

Reports in the 8th Civil Engineering Conference in the Asian Region

The 8th Civil Engineering Conference in the Asian Region (CECAR8) prepared by JSCE (Japan Society of Civil Engineers) was held in Ikebukuro, Tokyo, on April 16-19, 2019. The CECAR is a major activity of ACECC (The Asian Civil Engineering Coordinating Council) held on a triennial basis and started in 1998. The researchers and engineers in academia, government and industry took part in the CECAR8 from all over the Asian countries.

In the CECAR8, various problems regarding civil engineering were discussed and reported. Especially, Innovative construction technologies, Bridge design, Concrete materials, Sustainable concrete and Application of local mineral admixtures were the session themes in the field of concrete engineering (Table.1).

Table.1 Session tables

Tuesday, April 16, 2019				
Opening Ceremony				
11:30 - 12:30 Plenary Session 1				
12:30 - 14:00 Lunch				
ROOM	Akebono	Yuzuru	Fuji-1	Fuji-2
14:00 - 15:30	TS6-15-1: Transforming Civil Engineering Education and Practice to Achieve the United Nations Sustainable Development Goals: Where We Are Chair: William E. Kelly (ASCE)	TS7-3: Environmentally Sound Management of Construction and Demolition Waste (CDW) : Challenges and Opportunities in Asian Countries Chair: Ken Kawamoto (Saitama University)	TS6-8-1: Innovative Construction Technologies and Management in Infrastructure Projects Chair: Akira Kashida (Kajima Corp.)	TS6-14-1: Transdisciplinary Approach for Disaster Risk Reduction by Scientific Knowledge-based Decision-Making - Four Years of Activity of TC21 and Statement from the Members for Future DRR- Chair: Kuniyoshi Takeuchi (University of Yamanashi)
15:30 - 16:00 Coffee Break				
16:00 - 17:30	TS6-15-2: Transforming Civil Engineering Education and Practice to Achieve the United Nations Sustainable Development Goals: Next Steps Chair: William E. Kelly (ASCE)	TS3-1: Applications of Geosynthetics for Various Civil Engineering Disciplines Chair: Chiwan W. Hsieh (National Pingtung University of Science and Technology)	TS6-8-2: Innovative Construction Technologies and Management in Infrastructure Projects Chair: Akira Ooka (Taisei Corp.)	TS6-14-2: Transdisciplinary Approach for Disaster Risk Reduction by Scientific Knowledge-based Decision-Making - Four Years of Activity of TC21 and Statement from the Members for Future DRR - Chair: Kuniyoshi Takeuchi (University of Yamanashi)
17:30 - 18:00 Coffee Break				
18:00 - 19:30 ACECC Presidential Meeting & Dinner				

Tuesday, April 16, 2019				
Opening Ceremony				
11:30 - 12:30 Plenary Session 1				
12:30 - 14:00 Lunch				
Fuji-3	Sakura	Asakaze	Hatsukaze	Shunyo
TS4-3: How to Utilize Big Data for Transportation Planning and Management Chair: Akimasa Fujiwara (Hiroshima University)	TS6-12: Productivity Improvements in the Field of Construction by ICT Chair: Nobuyoshi Yabuki (Osaka University)	TS2-2: Development of Quality Port Infrastructure Through the Establishment of the National Technical Regulations and Standards Chair: Osamu Kiyomiya (Waseda University)	Hold	TS2-7: Wave and Tide Observation and Analysis Chairs: Hiroyasu Kawai (Port and Airport Research Institute), Wen-Son Chiang (National Cheng Kung University)
15:30 - 16:00 Coffee Break				
TS6-6: INFRA BIM Chair: Sang-Ho Lee (Yonsei University)	TS3-2: Experiences and Challenges in Construction and Management of Underground Infrastructures Chair: Shinichi Akutagawa (Kobe University)	Hold	Hold	TS2-1: Coastal Erosion in Asian Countries- Monitoring, Evaluation and Prediction Techniques Forward Coastal Protection and Adaptation Strategies- Chair: Yoshimitsu Tajima (The University of Tokyo)
17:30 - 18:00 Coffee Break				
18:00 - 19:30 ACECC Presidential Meeting & Dinner				

Wednesday, April 17, 2019				
ROOM	Akebono	Yuzuru	Fuji-1	Fuji-2
9:00 - 10:30	TS4-1: Civil Engineering Heritage: Preservation, Reuse and Social Significance Chair: Masaaki Okada (Kindai University)	TS6-9: Introduction of Users' Viewpoints in Post Appraisal of ODA Infrastructure Project Chairs: Tsunemi Watanabe (Kochi University of Technology), Hai Luong Nguyen (University of Transport and Communications)	TS6-8-3: Innovative Construction Technologies and Management in Infrastructure Projects Chairs: Akira Kashida (Kajima Corp.)	TS4-6: Quality and Resilient Infrastructure in Asia: How Can Investment Gap Be Bridged? TS6-3: Comparative Study of Quality Infrastructure in Europe, the United States and Asia and Civil Engineer's Contribution
10:30 -	Coffee Break			
11:00 - 12:30	Hold	TS2-5-1: Recent Water-Related Natural Disasters in Asian Region Chairs: Hitoshi Tanaka (Tohoku University), Il Won Seo (Seoul National University)	Hold	TS6-7: Infrastructure Development and Economic Growth Chairs: Koki Hirota (Saitama University), Tamon Ueda (Hokkaido University)
12:30 -	Lunch			
14:00 - 15:30	TS1-1: Advanced Concept and Implementation of Seismic Design Methods for Resilience Against Intense Earthquake Chairs: Riki Honda (The University of Tokyo), Dong Soo Kim (Korea Advanced Institute of Science and Technology)	TS2-5-2: Recent Water-Related Natural Disasters in Asian Region Chairs: Hitoshi Tanaka (Tohoku University), Il Won Seo (Seoul National University)	Hold	
15:30 -	Coffee Break			
16:00 -	Plenary Session 2			
17:00 -	ACECC Awards Ceremony			
17:30 -	Coffee Break			
18:30 -	Buffet Dinner			

Thursday, April 18, 2019				
ROOM	Akebono	Yuzuru	Fuji-1	
9:30 - 10:30	Plenary Session 3			
10:30 - 11:00	Coffee Break			
11:00 - 12:30	TS7-2: Climate Change Adaptation Measures in Water-related Issues Chair: Tomohito Yamada (Hokkaido University)	TS5-1: Sustainable and Eco-friendly Concrete by Effective Application of Local Mineral Admixtures Chair: Tetsuya Ishida (The University of Tokyo)	TS2-4: Integrated Risk Management for Sediment Related Disasters Chair: Shinji Yamaguchi (National Institute for Land and Infrastructure Management, MLIT)	
12:30 - 14:00	Lunch			
14:00 - 15:30	TS7-4: Role of Civil Engineering in Mitigation of Climate Change Chair: Minoru Yoneda (Kyoto University)	TS5-2: Wood Utilization in Civil Engineering Chairs: Tadashi Hara (Kochi University), Rihong Zhang (Ningbo University)		
15:30 - 16:00				
16:00 - 17:00	Closing Ceremony			

Wednesday, April 17, 2019					
	Fuji-3	Sakura	Asakaze	Hatsukaze	Shunyo
9:00 - 10:30	TS2-6: Water and Disasters-Toward Building Resilient Society under Climate Change Chairs: Toshio Koike (International Centre for Water Hazard and Risk Management, PWR), Maximo L. Carvajal (Department of Public Works and Highways, the Philippines)	TS4-4: ITS-based Solutions for Urban Transportation in Asia Chair: Yoshinori Fukubayashi (University of Miyazaki)	GS-6-1: Construction Engineering and Management Chair: Yoshinori Fukubayashi (University of Miyazaki)	GS-1 & GS-5-1: Bridge Design Chair: Yuta Yamada (Nihon University)	TS2-3-1: Development of the Northern Sea Route and Its Future Tasks Chair: Natsuhiko Otsuka (Hokkaido University)
10:30 -	Coffee Break				
11:00 - 12:30	TS4-7: The Keys of Success in Promoting Regional Revitalization Chairs: Shinya Hanaoka (Tokyo Institute of Technology), Rubel Das (Nippon Koei Co., Ltd.)	TS6-16: Women in Civil Engineering Chair: Yoh Sasaki (Waseda University)	GS-6-2 & GS-3: Monitoring & Large-Scale Tests in Geotechnical & Construction Engineering Chair: Moonkyung Chung (Korea Institute of Construction Engineering)	GS-1 & GS-5-3: Structural Members Chair: Hikaru Nakamura (Nagoya University)	TS2-3-2: Development of the Northern Sea Route and Its Future Tasks Chair: Natsuhiko Otsuka (Hokkaido University)
12:30 -	Lunch				
14:00 - 15:30		TS6-4: Developing a More Relevant Program for Civil Engineering Education Chairs: Hironori Kato (The University of Tokyo), Le Binh Phan (Vietnam-Japan University)	Hold	GS-1 & GS-5-2: Concrete Materials and Pavement Chair: Kolluru V.L. Subramaniam (Indian Institute of Technology Hyderabad)	Hold
15:30 -	Coffee Break				
16:00 -	Plenary Session 2				
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Thursday, April 18, 2019					
	Sakura	Asakaze	Hatsukaze	Shunyo	
9:30 - 10:30	Plenary Session 3				
10:30 - 11:00	Coffee Break				
11:00 - 12:30	TS6-5: Enhancing Citizens' Understanding on Importance of Infrastructure Based on Infrastructure Health Report Chairs: Mitsuyasu Iwanami (Tokyo Institute of Technology), Thomas W. Smith, III (ASCE)	GS-2: Environmental Systems and Engineering Chairs: Akiyuki Kawasaki (The University of Tokyo), Jinwoo Lee (The Hong Kong Polytechnic University)	GS-4-1: Infrastructure Planning and Management Chairs: Kuniaki Sasaki (Waseda University), Arnab Jana (Indian Institute of Technology, Bombay)	GS-6-3: Application of ICRT/AI in Civil Engineering Chair: Kazuyoshi Tateyama (Hitsumekan University)	
12:30 - 14:00	Lunch				
14:00 - 15:30	TS6-13: Study of Failure for Young Civil Engineers Chair: Hiromasa Iwai (Nagoya Institute of Technology)	GS-7: Hydrology, Hydraulic, and Coastal Engineering Chairs: Tetsuya Ikeda (ICHARM), Chjeng-Lun Shieh (National Cheng Kung University)	GS-4-2: Infrastructure Planning and Management Chairs: Kuniaki Sasaki (Waseda University), Arnab Jana (Indian Institute of Technology, Bombay)	GS-6-4: ICRT/AI in Civil Engineering & Construction Safety Chair: Satoshi Kubota (Kansai University)	
15:30 - 16:00					
16:00 - 17:00	Closing Ceremony				

In the session TS5-1 “Sustainable and Eco-friendly Concrete by Effective Application of Local Mineral Admixtures”, Prof. Tetsuya Ishida (The Univ. of Tokyo) was a chair of this session as the member of JSCE Concrete committee. Total seven presenters came from Thailand, Sri-Lanka, India, Vietnam and Japan presented the application and utilization of mineral admixture in each country as titles in Table.2 (Photo.1).

Table.2 Presentations overview in TS5-1

Presenter	Affiliation	Title
Somnuk Tangtermsirikul	Sirindhorn International Institute of Technology, Thammasat University	Potential utilizations of off-standard fly ashes
S. M. A. Nanayakkara	University of Moratuwa	Application of fly ash and bottom ash from coal fired thermal

		power plants in Sri Lanka
Takafumi Noguchi	The University of Tokyo	High-volume utilization of supplementary cementitious materials in concrete buildings toward sustainability
Kolluru V.L. Subramaniam	Indian Institute of Technology Hyderabad	Efficient production of alkali-activated geopolymers from low-calcium fly ash
Shingo Asamoto	Saitama University	Application of mineral admixtures in hot weather conditions
Nguyen Hoang Giang	National University of Civil Engineering	Current situation on the utilization of industrial by-products for construction in Vietnam
Tetsuya Ishida	The University of Tokyo	Multiphase model for predicting temperature dependent Pozzolanic reaction of low-calcium fly ash in cement systems



Photo.1 Presentation situations in TS5-1

After the presentation, panel discussion was opened with all presenters (Photo.2). First discussion topic was “utilizations of the fly ash”.

For this theme, Prof. Subramaniam answered that qualities of the fly ash were assured by blending the classified materials obtained from several locations in India.

Prof. Nanayakkara mentioned that fly ash was produced by only one coal power station in Sri Lanka to and the quality control was based on European standard with appropriate modification. He also mentioned that the application of fly ash has been largely increased in cement industry but bottom ash was not utilized to be open dumped. That is a big issue in Sri Lanka because the amount of fly ash expecting the application to infrastructures in civil engineering fields was small in Sri-Lanka.

Prof. Nguyen explained that although American standards and Japanese standards were referred popularly, quality control was one of the most difficult issue in Vietnam because there are over 20 coal power stations and would be 57 stations in 2030.

Prof. Tangtermsirikul mentioned that constant quality of fly ash in Thailand is normally achieved by

blending the coal before burning to obtain fly ash. There are many standards and guidelines for fly ash and use of fly ash in the world, however there are still no or limited standards and guidelines for bottom ash and use of bottom ash. Owing to successful promotion and efforts of fly ash application in Thailand, the amount of fly ash is currently not enough for use in cement and concrete application.

The second discussion theme was “How should we collaborate for sustainable and ecofriendly concrete among Asian countries?”.

For this theme, Prof. Noguchi pointed out that compatibility of the materials is important because properties of the local material are greatly different in each country. Moreover, he suggested that specifications and standards could be changed based on the material properties and required performance, and this change should cooperate in the concrete industries.

Prof. Ishida mentioned that variable discussions would be needed in each country because the fly ash was local material and the properties were different essentially. He proposed to have a continuous fruitful discussion such as today’s session through joint seminar to improve Asian concrete technology.

Finally, Prof. Tangtermsirikul introduced a successful record construction of a 12,000 m³ single-pour mass concrete foundation project using concrete containing 60 % of the total binder content replaced by fly ash in Thailand and the advantage of using high volume fly ash in mass concrete over blast furnace slag.



Photo.2 Situations of the panel discussion