

CWE2006

The Fourth International Symposium on

Computational Wind Engineering

Yokohama, Japan, July 16 - 19, 2006

Co-Convened by

Japan Association for Wind Engineering

The 21st Century COE Program, Tokyo Polytechnic University

International Association for Wind Engineering

Co-Organized by

Architectural Institute of Japan

Japan Society for Natural Disaster Science

Japan Society of Snow Engineering

Japan Society of Civil Engineers

Japan Society of Fluid Mechanics

Japan Structural Consultants Association

Japan Wind Energy Association

Meteorological Society of Japan

The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan

The Visualization Society of Japan

Co-Sponsored by

The Maeda Engineering Foundation

The Kajima Foundation

City of Yokohama

Japan Steel Bridge Engineering Association

Organizations

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A. Mochida (Japan)	Y. Kubo (Japan)	T. Nomura (Japan)
K. Nozawa (Japan)	M. Ohba (Japan)	Y. Ohya (Japan)
H. Shibata (Japan)	K. Shimada (Japan)	H. Shimodoi (Japan)
H. Shirato (Japan)	Y. Tominaga (Japan)	Y. Uematsu (Japan)
T. Yagi (Japan)	H. Yamada (Japan)	T. Yamamoto (Japan)
R. Yoshie (Japan)		

Symposium Goal/Topics

This symposium seeks to facilitate the exchange of the latest scientific and technical information in the field of Computational Fluid Dynamics, particularly in its application to Wind Engineering.

The First International Symposium on CWE (CWE1992) was held in Tokyo and chaired by S. Murakami. It was initiated by the JAWE to activate and promote research on CFD technology and to develop various research fields using CFD in wind engineering. The CWE1992 was followed by the CWE1996 in Fort Collins chaired by R.N. Meroney and B. Bienkiewicz and the CWE2000 in Birmingham chaired by C. Baker. These symposia have become important events of the IAWE, and they need to continue in order to provide a platform for discussing and exchanging the latest information associated with the application of CFD to wind engineering problems. There have been tremendous advances in CFD technology in the past several years since the last CWE was held in 2000.

There are many emerging issues to be solved, not only in wind hazard mitigation, but also in air-contamination problems near and in the far field of buildings, and in natural/cross ventilation or wind energy phenomena to preserve natural resources and to realize a sustainable society. CFD is one of the promising technologies for investigating these important issues, which can not necessarily be solved by traditional wind tunnel technology. CWE does not necessarily mean CFD, but can include various techniques using computers. The major topics for the next symposium are:

- Methodology of numerical simulation
- Turbulence model
- Simulation of atmospheric boundary layer wind
- Simulation of meteorological phenomena (typhoon, tornado, downburst, etc.)
- Monte Carlo simulation
- Meso-scale meteorological model
- Flow over complex terrains
- Wind energy utilization
- Wind environmental problems around buildings
- Flow around bluff bodies
- Building aerodynamics
- Bridge aerodynamics
- Fluid-structure interaction
- Flow-induced vibration
- Pedestrian wind environment
- Indoor/Outdoor air pollution
- Air-contamination problems
- Full-scale data for validation of CFD
- Wind tunnel data for validation of CFD
- Other wind problems with computational aid

Invited Speakers

- K. Ayotte, Chief Technical Officer Windlab Systems Canberra, Australia
Computational Methods for the Wind Energy Industry
- K. Hanjalic, Professor, Delft University of Technology, Netherlands
Some Developments in Turbulence Modeling of Environmental Flows
- A. Kareem, Robert M. Moran Professor, University of Notre Dame, USA
Numerical simulation of wind effects: a probabilistic perspective
- A. Mochida, Associate Professor, Tohoku University, Japan
Prediction of wind environment and thermal comfort at pedestrian level within urbanized area
- K. D. Squires, Professor, Arizona State University, USA
Prediction of Turbulent Flows at High Reynolds Numbers using Detached-Eddy Simulation
- T. Tamura, Professor, Tokyo Institute of Technology, Japan
Towards practical use of LES in wind engineering

Organized Sessions

- Y. Ge (China): Computational aerodynamics for bridge flutter
- M. Gu (China): Computation of wind loads and responses of buildings
- A. Kareem (USA): Simulation of Transient Wind Effects
- H. Kobayashi (Japan): Computer- controlled wind tunnel
- A. Larsen (Denmark): Computational assessment of flutter wind speeds for bridges
- A. Mochida (Japan): Assessment and design of pedestrian thermal and wind environment
- T. Stathopoulos (Canada): Commercial CFD software and CWE applications
- T. Tamura (Japan): Current feasibility and future sophisticated technique of CFD on wind-resistant structural problems
- R. Yoshie (Japan): Assessment of urban wind environment

Exhibition

- Environment Simulation Inc.
Kanomax Japan, Inc.
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Secretariat

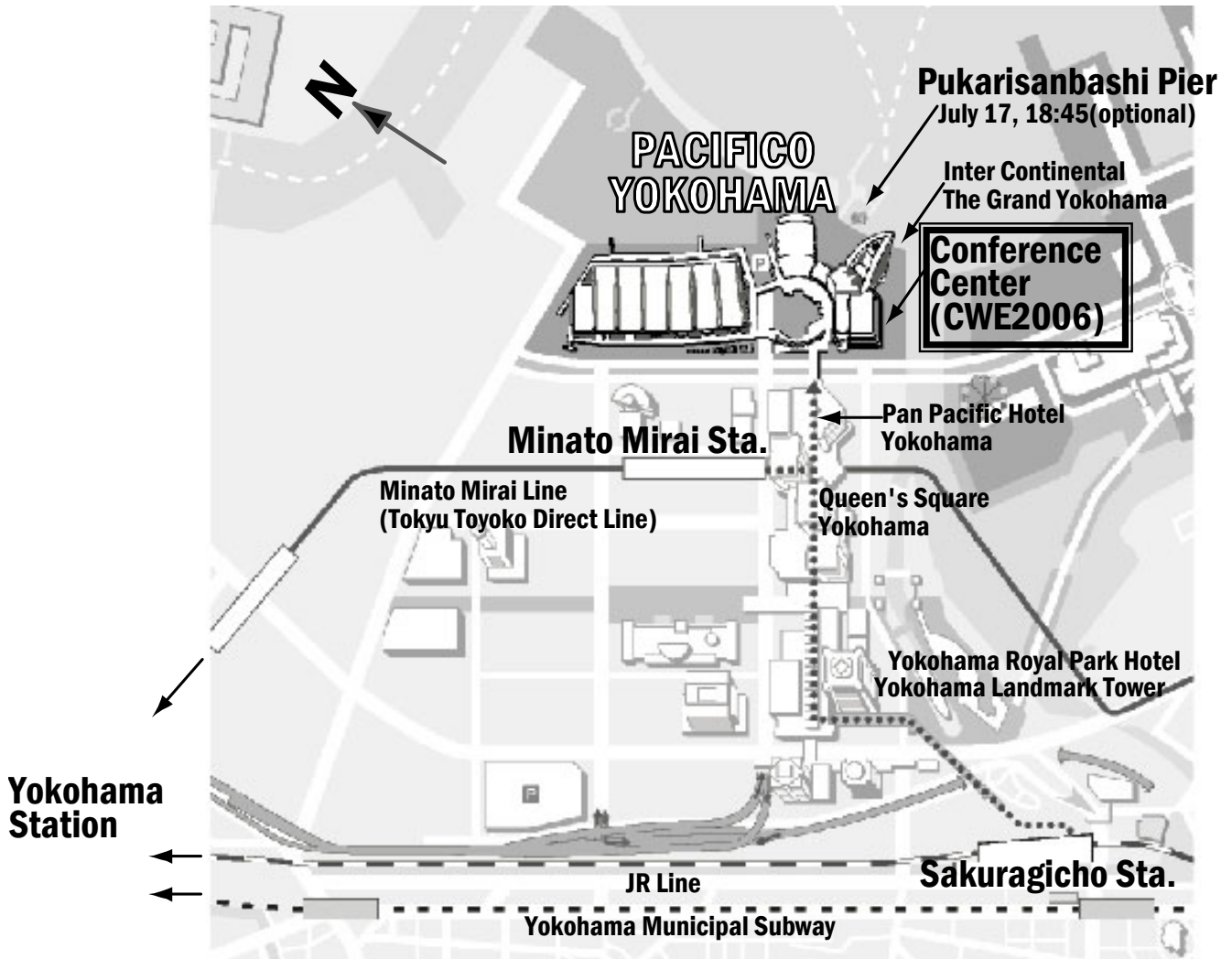
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Symposium language

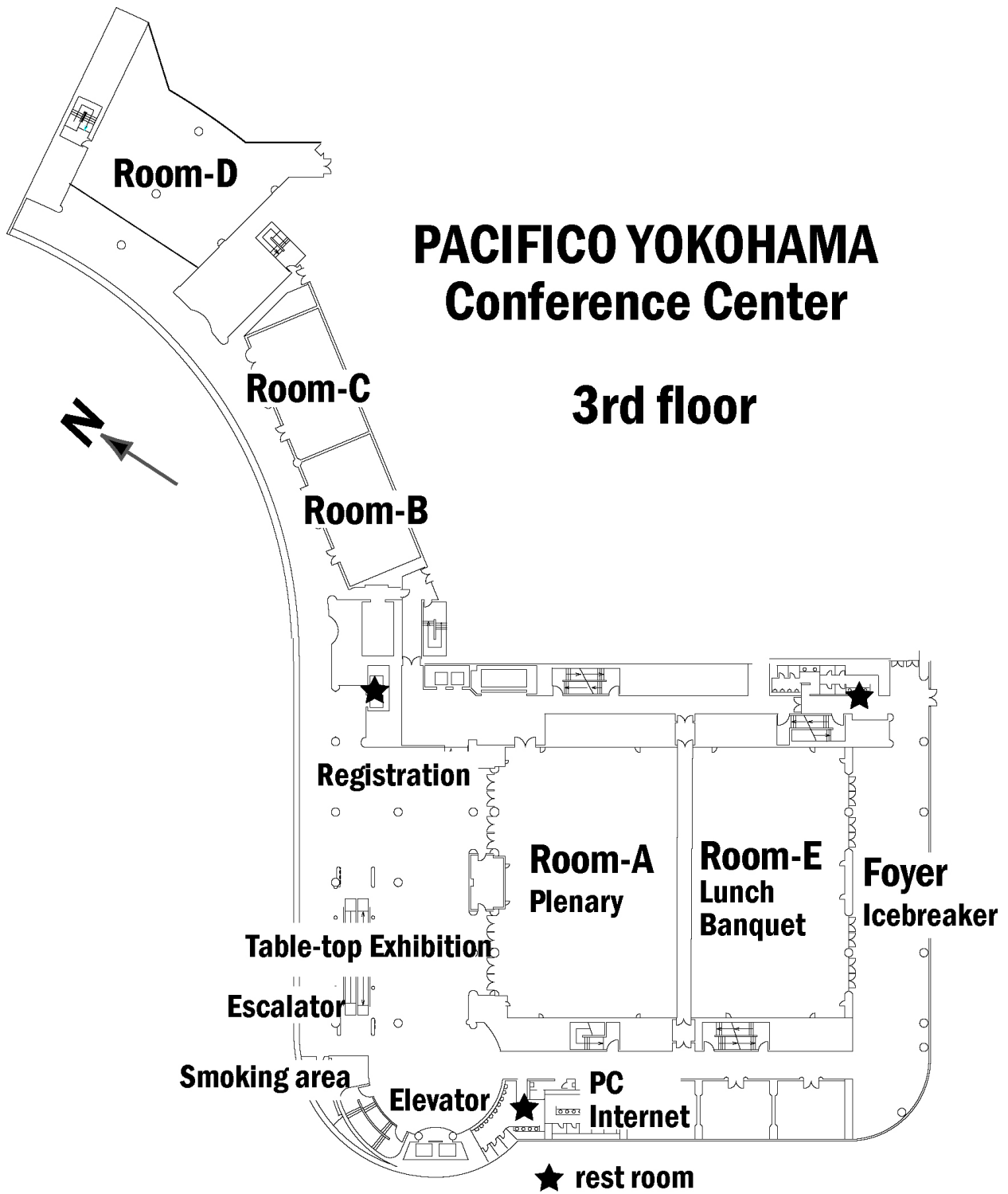
Official symposium language is English.

Symposium Venue

The conference will be held at PACIFICO YOKOHAMA in Yokohama City.



FLOOR PLAN



Time Table

July 16 (Sunday)

16:00 - 21:00	Registration (3rd Floor)
19:00 - 21:00	Reception (Ice Breaker) (Foyer)

July 17 (Monday)

08:00 - 18:00	Registration			
09:00 - 09:20	Opening Remarks: <i>S. Murakami</i> and <i>G. Solari</i> Chaired by <i>Y. Tamura</i>			
09:20 - 10:40	MP	09:20 - 10:00 Invited speaker: <i>T. Tamura</i> Towards practical use of LES in wind engineering 10:00 - 10:40 Invited speaker: <i>A. Kareem</i> Numerical simulation of wind effects: a probabilistic perspective Co-chaired by <i>Y. Tamura</i> and <i>T. Stathopoulos</i>		
10:40 - 11:00	Break			
11:00 - 12:30	Room-A MA1 Wind Environment (OS) Co-chair: <i>R. Yoshie, J. Franke</i>	Room-B MB1 Meteorology Co-chair: <i>H. Niino, P. Sarkar</i>	Room-C MC1 Bridges 1 Co-chair: <i>A.R. Chen, Y. Fujino</i>	Room-D MD1 Buildings 1 Co-chair: <i>C. M. Cheng, K. Kondo</i>
12:30 - 13:30	Lunch			
13:30 - 15:00	MA2 Flutter wind speeds (OS) Co-chair: <i>A. Larsen, G. Diana</i>	MB2 Urban environment 1 Co-chair: <i>H. Kondo, F. S. Lien</i>	MC2 Bridges 2 Co-chair: <i>S. Hernandez, H. Shirato</i>	MD2 Buildings 2 Co-chair: <i>J. H. Chou, H. Kawai</i>
15:00 - 15:20	Break			
15:20 - 16:35	MA3 Sophisticated CFD (OS) Co-chair: <i>T. Tamura, S. Cao</i>	MB3 Ventilation 1 Co-chair: <i>M. Ohba, T.K. Thiis</i>	MC3 Wind energy + Topography 1 Co-chair: <i>K. Ayotte, T. Ishihara</i>	MD3 Buildings 3 Co-chair: <i>X. Chen, M. Kasperski</i>
16:35 - 16:55	Break			
16:55 - 18:10	MA4 Sophisticated CFD (OS) Co-chair: <i>T. Tamura, S. Cao</i>	MB4 Ventilation 2 Co-chair: <i>T. Kurabuchi, R.D. Lieb</i>	MC4 Wind energy + Topography 2 Co-chair: <i>Y. D Kim, Y. Ohya</i>	MD4 Buildings 4 Co-chair: <i>D. Alexander, Q. Yang</i>
18:45 - 20:15	Cruising dinner (Optional) (depart from Pukarisanbashi Pier)			

July 18 (Tuesday)

08:00 - 18:00	Registration			
09:10 - 10:30	<p>TP 09:10 - 09:50 Invited speaker: <i>A. Mochida</i> Prediction of wind environment and thermal comfort at pedestrian level within urbanized area</p> <p>09:50 - 10:30 Invited speaker: <i>K. D. Squires</i> Prediction of Turbulent Flows at High Reynolds Numbers using Detached-Eddy Simulation</p> <p>Co-chaired by: <i>S. Kato</i> and <i>B. Bienkiewicz</i></p>			
10:30 - 10:50	Break			
	Room-A	Room-B	Room-C	Room-D
10:50 - 12:20	<p>TA1 Transient Wind Effects (OS)</p> <p>Co-chair: <i>A. Kareem, F. Haan</i></p>	<p>TB1 Urban environment 2</p> <p>Co-chair: <i>R. N. Meroney, N. Sharma</i></p>	<p>TC1 Square/cube 1</p> <p>Co-chair: <i>W. K. Chow, A. Okajima</i></p>	<p>TD1 Buildings 5</p> <p>Co-chair: <i>K.C.S. Kwok, Y. Uematsu</i></p>
12:20 - 13:30	Lunch			
13:30 - 15:00	<p>TA2 Bridge flutter (OS)</p> <p>Co-chair: <i>Y. Ge, L. Zhu</i></p>	<p>TB2 Urban environment 3</p> <p>Co-chair: <i>J. Franke, T. Maruyama</i></p>	<p>TC2 Square/cube 2</p> <p>Co-chair: <i>T. Nomura, K. D. Squires</i></p>	<p>TD2 Buildings 6</p> <p>Co-chair: <i>P. J Richards, K. Hibi</i></p>
15:00 - 15:20	Break			
15:20 - 16:50	<p>TA3 Pedestrian thermal environment (OS)</p> <p>Co-chair: <i>A. Mochida, B. Lin</i></p>	<p>TB3 Transportation</p> <p>Co-chair: <i>S. D. Kwon, A. Nakayama</i></p>	<p>TC3 Square/cube 3</p> <p>Co-chair: <i>Y. W. Lee, T. Mizota</i></p>	<p>TD3 Bridges 3</p> <p>Co-chair: <i>J. Naprstek, K. Kimura</i></p>
16:50 - 17:10	Break			
17:10 - 18:10	<p>TA4 Pedestrian wind environment (OS)</p> <p>Co-chair: <i>A. Mochida, B. Lin</i></p>	<p>TB4 Acoustic</p> <p>Co-chair: <i>S. Parameswaran, T. Yagi</i></p>	<p>TC4 ABL</p> <p>Co-chair: <i>K. Hanjalic, H. Kataoka</i></p>	<p>TD4 Bridges 4</p> <p>Co-chair: <i>F. M. Fang, Y. Kubo</i></p>
19:00 - 21:00	<p>Banquet (symposium venue)</p>			

July 19 (Wednesday)

08:00 - 15:00	Registration			
09:10 - 10:30	WP	09:10 - 09:40 Invited speaker: <i>K. Hanjalic</i> Some Developments in Turbulence Modeling of Environmental Flows 09:40 - 10:30 Invited speaker: <i>K. Ayotte</i> Computational Methods for the Wind Energy Industry Co-chaired by: <i>G. Solari</i> and <i>J. Cheung</i>		
10:30 - 10:50	Break			
	Room-A	Room-B	Room-C	Room-D
10:50 - 12:20	WA1 Commercial CFD software (OS) Co-chair: <i>T. Stathopoulos, B. Blocken</i>	WB1 Dispersion Co-chair: <i>K. P. Cho, A. Huber</i>	WC1 Wind loads (OS) Co-chair: <i>M. Gu, W. Yang</i>	WD1 Analytical methods Co-chair: <i>J. Kanda, R N Sharma</i>
12:20 - 13:30	Lunch			
13:30 - 15:00	WA2 Commercial CFD software (OS) Co-chair: <i>T. Stathopoulos, B. Blocken</i>	WB2 Wind tunnel technique (OS) Co-chair: <i>H. Kobayashi, N. Sekishita</i>	WC2 Wind loads (OS) Co-chair: <i>M. Gu, W. Yang</i>	WD2 Rain and snow Co-chair: <i>H. Hangan, Y. Tominaga</i>
15:00 - 15:20	Closing Remarks: <i>M. Matsumoto</i> Chaired by: <i>Y. Tamura</i>			

Sunday July 16

Registration

16:00 - 21:00 Conference Center 3rd Floor, PACIFICO YOKOHAMA

Icebreaker

19:00 - 21:00 Foyer, Conference Center 3rd Floor, PACIFICO YOKOHAMA

Monday July 17

Registration

8:00 - 18:00 Conference Center 3rd Floor, PACIFICO YOKOHAMA

Opening Ceremony

9:00 - 9:20 Room-A, Chaired by Y. Tamura

S. Murakami, Chair of Advisory Committee, CWE2006

G. Solari, President, IAWE

Plenary Session (Invited)

9:20 - 10:40 Room-A, Co-chaired by Y. Tamura and T. Stathopoulos

Towards practical use of LES in wind engineering

T. Tamura, Tokyo Institute of Technology, Japan

Numerical simulation of wind effects: a probabilistic perspective

A. Kareem, University of Notre Dame, USA

Break 10:40 - 11:00

Technical Session 11:00 - 18:10

Monday, July 17, Room-A, 11:00-12:30

MA1 Assessment of Urban Wind Environment (Organized session)

Development of a Wind Environment Database in Tokyo for a Comprehensive Assessment System for Heat Island Relaxation Measures

M. Oguro, Y. Morikawa, S. Murakami, K. Matsunawa, A. Mochida, H. Hayashi

Towards Grid Resolution Guidelines for CFD Simulations of Wind Speed in Passages between Buildings

B. Blocken, T. Stathopoulos, J. Carmeliet

Application of Richardson Extrapolation to the Prediction of the Flow Field around Building Models

J. Franke, W. Frank

Evaluation of Turbulent Time Scale of Linear Revised k- ϵ Models based on LES Data

T. Shirasawa, A. Mochida, Y. Tominaga, H. Yoshino

CFD Prediction of Wind Environment around a High-Rise Building Located in an Urban Area

R. Yoshie, A. Mochida, Y. Tominaga

CFD-Aided Wind Tunnel Investigation of Pedestrian Wind

B. Bienkiewicz, M. Endo

Monday, July 17, Room-A, 13:30-15:00

MA2 Computational Assessment of Flutter Wind Speeds for Bridges (Organized session)

The Complex Branch Characteristics of Coupled Flutter

M. Matsumoto, K. Mizuno, K. Okubo, Y. Ito

A Study on Understanding of Coupled Flutter of Long-Span Bridges

H. Yamada, H. Katsuchi, P.H. Kien

Understanding the Underlying Physics of Multimode Coupled Bridge Flutter based on Closed-Form Solutions

X. Chen, A. Kareem

Computation of Flutter of Long Span Cable Supported Bridges

A. Larsen

Aerodynamic Divergence of a Super-Long Span Cable-Stayed Bridge under Very Strong Wind

A. Chen, F. Xu, R. Ma

A New Numerical Approach to Reproduce Bridge Aerodynamic Non Linearity in Time Domain

G. Diana, F. Resta, D. Rocchi

Monday, July 17, Room-A, 15:20-16:35

MA3 Current Feasibility and Future Sophisticated Technique of CFD on Wind-Resistant Structural Problems (Organized session)

AIJ Guide for Numerical Prediction of Wind Loads on Buildings

T. Tamura, K. Nozawa, K. Kondo

LES of Surface Wind Around the Building Complex -Comparison with Field Measurement Data

T. Kishida, T. Tamura, K. Miyashita, O. Nakamura

Microscale Analysis of Severe Winds within the Urban Canopy during a Period of Explosive

Cyclogenesis by Coupling Large Eddy Simulation and Mesoscale Meteorological Models

T. Takemi, T. Tamura, Y. Takei, Y. Okuda

Numerical Simulation of Flows around a Low-Rise Building Using Hybrid LES-RANS Model for Boundary Condition on the Ground

K. Nozawa, T. Tamura

Numerical Simulations of a Wind-Induced Vibrating Square Cylinder within Turbulent Boundary Layer

H. Kataoka

Monday, July 17, Room-A, 16:55-18:10

MA4 Current Feasibility and Future Sophisticated Technique of CFD on Wind-Resistant Structural Problems (Organized session)

Large Eddy Simulation of Fluid Flows Around Bluff Bodies in Overlaid Grid System

Y. Itoh, T. Tamura

Large Eddy Simulation of Turbulent Flow around a Wind Break

T. Maruyama

Numerical Modeling of Local Wind Focusing on Computational Domain Setting and Boundary Treatments

A. Yamaguchi, T. Ishihara, Y. Fujino

Monday, July 17, Room-B, 11:00-12:30

MB1 Meteorology

Prediction of Typhoon Wind by Level 2.5 Closure Model

M. Yoshida, M. Yamamoto, K. Takagi, T. Ohkuma

Introduction of a JMA-Type Typhoon Bogus Scheme into MM5 to Improve Hindcasting of Coastal Sea Surface Winds

T. Ohsawa, T. Nakano, K. Matsuura, K. Hayashi

On the Conditions for a Dustdevil Genesis in a Large Eddy Simulation

H. Niino, M. Nakanishi, R. Tanaka

Development of a Coupled Atmosphere-Ocean-Wave Model for Typhoon Early Warning System

J. Yoshino, T. Murakami, M. Hayashi, T. Yasuda

Genesis Mechanism and Structure of a Supercell Tornado in a Fine-Resolution Numerical Simulation

A.T. Noda, H. Niino

Influences of Global Warming on Tropical Cyclone Climatology as Simulated in a 20 km-Mesh

Global Atmospheric Model

J. Yoshimura

Monday, July 17, Room-B, 13:30-15:00

MB2 Urban Environment 1

Modeling Wind Flow and Turbulence in Oklahoma City

F. S. Lien, E. Yee, H. Ji

Mesoscale Circulation Induced by the Coupled Effects of Urban Heat Island and Land-Sea Contrast and its Response to Land Use Change

T. Takemi, T. Arimitsu, M. Tamai

A New Method to Select Appropriate Countermeasures against Heat-Island Effects according to the Regional Characteristics of Heat Balance Mechanism

K. Sasaki, A. Mochida, T. Yoshida, H. Yoshino, H. Watanabe

Stabilized Finite Element Method for Thermal Environmental Flow in Urban Area

S. Itabashi, M. Kishi, K. Kashiwama, M. Shimura

Analysis of Regional Characteristics of the Atmospheric Heat Balance in the Tokyo Metropolitan Area in Summer

T. Sato, S. Murakami, R. Ooka, S. Yoshida

The Wind Calculation in Tokyo Urban Area with a Mesoscale Model

H. Kondo, T. Tokairin, Y. Kikegawa

Monday, July 17, Room-B, 15:20-16:35

MB3 Ventilation 1

Dust Carried by Hot Air and the Influence of Wind Fluctuation

S. Ogaki, T. Iwasaki

Simulation of Natural Ventilation and Wind Effects in a Semi Open Railway Station

N.P. Waterson, J. Viot

Wind-Induced Ventilation Analysis Using Detached-Eddy Simulations to Control Indoor Thermal Environments

T. Hasama, S. Kato, R. Ooka

Analysis of Wind-Induced Inflow and Outflow through a Single Opening Using Large-Eddy Simulations

S. Kato, T. Hasama, R. Ooka

CFD Modelling of Cross Ventilation Using Unsteady Methods

C.H. Hu, M. Ohba, R. Yoshie

Monday, July 17, Room-B, 16:55-18:10

MB4 Ventilation 2

Analysis of Ventilation Efficiency Indices Inside a Local Domain within an Urban Area Using Two Building Model

M. Bady, S. Kato, H. Huang

Full-Scale Measurements and Numerical Simulation of Cross-Flow Ventilation of Farm Buildings in a Cold, Windy Coast Climate

T. K. Thiis, W.K. Jeksrud, A.S. Flo

Experimental Study of Airflow in Naturally Ventilated Double Skin Facade

Y. Yuan, X. Li, Y. Zhu, X. Chen

Aerodynamic Effects of Different Ventilation Methods on Buses

M. Thomas, R.N. Sharma, M. Kilduff

Comparison between Different Methods for Urban Ventilation Study: The Case of The City of Belo Horizonte, Brazil

D.G. Ferreira, E.S.D. Assis

Monday, July 17, Room-C, 11:00-12:30

MC1 Bridges 1

An Estimation of Aerodynamics of Slotted One-Box Girder Section Using Computational Fluid Dynamics

K. Fumoto, S. Watanabe

Prediction of Aerodynamic Characteristics of Cable Stayed Bridge Girder Using LES Turbulence Model

M.W. Sarwar, T. Ishihara, K. Shimada, Y. Yamasaki, T. Ikeda

Computation of Aerodynamic Derivatives by Various CFD Techniques

A. Larsen

CFD Aided Study on the Mechanism of Rain-Wind Induce Vibration of Stay-Cables of Cable-Stayed Bridge

M. Matsumoto, T. Yagi, Q. Liu, K. Hori

Numerical Simulation of Aerodynamic Force Characteristic of Super Long Stayed Cables

A. Chen, S. Yang, D. Wang, Z. Zhou

An Application of Virtual Wind Tunnel Techniques to the Proposed Messina Bridge

S. Hernandez, J.A. Jurado, A. Baldomir, F. Bravo

Monday, July 17, Room-C, 13:30-15:00

MC2 Bridges 2

Detached Eddy Simulation of Flow around a Box Girder Bridge Section

A. Maruoka, M. Takou, H. Sasaki

Numerical Simulations of Flow Around Stay Cables with and without Fixed Artificial Rivulets

S.Y. Li, M. Gu

Numerical Model of Nonlinear Wind-Structure Interaction

R. Kral, S. Pospisil, J. Naprstek

A Numerical Wind Buffeting Analysis of Horizontally Curved Bridges under Three-Dimensional Wind Loading

U.Y. Jeong, J. P. C. King

Fluctuating Wind Velocity and Pressure Characteristics of the Flow in the Wake of a Conical Hill Causing Large Horizontal Response of a Bridge Model
K. Kimura, E. Harada, K. Takakura, Y. Kubo, K. Kato
FLAS-B: Software for the Hybrid Analysis of Flutter and Buffeting Phenomena
J. A. Jurado, A. León, F. Nieto, S. Hernandez

Monday, July 17, Room-C, 15:20-16:35

MC3 Wind Energy and Topography 1

Numerical and Experimental Studies of Airfoils Suitable for Vertical Axis Wind Turbines and an Application of Wind-Energy Collecting Structure for Higher Performance
S. Takahashi, Y. Ohya, T. Karasudani, K. Watanabe
Micro-Siting Technique for Wind Turbine Generator by Using Large-Eddy Simulation
T. Uchida, Y. Ohya
Numerical Studies of Flows around a Wind Turbine Equipped with a Flanged Diffuser Shroud by Using an Actuator-Disc Model
M. Hasegawa, Y. Ohya, H. Kume
A Study on Aerodynamic Analysis and Design of Wind Turbine Blade
J.H. Kim, T.S. Kim, Y.W. Lee, Y.D. Kim
Analysis of Response of Wind Turbine under Wind Load
L.V. Binh, P. V. Phuc, T. Ishihara, Y. Fujino

Monday, July 17, Room-C, 16:55-18:10

MC4 Wind Energy And Topography 2

A Physical Approach to Wind Speed Prediction for Wind Energy Forecasting
S. A. Deen, A. Yamaguchi, T. Ishihara
A Dynamical Statistical Downscaling Procedure for Wind Climate Assessment and its Verification
T. Ishihara, A. Yamaguchi, Y. Fujino
Large-Eddy Simulation of Unsteady Wind Velocity Fields over a Hill with Immersed Boundary Method
Y. Hattori, S. Ishihara, N. Tanaka
Structural Damage Caused by Local Winds Associated with Typhoon Tokage (0423) Passing
E. Tomokiyo, M. Kitamura, T. Uchida, J. Maeda, Y. Ohya
A Comparison between Computational Fluid Dynamics (CFD) Analysis and Wind Tunnel Observations on Flow above a Complex Terrain
D.K.K. Hui, K.C.S. Kwok, P. A. Hitchcock, C.H. Fok

Monday, July 17, Room-D, 11:00-12:30

MD1 Buildings 1

Validation of CFD Simulations on the Wind Loads for Tall Buildings' Preliminary Design
C. L. Fu, S. M. Lee, C. M. Cheng
LES Analysis of Unsteady Characteristics of Conical Vortex on a Flat Roof
Y. Ono, T. Tamura, H. Kataoka
Separated Shear Layers in Non-Stationary Gusts - Discrete Vortex Simulation and Wind Tunnel Experiments
N. Murgai, J. Oltrogge, F. L. Haan Jr.
Numerical Simulation of a Hybrid RANS/LES Model to Flow past a High-Rise Building
J. Chung, B. Bienkiewicz
Can Steady RANS Models Reflect the Influence of Low-Frequency 2D Turbulence
P.J. Richards, S.E. Norris
Numerical Studies on the Behaviors of Wind-Structure Interaction for One-Way Type Roofs
Y. Wu, S. Shen

Monday, July 17, Room-D, 13:30-15:00

MD2 Buildings 2

A Method of Finite Element Mesh Generation for Wind Simulation in Cities
D. Ono, H. Hasebe, T. Nomura
Comparison of Numerical and Experimental Simulations Used to Investigate the Wind-Structure Interaction of a Skyscraper
E. Colombo, A. Grassano, F. Perotti
Large Eddy Simulation of Flow past a Basic Trussed Structure
A. Nakayama, D. Okamoto, K. Hori

Dynamic Torsional Response of a Tall Building Due To Wind Action Using CFD Approach

C.K. Nguyen, T. D. Ngo, P. A. Mendis, J.C.K. Cheung

The Numerical Simulation on the Effect of Wind Reduction by the Windbreak Net with Different Slanting Angles

L.M. Huang, C.H. Wu

Numerical Simulation of Behaviors of Air-Inflated Cushion under Wind Excitation based on Fluid-Structure Interaction

Q. Yang, W. Zhu

Monday, July 17, Room-D, 15:20-16:35

MD3 Buildings 3

Development of a Hybrid Vibration Experiment System for Determining Wind-Induced Responses of Buildings with Tuned Dampers

M. Matsui, Y. Tamura

Performance Assessment of Tuned Mass Damper for Wind-Induced Vibration Mitigation of Tall Building with Soil-Structure Interaction

M.Y. Liu, W.L. Chiang, J.H. Hwang, C.R. Chu

The Distribution of Pressure near The Corners of Flat Canopy Attached to the Gable Roof Buildings

R. Goyal, A.K. Ahuja

Evaluation on Interacting Mechanism between Vibrating Three-Dimensional Prism and Fluctuating Wake Field

H. Kikitsu, Y. Okuda, M. Ohashi, J. Kanda

Experimental Study on Flow and Pressure Fields over the Roof of a Cube by PIV Measurements

S. Ito, Y. Okuda, H. Kikitsu, M. Ohashi, T. Taniguchi, Y. Taniike

Monday, July 17, Room-D, 16:55-18:10

MD4 Buildings 4

Interaction Envelopes for Limit State Design of Chimneys

K. S. B. Narayan, S. C. Yaragal, Y. Tamura

Wind Load Simulation for High Speed Train Stations

N. Hur, S.R. Kim, C.S. Won, C.K. Choi

The Aerodynamic Characteristic of the Transformable Airfoil

J.-H. Ha, C.-K. Choi

Speed up Effects over 3-D Complex Hills with Transmission Towers Collapsed During Typhoon Passage

K.P. Cho, S. Hong

Numerical Simulation of Unsteady 3-D Flow around a Yawed and Inclined Circular Cylinder

D.H. Yeo, N. P. Jones

Tuesday July 18

Registration

8:00 - 18:00 Conference Center 3rd Floor, PACIFICO YOKOHAMA

Announcement

9:00 - 9:10 Room-A

Plenary Session (Invited)

9:10 - 10:30 Room-A, Co-chaired by S. Kato and B. Bienkiewicz

Prediction of Wind Environment and Thermal Comfort at Pedestrian Level within Urbanized Area

A. Mochida, Tohoku University, Japan, Y. F. Lun, Toyohashi University of Technology, Japan

Prediction of Turbulent Flows at High Reynolds Numbers using Detached-Eddy Simulation

K. D. Squires, Arizona State University, USA

Break 10:30 - 10:50

Technical Session 10:50 - 18:10

Tuesday, July 18, Room-A, 10:50-12:20

TA1 Simulation of Transient Wind Effects (Organized session)

Gust Occurrence in Simulated Non-Stationary Winds

M.T. Chay, R. Wilson, F. Albermani

Effects of Topography on the Surface Wind of an Isolated Wet Microburst

K. Otsuka

Transient Loads on Buildings in Microburst and Tornado Winds

A. Sengupta, F.L. Haan, P.P. Sarkar and V. Balaramudu

Vector Time-Varying Autoregressive (TVAR) Modeling Nonstationary Downburst Wind Speeds

L. Chen, C.W. Letchford

Description and Simulation of Gust Front Wind Field

L. Wang, A. Kareem

Numerical Simulation of Tornado Vortices

H. Hangan, J.D. Kim

Tuesday, July 18, Room-A, 13:30-15:00

TA2 Computational Aerodynamics for Bridge Flutter (Organized session)

Retrospect and Prospect on Computational Methods for Aerodynamic Bridge Flutter

Y.J. Ge, H.F. Xiang

Mechanism of Flutter Control of Suspension Bridge by Winglets

G. Liu, F. Meng, X. Wang

A Blob Resizing Procedure for Diffusion in Vortex Methods

F.C. Cao, Y.J. Ge

Skew Wind Effect on 2-D of Coupled Flutter of a Flat-Box Deck

L.D. Zhu, G.Z. Chang, C. Li

Flutter Mechanism and Flutter Modality Investigation for Thin Plate Sections

Y.X. Yang, Y.J. Ge, H.F. Xiang

On the Mechanism of Torsional Flutter Instability for 1st Tacoma Narrow Bridge by Discrete Vortex Method

Z. Zhou, A. Chen, H.F. Xiang

Tuesday, July 18, Room-A, 15:20-16:50

TA3 Assessment and Design of Pedestrian Thermal Environment (Organized session)

Numerical Study of the Evaluation Indexes for Outdoor Pedestrian Thermal Comfort

B. Lin, Y. Zhu, X. Li, and Y. Qin

Study on Evaluation of Outdoor Thermal Environment Based on CFD Analysis Incorporating Multi-Fractional Human Thermoregulation Model

S. Yoshida

Numerical and Experimental Study on Convective Heat Transfer of a Human Body in Outdoor

T. Ono, S. Murakami, R. Ooka, T. Takahashi, T. Omori, T. Saotome

Numerical Simulation Studies of the Different Vegetation Patterns' Effects on Outdoor Pedestrian Thermal Comfort

B. Lin, Y. Zhu, X. Li, Y. Qin

Study on Optimum Arrangement of Trees for Design of Pleasant Outdoor Environment Using Multi-Objective Genetic Algorithm and Coupled Simulation of Convection, Radiation and Conduction

R. Ooka, H. Chen, S. Kato

Tuesday, July 18, Room-A, 17:10-18:10

TA4 CFD Guideline for Pedestrian Wind Environment (Organized session)

Recommendations of the Cost Action C14 on the Use of CFD in Predicting Pedestrian Wind Environment

J. Franke

AIJ Guideline for Practical Applications of CFD to Wind Environment around Buildings

A. Mochida, Y. Tominaga, R. Yoshie

Tuesday, July 18, Room-B, 10:50-12:20

TB1 Urban Environment 2

Wind Climate in Cities: Air Circulation and Pollutant Dispersion

A. Kurbatskiy, Lonchakov A. V., Kurbatskaya L. I.

Development of Prediction and Evaluation System of Heat and Wind Environment in Urban Areas and Blocks

K. Takagi, T. Yamanaka, K. Kondo

- Synthesized Analyses of Meso-Micro and Indoor Climates - Evaluation on The Spatial Distribution of Wind Potential inside a City for Reducing the Cooling Load of Residential Buildings by Means of Cross-Ventilation
K. Takahashi, A. Mochida, H. Yoshino, T. Mitamura, S. Miyauchi, T. Yoshida
- Uncertainty in Measurements of Velocity and Concentration around a Building
H. Tanaka, R. Yoshie, C.H. Hu
- Development of the Simulation Method for Thermal Environment and Pollutant Diffusion in Street Canyons with Sub-Grid Scale Obstacles
N. Hataya, A. Mochida, T. Iwata, Y. Tabata, H. Yoshino, Y. Tominaga
- A Comprehensive Assessment of Pedestrian Wind Environment Including Thermal Effects Based on Year- Long Analysis Using CFD and Meteorological Data
Y. Tominaga, T. Murata, Y. Aoki

Tuesday, July 18, Room-B, 13:30-15:00

TB2 Urban Environment 3

- Optimization of Tree Canopy Model for CFD Prediction of Wind Environment at Pedestrian Level
A. Mochida, H. Yoshino, T. Iwata, Y. Tabata
- The Numerical Simulation for Air Distribution of an Underground Main Workshop in Hydropower Station
R. Wan, J. Liu, Z. Wang
- CFD Simulation of Concentration and Flow Distribution by Different Arrangements of Building Height in Urban Street Canyon
C.H. Chang, J. S. Lin, C.M. Cheng, Y.Y. Lin
- LES of Flow Over Urban-Like Roughness Blocks
T. Nozu, T. Tamura, Y. Okuda, S. Sanada
- Numerical Investigation on the Wind Environment around a Sports Center
H. Jin, W. Yang, X. Jin, D. Chen
- Virtual Versus Physical: Examining the Capabilities of CWE/CFD Simulations through Comparisons to Wind Tunnel Observations
T. Scott, D. Banks

Tuesday, July 18, Room-B, 15:20-16:50

TB3 Transportation

- Movement of Smoke in Tunnels: A Comparison of Theory and Practice
A.P. Jeary, D. Alexander
- Exploring the Flow around a Generic High-Speed Train under the Influence of Side Winds Using LES
H. Hemida, S. Krajnovic
- Numerical Study of Wakes on a Simple Car Model
E. Guilmineau
- Transient Numerical Simulation of The Flow Field around a Pickup Truck
D. Lee, S. Parameswaran
- Smoke Management in Underground Transportation Facilities in the Event of a Fire - Commissioning Tests at Reduced Heat Output and CFD-Calculation for the Design Heat Output
H.J. Gerhardt, B. Konrath, R.D. Lieb, M. Schwarz
- CFD Modeling of High-Sided Vehicles in Cross-Winds
D.M. Hargreaves, H.P. Morvan, N.G. Wright

Tuesday, July 18, Room-B, 17:10-18:10

TB4 Acoustic

- Finite Element Simulation of Sound Propagation Concerning Wind Conditions
T. Nomura, K. Takagi, H. Kanai
- Numerical Analysis of Aerodynamic Sound Radiated from Rectangular Cylinders with Various Side Ratios
A. Rokugou, A. Okajima, S. Kimura, T. Kiwata, H. Yamamoto
- Numerical Simulation of Aero-Acoustic Noise for Buildings
H. Hangan, J.D. Kim

Tuesday, July 18, Room-C, 10:50-12:20

TC1 Square/Cube 1

- Flow over Bluff Bodies Using LES
M. Farhadi, K. Sedighi
- Flow around a Cube Placed in a Simulated Turbulent Boundary Layer
H.C. Lim, T. G. Thomas, I.P. Castro
- Wall Function at the Upwind Sharp Convex Corners in Simulating Incident Air Flow on a Cube
Y. Gao, W.K. Chow

On the Nodal Velocity Direction at Body Corners in 2D Turbulence Simulations Using the Wall Function

H. Hasebe, T. Nomura

Numerical Analysis of Karman Vortex Street in the Wake of the Jeju Island

J.H. Kwon, Y.H. Choi, Y.W. Lee, Y.D. Kim

Turbulent Heat Transfer in a Channel with a Built-In Square Cylinder

S.M. Hashemian, M. Rahnema, M. Farhadi

Tuesday, July 18, Room-C, 13:30-15:00

TC2 Square/Cube 2

Numerical Investigation of the Influence of Aspect Ratio on Flows around Bluff Bodies

D. Yu, A. Kareem, K. Butler, J. Glimm, J. Sun

Characteristics of Vortices Shed from a Circular Cylinder and an Inclined Flat Plate

K. M. Lam, C. T. Wei

A Numerical Study of Aerodynamic Forces on a Square Cylinder in Oscillating Flows

Y.C.Li, C.C. Chen, F.M. Fang, T.C. Liang

A Numerical Study of Moving Ground Effect to the Vortex Shedding around a Square Cylinder

Y.C. Ku, T.Y. Kim, J.H. Rho, K.H. Kim, D.H. Lee

An Experimental Study for Flow Characteristics of a Square Cylinder with Moving Ground System

T.Y. Kim, J.H. Rho, Y.C. Ku, J.Y. Kim, Y.P. Kohama, D.H. Lee

A Circular Cylinder in Uniform, Steady Jet and Synthetic Jet Flows

S. K Siong, R. N Sharma

Tuesday, July 18, Room-C, 15:20-16:50

TC3 Square/Cube 3

Wake Instability and Dipole Formation in Stratified Fluids

S. A. Smirnov, S. I. Voropayev, H.J.S. Fernando, D.S. Iv

Wind Tunnel Study of Column-Type Circular Cylinder Propulsion Assistance System (C-Pas) for Ships

T. Shiii, H. Yagi, A. Fujii

Flow-Structure Interaction of the Oscillating Circular Cylinder in the Lock-In Region: Computational Versus Experimental Approach Comparison

G. Diana, A. Zasso, L. Vigevano, F. Auteri, L. Formaggia, F. Nobile

Comparisons of CFD and PIV data for the Flow around a Rectangular Cylinder

Z. J. Taylor, E. Palombi, G. A. Kopp, W. J. Holmes

Control of Vortex Oscillation of a Rectangular Cylinder by Periodic Suction and Blowing at the Leading Edges

T.A. Tran, B. Hori, H. Kobayashi

Numerical and Experimental Studies on the Flow around a Circular Cylinder in Shear Flow

S. Cao, Y. Tamura

Tuesday, July 18, Room-C, 17:10-18:10

TC4 Atmospheric Boundary Layer

A (k- ϵ) Turbulence Closure Model for Plant Canopy Flows

H. Hiraoka, M. Ohashi

Comparison of LES with Wind Tunnel Experiment around and within Localized Urban Canopy under Atmospheric Turbulent Boundary Layer

S. Kurita, M. Kanda

Experimental and Numerical Study on a Free Convection Layer Developing under a Water Surface

T. Karasudani, H. Ueda

Laboratory and Numerical Studies of Atmospheric Stable Boundary Layers

Y. Ohya, T. Uchida

Tuesday, July 18, Room-D, 10:50-12:20

TD1 Buildings 5

Hybrid Technique for Verifying the Interactions between Oscillating Square Prism and Surrounding 2D Flow

R. Okada, Y. Isono, M. Kanda, E. Maruta

Study on Aerodynamic Oscillation Including Unstable Phenomena of High-Rise Buildings

T. Matsuyama, W. Nanami, M. Kanda, E. Maruta

Wind Effects on MDOF Structures Using ANN

M. Pedro, R. Neftali, B. Chris, C. Andrew

Wind Load Evaluation System for the Design of Cladding of Spatial Structures

Y. Uematsu, R. Tsuruishi

The Wind Features of Taipei 101 Financial Building
L. C. Chen, C. C. Chen, C. Y. Chen, S. W. Yeh, S. K. Zen, J. H. Chou
Reducing Flow Induced Building Vibration by Streamlining
C. C. Chen, C. C. Hsu, L. C. Chen, J. H. Chou

Tuesday, July 18, Room-D, 13:30-15:00

TD2 Buildings 6

Identification of Long-Term Trends in the Wind Climate based on Simulations
M. Kasperski
Wind Shield Effect of Wall on an Embankment by Means of Separation Interference Method
Y. Kubo, K. Yoshida, T. Hamamoto, K. Kimura, K. Kato
Pressure in a Cavity of Building-High Double Façade
H. Kawai
Numerical Calculation of the 3-Dimensional Motion of Wind-Borne Debris
P.J. Richards, N. Williams, B. Laing, M. Mccarty, M. Pond
A Flow Analysis for a Turning Rapid Diffuser Using CFD
N.K. Cuong, T. Ngo, P. Mendis, J.C.K. Cheung
Pressure Measurements on Delta Wing with Different Leading Edge Radii
M. Gopinath, K.M.Parammasivam

Tuesday, July 18, Room-D, 15:20-16:50

TD3 Bridges 3

Distributed Computing for Design Optimization of the Messina Bridge Considering Aeroelastic Constraints
F. Nieto, S. Hernández, J.A. Jurado
Particle Image Velocimetry Measurements of Wake Flows of Various Bridge Sections
E. Palombi, G. A. Kopp, R. Gurka
Prediction of Flutter Derivatives Using Artificial Neural Networks
C.H. Chen, Y.Y. Lin, J.H. Chen
Structural Internal Force Prediction of a Suspension Bridge due to Buffeting
G. Liu, L. Zhu, H.F. Xiang
Numerical Simulation of Wind Environment above Deck
A. Chen, D. Wang, Z. Zhou, H. Yin

Tuesday, July 18, Room-D, 17:10-18:10

TD4 Bridges 4

Study on Static and Dynamic Instability of Super Long-Span Cable-Stayed Bridges
P. H. Kien, H. Yamada, H. Katsuchi, E. Sasaki
Flutter and Buffeting Analysis in Time Domain for Suspension Bridge in Operation and Erection Stage
H. Huang, M. Li
Identification of Flutter Derivatives by Forced Vibration Technique
J.C. Wu, W.C. Liu, J.Y. Juang

Wednesday July 19

Registration

8:00 - 15:00 Conference Center 3rd Floor, PACIFICO YOKOHAMA

Announcement

9:00 - 9:10 Room-A

Plenary Session (Invited)

9:10 - 10:30 Room-A, Co-chaired by G. Solari, J. Cheung

Some Developments in Turbulence Modeling of Environmental Flows

K. Hanjalić, S. Kenjereš, Delft University of Technology, The Netherlands

Computational Methods for the Wind Energy Industry

K. W. Ayotte, Windlab Systems Canberra, Australia

Break 10:30 - 10:50

Technical Session 10:50 - 15:00

Wednesday, July 19, Room-A, 10:50-12:20

WA1 Commercial CFD Software and CWE Applications (Organized session)

- A CWE/WT Study of the Flow over High- And Low-Rise Buildings with Anisotropic Mesh Optimization
F. Tremblay, W. Habashi, M. Aubé, C. Wang, B. Huang, G. Wang
- Evaluating Fluent V6.2 with the German VDI Guideline for Obstacle Resolving Micro-Scale Models
J. Franke
- The Use of Commercial CFD Software to Model the Atmospheric Boundary Layer
D.M. Hargreaves, N.G. Wright
- Numerical Simulation of Downbursts and Comparison with Full Scale Data
J. Kim, H. Hangan
- Numerical Evaluation of Dispersion of Pollutants in the Building Environment: Comparisons with Models and Experiments
X. Wang, T. Stathopoulos, P. Saathoff
- CFD Prediction of Cooling Tower Drift in an Urban Environment
R. N. Meroney

Wednesday, July 19, Room-A, 13:30-15:00

WA2 Commercial CFD Software and CWE Applications (Organized session)

- Indicators for the Evaluation of Test Section Flow Quality
P. Moonen, B. Blocken, J. Carmeliet
- Interference Effects of Wind Loads on a Row of Tall Buildings
K.M. Lam, J.G. Zhao
- Developments and Applications of CFD Simulations of Micrometeorology and Pollution Transport in Support of Air Quality Modeling
A. Huber, M. Freeman, R. Spencer, W. Tang, W. Schwarz, B. Bell, K. Kuehlert
- On Equilibrium Wind Speed and Turbulence Profiles for CFD Simulation of Atmospheric Boundary Layer Flows
B. Blocken, T. Stathopoulos, J. Carmeliet

Wednesday, July 19, Room-B, 10:50-12:20

WB1 Dispersion

- A Computational and Experimental Study of Pollution Dispersion in an Isolated Street Canyon
S. Awasthi, K.K. Chaudhry
- Physical Modeling of Vehicular Pollution Dispersion in an Isolated Urban Street Canyon under Heterogeneous Traffic Conditions and its Simulation by Artificial Neural Network (Ann) Technique
N. Sharma, K. K. Chaudhry, C. V. Chalapati Rao
- Validation of Bayesian Inference for Emission Source Distribution Reconstruction Using the Joint Urban 2003 and European Tracer Experiments
E. Yee, F.-S. Lien, A. Keats, K.-J. Hsieh, R. D'amours
- CFD Analysis on Traffic-Induced Air Pollutant Dispersion with Non-Isothermal Condition in a Complex Urban Area in Winter
H. Huang, R. Ooka, S. Kato, H. Chen, T. Takahashi, T. Watanabe
- Numerical Modeling of Dust Storm in the Taklimakan Desert - Possibility of Effective Long-Range Transport
N. Seino, A. Yamamoto, M. Chiba, H. Sasaki, I. Takayabu
- A Numerical Study of Yellow Sand Transport in Stably Stratified Flows over a Two-Dimensional Mountain
Y. Utanohara, S. Kimura, T. Kiwata, A. Okajima

Wednesday, July 19, Room-B, 13:30-15:00

WB2 Computer-Controlled Wind Tunnel (Organized session)

- Active Gust Generation and its Application to Bluff Body Aerodynamics
A. Hatanaka, H. Kobayashi
- Wind Tunnel Experiments of Large-Scale Turbulence Generated by a Turbulent Shear Flow Generator
H. Makita, N. Sekishita
- Wind Tunnel Simulation of the Atmospheric Turbulence Coherence
K. Nagai
- Control of Spatial Correlation of Vertical Component Wind Fluctuation Using by Flexible Movable Blades Cascade
M. Noda, F. Nagao, K. Adachi, T. Isago, H. Utsunomiya

A Trial Manufacture of Fluctuating Wind Direction Tunnel that Utilize the Control of Pressure Slope Orientation

K. Kimura, Y. Kubo, K. Kato

A Grid Computing-Based Remote-Experiment System for Wind Engineering

S.D. Kwon, H.Y. Yeom, B. Sung, J.K. Kim

Wednesday, July 19, Room-C, 10:50-12:20

WC1 Computation of Wind Loads and Responses of Buildings (Organized session)

Wind-Induced Dynamic Analysis of Membrane Structure with Air Influence

B. Sun, G. Shen, Q. Li

Comparison of Mean Wind Pressure Coefficients on a Low-Rise Building Afforded by Experimental and Numerical Methods

Y. Quan, W. Yang, X. Jin, Y. Tamura

Numerical Simulations of Wind Pressures on Buildings in Staggered Arrangement

A. Zhang, M. Gu

Numerical Simulation of Snow Drift on the Surface of a Large Span Roof Structure

X. Y. Zhou, M. Gu

Wind Tunnel Test and Numerical Simulation of Mean Wind Loads on a Container Crane

P. Huang, Y.J. Wang, M. Gu

Wind Tunnel Test and Numerical Simulation of Wind Loads on Cantilevered Roofs

W. Lou, B. Sun, H. Li, G. Shen

Wednesday, July 19, Room-C, 13:30-15:00

WC2 Computation of Wind Loads and Responses of Buildings (Organized session)

Research on the Parameters of Turbulence Model and Modeling of Equilibrium Atmosphere Boundary Layer in CWE

W. Yang, X. Jin, H. Jin, Y. Quan, M. Gu

Equivalent Along-Wind Loads of Aqueduct Bridges

Y. Li, Z. Zhou, Z. Li

Wednesday, July 19, Room-D, 10:50-12:20

WD1 Analytical Methods

Wind Response Analysis Method for Base-Isolated Buildings Considering Small-Amplitude Plastic Behavior and Creep

H. Yasui, T. Ohkuma

Modal Analysis for Wind-Induced Response of Spatial Structures Based on the POD Characteristics of Wind Pressure

Y.Q. Li, L. Wang, Z. Liu, Y. Tamura

Numerical Predictions of the Responses of a Square Prism based on the Approach of Rigid Aeroelastic Model

T.C. Liang, F.M. Fang, Y.C. Li, C.C. Chen

Study on the Unsteady Pressure Field around the Oscillatory B/D=4 Rectangular Section Using Proper Orthogonal Decomposition Analysis

M. Matsumoto, T. Yagi, T. Tubota, J.H. Lee, K. Hori, Y. Kawashima

Analysis of Wind Load Effects and Modeling of Equivalent Static Wind Loads of Tall Buildings Based on Synchronous Pressure Measurements

G. Huang, X. Chen

Assessment of Wind Load Effects on Low-Rise Buildings Using Full-Scale Pressure Measurements

X. Hu, X. Chen, D.A. Smith

Wednesday, July 19, Room-D, 13:30-15:00

WD2 Rain and Snow

Prediction of Fabric Moisture Contents in a Historic Building Using CFD and Heat Air and Moisture Transfer Modelling Compared with Full-Scale Measurements.

A. Kumaraperumal, P.H. Baker, C.H. Sanders, G.H. Galbraith, R.C. Mclean

Modelling Transient Snowdrift Development around Complex Three-Dimensional Structures

J.H.M. Beyers, W.F. Waechter, H.A. Baker, M. R. Carter, C.J. Williams

CFD Prediction of Snowdrift around a Cubic Building Model

Y. Tominaga, A. Mochida, H. Yoshino, T. Shida, T. Okaze

A Status Report of Wind-Driven Rain Research at the Laboratory of Building Physics, K.U.Leuven

M. Abuku, B. Blocken, J. Carmeliet, S. Roels

Rain Impact on a Curved Surface High-Rise Building

H. Hangan, J.D. Kim, D. Inculet

Closing Ceremony

15:00 - 15:20 Room-A, Chaired by Y. Tamura

M. Matsumoto, Chair of Scientific Committee, CWE2006

Equipment for Presentation

A personal computer (Windows-XP, English version) and a PC-projector will be available in each room for presenters. Presenters who use the PC facility are advised to prepare your presentation as a Power-Point file in a CD-ROM or a USB flash memory. Your own laptop with a VGA connector can be used for presentation. If an overhead projector is needed, it must be requested in advance. Each presentation must be handed, at least two hours before the Session, to the technical staff in the room that will be indicated on site.

Submission of Full Paper

Following the conference, a selection of papers will be notified by the Scientific Committee for expansion into the format required by the Journal of Wind Engineering and Industrial Aerodynamics. The selected papers will be compiled into a special volume later.

Key Dates

July 16-19, 2006	Symposium
September 30, 2006	Notification of Selected Papers
December 31, 2006	Full papers due (selected papers)

Social Events

Icebreaker

Sunday, July 16th 19:00-21:00, Icebreaker Reception at the symposium venue.

Cruising dinner (Optional)

Monday, July 17th, 18:45 - 20:15, A cruising with dinner, departing from Pukarisanbashi Pier

Banquet

Tuesday, July 18th 19:00-21:00, Symposium Banquet at the symposium venue.

Technical Tour (Optional)

Thursday, July 20th, 9:00 - 17:00, A technical tour to visit the earth simulator which was the super computer ranked No. 1 in the world in 2002 and is No.4 at present time.

COE Advanced School on Computational Fluid Dynamics

July 14th and 15th, 10:00 - 17:00, advanced lectures will be given by Prof. Meroney and Prof. Parameswaran at Atsugi Royal Park Hotel.

Access to the Symposium site

NEW TOKYO INTERNATIONAL AIRPORT (NARITA)

Time mentioned after each hotel is approximate walking time from the nearest station to the hotel.

By Airport Limousine bus
JPY3,500 / 90-110 min.
Dep.time: 7:20, 14:40
15:40, 17:00
18:00, 20:00

By Airport Limousine bus
JPY3,500 / 90 min.
6:45-22:30
20-40 min. intervals

**By JR Limited Express Train,
Narita Express**
Narita-Yokohama via Shinagawa
JPY4,180 / 90-100 min.
8:15-21:43
60-90 min. intervals

Yokohama City Air Terminal
(YCAT)

Shinagawa Sta.

By Taxi
YCAT - HOTELS in Sakuragicho
& Minatomirai Area
JPY1,000-1,500 / 10-15 min.

5 min. walk

Yokohama Sta.

JR Keihin-Tohoku Line
JPY130 / 4 min.

***Please note that heavy traffic & big crowds of people is expected throughout Minato Mirai Area because they will have the big fireworks displays on July 16.**

Sakuragicho Sta.

4 Yokohama Sakuragicho Washington Hotel	1 min. walk
5 San-ai Yokohama Hotel	5 min. walk
6 Yokohama Heiwa Plaza	5 min. walk

Minatomirai Line
JPY180/ 3 min.

Minatomirai Sta.

2 Inter-Continental The Grand Yokohama (Adjacent to Venue)	3 min. walk / 15 min. walk
1 Yokohama Royal Park Hotel	3 min. walk / 5 min. walk
3 Pan Pacific Hotel Yokohama	1 min. walk / 12 min. walk

15 min. walk

1-5 min. walk to the venue

PACIFICO YOKOHAMA (VENUE)

(As of Feb. 2006)

REGISTRATION AND ACCOMMODATION

OFFICIAL TRAVEL AGENT

JTB Global Marketing & Travel Inc. (JTB GMT) has been appointed as the official travel agent for the Symposium and will handle registration, hotel accommodation and tours.

JTB Global Marketing & Travel Inc.

Convention Center (CD101923-475)

2-3-11 Higashi-Shinagawa, Shinagawa-ku,

Tokyo 140-8604 Japan

Fax: +81-3-5495-0685

Phone: +81-3-5796-5445

E-mail: cwe2006@jtb.jp

REGISTRATION FEE

Fee	Registration by May 31 (Wed.) 2006	Registration on or after June1 (Thu.) 2006 and On Site
Full registration	JPY 60,000 (USD555)	JPY 65,000(USD600)
Accompanying person	JPY 10,000 (USD100)	
Student	* JPY 30,000 (USD280)	
JAWE Member	JPY 60,000 (USD555)	
Organized session speaker	** JPY 45,000 (USD410)	

1) The registration fee includes:

Symposium materials (proceedings, list of participants, etc.) / Welcome reception / Lunch / Banquet

2) Payment for the registration fee will be accepted only in Japanese Yen if the method of payment is by credit card; the fee in Japanese Yen will be converted into your currency at the credit card company's exchange rate.

If you wish to pay in Euro or USD, please transfer the fee by bank remittance.

3) *Registration as Student should be accompanied by a copy of Student ID Card with photo.

Students without the ID are registered as Delegates.

4) **Only one person can be registered as the organized session speaker for one paper.

*** Please note that heavy traffic & big crowds of people is expected throughout Minato Mirai Area because they will have the big fireworks displays on July 16.**

HOTEL ACCOMMODATION

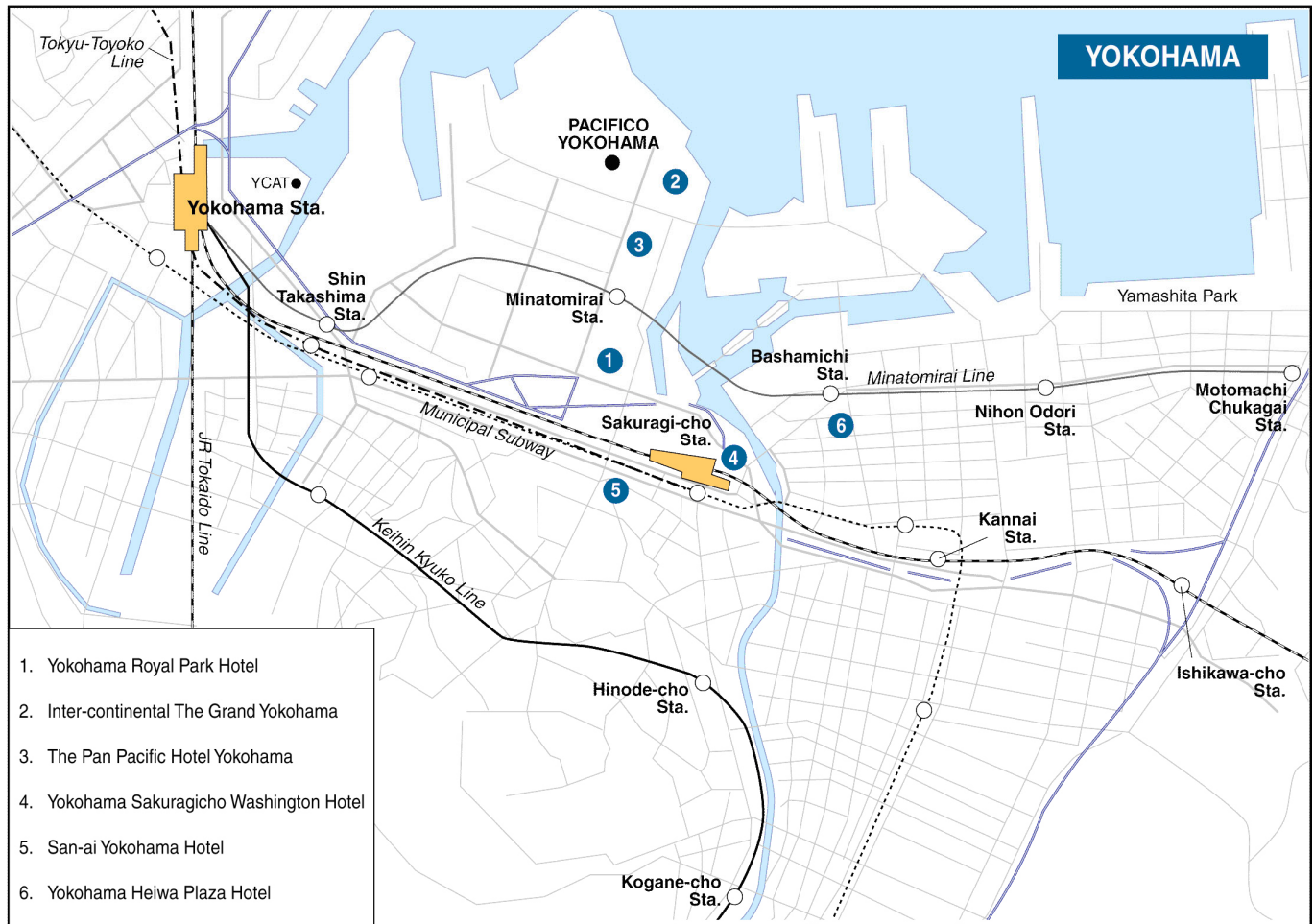
JTB GMT has booked rooms at hotels in Yokohama for the symposium period. Reservations will be processed in order of receipt of application form. If the hotel of your first choice is fully booked, you will be assigned to a room at a hotel of the same grade.

No.	Hotel Name (Check-in & out time)	Room Rates		Address Phone Access
		with bath	Twin with bath	
1	Yokohama Royal Park Hotel (14:00 / 12:00)	*JPY28,350	JPY31,500	2-2-1-3 Minatomirai, Nishi-ku, Yokohama 220-8173 +81-45-221-1111 5 min. walk to the site
2	Inter-continental The Grand Yokohama (14:00/11:00)	*JPY24,150	JPY31,500	1-1-1, Minatomirai, Nishi-ku, Yokohama 220-8522 +81-45-223-2222 Adjacent to the site
3	The Pan Pacific Hotel Yokohama (14:00 / 11:00)	*JPY29,565	JPY36,030	2-3-7, Minatomirai, Nishi-ku, Yokohama 220-8543 +81-45-682-2222 2 min. walk to the site.
4	Yokohama Sakuragicho Washington Hotel (14:00 / 10:00)	JPY11,550	JPY15,750	1-1-69 Sakuragicho, Naka-ku, Yokohama 231-0062 +81-45-683-3111 15 min. walk to the site

5	San-ai Yokohama Hotel (14:00 / 10:00)	JPY8,715	—	3-95, Hanasakicho, Naka-ku, Yokohama 231-0063 +81-45-242-4411 18 min. walk to the site
6	Yokohama Heiwa Plaza Hotel (16:00 / 10:00)	JPY11,130	—	5-65 Ota-cho, Naka-ku, Yokohama 231-0011 +81-45-212-2333 15min. walk to the site

- ◆ Room rates include breakfast, service charge and a 5% consumption tax.
- ◆ * indicates single occupancy of a twin or double room.

HOTEL MAP



APPLICATION AND PAYMENT

Participants wishing to reserve registration, hotel accommodation and tours should apply online or fax the filled form to reach JTB GMT **no later than June 30.** (Confirmation sheet will be sent by JTB GMT.)

Application should be accompanied by a remittance covering the hotel deposit (one night room charge).

(The hotel deposit will be credited to your bill. All hotel expenses deducting the hotel deposit should be paid directly to the hotel.)

No reservation will be confirmed in the absence of this payment. All payment must be in Japanese yen. If the remitter's name is different from the participant's name or the remittance covers more than one person, please inform us of the name of each participant.

Payment should be in the form of:

- One of the following credit cards:

1. VISA
2. MasterCard
3. Diners Club
4. AMEX
5. JCB

- A bank transfer to JTB Global Marketing & Travel Inc. (Message: CD101923-475)

Account at The Bank of Tokyo-Mitsubishi UFJ, Ltd. Shin-Marunouchi Branch (swift code: BOTKJPJT)

1-4-2 Marunouchi, Chiyoda-ku, Tokyo 100-0005 Japan (Account number: 4760343)

CANCELLATION

In the event of cancellation, written notification should be sent to JTB GMT. The following cancellation fees will be deducted before any refund is made, in addition to the handling charge.

Registration	By June 30 (Fri.), 2006 -----	50% of the registration fee
	On and after July 1 (Sat.), 2006 -----	100% of the registration fee

Hotels:	Up to 10 days before the first night of stay -----	None
	9 to 2 days before-----	20% of daily room charge
	1 day before -----	80% of daily room charge
	On the day of arrival or no notice given -----	100% of daily room charge

GENERAL INFORMATION

PASSPORT AND VISA

To visit Japan, you must have a valid passport. A visa is required for citizens of countries that do not have visa-exempt agreements with Japan. Please contact the nearest Japanese Embassy or Consulate for visa requirements.

DUTY FREE IMPORT

Personal effects and professional equipment can be brought into Japan duty free as long as the customs officer deems their contents and quantities reasonable. You can also bring in 400 cigarettes, 500 grams of tobacco or 100 cigars; 3 bottles of alcoholic beverages; 2 ounces of perfume; and gifts and souvenirs whose total market price is less than 200,000 yen or its equivalent. There is no allowance for tobacco or alcoholic beverages for persons aged 19 years or younger. Firearms and other types of weapons, and narcotics are strictly prohibited.

INSURANCE

The organizer cannot accept responsibility for accidents that might occur. Delegates are encouraged to purchase travel insurance before leaving their home country. Insurance plans typically cover accidental loss of belongings, medical costs in case of injury or illness, and other possible risks of international travel.

CLIMATE

The temperature in Yokohama during the period of the symposium ranges between 22°C and 29°C.

CURRENCY EXCHANGE

Only Japanese yen (¥) is acceptable at regular stores and restaurants. Certain foreign currencies may be accepted at a limited number of hotels, restaurants and souvenir shops. You can buy yen at foreign exchange banks and other authorized money exchangers on presentation of your passport.

TRAVELER'S CHECKS AND CREDIT CARDS

Traveler's checks are accepted only by leading banks and major hotels in principal cities, and the use of traveler's checks in Japan is not as popular as in some other countries. VISA, MasterCard, Diners Club, and American Express are widely accepted at hotels, department stores, shops, restaurants and nightclubs.

TIPPING

In Japan, tips are not necessary anywhere, even at hotels and restaurants.

ELECTRICITY

Electric current is uniformly 100 volts, AC, throughout Japan, but with two different cycles: 50 in eastern Japan including Yokohama and 60 in western Japan including Kyoto and Osaka. Leading hotels in major cities have two outlets of 100 and 220 volts but their sockets usually accept a two-leg plug only.

SHOPPING

Shops and other sales outlets in Japan are generally open on Saturdays, Sundays and national holidays as well as weekdays from 10:00 to 20:00. Department stores, however, are closed on one weekday, differing by store, and certain specialty shops may not open on Sundays and national holidays.

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<i>M. Abuku</i>	WD2	<i>M. Chiba</i>	WB1	<i>H. Hangan</i>	
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<i>H. Sasaki</i>	MC2, WB1	<i>T.A. Tran</i>	TC3	<i>W. Yang</i>	TB2, WC1, WC2
<i>K. Sasaki</i>	MB2	<i>F. Tremblay</i>	WA1	<i>Y.X. Yang</i>	TA2
<i>T. Sato</i>	MB2	<i>R. Tsuruishi</i>	TD1	<i>S. C. Yaragal</i>	MD4
<i>M. Schwarz</i>	TB3	<i>T. Tubota</i>	WD1	<i>T. Yasuda</i>	MB1
<i>W. Schwarz</i>	WA2			<i>H. Yasui</i>	WD1
<i>T. Scott</i>	TB2	U		<i>E. Yee</i>	MB2, WB1
<i>K. Sedighi</i>	TC1	<i>T. Uchida</i>	MC3, MC4, TC4	<i>S.W. Yeh</i>	TD1
<i>N. Seino</i>	WB1	<i>H. Ueda</i>	TC4	<i>D.H. Yeo</i>	MD4
<i>N. Sekishita</i>	WB2	<i>Y. Uematsu</i>	TD1	<i>H.Y. Yeom</i>	WB2
<i>A. Sengupta</i>	TA1	<i>Y. Utanohara</i>	WB1	<i>H. Yin</i>	TD3
<i>N. Sharma</i>	WB1	<i>H. Utsunomiya</i>	WB2	<i>K. Yoshida</i>	TD2
<i>R.N. Sharma</i>	MB4, TC2			<i>M. Yoshida</i>	MB1
<i>G. Shen</i>	WC1, WC1	V		<i>S. Yoshida</i>	MB2, TA3
<i>S. Shen</i>	MD1	<i>L. Vigevano</i>	TC3	<i>T. Yoshida</i>	MB2, TB1
<i>T. Shida</i>	WD2				

R. Yoshie TA4, MA1, MB3, TB1
J. Yoshimura MB1
H. Yoshino MB2, TB1
MA1, TB2, TB1, WD2
J. Yoshino MB1
D. Yu TC2
Y. Yuan MB4

Z

A. Zasso TC3
S.K. Zen TD1
A. Zhang WC1
J.G. Zhao WA2
X.Y. Zhou WC1
Z. Zhou MC1, TA2, TD3, WC2
L. Zhu TD3
L.D. Zhu TA2
W. Zhu MD2
Y. Zhu MB4, TA3, TA3