

The Thirty-First KKHTCNN Symposium on Civil Engineering
22-24 November 2018, Kyoto, Japan

Symposium Program

Day 1: Thursday, 22nd November 2018

Venue: Campus Plaza Kyoto

Time	Event					
09:00 - 12:00	Registration (2 nd Floor)					
09:30 - 09:35	Welcoming Address and Opening Ceremony officiated by Professor Kunitomo Sugiura (5 th Floor)					
09:35 - 09:55	Group Photo					
09:55 - 10:40	Keynote Address 1 By Professor Somsak Swaddiwudhipong Title: Civil Engineering: Concept, Research and Practice					
10:40 - 11:00	COFFEE BREAK					
11:00 - 11:45	Keynote Address 2 By Professor Emeritus Luh-Maan Chang Title: Connecting Civil Engineering to High Tech Facility					
11:45 - 12:30	Keynote Address 3 By Professor Hitoshi Furuta Title: New Technologies and AI for Maintenance of Infrastructures in Japan					
12:30 - 13:30	LUNCH (The lunch box will be provided. Participants are free to have lunch in the conference room)					
13:30 - 15:15	PARALLEL TECHNICAL SESSIONS 1					
Venue	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>
Chair	Structural Engineering 1 Prof. Haeng-Ki Lee (KAIST)	Structural Engineering 2 Prof. Hyo-Gyeong Kwak (KAIST)	Construction Engineering 1 Prof. Veerasak Likhitrungsilp (CU)	Geotechnical Engineering 1 Prof. Suched Likitlersuang (CU)	Geotechnical Engineering 2 Prof. Jiunn-Shyang Chiou (NTU)	Civil Engineering 1 Prof. Youngchul Kim (KAIST)
Co-Chair	Mr. Chang He (TU)	Prof. Yoshinao Goi (KU)	Mr. Lambada Roeun (CU)	Mr. Thanakrit Rojanachaisri (CU)	Prof. Wuwei Mao (TU)	Prof. Yin-Nan Huang (NTU)
15:15 - 15:30	COFFEE BREAK					
15:30 - 17:15	PARALLEL TECHNICAL SESSIONS 2					
Venue	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>
Chair	Structural Engineering 3 Prof. Jae-Hong Kim (KAIST)	Structural Engineering 4 Prof. Jung-Wuk Hong (KAIST)	Construction Engineering 2 Prof. Nakhon Kokkaew (CU)	Geotechnical Engineering 3 Prof. Dong-Soo Kim (KAIST)	Geotechnical Engineering 4 Prof. Louis Ge (NTU)	Civil Engineering 2 Prof. Ser Tong Quek (NUS)
Co-Chair	Mr. Junming Jiang (TU)	Prof. Chen Xu (TU)	Dr. Liguang Wang (HKUST)	Prof. Mai Sawada (KU)	Mr. Jing Kang Shi (TU)	Prof. Wen-Cheng Liao (NTU)
19:30 - 21:30	WELCOME DINNER Venue: Public House					

Day 2: Friday, 23rd November 2018

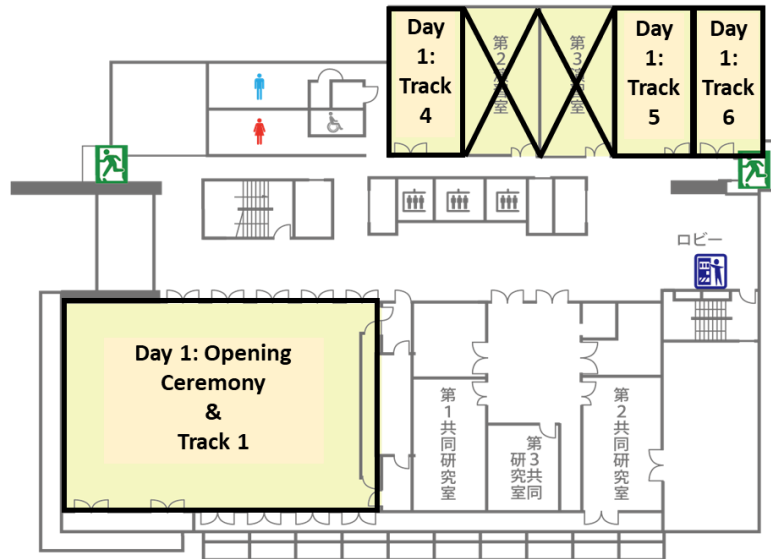
9:15 – 11:00						
PARALLEL TECHNICAL SESSIONS 3						
Venue	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>
Chair	Structural Engineering 5 Prof. Huanjun Jiang (TU)	Structural Engineering 6 Prof. Chul-Woo Kim (KU)	Transportation Engineering 1 Prof. Albert Y. Chen (NTU)	Geotechnical Engineering 5 Prof. Yosuke Higo (KU)	Geotechnical Engineering 6 Prof. Tirawat Boonyatee (CU)	Wind Engineering 1 Prof. Shuyang Cao (TU)
Co-Chair	Prof. Withit Pansuk (CU)	Dr. Ching-Yi Tsai (NTU)	Mr. Namwoo Kim (KAIST)	Dr. Yannick Ng Choy Hing (NUS)	Mr. Zhang Yunhuo (NUS)	Prof. Tomomi Yagi (KU)
11:00 – 11:15						
COFFEE BREAK						
11:15 – 13:00						
PARALLEL TECHNICAL SESSIONS 4						
Venue	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>
Chairs	Structural Engineering 7 Prof. Hiroataka Kawano (KU)	Structural Engineering 8 Prof. Zuanfeng Pan (TU)	Transportation Engineering 2 Prof. Yoonjin Yoon (KAIST)	Civil Engineering 3 Prof. Sze Dai Pang (NUS)	Geotechnical Engineering 7 Prof. Thirapong Pipatpongsa (KU)	Wind Engineering 2 Prof. Zhao Lin (TU)
Co-Chairs	Dr. Fengliang Zhang (KU)	Mr. Jin Zhang (NUS)	Mr. Jielun Liu (NUS)	Prof. Mei-Mei Song (NTU)	Mr. Tirawat Simlekmim (CU)	Prof. Kyohei Noguchi (KU)
13:00- 14:00						
LUNCH (The lunch box will be provided. Participants are free to have lunch in the conference room)						
14:00 – 15:45						
PARALLEL TECHNICAL SESSIONS 5						
Venue	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>
Chairs	Structural Engineering 9 Prof. Xueqing Zhang (HKUST)	Structural Engineering 10 Prof. Aiko Furukawa (KU)	Transportation Engineering 3 Prof. Kai-Chun Chang (KU)	Material Engineering 1 Prof. Christina Tsai (NTU)	Geotechnical Engineering 8 Prof. Hiroyuki Goto (KU)	Wind Engineering 3 Prof. Tomomi Yagi (KU)
Co-Chairs	Prof. Jiahua Yang (TU)	Mr. Siyuan Wu (TU)	Mr. Somkith Dethvongsone (CU)	Mr. Yuanzuo Wang (TU)	Mr. Min-Chien Chu (NTU)	Prof. Shuyang Cao (TU)
15:45 – 16:00						
COFFEE BREAK						
16:00 - 17:30						
PARALLEL TECHNICAL SESSIONS 6						
Venue	<u>Track 1</u>	<u>Track 2</u>	<u>Track 3</u>	<u>Track 4</u>	<u>Track 5</u>	<u>Track 6</u>
Chairs	Structural Engineering 11 Prof. Yoshikazu Takahashi (KU)	Construction Engineering 3 Prof. Shang-Hsien Hsieh (NTU)	Transportation Engineering 4 Prof. Jittichai Rudjana-kanoknad (CU)	Material Engineering 2 Prof. Kuo-Chun Chang (NTU)	Geotechnical Engineering 9 Prof. Taeseo Ku (NUS)	Civil Engineering 4 Prof. Yi Cai (TU)
Co-Chairs	Mr. Cheng Qian (TU)	Prof. Atsushi Hattori (KU)	Mr. Yutong Cai (NUS)	Mr. Xiaoming Lei (TU)	Ms. Fu-Hsuan Yeh (NTU)	Ms. Wint Thandar (KU)
18:30 – 21:15						
CONFERENCE BANQUET Venue: Kyoto Tower Hotel 1. Closing Address 2. Best Presenter Award						

Floor Plan Layout for Parallel Technical Session

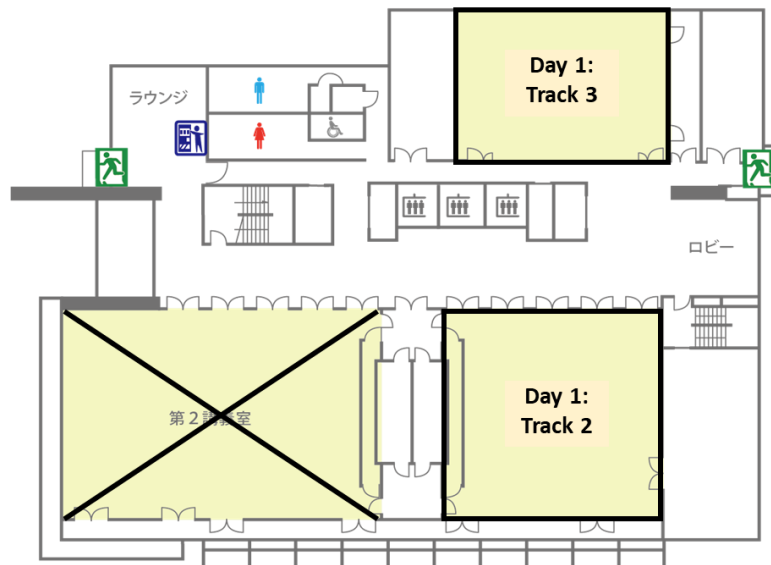
The conference will take place in 4th and 5th floor of Campus Plaza Kyoto.

The floor plan layout for Day 1:

5F

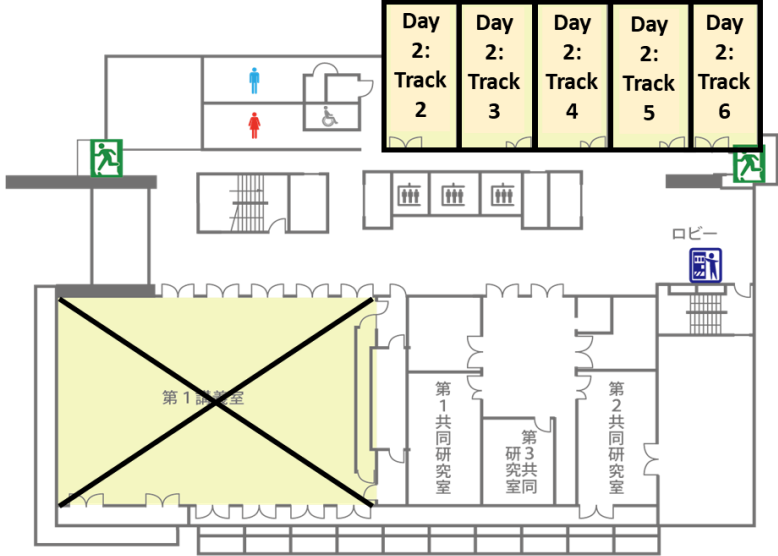


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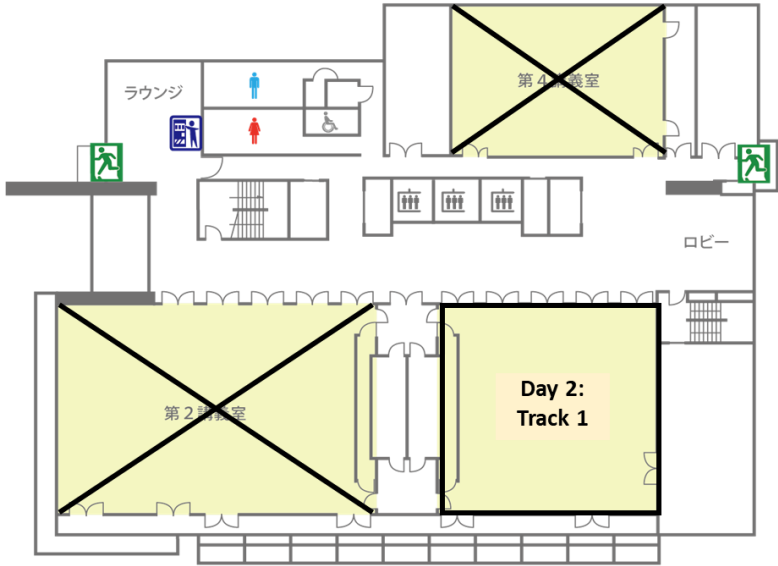


The floor plan layout for Day 2:

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4F



Day 3: Saturday, 24th November 2018

TECHNICAL TOUR: Construction Site Visit & Cultural Tour

(You can check to which technical tour group you belong to during registration)



Amagase Dam



Byodoin Temple



Kozuya Bridge



JOYO Viaduct, Shin-meishin Expressway Project by NEXCO West

The Thirty-First KKHTCNN Symposium on Civil Engineering
22-24 November 2018, Kyoto, Japan

Track 1 (13:30-15:15, November 22)

Structural Engineering 1
Track Chair: Prof. Haeng-Ki Lee
Track Co-chair: Mr. Chang He

Paper ID	Paper Title	Presenter
KU-01	Bridge maintenance by total management system of Aomori Prefecture	Eiichi WATANABE
TU-48	Fatigue performance of steel fiber reinforced concrete composite girder under high cycle negative bending	Chen XU
KU-09	Investigation of changes in frequency of a steel plate girder bridge due to artificial damage	Takuya MIMASU
TU-35	Aerostatic instability of long-span cable-stayed bridges	Cheng QIAN
KU-50	Seismic strengthening by unbonded bar reinforced concrete structure for rocker piers with Mesnager hinges	Keita UEMURA
NTU-22	Corrosion recognition on steel bridge case using Convolutional Neural Network	Su-Kai CHEN
KU-58	Study on evaluation of corrosion environment using Inverse Distance Weighting	Zabihullah RASOLI
NUS-07	Numerical modeling of ice-structure interaction using the cohesive element method	Jin ZHANG

Track 2 (13:30-15:15, November 22)

Structural Engineering 2
Track Chair: Prof. Hyo-Gyeong Kwak
Track Co-chair: Prof. Yoshinao Goi

Paper ID	Paper Title	Presenter
TU-45	An efficient adaptive sequential Markov chain Monte Carlo method for Bayesian system identification and damage detection	Jiahua YANG
KU-35	Surface temperature analysis of steel bridge girders for the evaluation of dew condensation	Hidetoshi TOKUMASU
NTU-35	Corrosion current measurement under different corrosion types of steel bars	Kuang-Chieh LIN
KU-48	Study on atmospheric corrosion of structural steels in delta region of Myanmar	Wint THANDAR
TU-16	Shear resistance of double-through plate connections to CFST column	Junming JIANG
KU-12	Scour detection of railway bridges based on remote vibration monitoring	Kazuhiro YOSHITOME
NUS-03	Fatigue damage prediction for offshore structures using artificial neural network	Ruifeng CHEN
KAIST-15	The evaluation of carbonation of cement paste using nonlinear resonant ultrasonic spectroscopy	Minsuk SHIM

Track 1 (15:30-17:15, November 22)

Structural Engineering 3

Track Chair: Prof. Jae-Hong Kim

Track Co-chair: Mr. Junming Jiang

Paper ID	Paper Title	Presenter
KAIST-48	Blast analysis of RC beams based on hysteretic moment-curvature relationship	Gang-Kyu PARK
NUS-02	Bio-char as potential mineral additive in ultra-high performance concrete	Anjaneya DIXIT
KU-03	Quantitative evaluation of fatigue crack initiation conditions by stress intensity factor considering compressive residual stress	Tsurumaru TAMATE
TU-32	Experimental study on fatigue bond behavior between concrete and deformed steel bars	YunPeng ZHANG
NTU-40	Crack detection of concrete structures based on deep learning and computer vision	Cheng-Ying HSIEH
HKUST-08	Effect of tension stiffening in reinforced concrete panels subjected to shear	Xueying WANG
TU-20	Theoretical calculation on carbon fiber-reinforced polymer reinforced concrete beam using a new compression yielding material – carbon fiber-reinforced polymer confined concrete	Jie LUO

Track 2 (15:30-17:15, November 22)

Structural Engineering 4

Track Chair: Prof. Jung-Wuk Hong

Track Co-chair: Prof. Chen Xu

Paper ID	Paper Title	Presenter
NTU-45	In-plane cyclic behavior of steel-plate composite walls with boundary elements	Yin-Nan HUANG
CU-14	Finite element modeling of punching shear behavior of high performance fiber reinforced concrete slabs considering effect of fiber orientation	Withit PANSUK
KU-26	Numerical simulation of impact phenomena of concrete slab subjected to medium speed collision by steel projectile	Masato GOTO
TU-43	Analytical solutions for wide flange I-shaped deep beam with shear effect of whole section	Siyuan WU
KU-56	Modeling of restoring force characteristics of silicone rubber-filled foundation for railway catenary pillars	Koji MOKUNO
KAIST-22	Nacre-like laminated composite structures with enhanced energy absorption capacity	Kwonhwan KO
NTU-41	A simple non-iterative method for recovering a space-dependent load on the Euler-Bernoulli beam equation	Wun-Sin JHAO
KU-07	Applying Copula Approaches in Long-Term Bridge Health Monitoring	Jiamin LIN

Track 1 (09:15-11:00, November 23)

Structural Engineering 5
Track Chair: Prof. Huanjun Jiang
Track Co-chair: Prof. Withit Pansuk

Paper ID	Paper Title	Presenter
NTU-34	Study of influences of reduced elastic modulus on design specifications for concrete structures in Taiwan	You-Man LIN
KU-47	Assessment of buckling load of pultruded CFRP members	Hiroto IKUSHIMA
CU-13	A mixed ESO-PSO approach for optimal AISC-LRFD design of steel structures	Thu Huynh VAN
TU-26	The prestressed anti-fatigue lattice wind turbine tower	Yuxiao LUO
KU-11	A field experiment for extracting bridge characteristics utilizing drive-by bridge inspection method	Syunsuke NAKAJIMA
NTU-37	Influences of reduced elastic modulus in Taiwan on the collapse evaluation of structures	Wei-Sheng LIN
KAIST-12	Monitoring of pre-stressed concrete girder deflection using terrestrial laser scanner	Donggun KIM

Track 2 (09:15-11:00, November 23)

Structural Engineering 6
Track Chair: Prof. Chul-Woo Kim
Track Co-chair: Dr. Ching-Yi Tsai

Paper ID	Paper Title	Presenter
KAIST-16	Improved design suggestion on a CFT column with numerical bond-slip model	Ju-young HWANG
KU-44	Study on measurement of axial force of high strength bolt	Tomohiro TSUJITA
TU-18	Experimental study on seismic performance of overlapped precast concrete wall panels jointed with distributed bolts under pure shear loadings	Yan WANG
NUS-05	Flexural behaviour of sandwich precast shear walls for prefabricated prefinished volumetric construction	Ziquan DAI
TU-38	Experimental study of compressive behavior of Q420 steel U-rib stiffened plates	Rui HAO
CU-24	Behavior of tempered glass installed with drilled type connector	Sopon YOSSIPONG
KU-02	Inspection of crack on reinforced concrete by optical imaging of ambient-induced vibration	Takuya MUNEOKA
NTU-42	Development of nano-fluid viscous damper	Shen-Kai PENG

Track 1 (11:15-13:00, November 23)

Structural Engineering 7

Track Chair: Prof. Hirotaka Kawano

Track Co-chair: Dr. Fengliang Zhang

Paper ID	Paper Title	Presenter
KU-42	Assessing the suitability of the Eurocode in relation to available standards for bridge design in Uganda	Daniel APENYO
TU-24	Influence of flange on seismic performance of 1100 kV UHV transformer bushing	He CHANG
NTU-29	Seismic performance evaluation of strengthened typical sprinkler piping systems in hospitals	Yung-An TSAI
KU-05	Parametric study on traffic-induced low frequency sound of a viaduct	Rongxiu CHEN
NTU-30	Retrofit design of structures: reduce demand by isolation system	Peng-Yu LIN
KAIST-25	Non-ordinary state-based peridynamics for three-dimensional problems	Suyeong JIN
TU-28	Replaceable composite connections with damage restricted to the angles at the bottom flange	Xiuzhang HE

Track 2 (11:15-13:00, November 23)

Structural Engineering 8

Track Chair: Prof. Zuanfeng Pan

Track Co-chair: Mr. Jin Zhang

Paper ID	Paper Title	Presenter
NTU-38	Comparison of structural damage diagnosis methods based on the first mode shape	Ho-Feng CHIANG
TU-37	Parameterized deterioration model of regional bridges based on inspection reports	Xiaoming LEI
KU-04	Fundamental study on detection of bridge vibration characteristic with using Micro Energy Harvester	Kouhei KAWABATA
NTU-43	Automated modal property extraction based on frequency-domain stochastic subspace system identification	Jau-Yu CHOU
TU-33	Traffic load identification with the aid of computer vision techniques for middle-small spanned bridges	Xudong JIAN
KU-45	Fundamental study on crack detection method for steel member by thermal load over paint coating	Shinya WATANABE
KAIST-17	Moment-curvature relationship based blast analysis for RC plane structures	Seok-Jun JU

Track 1 (14:00-15:45, November 23)

Structural Engineering 9
Track Chair: Prof. Xueqing Zhang
Track Co-chair: Prof. Jiahua Yang

Paper ID	Paper Title	Presenter
CU-11	Shear strength of reinforced concrete beam with embedded steel trusses	Khonesavanh PORMEUANG- PING
KU-25	failure process and load-displacement relationship of interlocking brick walls during lateral loading	Johanes Jefry PRASETYO
NTU-36	Shear strength test of slabs applied to seismic retrofit of external RC frames	Chun-Hung CHEN
TU-44	The Compaction properties of construction waste slag-clay mixtures	Chao HU
NTU-33	Ultimate shear strength of high strength steel fiber reinforced concrete deep beams	Chia-Chun KUO
KU-49	Seismic performance of Embedded Mesnager hinge RC columns considering beyond design basis event	Kento GOTO
TU-23	Behavior of different embedment depths CFRP anchorage system under cyclic loading	Yujue ZHOU
KAIST-24	Micro-crack detection by use of ambient noise modulation	Sang-Eon LEE

Track 2 (14:00-15:45, November 23)

Structural Engineering 10
Track Chair: Prof. Aiko Furukawa
Track Co-chair: Mr. Siyuan Wu

Paper ID	Paper Title	Presenter
KU-10	Real time crack detection using images from UAV by means of deep learning	Murao SAKI
TU-36	Structural response analysis of sound barriers under vehicle-induced aerodynamic load	Mengjin SUN
NTU-39	Dynamic behavior of nonlinear pendulum for seismic protection of buildings	Yuan-Chun HO
KU-08	Moving gravity effect in train-bridge interaction system	Xuzhao LU
TU-34	PDEM-based analysis of simulated typhoon extremum wind speed	Xinyue LAN
KAIST-19	Design of pendulum type TMD composed of wire rope springs to mitigate wind induced vibrations of stacks	Karolina SORELOVA
KU-06	Vibration-based performance assessment of a prestressed concrete girder bridge dynamic and static tests	Yosuke KONDO

Track 1 (16:00-17:30, November 23)

Structural Engineering 11
 Track Chair: Prof. Yoshikazu Takahashi
 Track Co-chair: Mr. Cheng Qian

Paper ID	Paper Title	Presenter
TU-49	Estimating the maximum rotational demand of coupling beams in coupled wall systems under earthquake loading	Zuanfeng PAN
NTU-44	Seismic testing of a 3-story special concentrically braced frame with yielding beams	Ching-Yi TSAI
KAIST-18	A cable vibration control system with energy harvesting and estimation functions using electromagnetic damper	Hyung-Soo KIM
TU-30	Comparison study on seismic behaviors of bonded and unbonded prestressed steel reinforced concrete frame beam	Gangfeng YAO
NTU-28	Dynamic analysis of geometrically nonlinear isolation system for seismic protection of equipment	Ting-Wei HSU
KU-43	Study on earthquake response and seismic retrofitting in Yadanarpon Bridge.	Yuki OSHIRO
NTU-27	Investigation of key factors for low seismic performance in developing and developed countries	Min-Chun HAN
KU-57	Comparison between seismic responses of 5-DOF structures with passive TMD and semi-active variable stiffness TMD	Long Huy NGUYEN

Track 3 (13:30-15:15, November 22)

Construction Engineering 1
 Track Chair: Prof. Veerasak Likhitruangsilp
 Track Co-chair: Mr. Lambada Roeun

Paper ID	Paper Title	Presenter
CU-02	Thailand's road network and empty backhaul problem: A field survey and guide to transportation implementation	Nakhon KOKKAEW
NTU-02	Research on establishing scouring monitoring network system of bridge management by using finite element model and self-made tools	Cheng-Mo CHOU
CU-19	Application of digital terrain model from drone for detecting earth moving rework	Vorapod SINSAWAD
NTU-59	A decision-supporting tool for selecting a construction material regarding its location aspect using the integration of Building Information Modelling and Web-map services	Thanh-Chuong NGUYEN
HKUST-05	Key issues in public private partnership district cooling projects in China	Liguang WANG
NTU-01	Safety monitoring system optimization for temporary structures, taking example for scaffolding under wind and earthquake	Wan-Chuan YEH
CU-18	Application of aerial photography and point cloud model for supporting construction planning	Theerapon JIRATAMMA-KUN

Track 3 (15:30-17:15, November 22)

Construction Engineering 2
 Track Chair: Prof. Nakhon Kokkaew
 Track Co-chair: Dr. Liguang Wang

Paper ID	Paper Title	Presenter
CU-25	Evaluating time impacts of construction change orders by BIM-integrated system	Veerasak LIKHITRUANGSILP
HKUST-06	BIM-based automatic pipe routing design using 3D A* algorithm	Jyoti SINGH
NTU-19	Legal issues on integration of the building information modeling (BIM) into construction contract	Ninh Thuy DAO
CU-21	A survey of factors affecting material management performance in construction projects: Case study in Vietnam	Bao Van PHAM
HKUST-07	A conceptual model of elevator modernization	Muhammad UMER ZUBAIR
CU-26	Developing BIM process maps for 1 green BIM projects	Hoa Quang PHAM
NTU-04	Critical success factors of value engineering in construction industry: a case study of Japanese company	Pei-Yan LIN

Track 2 (16:00-17:30, November 23)

Construction Engineering 3
 Track Chair: Prof. Shang-Hsien Hsieh
 Track Co-chair: Prof. Atsushi Hattori

Paper ID	Paper Title	Presenter
CU-20	Benefit-cost analysis for selecting emissions reduction approach: Case study bored pile wet process	Bordin BOONSIRIRUK
KAIST-23	Numerical model verification of a drilling system using smoothed particle hydrodynamics	Heung-Woon JANG
NUS-01	Numerical simulation of the coupled TAD-TLP system connected by an innovative coupling arm	Xiangbo LIU
NTU-03	Computational analysis of cross ventilation for classrooms with operable transom windows	Chao-Yen CHANG
CU-22	Flexible concession period in build operate transfer transport infrastructure; dynamic approach to public private partnership implementation	Dhabhisara BUDHAKOON-CHAROEN
KAIST-36	Improvements in decaying industrial area for value creation with an industry 4.0 perspective: Daejeon industrial complex	Kee Moon JANG
CU-16	Evaluating of factors influence on knowledge sharing performance in construction projects	Lambada ROEUN

Track 4 (13:30-15:15, November 22)

Geotechnical Engineering 1
Track Chair: Prof. Suched Likitlersuang
Track Co-chair: Mr. Thanakrit Rojanachaisri

Paper ID	Paper Title	Presenter
CU-08	A study for optimizing the sensor array of a passive surface wave method	Tirawat SIMLEMKIM
KAIST-02	Assessment of topographic amplification in slopes using centrifuge tests	Hae-In LEE
KU-15	Visualization of pull-out behavior of reinforcement material under various triaxial stress conditions by X-ray CT and image correlation	Koshi KIMURA
NTU-12	The effect of cyclic loading on monotonic stress-strain behavior of saturated granular materials	Min-Chien CHU
TU-39	Wireless sensing on deformation of utility tunnel: A case study in Shanghai	Jingkang SHI
HKUST-03	Numerical simulation of seismically induced slope failure using material point method	Kewei FENG
KU-19	Assessment of liquefaction strength of soil considering air bubble injection as a countermeasure	Teshoukong AGENDIA

Track 5 (13:30-15:15, November 22)

Geotechnical Engineering 2
Track Chair: Prof. Jiunn-Shyang Chiou
Track Co-chair: Prof. Wuwei Mao

Paper ID	Paper Title	Presenter
KAIST-04	Estimate behaviors of suction anchor depends on soil elastic modulus in sand	Jun-sik BAE
NUS-13	Autocorrelation-based geophysical bedrock mapping using ambient noise	Yunhuo ZHANG
NTU-13	Case study of soil improvement under a rigid pavement airport runway	Tai-Yi LIU
KU-32	Measurement of surface velocity near the onset of failure in undercut slope model using image analysis	Kun FANG
KAIST-05	Evaluation of liquefaction with different relative density using centrifuge model test	Seong-Nam KIM
HKUST-04	Multi-scale modeling of anchoring in sand	Weijian LIANG
KAIST-08	Evaluation of thermal-mechanical properties of soils for underground utilities	Jun-Beom AN

Track 4 (15:30-17:15, November 22)

Geotechnical Engineering 3
Track Chair: Prof. Dong-Soo Kim
Track Co-chair: Prof. Mai Sawada

Paper ID	Paper Title	Presenter
CU-06	Microtremor investigation of soil sites in Bangkok	Suched LIKITLERSUANG
TU-46	Acoustic Emission testing of granular soils	Wuwei MAO
NTU-17	Discretization error in random finite element analysis of the compressive strength of a soil column	Mohammad TABARROKI
KU-16	Relationship between pore volume and degree of saturation in partially saturated sand using Voronoi tessellation	Ryunosuke KIDO
NTU-05	Model test on geosynthetic-reinforced soil wall subjected to rainfall	Hsin-Chen LU
KAIST-27	A coupled hydro-mechanical analysis of bentonite buffer in a high-level waste repository through a parametric study	Yoon-Soo JEON
KU-34	Deep learning of time series of earthquake ground motion based on surrounding station observations	Ryota OTAKE

Track 5 (15:30-17:15, November 22)

Geotechnical Engineering 4
Track Chair: Prof. Louis Ge
Track Co-chair: Mr. Jingkang Shi

Paper ID	Paper Title	Presenter
CU-10	A numerical study of temporal load variation in a piled raft by 3D-FEA	Thanakrit ROJANACHAISRI
KU-20	2D FE analysis of seismic behavior in culvert longitudinal direction of precast arch culverts considering structural connectivity	Yusuke MIYAZAKI
NTU-10	Evaluation of diaphragm wall spacing on performance of deep excavation in Taichung gravel strata using three-dimensional modeling	Chien-Chun WU
KU-23	Multi-physics modeling by incorporating damage theory for evaluating rock permeability change	Sho OGATA
TU-40	Design and application of a mechanical loading system for a deeply-buried water-conveying shield tunnel lining test	Wei LIU
NTU-06	Using finite element package ABAQUS in stability analysis of hand-dug retaining piles	Shao-Hua LU
KU-31	Observation of the surface erosion behavior of cohesive soil by flume model tests with image analysis	Toshiki YAMAUCHI

Track 4 (09:15-11:00, November 23)

Geotechnical Engineering 5
Track Chair: Prof. Yosuke Higo
Track Co-chair: Dr. Yannick Ng Choy Hing

Paper ID	Paper Title	Presenter
NTU-16	Stability analysis of spatially variable embankment using random limit equilibrium method	Szu-Wei LEE
KAIST-43	Mechanical behavior of an unsaturated bentonite buffer based on non-isothermal flow models	Min-Seop KIM
KU-14	Numerical simulation of internal erosion during gas production from methane hydrate-bearing sediments	Gyo TAKUBO
KAIST-28	Particle-based numerical simulation for water wave generation	Sangmin LEE
NTU-07	Calculating the volume of wedge failure by photogrammetry and 3D point cloud analysis	Yu-Hsuan CHANG
TU-41	Stochastic modeling of the environmental impacts of the mingtang tunneling project	Yandong LI
KU-21	Permeability variation of granite single fracture in considering influence of temperature and stress confining period	Chenlu SONG

Track 5 (09:15-11:00, November 23)

Geotechnical Engineering 6
Track Chair: Prof. Tirawat Boonyatee
Track Co-chair: Mr. Zhang Yunhuo

Paper ID	Paper Title	Presenter
KU-24	Evaluation on mechanical behavior of deep circular vertical shaft during excavation process through 3D FDM analyses	Tanawat TANGJARUSRI- TARATORN
KAIST-52	Numerical study of shield tunnel-shaft joints during Earthquake and suggestions to joint design requirements	Jung-Tae KIM
NTU-11	Simulation of seismic responses of a column-footing model under shaking table tests	Wun-Sian HU
KU-29	Seismic response analysis of the grounds in Mashiki Town with emphasis on the subsoil structures	Tomo ICHIMURA
CU-07	Relationship between free swell index and PI of natural expansive soils	Suwijuck SITTHIAWIRUTH
KAIST-06	Coupling stiffness measurement of the Ulleung basin sediments by direct shear test	Chul-Whan KANG
KU-13	Dynamic performance analysis of multiple two-hinged precast arch culvert subjected to The 1995 Great Hanshin earthquake motion	Budi Luhur DARMANTO

Track 5 (11:15-13:00, November 23)

Geotechnical Engineering 7

Track Chair: Prof. Thirapong Pipatpongsa

Track Co-chair: Mr. Tirawat Simlemkim

Paper ID	Paper Title	Presenter
KU-27	Application of arbitrary particle domain interpolation to large deformation analysis using material point method	Yoshikazu GOTO
KAIST-50	Effect of distance between abrasive particles on rock cutting in abrasive waterjet	Yohan CHA
NTU-18	Performance of geosynthetic-reinforced soil foundation across a normal fault	Jung CHIANG
CU-04	A Study on the optimal design of embankment dam in Thailand	Anan KUNTAPIK
NUS-10	Compressibility of cemented binary mixture	Sathya SUBRAMANIAN
KU-18	Centrifuge model tests on mechanical behavior of steel pipe sheet pile foundation under lateral loading	Shoma KUSABA
KAIST-07	Elastic wave propagation in layered jointed rocks using the modified quasi-static resonant column test	Ji-Won KIM

Track 5 (14:00-15:45, November 23)

Geotechnical Engineering 8

Track Chair: Prof. Hiroyuki Goto

Track Co-chair: Mr. Min-Chien Chu

Paper ID	Paper Title	Presenter
KAIST-09	A theoretical study to derivate equation for factor of safety against basal heave stability during circular vertical shaft excavation	Seok-Jun KANG
NTU-14	Calibration of advanced constitutive model using optimization methods	Fu-Hsuan YEH
KU-17	A study of belled pile design: comparison of centrifuge model tests and FEM analyses on uplift capacity	Sawadogo CHRISTIAN
NUS-09	Strength prediction of cement stabilized clay via machine learning	Jurong BI
KU-28	Investigation of microscopic pore water behaviour in partially saturated sand during triaxial compression test under different drainage conditions	Yo FUKUSHIMA
NTU-09	Block toppling induced by differential settlement of bearing layers	Pei-Chen HSIEH
KU-30	Experimental study on the mechanism of seismic damage of tumulus mounds constructed on slopes	Tatsuya UDO

Track 5 (16:00-17:30, November 23)

Geotechnical Engineering 9
Track Chair: Prof. Taeseo Ku
Track Co-chair: Ms. Fu-Hsuan Yeh

Paper ID	Paper Title	Presenter
KU-33	Ground motion characteristics during the 2018 Northern Osaka Earthquake	Hiroyuki GOTO
CU-05	Simulation of Bangkok MRT tunnels subjected to strong earthquake	Piroon PISITSOPON
NUS-08	Time-picking methods for seismic cross-hole data with low signal-to-noise ratio	Yannick Ng Choy HING
NTU-08	The deformation pattern of gravel layer with different fabrics induced by thrust faulting	Chien-Hui HUNG
KU-22	Evaluation on the healing of single rock fracture with consideration of the critical state during slide-hold-slide process	Kosuke MATSUMOTO
KAIST-51	Interface shearing behavior between biopolymer-treated soil and structure via direct shear testing	Minhyeong LEE
HKUST-11	Flooding in metropolitan area caused by typhoon Ewiniar in June 2018	Yejia QIANG

Track 6 (13:30-15:15, November 22)

Civil Engineering 1
Track Chair: Prof. Youngchul Kim
Track Co-chair: Prof. Yin-Nan Huang

Paper ID	Paper Title	Presenter
NUS-04	Distributed sensing of cracks in RC structure using ν -OTDR	Vasanth RAMANI
NTU-24	Delivery and operation of a green and intelligent construction project	Yi-Chen TSENG
TU-17	Roof mounting site analysis for micro-wind turbines of a dormitory building in Tongji University	Lin CHEN
KAIST-20	A framework for an autonomous bridge inspection using an unmanned aerial vehicle	Sungwook JUNG
NTU-26	Cultivating civil engineering students' foresight to design for the future	Mei-Mei SONG
TU-19	Shaking table test study of nuclear power plant structure considering SSI effect	Hao CHEN
NUS-06	Interaction diagram methodology for design of steel reinforced concrete composite columns	Binglin LAI

Track 6 (15:30-17:15, November 22)

Civil Engineering 2

Track Chair: Prof. Ser Tong Quek

Track Co-chair: Prof. Wen-Cheng Liao

Paper ID	Paper Title	Presenter
KAIST-01	Automation in identifying a landmark in a 3D map from mobile laser scanning data	Kanghee CHOI
NTU-21	Integration of 3D Photogrammetry and Infrared Thermography for Thermal Transmittance Analysis of Opaque Building Envelope	Ting-Chen CHU
TU-25	Simulation of three-dimensional walking loads by generative adversarial networks	Dingsu ZHAO
KAIST-49	A Prediction of energy consumption in Vietnam with an ANN-based urban growth model	Hyeyeong LEE
TU-29	Gas leak detection in galvanized steel pipe with strong background noise using convolutional neural network	Yanjue SONG
NUS-14	Investigating wave energy dissipation due to a plunging breaker based on incompressible Smoothed Particle Hydrodynamics (ISPH)	Xiaoxiao YANG
KAIST-45	A method to predict urban growth & decline using Google street view image	Giyong BYUN
CU-28	Analyzing risk factors in public-private partnership (PPP) projects in Laos	Siamphone MANEEVONG

Track 4 (11:15-13:00, November 23)

Civil Engineering 3

Track Chair: Prof. Sze Dai Pang

Track Co-chair: Prof. Mei-Mei Song

Paper ID	Paper Title	Presenter
TU-47	Refined simulation of river water regime in karst mountainous areas: a case study of the Lijiang river in China	Yi CAI
HKUST-02	Visible-light-induced photocatalytic inactivation of e. coli and degradation of bisphenol a in sewage using magnetic reusable Ag/Fe ₃ N-TiO ₂ /Fe ₃ O ₄ @SiO ₂	Juhua HE
NTU-58	Institutional conflicts of interests in regional water management: a case study of the water supply in the Taipei metropolitan area	Gene Jiing- Yun YOU
TU-21	Groundwater contaminant source identification using self-organizing maps based surrogate models with uncertain observation data	Xuemin XIA
KAIST-53	Removal of heavy metal ion using biopolymer	An T.P. TRAN
NTU-25	Can a stochastic particle tracking model (PTM) predict the trajectory of a fluid particle in water waves?	Seyyed Mahmoud MOUSAVI
TU-22	Study on contaminants migration in saturated porous media between high and low permeability zones	Xueji YOU
NTU-23	Stochastic sediment transport: incorporation of time-step independent resuspension mechanism into stochastic diffusion particle tracking model	Serena Y. HUNG

Track 6 (16:00-17:30, November 23)

Civil Engineering 4
Track Chair: Prof. Yi Cai
Track Co-chair: Ms. Wint Thandar

Paper ID	Paper Title	Presenter
TU-31	A physics-based damage model for fatigue of concrete	Yanpeng WANG
KAIST-38	Statistical analysis of spatial patterns of junkshops in Korea	Jae Hong LEE
NTU-32	The influence of aging and disease on the mechanical and structural properties of collagen fibers in tissues: A molecular dynamics approach	Wei-Han HUI
KAIST-37	A Review of changes in thermal comfort index	Uyyoon PARK
NTU-20	Uncertainty analysis of wave runup on a plane beach	Chen-Hua LIU
TU-42	Numerical study on high stiffness segmental joints of deep-buried drainage shield tunnels	Long ZHOU
NTU-31	Mechanistic insight into the binding structural differences of aggrecan cleavage sites: a bottom-up computational mechanics approach	Deng LI

Track 3 (09:15-11:00, November 23)

Transportation Engineering 1
Track Chair: Prof. Albert Y. Chen
Track Co-chair: Mr. Namwoo Kim

Paper ID	Paper Title	Presenter
CU-03	Analysis of causes of single-track railway operational delay: A case study of Thailand northern railway route	Jittichai RUDJANAKA- NOKNAD
NTU-46	Design of passive signal priority strategies for transit systems with type b right-of-way on an urban arterial	Ying-Chuan NI
KAIST-35	Generating a street network in a polygonal site of urban space	Jaeman KIM
NTU-51	Mixed-integer programming model and branch-and-price-and-cut algorithm for urban bus network design and timetabling	Hao-Ya CHAO
KAIST-44	Data-driven approach to urban transportation road network analysis using topological data analysis – case study on Gangnam district, Seoul	Yuyol SHIN
NTU-57	Multi-camera human tracking for decision making for facilities location in public places	Wen-Xin QIU
KAIST-41	Unmanned aerial vehicle system for fire detection on industrial chimneys using support vector machine	Duckyu CHOI

Track 3 (11:15-13:00, November 23)

Transportation Engineering 2
 Track Chair: Prof. Yoonjin Yoon
 Track Co-chair: Mr. Jielun Liu

Paper ID	Paper Title	Presenter
KAIST-30	sUAV collision avoidance strategies based on satisficing game theory	Namwoo KIM
NUS-11	Sidewalk-based bicycle network design with connectivity and equity consideration - a case study of Singapore	Yutong CAI
NTU-52	Mathematical programming model for deployment and balancing in dock-less electric scooter sharing systems	Fan-Yu LIAO
KAIST-34	Analyzing public bicycle system networks in Changwon and Yeosu, Korea	Hak-Joo SONG
NTU-53	Location optimization of battery swapping stations for electric scooters	Shih-Kuan YANG
KAIST-33	A comparative analysis of risk factors for taxi and private car crashes in Seoul, South Korea	Yuna NOH
NTU-55	Large-scale pedestrian simulation - an extension to floor field cellular automata	Yu-Ting WEI
KAIST-32	Characterizing the influence of elderly taxi drivers to road safety in ageing society – a case study of Seoul, South Korea	Soothan OH

Track 3 (14:00-15:45, November 23)

Transportation Engineering 3
 Track Chair: Prof. Kai-Chun Chang
 Track Co-chair: Mr. Somkith Dethvongsone

Paper ID	Paper Title	Presenter
KAIST-13	Development of accident detection algorithm based on spatial and temporal feature extraction	Jihu KIM
NTU-47	Scheduling restoration of disaster-disrupted interdependent infrastructure systems: the perspective of resilience optimization	Yu-Jen CHEN
KAIST-14	Application of attention mechanism in recurrent neural network model for urban vehicle trajectory prediction	Seongjin CHOI
NTU-56	Mathematical Modeling and Comparison for network-level pavement maintenance strategies	Jou-Chun YEH
KAIST-46	Impact risk evaluation of unmanned aerial vehicles	Youngjun CHOI
NTU-50	Signal control strategies to coordinate surface-street and freeway traffic: A neural network approach	Zhi-Xun XU
NUS-12	Reconstructing urban traffic dynamics with vehicle trajectory data	Jielun LIU

Track 3 (16:00-17:30, November 23)

Transportation Engineering 4
Track Chair: Prof. Jittichai Rudjanakanoknad
Track Co-chair: Mr. Yutong Cai

Paper ID	Paper Title	Presenter
KAIST-29	Preliminary study on routing strategies for sUAS operations in urban environments	Jungwoo CHO
NTU-49	Projection transformation for traffic surveillance cameras through deep learning	Siao-Rong WEI
CU-09	Application of natural and synthetic under-sleeper pads for reducing ballast breakage	Somkith DETHVONG-SONE
KAIST-31	Topological properties of the Northeast Asian Air transport network as a complex network	Seyun KIM
NTU-48	The analysis of audio content in emergency medical service dispatch communication	Chih-Yen OU
KAIST-39	A deep learning-based Braille blocks detection system from street view images for the visually impaired	Wonjun NO
NTU-54	A deep learning enabled traffic characteristics extraction	Jen-Chun WANG

Track 6 (09:15-11:00, November 23)

Wind Engineering 1
Track Chair: Prof. Shuyang Cao
Track Co-chair: Prof. Tomomi Yagi

Paper ID	Paper Title	Presenter
TU-05	Local stability algorithm for hyperbolic shell structures under non-uniform wind loads	Lin ZHAO
KU-55	Experimental research on aerodynamic performance of box girder with discretely distributed side openings	Jiaqi WANG
TU-06	Numerical simulation on Tornado-induced collapse of a super-large cooling tower	Shiyu ZHAO
TU-11	Tornado-induced wind force on transmission towers	Biao TAN
KU-54	Investigation on the wake-induced vibration on the parallel cylinders by modifying surface configurations	Takuya SHIMODA
TU-12	Feedback control of flutter oscillation of a suspension bridge sectional model by twin-winglet system	Hanlin CHEN
TU-02	Nonlinear characteristics of self-excited forces for H-shaped section and its modeling	Chuanixin HU
TU-01	Aerodynamic forces evolution characteristics around the central-slotting box girder during VIV	Shengyuan LIU

Track 6 (11:15-13:00, November 23)

Wind Engineering 2

Track Chair: Prof. Zhao Lin

Track Co-chair: Prof. Kyohei Noguchi

Paper ID	Paper Title	Presenter
TU-08	Investigation of turbulence effects on aerodynamic properties of a streamlined bridge deck section	Weituo WANG
TU-14	Revisiting equivalent static wind loadings of cooling towers oriented to reinforcement strength criterion	Miao YU
KU-53	Investigation regarding large amplitude aerodynamic vibration of rectangular cylinder from the viewpoint of torsional velocity	Takumi ONO
TU-03	On effectiveness of temporary piers in buffeting suppression of a long-span cable-stayed bridge in erection	Lei ZHANG
KU-36	Simulation of wind field on a flat terrain behind a mountain range	Kefan CHEN
TU-07	The wind field characteristics analysis based on the measured typhoon process and wind-induced behavior research of long-span bridge	Taowei LIU
KU-52	Aerodynamic performance of rectangular cylinder with side openings	Hidekazu ICHIKAWA
TU-04	Experimental study of wind loads on a gable-roofed building induced by tornado-like vortices	Mengen WANG

Track 6 (14:00-15:45, November 23)

Wind Engineering 3

Track Chair: Prof. Tomomi Yagi

Track Co-chair: Prof. Shuyang Cao

Paper ID	Paper Title	Presenter
KU-37	Wind speed prediction using neural network based on observation data of multiple points	Kenshi KOMATSU
TU-10	Aerodynamic modes of wind-induced interference of cooling towers under typical eight-towers double-columns arrangement	Yuan XING
KU-40	The flow field around the rectangular prism in forced vibration condition by using DMD analysis	Yihan BAI
TU-09	The comparison of field measurements between the external wind field of the typhoon and the monsoon wind field	Xunan YANG
KU-39	Three dimensional laser scanning of complex-shaped structure for evaluation of wind loads	Thinzar HNIN
TU-15	Nonlinear characteristics of aerodynamic force of box girder under different torsional amplitudes	Yanyan ZHAN
KU-38	Solar updraft power generation: Optimizing the design and efficiency of a renewable energy resource	Richard WELSH
TU-13	Performance of multi-scale WRF simulation in wind speed fluctuation energy during Typhoon	Jaya SINGH

Track 4 (14:00-15:45, November 23)

Material Engineering 1
Track Chair: Prof. Christina Tsai
Track Co-chair: Mr. Yuanzuo Wang

Paper ID	Paper Title	Presenter
KAIST-40	Adsorption characteristics on various types of Zeolites	Seon-Hyeok KIM
KU-41	Monitoring the hydration process of cementitious materials by using optic fiber sensor	Yukun ZHANG
HKUST-09	Shear behavior of high strength strain-hardening cementitious composites (SHCC) with varying shear span-to-depth ratio	Jiaying WEI
KU-51	Influence of the presence of oxide film in RC on AE characteristics during corrossions process of reinforcing bars	Fumito YAMAMOTO
CU-15	The influences of granite particle as mixing materials of high strength concrete	May Thazin KHINE
KAIST-42	Rheological criteria for self-compacting concrete to adopt sloped road pavement	Tae-Yong SHIN

Track 4 (16:00-17:30, November 23)

Material Engineering 2
Track Chair: Prof. Kuo-Chun Chang
Track Co-chair: Mr. Xiaoming Lei (TU)

Paper ID	Paper Title	Presenter
HKUST-01	Experimental study and numerical modeling on bond between steel reinforcements and strain-hardening cementitious composites (SHCC)	Yixin CHEN
KAIST-10	Effect of Ureolytic Bacteria incorporation on the mechanical properties of concrete: Overview	Ha-Yeon KIM
TU-27	The applicability of MLR method for post-necking elastoplastic characterization	Yuanzuo WANG
HKUST-10	A novel graphene oxide-coated PE fiber to strengthen the fiber/matrix bonding and improve the strain hardening behavior of SHCC	Jie YAO
KU-46	Stress and failure analysis of mechanically fastened joint in FRP	Xing ZHOU
CU-12	Experimental study of bond behavior between CFRP sheet and concrete using carbon nanotube reinforced epoxy	Amaras MATHUROS
KAIST-11	Electrical and heating properties of carbon nanotube-incorporated polymeric composites: Overview	Tae-Geon KIL