

WEDNESDAY, AUGUST 30, 2017

Resilience and Sustainability in Underground Space		#308, 3rd Fl.
14:50~17:20	SESSION W5G Chair: Ju-Young Oh Co-chair: Julio E. Colmenares	Look-ahead seismic investigations during tunneling with shield tunnel boring machines Thomas Dickmann*(Switzerland), Jozsef Hecht-Méndez Behaviour of vertically and horizontally loaded pile and adjacent ground affected by tunnelling Ho-Yeon Ahn, Dong-Wook Oh*(Korea), Yong-Joo Lee Interaction between two asymmetric noncircular tunnels You-Sung La*(Korea), Bumjoo Kim, Yeon-Soo Jang Shield TBM risk model based on Bayesian networks applicable in design stage Heeyoung Chung*(Korea), In-Mo Lee, Jeongjun Park Load Resistant Factor Calibration for Tunnel Seyed Hooman Ghasemi*(Iran) Numerical investigations of the stress distribution and evolution in backfilled stopes and on barricades with cemented paste backfill El Mustapha Jaouhar*(Canada), Li Li An analytical solution to assess the stresses in vertical backfilled stopes considering an arc layer element El Mustapha Jaouhar*(Canada), Li Li Numerical study of earth pressure coefficient along the vertical centerline of backfilled mine stopes Pengyu Yang*(Canada), Li Li
18:00~19:30	BANQUET	MVL Hotel, 2nd Fl. GRAND BALLROOM

POSTER SESSION

- **A study of double-deck tunnel depending on types of intermediate slab with beam-spring model**
Kyung-Nam Kang*(Korea), Joon-Sang An, Byung-Chan Kim, Chang-Yong Kim, Ki-II Song
- **Development of face safety monitoring system (FSMS) using x-MR control chart**
Hyun-Seok Yun*(Korea), Seong-Woo Moon, Chang-Yong Kim, Yong-Seok Seo
- **A study on the design strength of linear supports**
Oh-Hyun Kwon*(Korea), Hyun-Seob Youn, Dong-Hyun Seo
- **Three-arch tunnel behavior –3D numerical investigation**
Chungsik Yoo*(Korea), Jung-Hyuck Choi
- **Design of initial support required for excavation of underground cavern and shaft from numerical analysis**
Joung Oh, Taehyun Moon, Ismet Canbulat, Joon-Shik Moon*(Korea)
- **A study on the effect of freezing and thawing repetition on the tunnel in cold region**
Jai-wook An*(Korea), Joon-shik Moon, Hong-Kyoon Kim, Jeong-Eun Seo
- **Applicability of exponential stress-strain models for carbonate rocks**
Vyacheslav Palchik*(Israel)
- **Estimation of the amount of refrigerant in artificial ground freezing for subsea tunnel**
Younggin Son*(Korea), Hangseok Choi, Tae Young Ko
- **Clogging theory-based real-time grouting management system for underwater tunnel**
Young-Sam Kwon*(Korea), In-Mo Lee, Jinchun Kim
- **Route selection of Donggao tunnel, Suhua highway of provincial highway No.9 improvement project**
Fu-Hsun Wu*(Taiwan), How-Jei Shau, Min-Chen Lee
- **Fracture generation technique using discrete fracture network with heterogeneity of fractured bedrocks in Korea**
Jae-Yeol Cheong*(Korea), Se-Young Hamm

VENUE INFORMATION

Conference Venue-KINTEX II (Korea International Exhibition Center II)

KINTEX (Korea International Exhibition Center) is Korea's largest and newest international exhibition and convention venue, located in Ilsan (suburb of Seoul) of Korea. KINTEX is conveniently located from Korea's two major international airports (20 mins from Gimpo Int'l Airport and 45 mins from Incheon Int'l Airport), and connected to the northwestern end of Seoul, only 30-45 minutes away from downtown Seoul by public transportation. It is also close to various tourist attractions and shopping centers, including Lake Park, One Mount, Lafesta, Heiri Art Village and DMZ.



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CONTACT

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The 2017 International Conference on
Tunnels and Underground Spaces

ICTUS17 PROGRAM

Aug 28-Sep 1, 2017

KINTEX II / 3rd Fl. #308
Ilsan(Seoul) Korea

Organized by



Korean Tunnelling and
Underground Space Association

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ASSOCIATION
INTERNATIONALE DES TUNNELIERS
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ICTUS17 TECHNICAL PROGRAM

MONDAY, AUGUST 28, 2017

17:00~20:00	REGISTRATION	KINTEX II, 3rd Fl. Lobby
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TUESDAY, AUGUST 29, 2017

08:30~17:00	REGISTRATION	KINTEX II, 3rd Fl. Lobby
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09:00~09:10	OPENING CEREMONY	Opening Remarks Chang Koon Choi, Chairman, ASEM17	#303 and #304, 3rd Fl.
09:10~09:50	SESSION T1P Chair: H. K. Lee	PLENARY KEYNOTE LECTURE KAIST Reform in the fourth industrial revolution O Ok Park (Korea)	#303 and #304, 3rd Fl.
09:50~10:15	COFFEE BREAK		
KEYNOTE LECTURES I			
10:15~10:50	SESSION T2A Chair: Chung-Bang Yun	Topology optimization of structures subjected to stochastic dynamic loading B. F. Spencer Jr. (USA)	#308, 3rd Fl.
	SESSION T2B Chair: Dennis Lam	Robot technology and the future Jun Ho Oh (Korea)	#307, 3rd Fl.
KEYNOTE LECTURES II			
10:50~11:25	SESSION T2C Chair: Hangseok Choi	Sustainable urbanization through underground development – towards an urban underground future Antonia Cornaro (Switzerland)	#308, 3rd Fl.
	SESSION T2D Chair: C. S. David Chen	Frontier technologies in steel and composite structures Brian Uy (Australia)	#307, 3rd Fl.
KEYNOTE LECTURES III			
11:25~12:00	SESSION T2E Chair: Jun Ho Oh	Bioinspired structural materials: virtual processing and virtual testing C. S. David Chen (Taiwan)	#308, 3rd Fl.
	SESSION T2F Chair: B. F. Spencer Jr.	Recent advances and innovation in steel-concrete composite structures Dennis Lam (USA)	#307, 3rd Fl.
12:00~13:00	LUNCH		

TUESDAY, AUGUST 29, 2017

13:00~13:15	ICTUS17 OPENING CEREMONY	Opening Remarks Jong-Ho Shin, Chair, ICTUS17 / President of KTA Chungsik Yoo, Co-chair, ICTUS17 / Vice-President of KTA	#308, 3rd Fl.
Improvements in Conventional Tunneling			#308, 3rd Fl.
13:15~14:30	SESSION T4G Chair: Joon-Sik Moon Co-chair: Ruben Duhme	Stress reduction factor characterization for highly stressed jointed rock based on tunneling data from Pakistan Hafeezur Rehman*(Korea), Jung Joo Kim, Han Kyu Yoo	
		Case study comparing from Q-system and Terzaghi's rock load classification Fook Kwang Han*(Singapore), Man-Sup Cho	
14:30~14:50	SESSION T5G Chair: Yong-Joo Lee Co-chair: Seyed Hooman Ghasemi	Evaluation test of applicability of compressed air foam fire extinguishing system in subsea tunnel Byoung-Jik Park*(Korea), Hyun-jun Shin, Yong-Ho Yoo, Jin-Ouk Park, Hwi-Seong Kim	
		An experimental study on the shock loss at the junction of double-deck road-tunnel network Jang-Hoon Roh*(Korea), Seung-Jun Lee, Jin Kim	
Proposing feasible borehole spacing in non-vibrational rock splitting method using discrete element modeling Syed Muhammad Turab Haider Jafri*(Korea), Han Kyu Yoo			
COFFEE BREAK			
Innovation in Mechanized Tunneling			#308, 3rd Fl.
14:50~17:20	SESSION T5G Chair: Yong-Joo Lee Co-chair: Seyed Hooman Ghasemi	Characteristic of size distribution of rock chip produced by rock cutting with a pickcutter Ho-Young Jeong*(Korea), Seokwon Jeon	
		Electrical resistivity tomography survey for prediction of anomaly ahead of tunnel face in mechanized tunneling Kang-Hyun Lee*(Korea), Jin-Ho Park, Jeongjun Park, In-Mo Lee, Seok-Won Lee	
Critical face pressure and backfill pressure in shield TBM tunneling on soft ground Kiseok Kim, Ju-Young Oh, Hyobum Lee*(Korea), Hangseok Choi			
Estimation of the excavation damaged zone around TBM tunnel using large deformation analysis Sangseom Jeong, Dohyun Kim*(Korea)			
Urban tunneling in settlement risk areas Ruben Duhme*(Germany)			
Distributed fibre optic monitoring of the time-dependent behaviour of tunnel segmental linings in London clay Hyungjoon Seo*(China), Matthew John Wilcock, Kenichi Soga, Mohammed Elshafie, Robert James Mair			
Comparative study of TBM performance prediction models Tae Young Ko*(Korea), Seung Mo Son, Taek Kon Kim			
Dynamic response on tunnel with flexible segment Changwon Kwak, Dongjin Jang*(Korea), Kwangho You, Innjoon Park			
18:00~20:00	RECEPTION		

WEDNESDAY, AUGUST 30, 2017

KEYNOTE LECTURES IV			
09:00~09:35	SESSION W1A Chair: F. M. Linares	On the reduction methods of structural finite element models Phill-Seung Lee (Korea)	#308, 3rd Fl.
	SESSION W1B Chair: Keh-Chyuan Tsai	Performance based earthquake engineering in a moderate seismicity region: South Korea Han-Seon Lee (Korea)	#307, 3rd Fl.
KEYNOTE LECTURES V			
09:35~10:10	SESSION W2A Chair: Andrezej Winnicki	Tunnelling on terrace soil deposits: Characterization and experiences on the Bogota-Villavicencio road Julio E. Colmenares (Colombia)	#308, 3rd Fl.
	SESSION W2B Chair: Hyo-Gyung Kwak	A unified practical approach for estimating the effects of rare dynamic loading on structures Nelson Lam (Australia)	#307, 3rd Fl.
10:10~10:30	COFFEE BREAK		
Tunneling and Underground Works in Extreme Conditions			#308, 3rd Fl.
10:30~12:00	SESSION W3G Chair: Soo-Ho Chang Co-chair: Antonia Cornaro	Designing TBMs for subsea tunnels: Ruben Duhme*(Germany)	
		Enhancement of slurry treatment efficiency in slurry shield TBM tunneling by optimal application of coagulant agent Ju-Young Oh*(Korea), Hyunku Park, Seokbue Chang, Seungbok Lee	
Hard rock TBM tunneling-technical developments and recent experience Jean-Daniel Brabant*(Singapore), Ruben Duhme			
An experimental study on the physical properties variation of grout materials by the installation of Anti-Agglomeration equipment Sung-Pil Hwang*(Korea), Jae-Hyeung Jeoung, Chang-Yong Kim			
Anchorage mechanism and pullout resistance of rock bolt in water-bearing rocks Ho-Jong Kim*(Korea), Kang-Hyun Kim, Hong-Moon Kim, Jong-Ho Shin			
Case history of excessive groundwater inflow during TBM tunneling and excavating highly permeable ground under high porewater pressure Joon-Shik Moon*(Korea), Jaeyoung Kim, Gychan Jun			
LUNCH			
Developments in Underground Space Technologies			#308, 3rd Fl.
13:00~14:30	SESSION W4G Chair: Hyo Soung Shin Co-chair: Thomas Dickmann	Estimation of coal bed length using tunnel electrical resistivity prospecting system (TEPS) in Sim-Gok tunnel, South Korea Chang-Ho Hong*(Korea), Gye-Chun Cho, Hee-Hwan Ryu	
		Monitoring of retaining wall at tunnel entrance using three dimensional laser scanning Hyungjoon Seo*(China), Sinan Acikgoz, Yang Zhao	
Pullout resistance of concrete anchor block embedded in cohesionless soil Md. Golammostofa*(Bangladesh), Abdul Jabbar Khan, Rowshon Jadid			
Experimental study on the automatic monitor system for fire suppression in double-deck tunnel Jin-Ouk Park*(Korea), Yong-Ho Yoo, Byoung-Jik Park, Hwi-Seung Kim, Sang-Heon Park			
Prediction of transverse settlement trough considering the combined effects of excavation and groundwater depression Jong Uk Kim, Jung Joo Kim*(Korea), Jae Kook Lee, Han Kyu Yoo			
Rate of penetration (ROP) forecast based on artificial neural network with online learning Melvin B. Diaz*(Korea), Kwang Yeom Kim, Hyu-Soung Shin			
14:30~14:50	COFFEE BREAK		
KINTEX II, 3rd Fl.			