in the natural frequency of wind turbines supported on monopiles in spatially-variable clays** *Ahmad Kahiel, Salah Sadek, Shadi Najjar*	**151: A machine learning approach to facilitate stability analysis in spatially variable soil deposits using RS2** *Pouya Pishgah, Sina Javankhoshdel, Elaheh Mohammadi, Reza Jamshidi Chenari*	**388: Optimizing earthquake-induced landslide hazard: a multi-phase assessment framework for case study of Jiuzhaigou earthquake** *Siyuan Ma*
11:20 - 11:27	**192: Inspection of geotechnical road and rail infrastructure under consideration of climate change related effects** *Matthias J. Rebhan, Volker Reinprecht, Markus A. Schuch, Clemens Klaas, Franz Tschuchnigg*	**165: Probabilistic assessment of a circular tunnel in the non-rotated and rotated anisotropic random fields** *Ajeet Kumar Verma, Anindya Pain, Annan Zhou*	**384: Random large deformation analysis of unsaturated slopes using data-driven and physics-informed method** *Xin Gu, Li-Min Zhang*	**399: Prediction of landslide displacement using BP neural network model: a case study in Gansu, China** *Yifan Tian, Zhen Feng, Liang Chen*
11:27 - 11:34	**342: Effect of temperature-dependence of the residual shear strength on the stability of a soil slope** *Tomáš Kadlíček, Jan Jerman, Om Prasad Dhakal, Marco Loche, Tomas Mlady, Manh Nguyen Duy, Bhargavi Chowdepalli, Sumit Das, Jakub Rohac, Gianvito Scaringi*	**166: Effect of embedment depth on bearing capacity of strip footing placed over a spatially varying c-phi soil with non-stationary characteristics** *Priyanka Sharma, Anindya Pain*	**36: Unprecedented breakthrough of landslip warning system in Hong Kong: real-time, data-driven and performance-based** *Raymond W.M. Cheung, Florence W.Y. Ko, Edward K.H. Chu, D.S. Chang*	**400: Landslide susceptibility assessment based on machine learning models in Bailong river basin, China** *Liang Chen, Yifan Tian, Zhen Feng, Chunli Chen*
11:34 - 11:41	**262: Extreme rainfall induced flood risk assessment model and resilience enhancement method on metro networks** *Hao Bai, Dongming Zhang, Hongwei Huang*	**268: Probabilistic analysis of deflection of an anchored diaphragm wall for hardening soil model and nonlinear model of concrete** *Marek Kawa, Wojciech Puła, Andrzej Truty, Adrian Różański*	**200: Inverse analysis of high rockfill dams considering material uncertainty based on the EJaya-SESM model** *Qin Ke, Xiaosong Tang, Dianqing Li*	**402: Characteristics of an anci landslide in Bailongjiang river basin and evaluation of control measures** *Zhen Feng, Liang Chen, Yifang Tian, Chenguang Song*
11:41 - 11:55	Q&A	Q&A	Q&A	Q&A
11:55 - 12:05	Short break to change halls			

Tuesday, 26 August				
Hall	***NGI Hall (Helsingfors)***	***Keller Hall (København)***	***Rocscience Hall (Stockholm)***	***OsloMet Hall (Oslo)***
Sessions	**IS19** **Advancements in monitoring and modeling of earth structures** *Session chairs: Zili Li, Chuangxin Lyv*	**IS12** **Integrating disciplines, sampling technologies, and data science and technology methods, to improve inferences for risk-based site-characterization** *Session chairs: Zenon Medina-Cetina, Billy Hernawan*	**IS16** **Risk and reliability in rock engineering** *Session chairs: Johan Spross, Iason Papaioannou*	**IS21** **Reliability- and risk-based code developments I** *Session chairs: Gordon Fenton, Timo Schweckendiek*
12:05 - 12:12	**11: Gravity to cavity: gravity measurement for underground cavity detection** *Chuanyang Peng, Chao Wang, Zili Li*	**127: Dendrogram and principal component analysis applied to geotechnical CBR data to remove data noise** *Burt G. Look*	**29: Invited lecture: On the limit state design of bolted rock slopes: challenges and a way forward** *Johan Spross, Bruce Ashcroft, Renato Pereira, Håkan Stille*	**67: Efficient and robust method for reliability analysis of geotechnical ultimate limit states** *Ivan Depina*
12:12 - 12:19	**17: Possible damages in diaphragm wall during braced excavation** *Yuepeng Dong*	**204: A study on real-time 3D reconstruction based on NeWCRFs: a case study of excavation engineering** *Chenxi Han, Hongwei Huang, Siyi Guo, Linghan Ouyang*	**109: Assessment of rockfall-infrastructure interaction: a case study of a viaduct in northeastern Italy** *Fabiola Gibin, Lorenzo Brezzi, Fabio Gabrieli, Luca Simoni, Paolo Simonini*	**83: Statistical analysis and interpretation of the uncertainty inherent to the effective friction angle of non-cohesive soils determined from shear tests** *Julia Sorgatz, Bjorn Sprungk, Thomas Nagel*
12:19 - 12:26	**128: Study on buried wireless signal transmission and its application in water supply network monitoring** *Fei Wang, Shuang Nie, Qunfang Hu*	**226: Probabilistic simulation of landslide risk scenarios on pipelines: a Bayesian risk network approach** *Billy Hernawan, Zenon Medina-Cetina, Juan Pablo Alvarado-Franco*	**184: Integrated approach for probability of failure analysis in salt caverns: API and predictive model framework** *Renathielly Fernanda da Silva Brunetta, Gabriela Wessling Oening, José Eduardo Gubaua, Jucélio Tomás Pereira, Alessander C. M. Kormann*	**146: Reliability-based internal stability design for MSE wall structures** *Richard J. Bathurst, Yoshihisa Miyata, Tony M. Allen, Nezam Bozorgzadeh*
12:26 - 12:33	**267: Landslide deformation and temporal prediction of slope failure in Himalayan terrain using InSAR time series.** *Akshay Raj Manocha*	**325: Simplified expressions for hybridising regional and site-specific soil shear strength information for cost-effective reliability-based design** *M.K. Lo, Andy Y.F. Leung*	**298: Reducing geotechnical risk arising from in situ stress variability** *J.P. Harrison, M.A. Javaid, A. Hamidi, D. Mas Ivars, H. A. Kasani*	**182: Consideration of confidence intervals for estimated limit state probability in surrogate model active learning** *Tomoka Nakamura, Yu Otake, Ikumasa Yoshida*
12:33 - 12:40	**291: A case study on the soil liquefaction monitoring at a high potential of soil liquefaction area in Taiwan** *Kai-Jun Chong, Yu-Hsiu Tseng, Yu-Shu Kuo, Cheng-Lung Chiu, & Yu-Chung Hsieh*	**334: Stress increase anomaly in cemented paste backfill: risk identification from monitoring** *Alsidqi Hasan, WeeKiet Ting, Fauzan Sahdi, Ahmad K.B. Hong*	**326: Dirichlet-based gaussian process modelling of spatial variability in construction classes for tunnel projects** *Johan Spross, Iason Papaioannou, Jacob Grasmick*	**238: Probabilistic calibration of resistance factors for pile group considering the spatial variability of soils** *Yuting Zhang, Jinsong Huang, Jiawei Xie*
12:40 - 12:47	**385: A novel approach to determining annual failure probability of landslide based on time-series InSAR and its application in landslide risk assessment** *Fumeng Zhao, Yaming Tang, Yalin Nan, Fan Feng, Wei Feng, Bo Hong*	**217: Three-dimensional stratum uncertainty simulation considering geological uncertainty and spatial variability** *Qihao Jiang, Dongming Zhang, Jinzhang Zhang*	**327: Uncertainty analysis of rock properties using Monte Carlo machine learning** *A. Hamidi, J .P. Harrison*	**28: Understanding the concept of safety and reliability introduced by the 2nd generation Eurocode 7** *Andra Ebener, Kerstin Lesny*
12:47 - 13:00	Q&A	Q&A	Q&A	Q&A
13:00 - 14:00	Lunch			

Tuesday, 26 August

14:00 - 14:30	**Keynote Lecture - 'Resilience models for shield tunnels'** Dongmei Zhang, Tongji University, China *Chair: Lulu Zhang*			
14:30 - 15:00	**Keynote Lecture - 'Planning and execution of rescue of 41 workers stuck inside the Silkyara Tunnel in the state of Uttarakhand India'** Sandeep Sudhera, National Highways and Infrastructure Development Corporation Limited, India *Chair: Håkon Heyerdahl*			
15:00 - 15:45	Tea break + Poster session + voting for best poster			
Hall	***NGI Hall (Helsingfors)***	***Keller Hall (København)***	***Rocscience Hall (Stockholm)***	***OsloMet Hall (Oslo)***
Sessions	**Industry session** **BGC Engineering** *Moderator: John Perry*	**IS9-1** **Geotechnical digital twins** *Session chairs: Limin Zhang, Hui Wang*	**IS18-1** **Modelling of geological uncertainty and its influences on geostructures** *Session chairs: Donamina Zhang, Jingzhang Zhang*	**IS1-1** **Modelling spatial variability in geotechnical engineering** *Session chairs: Jinsong Huang, Shuihua Jiang*
15:45 - 15:52	**Panel Discussion on Trends in Geotechnical and Geohazard Risk Management across Infrastructure** *Panellists:* *- Scott Anderson* *- Regula Frauenfelder* *- David Waring* *- Filipe Guimaraes*	**47: A novel approach for slope reliability analysis considering the stratigraphic uncertainty and property uncertainty** *Hui Wang, Xingxing Wei, Guanghui Chen*	**141: Prognosis of discrete layer boundaries for synthetic geological models and their influence on geotechnical structures** *Johannes Leo, Tobias Peterstorfer, Franz Tschuchnigg*	**48: Random field parameter identification and model selection using time-series pwp data** *Hong-Hu Jie, Shui-Hua Jiang, Jinsong Huang*
15:52 - 15:59		**140: Building man-made slope models to support digital twin visualization** *Yunhong Lv, LuYu Ju, WeiFan Xu, LiMin Zhang*	**149: Shape function-based KL expansion method for discretizing irregular random fields** *Zhihao Jiang, Xiaohui Tan, Shanwei Liu, Xiaoliang Hou*	**58: Insight into the importance of spatial variability from Taylor's charts** *D.V. Griffiths, Desheng Zhu, Gordon A. Fenton*
15:59 - 16:06		**216: Machine learning-aided three-dimensional geological modeling with uncertainty quantification** *Zening Zhao, Limin Zhang, Haifeng Zou*	**188: Probabilistic nonlinear ground response analysis of Newtown suburb, Kolkata, India** *Shiladitya Mandal, Harika Anupoju, G R Dodagoudar*	**68: 2D site characterization by mixture of Gaussian processes** *Muhammet Durmaz, Michael A. Hicks*
16:06 - 16:13		**218: Rapid position-based simulation of landslide dynamics within digital twin environment** *Luyu Ju, Te Xiao , Limin Zhang*	**193: Benchmark study for stratigraphic modeling based on field model tests** *Ting Xiong, Wenping Gong, Chao Zhao*	**152: A neural network framework with embedded experimental variograms for sparse spatial interpolation in geotechnical site investigation** *Jiawei Xie, Jinsong Huang, Shui-Hua Jiang*
16:13 - 16:20		**225: Stress testing analysis of exposure threats of mountain bridges to glacier hazards: insights from Peilong glacier, southeastern Tibet** *Ruochen Jiang, Limin Zhang, Xin He, Shihao Xiao*	**203: Monitoring and analysis of a reactivated landslide with uncertain boundaries in an urban area** *Sevki Ozturk, Volkan Kalpakci, Nejan Huvaj, Ufuk Ergun*	**162: A G-PFEM analysis of cone penetration testing in clay considering random destructuration fields** *Gosai Alyamani, Tom Charlton, Lluís Monforte, Mohamed Rouainia*
16:20 - 16:27		**375: Physical knowledge-constrained dynamic spatio-temporal graphical convolutional networks for landslide displacement mechanism analysis and prediction** *Shaoqiang Meng, Zhenming Shi, Ming Peng, Thomas Glade*	**221: Probabilistic stratigraphic and geo-property models at a regional-scale: a case study of the Taipei basin** *Yu-Chen Lu, Wan-Ying Chien, Stefan Christopher Nicholas, Hui Wang, Jia-Jyun Dong, C. Hsein Juang*	**33: Modelling random construction deviation and spatial variability of lime-cement treated ground** *Yutao Pan, Nils Brandt, Zhongqiang Liu, Nelson Skonnord Bacher, Vegard Engeness Haugeberg*
16:27 - 16:45		Q&A	Q&A	Q&A
16:45 - 16:50	Short break to change halls			
Hall	***NGI Hall (Helsingfors)***	***Keller Hall (København)***	***Rocscience Hall (Stockholm)***	***OsloMet Hall (Oslo)***
Sessions	**Student competition** *Session chair: Yu Feng*	**IS9-2** **Geotechnical digital twins** *Session chairs: Limin Zhang, Hui Wang*	**IS18-2** **Modelling of geological uncertainty and its influences on geostructures** *Session chairs: Donamina Zhang, Jingzhang Zhang*	**IS10** **Risk assessment of dams and levees** *Session chair: D. Vaughan Griffiths*
16:50 - 16:57	**ISSMGE TC309-TC304 Student contest**	**107: BarrierDT: a digital twin of rigid debris-resisting barriers for geohazard event monitoring and risk assessment** *Weifan Xu, Limin Zhang*	**43: Probabilistic analysis of tunnel stability in spatially variable cohesive-frictional soil** *Soumita Mondal, Akanksha Tyagi*	**25: Automatic monitoring with distributed temperature sensors for improved levee knowledge: Adige river case study** *Nicola Fabbian, Lorenzo Brezzi, Fabio De Polo, Simonetta Cola*
16:57 - 17:04	**Boku University** *Anna Sara Amabile*	**159: Assessing urban flooding risks by integrating the numerical model with the digital twin technology** *Liang Gao, Tangyao Ai*	**97: Reliability-based optimization for the design of green landfill cover systems considering stress-dependent hydraulic properties** *Chuanxiang Qu, Charles W.W. Ng, Haowen Guo, Jinzhang Zhang*	**45: Challenges in interpreting CPT for river levee material characterization** *Francesca Ceccato, Giorgia Dalla Santa, Paolo Simonini*
17:04 - 17:11	**Tongji University** *Qihao Jiang, Tianrun Gao, Wei Luo, Yiyan Zhang*	**190: Bayesian model calibration of a triaxial specimen** *Matthew Dawood (presented by Ninxin Yang)*	**185: Investigation of the impact of geological uncertainty on the risk of subsea tunnel crossing a fault zone** *Jiaze Ni, Jinzhang Zhang, Le Zhang, Hongwei Huang*	**69: Managing uncertainty in existing levees: insights from a case study** *Viviana Mangraviti, Nicola Fabbian, Simonetta Cola*
17:11 - 17:18	**Beijing Jiaotong University** *Hao Cai, Yuan-en Pang, Jia-ting Wang, Jin-Peng Xin*	**275: Digital twin-based real time back analysis of system behaviour in supported excavations** *Hilde Aas Nøst, Georg Erharter, Egil Monsås, Marit S. Løyland, Simon Oberhollenzer*	**241: Zoning model for adjacent excavation pit group considering soil stress distribution** *Siyi Guo, Jinzhang Zhang, Dongming Zhang, Xiaochuang Xie*	**120: Time-variant reliability analysis of earth dams** *Adrian Torrico Siacara, Gian Franco Napa-García, André Téofilo Beck, Marcos Massao Futai*
18:18 - 17:25	**Wuhan University** *Qin Ke, Hao Sun, Yu-he Zheng, Zi-han Sun*	**302: An investigation of probabilistic stratification models for assessing deep excavations in urban environments** *Dafydd Cotoarbă, Doğu Karadeniz, Daniel Straub, Ian FC Smith*	**387: 3D probabilistic geological modeling using Markov random field featuring the lidar and borehole data: a case study of a rock slope in Taiwan** *Chih-Hsiang Yeh, Yu-Chen Lu, Wan-Ying Chien, Sara Khoshnevisan, Jia-Jyun Dong, C. Hsein Juang*	**222: Early warning of dike failure with displacement observations** *Anton W. van der Meer, Juan P. Aguilar-López*
17:25 - 17:32		**358: Physical-informed neural network for predicting spatiotemporal variation of pore water pressure in soils due to consolidation** *Shuairong Wang, Shuai Zhang*	**398: Numerical investigation of the Baige landslide-induced wave propagation in a narrow river channel** *Hao Wu, Qing Cheng*	**306: The effect of the material spatial variability in the slope stability of sand tailings dams** *Valeria Paz Miranda Muñoz, Tamara Orellana, Francisco J. Pinto Vega, César Pastén Puchi, Felipe Ochoa, Roberto Gesche*
17:32 - 17:45		Q&A	Q&A	Q&A
17:45 - 18:45	ISSMGE TC304 meeting			
Location	***Høymagasinet restaurant at Akershus Fortress***			
19:15 - late	**Banquet dinner** Aperitif from 19:15, Dinner served at 19:45			

Wednesday, 27 August

07:30 - 08:30	Registration (at hotel)			
08:30 - 09:00	**Suzanne Lacasse Lecture - 'Characterization and Assessment of Engineering Geological Model Uncertainty - Geotechnical Engineer's Perspective'** Hsien Juang, Clemson University, USA *Chairs: Gregory Baecher, Michael A. Hicks*			
09:00 - 09:30	**Keynote Lecture - 'Digital-driven Resilience-based Hong Kong Slope Safety System'** Raymond Cheung, Geotechnical Engineering Office (GEO), HKSAR, China *C hair: Jianye Ching*			
09:30 - 10:00	**Keynote Lecture - 'Challenges in Hazard Assessment for Offshore Wind Installations'** Stavroula Kontoe, University of Patras, Greece *Chair: Jian Dai*			
10:00 - 10:30	Tea break			
Hall	***NGI Hall (Helsingfors)***	***Keller Hall (København)***	***Rocscience Hall (Stockholm)***	***OsloMet Hall (Oslo)***
Sessions	**IS4-1** **Machine Learning, Data, and Physics in Geotechnics** *Session chairs: Robert Gilbert, Ze Zhou Wang*	**IS2-2** **Spatial variability assessment for engineering design and geohazard mapping** *Session chairs: Dariusz Łydżba, Marcin Chwała, Joanna Pieczyńska-Kozłowska*	**IS8-1** **Risk management practice in geotechnical engineering** *Session chairs: Lulu Zhang, Te Xiao*	**IS13** **Advancing applied Bayesian methods in geotechnical engineering** *Session chairs: Yu Feng, Nezam Bozorgzadeh*
10:30 - 10:37	**153: Operational regional scale landslide forecasts: physics-based and data-driven models** *Minu T. Abraham, Luca Piciullo, Zhongqiang Liu, Ida N. Drøsdal, Haakon Robinson, Zofia C. Rudjord, Ann Elisabeth Albright Blomberg, Emanuele C. Maio, Wagner Nahas Ribeiro, Marcos Barreto de Mendonça*	**31: Method uncertainty for slope stability analysis based on actual landslide cases in Hong Kong** *C.L. Chan, Coco W.N. Yiu, M.K. Lo, Andy Y.F. Leung*	**44: Assessing landslide risk perception in western Norway** *Amanda DiBiagio, Amy Oen, Vittoria Capobianco, Lena M. Tallaksen*	**15: Bayesian updating of vulnerability assessment for a shield tunnel under adjacent excavation disturbances** *Hui Chen, Dongming Zhang, Yadong Xue*
10:37 - 10:44	**376: Combining physical models and machine learning for efficient slope stability prediction under extreme rainfall** *Yusen Cheng, Yangyang Li, Saranya Rangarajan, Harianto Rahardjo*	**106: Gaussian process emulator for the stability of spatially variable slopes** *Hoang Nguyen, Julia Kowalski, Rita Leal Sousa*	**71: Landslide risk management in practice: phased mitigation using the observational method** *Lorenzo Brezzi, Alessandro Scala, Omar Turchetti, Nicola Fabbian, Simonetta Cola*	**34: Hierarchical Bayesian model for load test database with extremely sparse data** *Jianye Ching*
10:44 - 10:51	**1: Exploring the Potential of Large Language Models in Enhancing Geotechnical Engineering Practices** *Stephen Wu, Yu Otake, Daijiro Mizutani, Chang Liu, Kotaro Asano, Nana Sato, Taiga Saito, Masahiro Takenobu*	**157: Landslide susceptibility assessment in the Western Ghats region of India using a hybrid analytical approach** *Malay Pramanik, Amarnath Hegde*	**78: Comparative analysis of international regulations on landslide risk assessment and management for bridges and viaducts** *Alessio Domenico Leto, Luca Simoni, Fabiola Gibin, Fabio Gabrieli, Alessandro Scala, Lorenzo Brezzi*	**103: Bayesian inference of grouted anchors for reliability analyses** *Moritz J. P. Effenberger, Christian Moormann*
10:51 - 10:58	**54: The architecture of adaptive physics-informed deep operator neural network for 1-D Unsaturated Infiltration Model Coupled with Soil Deformation** *Mr Biao Yuan, Dr Xiaohui Chen*	**186: Probabilistic analysis in terraced slopes using physics-based landslide susceptibility models** *Abhijith Ajith, Rakesh J. Pillai*	**155: Rapid assessment of earthquake-induced landslide counts** *Shihao Xiao, Limin Zhang, Jian He, Ruochen Jiang, Xin He, Yingyue Han*	**104: Hierarchical Bayesian inference of soil resistance** *Thomas A. Vergote, Sylvie Raymackers*
10:58 - 11:05	**90: Investigating the potential of data-driven seismic response analysis: integrating neural networks with dynamic mode decomposition** *Kotano Asano, Yu Otake, Akisj-hiro Shioi, Hiroki Kamada, Stephen Wu*	**259: Bayesian modeling of rainfall -induced landslides** *Carlo Zaccardi, Luigi Ippoliti, Pasquale Valentini, Giovanna Vessia, Marco A. Rodríguez, Alexandra M. Schmidt*	**338: Assessment and management of geohazards related to karst, state of Qatar** *J. Perrin, R. Couëffé, G. Noury, A. Ortiz, C. Allanic, B. Lemaire, O. Higgins, B. Matti, C. Lerevenu, R. Pillai, S. Al-Yafei, E. Ahmed, U.S. Samad, N.T. Mahmood*	**135: Incorporating geotechnical knowledge into multilevel Bayesian models of in-situ small strain shear modulus measurements** *Pishun Tantivangphaisal, Diego Parra, David M. G. Taborda, Serena P. C. Che, Amandine Brosse, Frankie Lo*
11:05 - 11:12	**100: Exploring database quality through Shapley values** *Julien Borderon, Nathalie Dufour, Julie Régnier*	**340: Inventory-based landslide susceptibility mapping in Colorado Springs, USA** *Ashton A. Killen, Paul M. Santi*	**369: Technological advancements in the risk mitigation of uncertain ground conditions in Singapore metro projects** *Jia Ming Lee, Jeyatharan Kumarasamy, Yunhuo Zhang*	**255: Evaluation of triaxial test data and correlations to CPT-data** *Sigrid Wilhelm, Antonis Mavritsakis, Patrick Arnold, Timo Schweckendiek*
11:12 - 11:19	**116: Modelling compression and shear wave velocity from cone penetration test data using machine learning in sensitive soft lacustrine clays** *Mohsen Miraei, Antal Csuka, Stefan Vogt, Roberto Cudmani, Andres Peña Olarte, Mahshid Janatimehr*	**374: Risk evaluation of landslide disasters from outside the railway** *Yasuyuki Nabeshima, Yuki Ohara*	**390: Application of the hazard mapping methodology from the geological survey of Brazil for geotourism attractions** *Pedrazzi, Anselmo de Carvalho*	**287: Bayesian workflow for geotechnical engineering data analysis** *Nezam Bozorgzadeh, Yu Feng*
11:19 - 11:26	**317: Insights into the role of limited information in using machine learning to manage risk** *Robert B. Gilbert, Kai Feng*	**55: Enhanced landslide susceptibility mapping along highways using progressive tree-based ensemble models with optimal non-landslides selection** *Zilin Xiang, Jie Dou, Ke Xing, Luca Simoni, Lorenzo Brezzi*	**407: From failures to risks: a data-centric framework for assessing tailings storage facilities in China** *Shuai Zhang*	**312: Physics-informed neural networks embedded Bayesian framework for longitudinal tunnel performance analysis** *Yelu Zhou, Iason Papaioannou, Daniel Straub, Dongming Zhang, Hongwei Huang*
11:26 - 11:40	Q&A	Q&A	Q&A	Q&A
11:40 - 11:50	Short break to change halls			

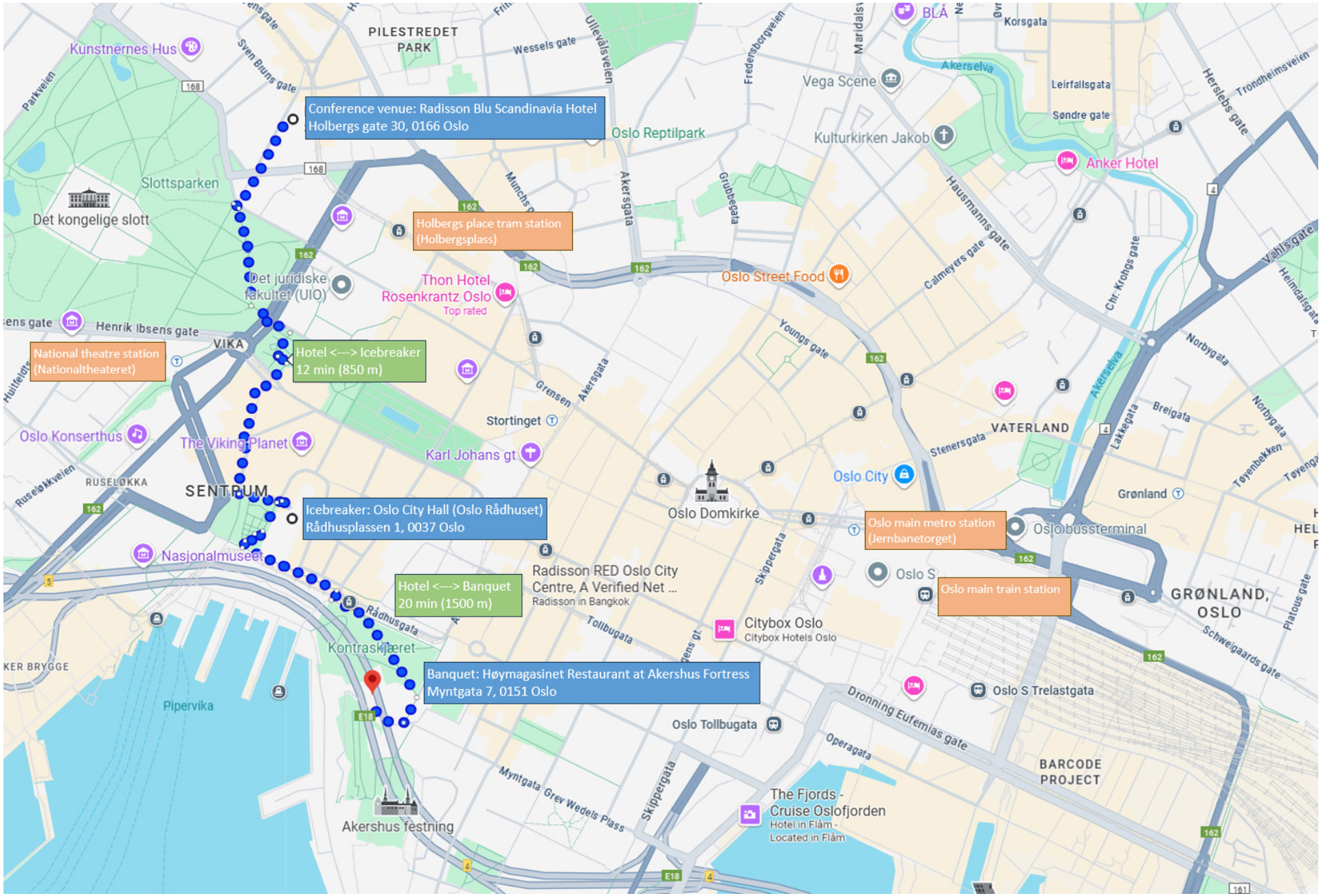
Wednesday, 27 August

Hall	NGI Hall (Helsingfors)	Keller Hall (København)	Rocscience Hall (Stockholm)	OsloMet Hall (Oslo)
Sessions	**IS3-2 / IS4-2** **Machine learning-enhanced geotechnical safety and risk assessment / Machine Learning, Data, and Physics in Geotechnics** *Session chairs: Wengang Zhang, Pin Zhang*	**IS2-3** **Spatial variability assessment for engineering design and geohazard mapping** *Session chairs: Giovanna Vessia, Marek Kawa, Adrian Różański*	**IS8-2** **Risk management practice in geotechnical engineering** *Session chairs: Te Xiao, Jian He*	**IS0-2** **General session** *Session chairs: Minu T. Abraham, Joon-Young Park*
11:50 - 11:57	**12: 3d-CNN-based surrogate modeling and data augmentation for 3d slope reliability in spatially variable soils** *Chongzhi Wu, Ze Zhou Wang, Siang Huat Goh, Wengang Zhang*	**32: Towards incorporating uncertainties in a 3D geotechnical model of the lower Var valley, Nice** *Silvana Montoya-Noguera, Julie Régnier*	**62: Quantitative risk assessment for viable infrastructures subjected to rockfall: analyses of social and economical consequences** *Maddalena Marchelli, Daniele Peila, Bernardino Chiaia*	**273: Reliability assessment of the stability of a working platform on very soft ground: a case study** *Divya Varkey, Saeed Askarian, Chris Hartley*
11:57 - 12:04	**124: The study of predicting corrosion failure risks in urban pipeline networks based on machine learning** *Zongyuan Zhang, Qunfang Hu, Fei Wang, Zhan Su, Jiahua Zhou*	**61: Failure probability of rockfall net fences subjected to ageing: a reliability-based approach for risk reduction** *Valerio De Biagi, Maddalena Marchelli, Francesco Pimpinella*	**73: Assessing building vulnerability to landslides in the Three Gorges reservoir area of China** *Lin Tan, Te Xiao, Lulu Zhang*	**278: Evaluation on the weaken process of railway foundations in rainy area** *Chih-Ming Liao, Chihping Kuo, Kai-Jui Ho*
12:04 - 12:11	**150: A surrogate model for uncertainty quantification for the reinforced soil footing problem** *Reza Jamshidi Chenari, Richard J. Bathurst*	**236: Variability characterization of model parameters of SWCC for sandy soils** *Ammavajjala Sesha Sai Raghuram, B. Munwar Basha*	**93: Landslides - risk assessment by modelling the significant influences leading to first-time failure** *André Arnold, Philipp Baechler*	**313: Laterally loaded driven piles in soft clays** *Widjojo A. Prakoso, Miranti, Helen Fransisca, Putri S. Gandina, Dolok H. Panjaitan, A. Magfirah Fitrah*
12:11 - 12:18	**219: Machine learning for predicting tunnel-induced settlements: from PhD research to an interactive educational platform** *Tatiana Richa, Jean-Michel Pereira, Lina-María Guayacán-Carrillo, Gilles Chapron*	**269: Identification of scales of fluctuation in the condition of rotated anisotropy of the soil based on limited CPTu soundings** *Marek Kawa, Irena Bagińska*	**139: Quantitative risk assessment and modelling of glacier-related mass flows** *Yingyue Han, Limin Zhang*	**346: Rainfall-induced landslide risk mitigation - development and testing of an integrated early warning system** *Muhammad Nurjati Hidayat, Hemanta Hazarika, Haruichi Kanaya, Masanori Murai, Tatsuya Kouno*
12:18 - 12:25	**394: AI-driven seismic velocity modelling in the north sea: using onshore data to predict offshore conditions** *Morgan D. Sanger, Brian Carlton, Zhongqiang Liu, Brett W. Maurer*	**365: A geospatial approach to identify liquefiable locations in Kanchanbari, Tripura, India** *Hrik Chaudhury, Abhishek Kumar, Rishikesh Bharti*	**167: The mechanism for hypermobility of debris-ice avalanches** *Xin He, Limin Zhang, Shihao Xiao, Ruochen Jiang*	**356: Sea level rise effects on earthquake-induced soil liquefaction** *Meera L. Kota, Scott J. Brandenberg, Margit Maple, Timu Gallien*
12:25 - 12:32	**41: Modeling subsidence and building damage in central Gothenburg using machine learning** *Pierre Wikby, Ezra Haaf, Minna Karstunen*	**372: Seismic site amplification maps and design spectra for reclamation islands in Hong Kong considering spatial variation of site conditions** *K. I. M. Ismail, G. Wang*	**228: Influence of spatial variability of rain fields on regional landslide risk assessment** *Jian He, Limin Zhang, Te Xiao*	**368: Seismic response of a very high GRS wall: scenario based uncertainty analyses** *Sureka S, Sandip Das, Arindam Dey*
12:32 - 12:39	**108: Ensemble learning for predicting cement-stabilized soil strength by comparing bagging and boosting techniques** *Muhammad Hasnain Ayub Khan, Olivier Cuisinier, Adel Abdallah*	**379: Seismic microzonation and integrated vulnerability assessment of Seoul using geotechnical and social indicators** *Youngsuk Lee, Duhee Park, Jinkwon Yoo*	**357: Susceptibility assessment of landslide in southeastern Tibetan plateau** *Cong Dai, Shuai Zhang*	**403: Fibre optic monitoring in geotechnics – towards safer piles, embankments, dams, and pipelines** *Rafał Sieńko, Łukasz Bednarski, Tomasz Howiacki, Katarzyna Zuziak*
12:39 - 12:46	**371: An improved recursive feed forward neural network based sand constitutive modelling** *Toiba Noor, G. V. Ramana, Rajdip Nayek*	**404: From images to prevention. Gigapixel imaging for geohazards assessment and awareness** *Saverio Romeo, Alessandro Fraccica*	**386: Seismic fragility analysis for embankments considering column-soil spatial variability** *Tao Yao, Limin Zhang*	**406: Experimental study and empirical model on thermal properties of remolded loess** *Bo Hang, Xi'an Li, Tao Pang, Yaming Tang*
12:46 - 13:00	Q&A	Q&A	Q&A	Q&A
13:00 - 14:00	Lunch **Georisk EB meeting in Losjen chambre séparée*			
Hall	**NGI Hall (Helsingfors)**	**Keller Hall (København)**	**Rocscience Hall (Stockholm)**	**OsloMet Hall (Oslo)**
Sessions	**IS17** **Risk and safety in offshore geotechnical engineering** *Session chairs: Wenjun Lu, Floriana Anselmucci*	**IS1-2** **Modelling spatial variability in geotechnical engineering** *Session chairs: Shuihua Jiang, Jiawei Xie*	**IS11-1** **Data-driven site characterization** *Session chairs: Yu Wang, Zheng Guan*	**IS20** **Innovations in sustainable and nature-based geotechnical risk management** *Session chairs: Marco Uzielli, Vittoria Capobianco*
14:00 - 14:07	**Invited lecture: The Role of Shared Suction Anchors for Mitigating Cascading Failure in Floating Offshore Wind Farms** *Wenjun Lu*	**23: Pile running risks for offshore foundations in clay** *AP Dyson, A Tolooiyan, K Gavin*	**122: Defining new statistical features for geotechnical properties: exploring higher-order dependencies in mixed domain spaces with the minimum information dependence model** *Taiga Saito, Yu Otake, Stephen Wu, Keisuke Yano*	**251: Numerical geotechnical modeling of tree root-soil interaction: an insight into the effects of uncertainties in root geometry on overturning failure** *Mahtab Shiravi, Ivan Depina, Marco Uzielli, Gianni Bartoli*
14:07 - 14:14	**38: 3D Random Large-Deformation Modelling of Retrogressive Landslide Runout Considering Spatially Variable Sediments** *Xuejian Chen, Yueying Wang, Shunping Ren, Hoang Nguyen, Xingsen Guo, Rita Leal Sousa*	**51: Probabilistic back analysis of failed lateritic soil cutting using Bayesian approach** *Sushant Rahul, Priyanka Shadani, Akanksha Tyagi*	**243: Characterizing the variability of bedrock surface using an efficient constraint seed method** *Xian Liu, Xueyou Li, Zhiyong Yang*	**252: Probabilistic geotechnical stability analysis of wooden crib walls: initial insights** *Andrea Geppetti, Amir Hozouri, Alireza Duzandeh, Marco Uzielli*
14:14 - 14:21	**144: Incorporating spatial variability into FEM analyses of anchored retaining walls** *Na Hao, Cormac Reale, Kevin Duffy, Ken Gavin*	**96: Reliability analysis of 3D railway embankment considering anisotropic soil spatial variability and train load distribution** *Wei Huang, Michael A. Hicks*	**297: Change point detection for automated sounding interpretation** *Hilde Aas Nøst, Nezam Bozorgzadeh*	**256: Predicting root tensile resistance for the shallow stability analysis of vegetated slopes: a hierarchical Bayesian approach** *Jiantang Xian, Jun Zhu, Jinzheng Hu, Anthoy Kwan Leung, Zhaoyi Wu, Jie Zhang*
14:21 - 14:28	**181: Reliability-based design of monopiles using CPT data and deep learning enhanced adaptive metamodeling** *Ahmet Can Mert, Xiangfeng Guo*	**261: Probabilistic pullout capacity analysis of strip anchors** *Pengpeng He, Gordon A. Fenton, D. V. Griffiths*	**304: Data-driven development of three-dimensional subsurface geological model from limited boreholes and prior geological knowledge for site characterization** *Borui Lyu, Yu Wang*	**296: Geotechnical characterization and potential ecological risk assessment from soil-like material obtained from landfill mining** *Vaishnavi Jahagirdar, Anil K. Mishra, Ajay S. Kalamdhad*
14:28 - 14:35	**227: Offshore pipeline routing optimization via probabilistic reinforcement learning for varying landslides' stability** *Billy Hernawan, Zenon Medina-Cetina*	**373: Nonlinear 3D seismic site response analysis considering spatial variation of geological conditions** *Xinyao He, Gang Wang*	**305: A new real benchmark example for data-driven site characterization** *Takayuki Shuku*	**318: Thermo-hydro-mechanical field monitoring of a clayey topsoil: insights of the soil-vegetation-atmosphere interaction** *Nico Stasi, Vito Tagarelli, Francesco Cafaro, Federica Cotecchia*
14:35 - 14:42	**231: Towards Bayesian constitutive model parameter calibration for strain-softening soils** *I.D.K. Smith, V. Singh, S.A. Stanier*	**383: Response of laterally loaded tapered pile in spatially variable clay** *Jian-Hong Wan, Shui-Hua Jiang*	**355: Towards automatic detection of quick clay using field testing** *Emir Ahmet Oguz, Ece Bayram, Anteneh Biru Tsegaye, Thi Minh Hue Le, Jean-Sébastien L'Heureux, Oindrila Kanjilal, Iason Papaioannou*	**378: Evaluating the performance of bio-clogging additives for sustainable soil permeability reduction** *Viroon Kamchoon, Sumeths Chaisarn, Thiti Khattiwong, Laemthong Laokhongthavorn*
14:42 - 14:55	Q&A	Q&A	Q&A	Q&A
14:55 - 15:05	Short break to change halls			

Wednesday, 27 August				
Hall	***NGI Hall (Helsingfors)***	***Keller Hall (København)***	***Rocscience Hall (Stockholm)***	***OsloMet Hall (Oslo)***
Sessions	**IS17** **Risk and safety in offshore geotechnical engineering** *Session chairs: Wenjun Lu, Floriana Anselmucci*	**IS22** **Reliability- and risk-based code developments II** *Session chair: Richard Bathurst*	**IS11-2** **Data-driven site characterization** *Session chairs: Yu Wang, Zheng Guan*	**IS14** **Bayesian analysis of geotechnical data** *Session chairs: Iason Papaioannou, Yu Feng*
15:05 - 15:12	**401: Probabilistic assessment of monopile foundations taking into the model uncertainty using tobit regression** *Mathilde Anna Hendrika Brusselmans , Zhongqiang Liu, Yutao Pan*	**28: Understanding the concept of safety and reliability introduced by the 2nd generation Eurocode 7** *Andra Ebener , Kerstin Lesny*	**172: Free-fall penetrometer data interpretation through Bayesian inference and gaussian process regression** *Parviz Tafazzoli Moghaddam, Negin Yousefpour , Shiaohuey Chow, Mark Cassidy*	**40: Quasi-region-specific model uncertainties of liquefaction** *Jiun-Shiang Wang , Jianye Ching*
15:12 - 15:19	**POSEIDON seminar**	**88: On the development of NEN8994: assessment of existing sheet pile and quay walls based on past service performance** *Mark van der Krogt , Alfred Roubos, Hans Brinkman, Diego Allaix*	**210: A data-driven approach for soil parameter determination using supervised machine learning** *Haris Felić , Islam Marzouk, Franz Tschuchnigg*	**75: Parameter estimation of a critical-state based strain hardening soil constitutive model using particle filtering framework** *Km Shraddha , Subhamoy Sen, Mousumi Mukherjee*
15:19 - 15:26		**118: Elements for the reliability-based design of shallow foundations in Buenos Aires, Argentina** *Pedro Martín Fernández , Alejo Oscar Sfriso*	**244: Physics-informed machine learning of soil-water characteristics curve for unsaturated flow** *Chao Shi, Hao-qing Yang (presented by Zheng Guan)*	**110: Revisiting of London Clay simple correlations using a Bayesian approach** *Amandine Brosse , Frankie Lo, John A. Davis, Serena P. C. Che*
15:26 - 15:33		**145: Recent LFRD calibration for internal stability limit states for MSE wall structures** *Richard J. Bathurst , Tony M. Allen, Yoshihisa Miyata, Nezam Bozorgzadeh*	**286: Bauxite residue: a data-driven approach to strength characterisation** *Hugo A. Brandao , Louis H. Kirsten, Izabela Campello*	**137: Probabilistic inversion of electrical resistivity tomography data using Hamiltonian Monte Carlo (HMC) algorithm** *Naveen K , Michael C Koch, Kazunori Fujisawa, Arindam Dey, Sreedeep S*
15:33 - 15:40		**328: Reliability analysis of shallow foundations on sands under working loads** *G. Nicodemo, S. Ferlisi , R. Capasso*	**377: Machine learning predictions on an extensive geotechnical dataset of laboratory tests in Austria** *Enrico Soranzo*	**178: CPT-based probabilistic analysis of monopile foundations considering spatial and transformation uncertainties** *Orestis Zinas , Sigrid Wilhelm, Iason Papaioannou, Ronald Schneider, Patrick Arnold*
15:40 - 15:47		**347: Incorporating effects of uncertainty in geotechnical parameters via partial factors derived from probabilistic analysis** *Anteneh Biru Tsegaye , Emir Ahmet Oguz, Vidar Gjelsvik, Hilde Nøst*		
15:47 - 16:00		Q&A	Q&A	Q&A
16:00 - 16:30	Tea break			
16:30 - 17:30	**ISSMGE Bright Spark Lectures** *Chairs: Franz Tschuchnigg, Marco Uzielli, Patrizia Vitale* **Machine learning-enhanced site characterization for tunnel risk assessment** *Jinzhang Zhang* **Physics-informed Data-driven Modelling in Geotechnical Engineering** *Pin Zhang* **Bridging between fundamental and applied research and engineering practice: some examples from soft soil reclamations and offshore monopile installation** *Thomas Vergote*			
17:30 - 17:45	**Closing ceremony** Student award + best poster award			

Thursday, 28 August	
Location	***Langøya***
Event	**Technical excursion**
08:00 - 08:15	Meet outside hotel reception, divide into busses
08:15 - 16:00	Technical tour to Langøya *Lunch is provided*

Map overview



Hotel overview