

# **The First International Conference on Smart Cities (ICSC1)**

**PROGRAM BOOK-First Draft**

**Baekdu Ballroom, Fifth Floor  
Seoul Dragon City Convention Center and Hotels  
Yongsan, Seoul, Korea  
July 17-19, 2019**

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## Welcome to ICSC1 from Chairman Hosin “David” Lee



It is my honor to serve as chairman of First International Conference on Smart Cities (ICSC1). The objective of this series of conferences is to provide a forum for researchers, government employees, consultants and contractors to exchange technological advancements and innovations related to development and management of buildings and infrastructures for smart cities.

The main theme of ICSC1 is the sustainable and disaster resilient maintenance and rehabilitation of smart city facilities.

Civil and transportation infrastructure is a backbone of the economic prosperity and public welfare. But, the sustainability and the resiliency challenges constructors and managers to respond creatively to a new paradigm shift in rehabilitating and maintaining smart city facilities in the most environmentally friendly manner by lowering the energy cost, enhancing the safety, and minimizing air and water pollution.

This conference features:

- Over one-hundred papers from twenty countries in three technical tracks of 1) pavements and infrastructures, 2) air, water and transportation and 3) big data, disaster resilience, and sustainability.
- World-famous keynote speakers in opening and plenary sessions and three technical tracks.
- Three workshops on 1) clean air and water for smart cities, 2) sustainable pavements for smart cities, and 3) safer and efficient mobility for smart cities.
- Many networking opportunities that include Tuesday's welcoming reception at the Sky Kingdom; Wednesday's buffet lunch and opening dinner, Thursday's lunch and banquet and Friday's buffet lunch and closing dinner at the Baekdu Ballroom at the fifth floor of the convention center located between Novotel hotel and ibis hotel at Seoul Dragon City.

Finally, I would like to thank corporate sponsors and participants from all over the world who convened in Seoul, Korea to share their knowledge and experiences in developing and maintaining various components of smart cities. It is my honor and privilege to host ICSC1 in the smartest city of Seoul. I would like to hear when we depart "You Seoul Me."

Hosin "David" Lee, Chairman of ICSC1  
President of iSMARTi

## **Welcoming and Congratulatory Remarks (TBA)**

## Acknowledgements

We gratefully acknowledge the following individuals for their contributions to the success of the First International Conference on Smart Cities (ICSC1).

### Conference Co-Secretariats



Junggon Kim, Disaster Management Research Center   Hangbae Chang, Chung-Ang University

### Organizing Committee Co-Chairs



Soo-Ahn Kwon, KICT  
(Vice President of iSMARTi)



Jacob Odgaard, Southwest Jiaotong University

### Technical Committee Co-Chairs



Yoon-Ho Cho, Chung-Ang University  
(Vice President of iSMARTi)



David Woodward, Ulster University

**Track A Program Co-Chairs:**

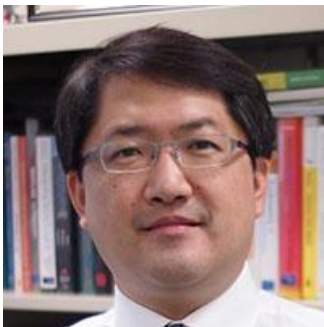


Davide Lo Presti, University of Palermo  
(Co-Editor of MDPT Infrastructures Special Issue)



Nizar Lajnef, Michigan State University  
(Co-Editor of MDPT Infrastructures Special Issue)

**Track B Program Co-Chairs:**



Brian Park, University of Virginia



Chia-pei Chou, National Taiwan University

**Track C Program Co-Chairs:**



Sybil Derrible, University of Illinois at Chicago  
(Co-Editor of ASCE JIS Special Collections)



Sung-Hee Sonny Kim, University of Georgia

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David Woodward, Ulster University, UK  
Qing Juan Yang, Southwest Jiaotong University

## Technical Program

- Track A Smart Pavements and Infrastructures (Ballroom I)  
 Track B Smart Air/Water and Transportation (Ballroom II)  
 Track C Smart Management of Assets and Disasters (Ballroom III)

**TUESDAY, July 16, 2019**

7:00 pm – 9:00 pm  
 Sky Kingdom

**Ice Breaker (hors d'oeuvre provided)  
 at Sky Kingdom (take an elevator from the Conference Hotel)**

**WEDNESDAY, July 17, 2019**

8:00 am – 9:00 am

**Registration (breakfast on your own)**

9:00 am – 10:00 am  
 Ballroom I, II, and III

**Opening Ceremonies Presided by Jacob Odgaard, Southwest Jiaotong University**



**Hosin "David" Lee**,  
 Chair of ICSC1,  
 President of iSMARTi  
 and Professor of  
 University of Iowa.



**Jong-Kul Lee**,  
 5th-term Member of the  
 Korea National Assembly  
 and serves on the Science,  
 ICT, Broadcasting and  
 Communications  
 Committee. Former Floor  
 Leader of Minju Party.



**In Suck Ko**, President  
 of Seoul Institute of  
 Technology (SIT).



**Seung Heon Han**,  
 President of Korea  
 Institute of Civil  
 Engineering and Building  
 Technology (KICT)

10:00 am – 10:30 am

**Coffee Break**

10:30 am – 11:45 pm  
 Ballroom I, II and III

**Plenary Keynote Addresses Presided by David Woodward, Ulster University, UK**



**Daeyeon Cho**, Chief  
 Director of Korea  
 Strategic Smart Cities  
 Program in Korea  
 Agency for  
 Infrastructure  
 Technology  
 Advancement(KAIA).

**STATUS AND  
 PROSPECT OF KOREAN SMART CITY**









**Paulo Pereira**, Professor  
 and Director of The Centre  
 for Territory, Environment  
 and Construction (CTAC),  
 University of Minho, Portugal

**MOBILITY AND  
 TRANSPORT SYSTEM  
 FOR A CITY WITH FUTURE**

12:00 pm – 1:15 pm  
 Ibis buffet

**Lunch at ibis hotel buffet**



1:15 am – 2:30 pm Ballroom I	<p><b>Track A.1. Keynote Addresses Presided by Nizar Lajnef, Michigan State University</b></p> <div>  <p><b>Byung-Suk Kim</b>, Korea Institute of Civil Engineering and Building Technology.</p> <p><b>SUPER CONCRETE TECHNOLOGY OPENING A NEW WAY OF SMART CITY INFRASTRUCTURES</b></p> </div> <div>  <p><b>Cesare Sangiorgi</b>, Associate Professor at University of Bologna, Italy</p> <p><b>SUSTAINABLE, ACCESSIBLE, SAFE, RESILIENT AND SMART URBAN PAVEMENTS</b></p> </div>
1:15 pm - 2:30 pm Ballroom II	<p><b>Track B.1. Keynote Addresses Presided by Filippo Giustozzi, RMIT University (Australia)</b></p> <div>  <p><b>Samuel Labi</b>, Professor and Director of Center for Next Generation Transportation Systems (NEXTRANS) at Purdue University</p> <p><b>PREPARING OUR INFRASTRUCTURE FOR CONNECTED AND AUTONOMOUS VEHICLE OPERATIONS: CHALLENGES AND OPPORTUNITIES</b></p> </div> <div>  <p><b>Nicolas Hautière</b>, Ingénieur des Ponts, des Eaux et des Forêts at the French Institute of Science and Technology for Transport, Development and Networks (Ifsttar), France.</p> <p><b>SMARTER ROAD INFRASTRUCTURES FOR SMARTER CITIES</b></p> </div>
1:15 am - 2:30 pm Ballroom III	<p><b>Track C.1. Keynote Addresses Presided by Sung-Hee Sonny Kim, University of Georgia</b></p> <div>  <p><b>Seung Woo Lee</b>, Professor and director of Disaster Prevention Research Center at Gangneung-Wonju National University</p> <p><b>3RD GENERATION PAVEMENT: RCCP AND AC-RCCP COMPOSITE PAVEMENT – ECO-FRIENDLY AND SUSTAINABLE PAVEMENTS</b></p> </div> <div>  <p><b>Sybil Derrible</b>, Associate Professor and Director of the Complex and Sustainable Urban Networks (CSUN) Laboratory at University of Illinois at Chicago.</p> <p><b>MANAGING THE TRANSPORTATION INFRASTRUCTURE IN THE AGE OF AUTONOMOUS VEHICLES, INTELLIGENT INFRASTRUCTURE, AND HUMAN-CENTERED COMMUNITIES</b></p> </div>
2:30 pm – 3:00 pm	Coffee Break and Poster Session

► **Poster Session (from 2:30 pm to 3:00 pm everyday)**

**Session Chair: TBA**

**P.1 DESIGN AND PERFORMANCE SIMULATION OF BUS STATION FOR REDUCING THE PARTICULATE MATTERS USING GREEN WALL SYSTEM**, Dae Hee Jang, Soo Young Moon and Hee Mun Park, KICT (Korea)

**P.2 COMPARISON OF TRAVEL MODE CHOICE BEHAVIOR FOR THE ELDERLY AND NON-ELDERLY IN SEOUL, DOOSUN HONG**, DONGJU KA and CHUNGWON LEE, Seoul National University (Korea)

**P.3 CLUSTERING APPROACH FOR EVALUATION OF THE TRANSFER TIME OF PUBLIC TRANSIT IN SEOUL USING SMART CARD**, Eunhan Ka, Dongju Ka, Doosun Hong and Chungwon Lee, Seoul National University (Korea)

**P.4 PERFORMANCE EVALUATION OF ECO-FRIENDLY COLD RECYCLING ASPHALT MIXTURE WITHOUT CEMENT**, Cheolmin Baek, Sunglin Yang and Sungdo Hwang, KICT (Korea)

**P.5 REQUIREMENTS FOR THE SUCCESSFUL IMPLEMENTATION OF 'SMART CITY'**, Baik Namcheol and Lee Youngsung (Seoul National University), KICT (Korea)

**P.6 SUCCESSFUL EXAMPLES OF SMART CITIES IN THE US**, Brian Shanahan and Hosin "David" Lee, University of Iowa (USA)




**P.7 BUILDING CHILDREN-FRIENDLY HOSPITAL IN IOWA CITY**, Nicholas Moioffer and Hosin "David" Lee, University of Iowa (USA)









3:00 pm – 5:00 pm	<p>▶ <b>Session A.2 Sensors for Pavements and Infrastructures</b></p> <p><b>Session Chair: TBA</b></p> <p><b>A.2.1 ASSESSMENT OF A TEN YEAR EXPERIENCE ON REMOVABLE URBAN PAVEMENT FOR SMART CITIES, Thierry Sedran</b>, Eric Gennesseaux and Julien Waligora (Eiffage Infrastructures), Ifsttar (France)</p> <p><b>A.2.2 SMART TRANSPORT ROADS DESIGNED BY NANOCOMPOSITE COATING OF POLYURETHANE AND CARBON NANOTUBES, Sung-Hwan Jang</b>, University of Plymouth (UK)</p> <p><b>A.2.3 MAKING SENSE OF ROAD SENSORS: EMBEDDED FIBER OPTIC SYSTEMS, Filippo Giustozzi</b>, RMIT University and David Hallett, Institute of Public Works Engineering Australasia (Australia)</p> <p><b>A.2.4 ANCHORED PIPE SYSTEMS IN STABILIZED CLAY USING CIRCULAR PLATES, Zein-Eddine Merouani</b>, Staffan Hintze (NCC, Sweden) and Taha Ahmed, Australian College of Kuwait (Kuwait)</p> <p><b>A.2.5 EFFECTS OF BUILT-IN TEMPERATURE DISTRIBUTION ON CONCRETE STRESS DEVELOPMENT IN JPCP, Tetsya Sok</b> and Seung Woo Lee, Gangneung-Wonju National University (KOREA)</p> <p><b>A.2.6 AN ALTERNATIVE PARAMETER IN EVALUATING MOISTURE SUSCEPTIBILITY OF ASPHALT MIXTURES, Thanh Chung Do</b>, Hyun Jong Lee, Cheol Min Baek and Thanh Tu Nguyen, Sejong University, (KOREA)</p>
Ballroom I	<p>▶ <b>Session B.2 Smart Vehicle/Factory Operations</b></p> <p><b>Session Chair: TBA</b></p> <p><b>B.2.1 IMPROVING EFFICIENCY OF CONNECTED AUTOMATED VEHICLES INTERACTING WITH UNCONNECTED VEHICLES, Zheng Chen</b> and <b>B. Brian Park</b>, University of Virginia (USA)</p> <p><b>B.2.2 DRIVERS' PERCEPTION OF HEADWAYS IN THE OPERATIONS OF CONNECTED AND AUTONOMOUS VEHICLES, Yujie Li</b>, Srinivas Peeta (Georgia Tech) and Samuel Labi, Purdue University (USA)</p> <p><b>B.2.3 SIMULATION-BASED ANALYSIS ON DYNAMIC MERGE CONTROL AT FREEWAY WORK ZONES IN COOPERATIVE AUTOMATED VEHICLE MIXED ENVIRONMENT, Sunho Kim</b>, Jaehyeon Lee, Dongju Ka and Chungwon Lee, Seoul National University (Korea)</p> <p><b>B.2.4 CAN ROADWAY DESIGNS AND OPERATIONAL POLICIES INFLUENCE MILLENNIAL AUTONOMOUS VEHICLE ADOPTION: A DRIVING SIMULATOR STUDY, Yuntao Guo</b>, Samuel Labi and Dustin Souders, Purdue University (USA)</p> <p><b>B.2.5 CRITICAL REVIEW ON CURRENT VEHICLE POLICY OF GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI, Ravindra Kumar</b> and Tarek Zayed, CSIR-Central Road Research Institute (India)</p> <p><b>B.2.6 SMART FACTORY SECURITY REQUIREMENTS IN DISPLAY INDUSTRY, Lee Won Park</b> and Hangbae Chang, Chung-Ang University (Korea)</p>
Ballroom II	<p>▶ <b>Session C.2 Smart City Initiatives</b></p> <p><b>Session Chair: TBA</b></p> <p><b>C.2.1 THE LIVING LAB BASE SMART-CITY AS CITY INNOVATION PLATFORM: BASED ON THE CASE OF "DAEGU LIVIGN LABS", Hee Dae Kim</b>, Su Jin Kim, Bae Ji Hyuk, and Jeong Dae Hyeon, Daegu Technopark (Korea)</p> <p><b>C.2.2 SUSTAINABLE SMART CITY DEVELOPMENT IN A FRAMEWORK OF GOVERNANCE, Savis Gohari</b>, Eivind Junker, Dirk Ahlers and Brita F. Nielsen, Norwegian University of Science and Technology (Norway)</p> <p><b>C.2.3 ACHIEVING CITIZEN PARTICIPATION IN SMART CITIES: FIVE CROSS-ROADS IN THE PLANNING OF THE +CityxChange PROJECT IN TRONDHEIM, Brita Fladvad Nielsen</b>, Savis Gohari, Elena Gilcher, Daniela Baer (SINTEF Building and Infrastructure) and Welfry Zwestin Situmorang, Norwegian University of Science and Technology, (Norway)</p> <p><b>C.2.4 FOOD CAPSULE, PRODUCTIVE LANDSCAPE PLANNING AND DESIGN TO FIGHT WITH GLOBLE FOOD CRISIS, Xie Jing</b>, Chen Xiaoxi and Yang Qingjuan, Southwest Jiaotong University (China)</p> <p><b>C.2.5 BEING SMART IS KNOWING WHAT YOU ALREADY KNOW: DATA ON HOW CITIES ARE BUILT AND DESIGNED, Cole Hendrigan</b> and Pascal Perez, University of Wollongong (Australia)</p> <p><b>C.2.6 BIG DATA USE CASES : A REVIEW ON SMART CITY SERVICE IN KOREA, Baik Namcheol</b>, Sungsik Kim and Youngsung Lee (Seoul National University), KICT (Korea)</p>
Ballroom III	<p>Visit Exhibition Booths</p>
5:00 pm – 6:00 pm	

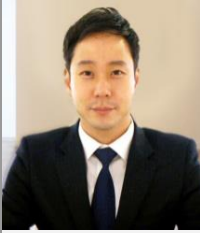
6:00 pm – 9:00 pm Ballroom I, II, III	<b>Welcoming Dinner (Ballroom 1, 2, 3)</b>  <b>Feature Presentation: TBD</b>  TBD
9:00 pm – 10:00 pm	<b>iSMARTi Meeting (Open to all Registered Participants)</b>

## THURSDAY, July 18, 20019

8:00 am – 9:00 am	Registration (breakfast on your own)	
9:00 am – 10:00 am Ballroom I, II, and III	Plenary Session Presided by Chia-pei Chou, National Taiwan University	
	 <p><b>Wonson Park, Mayor of Seoul City.</b></p>	
10:00 am – 10:30 am	Coffee Break and Poster Session	
10:30 am – 11:45 pm Ballroom I, II and III	Plenary Keynote Addresses Presided by David Woodward, Ulster University, UK	
	 <p><b>Gregory R. Carmichael</b>, Professor and co-director of the Center for Global and Regional Environmental Research at University of Iowa</p> <p><b>IMPROVING AIR QUALITY IN SMART CITIES</b></p>	 <p><b>A. Jacob Odgaard</b>, Professor and Dean of School of Architecture and Design, Southwest Jiaotong University, Chengdu, China</p> <p><b>WATER QUALITY CONTROL MEASURES IN GROWING CITIES</b></p>
12:00 pm – 1:15 pm Ballroom I, II and III	Lunch at Baekdu Ballroom	





1:15 am – 2:30 pm Ballroom I	<b>Track A.3. Keynote Addresses Presided by Davide Lo Presti, University of Palermo</b>	
	 <p><b>Nizar Lajnef</b>, Associate Professor of civil engineering at Michigan State University, USA</p> <p><b>SELF-POWERED SELF-SENSING AUTOMATED CIVIL INFRASTRUCTURE</b></p>	 <p><b>Nizar Lajnef</b>, Associate Professor of civil engineering at Michigan State University</p> <p><b>SELF-POWERED SELF-SENSING AUTOMATED CIVIL INFRASTRUCTURE</b></p>
1:15 pm - 2:30 pm Ballroom II	<b>Track B.3. Keynote Addresses Presided by TBD</b>	
	 <p><b>T. F. Fwa</b>, Distinguished Professor of Civil Engineering at Chang'an University, China</p> <p><b>CHALLENGES IN DESIGN AND DEVELOPMENT OF ENVIRONMENTALLY SUSTAINABLE PAVEMENTS</b></p>	 <p><b>Serji Amirkhanian</b>, Professor of Civil Engineering at University of Alabama and CEO and President of Asphalt Technologies LLC, USA</p> <p><b>DEVELOPMENTS IN CIVIL ENGINEERING SMART INFRASTRUCTURE MATERIALS</b></p>
1:15 am - 2:30 pm Ballroom III	<b>Track C.4. Keynote Addresses Presided by Sybil Derrible, University of Illinois at Chicago</b>	
	 <p><b>Waheed Uddin</b>, Professor and Director of CAIT, University of Mississippi (USA).</p> <p><b>SMART CITY OPPORTUNITIES AND CHALLENGES RELATED TO CONNECTED INFRASTRUCTURE, DISASTER RESILIENCE, AND CLIMATE ADAPTATION</b></p>	 <p><b>Song Bo</b>, Professor and Director of CAIT, University of Science and Technology Beijing (China).</p> <p><b>STUDY ON INFLUENCE MECHANISM OF UNEVEN SETTLEMENT ON TYPICAL URBAN STRUCTURE</b></p>
2:30 pm – 3:00 pm	Coffee Break and Poster Session	

<p>3:00 pm – 5:00 pm</p> <p>Ballroom I</p>	<p>▶ <b>Session A.4 Sustainable Pavements</b></p> <p><b>Session Chair: TBD</b></p> <p><b>A.4.1 SYNTHETIC AGGREGATES FOR THE PRODUCTION OF INNOVATIVE LOW IMPACT POROUS LAYERS FOR URBAN PAVEMENTS</b>, Piergiorgio Tataranni and Cesare Sangiorgi, University of Bologna (Italy)</p> <p><b>A.4.2 POROUS RECLAIMED ASPHALT PAVEMENT WITH GEOPOLYMERIC GROUTING</b>, An Huynh and David Woodward and Bryan Magee, University of Ulster (UK)</p> <p><b>A.4.3 SMART CITY INITIATIVES: PERVIOUS CONCRETE SHOULDERS &amp; BERMS</b>, Avishreshth, Prasanna Venkatesh Sampath, Krishna Prapoorna Biligiri, Indian Institute of Technology Tirupati (India)</p> <p><b>A.4.4 INFLUENCE OF ENVIRONMENTAL CONDITIONS ON BLEEDING AND EVAPORATION OF EARLY AGE CONCRETE SLABS</b>, Chulho Jung, Christopher Jabonero and Yoon-ho Cho, Chung-Ang University (Korea)</p> <p><b>A.4.5 THE STUDY OF GEOPHONES AND ACCELEROMETERS FOR PAVEMENT INSTRUMENTATION AND ASSESSMENT</b>, Natasha Bahrani, Juliette blanc, Pierre hornych and Fabien menant, IFSTTAR (France)</p> <p><b>A.4.6 DEVELOPMENT OF WARM IN-PLACE RECYCLING</b>, Kyu-dong Jeong, Soo-Ahn Kwon, Jung-Tan Son, Young-Nam Han and Hosin "David" Lee (University of Iowa), KICT (Korea)</p>
<p>Ballroom II</p> <p>Ballroom III</p>	<p>▶ <b>Session B.6 Clean Air and Water</b></p> <p><b>Session Chair: TBD</b></p> <p><b>B.4.1 METHODOLOGY FOR INDIVIDUAL AIR POLLUTION EXPOSURE ESTIMATION BASED ON DATA FROM AIR POLLUTION CONCENTRATION MAPS, DAILY ROUTES AND ACTIVITIES</b>, Paulo Pereira, Bruno Mendes and Lúcia Torres Silva, University of Minho (Portugal)</p> <p><b>B.4.2 OPTIMIZATION OF LID FOR FLOOD MITIGATION IN NEW TAIPEI CITY</b>, Wei Shih, Hao-Che Ho and Hong-Yang Lee, National Taiwan University (Taiwan)</p> <p><b>B.4.3 WATER QUALITY CONTROL: FUNCTIONALITY, AESTHETICS AND HERITAGE</b>, YANG Qing juan ZHOU Sixiang and A. Jacob Odgaard, Southwest Jiaotong University(China)</p> <p><b>B.4.4 PACIFIC-ISLANDS' DESALINATION AIMING FOR ZERO-DISCHARGE: CONCEPTS, DESIGNS, AND FEASIBILITY</b>, Godwin Severa, Matthieu Dubarry, Scott Higgins, Jean St-Pierre, Rui Sun, Henrietta Dulai, Jonghyun Harry Lee, William Uspal, Sangwoo Shin, Weilin Qu and Albert S. Kim, University of Hawaii at Manoa (USA)</p> <p><b>B.4.5 CURRENT AND FUTUER OF KOREA LANDSLIDE EARLY WARNING SYSTEM (LEWS)</b>, Sun-Gyu Choi (National Disaster Management Research Institute), Tae-Hyuk Kwon, Youngchul Kim and Jaeman Kim, Korea Advanced Institute of Science and Technology (KAIST) (Korea)</p> <p><b>B.4.6 LABORATORY EVALUATION OF RECYCLED ASPHALT PAVEMENT PERFORMANCE</b>, Xinyu David Hu Byungkyu "Brian" Moon and Hosin "David" Lee (USA)</p>
	<p>▶ <b>Session C.4 Asset Management</b></p> <p><b>Session Chair: TBD</b></p> <p><b>C.4.1 ELEMENTS OF MUNICIPAL INFRASTRUCTURE MANAGEMENT IN AN ERA OF SMART CITIES</b>, BORTIORKOR NII TSUI ALABI, MAJED ALINIZZI, YUNTAO GUO, SAMUEL LABI, Purdue University (USA)</p> <p><b>C.4.2 DEVELOPMENT OF AN INTELLIGENT REMOTE SENSING TECHNIQUE AS A TOOL FOR SMART INFRASTRUCTURE ASSET MANAGEMENT</b>, BRYAN MAGEE, MARK HAMILL and PHILLIP MILLAR, Ulster University (UK)</p> <p><b>C.4.3 DECISION SUPPORT TOOLS FOR SUSTAINABLE MAINTENANCE, REPAIR AND REHABILITATION OF ASPHALT ROADWAYS</b>, Baris Salman (Syracuse University), Ossama Salem and Song He, George Mason University (USA)</p> <p><b>C.4.4 ASSET MANAGEMENT SYSTEMS FOR A SUSTAINABLE DEVELOPMENT OF SMART CITIES</b>, Carlos M. Chang, University of Texas at El Paso (USA), Miroslav Svitek and Tomas Horak, Czech Technical University in Prague (Czech)</p> <p><b>C.4.5 TOWARDS MORE SUSTAINABLE PAVEMENT MANAGEMENT USING 3D IMAGE-BASED MODELLING TECHNIQUES AND LIFE CYCLE ASSESSMENT</b>, Konstantinos Mantalovas, Laura Inzerillo, Gaetano Di Mino and Ronald Roberts University of Palermo (Italy)</p> <p><b>C.4.6 SMARTPHONE SENSORS FOR PAVEMENT CONDITION MONITORING</b>, Janani L., Sunitha V. and Samson Mathew, National Institute of Technology Tiruchirappalli (India)</p> <p><b>C.4.7 CONVERSION OF ROLLING DYNAMIC DEFLECTOMETER DEFLECTIONS FOR BACKCALCULATION DEEP LEARNING</b>, Julius Marvin Flores, Hyun Jong Lee, Carlo Elipse, Wangsoo Lee, Sejong University(Korea)</p>


5:00 pm – 6:00 pm		Visit Exhibition
6:00 pm – 9:00 pm Ballroom I, II, and III		<p><b>Welcoming Dinner (Ballroom 1, 2, 3)</b></p> <p><b>Feature Presentation:</b></p> <p><b>JunHwan Chang, J.D., L.L.M., M.C.J.</b>  <b>Chang Law Group, PC</b></p> <p><b>"Smart City Investment Opportunities"</b></p> <p><b>Conference Banquet *(Ballroom I, II and III)</b></p>



## FRIDAY, July 19, 20019

8:00 am – 9:00 am	Registration (breakfast on your own)	
9:00 am – 10:00 am Ballroom I, II, and III	Plenary Session Presided by TBD	
	 <p><b>Sang Min Lee</b>, 4th-term Member of the Korea National Assembly and serves on the Future Planning, Science, Broadcasting and Communications Committee.</p>	
	 <p><b>Rae Chul Lee</b>, President, Korean Society of Disaster Information and (KOSDI) and President of Korea NGO Association.</p>	
10:00 am – 10:30 am	Coffee Break and Poster Session	
10:30 am – 11:45 pm Ballroom I, II and III	Plenary Keynote Addresses Presided by TBD	
	 <p><b>Seok Hong Lee</b>, CTO and Executive Vice President of HYUNDAI Engineering and Construction Co. LTD</p> <p><b>SMART CITY STRATEGY OF HYUNDAI MOTOR GROUP</b></p>	 <p><b>TBD</b>, from Singapore GovTech</p> <p><b>DEVELOPMENT OF SMART CITY TECHNOLOGIES IN SINGAPORE</b></p>
12:00 pm – 1:15 pm Ballroom I, II and III	Lunch at ibis Buffet	

1:15 pm – 3:15 pm	<p>▶ <b>Session A.5 Evaluation of Infrastructures</b></p>
Ballroom I	<p><b>Session Chair: TBD</b></p>
	<p><b>A.5.1 TEMPERATURE CORRECTION MODEL FOR FRICTION TESTING OF BRITISH PENSULUM TESTER ON THERMOPLASTIC ROAD MARKINGS</b>, Chia-Pei CHOU, Dong-Xu JIANG and Ai-Chin CHEN, National Taiwan University (Taiwan)</p> <p><b>A.5.2 DEVELOPMENT OF AN INTELLIGENT REMOTE SENSING TECHNIQUE AS A TOOL FOR SMART INFRASTRUCTURE ASSET MANAGEMENT</b>, BRYAN MAGEE, MARK HAMILL and PHILLIP MILLAR, Ulster University (UK)</p> <p><b>A.5.3 ESTIMATION OF SUBGRADE SOIL DENSITY USING GROUND PENETRATING RADAR</b>, Ahmad M. Abdelmawla, Stephan A. Durham and S. Sonny Kim, University of Georgia (USA)</p> <p><b>A.5.4 THE OVERLAY METHOD FOR REINFORCE BAR INSPECTION BY LEVERAGING AN AUGMENTED REALITY SOLUTION</b>, Xi Song and Chunhee Cho, University of Hawaii at Manoa (USA)</p> <p><b>A.5.5 VISION-BASED AUTOMATED CRACK DETECTION FOR BRIDGE INSPECTION USING AN UNMANNED AERIAL VEHICLES</b>, Seunghyun Choi and Myungsik Do, Hanbat National University (Korea)</p>
Ballroom II	<p><b>A.5.6 INVESTIGATION OF REFLECTIVE CRACKING PRETREATMENT EFFICIENCY IN AC OVERLAY-PCC PAVEMENT BASED ON LTPP DATA</b>, Makara Rith, Young Kyu Kim and Seung Woo Lee, Gangneung-Wonju National University (Korea)</p> <p><b>A.5.7 DEVELOPEMTN OF DEEP LEARNING ALGORITHM FOR MESURING PAVEMENT CRACKING AUTOMATICALLY</b>, Byungkyu “Brian” Park and Hosin “David” Lee University of Iowa (USA)</p>
	<p>▶ <b>Session B.5 Transit and Energy</b></p>
Ballroom III	<p><b>Session Chair: TBD</b></p>
	<p><b>B.5.1 CIRCUITY ANALYSIS OF PUBLIC TRANSIT NETWORK IN SEOUL USING SMART CARD DATA</b>, Dongju Ka, Doosun Hong and Chungwon Lee, Seoul National University (Korea)</p> <p><b>B.5.2 CONCEPTUALIZED MONORAIL SYSTEM IN ARID CLIMATIC AREAS CASE STUDY IN KUWAIT</b>, Taha Ahmed, Mohamed Salem, Yousef Alnajdi (Kuwait Oil Company) and Sara AlShatti, Australian College of Kuwait (Kuwait)</p> <p><b>B.5.3 A NOVEL HYBRID ROAD SYSTEM FOR THE ENERGY HARVESTING</b>, Domenico Vizzari, Emmanuel Chailleux, Stéphane Lavaud, Eric Genesseeux and Stéphane Bouron, IFSTTAR (France)</p> <p><b>B.5.4 THE USE OF PIEZOELECTRIC MATERIALS FOR ENERGY HARVESTING ON ASPHALTIC PAVEMENTS</b>, CARLOS A. O. F. PALHA, CAIO R. G. SANTOS and JORGE C. PAIS, University of Minho (Portugal)</p> <p><b>B.5.5 THE INFLUENCE OF SMART GLAZING ON THE ENERGY EFFICIENCY OF A SOCIAL HOUSING BUILDING IN PORTO, PORTUGAL</b>, Giuseppina Iuliano (University of Campania), Ricardo Barbosa, Manuela Almeida, Sergio Sibilio (University of Campania), University of Minho (Portugal)</p> <p><b>B.5.6 ENERGY SUSTAINABILITY MODEL IN THE SMART BUILDING THROUGH DIGITAL TWINS</b>, Lee Won Park and Hangbae Chang, Chung-Ang University (Korea)</p>
	<p>▶ <b>Session C.5 Disaster Resilience and Sustainability</b></p>
	<p><b>Session Chair: TBD</b></p>
	<p><b>C.5.1 EMBANKMENT FAILURE MECHANISMS AND MCDM METHODS FOR RAILWAY GEOTHECNICAL ASSET MANAGEMENT</b>, Giulia Siino (AECOM), Craig Govan, Davide Lo Presti and Andrew Dawson, University of Nottingham (UK)</p> <p><b>C.5.2 HUMAN RESPONSES OF EMERGENCY EVACUATION USING AGENT-BASED MODELING</b>, JeeWoong Park and Cristian Arteaga, University of Nevada (USA)</p> <p><b>C.5.3 RESILIENCE INDICATORS FOR ROAD NETWORKS: THE ROLE OF ROBUSTNESS AND RAPIDITY</b>, Philippe Y. R. Sohounou, Marie Skłodowska-Curie, Luis A. C. Neves and Davide Lo Presti, University of Nottingham (UK)</p> <p><b>C.5.4 EVALUATION OF MULTI-OBJECTIVE GENETIC ALGORITHM FOR LOW IMPACT DEVELOPMENT IN PLANNING URBAN AREA</b>, YUDI WANG and HAO-CHE HO, National Taiwan University (Taiwan)</p> <p><b>C.5.5 CIRCULAR ECONOMY FOR PAVEMENTS: HOW TO INCREASE CIRCULARITY AND REDUCE ENVIRONMENTAL IMPACTS</b>, Namho Cho and Mounir El Asmar, Arizona State University (USA)</p> <p><b>C.5.6 AUTOMATED ASPHALT MIX DESIGN USING ARTIFICIAL NEURAL NETWORK</b>, Haissam Sebaaly, Sudhir Varma and James Maina, University of Pretoria (South Africa)</p>

3:15 pm – 3:30 pm	Coffee Break and Poster Session
3:30 pm – 5:00 pm	<p>▶ <b>Workshop A.6 Sustainable Pavements and Infrastructures for Smart Cities</b></p> <p><b>Main Instructor: TBD</b></p>
Ballroom I	
Ballroom II	<p>▶ <b>Workshop B.6 Clean Air and Water for Smart Cities</b></p> <p><b>Main Instructor: TBD</b></p>
Ballroom III	<p><b>Workshop C.6 Smart Government for Smart Cities</b></p> <p><b>Main Instructor: Yuanruo Liang, Software Engineering &amp; Machine Learning, GovTech, Singapore</b></p>  <p><b>Reroute Project developed by GovTech in Singapore.</b></p>
5:00 pm – 6:00 pm	Exhibition Hall Closes
6:00 pm – 9:00 pm	<p><b>Closing Ceremony Dinner</b></p> <p><b>Feature Presentation</b></p> <p><b>Jeonghwan (Jerry) Choi, PhD, MBA, ME, Assistant Professor</b>  <b>Department of Management, Marketing and International Business</b>  <b>College of Business and Public Management, Kean University (Wenzhou, China)</b></p> <p><b>“Sensemaking in Artificial Intelligence Decision-Making Era”</b></p> <p><b>Followed by K-Pop Performance (TBD)</b></p> <p><b>Announcement of Future Conferences by iSMARTi</b></p> <p><b>2023 ICSC2, TBA</b>  <b>2022 ICTI5, Lima, Peru</b>  <b>2021 MAIREINFRA2, Colombia</b>  <b>2020 MAREPAV9, Switzerland</b></p> <p><b>“Big Door Prize and Best Paper Awards- Must be Present to Win”</b></p>
Ballroom I, II, and III	

## SATURDAY, July 20, 20019

9:00 am – 5:00 pm	Tour of DMZ-KICT-Seoullo by bus
Industry/Culture Tour	(lunch on your own)

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