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
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<th>Thursday – November 22</th>
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<td>08:00 – 09:00</td>
<td><strong>Registration</strong></td>
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<td>09:00 – 10:15</td>
<td>Opening Session</td>
<td>Session 4A</td>
<td>Session 8A</td>
<td>09:00 – 10:15</td>
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<td></td>
<td>Keynote Lectures</td>
<td>SPH and MPS Methods</td>
<td>Tsunami</td>
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<td>10:15 – 10:45</td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>10:45 – 12:00</td>
<td>Session 1</td>
<td>Session 5A</td>
<td>Session 9A</td>
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<td></td>
<td>Ship Motions in Rough Waves</td>
<td>Wave Loads, Slamming</td>
<td>Response of Elastic Body in Waves</td>
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<tr>
<td>12:00 – 13:30</td>
<td><strong>Lunch</strong></td>
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<td>12:00 – 13:30</td>
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<td>13:30 – 15:10</td>
<td>Session 2</td>
<td>Session 6A</td>
<td>Session 10A</td>
<td>13:30 – 14:45</td>
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<td></td>
<td>Wave Breaking</td>
<td>CFD Methods Part-1</td>
<td>Marine Hydrodynamics</td>
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<td>15:10 – 15:40</td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>15:40 – 17:20</td>
<td>Session 3</td>
<td>Session 7A</td>
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<td></td>
<td>SPH Method</td>
<td>CFD Methods Part-2</td>
<td>Run-up, Cavity</td>
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<tr>
<td>18:30 – 20:30</td>
<td><strong>Reception at Fukuoka Sun Palace</strong></td>
<td>Conference Dinner</td>
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<td>Closing Remarks</td>
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<td></td>
<td></td>
<td>(19:00 – 21:00, at Grand Hyatt Fukuoka)</td>
<td>14:45 – 14:55</td>
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Opening Session
Session Chair: Masashi Kashiwagi, Kyushu University, Japan, Chairman of VF-2007

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, Hirayuki 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

10:45 – 11:10 Numerical and Experimental Investigation of Violent Seakeeping Phenomena
Marilena Greco, Giuseppina Colicchio, Tomaso Bazzi and Claudio Lugni

11:00 – 12:00 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*

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<tr>
<td>14:45 – 15:10</td>
<td>Air-Water Interaction in Breaking Waves</td>
<td>Alessandro Iafrati</td>
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<tr>
<td>15:10 – 15:40</td>
<td>Coffee Break</td>
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**Session 3: SPH Method**
Session Chair: *Hitoshi Gotoh, Kyoto University, Japan*

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<tbody>
<tr>
<td>15:40 – 16:05</td>
<td>Application of MI-SPH Method in the Simulation of Impulsive Waves Generated by Landslides</td>
<td>Behzad Ataie-Ashtiani and Rozita Jalali Farahani</td>
</tr>
<tr>
<td>16:05 – 16:30</td>
<td>3D Impact Flows Using an Enhanced Parallelized SPH Model</td>
<td>Guillaume Oger, David Le Touzé, Bertrand Alessandrini and Pierre Ferrant</td>
</tr>
<tr>
<td>16:30 – 16:55</td>
<td>Hydroelastic Impacts of a Simplified LNG Insulation, Simulations with a SPH Method and Experiments</td>
<td>J.-B. Deuff, G. Oger, L. Brosset, B. Alessandrini and P. Ferrant</td>
</tr>
<tr>
<td>16:55 – 17:20</td>
<td>Numerical Simulation of Violent Free Surface through a Higher Order SPH Method</td>
<td>Xing Zheng, Wen Yang Duan and Guo Xiong Wu</td>
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<tr>
<td>18:30 – 20:30</td>
<td>Reception (at Fukuoka Sun Palace Hotel)</td>
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### Session 4A: *SPH and MPS Methods*

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

#### Room 502

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

10:15 – 10:45 Coffee Break

### Session 4B: *Tsunami*

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

#### Room 503

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

10:15 – 10:45 Coffee Break
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

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

Hidemi Mutsuda and Odd M. Faltinsen

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

Sa Young Hong, Young Shik Kim, Jo Hyun Kyoung, Seok Won Hong and Yonghwan Kim

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

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<tr>
<td>15:40 – 16:05</td>
<td>Wave Impact on a Deck Box Using a 2-D CIP Method</td>
<td>Tone M. Vestbostad and Odd M. Faltinsen</td>
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<tr>
<td>16:30 – 16:55</td>
<td>Simulation of Free Surface Flow Interacting with Moving Particles by Using Immersed Boundary Method</td>
<td>Shuji Moriguchi and Takayuki Aoki</td>
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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

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<td>15:40 – 16:05</td>
<td>Dynamics of the Local Free-Surface and Sub-Surface Vortex under Splashing Jet</td>
<td>Ayumi Saruwatari and Yasunori Watanabe</td>
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<tr>
<td>16:05 – 16:30</td>
<td>3-D Numerical Simulation of a Topographic Gradient on Coastal Current</td>
<td>Aliakbar Mehran, Abbas Yeganeh Baktiary and Fatemeh Hajivali</td>
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<tr>
<td>16:55 – 17:20</td>
<td>Oblique Water Entry of a Block Sliding along a Sloping Beach</td>
<td>Alessandro Iafrati, Touvia Miloh and Alexander A. Korobkin</td>
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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  

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 Ihryong 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)
Session 10A: Marine Hydrodynamics
Session Chair: Sun Hong Kwon, Pusan National University, Korea

                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

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