

March 9 ~ 10, 2017, Wind Engineering Joint Usage / Research Center, Tokyo Polytechnic University

## International Workshop on Gusty Wind, Thermal Environment and Energy Saving

<b>Venue</b>	Atsugi Campus, Tokyo Polytechnic University
<b>Organized by</b>	Wind Engineering Joint Usage / Research Center, Tokyo Polytechnic University
<b>Co-organized by</b>	Japan Association for Wind Engineering
<b>Supported by</b>	The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan The Meteorological Society of Japan Japan Society of Civil Engineers Architectural Institute of Japan

### Introduction / Objectives

The Wind Engineering Research Center (WERC) at Tokyo Polytechnic University (TPU) was adopted as the Wind Engineering Joint Usage / Research Center (WE-JURC) by the Ministry of Education, Culture, Sports, Science and Technology in Japan. It is now actively promoting joint researches, building on previous research results and utilizing the facilities available. The 2nd stage of WE-JURC was started this year, and aims to promote collaborative researches with overseas researchers.

In this workshop, as a part of Inter-Pacific-rim Collaborative Research on Wind Engineering (IPCR-WE), the efforts of each country on various researches on the characteristics of gusty wind, countermeasures to damage, evaluation of thermal and air environments and countermeasures to their effects, and energy-saving technology for buildings will be discussed.

### Topics

- Characteristics of gusty wind
- Countermeasures of gusty wind-induced disasters
- Indoor and urban air quality
- Building energy efficiency

### Keynote Speakers

- Professor Greg Kopp (Western University, Canada)
- Professor Sungsu Lee (Chungbuk National University, Korea)
- Professor John Z. Zhai (University of Colorado at Boulder, USA)

### Contacts

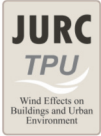
Wind Engineering Joint Usage / Research Center, Tokyo Polytechnic University

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## Program

### March 9 (Thursday) 2017

- 15:00 ~ 17:00      Technical Tour  
17:30 ~ 19:30      Ice Breaker Reception

### March 10 (Friday) 2017 (Main Building)

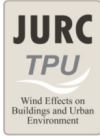
- 09:30 ~ 09:40      Opening Address

### Keynote Speech

- 9:40 ~ 10:30      Wind speed estimation from observed damage in tornadoes  
*by G. Kopp (Western University, Canada)*
- 10:30 ~ 11:20      Characteristics and prognosis of thunderstorm wind gust  
*by S. Lee and J.Y. Kim (Chungbuk National University, Korea)*
- 11:20 ~ 11:30      Coffee Break
- 11:30 ~ 12:20      Inverse tracking of indoor and outdoor pollutant sources with limited sensor outputs  
*by John Z. Zhai (University of Colorado at Boulder, USA)*

### Parallel Session for Structural Wind Engineering

- 13:30 ~ 14:00      Current status of laboratory tornado simulation studies and investigations on their interaction with structures  
*by G.R. Sabareesh (Birla Institute of Technology and Science, India)*
- 14:00 ~ 14:30      A brief report of gusty-wind-induced damages in Taiwan  
*by Y.L. Lo (Tamkang University, Taiwan)*
- 14:30 ~ 15:00      Effects of high intensity winds on buildings and structures in Vietnam  
*by V.T. Trung (Institute of Building Structures, Vietnam)*
- 15:00 ~ 15:30      Effects of rotating forced downdraft in reproducing tornado-like vortices  
*by S. Cao and J. Zhu (Tongji University, China)*
- 15:30 ~ 16:00      Coffee Break
- 16:00 ~ 16:25      Radar observation of some supercell-like storms causing tornadoes in Kochi Plane  
*by K. Sassa and S. Yuasa (Kochi University, Japan)*
- 16:25 ~ 16:50      The development of gust prediction system utilizing a high dense observation data  
*by H. Iwashita and H. Kure (Meisei Electric Co., LTD, Japan)*



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- 16:50 ~ 17:15 Post-disaster investigations of tornado-induced damage in China in 2015 & 2016  
*by G. Rong (Beijing Jiatong University, China)*
- 17:15 ~ 17:40 The Japanese Enhanced Fujita scale: its development and implementation  
*by Y. Tanaka and S. Suzuki (Japan Meteorological Agency, Japan)*
- 17:40 ~ 18:05 Activities of research group for PV system in Japan to reduce wind-induced damage  
*by A. Yoshida (Tokyo Polytechnic University, Japan)*

### Parallel Session for Environmental Wind Engineering

- 13:30 ~ 14:00 Hybrid ventilation in green buildings: fundamental research and engineering practices  
*by B. Lin (Tsinghua University, China)*
- 14:00 ~ 14:30 Impact of external windows air-tightness on indoor air quality with respect to PM2.5 pollution  
*by C. Chen (Beijing University of Technology, China)*
- 14:30 ~ 15:00 Design strategies of improving natural ventilation for residential buildings in Taiwan  
*by Y.S. Tsay (National Cheng Kung University, Taiwan)*
- 15:00 ~ 15:30 Lessons from MERS outbreak in Korea to ventilation engineers for healthcare facilities  
*by M. Sung (Sejong University, Korea)*
- 15:30 ~ 16:00 Coffee Break
- 16:00 ~ 16:30 Quantification of the effects of countermeasures against urban warming from three perspective - mitigation of global warming, mitigation of UHIs, and adaptation to urban warming -  
*by S. Yumino (Kajima Technical Research Institute, Japan)*
- 16:30 ~ 17:00 Study on ventilation performance of residential buildings situated in city blocks classified by GIS and its enhancement due to ventilation promoting devices  
*by M. Takizawa (Yokohama National University, Japan)*
- 17:00 ~ 17:30 Study on thermoregulation model and thermal pleasant sensation model under the cross-ventilated environment  
*by S. Morikami (National Institute of Technology, Toyota College, Japan)*
- 17:30 ~ 18:00 Temporal and spatial prediction of indoor environmental quality in an office room with liquid cooling air-conditioning system  
*by W. Zhang (Tokyo Polytechnic University, Japan)*
- 18:00 ~ 18:10 Closing Address

### March 9 (Thursday) and 10 (Friday) 2017 (Student Hall)

- Company Exhibition

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## Registration

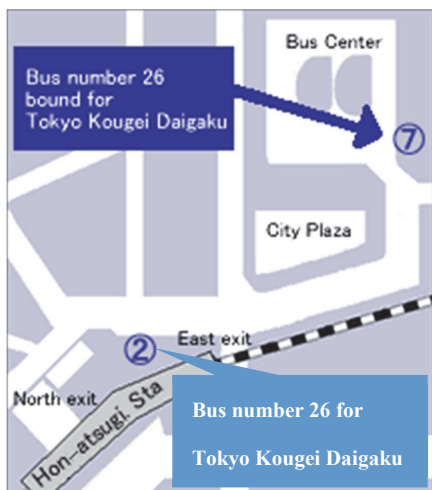
- Please mail us for early registration. Deadline is February 28.
- On-site registration is also possible.
- Registration fee is 2,000Yen (cash only). Please pay at registration desk, and receive a name tag, pen, and handout.
- You can have lunch at the cafeteria or buy a lunch box at a cooperative store.
- Feel free to take a drink in the break room at Student Hall.

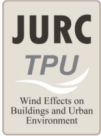
## Access

- Hon-Atsugi station of Odakyu Odawara Line



- North exit of Hon-Atsugi station  
 Bus Stop 2 in front of SURUGA Bank or Bus Stop 7 at Atsugi Bus Center  
 Bus Number 26 for Tokyo Kougei Daigaku, Last stop (About 20min. ride)





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- For more information, please visit the following address.

<https://www.t-kougei.ac.jp/e/about/atsugi.html>