

Time table

Date: 3/11(Sun) 1st day

| Time | Session |
|-------------|--------------|
| 13:00-17:00 | Study Tour |
| 15:00- | Registration |
| 17:00- | Reception |

Date: 3/12(Mon) 2nd day

| Time | Session | |
|-------------|---|---|
| 08:-09:00 | Registration | |
| 08:45-09:00 | Opening Addresses and General Information | |
| 09:00-09:50 | M1 | Plenary lecture 1 |
| 09:50-10:00 | 10 minutes break | |
| 10:00-12:00 | M2 | OS1_1 : Extreme weather and wind-induced damage [Tornado and downburst : structure, observation] |
| 12:00-13:00 | Lunch | |
| 13:00-15:00 | M3 | OS1_2 : Extreme weather and wind-induced damage [Tornado and downburst : damages] |
| 15:00-15:20 | Coffee break | |
| 15:20-16:50 | M4 | OS1_3 : Extreme weather and wind-induced Damage [Mid/Small scale events and damages] |
| | M5 | G7: Innovative experimental methods for wind-related disaster research + G8: Computational methods for wind-related disaster research 1 |
| 16:50-17:00 | 10 minutes break | |
| 17:00-18:30 | M6 | OS1_4: Extreme weather and wind-induced damage [Global climate, tropical storm and damages] |
| | M7 | G8: Computational methods for wind-related disaster research 2 + G10: Global warming, climate change and extreme weather on wind-related disasters |

Date: 3/13(Tue) 3rd day

| Time | Session | |
|-------------|---|---|
| 08:-09:00 | Registration | |
| 09:00-09:50 | T1 Plenary lecture 2 | |
| 09:50-10:00 | 10 minutes break | |
| 10:00-12:00 | T2 OS2_1: Extreme weather and wind-related environmental issues 1 [Thermal environment in cities] | |
| 12:00-13:00 | Lunch | |
| 13:00-15:00 | T3 OS2_2: Extreme weather and wind-related environmental issues 2 [Rain, snow, sand, etc.] | |
| 15:00-15:45 | TP Poster session / Coffee break | |
| 15:45-17:00 | T4 OS2_3: Extreme weather and wind-related environmental issues 3 | T5 G2: Numerical and physical modeling of meteorological phenomena of extreme wind |
| 17:00-17:10 | 10 minutes break | |
| 17:10-18:25 | T6 G6: Atmospheric dispersion of pollutants + G5: Dynamics and impact of flying debris | T7 G3: Wind-induced disasters of structures and agriculture |

Date: 3/14(Wed) 4th day

| Time | Session | |
|-------------|---|--|
| 09:00-10:00 | W1 OS3_1: Wind-related disasters in developing countries 1 | |
| 10:00-10:15 | 15 minutes break | |
| 10:15-11:45 | W2 OS3_2: Wind-related disasters in developing countries 2 | |
| 11:45-12:45 | Lunch | |
| 12:45-14:15 | W3 OS3_3: Wind-related disasters in developing countries 3 | |
| 14:15-14:25 | 10 minutes break | |
| 14:25-15:40 | W4 OS3_4: Wind-related disasters in developing countries 4 | |
| 15:40-15:50 | Closing Address | |

Program

Date: 3/11(Sun) 1st day

Time: 13:00-17:00 Study Tour* *Registration is required. Please see the Workshop website.

Time: 15:00- Registration

Time: 17:00- Reception

Date: 3/12(Mon) 2nd day

Time: 08:XX-08:45 Registration

Time: 08:45 Opening Addresses and General Information

Yasushi Uemastu, Tohoku University, Japan

Chair

Time: 09:00-09:50

Session M1 Plenary Lecture 1

Chair:

| No. | Paper Title | Author |
|-----|--|--|
| | Plenary Lecture 1 | |
| 1 | From load estimation to performance estimation - Coping with wind-related disasters in developing and developed countries | Yukio Tamura Chongqing University, China |

Time: 09:50-10:00 --- 10 minutes Break ---

Time: 10:00-12:00

Session M2 OS1_1: Extreme weather and wind-induced damage

[Tornado and downburst : structure, observation]

Chair

| No. | Paper Title | Author |
|------------------------|---|---|
| Keynote Lecture | | |
| 2 | Understanding tornadoes: A challenge in meteorology | Hiroshi Niino University of Tokyo, Japan |
| Invited Speaker | | |
| 3 | Observing near-surface tornado wind structure | Karen Ann Kosiba Center for Severe Weather Research, USA |
| Invited Speaker | | |
| 4 | On the global variability of environments favorable for tornadogenesis | Charles A. Doswell III Doswell Scientific Consulting, USA |
| 5 | Climatology of mesocyclone observed by doppler radars in Japan | Koji Sassa Kochi University, Japan |
| 6 | Super high-resolution simulation of the 6 May 2012 Tsukuba supercell tornado | Wataru Mashiko Meteorological Research Institute, Japan |
| 7 | THUNDERR: an ERC Project for the “detection, simulation, modelling and loading of thunderstorm outflows to design wind-safer and cost-efficient structures” | Giovanni Rodolfo Solari DICCA, University of Genoa, Italy |
| Discussion {15min} | | |

Time: 12:00-13:00 Lunch at DOC

Time: 13:00-15:00

Session M3 OS1_2: Extreme weather and wind-induced damage

[Tornado and downburst : damages]

Chair

| No. | Paper Title | Author |
|------------------------|---|--|
| Keynote Lecture | | |
| 8 | Damage to building components and cladding during extreme wind storms | Gregory A. Kopp Western University, Canada |
| Invited Speaker | | |
| 9 | Various wind related disasters in the world analyzed by satellite data | Yasunori Nakayama Nihon Univrtsity, Japan |
| 10 | Downburst related damages in Brazilian buildings: are they avoidable? | Acir Mercio Loredo-Souza Universidade Federal do Rio Grande do Sul, Brazil |
| 11 | Japanese Enhanced Fujita scale development and examples of actual ratings | Shota Suzuki Japan Meteorological Agency, Japan |
| 12 | Wind velocity estimation based on degree of timber structural damage for rating tornado intensity | Hitomitsu Kikitsu National Institute for Land and Infrastructure Management, Japan |
| 13 | Wind velocity estimation based on vehicle damage for JEF scale | Akihito Yoshida Tokyo Polytechnic University, Japan |
| Discussion {15min} | | |

Time: 15:00-15:20 --- Coffee Break ---

Time: 15:20-16:50

Session M4 OS1_3: Extreme weather and wind-induced damage [Mid/Small scale events and damages]

Chair

| No. | Paper Title | Author |
|-----|---|--|
| | Invited Speaker | |
| 14 | Changes of the storm damage of East Asia in historical times | Yoshio Tagami University of Toyama, Japan |
| 15 | A framework for the design of structures loaded by small-scale wind systems | Chris Baker University of Birmingham, UK |
| 16 | GIS platform for strong wind disaster prediction | Takashi Maruyama DPRI, Kyoto University, Japan |
| 17 | Surrounding effect on internal wind pressure and correlation between external-internal wind pressures on low-rise buildings | Eri Gavanski Osaka City University, Japan |
| 18 | On building damage caused by the May 6, 2012 tornado in Tsukuba City, Ibaraki Prefecture, Japan | Yasuo Okuda BRI, Japan |

Time: 15:20-16:50

Session M5 G7: Innovative experimental methods for wind-related disaster research +

G8: Computational methods for wind-related disaster research 1

Chair

| No. | Paper Title | Author |
|-----|---|---|
| 19 | System identification and prediction of wind loads on high rise buildings | Partha P. Sarkar Iowa State University, USA |
| 20 | Tests on a building model with a dominant opening and flexible roof | Jingyao Zhang Nagoya City University, Japan |
| 21 | Aerodynamic forces and the wake of a rectangular cylinder in oscillating flow | Seiji Nakato Kanto Gakuin University, Japan |
| 22 | Comparison between lattice Boltzmann method and finite volume method with LES in the built environment | Mengtao Han The University of Tokyo, Japan |
| 23 | Numerical simulation of the pedestrian wind conditions in residential areas of cities in severe cold regions of China | Taotao Shui Harbin Institute of Technology, China |

Time: 16:50-17:00 --- 10 minutes Break ---

Time: 17:00-18:30

Session M6 OS1_4: Extreme weather and wind-induced damage

[Global climate, tropical storm and damages]

Chair

| No. | Paper Title | Author |
|-----|--|--|
| | Invited Speaker | |
| 24 | Relationship between long-term variation of jet stream and wind-induced disasters | Yasushi Watarai Rissho University, Japan |
| 25 | Damage and loss to Australian engineered buildings during recent cyclones | David J. Henderson James Cook University, Australia |
| 26 | Development of typhoon-wind hazard maps over the Japan islands | Hironori Fudeyasu Yokohama National University, Japan |
| 27 | The effects of boundary layer wind field structures and buildings on hurricane winds | Josh Wurman Tornado Chaser, USA |
| 28 | Load path of North American wood frame construction to high wind loads | Murry J. Morrison Insurance Institute for Buisness & Home Safety, USA |

Time: 17:00-18:30

Session M7 G8: Computational methods for wind-related disaster research 2 +

G10: Global warming, climate change and extreme weather on wind-related disasters

Chair

| No. | Paper Title | Author |
|-----|---|--|
| 29 | Analysis and modeling of extreme non-stationary wind load effects: Emerging perspectives | Ahsan Kareem University of Notre Dame, USA |
| 30 | Stochastic typhoon model with climate change effect | Sungsu Lee Chungbuk National University, Korea |
| 31 | A finite area element simulation study on the uneven snow loads on an arch roof | Yi Yang South China University of Technology, China |
| 32 | Numerical study of tornado-induced wind pressure on low-rise buildings | Mengen Wang Tongji University, China |
| 33 | Mitigating wind induced disasters on a group of buildings and cooling towers due to interference effect | Konka Shruti BITS Pilani, Hyderabad Campus, India |

18:30 End of Day 2

Date: 3/13(Tue) 3rd day

Time: 08:XX-09:00 Registration

Time: 09:00-09:50

Session T1 Plenary lecture 2

Chair

| No. | Paper Title | Author |
|-----|---|--|
| | Plenary lecture 2 | |
| 34 | Low wind, air pollution and heat stress | Juergen Baumuller University of Stuttgart, Germany |

Time: 09:50-10:00 --- 10 minutes Break ---

Time: 10:00-12:00

Session T2 OS2_1: Extreme weather and wind-related environmental issues 1

[Thermal environment in cities]

Chair

| No. | Paper Title | Author |
|--------------------|--|---|
| | Keynote Lecture | |
| 35 | Future environmental assessment and urban planning by downscaling simulations | Satoru Iizuka Nagoya University, Japan |
| 36 | Foehnlike wind with dry diabatic heating from the ground surface contribute to high temperatures at the end of a leeward area | Yuya Takane National Institute of Advanced Industrial Science and Technology, Japan |
| 37 | Impact of climate change on the cooling load of an office building in Tokyo in the 2030s | Hideki Kikumoto The University of Tokyo, Japan |
| 38 | Prediction of heatstroke risk for Tokyo and Sendai during summer in the 2050s by dynamical downscaling of pseudo global warming data using WRF | Miguel Yamamoto Tohoku University, Japan |
| 39 | Field Measurement on the Climatic Effect of watering on asphalt road in hot and humid area | Qiong Li South China University of Technology, China |
| | Invited Speaker | |
| 40 | Urban climatic application for sustainable environmental design | Chao Ren The Chinese University of Hong Kong, Hong Kong |
| Discussion {15min} | | |

Time: 12:00-13:00 Lunch at DOC

Time: 13:00-15:00

Session T3 OS2_2: Extreme weather and wind-related environmental issues 2

[Rain, snow, sand, etc.]

Chair

| No. | Paper Title | Author |
|------------------------|---|--|
| Invited speaker | | |
| 41 | Severe blizzard forecasting system and its experimental operation in northern Japan | Masaki Nemoto National Research Institute for Earth Science and Disaster Resilience, Japan |
| Invited Speaker | | |
| 42 | Simulation of snow load based on a multi-layer snowmelt model | Xuanyi Zhou Tongji University, China |
| 43 | Development of a large-eddy simulation based Lagrangian snow transport model | Tsubasa Okaze Tokyo Institute of Technology, Japan |
| 44 | Effect of branch withering in living snow fences on blowing-snow mitigation in Northern Hokkaido, Japan | Toshimitsu Sakurai Civil Engineering Research Institute for Cold Region, Japan |
| 45 | Mitigating yield losses due to lodging of cereal crops | Mark Sterling University of Birmingham, UK |
| 46 | A wind tunnel experiment and CFD analysis of sand erosion/deposition due to wind around an obstacle | Yoshihide Tominaga Niigata Institute of Technology, Japan |
| 47 | Development of a fluid combustion interaction analysis for the wildfire simulation | Hiroshi Hasebe Nihon University, Japan |
| Discussion {15min} | | |

Time: 15:00-15:45

Session TP Poster Presentation / Coffee Break

| No. | Paper Title | Author |
|-----|--|--|
| 48 | Downburst observations by a high dense ground surface observation network (POTEKA) | Hisato Iwashita Meisei Electric Co.,Ltd, Japan |
| 49 | Observation of gust front in Tokyo urban area by X-band phased array weather radar | Kazuomi Morotomi Japan Radio Co., Ltd. / Chiba University, Japan |
| 50 | Synoptic scale climatological analyses of East Asian in midsummer from the viewpoint of PDO | Daisuke Miyamoto Nihon University, Japan |
| 51 | Localized strong winds associated with extensive fires in central Tokyo: Cases of the Great Kanto Earthquake (1923) and an air attack in World War II (1945) | Fumiaki Fujibe Tokyo Metropolitan University, Japan |
| 52 | Typhoon activities associated with a monsoon gyre in August 2016 following an El Nino event | Shuji Yamakawa Nihon University, Japan |
| 53 | The influence of the saddle part of mountain for “Nasu-Oroshi” | Shota Aoki Rissho University, Japan |
| 54 | An empirical model of downburst of non-stationary pulsed jet | Yumi Iida Technical Research Institute of Obayashi Corporation, Japan |
| 55 | The experimental study of wind loads on a building induced by a non-stationary downburst | Kazunori Asano Tohoku University |
| 56 | Effects of surrounding buildings on structural damage caused by strong winds during a typhoon | Eriko Tomokiyo Kumamoto University, Japan |
| 57 | Comparison of tornadic wind loads from various numerical expressions | Yong Chul Kim Tokyo Polytechnic University, Japan |
| 58 | Experimental study on the impact forces of wind-blown spheres | Takashi Nomura Nihon University, Japan |
| 59 | CFD prediction of effects of windbreak forests on occurrence frequency of wind-blown sand in coastal agricultural area of Sendai plain | Akashi Mochida Tohoku University, Japan |
| 60 | Numerical simulation of unbalanced snow load caused by snowdrift on a two-level flat-roof building | Yui Murayama Niigata Institute of Technology, Japan |
| 61 | A stochastic model for predicting wind-induced damage to wooden houses in snowy cold regions | Sachiko Yoshida Tohoku University, Japan |
| 62 | Analysis of the structure of kinetic energy transport and dissipation due to the effect of urban roughness | Yasuyuki Ishida Tohoku University, Japan |
| 63 | Characteristics of hotspots in street canyon in various urban blocks | Kosuke Kittaka Kobe University, Japan |

Time: 15:45-17:00

Session T4 OS2_3: Extreme weather and wind-related environmental issues 3

Chair

| No. | Paper Title | Author |
|-----|---|--|
| 64 | Geometric dependency of exceedance wind speed at pedestrian level | Naoki Ikegaya Kyushu University, Japan |
| 65 | Statistical analysis of turbulent flow and scalar concentration at pedestrian level in urban boundary layer | Taishi Kawaminami Kyushu university, Japan |
| 66 | The National Environmental Simulation and Testing (NEST) Facility | Robert Charles Huck University of Oklahoma, USA |
| 67 | Modification techniques for residential buildings to adapt to future urban warming in growing cities of Southeast Asia: A case study of Hanoi | Andhang Rakhmat Trihamdani Hiroshima University, Japan |

Time: 15:45-17:00

Session T5 G2: Numerical and physical modeling of meteorological phenomena of extreme wind

Chair

| No. | Paper Title | Author |
|-----|---|---|
| 68 | Effect of hard rainfall of typhoon on power transmission line cable | Naoshi Kikuchi Fujikura Ltd., Japan |
| 69 | Vulnerability and risk assessment analysis of Natech events caused by wind hazards | Oscar Javier Ramirez Olivar Los Andes University, Colombia |
| 70 | Reproduction on LES with numerical weather prediction model of gust factor in neutrally stratified atmospheric surface layer for real test case | Yasuo Hattori Central Research Institute of Electric Power Industry, Japan |
| 71 | Reconditioning of a large wind tunnel facility | Olivier Flamand CSTB, France |

Time: 17:00-17:10 --- 10 minutes Break ---

Time: 17:10-18:25

**Session T6 G6: Atmospheric dispersion of pollutants +
G5: Dynamics and impact of flying debris**

Chair

| No. | Paper Title | Author |
|------------|---|---|
| 72 | Measurement on the flow and pollution dispersion around contiguous two triangle hills | Bao-Shi Shiau National Taiwan Ocean University, Taiwan |
| 73 | Bayesian inference for the location and strength of atmospheric releases using LES data | Fei Xue Tsinghua University |
| 74 | Studies on wind-related disasters in both indoor and urban environments | Weirong Zhang Tokyo Polytechnic University, Japan |
| 75 | Statistical characteristics of flight of debris in tornado-like vortex | Minoru Noda Kochi University, Japan |

Time: 17:10-18:25

Session T7 G3: Wind-induced disasters of structures and agriculture

Chair

| No. | Paper Title | Author |
|------------|---|---|
| 76 | Fragility analysis of the roof structure of low-rise buildings subjected to tornado vortices | Shuyang Cao Tongji University, China |
| 77 | Wind-induced fatigue analysis of welded connections in steel high-rise structures considering changing wind directions | Zhao Fang Southeast University, China |
| 78 | Analytical study on collapse processes and reinforcement effects of pipe-framed greenhouses under wind loading | Kazuya Takahashi Tohoku University, Japan |
| 79 | Wind-resisting performance on MWFRS of L- and T-shaped low buildings with 4:12-sloped hip roofs under extreme wind events | Shuai Shao Beijing Jiaotong University, China |

18:25 End of Day 3

19:00- Buffet Dinner Party at DOC

Date: 3/14(Wed) 4th day

Time: 08:XX-09:00 Registration

Time: 09:00-10:00

Session W1 OS3_1: Wind-related disasters in developing countries 1

Chair

| No. | Paper Title | Author |
|-----|---|---|
| | Keynote lecture | |
| 80 | JICA's efforts to disaster risk reduction | Junji Wakui JICA, Japan |
| | Keynote lecture | |
| 81 | Current construction practices, past disasters and ongoing changes in Myanmar in the context of disaster mitigation | Saw Htwe Zaw Myanmar Engineering Society, Joint General Secretary, Myanmar |

Time: 10:00-10:15 --- 15 minutes Break ---

Time: 10:15-11:45

Session W2 OS3_2: Wind-related disasters in developing countries 2

Chair

| No. | Paper Title | Author |
|----------------------|--|--|
| | Keynote lecture | |
| 82 | Historical Transition of Wind Related Damages in Japan and South Asian countries | Taiichi Hayashi Kyoto University, Japan |
| | Invited speaker | |
| 83 | Kapit-Bahay: Designing a resilient self-build house | Jose Mari Meonada University of the Philippines Diliman College of Architecture, Philippines |
| | Invited speaker | |
| 84 | Reducing wind damages to facade structures in Vietnam | Vu Thanh Trung Institute of Building Structures, Vietnam |
| | Invited speaker | |
| 85 | Wind related disasters in South Asia | Ajit Tyagi India Meteorological Society, India |
| Discussion { 15min } | | |

Time: 11:45-12:45 Lunch at DOC

Time: 12:45-14:15

Session W3 OS3_3: Wind-related disasters in developing countries 3

Chair

| No. | Paper Title | Author |
|------------------------|---|---|
| Keynote lecture | | |
| 86 | To be announced | To be announced National Disaster Management Institute, Korea |
| Keynote lecture | | |
| 87 | Hazard map of agricultural products induced by the wind and other factors- an example of Bok-choy | Yih-Chi Tan National Taiwan University |
| Invited speaker | | |
| 88 | High winds effects on the energy distribution system of Uruguay | Valeria Duranona University of the Republic, Uruguay |
| Discussion {15min} | | |

Time: 14:15-14:25 --- 10 minutes Break ---

Time: 14:25-15:40

Session W4 OS3_4: Wind-related disasters in developing countries 4

Chair

| No. | Paper Title | Author |
|-----|--|---|
| 89 | The evolution and intensification of Cyclone Pam (2015) and resulting strong winds over the southern Pacific islands | Tetsuya Takemi Kyoto University, Japan |
| 90 | Recovery-time assessment of non-engineered buildings in Tanna Island, Vanuatu | Natsuki Kishida Kyoto University, Japan |
| 91 | Wind-induced damage in Romania | Ileana Calotescu Technical University of Civil Engineering Bucharest, Romania |
| 92 | Analysis of extreme wind speeds for structural design in Mexico | Alberto Lopez Lopez Instituto Nacional de Electricidad y Energias Limpias, Mexico |

Time: 15:40-15:50 Closing Address

15:50 End of Day 4 [End of Workshop]