2020 SEOUL BIG DATA FORUM

Power of Big Data in Times of Urban Crisis

December 3 (Thu) – 4 (Fri), 2020 | Seoul, Republic of Korea

Overview

Title	2020 Seoul Big Data Forum
Date	December 3 ~ 4 (Thu ~ Fri), 2020
Theme	Power of Big Data in Times of Urban Crisis
Venue	Seoul ON Studio & Online Live Streaming via YouTube
Host	Seoul Institute of Technology (SIT)
Co-Host	Seoul Digital Foundation, University of Seoul, The Seoul Institute
Expected no. of Participants	Approx. 300
Official Language	English (Simultaneous interpretation will be provided in Korean)

Program at a Glance

December 3 (Thu)		December 4 (Fri)	
Time	Event	Time	Event
09:30-10:00	Opening Ceremony	09:30-12:00	**Session IV**: Hosted by The Seoul Institute
10:00-12:00	**Session I: Keynote Session**		
12:00-13:00	Break	12:00-13:00	Break
13:00-15:30	**Session II**: Hosted by Seoul Institute of Technology	13:00-15:30	**Session V**: Hosted by University of Seoul
15:30-16:00	Break	15:30-16:00	Break
16:00-18:30	**Session III**: Hosted by Seoul Digital Foundation	16:00-18:00	**Session VI**: Hosted by Seoul Metropolitan Government

(Program is subject to change)

Session Description

■ Session I: Keynote Session
Strategic City Innovation with Big Data in the Urban Crisis

Date	December 3, 2020 10:00 – 12:00
Moderator	**Heechung Lee** | Professor, University of Seoul
Presentation	*Power of Big Data in Times of Urban Crisis (tentative)* **Constantine Kontokosta** | Professor, NYU Marron Institute *Urban Activity System through Big Data (tentative)* **Jan-Dirk Schmöcker** | Professor, Kyoto University
Introduction	The age of urban crisis triggered by the COVID-10 pandemic and the arrival of big data-driven city innovation will be discussed by Prof. Constantine Kontokosta and Prof. Jan-Dirk Schmöcker at the keynote session. In particular, Prof. Kontokosta with Marron Institute of Urban Management at New York University is the world's academic frontier in urban planning and management through big data analytics, as explored in his recent publication "Urban Intelligence: Planning, Design, and City Operations."

(Title of Presentation and Presenter are subject to change)

■ Session II: Urban Data Science for Epidemic Response

Hosted by **Seoul Institute of Technology**

Title	Urban Data Science for Epidemic Response
Date	December 3, 2020 13:00 – 15:30
Moderator	**Joon Heo** | Professor, Yonsei University
Presentation	*PREP: Pandemic Risk Evaluation Platform – Beyond Contact Tracing for COVID-19* **Cyrus Shahabi** | Professor, University of Southern California *Spatial Healing: Bridging Space and Place through the Concept of Wholeness* **Bin Jiang** | Professor, University of Gävle *Research Direction for the Epidemic Simulation Model Using the Telecom Mobility Data* **Junyoung Choi** | Research Fellow, Seoul Institute of Technology *COVID-19 Outbreak Prediction Study Using Secondary Mobility Data* **Seungsik Hwang** | Professor, Seoul National University
Panel Discussion	**Remy Sietchiping** | Head of Policy Legislation and Governance Section, UN-Habitat Kenya **Myunghwa Hwang** | Research Fellow, Korea Research Institute for Human Settlement **Hyungmin Kim** | Professor, The University of Melbourne
Introduction	Due to current COVID-19 pandemic, Seoul has experienced various losses as well as dynamic changes in terms of metropolitan city. In order to overcome the crisis, citizens have altered their own behaviour, which in turn led to the transformation of not just Seoul but also global metropolitan cities in many ways. Urban data science and its various applications have been implemented to minimize the losses from the epidemic. Seoul has also been applying state of the art digital contact tracing technologies to the city itself in order to reduce COVID-19 patients and to relieve the damage COVID-19 has affected to the city. In this session, urban data science methodologies using numerous urban mobility data, created by the very own citizens living within, will be introduced. These methodologies will be applied to attempt to analyze, predict and prevent COVID-19 itself. Session participants will discuss effectiveness of this methodologies and big data governance for resilient and sustainable cities against urban health crisis.

(Title of Presentation and Presenter are subject to change

■ Session III: AI & Big Data Approach for Urban Innovation

Hosted by **Seoul Digital Foundation**

Title	AI & Big Data Approach for Urban Innovation
Date	December 3, 2020 16:00 – 18:30
Moderator	**Eunyoung Kim** | Director of Planning, Seoul Digital Foundation
Presentation	*Revisiting "Technology and the Future Cities": Lessons from Chicago's Food Inspection Forecasting Model for Seoul's Air Pollution Management* **Matthew A. Shapiro** | Associate Professor, Illinois Institute of Technology *AI Based Defect Detection & Recognition System for Sewer Pipes Assessment* **Hyeonjoon Moon** | Professor, Sejong University *Where and Why? A Novel Approach for Prioritizing Implementation Point of Public CCTV using Urban Big Data* **Jihye Park** | Senior Researcher, Seoul Digital Foundation
Panel Discussion	**Jang-Hyun Kim** | Professor, Sung Kyun Kwan University **Yunseok Ko** | Chief Director of Dept. of Global ICT Cooperation, NIA
Introduction	How will Artificial Intelligence (AI) and Big Data transform the City? And How City administrations should prepare for the hyper-intelligence and hyper-connected society? To provide valuable insight into these questions, this session introduces several cases of AI & Big-data driven urban innovation, and seeks the best practices to deal with coming changes. As the Seoul Metropolitan Government has declared its vision on "Smart City" armed with AI & Big data approach for urban innovation, a "blueprint" plan to realize and deliver the full potential of AI & Big data is highly demanded. Opinions from the expert and participants in session, will provide profound implications for a novel approach to promote the urban innovation.

(Title of Presentation and Presenter are subject to change)

■ Session IV: Urban Sensor Networks: Evaluation and Practical Considerations

Hosted by **The Seoul Institute**

Title	Urban Sensor Networks: Evaluation and Practical Considerations
Date	December 4, 2020 09:30 – 12:00
Moderator	**Sang Il Kim** | Head of Dept. of Urban Data and Information, The Seoul Institute
Presentation	*Finding New Things by High-resolution Urban Sensor Networks: Identification of Urban Temperature Patterns Using S•DoT Big Data in Seoul* **Haekyung Park** | Research Fellow, The Seoul Institute *Making Sense of Sensor Data: How Local Environmental Conditions Add Value to Social Science Research* **Ned English** | Senior Research Methodologist, NORC at the Univ. of Chicago *The Environmental Neighborhoods of Cities and Their Spatial Extent* **Maider Llaguno-Munitxa** | Associate Professor, Northeastern University *Understanding the Impact of COVID-19 in Singapore and Australia Using Urban Sensor Networks* **Cuauhtémoc Anda** | Senior Data Scientist, DataSpark
Panel Discussion	**Kyung Hee Koh** | Director for Smart City Division, Seoul Metropolitan Government **Sojin Lee** | Associate Research Fellow, The Seoul Institute **Kyuho Kim** | Industry-Academia Cooperation Professor, Sogang University
Introduction	Recent advances in the Internet of Things (IoT) and low-cost sensor technology allow cities to precisely measure and monitor changes in cities at low cost. Urban sensor networks are being introduced in many cities around the world, and these urban sensor networks measure environmental information such as fine dust, noise, temperature, and human mobility in real time with higher resolution. Such big data from urban sensor networks can deliver fast and accurate information to citizens, and can be a new data source for city policy. In this session, we introduce researches of urban sensor networks installed in Seoul and other global cities. Session participants will discuss the potential, limitations and use of urban sensor networks for city policy.

(Title of Presentation and Presenter are subject to change)

■ Session V: Urban Life Innovation and Big Data

Hosted by **University of Seoul**

Title	Urban Life Innovation and Big Data
Date	December 4, 2020 13:00 – 15:30
Moderator	**TBD** | TBD
Presentation	*Impact of London Ultra Low Emissions Zone on Air Quality* **Benjamin Heydecker** | Emeritus Professor, University College of London *Revealing Safer Ways of Public Transport Use with COVID Based on Big Data Analytics* **Seungjae Lee** | Professor, University of Seoul *Impacts of COVID-19 on Multiple Scales* **Tae-Hyoung Tommy Gim** | Associate Professor, Seoul National University *Urban Space after COVID-19* **Idil Ayral** | Visiting Professor, University of Seoul
Panel Discussion	**Euijun Kim** | Professor, Seoul National University **In Kyu Park** | Professor, University of Seoul
Introduction	New technologies and new industries based on big data such as AI are developing differently from day to day. This development has brought many changes in our lives. Through the analysis and prediction of various phenomena related to the cities, and has had direct and indirect impacts on various urban forms and the lives of citizens through application in fields such as public transportation, smart mobility, and infectious diseases. The Innovation of urban administration using information generated by citizens, who are the subjects of urban activities, also brought about a big change. Big data can take the place of citizens' voices, and this voice will bring about various policies and effects related to cities. As such, in this session, we will introduce the use cases in various fields using big data with great potential and influence and the direction to go, introduce how to use big data, and discuss the future direction.

(Title of Presentation and Presenter are subject to change)

■ Session VI: Wrap-up Session

Hosted by **Seoul Metropolitan Government**

Title	(Wrap-up Session) Data-driven Innovation for Urban Crisis
Date	December 4, 2020 16:00 – 18:00
Moderator	**Taehyun Kim** | Head of Smart City Department, Seoul Institute of Technology
Presentation	*Big Data Policy of Seoul Metropolitan Government (Tentative)* **Jung Joon Ahn** | Seoul Metropolitan Government
Panel Discussion	**Junyoung Choi** | Research Fellow, Seoul Institute of Technology **Eunyoung Kim** | Director of Planning, Seoul Digital Foundation **Sang Il Kim** | Head of Dept. of Urban Data and Information, The Seoul Institute **Heechung Lee** | Professor, University of Seoul
Introduction	Wrap up session, under the theme of "Power of Big Data in Times of Urban Crisis," shares the outcomes of four hosting institutions and seeks further development plans through the implementation of big data-led policy innovation.

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