

VF-2007
International Conference on Violent Flows
Technical Program



20-22 November, 2007
Fukuoka International Congress Center



Organized by
Research Institute for Applied Mechanics, Kyushu University

VF-2007 Program
International Conference on Violent Flows
20 November – 22 November, 2007, Fukuoka, Japan

Time	Tuesday – November 20	Wednesday – November 21		Thursday – November 22		Time
08:00 – 09:00	<i>Registration</i>					
09:00 – 10:15	Opening Session Keynote Lectures	Session 4A SPH and MPS Methods	Session 4B Tsunami	Session 8A Green-water Impact	Session 8B Sloshing	09:00 – 10:15
10:15 – 10:45	<i>Coffee Break</i>	<i>Coffee Break</i>		<i>Coffee Break</i>		10:15 – 10:45
10:45 – 12:00	Session 1 Ship Motions in Rough Waves	Session 5A Wave Loads, Slamming	Session 5B Coastal Engineering	Session 9A Response of Elastic Body	Session 9B Ship Response in Waves	10:45 – 12:00
12:00 – 13:30	<i>Lunch</i>	<i>Lunch</i>		<i>Lunch</i>		12:00 – 13:30
13:30 – 15:10	Session 2 Wave Breaking	Session 6A CFD Methods Part-1	Session 6B Slamming and Impact	Session 10A Marine Hydrodynamics	Session 10B Run-up, Cavity	13:30 – 14:45
15:10 – 15:40	<i>Coffee Break</i>	<i>Coffee Break</i>		<i>Closing Remarks</i>		14:45 – 14:55
15:40 – 17:20	Session 3 SPH Method	Session 7A CFD Methods Part-2	Session 7B Jet, Air-Water Interaction			
18:30 – 20:30	Reception at Fukuoka Sun Palace	Conference Dinner (19:00 – 21:00, at Grand Hyatt Fukuoka)				

Technical Sessions
Tuesday, November 20, 2007, 09:00 – 12:00

Opening Session

Session Chair: *Masashi Kashiwagi, Kyushu University, Japan, Chairman of VF-2007*

Room 502+503

- 09:00 – 09:15 Welcome Address and Announcement
Masashi Kashiwagi
- 09:15 – 09:45 Keynote Lecture – Part-1:
Numerical Simulation of Highly Nonlinear Wave-Body Interactions with Experimental Validation
Chi Yang, Haidong Lu, Rainald Löhner, Xiufeng Liang and Jianmin Yang
- 09:45 – 10:15 Keynote Lecture – Part-2:
Simulation of Wave Overtopping on Stepped Seawall with Drainage by the MPS Method
Hitoshi Gotoh, Hiroyuki Ikari, Shigenori Muramoto and Tsunehito Yasuoka
- 10:15 – 10:45 Coffee Break

Session 1: Ship Motions in Rough Waves

Session Chair: *Chi Yang, George Mason University, USA*

Room 502+503

- 10:45 – 11:10 Numerical and Experimental Investigation of Violent Seakeeping Phenomena
Marilena Greco, Giuseppina Colicchio, Tomaso Bazzi and Claudio Lugni
- 11:10 – 11:35 Development and Evaluation of Nonlinear Numerical Methods for Wetdeck Slamming of a High-Speed Catamaran
Woei-Min Lin, Hamn-Ching Chen and Sheguang Zhang
- 11:35 – 12:00 URANS Analysis of a Broaching Event in Irregular Quartering Seas
Pablo M. Carrica, Kwang-Jun Paik and Fred Stern
- 12:00 – 13:30 Lunch (*at Fukuka Sun Palace Hotel*)

Technical Sessions
Tuesday, November 20, 2007, 13:30 – 17:20

Session 2: *Wave Breaking*

Session Chair: *Woei-Min Lin, Science Applications International Corporation (SAIC), USA*

Room 502+503

- 13:30 – 13:55 Corrected Incompressible SPH Model for the Simulation of Wave Breaking and Post-Breaking
Hitoshi Gotoh, Abbas Khayyer and Songdong Shao
- 13:55 – 14:20 Numerical Simulation of Wave Breaking and Wave Run-up in Nearshore Zone
Roham Bakhtyar, Abbas Yeganeh-Bakhtiary and Abbas Ghaheer
- 14:20 – 14:45 Plunging Wave Breaking: EFD and CFD
Surajeet Ghosh, George Reins, Bonguk Koo, Zhaoyuan Wang, Jianming Yang and Fred Stern
- 14:45 – 15:10 Air-Water Interaction in Breaking Waves
Alessandro Iafrati
- 15:10 – 15:40 Coffee Break

Session 3: *SPH Method*

Session Chair: *Hitoshi Gotoh, Kyoto University, Japan*

Room 502+503

- 15:40 – 16:05 Application of MI-SPH Method in the Simulation of Impulsive Waves Generated by Landslides
Behzad Ataie-Ashtiani and Rozita Jalali Farahani
- 16:05 – 16:30 3D Impact Flows Using an Enhanced Parallelized SPH Model
Guillaume Oger, David Le Touzé, Bertrand Alessandrini and Pierre Ferrant
- 16:30 – 16:55 Hydroelastic Impacts of a Simplified LNG Insulation, Simulations with a SPH Method and Experiments
J.-B. Deuff, G. Oger, L. Brosset, B. Alessandrini and P. Ferrant
- 16:55 – 17:20 Numerical Simulation of Violent Free Surface through a Higher Order SPH Method
Xing Zheng, Wen Yang Duan and Guo Xiong Wu
- 18:30 – 20:30 Reception (*at Fukuoka Sun Palace Hotel*)

Technical Sessions
Wednesday, November 21, 2007, 09:00 – 10:15

Session 4A: *SPH and MPS Methods*

Session Chair: *Pierre Ferrant, Ecole Centrale Nantes (ECN), France*

Room 502

- 09:00 – 09:25 Compressible Smoothed Particle Hydrodynamics (C-SPH) Method for Simulating Plunging Breaking Wave
Hadiseh Bolkhari, Abbas Yeganeh Bakhtiary and Mojtaba Yaghoubi Waskasi
- 09:25 – 09:50 Application of the 2D-MPS Method to Fully Nonlinear Motion Analysis of Aircushion Type Floating Structures
in Water Waves
Mitsuhiro Masuda, Tomoki Ikoma, Koichi Masuda and Hisaaki Maeda
- 09:50 – 10:15 Numerical Analysis of Coupling between Ship Motion and Green Water on Deck Using MPS Method
Kazuya Shibata, Katsuji Tanizawa and Seiichi Koshizuka
- 10:15 – 10:45 Coffee Break

Session 4B: *Tsunami*

Session Chair: *Yasunori Watanabe, Hokkaido University, Japan*

Room 503

- 09:00 – 09:25 Experimental Study of Tsunami Wave Characteristics
Ata Najafi-Jilani and Behzad Ataie-Ashtiani
- 09:25 – 09:50 Numerical Analysis on Girder Bridge Washed Away by Tsunami Run-up
Hitoshi Gotoh and Hiroyuki Ikari
- 09:50 – 10:15 Wave Setup at River and Inlet Entrances Due to an Extreme Event
Xuan Tinh Nguyen, Hitoshi Tanaka and Hisao Nagabayashi
- 10:15 – 10:45 Coffee Break

Technical Sessions
Wednesday, November 21, 2007, 10:45 – 12:00

Session 5A: *Wave Loads, Slamming*

Session Chair: *Claudio Lugni, Italian Ship Model Basin (INSEAN), Italy*

Room 502

- 10:45 – 11:10 Flow Models of the Flare Slamming
Ken Takagi and Yoshitaka Ogawa
- 11:10 – 11:35 Nonlinear Wave Loads of a High Speed Vessel
Yoshitaka Ogawa, Masayoshi Oka and Shigeru Tozawa
- 11:35 – 12:00 A Study for the Assessment of Design Loads of a High Speed Vessel Taking Account of the Whipping Vibration
Masayoshi Oka , Yoshitaka Ogawa, Shigeru Tozawa and Shuji Oka
- 12:00 – 13:30 Lunch (*at Fukuoka Sun Palace Hotel*)

Session 5B: *Coastal Engineering*

Session Chair: *Hidemi Mutsuda, Hiroshima University, Japan*

Room 503

- 10:45 – 11:10 Topographic Variability via Empirical Orthogonal Function Analysis in the Vicinity of Coastal Structure
Sompratana Ritphring and Hitoshi Tanaka
- 11:10 – 11:35 Numerical Study of Vertical Breakwater Influence on the Breaking Wave
Fatemeh Hajivalie, Abbas Yeganeh Baktiary, Ali Hashemi Javan and Mojgan Mohammadi
- 11:35 – 12:00 Field Investigation of Internal Seiche in Lake Inawashiro
Kazuki Aoyanagi, Hitoshi Tanaka and Yutaka Fujita
- 12:00 – 13:30 Lunch (*at Fukuoka Sun Palace Hotel*)

Technical Sessions
Wednesday, November 21, 2007, 13:30 – 15:10

Session 6A: *CFD Methods Part-1*

Session Chair: *Seiichi Koshizuka, The University of Tokyo, Japan*

Room 502

- 13:30 – 13:55 3D Lagrangian Simulation of Compaction Process of Wave Dissipation Blocks Due to High Waves
Eiji Harada, Hitoshi Gotoh and Tetsuo Sakai
- 13:55 – 14:20 A Coupled Eulerian-Lagrangian Method for Free Surface Problems
Hidemi Mutsuda and Odd M. Faltinsen
- 14:20 – 14:45 Some Models of Free Surface Flows Using Wavelet-based Adaptive Grids
C. W. Smith, R. Eatock Taylor and J. Zang
- 14:45 – 15:10 ALE-FEM for Incompressible Viscous Flows with Flexible Moving Boundaries
Decheng Wan
- 15:10 – 15:40 Coffee Break

Session 6B: *Slamming and Impact*

Session Chair: *Ken Takagi, Osaka University, Japan*

Room 503

- 13:30 – 13:55 Experimental Study on Impact Loads Acting on a Free-falling Modified Wigley
Sa Young Hong, Young Shik Kim, Jo Hyun Kyoung, Seok Won Hong and Yonghwan Kim
- 13:55 – 14:20 On Various Models for Wave Impact
Frederic Dias and Jean-Michel Ghidaglia
- 14:20 – 14:45 A Generalized Wagner Model: Application to Asymmetric Section in Free Fall
Nicolas Malleron and Yves-Marie Scolan
- 14:45 – 15:10 Numerical Solution of 2-D Slamming Problem with a CIP Method
Qingyong Yang and Wei Qiu
- 15:10 – 15:40 Coffee Break

Technical Sessions
Wednesday, November 21, 2007, 15:40 – 17:20

Session 7A: *CFD Methods Part-2*

Session Chair: *Decheng Wan, Shanghai Jiao Tong University, China*

Room 502

- 15:40 – 16:05 Wave Impact on a Deck Box Using a 2-D CIP Method
Tone M. Vestbostad and Odd M. Faltinsen
- 16:05 – 16:30 A New Pure Eulerian Finite Volume Method for Violent Flows
Jean-Michel Ghidaglia
- 16:30 – 16:55 Simulation of Free Surface Flow Interacting with Moving Particles by Using Immersed Boundary Method
Shuji Moriguchi and Takayuki Aoki
- 16:55 – 17:20 A Hybrid Computational Method for Nonlinear Free Surface Problems
Hajime Kihara, Makoto Sueyoshi and Masashi Kashiwagi
- 19:00 – 21:00 Conference Dinner (*at Grand Hyatt Fukuoka*)

Session 7B: *Jet, Air-Water Interaction*

Session Chair: *Rodney Eatock Taylor, The University of Oxford, UK*

Room 503

- 15:40 – 16:05 Dynamics of the Local Free-Surface and Sub-Surface Vortex under Splashing Jet
Ayumi Saruwatari and Yasunori Watanabe
- 16:05 – 16:30 3-D Numerical Simulation of a Topographic Gradient on Coastal Current
Aliakbar Mehran, Abbas Yeganeh Baktiary and Fatemeh Hajivali
- 16:30 – 16:55 The Role of the Air-Entrapment in the Flip-Through Evolution
C. Lugni, M. Miozzi, M. Brocchini and O. M. Faltinsen
- 16:55 – 17:20 Oblique Water Entry of a Block Sliding along a Sloping Beach,
Alessandro Iafrati, Touvia Miloh and Alexander A. Korobkin
- 19:00 – 21:00 Conference Dinner (*at Grand Hyatt Fukuoka*)

Technical Sessions
Thursday, November 22, 2007, 09:00 – 10:15

Session 8A: *Green-water Impact*

Session Chair: *Sa Young Hong, Maritime and Ocean Engineering Research Institute (MOERI), Korea*

Room 502

- 09:00 – 09:25 Modelling of Wave Impact on a Horizontal Deck
Wojciech Sulisz and Lukasz Paszke
- 09:25 – 09:50 Extreme Wave Impact on a Horizontal Deck
Wojciech Sulisz and Lukasz Paszke
- 09:50 – 10:15 Characteristics of Pressure Signal in Slamming Test
J. O. Nahm, H. D. Kang, J. Y. Chung, S. H. Kwon, T. S. Jang, S. L. Han
- 10:15 – 10:45 Coffee Break

Session 8B: *Sloshing*

Session Chair: *Wei Qiu, Memorial University of Newfoundland, Canada*

Room 503

- 09:00 – 09:25 Experimental Observation of Sloshing Characteristics of a Rectangular Box
S. S. Jeon, K. H. Lee, J. S. Park, S. H. Kwon, M. C. Ryu and Y. S. Hwang
- 09:25 – 09:50 3D Numerical Simulation of Violent Sloshing by Conservative CIP Method
Changhong Hu, Masashi Kashiwagi and Feng Xiao
- 09:50 – 10:15 Assessment of Sloshing Pressure and Response in LNG Tanks
Mateusz Graczyk and Torgeir Moan
- 10:15 – 10:45 Coffee Break

Technical Sessions
Thursday, November 22, 2007, 10:45 – 12:00

Session 9A: *Response of Elastic Body*

Session Chair: *Yoshitaka Ogawa, National Maritime Research Institute, Japan*

Room 502

- 10:45 – 11:10 Effects of Thickness of Water Layer on Impact of Elastic Cylindrical Shell
Tatiana I. Khabakhpasheva
- 11:10 – 11:35 Numerical Computations on Loading Characteristics and Hydroelastic Response of an Elastic Vertical Cylinder
by Nonlinear Wave Load
Jo Hyun Kyoung, Sa Young Hong, Hong Gun Sung and Jin Ha Kim
- 11:35 – 12:00 A Time-Domain Nonlinear Strip Method in View of Elasticity of Ship Hull and Green Water on Deck
Takashi Mikami and Masashi Kashiwagi
- 12:00 – 13:30 Lunch (*at Fukuoka Sun Palace Hotel*)

Session 9B: *Ship Response in Waves*

Session Chair: *Changhong Hu, RIAM of Kyushu University, Japan*

Room 503

- 10:45 – 11:10 Numerical Studies of the Nonlinear Effect of Sloshing on Side-by-Side Moored LNGC and FSRU
Seokkyu Cho, Sayoung Hong, Jin Kim and Ilryong Park
- 11:10 – 11:35 Experiments on a Segmented Ship Model in Bi-directional Irregular Waves (*Oral Presentation*)
J.M. Rousset, P. Ferrant, B. Pettinotti, O. Quillard and J.L. Toularastel
- 11:35 – 12:00 On the Prediction of Freak Waves from Sea State Parameters (*Oral Presentation*)
Wojciech Sulisz and Maciej Paprota
- 12:00 – 13:30 Lunch (*at Fukuoka Sun Palace Hotel*)

Technical Sessions
Thursday, November 22, 2007, 13:30 – 15:00

Session 10A: *Marine Hydrodynamics*

Session Chair: *Sun Hong Kwon, Pusan National University, Korea*

Room 502

- 13:30 – 13:55 On the Multi-Mode VIV Response of a Small-Long Flexible Horizontal Cylinder in Uniform Flows
Rudi W. Prastianto, Koji Otsuka and Yoshiho Ikeda
- 13:55 – 14:20 Dynamics of Propeller Blade and Duct Loading on Ventilated Ducted Thrusters Due to Forced Periodic Heave Motion
Kourosh Koushan
- 14:20 – 14:45 Experimental and Numerical Study on Boundary Layer under a Solitary Wave
Suntoyo, Hitoshi Tanaka, Hiroto Yamaji and Ahmad Sana
- 14:45 – 14:55 Closing Remarks

Session 10B: *Run-up, Cavity*

Session Chair: *Wojciech Sulisz, Polish Academy of Sciences, Institute of Hydroengineering, Poland*

Room 503

- 13:30 – 13:55 Run Up Interaction on Rip Current Formation
Yessi Nirwana Kurniadi and Hitoshi Tanaka
- 13:55 – 14:20 3-D Numerical Simulation of Cubic Cavity Flow with Corner Vortices
Aliakbar Mehran, Abbas Yeganeh Baktiary and Marieh Zargar
- 14:20 – 14:45 Laboratory Investigations on Impulsive Waves Caused by Underwater Landslide
Behzad Ataie-Ashtiani and Arash Nick-Khah
- 14:45 – 14:55 Closing Remarks