



GEOTEC
HANOI 2019

CONFERENCE PROGRAM BOOK

Hanoi 2019

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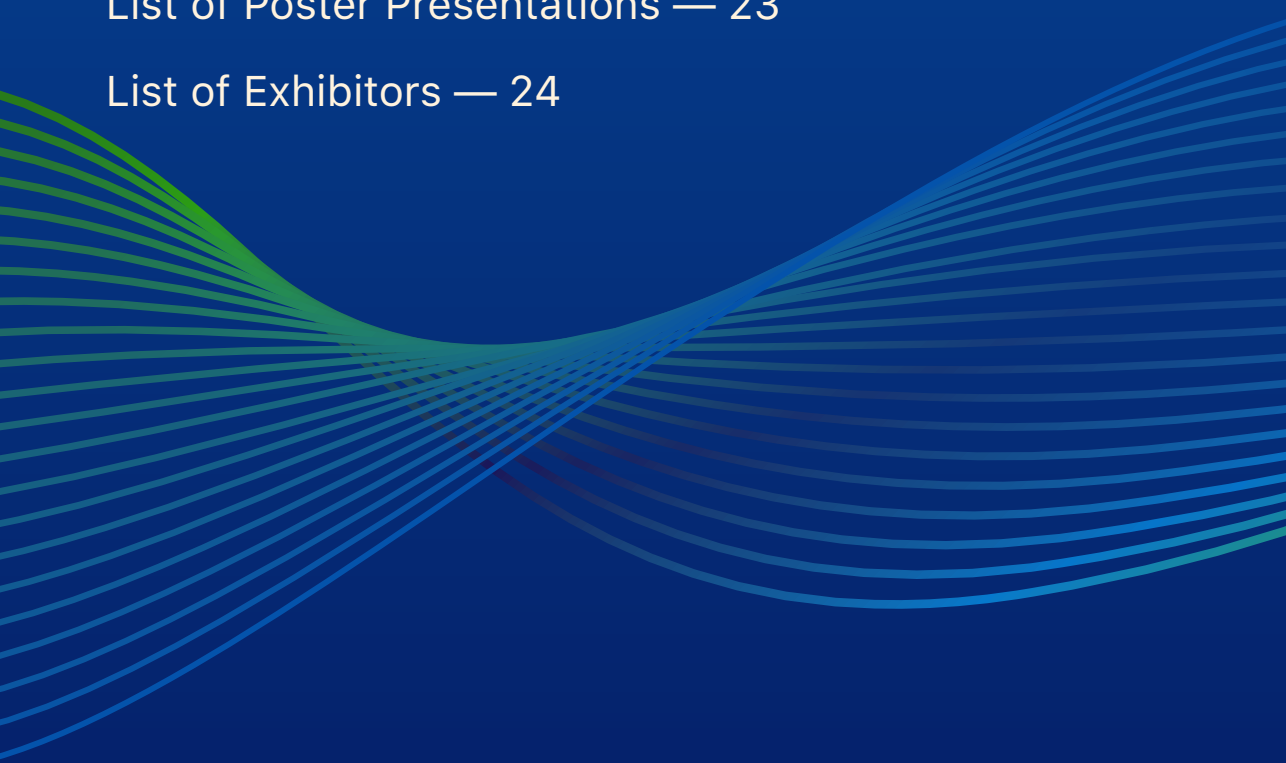
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INTRODUCTION

The series of International Conference on Geotechnics for Sustainable Infrastructure Development (GEOTEC HANOI) was organized successfully in 2011, 2013 and 2016 in Hanoi and it has become a well-known event not only in Vietnam but also internationally for its excellent quality and organizational scale. Each conference was a great event for scholars and professional engineers from around the world to share and learn the most up-to-date knowledge and technologies in the field of geotechnical engineering. More remarkably, in the GEOTEC HANOI (GH) conferences, world-class keynote lectures were delivered by leading experts as: Prof. Sven Hansbo (Sweden), Prof. Kenji Ishihara and Dr. Hiroshi Yoshida (Japan), Prof. Harry G. Poulos (Australia), Prof. Pieter A. Vermeer (Netherlands), and Prof. Alain Guilloux (France) in GH2011; Prof. Rolf Katzenbach (Germany), Prof. Alain Guilloux (France), Prof. Fumio Tatsuoka (Japan), Prof. Kenichi Soga (United Kingdom), Prof. Helmut Schweiger (Austria), and Prof. Sven Hansbo (Sweden) (honorable lecture) in GH2013; and Prof. Bengt H. Fellenius (Canada), Prof. Buddhima Indraratna (Australia), Prof. Chang-Yu Ou (Taiwan), Dr. Jamie Standing (United Kingdom), and Prof. Kazuya Yasuhara (Japan) in GH2016. In addition, each event was a valuable opportunity for sponsors and exhibitors to show and promote their services to the world.

The 4th International conference, GEOTEC HANOI 2019 (<https://geotechn.vn>) is organized by FECON Corporation, the Vietnamese Society for Soil Mechanics and Geotechnical Engineering (VSSMGE), Thuyloi University (TLU), and Kokusai Kogyo Co., Ltd (KKC), and will take place on **November 28-29, 2019** at the National Convention Center (NCC), Hanoi. The conference is honorably patronized by the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) and Japan International Cooperation Agency (JICA). Especially, this conference will welcome ten world-leading professors to deliver keynote and invited lectures for six conference key themes.

CONFERENCE THEMES

- ① DEEP FOUNDATIONS

- ② TUNNELLING AND UNDERGROUND SPACES

- ③ GROUND IMPROVEMENT

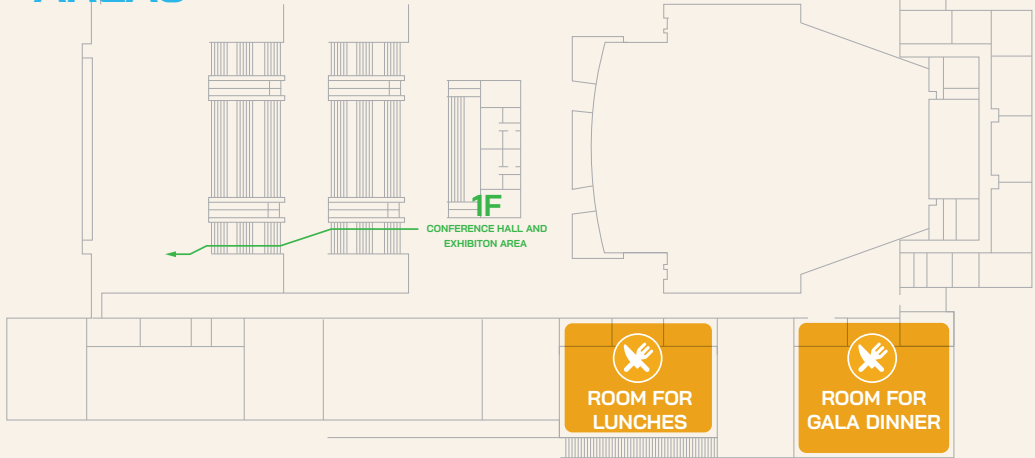
- ④ LANDSLIDE AND EROSION

- ⑤ GEOTECHNICAL MODELLING AND MONITORING

- ⑥ COASTAL FOUNDATION ENGINEERING

CONFERENCE & EXHIBITION AREAS










3F



1F



LEGEND

- | | | |
|--|---|---|
|  Grand Conference Hall |  Conference Hall 3 |  Tea & Coffee Area |
|  Conference Hall 1 |  Exhibition Area |  Exhibition Registration Area |
|  Conference Hall 2 |  Exhibition Booth |  Room for Gala Dinner and Room for Lunch |



Day 1
THURSDAY

NOV 28

GRAND CONFERENCE HALL

- 7:30 - 9:00 — RECEPTION
- 9:00 - 9:30 — OPENING CEREMONY
- 9:30 - 9:45 — Message from the ISSMGE President (Prof. Charles Ng)
- 9:45 - 10:15 — **SPECIAL INVITED LECTURE:** Advancing engineering designs through geotechnical centrifuge modelling
— Prof. CHARLES NG
- 10:15 - 10:45 — **SVEN HANSBO LECTURE:** Deep foundation design - Issues, procedures and inadequacies
— Prof. HARRY POULOS

10:45 - 11:15 **Photo session and Tea break**

- 11:15 - 11:45 — **KEYNOTE LECTURE:** Application of advanced numerical analysis in geotechnical engineering design
— Prof. LIDIJA ZDRAVKOVIC
- 11:45 - 12:15 — **KEYNOTE LECTURE:** Recent development of quality control and assurance of deep mixing method
— Prof. MASAKI KITAZUME

12:15 - 13:30 **Lunch Break**

	Conference Hall 1	Conference Hall 2	Conference Hall 3
13:30 - 15:40	INVITED LECTURE — Prof. N. SHIMIZU S5: Geotechnical Modelling and Monitoring	S1: Deep Foundations	S2: Tunnelling and Underground Spaces

15:40 - 16:00 **Poster Session and Tea Break**

16:00 - 18:30	S5: Geotechnical Modelling and Monitoring	S1: Deep Foundations	S2: Tunnelling and Underground Spaces
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Day 2

FRIDAY

NOV 29

	Conference Hall 1	Conference Hall 2	Conference Hall 3
8:00 - 10:00	S5: Geotechnical Modelling and Monitoring	S4: Landslide and Erosion	S3: Ground Improvement
10:00 - 10:30	Poster Session and Tea Break		
10:30 - 12:10	S2: Tunnelling and Underground Spaces	S4: Landslide and Erosion	S3: Ground Improvement
12:10 - 13:00	Lunch Break		
13:00 - 15:00	S6: Coastal Foundation Engineering	S4: Landslide and Erosion	S3: Ground Improvement
15:00 - 15:30	Poster Session and Tea Break		

Conference Hall 1

- 15:30 - 16:00 — **SPECIAL INVITED LECTURE:** Application geosynthetics in the construction of sea dike and shore protection
— Prof. E. C. SHIN
- 16:00 - 16:30 — **INVITED LECTURE:** Recent trends in the development of the deep mixing methods in Japan
— Dr. KENJI MORI
- 16:30 - 17:00 — **KEYNOTE LECTURE:** Developments in landslide analysis
— Prof. DELWYN G. FREDLUND
- 17:00 - 17:30 — **KEYNOTE LECTURE:** Soil-water-tunnel interaction at the front face of a TBM
— Prof. ADAM BEZUIJEN
- 17:30 - 18:00 — **KEYNOTE LECTURE:** Considerations in the design of piles in soft rock
— Prof. MARK RANDOLPH
- 18:00 - 18:30 — **CLOSING CEREMONY**
- 19:00 - 21:00 — **GALA DINNER**

Day 1

THURSDAY

Conference Hall 1

13:30 — 18:30

Session 5: Geotechnical modelling and Monitoring

Chairman: Norikazu Shimizu, Japan

Co-Chairman: Pham Huy Giao, Vietnam

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|---------------|---|
| 13:30 – 13:50 | INVITED LECTURE: New Horizons in Displacement Monitoring Using Satellite Technology in Rock and Geotechnical Engineering.
— N. Shimizu |
| 13:50 – 14:00 | Simulation of Cement-Treated Soils Considering Softening Behavior
— M.h. Ho, W. Cheang, D.I. Phung, A.T. Nguyen |
| 14:00 – 14:10 | Centrifuge Model Study on Cantilever Steel Tubular Pile Wall Embedded in Soft Rock
— V. Kunasegaram, S. M. Shafi, J. Takemura, Y. Ishihama |
| 14:10 – 14:20 | 3D-DEM Analysis of Soil Loosening Behavior between Micro-Piles Focused on Pile Layout and Spacing
— T. Kaneko, A. Kamura, N. Hikita |
| 14:20 – 14:30 | The Behavior of Expansive Particle Packing – DEM Simulation Using PFC3D Code
— S.M. Jeon, S.H. Park, J.W. Jang |
| 14:30 – 14:40 | Numerical Modeling of Brittle Materials by Damage Plasticity Model: Determination of Parameters with Consideration of Size Effects due to Tensile Cracking and Compressive Crushing
— D.A. Ho, M. Bost, J.P. Rajot |
| 14:40 – 14:50 | Applying Stratigraphic Classification Estimation Using Neural Networks to Coastal Regions of The Fukuoka Plain, Japan.
— S. Ryu, S. Murakami, S. Miwa |
| 14:50 – 15:00 | Machine Learning Scheme of The Degree of Liquefaction Assessment only from The Health Monitoring Device Installed in Individual Wooden House
— G. Kurihara, A. Kamura, T. Mori |
| 15:00 – 15:10 | Numerical Study on Liquefaction Caused by Love Wave Strain Condition By 3D Discrete Element Method
— M. Jiang, A. Kamura, M. Kazama |
| 15:10 – 15:20 | Spatial Distribution of Volcanic Ash Soil Layers by Cokriging Interpolation Method in Mashiki Town, Kumamoto
— H. Nomiyama, S. Murakami |
| 15:20 – 15:30 | Numerical analysis of phytoremediation for Cr ⁶⁺ contaminated ground
T. Koga, Z. Furukawa, K. Kasama, T. Morimoto |
| 15:30 – 15:40 | DISCUSSIONS |
| 15:40 – 16:00 | Poster Session and Tea Break |
| 16:00 – 16:10 | Multi-Stepwise Strain-Rate Loading Consolidation Test to Evaluate Strain Rate Dependency
— Y. Watabe, A. Yoneda, H. Hashizume, Y. Ono |

16:10 – 16:20 Assessing The Degree Of Slaking Deterioration Of Rock Materials By Focusing On Grain Refinement
— S. Ono, K. Sawano, M. Kazama

16:20 – 16:30 Back-Analysis Of The Vung Tau Full-Scale Trial Using Fea Simulation Of Geogrid Stabilisation And The Geocell Mattress
— A. Lees, M. Dobie, M. Bhawanin

16:30 – 16:40 Bearing Capacity Of Footing Resting On Sand For Eccentric Vertical Load
— N.q. Pham, O. Satoru, I. Koichi, F. Yutaka

16:40 – 16:50 Additional Settlement Of Footing Due To Loads Acting On Adjacent Foundation
— J. Jayamohan, S. Aishwarya, S.R. Soorya, K. Balan

16:50 – 17:00 Investigation of The Structure–Soil–Structure Interaction Between Two Struc-Tures In Centrifuge Test
— V.I. Ngo, E.W. Rodney, E. Ike

17:00 – 17:10 Geotechnical Modelling Of Optimization Of Technological Parameters Of The Tailing Dam Alluvium
— A. Lolaev, A. Oganessian, A. Badoev, E. Oganessian

17:10 – 17:20 Introduction of a Latest-Model Ground Water Flow Meter and Its Application in Ho Chi Minh City
— T. Shiga, S. Hagi, B.v. Le, L.h. To

17:20 – 17:30 Development of a Wide Area Satellite-Based Surveillance System Utilizing RTK-GNSS to Monitor Displacement of Slopes and Infrastructure
— S. Muroi, K. Iijima, M. Ekawa

17:30 – 17:40 Cloud-Based 3D Data Processing and Modeling for UAV Application in Disaster Response and Construction Fields
— T.T. Chu, A. Watanabe, R. Wakutsu

17:40 – 17:50 Development of an Integrated and Automated Displacement Measurement System and Its Application to Monitoring Dams
— D. Kato, W. Sato, M. Tanno, N. Shimizu

17:50 – 18:00 Current Status of QZSS and Pilot Experiments In South East Asia
— T. Sasakawa, T. Ikeda

18:00 – 18:10 Liquefaction Inside and Outside Bands and Liquefaction Layer Characteris-Tics Related to the 2016 Kumamoto Earthquake
R. Sakamoto, S. Murakami, T. Nishi, R. Hirata

18:10 – 18:20 Calculation Of Bearing Capacity Factors of Strip Footing Using The Node-Based Smoothed Finite Element Method (NS-FEM)
M.T. Vo

18:20 – 18:30 DISCUSSIONS

Day 1

THURSDAY

Conference Hall 2

13:30 — 17:20

Session 1: Deep Foundations

Chairman: Bo Berggren, Sweden

Co-Chairman: Phung Duc Long, Vietnam

13:30 — 13:40

Settlement behavior of piled raft foundation supporting residential building adjacent to tall pile foundation building

— J. Hamada, K. Yamashita, K. Nakane

13:40 — 13:50

Settlement and pile response in a long-term vertically loaded piled raft foundation model on saturated clay - Experimental study

— L. Hoang, T. Matsumoto, K. Dao

13:50 — 14:00

Study on effect of vertical load on performance of horizontally-loaded pile foundations through three-dimensional finite element analyses

— A.T. Vu, T. Matsumoto, V.H. Vu

14:00 — 14:10

Vertical loading test of foundation pile of Source of the Nile Bridge in Uganda

— K. Takano, S.C. Lin

14:10 — 14:20

Influence of horizontal loading position on lateral resistance characteristics of piles

— A. Mohri, Y. Kikuchi, S. Noda, T. Yamaguchi

14:20 — 14:30

Influence of cyclic pile behaviour caused by surging and vibratory pile driving on the penetration resistance and bearing capacity

— S. Moriyasu, M. Shinkuma, T. Matsumoto, S. Kobayashi

14:30 — 14:40

Analytical evaluation of deformation behavior of cantilever type retaining wall using large diameter steel tubular piles into stiff ground

— Y. Ishihama, J. Takemura, V. Kunasegaram

14:40 — 14:50

A study on the behavior of pile supported footings on sand

— V. Balakumar, M. Huang, E. Oh, A.S. Balasubramaniam

14:50 — 15:00

Effects of plugging on toe bearing capacity of open-ended piles

— H. Yamazaki, Y. Kikuchi, S. Noda

15:00 — 15:10

A new end bearing capacity equation on large diameter open-ended steel piles considering plugging effect

— S. Song

15:10 — 15:20

A method for the evaluation of ultimate lateral load capacity of pile foundation

— D. Nguyen, D. Phan

15:20 – 15:30 Numerical analysis of mechanical factors influencing the bearing capacity of piled raft foundation on saturated overconsolidated clay
— K. Kaneda

15:30 – 15:40 DISCUSSIONS

15:40 – 16:00 **Poster Session and Tea Break**

16:00 – 16:10 The impact of groundwater lowering on pile bearing capacity in Hanoi – Vietnam
— G.T. Luu, D.L. Tran, T.K.T. Dinh, T.H. Nguyen

16:10 – 16:20 Pile design with consideration of down drag
— V.H. Cao

16:20 – 16:30 A study on behavior of a rotary press-in pile with wings horizontally loaded
— N. Kuze, N. Suemasa, M. Futaki

16:30 – 16:40 Field trials of large-diameter multi-belled piling method
— K. Hama, Y. Horii, Y. Nakanishi, T. Watanabe

16:40 – 16:50 Evaluation of Bearing Capacity of Steel Rotation Pile
— T. Kuzu, H. Oki, I. Yoshiro, T.T.T. Nguyen

16:50 – 17:00 GANPILE method - reasonable pile driving method to embed steel piles into the bedrock
— M. Kawai, K. Inazumi, H. Tagauchi

17:00 – 17:10 Establishing a constitutive finite element based-model to simulate the dynamic pile test
— A. Elgamal

17:10 – 17:20 DISCUSSIONS

Day 1

THURSDAY

Conference Hall 3

13:30 — 18:30

Session 2: Tunnelling and Underground spaces

Chairman: Adam Bezuijen, Belgium

Co-Chairman: Le Quang Hanh, Vietnam

- | | |
|---------------|---|
| 13:30 – 13:40 | Design and construction of first bored tunnel under Ho Chi Minh City Metro Line 1 in Vietnam
— M. Kuriki |
| 13:40 – 13:50 | TBM (Tunnel Boring Machine) tunneling in urban areas by EPB (Earth Pressure Balance): design consideration of Hanoi pilot light metro line
— Y.J. Shin, D.Y Kim, D.G. Kim, C.M. Nguyen |
| 13:50 – 14:00 | Pressure infiltration characteristics of foam for EPB shield tunneling
— T. Xu, A. Bezuijen, W.H. Zhou |
| 14:00 – 14:10 | Tunnel boring machines for extremely tight radius curves
— W. Brundan, H. Danno |
| 14:10 – 14:20 | On the application of slurry micro-tunneling method in Vietnam
— H.P. Luu, H.G. Pham, H. Noriyuki, P. Noppadol |
| 14:20 – 14:30 | Key points of Japanese technology to fabricate RC segments for urban railways in Vietnam
— T.T.T. Nguyen, K. Iwata |
| 14:30 – 14:40 | An introduction on the increasing usage of precast concrete arch tunnel in Korea
— C.W. Lim, D. Plantier |
| 14:40 – 14:50 | Holistic approach for the construction monitoring of the Grand Paris Express metro network
— F. Michelin, A. Nahli, V. Lamour, T.D. Le |
| 14:50 – 15:00 | Application of Norwegian Method of Tunnelling (NMT) principles to bypass landslides in mountainous terrain
— R. Bhasin, A. Aarset |
| 15:00 – 15:10 | Geotechnical characterization and land subsidence analysis for the UMRT line No.3 in Hanoi
— H.G. Pham, T.H.A. Nguyen, N.K. Hoang |
| 15:10 – 15:20 | Investigation on the effects of wall slenderness on failure behavior of DCM wall using a simplified small-scale physical model test
— S. Waichita, P. Jongpradist |
| 15:20 – 15:30 | Deep excavation of an underground metro station in karstic limestone: a case history in the Klang Valley SSP Line
— C.W. Boon, L.H. Ooi, J.G. Tan, C.Y. Goh |
| 15:30 – 15:40 | Underground tunnelling in the Klang Valley Mass Rapid Transit Project
— J.J.H Chin |
| 15:40 – 16:00 | Poster Session and Tea Break |
| 16:00 – 16:10 | An empirical analysis on measured ground surface settlement induced by TBM tunnelling in Ho Chi Minh city
— B.T. Le, M. Kuriki, Q. Phan, N. Taylor |

- 16:10 – 16:20** Installation of steel pipe piles and steel pipe sheet pile for bridge foundation using vibratory inner-excavation method (NB SYSTEM)
— T. Komazawa, O. Harada, K. Inazumi
- 16:20 – 16:30** Analyzing the settlement of adjacent buildings with shallow foundation based on the horizontal displacement of retaining wall
— Q.T. Huynh, V.Q. Lai, V.T. Tran, M.T. Nguyen
- 16:30 – 16:40** Interaction of excavation and adjacent building with different foundation types using 3D decoupled analysis method
— H.D. Lin, H.C. Liao, S.L. Chen, C.C. Chen
- 16:40 – 16:50** Research on deformation of surrounding rock and mechanical characteristics of lining of dolomitic limestone tunnel based on field measurement and numerical analysis
— W. Ding, R. Zhu, X.C. Tran
- 16:50 – 17:00** Close proximity tunnelling and measures adopted in MRTA Orange Line – East project
— H.L. Maung, K.C. Chao, O. Duangsano, P. Noppadol
- 17:00 – 17:10** Design and construction of an intricate and anomalous underground tunneling section
— S. Yasrobi, S. Majidian, A. Golshani
- 17:10 – 17:20** Reliability-based design of deep tunnel excavated in the viscoelastic Burgers rocks
— N.T. Tran, D.P. Do, D. Hoxha, M.N. Vu
- 17:20 – 17:30** Design and construction of Cisumdawu tunnel, West Java, using umbrella grouting protection
— P.P. Rahardjo, Y. Halim, A. Arafianto
- 17:30 – 17:40** Hypothesis for the calculation of the rock pressure reaction within the secondary stress field of horizontally excavated mining, for different types of quarrying
— T. Byambasuren, M. Khukhuudei
- 17:40 – 17:50** Environmental impact assessment of an in-service road tunnel during the enlargement project in Vietnam
— T.H. Tran
- 17:50 – 18:00** Determining the LCPC abrasivity of sand and gravel in project of Hanoi pilot light metro line, section Nhon – Hanoi railway station
— T.N. Nguyen, T.T. Ngo, D.Q. Hoang
- 18:00 – 18:10** Centrifuge modelling of geosynthetic-reinforced soil walls at failure
— T.S. Nguyen, K.H. Yang, W.Y. Hung, T.N.P. Pham
- 18:10 – 18:20** Double diaphragm wall – Design and construction experience
— N.V. Luu, Q.D. Pham
- 18:20 – 18:30** Numerical simulation for centrifuge model tests on the stability of self-standing steel pipe pile retaining wall by Rigid Plastic FEM
— K. Mochizuki, K. Isobe, J. Takemura, Y. Ishihama

Day 2

FRIDAY

Conference Hall 1

8:00 — 12:10

Session 5: Geotechnical modelling and Monitoring

Chairman: Norikazu Shimizu, Japan

Co-Chairman: Pham Huy Giao, Vietnam

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| 8:00 — 8:10 | Displacement monitoring using GPS at an unstable steep slope and the performance of a new low-cost GPS sensor
— K.T. Nguyen, S. Nakashima, N. Shimizu |
| 8:10 — 8:20 | Application of internet of things technology in the man-made slopes monitoring in Taipei city
— M.C. Tseng, P.C. Chi, C.C. Wu, J.Y. Hsu |
| 8:20 — 8:30 | Utilization of geoinformatics for geohazard assessment in Philippine infrastructures
— R. Quebral, R.E. Cabungcal, M. Baniquett, C.J. Manzano |
| 8:30 — 8:40 | Unstable slope monitoring and early warning by multi-point tilting sensor and pipe strain gauge
— M.R. Sheikh, Y. Nakata, M. Shitano, M. Kaneko |
| 8:40 — 8:50 | Early warning systems for flash floods and debris flows in Vietnam: A review
— T.T.H Ngo, B.T. Vu, T.K. Nguyen |
| 8:50 — 9:00 | Experimental analysis of resilient modulus of open-graded aggregate material
— T.H. Nguyen, Y. Lee, J. Ahn |
| 9:00 — 9:10 | Pull-out experiment of two-dimensional model flip-type ground anchors installed in dry sand ground
— S. Yoshida, K. Komura, T. Matsumoto, T. Yoshida |
| 9:10 — 9:20 | The micromechanical features of shear bands in sandy soils subject to reverse fault offsets
— W.C. Huang, H.K. Le, K.Y. Chen |
| 9:20 — 9:30 | Degradation study of an earthen historical rampart of Meknes city (Morocco) using ultrasonic non-destructive testing
— F. Bakadi, M. Rouai, A. Dekayir, E.M. Benyassine |
| 9:30 — 9:40 | Characteristic behavior of hydration of magnesium oxide
— S.H. Park, S.M. Jeon, J. Jang |
| 9:40 — 9:50 | Development of locally specified soil stratification method with CPT data based on machine learning techniques
— S. Cho, B. Cho, S. Kang, H. Kim |

9:50 – 10:00 DISCUSSIONS

10:00 – 10:30 **Poster Session and Tea Break**

Session 2: Tunnelling and Underground Spaces

Chairman: Adam Bezuijen

Co-Chairman: Le Quang Hanh, Vietnam

10:30 – 10:40 Study of excavation failure on expansive soils in Surabaya
— S.D. Alvi, P.C. Tamsir, P.P. Rahardjo

10:40 – 10:50 Behavior of braced excavated earth retaining wall using strut-shaped ground improvement in soft clay
— T. Kono, A. Kurihara, T. Oshita

10:50 – 11:00 Closed-form formulation of construction-induced vibrations on existing building at the Metro Line 3 project in Hanoi: Application to control the construction procedures
— H.L. Dang, V.Q. Nguyen

11:00 – 11:10 Study for structural performance of hat-type sheet pile for retaining wall
— T. Tominaga, H. Nakano, K. Teshima

11:10 – 11:20 Quantitative evaluation of PFS (Partial Floating Sheet-pile) Method under liquefaction
— K. Fujiwara, K. Nakai, N. Ogawa

11:20 – 11:30 A study of deep excavation using cement deep mixing in Mekong river delta area
— B.V. Nguyen, C.T. Vu, T.S. Nguyen, H.V. Nguyen

11:30 - 11h40 Effect of deep excavation on deformation of diaphragm wall and adjacent structures
— H.N. Nguyen, V.D. Nhu

11:40 - 11h50 Stiffness of soil in excavation-induced deformation analysis in Vietnam
— V.D. Nguyen, T.N. Do, Q.T. Pham

11:50 - 12h00 Application of CDM walls in the construction of basements in Ho Chi Minh City area
— T.T. Le, T.K.C. Dao

12:00 - 12h10 Dewatering experiences in deep excavation – Case studies in Vietnam
— D.C. Le, V.T. Nguyen, Q.M. Truong

12:10 – 13:00 **LUNCH BREAK**

Day 2

FRIDAY

Conference Hall 2

8:00 — 12:00

Session 4: Landslide and Erosion

Chairman: Delwyn Fredlund, Canada

Co-Chairman: Trinh Minh Thu, Vietnam

8:00 — 8:10

Toward standardizing the search for critical slip surface in slope stability analysis

— R. Kalatehjari

8:10 — 8:20

Slope stability analyses incorporating soil improvement methods for valuable urban area

— P. Osiński, B. Dobrzelewski, E. Koda, P. Król

8:20 — 8:30

Applying of multi-plane slip surface analysis using elevation data of terrain before and after slope disaster to investigate landslide mechanism

— Y. Hirowatari, Satoshi Murakami, T. Nishi

8:30 — 8:40

Estimation of change in slope stability due to rainfall varied with time, based on unsaturated soil mechanics

— K. Kawai, Y. Kijima, K. Nakashima

8:40 — 8:50

Geotechnical and seismic considerations in the design of highway embankments

— R.A.C. Luna, C.G. Tuppil, J. Vivian, B.R. Buensuceso Jr.

8:50 — 9:00

Geotechnical and seismic design considerations for mine tailings dam

— R.A.C. Luna, L.A.B. Morillo, J.M.I. Tanap, M.A.H. Zarco

9:00 — 9:10

Seismic damage investigation for river levees reinforced by steel sheet piling method due to the 2016 Kumamoto earthquake

— K. Kasama, M. Ohno, S. Tsukamoto, J. Tanaka

9:10 — 9:20

Multiple solutions to stabilize a deep-seated landslide

— V.C. Pham, C.L. Nguyen, T.N. Do, V.T. Pham

9:20 — 9:30

Retaining system against rockfall near a highway in Vietnam—a case study

— H.D. Ngo, T.N Do, C.L. Nguyen

9:30 – 9:40 How to reduce landslides by preventive actions
— T.U. Nilsson

9:40 – 9:50 DISCUSSIONS

9:50 – 10:30 **Poster Session and Tea Break**

10:30 – 10:40 Liquefaction behavior of dense sand relating to the degree of saturation
K.H. Tran, S. Imanzadeh, S. Taibi, D.L. Dao

10:40 – 10:50 Effect of rainfall pattern on slope stability
— A.N.C. Ghani, A.M. Taib, D.Z.A. Hasbollah

10:50 – 11:00 Cyclone-triggered debris flow hazard on Takaka Hill, Tasman District, South Island, New Zealand
— C. Prasad, C.H. Fenton

11:00 – 11:10 A case study on surveys and design for maintaining important traffic infrastructure against landslides in Sri Lanka (Landslide Disaster Protection Project), and experience for Vietnam
— N.D. Nguyen, K. Yoshinori, K. Yoshio

11:10 – 11:20 Features of large-scale landslide at Hau Thao area, Sa Pa town, Lao Cai province
— D.M. Nguyen, Q.H. Tran

11:20 – 11:30 Ground damage during large earthquakes: liquefaction and slope collapse
— Y. Shioi, Y. Hashizume

11:30 – 11:40 A case history of piling work utilizing the Press-in method on a steep slope
— Y. Kitano, M. Yamaguchi

11:40 – 11:50 Susceptibility assessment of slope failures in Singapore using GIS-based prediction models
— Y. Kim, H. Rahardjo, A. Satyanaga

11:50 – 12:00 DISCUSSION

12:00 – 12:30 **LUNCH BREAK**

Day 2

FRIDAY

Conference Hall 3

8:00 — 12:00

Session 3: Ground improvement

Chairman: Masaki Kitazume, Japan

Co-Chairman: Nguyen Tien Dung, Vietnam

8:00 – 8:10

Large soil-cement column applications in Vietnam
— M.N. Vu, Q.H. Le

8:10 – 8:20

Performance of dry deep soil mixed columns supporting a box culvert – lessons learnt
— C. Kim, B. Poon, A. Peiris

8:20 – 8:30

Point foundation (PF) method for foundations and embankments
— A.N. Nguyen, T.D. Nguyen, C.S. Yim, M.S. Lee

8:30 – 8:40

Analytical and numerical analyses on stiffness enhancement of ground improved by head-enlarged CDM columns
— T.D. Nguyen, D.P. Hoang, Q.G. Tran, S.G. Chung

8:40 – 8:50

Unconfined compressive strength properties of cement treated soil subjected to cyclic loading during curing period
— S. Takayama, K. Kasama, M. Kitazume

8:50 – 9:00

Backfilling using fluidized soil-cement mixture made with excavated soil containing old fly ash
— H. Matsui, H. Ishii, T. Ogawa, T. Ooishi

9:00 – 9:10

Observation on consolidation settlement of ground improved by Sand compaction pile and Prefabricated vertical drain applied to Dhaka MRT Line 6
— Y. Imai, M. Kuriki, M. Okuda, S. Muhammad

9:10 – 9:20

The new compaction grouting method with improved upheaval control
— K. Takenouchi, S. Sassa

9:20 – 9:30

Study on repair and reinforcement for existing pile foundation using jet grouting
— T. Kamata, N. Kuze, A. Shimamura, T. Tsuchiya

9:30 – 9:40 1G laboratory-scale shaking table tests on reduction of liquefaction damage in sand using short gravel compaction piles
— D.D. Nguyen, K. Kobayashi, S. Murakami, K. Yasuhara

9:40 – 9:50 DISCUSSIONS

9:50 – 10:30 **Poster Session and Tea Break**

10:30 – 10:40 Effect of SCP improvement geometry on mitigation of liquefaction-induced embankment settlement
— Y. Li, M. Kitazume, A. Takahashi, K. Harada

10:40 – 9:50 Stabilization for Soft Soil Foundation by Geotextiles
— I. Lin, C. Chu, J. Cheng

10:50 – 11:00 The effects of soaking process on the bearing capacity of soft clay reinforced by nonwoven geotextile
M.D. Nguyen, T.T. Nguyen, H.T. Le

11:00 – 10:10 Application of vertical drains to increase the capacity of disposal pond for dredged marine clay
— T. Negi, H. Mori, M. Katagiri

11:10 – 11:20 Long-term settlement analysis of the PVD-improved soft clay deposit underlying the Dinh Vu industrial zone
— D.C. Nguyen, H.G. Pham

11:20 – 11:30 The approach of assessing time of preload and surcharge removal during the construction of embankments over soft soils
— B. Poon, K. Chan, A. Peiris

11:30 – 11:40 Experimental evaluation of the effects of gravel particles on the dry density of compacted soil
— S. Ihara, S. Noda, Y. Kikuchi, F. Tatsuoka

11:40 – 10:50 Strength and cement hydration properties of cement-treated soil
— K. Ueno, K. Kasama, Z. Furukawa

11:50 – 12:00 DISCUSSIONS

12:00 – 12:30 **LUNCH BREAK**

Day 2

FRIDAY

Conference Hall 1

13:00 — 15:00

Session 6: Coastal Foundation Engineering

Chairman: Mark Randolph, Australia

Co-Chairman: Nguyen Anh Dung, Vietnam

- | | |
|---------------|---|
| 13:00 – 13:10 | On the application and benefits of an integrated geophysical and geotechnical digital ground model to optimize a site investigation survey for an offshore wind farm project
— D. Rushton, M. Nguyen |
| 13:10 – 13:20 | Geotechnical modelling to appraise the Tavira (Portugal) new fishing harbor's soft soils compressibility
— J. Lemos, A. S. Ferreira, P.F. da Silva |
| 13:20 – 13:30 | Sand densification using combination of vibroflotation and stone column for coastal reclamation in Lampung, Indonesia
— A. Sugianto, P.C. Tamsir, P.P. Rahardjo |
| 13:30 – 13:40 | Study on the performance of coastal reclamation and qc/N correlation of calcareous sands in Makassar
— P.C. Tamsir, A. Arafianto, P.P. Rahardjo |
| 13:40 – 13:50 | Site characterization for container terminal project at north coast of Jakarta city by in-situ testing
— A. Arafianto, P.P. Rahardjo |
| 13:50 – 14:00 | Pressuremeter test in municipal solid waste for coastal reclamation Project
— P.C.S. Santoso, A. Sugianto, P.P. Rahardjo |
| 14:00 – 14:10 | Evaluation of the degree of consolidation of coastal reclaimed lands based on settlement data and CPTu
— K. Rongsadi, S.D. Santoso, A. Arafianto, P.P. Rahardjo |
| 14:10 – 14:20 | Basin evaluation of CO ₂ geological storage potential in Malay Basin, Malaysia
— D.Z.A. Hasbollah, R. Junin, A.M. Taib, A.N. Mazlan |
| 14:20 – 14:30 | Effects of earthquake on the secondary consolidation of saturated clay
— H. Matsuda, T.N. Tran, H. Sato, T.S.H. Hoang |
| 14:30 – 14:40 | Rehabilitation of the coastal road retaining wall using the Press-in technology
— M. Yamaguchi, Y. Kimura, T. Morisawa |
| 14:40 – 14:50 | The negative impacts of artificial islands on the beach erosion in the Eastern of Phu Quoc Island
— H.S. Nguyen, T.T Huynh, V.N. Dau |
| 14:50 – 15:00 | DISCUSSIONS |

15:00 – 15:30 **Poster Session and Tea Break**

Day 2

FRIDAY

Conference Hall 2**13:00 — 14:50****Session 4: Landslide and Erosion****Chairman: Delwyn Fredlund, Canada****Co-Chairman: Trinh Minh Thu, Vietnam****13:00 — 13:10**

Geotechnical analysis of a landslide in Nakorn Si Thammarat province, Southern Thailand.

— T. Indhanu, T.C. Uppakarn, T. Chalermyanont

13:10 — 13:20

Sinking of hill road and gravitational deformation, a study in South Asia and experience for Vietnam

— Y. Kawamura, T. Mayumi

13:20 — 13:30

Influence of flow velocity and nutrient availability on microbially mediated reduction of erosion susceptibility of sand

— S. Datta, D. Roy

13:30 — 13:40

Coastal erosion, river bank erosion and landslides in the Mekong Delta: Causes, effects and solutions

— V.T. Nguyen

13:40 — 13:50

The effect of isotropic preloading on static liquefaction of sandy soils

— Q.H. Dang, G. Stefania, P. Reiffsteck, L. Lenti

13:50 — 14:00

Shear strength of an unsaturated silty soil subjected to creep deformation

— T. Nishimura

14:00 — 14:10

Rate effect on the residual interface strength between two different soil layers

— T.D. Nguyen, M. Suzuki

14:10 — 14:20

A simple prediction model for shallow groundwater level rising in natural slopes based on finite element analysis

— T. Ozaki, A. Watanabe, A. Wakai, F. Cai

14:20 — 14:30

Effects of internal erosion on levee instability

— K. Nakashima, J.A. Black, I.U. Khan, S. Bayton

14:30 — 14:40

Bioelectric potential of plant undertaking shear strength on shear test

— N. Tashiro, Z. Furukawa, K. Kasama

14:40 — 14:50

DISCUSSIONS

14:50 — 15:30**Poster Session and Tea Break**

Day 2

Conference Hall 3

FRIDAY

13:00 — 15:00

Session 3: Ground Improvement

Chairman: Masaki Kitazume, Japan

Co-Chairman: Nguyen Tien Dung, Vietnam

13:00 — 13:10

Basal reinforcement for embankments on soft tropical soil
— M.T. Hortmann, M. Hölzel, S. Uelzmann, O. Detert

13:10 — 13:20

Diatomaceous soils: a less than cromulent engineering material
— T.M. Evans, D. Moug

13:20 — 13:30

Rice husk ash burnt in simple conditions for soil stabilization
— V.P. Pham, T.V. Tran

13:30 — 13:40

Consolidation of soft soil layer: numerical investigation and perspective for the utilization of hard coal ash discharged from thermal power plants for the ground improvement action
— V.H. Le, C.M. Le, F. Rackwitz

13:40 — 13:50

Utilization of construction and demolition waste (CDW) for unbound road subbase in Hanoi, Vietnam
— V.C. Tran, V.T. Nguyen, H.G. Nguyen, K. Ken

13:50 — 14:00

A study of swelling characteristics of expansive soils on high speed railway project area in India
— S. Hagi, T. Yabe, T. Shiga

14:00 — 14:10

Various factors on strength and deformation property of liquefied stabilized soil prepared at field
— Q.V. Pham, Y. Kohata

14:10 — 14:20

Effects of wood chips types and mixing ratio to the compression characteristics of steelmaking slag mixed with wood chips
— T. Yoshikawa, Y. Kikuchi, S. Noda

14:20 — 14:30

Evaluation of survival rate of Licorice (*Glycyrrhiza uralensis* Fisch) in semi-arid region by statistical analysis
— Z. Furukawa, N. Yasufuku, K. Omine, A. Marui

14:30 — 15:00

DISCUSSIONS

15:00 — 15:30

Poster Session and Tea Break

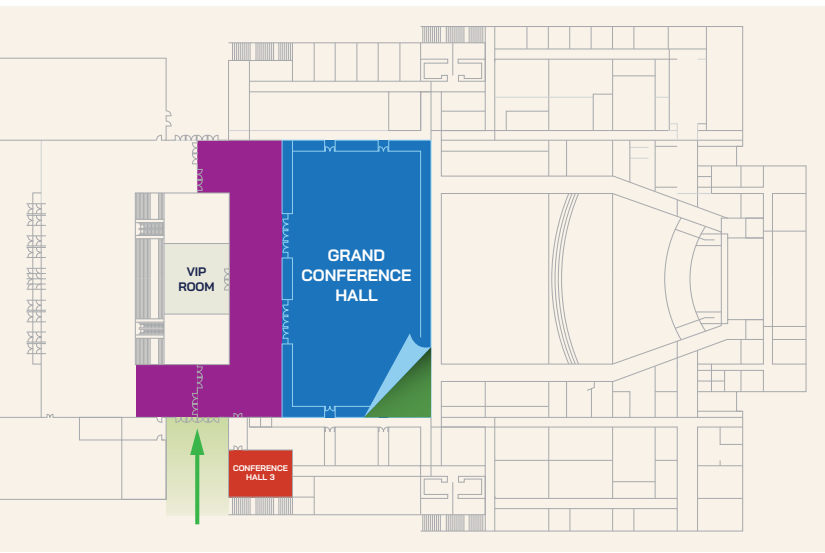
LIST OF POSTER PRESENTATIONS

P-01	Investigation of effectiveness of preloading method for existing foundation underpinning by centrifuge tests — C.C. Wang, J.T. Han, Y.E. Jang
P-02	Linear analysis of a circular pile under vertical load in layered soils — V.V. Nguyen
P-03	Pile foundation supporting a waste water treatment reservoir in Binh Chanh soft clay — C.O. Nguyen, T.V.T. Dao, D.T. Bui
P-04	Experimental studies on model pile foundations reinforced by hard inclusions — M.L. Nuzhdin, L.V. Nuzhdin, A.B. Ponomaryov
P-05	Shaking table modeling of battered pile's behavior under seismic loading — A.S. Azizkandi, S. Vahidinia, M. Eslami
P-06	Tunneling induced ground settlements in the first metro line of Ho Chi Minh City, Vietnam — T.H. Nguyen, H.G. Pham, P. Noppadol
P-07	Study of the stress-strain state in the sub-rectangular tunnel — T.T. Nguyen, M.A. Karasev, M.A. Vilner
P-08	A study for the estimation of TBM design parameters by statistical analysis — B. Park, S.H. Chang, S.W. Choi, C. Lee
P-09	Advanced soil parameters determination for Ho Chi Minh city soft clay to predict ground movements in deep excavations and tunneling — K.H. Nguyen, P. Noppadol
P-10	Prediction of rate of penetration with data from adjacent well using artificial neural network — M. Diaz, K.W. Kim, J. Lee, H.S. Shin
P-11	Geotechnical properties of Hai Phong and Ninh Binh clays in the Red River delta — T.P. Tran, H.G. Pham
P-12	Numerical study of effectiveness of horizontal grouting in liquefaction mitigation for existing building foundation — W.K. Yoo, J.H. Lee, B.S. Yoo, S.R. Kim
P-13	A case study of effectiveness of large diameter jet grout for soil improvement works in soft marine clay — R.K.N. Wong, Y.F. Weng, G.K. Leong, S.H. Cheng
P-14	Assessment riverbank stability of the Red riverbank: case study in the riverbank from Km 20 to km 27, Ba Vi, Hanoi — T.T. Duong
P-15	Coastal erosion in An Minh - An Bien, Kien Giang province, causes and countermeasures — H.N. To, M.T. Do
P-16	Geotechnical information construction methods for liquefaction assessment — S.W. Song, B.J. Kang, H.S. Kim, W.J. Cho
P-17	A new rainfall threshold model for predicting ground movement occurrences based on geotechnical monitoring data the at the Hai Van pass — H.C. Nguyen, H.G. Pham
P-18	Survey on the applicability of Japanese monitoring systems for safety management during infrastructure construction in Vietnam — M. Sumitani, A. Suzuki, T. Iwasaki, N. Shimizu
P-19	Monitoring of the liquefaction of Nazaré's north breakwater foundations — T. Nunes, A. S. Ferreira, P. Lamas, M. Cabral
P-20	Research on forecasting the effect of sea level rise on the riverbed accretion and erosion process in Sai Gon - Dong Nai River system, HCMC area — V.N. Dau, K.P. Nguyen, C.T. Ho, T.N.T. Nguyen


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