



Day 1 – Thursday, 5 December 2013

08:00–08:30 hrs Registration @ Level 3 Foyer

08:30–08:45 hrs Opening Ceremony & Welcome Address @ Venus II & III

Er. Tong Seng Chua, *President, Geotechnical Society of Singapore (GeoSS)*
Er. Keat Chuan Chew, *Building and Construction Authority (BCA), Singapore*
Professor Ikuo Towhata, *ISSMGE Vice President for Asia*

Session Keynote Lectures
Venue Venus II & III
Chair(s) Deepankar Choudhury and Kai Sin Wong

08:45–09:15 hrs **KEYNOTE 1** : Independent Peer Review as a Guarantee for Safety, Serviceability and Optimisation of Deep Foundation Systems
Rolf Katzenbach and Steffen Leppla

09:15–09:45 hrs **KEYNOTE 2** : Some Observations on Resistance Factors and Foundation Capacity in Reliability-Based Design
Fred H. Kulhawy [presented by Kok-Kwang Phoon]

09:45–10:10 hrs Tea / Coffee Break

Session Special Lecture
Venue Venus II & III
Chair(s) Tong Seng Chua

10:10–10:40 hrs **SPECIAL LECTURE 1** : Experimental Validation of Relationship Between Particle Movement and Ageing Effect in Liquefaction Resistance of Sand
Yuki Shintaku and Ikuo Towhata

Session Session 1a : Analysis
Venue Venus II & III
Chair(s) Gerry McShane

10:45–11:00 hrs **P132** : Numerical Analysis of Group Suction Piles Under Lateral Loadings in Layered Deposits
Ju-Hyung Lee, Dongwook Kim, Ilhan Chang, Kiseok Kwak and Young-Hoon Jung

11:00–11:15 hrs **P018** : Lateral Load Resistance Between Pile-Group and CAP
San-Shyan Lin and Jen-Cheng Liao

11:15–11:30 hrs **P028** : Analysis of the Scouring Effect on the Response of Laterally Loaded Piles with Variational Method
Fayun Liang, Hao Zhang and Maosong Huang

11:30–11:45 hrs **P035** : A Simplified Method for Analysis of Soil Movements Induced by Excavation
Linlong Mu and Maosong Huang

11:45–12:00 hrs **P129** : Numerical Modeling Pile-Soil Interface of Grouting Screw Uplift Pile
J. G. Qian, H. W. Chen, M. S. Huang, Y. Y. Hu and D. Z. Kong



Session **Session 1b : Design**
Venue **Jupiter I**
Chair(s) **Albert Ho**

- 10:45–11:00 hrs **P109** : Proposed Point Bearing Load Transfer Function of Rock-Socketed Drilled Shafts
Jaehwan Lee and Sangseom Jeong
- 11:00–11:15 hrs **P104** : Reasonable Evaluation of Strength Properties of Rock Using Multiple-Step Triaxial Compression Test – Foundation of Bridge
 Yoshito Maeda, Takeshi Oshiro, Junichi Samizo and Satoshi Matsuki
- 11:15–11:30 hrs **P145** : qc/N Ratio for Recently Deposited Crushable Soils
S. W. Agaiby, A. H. Abdel-Rahman, S. M. Ahmed and A. K. Baghdady
- 11:30–11:45 hrs **P014** : Performance Based Design of Piles Due Seismic Ground Motions
Der-Wen Chang and Shun-Min Lee

Session **Session 1c : Load Test**
Venue **Jupiter II**
Chair(s) **John Endicott**

- 10:45–11:00 hrs **P021** : Full-Scale Model Test of X-Section Pile Under Lateral Load
Yan Zhuang, Deqing Gao and Hanlong Liu
- 11:00–11:15 hrs **P027** : Evaluation of Soil Resistance Effects on Pile Integrity Test (PIT)
Ramli Bin Nazir and Osman El Hussien
- 11:15–11:30 hrs **P098** : Axial Capacity of a Rectangular Pile Socket in Gravel Layer
 Jen-Cheng Liao, San-Shyan Lin, Erica Mulouayi and Yung-Kuang Lin
- 11:30–11:45 hrs **P051** : Model Tests of Suction Caisson in Clay
W. Guo, J. Chu, K. J. Liu, M. Y. li, S. F. Wu and S. W. Yan
- 11:45–12:00 hrs **P074** : Model Tests on Negative Skin Friction on Pile in Sand
Ting Huang, Weiming Gong, Guoliang Dai, Xiaohui Huang and Guoping Xu

12:00–13:00 hrs Lunch Break

Session **Keynote Lectures**
Venue **Venus II & III**
Chair(s) **Yoichi Watabe and Tiong Guan Ng**

- 13:00–13:30 hrs **KEYNOTE 3** : Effect of Installation of New Foundations on Adjacent Piles
Yean Khaw Chow, Z. Chen, K. K. Tho and C. F. Leung
- 13:30–14:00 hrs **KEYNOTE 4** : Tall Tower Foundations – From Concept to Construction
Chris Haberfield



Session **Session 2a : Design**
Venue **Venus II & III**
Chair(s) **Sumanta Haldar**

- 14:05–14:20 hrs **P117** : Critical Evaluation of Side Resistance for Drilled Shafts in Gravelly Soils
Jie-Ru Chen and Fred H. Kulhawy
- 14:20–14:35 hrs **P110** : Evaluation of Side Resistance of Barrette Piles
Yit-Jin Chen, Ting-Chang Chu and Maria Cecilia M. Marcos
- 14:35–14:50 hrs **P038** : Innovative Connections in High Capacity Retaining Wall Systems
Gerry McShane
- 14:50–15:05 hrs **P170** : Replacing Steel in Cutter Soil Mix Walls with Polypropylene Fibres: A Field Trial, Experiments and Analysis
Adrian R. Russell, Mark Chapman and Hossein Taiebat

Session **Session 2b : Ground Improvement**
Venue **Jupiter I**
Chair(s) **Andrew J. Whittle**

- 14:05–14:20 hrs **P127** : Investigation and Description of Sedimentary Stratigraphy Using Penetration Resistance in PBD Installation
Yoichi Watabe and Hiroshi Shinsha
- 14:20–14:35 hrs **P130** : Geogrid Reinforced Cohesive Soil with Additive Improvement – An Innovative Approach in Combining Economical & Ecological Effects
Herbert Klapperich, Nandor Tamaskovics and Sebastian Althoff
- 14:35–14:50 hrs **P040** : New Drilling Tools for Hard Rock
Franz-Werner Gerressen and Gordian Ulrich
- 14:50–15:05 hrs **P115** : Foundations on Geotextile Encased Granular Columns: Overview, Experience, Perspectives
Dimiter Alexiew and Graham Thomson

Session **Session 2c : Load Test**
Venue **Jupiter II**
Chair(s) **Shaw Shong Liew**

- 14:05–14:20 hrs **P076** : Model Tests of Bearing Capacity of Steel Pipe Settlement Reducing Pile Foundation
Xiaohui Huang, Weiming Gong, Ting Huang, Richeng Xie and Guoping Xu
- 14:20–14:35 hrs **P112** : Study on the Settlement of Bucket Foundations Under Coupling of Dynamic Load and Water Flow
Lu Xiaobing and Zhang Xuhui



- 14:35–14:50 hrs **P128** : Comparison of Global Strain Extensometer (Glostrext) Instrumentation Method Against Conventional Method in Static Pile Load Tests
Yit Wah Chong and Sieng Kai Lee
- 14:50–15:05 hrs **P099** : Development in Indonesia Deep Foundation Design Code for Bridges
Widjojo A. Prakoso and Fahmi Aldiamar
- 15:05–15:20 hrs **P171** : Exploratory Study of Pile Load Tests
Kar Kheng Loh, Chuck Kho and Yue Choong Kog

15:20–15:45 hrs Tea / Coffee Break

Session Special Session on Singapore Piling Practice
Venue Venus II & III
Chair(s) Keat Chuan Chew and Chandran

- 15:45–15:57 hrs **SPLT-182** : Development History of Piling in Singapore
C. K. Poh
- 15:57–16:09 hrs **SPLT-183** : Development of Pile Testing in Singapore
H. K. Foo
- 16:09–16:21 hrs **SPLT-184** : Eco-friendly Piling in Singapore
T. S. Ong
- 16:21–16:33 hrs **SPLT-185** : Jack-in piles in Singapore
J. Lim
- 16:33–16:45 hrs **SPLT-186** : Foundation for South Beach and Tanjung Pagar Mixed Development
S. S. Soh
- 16:45–16:57 hrs **SPLT-187** : Alternative Piling System
K. S. Lau
- 16:57–17:09 hrs **SPLT-172** : Good Practices in Bored Pile Design and Construction
Yet Nai Song

17:10–17:30 hrs Panel Discussion on “Special Session on Singapore Piling Practice” @ Venus II & III

18:00–19:00 hrs The 6th Annual General Meeting of GeoSS @ Jupiter III

18:00–19:00 hrs Committee Meeting – ISSMGE Technical Committee TC 212 – Deep Foundations @ Jupiter II

19:00–21:00 hrs Conference Banquet @ Mercury Room at Level 5

End of Day 1



Day 2 – Friday, 6 December 2013

08:15–08:45 hrs Registration @ Level 3 Foyer

Session Keynote Lectures
Venue Venus II & III
Chair(s) San-Shyan Lin and Ing Hieng Wong

08:45–09:15 hrs **KEYNOTE 5** : Foundation Design and Construction in Limestone Formation: A Malaysian Consultant's Experience
Tan Yean-Chin and Chow Chee-Meng

09:15–09:45 hrs **KEYNOTE 6** : Settlement Estimation for Foundations of High-Rise Buildings in Singapore
Teoh Yaw Poh and T. G. Ng

09:45–10:10 hrs Tea / Coffee Break

Session Special Lectures
Venue Venus II & III
Chair(s) Kok Kwang Phoon

10:10–10:40 hrs **SPECIAL LECTURE 2** : Performance and Analysis of Non-Conventional Uplift Piles in Soft Ground
Maosong Huang, Jiangu Qian and Chenrong Zhang

Session Session 3a : Design
Venue Venus II & III
Chair(s) Jie-Ru Chen

10:45–11:00 hrs **P057** : Design of Bored Piles for Various Geological Formations in Singapore
T. S. Chua, G. T. Michelle Lew, C. M. Edward Koh and C. H. Lim

11:00–11:15 hrs **P136** : Bearing Capacity of Reinforced Ground Considering Fixity Conditions of Geosynthetics
H. M. Shahin, Teruo Nakai, Yukihiro Morikawa, Saki Masuda, Susumu Mio and Hirokazu Sugiyama

11:15–11:30 hrs **P049** : The Capacity of Driven Steel H-Piles
L. J. Endicott and X. Zhang

11:30–11:45 hrs **P073** : A Critical Study on Behaviour of Pile Groups In Liquefied Soil Under Seismic Conditions
Kaustav Chatterjee, V. Dilli Rao and Deepankar Choudhury



Session Session 3b : Analysis
Venue Jupiter I
Chair(s) Widjojo A. Prakoso

- 10:45–11:00 hrs **P116** : Application of 3-D Finite Element Analysis on Settlement of Tank on Reclamation Sand
Edward Hutapea, Takeshi Nonaka, Rudi Julijanto and Wong Kai Sin
- 11:00–11:15 hrs **P052** : DEM Analysis of Pile Penetration in Uncrushable Sands
Zhao Budi, Huang Runqiu and Wang Jianfeng
- 11:15–11:30 hrs **P045** : Investigation of Nonlinear Mobilisations of Soil Stiffness with Shear Strain During Excavation
 A. K. Leung, C. W. W. Ng, S. S. K. Kwok and F. H. T. Yip
- 11:30–11:45 hrs **P048** : Meso-Mechanism Analysis on Soil Arching Surrounding Composite Foundation
Xiaojun Zhu, Weiming Gong and Xueliang Zhao
- 11:45–12:00 hrs **P071** : Multivariate Adaptive Regression Splines for Foundation Engineering Analysis
Wengang Zhang and Anthony Tech Chee Goh

Session Session 3c : Case History
Venue Jupiter II
Chair(s) Jae Hyun Park

- 10:45–11:00 hrs **P053** : The Design and Construction of Shaft-Grouted Small Diameter Friction Bored Pile in a Public Housing Development Project
David Tai Wai Lai, Stephen Shu Kwan Kwok, Hon Wai Ma and Ben Chun Pan Wat
- 11:00–11:15 hrs **P055** : Design and Construction of Foundation to an Offshore Wind Monitoring Station in Hong Kong
Henry C. P. Chan, S. L. Chiu and Samuel S. C. Tang
- 11:15–11:30 hrs **P096** : Pile Capacity Reduction of Jack-in Piles with Empty Prebored Hole at Meta-Sedimentary Formation in Peninsular Malaysia
Liew Shaw Shong, Ho Shu Feng and Voon Boo Chuan
- 11:30–11:45 hrs **P078** : Failure Investigation and Re-Construction at a Collapsed Deep Excavation in Soft Clay
 Chen Renpeng and Li Zhongchao

12:00–13:00 hrs Lunch Break



Session Keynote Lectures
Venue Venus II & III
Chair(s) Herbert Klapperich and Der-Wen Chang

- 13:00–13:30 hrs **KEYNOTE 7** : Three-Dimensional Centrifuge and Numerical Investigation of the Performance of Piled Foundations Subjected to Deep Excavation
Charles W. W. Ng and S. Y. Peng
- 13:30–14:00 hrs **KEYNOTE 8** : Implications for Design of Piled Raft Foundations Subjected to Lateral Loading
Tatsunori Matsumoto

Session Session 4a : SY GeoSS Session
Venue Venus II & III
Chair(s) Siau Chen Chian

- 14:05–14:20 hrs **SY-176** : Multi Earth Retaining Systems for an Excavation Project in Old Alluvium, Singapore
Edward Koh and Tong Seng Chua
- 14:20–14:35 hrs **SY-174** : Performance of Driven Spun Piles from Pile Load Tests
Tran Vu Quoc and Cham Wee Meng
- 14:35–14:50 hrs **SY-173** : Estimation of Pile Settlement and Influence Zones Due to Tunnelling
Cham Wee Meng and Goh Kok Hun
- 14:50–15:05 hrs **SY-175** : A Simplified Method to Estimate the Response of Single Piles to Lateral Load
Kok Hun Goh, Yunhuo Zhang and Wee Meng Cham
- 15:05–15:20 hrs **SY-178** : Prediction of Lateral Load Test on Bored Piles Using 1-D and 3-D Finite Element Programs
Tiong Guan Ng, Erick Yusuf Kencana, Eshagh Namazi and Senthuran Arulanantham

Session Session 4b : Case History & Others
Venue Jupiter I
Chair(s) Hossain Md. Shahin

- 14:05–14:20 hrs **P138** : Case Study of Slurry Wall Construction for Renewal of an Old Mansion with Three-Story Basement and Slurry Wall
C. J. Kuo, Y. K. Lin, F. C. Lu and C. H. Chen
- 14:20–14:35 hrs **P133** : Pseudo-Static Stability Analysis of a Prototype Seawall
Snehal Naik, Purnanand Savoikar and Wilma Fernandes
- 14:35–14:50 hrs **P090** : Load Resistance Factor Design of Laterally Loaded Pile
Sumanta Halder and Dipanjan Basu



14:50–15:05 hrs **P158** : Influence of SSI on Soil-Pile Raft-Structure System:
 An Experimental Study
Rajib Saha, Sekhar Chandra Dutta and Sumanta Haldar

15:20–15:45 hrs Tea / Coffee Break

Session Session 5a : SY GeoSS Session
Venue Venus II & III
Chair(s) Edward Koh

15:45–16:00 hrs **SY-179** : Important of Site Identification of Soil and Rock Types for the
 Design of Bored Piles
C. H. Lim, Edward Koh, Win Lwin Oo, Michelle Lew and T. S. Chua

16:00–16:15 hrs **SY-180** : The Effects of Pile Diameter on Its Settlement Behaviour
Michelle Lew and T. S. Chua

16:15–16:30 hrs **SY-177** : Physical and Numerical Modelling of Soil Liquefaction
 Induced Uplift of Circular Buried Structures
Siau Chen Chian

16:30–16:45 hrs **SY-181** : Limit Equilibrium Analyses for Centrifuge Modeling of
 Multi-tiered Geosynthetic-Reinforced Soil Wall
Rizkiyati Amalis Zhuraida, Kuo-Hsin Yang, Wen-Yi Hung and
 Suliman B. A. Mohamed

Session Session 5b : Analysis
Venue Jupiter II
Chair(s) David Lai

15:45–16:00 hrs **P058** : Model Uncertainties in Elasticity-Based Settlement Estimation
 Methods for Footings on Cohesionless Soils
Sami O. Akbas and Fred H. Kulhawy

16:00–16:15 hrs **P120** : Application of Block Preconditioners for Non-Symmetric Linear
 System Associated with Biot's Consolidation Analysis
H. H. T. Tran, K. K. Phoon and K. C. Toh

16:15–16:30 hrs **P100** : Three-Dimensional Load Transfer Function of Nonlinear Analysis
 for Single Laterally Loaded Piles
 Maosong Huang, Jian Yu and Chenrong Zhang

16:30–16:45 hrs **P137** : Estimation of Shaft Capacity of Rock Socketed Drilled Shafts
 using Artificial Neural Network
 Dongwook Kim, Jae Hyun Park, Ju Hyung Lee, Moonkyung Chung
 and Kiseok Kwak

17:00–17:15 hrs Closing Ceremony

End of Conference