

The 6th International Conference of **Euro Asia Civil Engineering Forum**

Green Infrastructure for Future World

August 22-25, 2017

Hanyang University, Seoul, South Korea

Hosted By



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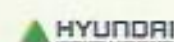


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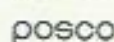
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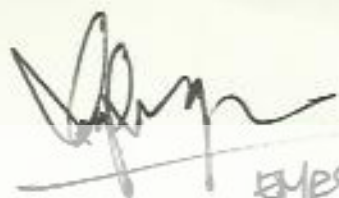
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SEOUL METROPOLITAN GOVERNMENT



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CONTENT

The 6th International Conference of Euro Asia Civil Engineering Forum

Green Infrastructure for Future World

August 22 -25, 2017

Hanyang University, Seoul, South Korea

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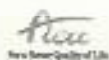
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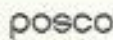
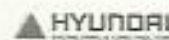
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WELCOME MESSAGE



Welcome.

It is great honor to host the EACEF 2017 at Hanyang University, in August 22nd to 25th, 2017. In this conference, more than 250 participants from 28 different countries are attending with various research topics in Civil and Environmental Engineering field.

The world pursues to minimize environmental impact on living and industry in these days. Following the flow, EACEF 2017 focused on environment-focused civil engineering. Under the slogan, "green infrastructure for future world", the EACEF 2017 aims to achieve and promote quality growth of civil engineering.

EACEF 2017 consists of 10 different technical sessions: Sustainable construction materials Structural & Construction engineering, Concrete engineering, Geotechnical engineering, Construction & Safety management, Hydraulics, Hydrology and Water engineering, Transportation engineering, Sanitation & Environmental engineering, Climate change, Disaster management and Natural energy in infrastructure. Excellent plenary and keynote lectures will be provided by outstanding international scholars in two days. We hope the participants have opportunities to exchange and discuss new ideas and information with each other. Lastly, I would like to thank every one of you for coming here and bringing your expertise to our gathering.

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Thank you very much again.

Prof. Jae-Woo Park
Conference Chair
Hanyang University, Korea

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I KEYNOTE SPEAKERS



Prof. Hugo Corres
FHECOR Ingenieros
Consultores
Spain



Prof. Jongsung Sim
Nanyang University
Korea



Prof. Michael Schmidt
University of Kassel
Germany



Prof. Yu-Chi Sung
National Taipei University
of Technology
Taiwan



Prof. Tamon UEDA
Hokkaido University
Japan



Prof. Hiroshi Katsuchi
Yokohama National
University
Japan



Prof. Brian O'Donnell
Center for Pavement
Excellence Asia Pacific
(CPEAP)
Australia



Prof. Hae Sung Lee
Seoul National University
Korea



Prof. Manyop Han
FACI, Immediate Past
President of ACF
Korea

I PLENARY SESSION

Wednesday, 23 August 2017

OPENING CEREMONY

08:30-08:50

08:30-08:40 OPENING ADDRESS
Jae-Woo Park, Conference Chair of EACEFS/Professor, Department of Civil Engineering,
Hanyang University, Korea

08:40-08:50 CONGRATULATORY MESSAGE
Sung-hoon Jeong, Dean, College of Engineering, Hanyang University, Korea

PLENARY SPEECHES 1

08:50-10:00

08:50-09:25 HOW INFRASTRUCTURES SHOULD BE AGAINST DISASTERS, ESPECIALLY EARTHQUAKES
Yoza Fujino, Professor, Yokohama National University, Japan

09:25-10:00 ENLGRY EFFICIENT MODEL FACTORY OF THE FUTURE
Harald Garrecht, Professor, Stuttgart University, Deutschland

PLENARY SPEECHES 2

10:20-12:05

10:20-10:55 RECENT EFFORTS IN INDONESIA TO MITIGATE THE IMPACTS OF EARTHQUAKE
HAZARD FROM GEOTECHNICAL ENGINEERING PERSPECTIVE
Masrizal Irymar, MSSt, Professor, Institut Teknologi Bandung (ITB), Indonesia

10:55-11:30 SMART CITY TECHNOLOGIES AND FUTURE CITIZENS
Jai Sik Lee, President, Korea Institute of Civil Engineering and Building Technology, Korea

11:30-12:05 DOES IT REALLY MAKE SENSE TO USE NANOPARTICLES IN MEMBRANES?
Arcadio Sotto Diaz, Professor, Rey Juan Carlos University, Spain

PARALLEL SESSIONS

Wednesday, 23 August 2017

Parallel Sessions 1

14:00 - 16:00

Room 504 | Engineering Building I (#212)

1-1 Sustainable Construction Materials

Chair: Antoni

- 14:00-14:20 Prediction of Shrinkage Cracking Age of Concrete due to Restrained Shrinkage
Sontaya Tongaroon Sri, Saznagon Hemavibool, Somrak Tangtermsirikul
- 14:20-14:40 The Use of Bottom Ash for Replacing Fine Aggregate in Concrete Paving Block
Antoni, Kevin Klarens, Michael Indranata, Luthfi Al Jamali, and Djwantoro Hurdjito
- 14:40-15:00 Characteristics of NaOH-activated Ground-Granulated Blast-Furnace Slag added with Mg(OH)₂
Jae-Ho Shim, Jin-Young Park, Jin-Suk Ryu, Joo-Yang Park
- 15:00-15:20 Embodied Energy Calculation in Mitigating Environmental Impact of Low-Cost Housing
Dewi Larisati ZR, Yuni Sri Wahyuni, Suhendri
- 15:20-15:40 Effect of High Temperature on Properties of Glass Concrete
Wei Chien Wang, Shao Yu Wang, and Cheng Hsun Lin
- 15:40-16:00 Performance of Lightweight Natural Fiber Reinforced Concrete
Harianto Hardjasaputra, Giino Ng, Girum Urgessa, Gabriella Lesmana, Steven Sidharta

Room 502 | Engineering Building I (#212)

2-11 Special Session: Long-Span Bridges

Chair: Ho-kyung Kim

- 14:00-14:05 Session Opening
Ho-Kyung Kim
- 14:05-14:30 (KEYNOTE) Long-span bridges vibration, control, seismic retrofit and monitoring - Recent studies and lessons learned -
Yojo Fujino
- 14:30-14:55 (KEYNOTE) Some discussions on aerodynamics of long-span suspension bridge
Hiroshi Katsuchi
- 14:55-15:15 New challenge of the bridge construction, the 3rd Bosphorus Bridge project in Turkey
Junghan Lee

- 15:15-15:35 The effect of signal stationarization process to the accuracy of damping estimation
Samsone Kim, Ho-Kyung Kim
- 15:35-15:55 Beauty, Hi-tech, Innovations in Bridges
KyungSik Cho

Room 507 | Engineering Building I (#212)

2-12 Structural & Construction Engineering*Chair: Han Aylie*

- 14:00-14:20 Dynamic Response of AP1000 Nuclear Island Building due to Safe Shutdown Earthquake Loadings
Buntara S. Gan, Nguyen Dinh Kien, and Ay Lie Han
- 14:20-14:40 Flexural Capacity of the Concrete Beams Reinforced by Steel Truss System
Rudy Djansaluddin, Pieter Lourens Frans, and Rita Imawati
- 14:40-15:00 Finite Element Analysis on Engineering Wood Encased Concrete-Steel (EWECS) Composite Columns
Fauzan, Ruddy Kurniawan, Zev Al Jaubari
- 15:00-15:20 Flexural Behaviour and Punching Shear of Self-compacting Concrete Ribbed Slab Reinforced with Steel Fibres
Hazrina Ahmad, Mohd Hisbany Mohd Hashim, Alidah Abu Bakar, Siti Hawa Hamzah, Nurulain Hamsa Mohamad Fozri
- 15:20-15:40 Structural Behavior of Segmental Precast Bamboo Reinforced Concrete Columns with Bolted Connections
Nanang Gunawan Wariyatno, Yamar Haryanto, Gathot Heri Sudibyo
- 15:40-16:00 Structural damage detection using MAC fast Multi Swarm Optimization technique (MAC-FMSO)
Richard Frans, Yoyong Arfiadi

Room 503 | Engineering Building I (#212)

3-1 Concrete Engineering*Chair: Minkwan Ju*

- 14:00-14:20 Evaluation of Flexural Behavior of Post-Tensioned Concrete Continuous Beams with Unbonded 2400 MPa Strands
Kyungmin Kim, Ah Sir Cho, Jun-Mo Yang and Thomas Kang
- 14:20-14:40 Behavior of Circular CFT Beams with and without End Caps
Andrew Nghiem, Minsun Lee, Chris Ramseyer and Thomas Kang
- 14:40-15:00 Preliminary studies on steel slag as a substitute for coarse aggregate on concrete
Rahmi Karolina, Jannes Pndiangan

- 15:00-15:20 Quick Assessment of the Anomalies in Concrete Structure Using Dispersive Characteristic of Surface wave
Chia-Chi Cheng, Keng-Tsang Hsu, Chih-Hung Chiang, Fong-Jiang Ke, and Hong-Hua

Room 509 | Engineering Building I (#212)

6-1 Hydraulics, Hydrology and Water Engineering

Chair: Anastasia Yunika

- 14:00-14:20 Assessment of Hydropower Potential in Small Karst Catchments: the Case of the Rocche Plateau, Central Italy
Maurizio Leopardi, Anna Rita Scorziari
- 14:20-14:40 Green Infrastructure in Oil Rich States: Abu Dhabi Emirate as a Case Study
Mohamed Aarousi, Mohamed ElHakeem
- 14:40-15:00 Enhancing Community Role in Catchment Area of Cascade-Pond System at the Campus of Universitas Indonesia, Depok, West Java, Indonesia
Caya Matri, Dwita Sutjingsih, Ivi Anggrahoni
- 15:00-15:20 Lowering the Beneluxtunnel
Tomas Weeda, Jari de Gijt, Klaas Jan Bakker, René Braam, Eric Broos, and Bas Jonkman
- 15:20-15:40 Cascade-pond System Health Assessment Based on Macroinvertebrate Indices and Its Relationship with Impervious Cover and Aquatic Buffer Zone in Urbanized Catchments
Faris Zulkarnain, Dwita Sutjingsih, Yasman
- 15:40 - 16:00 STUDY ON THE ESTIMATION OF FLOOD DAMAGE IN MEDAN CITY
Ahmad Perwira Mulia Tarigan, Asril Zevri, Rudi Iskandar, and Ivan Indrawan

Room 508 | Engineering Building I (#212)

7-1 Transportation Engineering

Chair: Ary Setyawan

- 14:00-14:20 Engineering Model Of Traffic And Transportation Safety With Pattern Of Cooperation Between Sustainable Region In Bogor
Syaiful
- 14:20-14:40 Numerical investigation on the performance of ducted propeller
Aldias Babatmaka, Dong-Joon Kim, Deddy Chrismianto, Joga Dharma Setiawan, Aditya Rio Prahowo
- 14:40-15:00 INTERNET OF THINGS (IIOT) AS GREEN CITY ECONOMIC DEVELOPMENT SMART TRANSPORTATION SYSTEM
Wimardi Slamet, Kamisotara Made, Purworusmiardi Tubagus, Sukoco Agus, Madjanarko Sri Wiwoho

- 15:00-15:20 Optimization of thrust propeller design for an ROV (Remotely Operated Vehicle) consideration by Genetic Algorithms
Aldias Bahatnaka, Dong-Joon Kim, Deddy Chrismianto, Nguyen Hai, and Ailitya Rio Prabowo
- 15:20-15:40 Passenger Car Equivalents of Becak Bermotor at Signalized Intersection in Medan
Surbakti Medis Sejahtera, Pandia-Indra Jaya, Sembiring-Liwan Suranta

Room 505 | Engineering Building I (#212)

8-1 Sanitation & Environmental Engineering

Chair: Jong-Oh Kim

- 14:00-14:20 Removals of colour and turbidity from stabilized leachate by using alum and glutinous rice flour coagulants.
Nur Shavinda Mohd Zai, Mohamad Azizan
- 14:20-14:40 Salinity-Gradient Energy Driven Microbial Electrolysis Cell for Hydrogen Production
Syarif Hidayat, Young-Hyun Song, Joo-Yang Park
- 14:40-15:00 Zero valent iron based sono-Fenton process for degradation of humic acid in seawater as pretreatment for membrane distillation and its study with RSM
Muhammad Irfan Sival, Chang-Kyu Lee, and Jong Oh Kim
- 15:00-15:20 Potentiostatic Anodization for Phosphate Recovery and Organics Removal in Water
Jong-Oh Kim

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Parallel Sessions 2

16:15-18:15

Room 504 | Engineering Building I (#212)

1-2 Sustainable Construction Materials

Chair: Djwantoro Hardjito

- 16:15-16:35 Buoyancy-Driven Ventilation Generated by the Double-Skin Façade of a High-Rise Building in Tropical Climate: Study Case Bandung, Indonesia
Akhlish Djalil Aziz, Subendri, and Mochamad Donny Koerniawan
- 16:35-16:55 Ductility Of Fly Ash & Slag Based Reinforced Geopolymer Concrete Flexural Elements Cured At Room Temperature
Mahantesh N B, Amarnath K, and Raghuprasad B K
- 16:55-17:15 Improvement of Adhesion Testing Method for Waterproofing and Anti-Corrosion Materials of Water Supply Facility
Su-young Choi, You-jung Han, Byoung-il Kim, and Sang-keun Oh
- 17:15-17:35 Processed Bottom Ash for Replacing Fine Aggregate in Making High Volume Fly Ash Concrete
Antoni, Aldi Vincent Sulistio, Samuel Wahjudi, and Djwantoro Hardjito
- 17:35-17:55 Concrete Damage on Pacal Dam and its Proposed Repair Method
Shohhin Asad, Mukahar, and Slamet Prayitno
- 17:55-18:15 Study of Volcanic-Ash-impregnated-Bacteria Filler to the Compressive Strength of Concrete
Hendry Anjar Purwanto, Ananto Nugroho, and Ririt Aprilin S

Room 502 | Engineering Building I (#212)

2-21 Special Session: Long-Span Bridges

Chair: Dong-Ho Choi

- 16:15-16:40 (KEYNOTE) Design and construction of the newly constructed cable-stayed bridges in Taiwan
Yi-Chih Sung, Jaw-Luh Wang, and King-Huat Teo
- 16:40-17:05 (KEYNOTE) Reliability-based code-calibration for the design of long-span bridges
Ji Hyeon Kim, Ho Hyun Lee, and Hae Song Lee
- 17:05-17:25 Resilience of Soohae Bridge: Fire Damage and Recovery
HeungBae Gil
- 17:25-17:45 Asset management of long-span bridges of Hanshu-Shikoku Bridges
Taku Hanaï
- 17:45-18:05 Safety assessment of running vehicles over sea-crossing bridges under strong side-wind
Ho-Kyung Kim, Sejin Kim, WoongHee Jung, and JinHyung Lee

3-2 Concrete Engineering

- 16:15-16:45 (KEYNOTE) Sustainable Building with UHPC - The German Technical Guideline
Michael Schmidt, Torsten Leutbecher, and Siemon Piotrowski
- 16:45-17:05 Pure Rate Effect on Compressive Strength of Concrete
Sangho Lee, Kyoung-Min Kim, and Jae-Yool Cho
- 17:05-17:25 Prediction of Post-Tensioned Slab Deflection Considering Construction Process
Ab Sir Chee and Thomas Kang
- 17:25-17:45 A Study on the Application of Single-Span Concrete Footbridges
Moan Ok Kim, Jung-Hyun Yun, and Moon-Kyum Kim

6-2 Hydraulics, Hydrology and Water Engineering

- 16:15-16:35 Hydrodynamics and Sediment Transport in the Ma Estuary, Vietnam
Cuong Vu Dinh, Lan Pham Thi Huong
- 16:35-16:55 Characteristic of Macroinvertebrates Abundance in Cascade Pond System at Universitas Indonesia Campus, West Java, Indonesia
Muthiah Fadillah Prasti, Dwita Sutjningsih, and Evi Anggraheni
- 16:55-17:15 Analysis of Spring Development and Gravity Flow System to Capture Water for Local Communities
Cita Adiningrum
- 17:15-17:35 Placement of BMP in Urban Catchment Area using SUSTAIN model: Case Study at Universitas Indonesia Campus, Depok, West Java, Indonesia
Tim Kesuma Warganda, and Dwita Sutjningsih
- 17:35-17:55 STABILITY ANALYSIS QUAY STRUCTURE AT THE AMAZONHAVEN, PORT OF ROTTERDAM
Nadavah K.N. Mourillon, Jan de Gijl, Klaas-Jan Bakker, Henk Brassinga, and Erik Broos

Room 508 | Engineering Building I (#212)

Chair: Chung-won Lee

7-2 Transportation Engineering

- 16:15-16:35 A Comparative Study of Performance Measurement Standards of Railway Operator
Siripong Pongjanwut, Wasaporn Techapocraparnich, and Patcharatwadee Sasisuwan
- 16:35-16:55 The Design of Road Evaluation and Monitoring System based on Geographical Information System
Ary Setyawan, Muhammad Farid Al Alimi, Dewi Handayani, and Agus Sumarsono
- 16:55-17:15 Comparison of The Behavior of Motorists in Traffic Safety in Yogyakarta Special Region by Gender
Poei Iliza Purnamasari, and J. Dwijoko Anusanto
- 17:15-17:35 Integrated Sustainability for Transportation Infrastructure Development in Indonesia: A Case Study of Karawang Region
Ayumi Dita Rarasati, and Tamara R.F. Iskandar
- 17:35-17:55 Analysis and Design of Road and Bridge Infrastructure Database Using Online System
Joni Ardiansyah, Yudi Utama, Maurcen Arlini Wijayanti, Rachmat Gusti, and Arifianto

Room 505 | Engineering Building I (#212)

8-2 Sanitation & Environmental Engineering

Chair: Jeonghwan Kim

- 16:15-16:35 Ionic compound binding by electrostatic interaction with chitosan derivative modified magnetic core dendrimer
Hyo-Ran Kim, and Jae-Woo Park
- 16:35-16:55 Salinity Gradient Energy Driven Microbial Electrolysis Cell for Hydrogen Production
Syarif Hidayat, Young-Hyun Song, and Joo-Yang Park
- 16:55-17:15 Numerical Investigation of the Relationship between Flow Characteristics and DO Concentration in a Water Aeration System
Tae-yeon Lee, and Van Tam Nguyen
- 17:15-17:35 Beneficial use of Pigery Waste in Micronesia
Joseph D. Rouse, and Hyun-Jong Hahn
- 17:35-17:55 Riverside sustainability : overcome problems and reliable approaches
Irma Novrianty Nasution, and Syahreza Alvan

9-2 Climate Change, Disaster Management

Chair: Harianto Hardjusaputra

- 16:15-16:35 Probabilistic Seismic Hazard Deaggregation for selected cities in Sabah, Malaysia
Noor Sheena Herayani Harith, Azlan Adnan, and Abdollah Vaez Shoushtari
- 16:35-16:55 Assessing the impact of climate change on the water intake of the headworks on the Red River Basin in Viet Nam
Lan Pham Thi Hung, and Nguyet Le Minh
- 16:55-17:15 Factor Analysis on Criteria Affecting Lean Retrofit for Energy Efficient Initiatives in Higher Learning Institution Buildings
Nur Izzah Adriana Abidin, Rozana Zakaria, Eeydzah Aminuddin, Abdul Rahim Abdul Hamid, Vikaswaran Munikaman, Shaza Rina Sahamir, and Siti Mazzuzana Shamsuddin
- 17:15-17:35 Effect of Soil-litter incorporation in Nitrous Oxide Emission Estimation from Temperate Plantation
Nadar Hussain Khokhar, and Jae-Woo Park

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Thursday, 24 August 2017

Parallel Sessions 3

08:25-10:05

Room 504 | Engineering Building I (#212)

1-3 Sustainable Construction Materials

Chair: Januarti Jaya Ekaputri

- 08:25-08:45 The Application of PVA Fibers to Improve the Mechanical Properties on Geopolymer Concrete
Muhammad Lutfi Manfaluthy, and Januarti Jaya Ekaputri
- 08:45-09:05 Mechanical Properties of Different Bamboo Species
Dina Awalluddin, Mohd Azreen Mohd Ariffin, Mohd Hanim Osman, Mohd Warid Hussin, Mohamed A. Ismail, and Han-Seung Lee
- 09:05-09:25 The geosluice, an innovative idea for the present sluice structures
J.G. de Gijt, and B.Heester
- 09:25-09:45 Mechanical Properties of Geopolymer Concrete Exposed to Combustion
Annisa Rafiqadina, and Januarti Jaya Ekaputri
- 09:45-10:05 Influence of Oil Palm Biomass Waste on Compressive Strength and Chloride Penetration of Mortar
Nor Hasanah Abdul Shukor Lim, Mostafa Samadi, Mohd Warid Hussin, Abdul Rahman Mohd Sam, Nur Farhaya Ariffin, Mohamed A. Ismail, and Han Seung Lee

Room 502 | Engineering Building I (#212)

Chair: Yu-Chi Sung

2-31 Structural & Construction Engineering

- 08:25-08:45 On the effect of drag forces in mooring system restoring forces
Zahid Ullah Naik Muhammad, Ji-Hoon Lim, and Dong-Ho Choi
- 08:45-09:05 Research, Development and Application of High Performance Earthquake Resistant Precast System as Green Construction in Indonesia
Hani Nurrahman, Hinsa Hariandja, Gambiro Soeprapto, Lutfi Faizal, and Hercul Stepu
- 09:05-09:25 Deflection-Based Measuring Method for the Prestress Force Prediction in Concrete Members
Marco Beauopera, Kuo-Chun Chang, Chun-Chung Chen, Yu-Chi Sung, Wen-I Liao, and Nerio Tullini
- 09:25-09:45 Stress Distributions of PSC Box Girder Bridge Due To Creep and Shrinkage Effect
Baskoro Abdi Praja
- 09:45-10:05 Effects of Reduce Beam Section on Castellated Beam
Nini H.Aswad, Herman Parung, Rita Imawaty, and A.A.Aminuddin

Parallel Sessions 4

10:20-12:20

Room 504 | Engineering Building I (#212)

1-4 Sustainable Construction Materials

Chair: J.G. de Gijne

- 10:20-10:40 An Investigation of Damage Factors in Industrial Scale of Light Weight Bricks Production
Kiki Dwi Wulandari, and Januarti Jaya Ekaputri
- 10:40-11:00 The Effect of Steam Curing on Chloride Penetration in Geopolymer Concrete
Januarti Jaya Ekaputri, Inne Syabrina Mutiara, Davin Setianegara, Siti Nurminasih, Nguyen Van Chanli, and Koichi Maekawa
- 11:00-11:20 Fundamental Properties of Mortar for the Application of the Construction Sector of the 3D Printer
Byung-Wan Jo, Chan-Ho Won, Yun-sung Lee and Heon Kim
- 11:20-11:40 Factors Influencing Strength and Setting Time of Fly Ash Based-Geopolymer Paste
Aldiatva Leonard Wijaya, Januarti Jaya Ekaputri, and Triwulan
- 11:40-12:00 Performance Evaluation of the Newly Developed Sustainable Blocks for Affordable Housing in Malaysia
Ashwin Narendra Raul, and Christy Pathrose Gomez
- 12:00-12:20 Experimental Research Of Stabilization Of Polluted Marine Dredged Sediments By Using Silica
Ernesto Silitonga

Room 502 | Engineering Building I (#212)

2-41 Structural & Construction Engineering

Chair: Rozana Binti Zakaria

- 10:20-10:40 Allowable Span/Depth Ratio of FRSCC Beams Using SVM
Vijayarama, Amrutha Varshini, Prashantha, and Moghu R.U
- 10:40-11:00 The Ultimate Strength Behavior of Mahogany Wood Connections with Bolt-Ring Connectors
Wiryanto Dewobroto, Ika Bait, Petrus Ricky, and Lodia Semaya Annifu
- 11:00-11:20 Improving the Bonding Property of CFRP Plate on RC Beam
Shigetada Hatakeyama, Shimichi Hino, Takahiro Ohgi, Atsuya Komori, and Akira Kobayashi
- 11:20-11:40 Numerical Modelling Of Interior RC Beam-Column Joints For Non-Engineered Buildings Strengthened Using Steel Plates
Yulita Rahmi, Ashar Saputra, and Suprpto Siswosukarto



- 11:40-12:00 Development of Acacia Glulam Wood Exterior Beam-to-Column Connection with Angles and Steel Rods System
Djoni Simanta, Bambang Suryatmomo, and Johannes Adhijoso Tjondro

Room 503 | Engineering Building I (#212)

3-4 Concrete Engineering

Chair: Widodo Kushartomo

- 10:20-10:40 Ultimate Compressive Strength and Its Deformation of Normal and High Strength Concrete Cylinder Confined With External Lateral Pre-stressing
Harjanto Harjasaputra, Joey Tutawijaya, Gino P Ng, and Selvia Aymingtias
- 10:40-11:00 Effects of Applying Technics and Polymer Content on Strength and Drying Shrinkage of Glass Fiber Reinforced Concrete
Ranibahan Ianteng, and Thatchavee Loelawat
- 11:00-11:20 Analytical Study of Flexural Behavior of Concrete Beams Reinforced with 700 MPa High Strength Steel
Jo-Ilhyung Lee, Jun-Long An, and Jae-Yool Cho
- 11:20-11:40 Effect on the Load Transferring Properties Fiber Reinforced Steel in Concrete based on Different Mix Ratio
Yoonjung Han, Sangkeun Oh, and Byoungil Kim

Room 509 | Engineering Building I (#212)

4-4 Geotechnical Engineering

Chair: Pham Hoang Kien

- 10:20-10:40 Designing an Arduino-microprocessor-and-Labview-based system for monitoring wave spread in the ground caused by constructing activities
Nguyen Lan, and Chau Ngoc Bao
- 10:40-11:00 Subsurface Profile Mapping using 3-D Compressive Wave Imaging
Mohd Hazreek Zaman Abidin, Mohamad Faizal Tajul Baharudin, Azman Madun, Saiful Azhar Ahmad Tajudin, Koshi Saito, and Mohd Hafizari Sabran
- 11:00-11:20 Tunnel Portal Construction using Sequential Excavation Method—A Case Study
Rana Muhammad Asad Khan, Zaka Emad, and ByungWan Jo
- 11:20-11:40 A New Developed FBG Based Flexible Hoop for Measuring Radial Strains of Stone Columns in Hong Kong Marine Deposit (HKMD)
Jieqiong Qin, and Jianhua Yin
- 11:40-12:00 The stability of clay using volcanic ash of Mount Sinabung North Sumatera and sugarcane bagasse ash with cbr and uct value
Ika Puji Hastuty, Roesyanto, and Giovanni Ramadhany

Room 505 | Engineering Building I (#212)

5-4 Construction & Safety Management

Chair: Hariyanto Setiawan

- 10:20-10:50 (KEYNOTE) Enzyme pavement construction of Model Villages Asia and Africa
Brian O'Donnell
- 10:50-11:10 A system dynamics approach to risk mitigation in performance-based contract projects
Hanie Teki Tjendani, Nadjadil Anwar, and Irena Ariana Wiguna
- 11:10-11:30 Implementation of Life Cycle Costing for a Commercial Building: A case of a residential apartment at Yogyakarta
Peter F. Kaming
- 11:30-11:50 Determination of Most Important Factors in Infrastructure Investment in Mexico
Gómez Ruiz Rodrigo

Room 508 | Engineering Building I (#212)

7-4 Transportation Engineering

Chair: Medis S Surbakti

- 10:20-10:40 Motorcycles as Public Transport service based on Smart Phone Android Applications
J.Dwijoko Anusanto, and Sierya Hangganararas
- 10:40-11:00 Trends of Public-Private Partnership infrastructure in Thailand
Wasaporn Teelapoomarnich, and Patcharatwadee Sasisuwat
- 11:00-11:20 Analysis of Model Loading and Unloading Time of Ships at Boom Baru Port, Palembang, Indonesia
Erika Buchari, Dinar Dwi Anugerah Putranto, and Aulia Rahman
- 11:20-11:40 Traffic Performance of U-turn at Median Opening on Four Lane Divided of Urban Street (Study case: Yogyakarta, Indonesia)
P.J. Remadhona, Rachmat, and I. Nurkumala
- 11:40-12:00 Study for Estimation of Motorcycle Passenger Car Equivalent from Saturation Time Headway - A Case Study of South Korea
Yeung-Bom Kwon, Dong-Joon Woo, Jeonem Hong, and Chungwoon Lee

Parallel Sessions 5

14:00-16:00

Room 502 | Engineering Building I (#212)

2-51 Structural & Construction Engineering

Chair: Keng-Tsang Hsu

- 14:00-14:20 Fragility function for assessing seismic risk of typical concrete bridge by means of nonlinear static and dynamic analysis
Senot Sangadji, Niana Afendi Wibowo, Injels Natasya T, Edy Purwanto, and S. A. Kristiawan
- 14:20-14:40 Development of IoT based Stability Evaluation Platform Application for Pier Type Harbor Structures
Byung-Wan Jo, Jun-Ho Jo, Heon Kim, Se-Young Chi, and Ki-Hyun Kim
- 14:40-15:00 Investigation of Non-Uniform Rust Distribution and Its Effect to Corrosion Induced Cracking in Reinforced Concrete
Wahyuniarsih Sutrisno, Priyo Suprobo, Eudah Wahyuni, and Dana Iranata
- 15:00-15:20 Lateral Displacement And Shear Lag Effect Of High-Rise Buildings With Diagrid System That Is Constructed Above A Frame
Roslida Abd. Samat, Chua Fong Teng, Nur Akmal Hayati Mohd Mustakim, Fatim Izzaidah Anuar, Sariffuddin Saad, and Suhaimi Abu Bakar
- 15:20-15:40 The experience of retrofit design in using CFRP of building case study of Ramp structure of Palm Oil Mill in South Sumatera
Johannes Tarigan, Albert Simbolon, and Nursyamsi
- 15:40-16:00 Application of Impact Vibration Test Method for Bridge Substructure Evaluation
Pham Hoang Kieu

Room 503 | Engineering Building I (#212)

3-5 Concrete Engineering

Chair: Man-Yop Han

- 14:00-14:30 Unified Prediction Model of Concrete Properties under various Single and Combined Effects Based on Meso Scale Approach
Tarmon Ueta
- 14:30-14:50 Proportion Assessment of Korean Pagoda Structure
Fahimeh Yavartanoo, and Thomas Kang
- 14:50-15:10 Behavior of RC Beam Subjected to Impact Loading Considering Momentum Change
Yong Jae, Yu, Chung Hyeon, Kim, Jae-Yool, Cho
- 15:10-15:30 Effect of Glass Fiber on Compressive, Flexural and Splitting Strength of Reactive Powder Concrete
Widodo Kushartono, Richard Ivan

Room 509 | Engineering Building I (#212)

Chair: Min Lee Lee

4-5 Geotechnical Engineering

- 14:00-14:20 Shaft Resistance Capacity and Distribution with Depth of Single Driven Pile using Numerical Method
Harnedi Maizir, and Reni Suryanita
- 14:20-14:40 Microbial amendment of remediated soils for effective recycling
Soo-Bin Kim, and Jun-Bom Park
- 14:40-15:00 Evaluation of the causes of Bukit Antarabangsa 2008 landslide by using fault tree analysis
Danish Kazmi, Sadaf Qasim, I.S.H Harahap, and Thu Hang Vu
- 15:00-15:20 The Effect of Soil Cracks on Cohesion and Internal Friction Angle at Landslide
Hutaganissufardal, Indrasurya B. Mochtar, and Noor Endah B. Mochtar
- 15:20-15:40 Influence of Rice Husk Ash in Stabilization of Soil Using Cement
Jack Widjajakusuma, and Hendo Winata
- 15:40-16:00 Stability assessment of enzyme stabilized road embankments
Jaspreet Singh, Dilan Robert, Peihan Wang, Filippo Giustozzi, Mojtaba Mahmoudian, Sujeewa Setunge, and O'Donnell, B

Room 505 | Engineering Building I (#212)

Chair: Peter Fortunatus Kaming

5-5 Construction & Safety Management

- 14:00-14:20 Bridge Deterioration Prediction Model Based On Hybrid Markov Chain-System Dynamic
Jojo Widodo Soetjipto, Tri Joko Wahyu Adi, and Nadjadi Anwar
- 14:20-14:40 Characteristics of Small Medium Contractor Entrepreneurs: a Study of Indonesia
Hariyanto Setiawan, Ferianto Raharjo, and Kocsmargono
- 14:40-15:00 A Web 2.0 based Integrated Information-Sharing Framework for Structural Health Monitoring of Road Tunnels
Byungwan Jo, Rana Muhammad Asad Khan, Zafar Baloch, Muhammad Ali Sikandar
- 15:00-15:20 A Framework of Initiatives for Successful Application of Life Cycle Costing (LCC) in Industrialised Building System (IBS) in Malaysian construction industry
Siti Mazzuzana Shamsuddin, Rozana Zakaria, Shaza Rina Sahamir, Farid Ezanee Mohamed Ghazali, Chai Chang Saar, and Nur Izieadiana Abidin
- * 15:20-15:40 Construction Worker Fatigue Prediction Model Based on System Dynamic
Tai Joko Wahyu Adi, and Lila Ayu Ratnawinanda

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Experimental Research of Stabilization of Polluted Marine Dredged Sediments By Using Silica Fume

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In order to maintain the harbour activities, big amount of sediments are dredged every year. The traditional solution such as dumping the dredged sediments to the sea/river since its regulated in Europe, is not an option anymore. Therefore the beneficial reuse of polluted marine dredged sediments is urgently needed to realize. This study focused on reuse the dredged sediment in road construction. The main objective of this research is to enhance the physical, mechanical and chemical characteristics of the mix by incorporating binders sediments to fulfil the criteria in their use as material in road construction. The results show that the treatment by hydraulics binders and silica fume could satisfy the needed mechanical characteristics. However the proportion of hydraulics binders and silica fume needed to meet prescribed specification is important, so the reuse of the marine dredged sediments of Port-en-Bessin, France in road construction, as an alternative material could be achieved. After the geotechnical study in laboratory results show as expected then the study to identify the chemical characteristic realized. To evaluate the environmental impacts of the use material, leaching test are performed. The leaching test was performed to verify the predicted release of pollutants based on total dissolution. And for the final part, the test results show that the polluted marine dredged sediments could be safely used (in term of environmental impact) as a new material in road construction.

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