



ISSW 2014

14th International **Ship Stability Workshop**

29 September - **1** October 2014
UTMSPACE Kuala Lumpur, Malaysia

Hosted by:



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

**Marine Technology Centre,
Universiti Teknologi Malaysia**

Co-Sponsor:



**Malaysia Joint Branch
Royal Institution of Naval Architects (RINA)
& Institute of Marine Engineering, Science
and Technology (IMarEST)**

PROGRAMME BOOK



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ISSW 2014

WORKSHOP SCHEDULE

| SUNDAY (28 SEPTEMBER 2014) | |
|---|---|
| 05.00pm - 08.00pm | Workshop Reception & Registration |
| MONDAY (29 SEPTEMBER 2014) - (DAY 1) | |
| 08.30am - 09.00am | Arrival of Guests |
| 09.00am - 09.15am | Arrival of Guests of Honour |
| 09.15am - 09.30am | Welcoming Speech by Local Committee ISSW 2014, <i>Prof. Dr. Adi Maimun Abdul Malik</i> |
| 09.30am - 09.45am | Welcoming Speech by International Standing Committee ISSW 2014, <i>Prof. A. Francescutto</i> |
| 09.45am - 10.00am | Opening Speech by the Vice President Group Technical Services MISC Berhad, <i>Ir. Nordin Mat Yusoff</i> |
| 10.05am - 10.10am | Memento to International Standing Committee by the Local Committee |
| 10.10am - 10.15am | Photo Session |
| 10.15am - 10.45am | COFFEE BREAK |
| SESSION 1: DYNAMICS OF LARGE AMPLITUDE MOTIONS & DESIGN IMPLICATIONS CHAIR: PROF. K. SPYROU/BASSLE | |
| 10.45am - 11.00am | Development of Minimum Bow Height Formula for Indonesian Waters <i>Mochammad Zaky (Indonesia)</i> |
| 11.00am - 11.15am | What is Surf-riding in Irregular Seas? <i>Kostas J. Spyrou, Nikos Themelis, Ioannis Kontolefas (Greece)</i> |
| 11.15am - 11.30am | Quantitative Assessment of Ship Behaviour in Critical Stern Quartering Seas <i>Maria Acanfora, Jerzy Matusiak (Finland)</i> |
| 11.30am - 11.45pm | Regulatory use of Nonlinear Dynamics: An Overview <i>Peters, Belenky, V.Spyrou (UK)</i> |
| 11.45pm - 12.00pm | Applicability of the Difference between Population Statistics as an Acceptance Criteria Metric for Seakeeping Validation Aurore <i>V. Zuzick, Arthur M. Reed, William F. Belknap, Bradley L. Campbell (USA)</i> |
| 12.00pm - 12.15pm | Validation of Time-domain Simulation Code <i>Zuzick, Reed, Belknap, Campbell, Smith</i> |
| 12.15pm - 02.15pm | LUNCH BREAK |

| SESSION 2 : NAVAL SHIPS STABILITY CHAIR: DR. F. VAN WALREE /LEGUEN | |
|--|---|
| 02.15pm - 02.30pm | Features Architecture of Mean Ship to Navigation in Heavy, Stormy and Ice Conditions on The Northern Seas <i>Vasily N. Khramushin (Russia)</i> |
| 02.30pm - 02.45pm | A New Approach to The Derivation of V-line Criteria for a Range of Naval Vessels <i>Andrew Peters, Rick Goddard, Nick Dawson (UK)</i> |
| 02.45pm - 03.00pm | Small Combatant Accidental Damage Extents <i>Steve Marshall, Rick Goddard, Dominic Horner, Ian Randles (UK)</i> |
| 03.00pm - 03.30pm | COFFEE BREAK |
| SESSION 3 : NEW EXPERIMENTAL TECHNIQUES FOR SHIP STABILITY ASSESSMENT CHAIR: PROF. N. UMEDA/PROF. A. FRANCESCUTTO | |
| 03.30pm - 03.45pm | Remarks on Experimental Validation Procedures for Numerical Intact Stability Assessment with Latest Examples <i>Naoya Umeda, Daichi Kawaida, Yuto Ito, Yohei Tsutsumi, Akihiko Matsuda, Daisuke Terada (Japan)</i> |
| 03.45pm - 04.00pm | Model Experiments in Following and Quartering Seas using a Small Size Ship Model <i>Mitsuhiro Nakamura, Yasuo Yoshimura, Taisaku Shiken (Japan)</i> |
| 04.00pm - 04.15pm | Experimental Database for Surf-riding and Broaching-to Quantification based on Captive Model Tests in Waves <i>Boris Horel, Pierre-Emmanuel Guillermin, Jean-Marc Rousset, Bertrand Alessandrini (France)</i> |
| 04.15pm - 04.30pm | Air Pressure Scale Effects during Damage Model Tests <i>Gyeong Joong Lee, Frans van Walree, Arthur M. Reed, Andrew Peters, Paola Gualeni, Toru Katayama, WenYang Duan (Korea)</i> |
| 04.30pm - 04.45pm | Forensic Study of BOUVET Capsizing <i>Jean-Yves Billard, François Grinnaert, Isabelle Delumeau, Pierre Vonier, Paul Creismeas, Jean-François Leguen, Larrie D. Ferreiro (France)</i> |
| 04.45pm - 05.15pm | General Discussion |
| | Experimental and Numerical Study on Predicting Method of Parametric Rolling in Regular Head Seas <i>Jiang Lu, Min Gu, Naoya Umeda (China)</i> |
| | Experimental and Numerical Study on Roll Restoring Variation using the C11 Containership <i>Min Gu, Jiang Lu, Tianhua Wang (China)</i> |

TUESDAY (30 SEPTEMBER 2014) - (DAY 2)

SESSION 4 : STOCHASTIC DYNAMICS OF SHIPS AND ASSESSMENT OF PROBABILITY OF STABILITY FAILURES
CHAIR: DR. V. BELENKY/DR. WOEI-MIN LIN

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|-------------------|---|
| 08.30am - 08.45am | Calculation Scheme for Wave Pressures with Autoregression Method <i>Alexander Degtyarev, Ivan Gankevich (Russia)</i> |
| 08.45am - 09.00am | Example of Validation of Statistical Extrapolation <i>Timothy Smith (USA)</i> |
| 09.00am - 09.15am | Critical Distance on a Phase Plane as a Metric for the Likelihood of Surf-Riding in Irregular Waves <i>Vadim Belenky, Kostas Spyrou, Kenneth Weems (USA)</i> |
| 09.15am - 09.30am | On the Application of the Generalized Pareto Distribution for Statistical Extrapolation in the Assessment of Dynamic Stability in Irregular Waves <i>Bradley Campbell, Vadim Belenky, Vladas Pipiras (USA)</i> |

SESSION 5 : STABILITY OF OFFSHORE FLOATING PLATFORMS
CHAIR: PROF. M. NEVES/PERZ ROJAS

| | |
|-------------------|--|
| 09.30am - 09.45am | An Experimental Investigation on Reduction of List Angle of a Semi-submersible Platform in Head Sea <i>Nam Woo Kim, Bo Woo Nam, Young Myung Choi, Sa Young Hong (Korea)</i> |
| 09.45am - 10.15am | COFFEE BREAK |

SESSION 6 : MANEUVERABILITY AND STABILITY CONSIDERATIONS IN ADVERSE CONDITIONS
CHAIR: DR. J.O. DE KAT/PROF. A. PAPANIKOLAOU

| | |
|-------------------|--|
| 10.15am - 10.30am | A Numerical Study on Maneuverability under Steady Equilibrium Condition in Waves for Free-running Model Ship <i>Ryosuke Suzuki, Michio Ueno, Yoshiaki Tsukada (Japan)</i> |
| 10.30am - 10.45am | Criteria for Minimum Powering and Maneuverability in Adverse Weather Conditions <i>V. Shigunov, A. Papanikolaou (Greece)</i> |

SESSION 7: NUMERICAL APPROACHES TO SHIP STABILITY
CHAIR: PROF. A. DEGTYAREV/DR. OGAWA

| | |
|-------------------|--|
| 10.45am - 11.00am | Design and Construction of Computer Experiments in Fluid Mechanics and Ship Stability <i>Alexander Degtyarev, Vasily Khramushin, Vladimir Mareev (Russia)</i> |
| 11.00am - 11.15am | The Inertia Contributions due to Floodwater Mass <i>Gyeong Joong Lee, Arthur M. Reed, Frans van Walree, Andrew Peters, Paola Gualeni, Toru Katayama, WenYang Duan (Korea)</i> |
| 11.15am - 11.30am | Numerical Estimation and Validation of Shallow Draft Effect on Roll Damping <i>Toru Katayama, Burak Yildiz, Jun Umeda (Japan)</i> |
| 11.30am - 11.45am | Modelling of Extreme Waves Related to Stability Research <i>Janou Hennig, Frans Van Walree (Russia)</i> |

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|-------------------|---|
| 11.45am - 12.00pm | An Analysis of Bilge Keel Effects using RANS with Overset Grids Method <i>Motoki Araki, Kunihide Ohashi, Nobuyuki Hirata (Japan)</i> |
| 12.00pm - 12.15pm | Underlying Linear Spectrum for Nonlinear Gravity Waves <i>Reed, Telste J</i> |
| 12.15pm - 02.00pm | LUNCH BREAK |
| 03.00pm - 05.30pm | WORKSHOP TOUR |
| 08.00pm - 10.00pm | Workshop DINNER A1 - Rawsha Restaurant No.8, Jalan Kampung Pandan, 55100 Kuala Lumpur. |

WEDNESDAY (1 OCTOBER 2014) - (DAY 3)

SESSION 7: NUMERICAL APPROACHES TO SHIP STABILITY
CHAIR: PROF. A. DEGTYAREV/DR. OGAWA

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|-------------------|--|
| 08.30am - 08.45am | Numerical Investigation into Ship Stability Failure Events in Quartering Seas Based on Time Domain Weakly Nonlinear Unified Model <i>Liwei Yu, Ning Ma, Xiechong Gu (Japan)</i> |
| 08.45am - 09.00am | Deriving the Linear-Wave Spectrum from a Nonlinear Spectrum <i>Arthur M. Reed, John G. Telste (USA)</i> |
| 09.00am - 09.15am | High Performance Algorithms for Multiphase and Multicomponent Media <i>Bogdanov A, Stankova E, Mareev V (Russia)</i> |
| 09.15am - 09.45am | COFFEE BREAK |

SESSION 8: HIGH SPEED AND SPECIALIZED CRAFT STABILITY AND SAFETY
CHAIR: PROF. DR. ADI MAIMUN/DR. KONOVESSIS

| | |
|-------------------|---|
| 09.45am - 10.00am | A Study on Spinout Phenomena of Planing Craft in High Speed Turning with Radio Control Small Model <i>Toru Katayama, Shun Ohashi (Japan)</i> |
| 10.00am - 10.15am | Stability Analysis of Hybrid Catamaran Fishing Vessel <i>Pramudya I Santosa, I K A P Utama, Wasis D Aryawan (Indonesia)</i> |
| 10.15am - 10.30am | Dynamic Stability Analysis of a Wing in Ground Effect during Takeoff <i>Rahimuddin, Adi Maimun, Mobassher Tofa, Saeed Jamei (Malaysia)</i> |
| 10.30am - 10.45am | Selecting Monohull, Catamaran and Trimaran as Suitable Passenger Vessels Based on Stability and Seakeeping Criteria <i>Richard B Luhulima, I K A P Utama, D Setyawan (Indonesia)</i> |

SESSION 9: DAMAGE STABILITY STANDARD OF OLD SHIPS
CHAIR: PROF. D. VASSALOS/MR. ROBERT TAGG

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|-------------------|---|
| 10.45am - 11.00am | Application of Second Generation IMO Intact Stability Criteria to Medium - Sized Fishing Vessels <i>Marcos Míguez González, Vicente Díaz Casás, Luis Pérez Rojas, Fernando Junco Ocampo, Daniel Pena Agras (UK)</i> |
| 11.00am - 11.15am | Consideration of Risk Level in Terms of Damage Stability of Old Ship <i>Tomohiro Yuzui, Yoshitaka Ogawa (Japan)</i> |
| 11.15am - 11.30am | Stability of Grounded Ship <i>Apurba Ranjan Kar (India)</i> |
| 11.30am - 11.45am | Regulatory, Design, Operational and Emergency Response Measures for Improving the Damage Survivability of Existing RoPax <i>Dracos Vassalos, Evangelos Boulougouris, Luis, Guarín, Andrzej Jasionowski, John Garner (UK)</i> |
| 11.45am - 12.45pm | LUNCH |

