



Harbour stockyard project,
Cilegon, Indonesia

CMC

The ground improvement specialist

- + Dynamic Compaction
- + Controlled Modulus Columns
- + Prefabricated Vertical Drains
- + Menard Vacuum™ Consolidation
- + Vibro Stone Columns
- + Jet Grouting
- + Deep Soil Mixing
- + Dynamic Replacement
- + Vibrocompaction
- + Rapid Impact Compaction



www.menard-asia.com
www.menard-group.com



PT. Promisco Sinergi Indonesia (PT. PSI) adalah perusahaan yang bergerak di bidang konsultasi geoteknik dan geoteknik keempaan, penyelidikan tanah, monitoring, kursus-kursus yang berhubungan dengan bidang geoteknik, dan pelatihan-pelatihan software geoteknik. PT. PSI didirikan oleh para tenaga ahli yang telah berpengalaman di bidang geoteknik lebih dari 16 tahun dan umumnya telah bersertifikasi sebagai ahli geoteknik profesional utama (G-2) dan madya (G-1).

Visi Perusahaan

Menjadi perusahaan konsultan di bidang geoteknik yang terbaik di Indonesia dan berstandar internasional

Misi Perusahaan

Membangun perusahaan yang dapat menyejahterakan pada tenaga ahli dan karyawan dengan berlandaskan pada hal-hal berikut :

- ☑ Standar etika profesional dan bisnis yang baik
- ☑ Meningkatkan kompetensi tenaga ahli dalam bidang geoteknik
- ☑ Senantiasa berusaha meningkatkan kualitas perusahaan

Pengalaman Perusahaan

- ◆ Pekerjaan Survey Topografi, Bathimetri dan Hidro Oceanografi Serta Investigasi Geoteknik Pembangunan Terminal Kijing, Mempawah (2018)
- ◆ Pekerjaan Penyedia Jasa Pekerjaan Jasa Konsultan Detailed Engineering Design (DED) Pembangunan Terminal Kijing, Mempawah
- ◆ Penyelidikan Tanah Grand Sawangan Depok (2018)
- ◆ Construction Supervision of The Boring Survey of Sulawesi Island Country of Indonesia (2018)
- ◆ Soil Investigasi dan Review Desain Perbaikan tanah East Cross Soekarno-Hatta International Airport Cengkareng (2018)
- ◆ Proyek Job 245 CTR-001 Feed For Badik and West Badik Field Development (2018)
- ◆ Proyek Pekerjaan Survey Soil Investigasi I, II & III Pematangan Lahan dan Kontruksi Apron Barat Ngurah Rai Denpasar Bali (2018)
- ◆ Proyek Tender Pematangan Lahan Pantai Sisi Barat Dan Konstruksi Apron Barat Bandara Udara International I Gusti Ngurah Rai, Denpasar, Bali (2018)
- ◆ Technical Advisor Lombok GECC Power Plant (Peaker) 130-155 MW (2017)
- ◆ Review Design Pada Proyek Pembangunan Jalan Tol Depok-Antasari (2017)
- ◆ D.L.L



“Geotechnical Challenge for Mega Infrastructures”

Editor : *Masyhur Irsyam*
Ikuo Towhata
Ramli Nazir
Benson Hsiung
Paulus P. Rahardjo
Pintor Tua Simatupang
Didiek Djarwadi
Hendra Jitno
Widjojo A. Prakoso
Agus Setyo Muntohar
Nurly Gofar
Farid Ma'ruf
Endra Susila
Teuku Faisal Fathani
Gouw Tjie Liong
Erza Rismantojo

TABLE OF CONTENTS

| | |
|--|-----|
| Preface Committee Chairman | i |
| Message from President of Indonesian Society for Geotechnical Engineering (ISGE) | ii |
| Organizing Committee | iii |
| Table of Contents | v |

Keynote Speakers :

| | |
|---|-------|
| 1. Wastes Cover Wastes: A Novel, Scientific and Environmentally Friendly Approach for Landfilling (<i>C.W.W. Ng¹, J.L. Co¹, H.W. Guo¹ and B.W. Lu¹⁻¹</i> - ¹ Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology, HKSAR) | 1-4 |
| 2. Damages Associated with Geotechnical Problems in 2018 Palu Earthquake, Indonesia (<i>Masyhur Irsyam^{1,2,3,9}, Nuraini Rahma Hanifa^{1,3}, Andhika Sahadewa^{1,2}, Agus Setyo Muntohar^{2,4}, Widjojo Adi Prakoso^{2,5}, Dandung Sri Harninto², Didiek Djarwadi^{2,3}, M. Ridwan³, Danny Hilman Natawidjaja^{3,6}, Mudrikh Daryono^{3,6}, Endra Gunawan^{1,3}, Irwan Meilano^{1,3}, Astyka Pamumpuni^{1,3}, Ariska Rudyanto^{3,7}, Sigit Pramono^{3,7}, Ramli Nazir⁸</i> ¹ Institut Teknologi Bandung (ITB) ² Indonesia Society for Geotechnical Engineering (HATTI) ³ National Center for Earthquake Studies (PuSGeN), Ministry of Public Work and Housing ⁴ Universitas Muhammadiyah Yogyakarta (UMY) ⁵ Universitas Indonesia (UI) ⁶ Indonesian Institute of Sciences (LIPI) ⁷ Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) ⁸ Universiti Teknologi Malaysia (UTM) ⁹ Indonesian Academy of Sciences (AIPI) | 5-14 |
| 3. Piling Construction and Testing of Megastructures on Problematical Soil Ground of Kazakhstan (<i>A.Zhussupbekov¹ and A.Omarov¹¹</i> - ¹ Department of Civil Engineering, L.N. Gumilyov Eurasian National University, Astana, Kazakhstan (Prof. Askar Zhussupbekov) | 15-18 |
| 4. Serious Lessons Learnt from Big Project (Ikuo Towhata, <i>Professor Emeritus, University of Tokyo, Visiting Professor, Kanto Gakuin University</i>) | 19-24 |
| 5. Stability Analysis of Buried Waste Water Pipeline in Soft Ground (<i>Prof. Eun Chul Shin</i> - <i>Korea University - South Korea</i>) | 25-28 |
| 6. New Solutions to Geotechnical Challenges for Coastal Cities (<i>J. Chu¹, S.F. Wu¹, H. Chen¹, X.H. Pan¹, and K. S-L. Chaim²</i> - ¹ School of Civil and Environmental Engineering, Nanyang Technological University, Singapore, ² Geological and Underground Projects Department, Build Control Authority, Singapore) | 29-34 |
| 7. Use of Strut Free Systems in Deep Excavations (Chang-Yu Ou ¹ and Aswin Lim ²) <i>¹National Taiwan University of Science and Technology, Taipei, Taiwan, ROC ²Department of Civil Engineering, Universitas Katolik Parahyangan, Bandung 40141, Indonesia</i> | 35-38 |

| | | |
|-----|---|-------|
| 8. | Behavior of Single Pile and Pile Group Foundation for High Rise Buildings on Expansive Soils (Prof. Paulus P. Rahardjo-Universitas Katolik Parahyangan, Indonesia)..... | 39-45 |
| 9. | Challenges in Design and Construction of Deep Excavation and Case Histories (Dato' Dr. Ir. Gue See Sew. CEO of G & P Professionals, Malaysia)..... | 46-54 |
| 10. | Increasing geotechnical challenges in the design and construction planning of the Third Phase Bangkok MRT Underground (N. Phienwej ¹ , A. Asanprakit ² , P. Kittiyodom ² and S.Timpong ² ¹ School of Engineering and Technology, Asian Institution of Technology, Pathumthani, Thailand ² Geotechnical and Foundation Engineering Co. Ltd., Bangkok, Thailand)..... | 55-60 |
| 11. | Mega Reclamation Projects: Challenges and Lessons Learned in Soil Improvement Works and Acceptance Tests (K. Yee ¹ and S. Varaksin ² ¹ Association of Geotechnical Societies in South East Asia (AGSSEA), Kuala Lumpur, Malaysia ² Apageo, Paris, France)..... | 61-74 |

Session I.A1 – Pile. (TC 212)

| | | |
|----|---|---------|
| 1. | Design and Construction of Foundation System for Malaysia First Drawbridge at Kuala Terengganu (Shaw-Shong Liew, Kuan-Seng Koo and Fong-Wah Chee)..... | 75-80 |
| 2. | Advancement of Bearing Capacity and Settlement Analyses of Piled-Raft Foundation (Sugeng Krisnanto, Iwayan Sengara and Fithrie Nur Adelina) | 81-84 |
| 3. | Effect of Intermediary Weak Layer on The Behaviour of Piled Raft (Venkatraman Balakumar, Huang Min, Erwin Oh and Arumugam Balasubramaniam)..... | 85-91 |
| 4. | Analysis of In Situ Laterally Loaded Tests on Caisson Foundations (Jiunn-Shyang Chiou and Cheng-Chang Tsai)..... | 92-95 |
| 5. | Study of Bored Pile Capacity in Klang Valley Residual Soil Based on Field-Performance Data (Allan Chwee Yew Lun, Balakrishnan Ety Gaunder and Nazri Ali)..... | 96-101 |
| 6. | Foundation Value Engineering & Underpinning Using Micropile for Building Upgrading Works (Kai Ming Lee and Elly Norissya Mohd Said)..... | 102-106 |
| 7. | Interpretation on Performance of Two Drilled Shafts Subjected to Tensile Loading Considering Concrete Cracking Effect (San-Shyan Lin, Tai-Hong Chen and Chia-Hong Lai)..... | 107-110 |
| 8. | Pile Settlement Uncertainty in Jakarta, Indonesia (Bondan Satria and Widjojo Adi Prakoso)..... | 111-114 |

9. Re-Evaluation of Pile Capacity due to Shallow Gas – A Malaysia Case Study (*Christian Hariady Girsang, Noorizal Nasri Huang, M Syazwan Kamil Abdullah, M Razi Mansoor, Muhammad Joehan Rohani, Azam A Rahman and Wan M Marzuki Wan Ismail*)..... 115-120

Session II.A2 - Pile & Instrumentation. (TC 212)

10. Application of Newly Developed Real- Time Website-base GIS Monitoring in Tunnelling (*Christian Luis, Johnny Huang and Bin-Chen Benson Hsiung*)..... 121-124
11. ERT-Based Leakage Tracing for Dam Safety and its Potential Sliding Surface (*Helsin Wang, Chih-Hsin Hu, Sheng-Hsiung Hsieh and Yao-Chu Tsai*)..... 125-135
12. Dynamic p-y Curves for a Single Pile by 1g Shaking Table Tests (*Sangseom Jeong*).. 136-140
13. Design Method for Bottom Single Blade Steel Rotation Pile Foundation : Case study in Vietnam (*Duy Lam Dao and Thi Tuyet Trinh Nguyen*)..... 141-146
14. Active Shaking Tests of Pile Foundation Models in Dry Sand Ground (*Kohei Kenda, Anh Tuan Vu and Tatsunori Matsumoto*)..... 147-157
15. Estimating Pile Axial Bearing Capacity by c-phi' Derived from Pressuremeter Test (*Tjie Liong Gouw*)..... 158-167
16. Volume Measurement for Heavy Punding Induced Craters and Ground Heave (*Amalia Ula Hazhiyah, Hung-Jiun Liao and Chih-Jung Chien*) 168-178
17. Potentiality of Boehmeria Nivea as Alternative Material in the Production of Geotextile (*Oliver Celis, Catalino Mendoza, Ernesto Villarica, Ederick Songahid and Ann Krischel Hipolito*) 179-183
18. A Multidisciplinary Ground Model Approach to Geotechnical and Geohazard Site Appraisal for Large Infrastructure Developments (*D. Rushton*) 184-187
19. Prediction of the Geological Condition for Pipe jacking Base on the Data Collected in the Shafts (*Jian Shou Keh and Kan Tang Fu*) 188-192

Session III.B1- FEM. (TC 103)

20. A Case Study On Monitoring and Numerical Analysis of Groundwater Variation and Inclinator Displacement in Taiwan (*Ching-Jiang Jeng and Chia-Yu Yang*) 193-197

| | | |
|-----|--|---------|
| 21. | Numerical Simulations of an Excavation Case in Jakarta by Hypoplasticity Model for Clays (<i>Melisa Kosasi, Fuchen Teng and Benson Hsiung</i>) | 198-203 |
| 22. | 3D Finite Element Analysis of Deep Excavation in Central Jakarta using Total and Effective Shear Strength Properties. (<i>Tatag Yufitra Rus, Bin-Chen Benson Hsiung and Kuo-Hsin Yang</i>) | 204-212 |
| 23. | Plane Strain Ratio and Waling Size Evaluation of Deep Excavation in Kuala Lumpur Using 3D Finite Element Analysis (<i>Jen Shen Ang, Bin Chen Hsiung and Ching Hung</i>)..... | 213-221 |
| 24. | Assessment of Mechanical Behavior of Granular Soils Adopting Various Plasticity Models (<i>Deepa Patil, Anitha Kumari S D and Nimmy Mariam Abraham</i>)..... | 222-227 |
| 25. | Remediation of Oil Tank Using PLAXIS 3D (<i>Anthony Gunawan</i>)..... | 228-233 |
| 26. | Dynamic Analysis of Underwater Tunnels (<i>Akhila Babu, Anitha S D and Nimmy Mariam Abraham</i>)..... | 234-237 |
| 27. | 3D Finite-Element Analysis on Behaviours of Pile Group and Piled Raft Foundation Models Subjected to Cyclic Horizontal Loading (<i>Anh-Tuan Vu and Tatsunori Matsumoto</i>)..... | 238-244 |
| 28. | Finite Difference Analysis of Raft Foundations under Vertically Static Loads (<i>Der-Wen Chang and Hsin-Wei Lien</i>)..... | 245-250 |

Session IV.B2 - Soil Mechanics & Lab. (TC 101 & TC 102)

| | | |
|-----|--|---------|
| 29. | Determining Unsaturated Soil Properties Through Parameter Estimation (<i>Ibrahim Ibrahim, Didit Nur Arif and Nurly Gofar</i>)..... | 251-255 |
| 30. | Stochastic Estimation of Consolidation Settlement of The Upper Pleistocene Clay Layer in Osaka Bay Using a Particle Filter Method (<i>Shotaro Kubota1 and Kazuhiro Oda2</i>) | 256-257 |
| 31. | Volcanic Cohesive Soil Behavior under Static and Cyclic Loading (<i>Wa Ode Sumartini, Hemanta Hazarika, Takaji Kokusho and Shinichiro Ishibashi</i>)..... | 258-264 |
| 32. | Screw Driving Sounding Test for Soil Identification and Classification (<i>Aminaton Marto, Go Sakai, Naoaki Suemasa, Nor Zurairahetty Mohd Yunus, Siti Norafida Jusoh, Nadiah Jamaludin, Muhammad Mustakim Ponimin and Muhammad Fakrulnizam Mohd Tahir</i>)..... | 265-270 |
| 33. | Argillaceous Rock Properties Changes Due to the Weathering Process (<i>Idrus M. Alatas, Masyhur Irsyam, Ramli Nazir and Pintor T. Simatupang</i>) | 271-277 |

| | | |
|-----|---|---------|
| 34. | Investigation of Aqueous Phase Liquids Migration in Double-Porosity Soil under Isothermal and Non-Isothermal Effect (<i>Loke Kok Foong, Prof. Ir. Dr. Ramli Nazir and Assistant Professor Dr. Hossein Moayedi</i>)..... | 278-283 |
| 35. | Lessons Learned from Pressuremeter Tests on Stone Columns (<i>Richard Ong</i>). | 284-287 |
| 36. | Correlations Between Gradation, Physical and Mechanical Parameters for Material Embankments Reclamation (<i>Herman Wahyudi and Yudhi Lastiasih</i>) | 288-291 |
| 37. | Characterization of Leachate Distributions at Ngipik Municipal Solid Waste Disposal site in East Java - Indonesia (<i>Ria Asih Aryani Soemitro, Dwa Desa Warnana and Nila Sutra</i>) | 292-296 |

Session V.C1- Earthquake. (TC 203)

| | | |
|-----|--|---------|
| 38. | Evaluation of Remedial Works for a Spillway on Landslide-dammed Lakes by an Earthquake, a Case Study in the Jiufengershan Landslide (<i>lhui Chen, Sheichen Ho, Yushu Lin, Junyang Chen and Miaubin Su</i>) | 297-300 |
| 39. | A Comparison Between VS30 Based- and Natural Frequency Based-Site Amplification Factor for Three Different Types of Soil Classification (<i>Bonifacius Yogatama and Budiwan Adi Tirta</i>) | 301-306 |
| 40. | Maps of Corner Period (T_c) of Response Spectra In City of Jakarta (<i>Delfebriyadi Delfebriyadi</i>)..... | 307-309 |
| 41. | Analysis of Bedrock Synthetic Ground Motion on Bandung City using PSHA Method (<i>Arifan Jaya Syahbana, Anggun Mayang Sari and Eko Soebowo</i>) | 310-315 |
| 42. | Influence of Cyclic Behaviour of Vibratory Pile Driving And Surging on Pile Performance Observed in Model load Tests in Dry and Saturated Sand Grounds (<i>Shunsuke Moriyasu, Mako Aizawa, Tatsunori Matsumoto, Shun-Ichi Kobayashi and Shinya Shimono</i>)..... | 316-322 |
| 43. | Dynamic Compaction at New Yogyakarta International Airport for Liquefaction Mitigation (<i>Ryan Rahmat Setiaji, Abi Maulana Hakim, Febrini Hartianty Adinda and K.M. Abuhuroyroh</i>). | 323-328 |
| 44. | Field Identification of Active Fault Nearby the Footprint of the Dam (<i>Didiek Djarwadi, D.H. Natawidjaja and M.R. Daryono</i>). | 329-333 |
| 45. | Seismic Analysis of El–Agrem Concrete Face Rockfill Dam (<i>Merouane Abdellaoui and Belkacem Moussai</i>) | 334-336 |
| 46. | Effects of Vibrating Frequency of a Plate Compactor on Soil Density (<i>Yung-Show Fang</i>)..... | 337-340 |

Session VI.C2 - Slope Stability. (TC 208)

| | | |
|-----|---|---------|
| 47. | Using Time Domain Reflectometry for Monitoring Slope Movement in the Jiufenershan Landslide (<i>Sheichen Ho, Ihui Chen, Yushu Lin, Junyang Chen and Miaubin Su</i>) | 341-345 |
| 48. | Application of Data Mining Technique to Complement Photogrammetric Roughness Data (<i>Dong-Hyun Kim, Arumugam Balasubramaniam, Ivan Gratchev and Chul-Ho Lee</i>) | 346-349 |
| 49. | Case Studies of a Partially Collapsed RS Wall at a Building Site (<i>Balakrishnan ETTY Gaunder, Allan Chwee Yew Lun and Mohd Redzuan Ahmad</i>) | 350-356 |
| 50. | Numerical Simulation of Some Debris Flow Events in Central Java for Predicting Run-out Distributions (<i>Imam Achmad Sadisun, Rendy Dwi Kartiko and Indra Andra Dinata</i>) | 357-360 |
| 51. | Channeled landslide Protection Using Flexible Barriers (<i>Thomas Hangartner, Prosida Rhapsody and Christophe Balg</i>) | 361-367 |
| 52. | Research on Failure of Aeolian Sand Roadbed Slope Through Laboratory Static Load Test (<i>Xiukun Dong and Liying Liu</i>) | 348-371 |
| 53. | Stability Analysis of an Overall Failure Excavation Case in Hang Zhou (<i>Tuan Nghia Do</i>) | 372-374 |
| 54. | Effect of the Initial Suction Boundary on the Slope Failure of Volcanic Residual Soil (<i>Agus Setyo Muntohar</i>) | 375-378 |

Session VII.D1 - Soil Improvement. (TC 211)

| | | |
|-----|---|---------|
| 55. | Applying In Situ Debris-cement Mixtures to the Ground Improvement of Bank in Wild Creeks (<i>Junyang Chen, Ihui Chen, Yushu Lin, Sheichen Ho and Miaubin Su</i>).. | 379-382 |
| 56. | Dynamic Compaction of Lateritic Fill for Property Development (<i>Richard Ong and Marini Mardi</i>)..... | 383-387 |
| 57. | Settlement Ratio Determination of Vacuum Preloading Soil Improvement Technique (Case Study at Palindra Toll Project Section 1) (<i>Herwan Dermawan, Masyhur Irsyam, Bigman M Hutapea, Endra Susila, Rizal Sutjipto and Idwan Suhendra</i>)..... | 388-391 |
| 58. | The Settlement Evaluation of Improved Soft Clay Using LECA Replacement Technique (<i>Azhani Zukri, Ramli Nazir and Ng Kok Shien</i>) | 392-397 |
| 59. | Performance of Helix Piled Raft in Tropical Fibrous Peat Soil under Traffic Loads (<i>Ardy Arsyad, Ahmad Bakri Muhiddin and Lawalemma Samang</i>) | 398-401 |

| | | |
|-----|---|---------|
| 60. | Effect of Compaction on Liquefaction of River Sand and Sea Sand in Hai Phong City, Vietnam (<i>Chau Lan Nguyen, Quang Phuc Nguyen, Hai Ha Nguyen and Duc Manh Nguyen</i>) | 402-408 |
| 61. | Proposal of Permeability Evaluation Method of Suspension Grout (<i>Kentaro Uemura, Takamitsu Sasaki, Naoaki Suemasa, Kazuya Itoh, Koichi Nagao and Shunsuke Shimada</i>) | 409-414 |
| 62. | Compacted Polymer-Enhanced Bentonite-Sand Mixture – Behaviour and Potential Applications (<i>Agus Setianto Samingan and Yulian Firmana Arifin</i>) | 415-420 |
| 63. | Geosynthetic Reinforced Road Structure as Fast Rehabilitation for a Typhoon Disaster (<i>Hermina Ho, Jeff Yang and Henry Sie</i>) | 421-424 |

Session VIII.D2 – Soft Soil. (TC 204)

| | | |
|-----|--|---------|
| 64. | The use of the Observational Method in the Deep Excavations for the Realization of a Residential Compound (<i>Marco Carassini, Filippo Bucci and Andrea Antiga</i>) | 425-432 |
| 65. | Reliability Assessment on Deep Braced Excavations Adjacent to High Slopes in Mountain Cities (<i>Runhong Zhang, Wengang Zhang, Zhongjie Hou and Wei Wang</i>) | 433-438 |
| 66. | Numerical Investigation of Wall Deflections Induced by Braced Excavations in Sands (<i>Hou Zhongjie, Zhang Wengang, Zhang Runhong and Wang Wei</i>) | 439-444 |
| 67. | Singapore Downtown Line 3 - Tunnelling Challenges in Soft Soil and Under Conserved Structures (<i>Michael McGowan, Sofren Leo Suhaendi and Gordon Lee</i>). | 445-450 |
| 68. | Seasonal Variation of Water Content and Pore-water Pressure Distribution in Vegetated Soil Slope (<i>Nurly Gofar, Harianto Rahardjo and Alfrendo Satyanaga</i>) | 451-456 |
| 69. | Strength Characteristics of Cement-treated Peat in Sumatera Island, Indonesia (<i>Hirochika Hayashi, Takahiro Yamanashi, Hijiri Hashimoto, Eddie Suraryo, Fahmi Aldiamar, Maulana Iqbal and Dea Pertiwi</i>) | 457-460 |
| 70. | Basement Excavation in Soft Marine Clay in Bukit Tinggi, Klang (<i>Sharmeelee S.</i>) | 461-464 |
| 71. | Effect of Rapid Impact Compaction Energy on Unconfined Compressive Strength Properties of Fill Clay Soil (<i>Arifin Beddu, Lawalenna Samang, Tri Harianto and Achmad Bakri Muhiddin</i>) | 465-468 |
| 72. | A Study on Soft Soil Stabilization by Mass Stabilization Methods for Construction of Dike and Rural Roads (<i>Vinh An Phung, Van Tuan Le and The Quynh Do</i>) | 469-464 |

Session IX.E1 – Deep Excavation & Tunnel. (TC 204)

| | | |
|-----|---|---------|
| 73. | Study for Structural Performance of Steel Sheet Piles Used for Retaining Wall (<i>Eka Susanto, Matsui Nobuyuki and Otsushi Kazutaka</i>) | 475-481 |
| 74. | Protection of the Existing Railway Tunnels from an Adjacent Deep Excavation (<i>Jung-Feng Chang, I-Chou Hu, Chun-Seng Hsu and Huei-Ting Chang</i>)..... | 482-486 |
| 75. | Bored Pile Retaining Wall Solutions for Earthquake Slip 6 AT Ohau Point, Kaikoura, New Zealand (<i>Senthuran Arulanantham, Anthony Fairclough, Sam Glue and Jody Edwards</i>)..... | 487-493 |
| 76. | Effects of Cross Wall to the System Stiffness of Deep Excavations in Clay (<i>Zih-Yun Wang, Bin-Chen Benson Hsiung, Hsii-Sheng Hsieh and Louis Ge</i>)..... | 494-499 |
| 77. | Ground Surface Settlement Induced by Diaphragm and Buttress Walls Installation: Numerical Study (<i>Aswin Lim and Pio Go Hsieh</i>) | 500-503 |
| 78. | Evaluation of Surface Settlement and Lateral Displacement During Tunnel Construction Using 3D Numerical Modelling (<i>Fahmi Aldiamar, Desyanti Desyanti, Masyhur Irsyam, Bigman M. Hutapea, Endra Susila, Riska Muslimah and Weni Maulina</i>)..... | 504-508 |

Session X.RE2 - Other Sessions & Indonesian Class

| | | |
|-----|--|---------|
| 79. | Aplikasi Metode Elemen Hingga dan Kriteria Runtuh Papaliangas Batuan Berkekar : Problem-Problem Analisa Terowongan, Kestabilan Lereng dan Wellbore Stability dalam Mekanika Batuan (<i>Wilham George Louhenapessy</i>) | 509-514 |
| 80. | The Application of Active Lime & Cement as Soil Stabilization Material (<i>Renggo Ginanjar, Wilham G. Louhenapessy, Asrul Ahdar</i>) | 515-518 |
| 81. | Perbandingan Analisa Perkuatan Lereng dengan Jangkar : Program dan Manual (<i>Wawan Kuswaya and Wilham G. Louhenapessy</i>) | 519-522 |
| 82. | On the Weak Limestone Rock Slope Stability Analysis (<i>Wilham George Louhenapessy</i>) | 523-530 |
| 83. | Slope Stability Anayses using Probabilistic Approach (A Case study in Grobogan, Central Java) (<i>Febryansyah Dwi Riyadinata, Yusep Muslih Purwana, Niken Silmi Surjandari and Noegroho Djarwanti</i>) | 531-534 |
| 84. | Perancangan Proteksi Galian Dalam Dengan <i>Soldier Pile</i> . Studi Kasus : <i>Underpass</i> Pada Pusat Perbelanjaan di Kawasan Jakarta Selatan (<i>Siska Rustiani and Ryan Alexander Lyman</i>) | 535-538 |

| | | |
|-----|---|---------|
| 85. | Study of Slope Failure and Reinforcement Analysis to Restore and Increase the Slope Stability in Flores, East Nusa Tenggara Using Plaxis 2D and 3D <i>(Rendra Priatno¹, Ali Iskandar², and Jo Lian Huat³)</i> | 539-543 |
| 86. | Study on The Effects of Vibration due to Pile Driving by Empirical Formulas and Continuous Monitoring <i>(Stefanus Diaz Alvi¹, Ricky Setiawan², Andy Sugianto³, Paulus P. Rahardjo⁴)</i> | 544-548 |
| 87. | Pengaruh Tahanan Ujung Tiang dan Faktor Aman Terhadap Lendutan Pelat Terpakai Tiang Tunggal Pada Lempung Lunak <i>(P. Anas¹, O. Ferly², M. Roza³)</i> | 549-543 |
| 88. | Application of Distributed Fibre Optic Sensor (DFOS) in Bi-directional Static Pile Load Tests <i>(Lee Siew Cheng¹, Tee Bun Pin¹, Chong Mun Fai¹, Hisham Mohamad² and Ang Koh An³, Paulus P. Rahardjo⁴)</i> | 554-560 |
| 89. | Design of Simple Drapery Systems for Rock Cuts and Natural Slopes <i>(Matteo Lelli¹, Alberto Grimod², Riccardo Laneri¹, Denny¹, Vincent Setiawan², Dinda Mutiara Savitri¹)</i> | 561-568 |
| 90. | Emergency Works and Landslide Remediation using Geosynthetics Reinforced Soil Structures – Recent Indonesian Case Studies <i>(Denny¹, Matteo Lelli², Dinda Mutiara Savitri³)</i> | 569-573 |
| 91. | Geotechnical Properties of Cement-Stabilized Mine Tailings from Brgy. Gango, Libona, Bukidnon, Philippines <i>(Einstine M. Opiso, Reinerio P. Supremo, Reymar T. Rejas and Jemima R. Perodes)</i> | 574-581 |
| 92. | A New Breakthrough – Application of Control Modulus Column for Settlement and Stability Control under Soft Soil and High Embankment Load at Pemalang-Batang Toll Road <i>(Ryan Rahmat Setiaji¹, Panji Utomo², KM. Abuhuroyroh³)</i> | 582-591 |
| 93. | Estimasi Modulus Resilien dari uji CBR pada Tanah Lempung distabilisasi Abu Vulkanis dan Kapur <i>(Devi Oktaviana Latif- Dr.,ST.,M.Eng, Ahmad Rifa'i- Dr., Ir.,MT., Latif Budi Suparma –Ir.,M.Sc., Ph.D)</i> | 592-596 |
| 94. | Seasonal Variation of Water Content and Pore-water Pressure Distribution in Vegetated Soil Slope <i>(N. Gofar¹, H. Rahardjo¹, A. Satyanaga¹ - ¹School of Civil and Environmental Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore. 639798)</i> | 597-602 |
| 95. | Efek EPS Geofom sebagai Material Pengisi terhadap Nilai CBR Laboratorium pada Tanah Kohesif Darah Bandung <i>(Lestari, A. S¹ and Julian Clementio² - ¹Dosen Universitas Katolik Parahyangan, Bandung, Indonesia, ² Mahasiswa Universitas Katolik Parahyangan, Bandung, Indonesia)</i> | 603-606 |
| 96. | Prediction of Excess Pore Pressure Due to Pile Driving Based on CPTu <i>(A. Arafianto¹ and P.P. Rahardjo² - ¹Engineering Faculty, Universitas Katolik Parahyangan Bandung, Indonesia ²Engineering Faculty, Universitas Katolik Parahyangan, Bandung, Indonesia)</i> | 607-610 |

97. Increasing geotechnical challenges in the design and construction planning of the Third Phase Bangkok MRT Underground (*N. Phienwej¹, A. Asanprakit², P. Kittiyodom² and S.Timpong²* ¹*School of Engineering and Technology, Asian Institution of Technology, Pathumthani, Thailand* ²*Geotechnical and Foundation Engineering Co. Ltd., Bangkok, Thailand*)..... 611-616