

Time Table and Program of WRDM : International Workshop on Wind-related Disasters and Mitigation

[Latest version, 2018_03_09 updated]

Time table

Date: 3/11(Sun) 1st day

Time	Session
13:00-17:00	Study Tour
15:00-	Registration : Venue 1, Qatar Science Hall
17:00-	Reception : Venue 2, Aoba Memorial Hall

Date: 3/12(Mon) 2nd day

Time	Session
08:00-	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 : The Aoba Dining DOCK
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 **

** Venue 2, Aoba Memorial Hall

Date: 3/13(Tue) 3rd day

Time	Session	
08:00-	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 : The Aoba Dining DOCK	
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 **
19:00-	Buffet dinner party : The Aoba Dining DOCK	

** Venue 2, Aoba Memorial Hall

Date: 3/14(Wed) 4th day

Time	Session	
08:00-	Registration	
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 : The Aoba Dining DOCK	
12:45-14:00	Study Tour	
14:00-15:30	W3/W4 OS3_3: Wind-related disasters in developing countries 3	
15:30-15:35	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: 08:00- Registration

Time: 08:45 Opening Addresses and General Information

Yasushi Uemastu, Tohoku University, Japan

Hirotsugu Takizawa, Dean, Graduate school of Tohoku University, Japan

Chair: Eri Gavanski (Osaka City University, Japan)

Time: 09:00-09:50

Session M1 Plenary Lecture 1

Chair: Hiromichi Shirato (Kyoto University, Japan)

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: Joshua Wurman (Center for Severe Weather Research, USA),

Fumiaki Kobayashi (National Defense Academy, Japan)

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 Workshop Picture

Lunch at The Aoba Dining DOCK

Time: 13:00-15:00

Session M3 OS1_2: Extreme weather and wind-induced damage

[Tornado and downburst : damages]

Chair: Gregory A. Kopp (University of Western Ontario, Canada),

Yasuo Okuda (Building Research Institute, Japan)

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 University, 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 of vehicle damage for JEF scale based on wind tunnel experiment	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: Giovanni Rodolfo Solari (University of Genova, Italia),

Takeshi Yamazaki (Tohoku University, Japan)

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	Mark Sterling 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 ** Venue 2, Aoba Memorial Hall

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

G8: Computational methods for wind-related disaster research 1

Chair: Olivier Flamand (Centre Scientifique et Technique du Bâtiment, France),

Minoru Noda (Kochi University, Japan)

No.	Paper Title	Author
19	System identification and prediction of wind loads on high rise buildings	Partha P. Sarkar Iowa State University, USA
20	Wind-induced fatigue analysis of welded connections in steel high-rise structures considering changing wind directions	Zhao Fang Southeast University, China
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: David J. Henderson (James Cook University, Australia),

Eri Gavanski (Osaka city University, Japan)

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	Joshua Wurman Center for Severe Weather Research, 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 ** Venue 2, Aoba Memorial Hall

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

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

Chair: Shuyang Cao (Tongji University, China),

Masahiro Matsui (Tokyo Polytechnic University, Japan)

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

Time: 08:00- Registration
General Information

Time: 09:00-09:50

Session T1 Plenary lecture 2

Chair: Akashi Mochida (Tohoku University, Japan)

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: Juergen Baumuller (University of Stuttgart, Germany),

Satoru Iizuka (Nagoya University, Japan)

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 The Aoba Dining DOCK

Time: 13:00-15:00

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

[Rain, snow, sand, etc.]

Chair: Xuanyi Zhou (Tongji University, China),

Yoshihide Tominaga (Niigata Institute of Technology, Japan)

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 coupled 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	Genora Joseph 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: Chao Ren (The Chinese University of Hong Kong, Hong Kong),

Tsubasa Okaze (Tokyo Institute of Technology, Japan)

No.	Paper Title	Author
64	Geometric dependency of exceedance wind speed at pedestrian level	Naoki Ikegaya Kyushu University, Japan
65	Statistical analysis on turbulent flow and scalar concentration at pedestrian level in urban boundary layer based on large eddy simulation	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 ** Venue 2, Aoba Memorial Hall

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

Chair: Mark Sterling (University of Birmingham, UK),

Eriko Tomokiyo (Kumamoto University, Japan)

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: Partha P. Sarkar (Iowa State University, USA),
Koji Sassa (Kochi University, Japan)

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, China
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 ** Venue 2, Aoba Memorial Hall

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

Chair: Acir Mercio Loredou-Souza (Universidade Federal do Rio Grande do Sul, Brazil),
Takashi Maruyama (Kyoto University, Japan)

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	Tests on a building model with a dominant opening and flexible roof	Jingyao Zhang Nagoya City University, Japan
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 The Aoba Dining DOCK

Date: 3/14(Wed) 4th day

Time: 08:00- Registration
General Information

Time: 09:00-10:00

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

Chair: **Ajit Tyagi** (India Meteorological Society, India),
Yuichi Ono (Tohoku University, Japan)

No.	Paper Title	Author
80	Keynote lecture	
	JICA's efforts to disaster risk reduction	Hitoshi Baba JICA, Japan
81	Keynote lecture	
	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: **Vu Thanh Trung** (Vietnam Institute for Building Science and Technology, Vietnam),
Kazuyoshi Nishijima (Kyoto University, Japan)

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

Time: 11:45-12:45 Lunch at The Aoba Dining DOCK

Time: 12:45-14:00 Study Tour to the International Research Institute of Disaster Science

Time: 14:00-15:30

Session W3/W4 OS3_3: Wind-related disasters in developing countries 3

Chair: Vu Thanh Trung (Vietnam Institute for Building Science and Technology, Vietnam),

Yuichi Ono (Tohoku University, Japan)

No.	Paper Title	Author
	Invited speaker	
88	High winds effects on the energy distribution system of Uruguay	Valeria Duranona University of the Republic, Uruguay
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	Kazuyoshi Nishijima Kyoto University, Japan
91	Overview of recent wind-induced damage in Romania based on mass-media reports	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
Discussion {15min}		

Time: 15:30-15:35 Closing Address

Takashi Nomura, Nihon University, Japan

Chair: Eri Gavanski (Osaka City University, Japan)

15:35 End of Day 4 [End of Workshop]