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June 10–15, Sapporo, Japan

The Twenty-eighth (2018) International
**Ocean and Polar
Engineering Conference**
(Offshore and Polar Engineering Conference)

Including *additional ISOPE symposia*:

1st Environment-Assisted Cracking
3rd Underwater Technology
7th Tsunami & Safety
8th Asset Integrity
9th Arctic Science & Technology
8th Arctic & Cryogenic Materials
9th Renewable Energy & Environment
10th Sloshing Dynamics & Design
LNG Membrane, Processing, Bunkering
13th Ocean Mining & Gas Hydrates Symposium
16th High-Performance Materials

ISOPE-2018

Sapporo, Japan, June 10-15

(As of April 6, 2018)

Technical Program

Refereed papers from 50+ countries in 151 technical general
3 Plenary and 6 keynote and multiple Focus sessions

Full Program with General Information, Advance Registration and Venue Hotel. Paper List,
Reservations, and Updates on

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TECHNICAL PROGRAM

Paper List and Chair List as of April 6, 2018

The Twenty-eighth (2018) International Ocean and Polar Engineering Conference Sapporo, Japan, June 10–15, 2018



This 28th annual conference features **151** technical and opening general sessions, **9** plenary presentation and keynote presentations from top experts from industry, academia and government. After peer review of the manuscripts selected from 1,440+ abstracts, **700+** peer-reviewed-papers will be presented and discussed by researchers, engineers and managers from more than **50+** countries.

The ISOPE-2018 Conference Proceedings with peer-reviewed papers in PDF files will be available in a set of 4 volumes on CD-ROM (**4,900** pp. est.) — paginated — during the conference and later for worldwide post-conference order from ISOPE: ISBN 978-1-880653-87-6; ISSN 1098-6189.

The number at end of the session title indicates the tentative number of the proceedings volume. Only the changes in titles or authors the Technical Program Committee received in writing before **April 6, 2018** are reflected in this program. Final corrections will be updated in the Conference Proceedings of peer-reviewed papers and the Final Program.

All ISOPE publications are indexed by Engineering Index , EI Compendex, Google scholar, Scopus, Scientific and Technical Proceedings (ISTP/ISI), web of science and others.

FULL CONFERENCE PROGRAM WITH SESSION / PAPER LIST: Updated at

<http://www.isopec.org/conferences/conferences.htm>

<http://www.isopec.org/publications/publications.htm>

2018 Jin S Chung Award Lecture

Tuesday 13:15

3 Plenary and 6 keynote Presentations

Monday, Tuesday, Wednesday

SUNDAY, June 10

Conference Reception

17:00

Royton Hall AB

MONDAY 08:30

1. Opening General Session:

OCEAN AND ENERGY INDUSTRY REVIEW—2011 (V. 1)

Monday

June 11

08:30

Royton Hall

Chair: Hiromitsu Kitagawa, Ocean Policy Research Inst, Japan

Co-Chair: Jin S Chung, ISOPE, USA

Welcome to Sapporo

Naoto Ebuchi, Local Committee Chair, Hokkaido Univ, Japan

Global Energy Outlook and Its Implications [Plenary]

Jeffrey M. Grenda, ExxonMobil Research & Engineering, USA

Floatover Installation Technology in South China Sea [Plenary]
Xiaojian Jin, President, COOEC Offshore Oil Engineering, China

MONDAY 10:30

2. HYDRODYNAMICS I: Comparative Study (V. 3)
Monday June 11 10:30 Room 1

Chair: Kyong-Hwan Kim, Korea Research Inst of Ships & Ocean Eng., Korea

Co-Chair: Sa Young Hong, Korea Research Inst of Ships & Ocean Eng. (KRISO), Korea

Numerical Study of Wave Impact Loads on Circular Cylinder by Breaking Waves
Yoon-Jin Ha, Bo-Woo Nam, Kyong-Hwan Kim, SaYoung Hong, Korea Research Inst of Ships & Ocean Eng, Korea

Experimental Study of Wave Impact Loads on Circular Cylinder by Breaking Waves
Yoon-Jin Ha, Kyong-Hwan Kim, Bo-Woo Nam, SaYoung Hong, Korea Research Inst of Ships & Ocean Eng, Korea

Numerical Study of Focusing Wave Impact on a Fixed Cylinder
Seonoh Yoo, HyunJoe Kim, Taeyoung Kim, DongYeon Lee, Booki Kim, Samsung Heavy Industries, Korea

Numerical Benchmark Calculations of Breaking Wave Impact Loads on a Circular Cylinder
Chenliang Zhang, Jinbao Wang, Decheng Wan, Shanghai Jiao Tong Univ, China

Numerical Benchmark Study of Interactions Between Steep Waves and a Truncated Circular Cylinder
Di Wang, Decheng Wan, Shanghai Jiao Tong Univ, China; Qingwei Ma, City, Univ of London, UK

Numerical Study on Run-up and Wave Impacts between Plunging Breaking Wave and a Circular Cylinder
Zhenghao Liu, Decheng Wan, Shanghai Jiao Tong Univ, China

Comparative Study of SST-SAS and SST-DDES in Predicting Massively Separated Flow
Di Wu, Weiwen Zhao, Decheng Wan, Shanghai Jiao Tong Univ, China

Comparative Study of CFD Analysis on Wave Impact Loads on Circular Cylinder by Breaking Waves
Sa Young Hong, Kyong-Hwan Kim, Yoon-Jin Ha, Bo-Woo Nam, Korea Research Inst of Ships and Ocean Eng, Korea

3. SLOSHING I: Physics (V. 3)
Monday June 11 10:30 Room 2

Chair: Sebastian Schreier, Delft Univ of Technology, Netherlands

2D Simulations of Breaking Wave Impacts on a Flat Rigid Wall – Part 2: Influence of Scale

P-M Guilcher, NextFlow Software; Y Jus, HydrOcean; L Brosset, Gaztransport & Technigaz, France

Numerical Study of the Scaling Effect on the Development of Free Surface Instabilities for Breaking Wave Impacts

S Fortin, Y Vautrin, S Etienne, C Béguin, Ecole Polytechnique de Montreal, Canada; L Brosset, Gaztransport & Technigaz, France

Experimental Study of Surface Tension Influence on Sloshing Impact Loads

M Frihat, L Brosset, Gaztransport & Technigaz; J-M Ghidaglia, ENS Paris-Saclay, France

Phenomenological Study of the Initial Stages of Liquid Impacts Through a Simplified Liquid Impact Scenario

N Couty, Y Jus, HydrOcean; P-M Guilcher, NextFlow Software; L Brosset, Gaztransport & Technigaz, France

A New Phenomenological Study of Liquid Impacts Through 2D Compressible Two-fluid Numerical Simulations

P-M Guilcher, NextFlow Software; Y Jus, HydrOcean; L Brosset, Gaztransport & Technigaz, France

An Investigation on and Determination of Damping of Sloshing in a Tank around Resonance Frequency

Yusong Cao, C-Z Marine Technology, USA; Jingzhe Jin, SINTEF Ocean, Norway; Fuwei Chang, C-Z Marine Technology, USA

Two-Phase Particle Simulation of Violent Sloshing Flows with Large Density Ratios

Jong-Chun Park, Sang-Moon Yun, Pusan National Univ, Korea; Abbas Khayyer, Kyoto Univ, Japan

4. RENEWABLE ENERGY I: Support Structures (V. 1)

Monday June 11 10:30 Room 3

Chair: Renata Archetti, Univ of Bologna, Bologna, Italy

Uncertainty Modeling and Fatigue Reliability Assessment of Concrete Gravity Based Foundation for Offshore Wind Turbines

Joey M Velarde, Claus Kramhøft, COWI A/S; John D Sørensen, Aalborg Univ, Denmark

A New Model for Fatigue Load Sequence Effects in Offshore Wind Turbine Substructures and its Implications for Design Life

R.C. Dragt, S.T. Hengeveld, J. Maljaars, TNO, Netherlands

Fatigue Damage on Offshore Wind Turbines by a Cell Mapping Method

Odd Eiken, Michael Muskulus, NTNU, Norway

Sampling Methods for Simplified Offshore Wind Turbine Support Structures Load Case Assessment

Lars Einar S Stieng, Michael Muskulus, NTNU, Norway

Markov Approach to Estimate Fatigue Damage for Monopile-based Offshore Wind Turbines

Christina Capdevila Choy, Universitat Politècnica de Catalunya, Spain; Sebastian Schafhirt, Michael Muskulus, NTNU, Norway

Numerical Fatigue Analysis for Jacket-type Substructure of Offshore Wind Turbines under Local Environmental Conditions in Taiwan

Ting-Yu Fan, Chin-Yu Lin, Chin-Cheng Huang, Tung-Liang Chu, Inst of Nuclear Energy Research, Taiwan China

Study on Fragility Curves for Support Structures of Wind Turbines under Earthquake in Taiwan

Hsien-Chou Lin, Chin-Cheng Huang, Hsoun-Wei Chou, Inst of Nuclear Energy Research, Taiwan China

Modeling Uncertainty in Extrapolated Extreme Loads for Offshore Wind Turbine Support Structures [Proceedings only]

Lars Einar S. Stieng, Michael Muskulus, NTNU, Norway

5. VORTEX-INDUCED VIBRATIONS I (V. 3)

Monday June 11 10:30 Room 4

Chair: Jin S Chung, ISOPE, USA

Development of Prediction Model for Vortex-Induced Motion of Multi-Column Floating Structure -- Part I: Hydrodynamic Forces by Forced Oscillation

Seiya Shiiba, Shinichiro Hirabayashi, Hideyuki Suzuki, Rodolfo T Gonçalves, Univ of Tokyo, Japan

Vortex Shedding and its Impacts on the Motions of a Paired-Column Semi-Submersible

Weiwen Zhao, Decheng Wan, Shanghai Jiao Tong Univ, China

Experimental Study about Vibration Interference of Dual Pipe Systems

Yaowei Xuan, Shiqiang Li, Hanping Li, Hai Zheng, Dahong Fu, Guozhi Chen, Zhejiang Electric Power; Zhen Liu, Xiaoxia Zhang, Ying Zhang, Ocean Univ of China, China

Vortex-Induced Vibrations of Two Flexible Cylinders in Tandem Arrangement with Discrete Vortex Method

Ke Lin, Song Jia Wang, Shanghai Jiao Tong Univ, China

Experimental Study on Flow-Induced Motion of an Array of Three Cylinders with Circular, Square and Diamond Sections

Rodolfo T Gonçalves, Univ of Tokyo, Japan; Maria EF Chame, Univ of Sao Paulo; Nicole H Hannes, Federal Univ of Santa Catarina; Pedro PPSP Lopes, Univ of Sao Paulo, Brazil; Shinichiro Hirabayashi, Hideyuki Suzuki, Univ of Tokyo, Japan

6. ASSET INTEGRITY I: Fracture, Fatigue Management (V.

Monday June 11⁴⁾ 10:30 Room 5

Chair: Robert E Melchers, Univ of Newcastle, Australia

Co-Chair: Ali Reza, Exponent, USA

Risk-based Approach for Fatigue Integrity Assessment of Offshore Piping in the Arctic Environment

Arvind Keprate, RMC Ratnayake, Univ of Stavanger, Norway

Root Cause Analysis and Site Investigation for Water Ingress to Flexible Elastomeric Foam (FEF) Thermal Insulation

Abe Nezamian, Armin Pilehforousha, Suraj Kishnani, Aurecon, Australia

The Research and Application of Numerical Simulation Evaluation Technology for Cathodic Protection System of the Subsea Pipeline in a Gas Field of South China Sea

Jing Hou, CNOOC Research Inst; Yuan Gao, Shenzhen COOEC Subsea Tech; Weirong Wei, CNOOC-Shenzhen, China

AC Corrosion Tests on Materials for Electrically Heated Flowlines

Kristian Thinn Solheim, Martin Hoeyer-Hansen, SINTEF Energy Research; Magnus Hurlen Larsen, Oivind Iversen, Nexans Norway AS, Norway

Artificial Neural Network Model for Risk-Based Inspection Screening Assessment of Oil and Gas Production System

Andika Rachman, RM Chandima Ratnayake, Univ of Stavanger, Norway

Considerations in Developing an Inspection Plan for Equipment in Wet H₂S and Carbon Dioxide Service

Brian A Ott, Ali Reza, Peter Veloo, Exponent, Inc., USA

A Brief Review of Physics Based Prognosis and Health Monitoring of Offshore Jacket Structures

Ajoy Kumar Das, SK Commercial Construction, USA

7. ENVIRONMENT I: Environ Monitoring, Red Tide (V. 1)

Monday June 11 10:30 Room 6

Chair: Jonggeun Choe, Seoul National Univ, Korea

Environmental Impact Assessment for Offshore Oil and Gas Developments

Masaru Nasu, Engineering Advancement Association of Japan; Mizuki Kitagawa, Shigeru Nakajima, Japan NUS Co, Japan

Application of Particle Tracking Method in Rapid Forecasting of Migration and Diffusion of Red Tide in the East China Sea

Liangyu Chen, East Sea Info Center, SOA China; Xiaodan Mao, National Engineering Research Center of Dredging Tech & Equipment; Jingxia Gao, East Sea Info Center, SOA China, China

Study on the Application of Surface Wave Rader in Western Bohai Sea

Ye Cheng, Tianjin Survey and Design Inst for Water Transp Eng, China

A Particle-based Study on the Sewage Dispersion in Radial Sand Ridges in the Southern Yellow Sea, China

Jianfeng Tao, Huan Gong, Fan Xu, Hohai Univ, China

Tropical Cyclone Activity Analysis Using MRI-AGCM and d4PDF Data

Md. Abdul Al Mohit, Masaru Yamashiro, Yoshihiko Ide, Mitsuyoshi Kodama, Noriaki Hashimoto, Kyushu Univ, Japan

Study on Solute Migration in Heterogeneous Vadose Zone under Heavy Rainfall in the Coastal City of China

Shuguang Liu, Yiru Zheng, Chaomeng Dai, Xueji You, Tongji Univ, China

Adaptation of Directional Wave Measurement in 3D Physical Model to Eliminate the Reflection Component in Uni-Directional Waves

D P L Ranasinghe, I G I K Kumara, H P G M Caldera, N L Engiliyage, Lanka Hydraulic Inst, Sri Lanka

8. OCEAN TECH I: Floatover Installation 1 (V 1)

Monday June 11 10:30 Room 7

Chair: Hong Gun Sung, KRISO, Korea

Numerical Simulation of Float-over Installation under the Influence of Fender with Dynamic Positioned Barge

Fan Yi, Tianfeng Liu, Lei Wang, Shanghai Jiao Tong Univ, China

Study on the Marine Transportation Plan of Semisubmersible Production Platform [Oral Presentation]

Wei Zhang, Gang Chen, Hongtao Yuan, Yuhan Wang, Shanghai Waigaoqiao Shipbuilding, China

Lifting Design for Ships and Offshore Structures Using Non-Interpenetration Constraint and Flexible Multibody System Dynamics

Seung-Ho Ham, Myung-Il Roh, Hye-Won Lee, Seoul National Univ, Korea

A Parametric Study of Floatover Installation with a T-Shaped Barge in Shallow Water

Licheng Qin, Offshore Oil Engineering; Yisheng Wang, Peking Univ; Biao Wang, Alan M Wang, Wentai Yu, Chen He, Offshore Oil Engineering, China

Application of Dynamic Positioning Float-over Technology to HZ25-8 DPP Topside Installation

Nan Xu, Offshore Oil Engineering; Yisheng Wang, Peking Univ; Licheng Qin, Offshore Oil Engineering, China

Structural Optimization of the Deck Support Frame (DSF) in Float-over Installation

Yong-Yook Kim, Jae-Hoe Han, Korea Advanced Inst of Sci & Tech; Dong-Ho Jung, Kangsu Lee, Hong-Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Experimental Study on the Coupled Motions of Mooring Crane Vessel LANJING and the Topside Module during Lifting Operations in Following Waves

Shaohua Zhu, Guanshuai Li, COOEC; Peng Xie, Hongye Ji, Hanbing Luo, Tianjin Univ, China

Improvement of Deck Support Frame for Load Out of Offshore Structures

Abdelrahim Musa Mahgoub Hamadelnil, PETRONAS Carigali; A Razal Zahari, PETRONAS; Adolfo Sandoval, Malaysia Marine & Heavy Engineering; VJ Kurian, Universiti Teknologi PETRONAS, Malaysia

9. MECHANICS, IMPACT, SAFETY I: Mechanics 1 (V. 4)
Monday June 11 10:30 Room 8

Chair: Hidekazu Murakawa, Osaka Univ, Japan

Uncertainties in the Stress Analysis of Ship Hull Structure Using Hold Model through a Comparison with Whole Ship Analysis

Teppei Shiraishi, Sanoyas Shipbuilding Corp; Masahiko Fujikubo, Osaka Univ, Japan

Hydroelastic Mathematical Modelling of Fluctuations for Complex Shells Considering Damping (on Basis of the Module-Element Method)

Nikolai A Taranukha, Irina N Zhurbina, Evgenii L Selivanov, KnASTU, Russia; Jun Guo, Harbin Engineering Univ, China

Preloading of Stainless Steel Bolting Assemblies

Dominik Jungbluth, Natalie Stranghöner, Univ of Duisburg-Essen, Germany

Experimental Research on Hydroelasto-Buckling Response of Ship Model in Extreme Wave by Changing Wave Length

Songbo Wang, Weiqin Liu, Xuemin Song, Weiguo Wu, Wuhan Univ of Tech, China

Interface Damage Detection for Steel Plate-Concrete Composite Slabs Based on Piezoelectric Ceramics Activated Lamb Waves

Shi Yan, Siqi Li, Bowen Zhang, Shenyang Jianzhu Univ, China

Experiment of the Vibration and Sound Radiation from Cylindrical Shell under Force and Sound Excitation

Yueming Fang, Xianzhong Wang, Chenban Jiang, Zhe Chen, Wuhan Univ of Tech, China

A Semi-Analytical Solution for Free Vibration of Thick Orthotropic Annular Sector Plates with General Boundary Conditions, Internal Radial Line and Circumferential Arc Supports

Xianzhong Wang, Enhui Xu, Zhe Chen, Di Chen, Wuhan Univ of Tech, China

Strength Analysis of a Nuclear Reactor-Contained Compartment under Design Loading Conditions

Zhengyi Zhang, Yi Yuan, Jianglong Sun, Jingxi Liu, De Xie, Huazhong Univ of Sci & Tech, China

10. GEOTECH I: Suction Piles (V. 2)
Monday June 11 10:30 Room 9

Chair: Chun Fai Leung, National Univ of Singapore, Singapore

Response of Suction Bucket Foundations Subjected to Cyclic Tensile Loads

Patrick Gütz, Martin Achmus, Leibniz Univ Hannover, Germany

Geotechnical Design Challenges for Suction Anchors with Small Aspect Ratio in Gulf of Guinea

Lorenzo Zuccarino, Claudio Piatti, Omar Zanoli, Rina Consulting, Italy; Baidrul Ishak, Bumi Armada Berhad, Malaysia

A Soil-Bucket Dynamic Interaction Model Test in Sand

Rui He, Bo Ma, Tao Zhu, Hohai Univ, China

Holding Capacity of Suction Anchor According to Loading Position Using P-Y Method

Osoon Kwon, Insuk Han, Myounghak Oh, In Sung Jang, Korea Inst of Ocean Sci & Tech; Duhee Park, Jin-kwon Yoo, Hanyang Univ, Korea

Suction Anchor Reverse End Bearing Behavior with Occurrence of Weaker Soil Layers Below Tip

Xiaoyan Long, Fugro Marine GeoServices, USA

Evaluation of Installation Procedures and Field Installation Test for a Hybrid Bucket Foundation

Kyu-Yeol Lee, Dong-Joon Kim, Jae-Hyung Choi, Hyundai E&C, Korea

11. UNDERWATER TECH I: Sensors, Observation (V. 2)
Monday June 11 10:30 Room 10

Chair: Shojiro Ishibashi, JAMSTEC, Japan

Study of Underwater Vehicle's Wake in Seawater of Linearly Gradient Temperature and Density

Wei Gu, Jin-Lan Zhang, Liang Peng, Zhi-Ben Shen, Yun Wang, Liang Dong, Wuhan Second Ship Design & Research Inst, China

Development of Underwater Observatory for the Seafloor Ecosystem Monitoring using a Time-lapse Video System

Tetsuya Miwa, Yukari Iino, Masako Takayanagi, JAMSTEC; Hiroshi Takahashi, Masami Katsuragawa, Okamoto Glass Co; Tatsuhiko Fukuba, Yasuo Furushima, Tomohiko Fukushima, Hiroyuki Yamamoto, JAMSTEC, Japan

Design of 300-Meter Saturation Diving Electrical Simulation Training System

GuoHua Xu, Jin Zeng, Jian Zhang, GuoQiang Yuan, Biao Cai, Huazhong Univ of Sci & Tech, China

Navigation and Maneuvering Investigation System Based on Infrared Camera

Siwakorn Sukprasertchai, Sarinya Sanitwong na Ayutthaya, Salisa Wangthong, Phansak Iamraksa, Kasetsart Univ, Thailand

Assessment of Two Different Non-contact Scanning Methods to Survey Shape Modification of Submerged Organisms

Rachele Napolitano, Università Politecnica delle Marche; Massimiliano Guarneri, ENEA; Maria C Gambi, Stazione Zoologica Anton Dohrn; Enrico P Tomasini, Università Politecnica delle Marche, Italy

Research on Autonomous Path Planning of Unmanned Surface Vessel in Ocean Environment

Mengjia Liu, Hui Feng, Haixiang Xu, Wuhan Univ of Tech, China

Adaptive Bit Allocation OFDM System for Sea Surface Shortwave Ground Wave Channel

Lei Yang, Sen Fang, Zhe Wang, Lu Gan, Wuhan Polytechnic Univ, China; Kaiyu Huang, Wright State Univ, USA

The Detection and Analysis of Buried Wellhead in Bohai Bay Oil Field Based on Magnetic Method

Chun Li, Yupeng Song, Xiaodi Yang, CNPC Research Inst of Eng Tech, China

MONDAY 13:10

Keynote 1

Sea Ice Research: Recent Findings and Outstanding Issues in Relation to Arctic Development (KEYNOTE)

David Fissel, Ed Ross, ASL Environmental Sciences, Inc, Canada

Keynote 2

Status & Outlook for Offshore Bottom Fixed Wind Turbine Support Structures [Oral presentation]

Laurent-Baudoin Kramer, OWEC Tower AS, Norway

MONDAY 14:00

12. HYDRODYNAMICS II: Impact, Hydroelasticity 1 (V. 3)
Monday June 11 14:00 Room 1

Chair: Yong Won Lee, Lloyd's Register, UK

Numerical Study of Solitary Wave Slamming on a 3-D Flexible Plate by MPS-FEM Coupled Method

Guanyu Zhang, Chengping Rao, Decheng Wan, Shanghai Jiao Tong Univ, China

Dynamic Analysis on Module Type Floating Structure Consisting of Highly Numerous Buoys and Connection Beams

Hyun-Sung Kim, Byoung Wan Kim, Sa Young Hong, Kangsu Lee, Korea Research Inst of Ships & Ocean Eng, Korea

Hydroelastic Analysis of an Annular Flexible Floating Plate

Eva Loukogeorgaki, Aristotle Univ of Thessaloniki, Greece; Masashi Kashiwagi, Osaka Univ, Japan

Numerical Investigation of Second Order Hydroelastic Response for the Flexible Floating Body

Kyeonguk Heo, Masashi Kashiwagi, Osaka Univ, Japan

Prediction of Deck Slamming Occurrence of Offshore Platforms by Nonlinear Stochastic Approach

Dong-Hyun Lim, Hyun-Seung Nam, Yonghwan Kim, Seoul National Univ, Korea

Experimental Investigation of Floating Debris Impact Loading on Structures During Extreme Waves Like Tsunami

S Harish, V Sriram, V Sundar, S A Sannasiraj, IIT Madras, India; I Didenkulova, Nizhny Novgorod State Tech Univ, Russia

Zhang, Fa Li Huo, Oleg Gaidai, Yun You, Jiangsu Univ of Sci & Tech, China

13. SLOSHING II: Experiments (V. 3)
Monday June 11 14:00 Room 2

Chair: Laurent Brosset, Gaztransport & Technigaz, France
Co-Chair: Chong Ma, National Maritime Research Institute, Japan

SLING Research Programme: Exploring the Last Frontiers of Sloshing Physics

Hannes Bogaert, MARIN, Netherlands; Laurent Brosset, GTT, France; Mirek Kaminski, TU-Delft; Barry Koren, Eindhoven Univ of Tech; Devaraj van der Meer, Univ of Twente; Christian Poelma, TU-Delft; Benjamin Sanderse, CWI; Arthur Veldman, Univ of Groningenn; Jerry Westerweel, TU-Delft, Netherlands

Multiphase Wave Lab Developed by SLING Programme

Hannes Bogaert, MARIN; Vladimir Novakovic, TU-Delft; Ashwin Fernandes, MARIN, Netherlands

Comparing 2D and 3D Linear Response of a Simplified LNG Membrane Cargo Containment System

Reinier W Bos, Mirek Kaminski, Delft Univ of Technology, Netherlands

A New Generation of Sloshing Pressure Sensors

Sebastian Schreier, Christian Poelma, Delft Univ of Technology, Netherlands

Experimental Study on Heating Process for Cargo Oil in Sloshing Tank

Jinshu Lu, Xiang Zhu, Jiajia Deng, Wenfeng Wu, Jianwei Zhang, Zhejiang Ocean Univ, China

Validation of a Non-linear Sloshing Model

Eelco Frickel, Joris van den Berg, MARIN; Finlay McPhail, Shell Global Solutions International, Netherlands

14. RENEWABLE ENERGY II: Foundations (V. 1)

Monday June 11 14:00 Room 3

Chair: Stefan Herion, KoRoH GmbH, Germany

Bearing Capacity Model Test of Shallow Buried Bucket Foundation under Cyclic Loading

Run Liu, Pengcheng Ma, Tianjin Univ, China

Modelling of Soil-pile Interaction for Monopiles for Offshore Wind Turbines: Back-calculation of Eigenfrequencies

Anders H Augustesen, Martin U Østergaard, Søren PH Sørensen, Mikkel Larsen, Claus Kramhøft, COWI A/S, Denmark

Application of Laboratory and In-situ Gmax Measurements to Modelling of Monopile Deflection

Taisiya Pein, Aligi Foglia, Fraunhofer IWES; Tobias Mörz, Univ of Bremen, Germany; Robert Kayen, Univ of California at Los Angeles, USA

Explicit Method to Account for Cyclic Degradation of Offshore Wind Turbine Foundations Using Cyclic Interaction Diagrams

Gianluca Zorzi, Thomas Richter, Fabian Kirsch, GuD Consult GmbH; Anders H Augustesen, Martin U Ostergaard, Soren PH Sorensen, COWI A/S, Germany

Modal Parameter Identification of an Offshore Monopile Wind Turbine: A Sea Test

Fushun Liu, Hongchao Lu, Ocean Univ of China; Shengxiao Zhao, Powerchina Huadong Engineering; Ying Li, Zhejiang Univ of Science & Tech; Binbin Zhu, Powerchina Huadong Engineering, China

Comparison of Wave Fragility Curves from Various Computational Approaches
Jharna Pokhrel, Junwon Seo, South Dakota State Univ, USA

Numerical Study on the Deformation Response of the Monopod Bucket Foundation under Lateral Loads
Yu-Shu Kuo, Ting-Ting Wang, Yu-Hsiu Tseng, National Cheng Kung Univ, Taiwan China

15. VORTEX-INDUCED VIBRATIONS II (V. 3)
Monday June 11 14:00 Room 4

Chair: Yoshiki Nishi, Yokohama National Univ, Japan

Numerical Study of Vortex Induced Motions of Spar and Semi-submersible Platforms at High Reynolds Numbers

L Sun, Yunfeng Ding, Dalian Univ of Tech; J T Zheng, Wuhan No.2 Ship Design Inst; Z Zong, Dalian Univ of Tech; C F Liu, Dalian Ocean Univ, China

Concomitant Wave and Current Effects on Vortex-Induced Motion (VIM) of a Large-volume Semi-submersible Platform

Rodolfo T Gonçalves, Univ of Tokyo, Japan; Leandro A Pinto, Petrobras; André LC Fajarra, Federal Univ of Santa Catarina, Brazil

Island Wake Dynamics and Wind Effect on Green Island Wake

Chia-Cheng Tsai, National Kaohsiung Marine Univ; Tien-Hung Hou, National Cheng Kung Univ; Tai-Wen Hsu, National Taiwan Ocean Univ, Taiwan China

Experimental study on Vortex-induced Motions of a Floating Cylinder Considering the Impact of Helical Strakes

Hongyuan Sun, Suyu Xiao, Shandong Jiao Tong Univ; Weiping Huang, Shuang Chang, Ocean Univ of China, China

Vortex-induced Vibration of a Circular Cylinder with Fairings

Shengping Liang, Jiasong Wang, Shanghai Jiao Tong Univ, China

16. ASSET INTEGRITY II; Corrosion Management (V. 4)
Monday June 11 14:00 Room 5

Chair: Eric J Wright, ExxonMobil Production Co., TX, USA
Co-Chair: Abe Nezamian, Aurecon Group, Australia

Failure Prediction of Mild-Steel Welds due to Climate Change Influenced Marine Corrosion

Igor A Chaves, Robert E Melchers, Univ of Newcastle, Australia

Maximum Pit Depth Variability in Water Injection Pipelines

Robert E Melchers, Mukshed Ahammed, Univ of Newcastle, Australia

Experimental Study on Bond Behavior of Rebar Embedded in SFRC Subjected to Chloride Corrosion

Lijun Hou, Bingxuan Zhou, Ruifeng Yang, Da Chen, Hohai Univ, China

A Machine Learning-based Approach to Predict Corrosion Allowance for Ships
Abhishek Chauhan, Siddartha Mashetty, Yogesh Kumar, Anirban Bhattacharyya, Om Prakash Sha, IIT Kharagpur, India

Composite Polymer Containing Coatings Formed on the PEO Pretreated Magnesium Alloy as Protection Against Corrosion and Wear
Sergey V Gnedenkov, Sergey L Sinebryukhov, Dmitry V Mashtalyar, Konstantine V Nadaraia, Inst of Chemistry, FEB RAS; Dmitry P Kiryukhin, Inst of Problems of Chemical Physics, RAS, Russia

Protective Coatings on the 1579 Aluminium Alloy with Welded Joint for the Offshore Constructions
Valentin I Sergienko, Russian Academy of Sciences; Andrei S Gnedenkov, Dmitry V Mashtalyar, Inst of Chemistry, FEB RAS, Russia

Study on Assessment Approach of Antimicrobial and Antifouling Performances Through Submerging Testing for Marine Antifouling Coatings
Xiuqin Bai, Jiangfan Chang, Chengqing Yuan, Wuhan Univ of Tech, China

Residual Ultimate Strength of Simply Supported Corroded Plates with Initial Geometrical Imperfections under Uniaxial Compression
Ruoxuan Li*, Daisuke Yanagihara, Takao Yoshikawa. Kyushu Univ, Japan

Continue at Session 26.

17. ENVIRONMENT II: CO₂ Emission, Water Quality (V. 1)
Monday June 11 14:00 Room 6

Chair: Shuguang Liu, Tongji Univ, China

Clarification of Hazardous Areas Applied to Newly Developed Liquefied Hydrogen Carrier
Shuntaro Unno, Tomoaki Umemura, Hioaki Kagaya, Yukichi Takaoka, Kawasaki Heavy Industries, Japan

Structural Optimization of Slab Considering CO₂ Emissions
Hyo Seon Park, Seol Ho Lee, Byung Kwan Oh, Da Yo Yun, Yonsei Univ, Korea

Saline Aquifer Characterization for Geological Carbon Sequestration using EnKF
Jonggeun Choe, Jonghyeon Jeon, Junhee Kang, Namhoon Kim, Seoul National Univ; Yi-Kyun Kwon, Kongju National Univ, Korea

Design and Realization of Real Time Distributed Computing Platform of Ship Area Exhaust Emissions
Tiantain Yang, Yuanqiao Wen, Liang Huang, Changshi Xiao, Wenqiang Zhan, Wuhan Univ of Tech, China

Experimental Study on a Buoyant Jet in Wavy Crossflow
Zhenshan Xu, Yongping Chenm Dongbo Jiang, Hohai Univ, China

Analysis of River Velocity Measuring Methods and Post-Processing to Reduce Errors for Low Velocity Considering Characteristics of Rivers in Korea
Hyun Dong Kim, Jin Hyu Choi, Kisu Kwank, Mirae Ocean Corp, Japan

18. OCEAN TECH II: Floatover Installation 2(V 2)

Monday June 11 14:00 Room 7

Chair: Jim Wang, COTEC Offshore Engineering Solutions, USA

Co-Chair: Sunho Park, Korea Maritime and Ocean Univ, Korea

Virtual Simulations for Dynamic Positioning Floatover Installation

Alan M Wang, Rongqi Chen, Min He, Weiwei Xie, Jingkuo Xu, China Offshore Oil Eng, China

Rapid Load Transfer Technology for Floatover Installations

Wentai Yiu, Alan M Wang, Shaohua Zhu, Jingkuo Xu, China Offshore Oil Eng; Andy Wang, DNV GL Oil & Gas China; Hanbing Luo, Tianjin Univ, China

Mating Analysis for Float-over Installation of a Large Topside in Various Load Transfer Stages

S J Jung, H U Kwak, N W Kim, B W Nam, Y J Kwon, K Lee, H G Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Design of Leg Mating Unit for Float-over Installation

Kangsu Lee, Byoungjae Park, Hyun-Seok Kim, Doyoub Kim, Hong-Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Assessment of Docking Operation during Float-over Installation on Jacket Structure

H U Kwak, S J Jung, Y J Kwon, B W Nam, N W Kim, K Lee, H G Sung, Korea Research Inst of Ships & Ocean Eng, Korea

A Model Test Study for DP Floatover Installation of Large Integrated Topsides

Mingxing Yu, Nan Xu, Hongxin Tian, Alan M Wang, Biao Wang, China Offshore Oil Eng; Lei Wang, Shanghai Jiao Tong Univ, China

19. MECHANICS, IMPACT, SAFETY II: Mechanics 2 (V. 4)

Monday June 11 14:00 Room 8

Chair: Hyun Jo Jun, ExxonMobil Research & Engineering, USA

Co-Chair: Nikolai A Taranukha, KnASTU, Russia

Fatigue Crack Growth Simulation Using Characteristic Tensor

Hidekazu Murakawa, Osaka Univ, Japan

An Internal Load Calculation Method Based on DEM for VLOC [Proceedings only]

Xiqing Song, Shaoxiong Zhang, Wuhan Univ of Tech, China

Coupled Thermo-elastic Analysis of Functionally Graded Doubly Curved Shells with Temperature-dependent Material Properties

Chih-Ping Wu, Yu-Wen He, National Cheng Kung Univ, Taiwan China

Nonlinear Static Response of Submerged Prestressed Toroidal Membrane

Weeraphan Jiammeepreecha, Rajamangala Univ of Tech Isan; Somchai Chucheepsakul, King Mongkut's Univ of Tech Thonburi, Thailand

A Modified Degradation Model for Two-Dimensional Orthogonal Fabric Structures
Mengzhen Li, Renjun Yan, Hongmei Zhang, Wei Shen, Diyi Chen, Wuhan Univ of Tech, China

An Isogeometric Analysis Approach for Hull Structural Mechanical Analysis
Yanyun Yu, Yunlong Wang, Kai Li, Yan Lin, Dalian Univ of Tech, China

Dynamic Responses of Long-Span Cable-stayed Bridge with the Action of Both Running Vehicles and Wind Loads

Shaoqin Wang, Beijing Univ of Civil Eng & Architecture; Qin Ma, CCCC Highway Consultants; Zhun Yang, Beijing Univ of Civil Eng & Architecture, China

Buckling Strength of Hull Plate under Lateral Loads Based on Paik Theory
Yuchen Shang, Texas A&M Univ, USA

Monday **20. GEOTECH II: Foundation 1 (V. 2)** **Room 9**
 June 11 **14:00**

Chair: Yun Sup Shin, Norwegian Geotechnical Institute, Norway

A Reliability-based Design and Optimisation Procedure for Offshore Monopile Foundations

Patrick Arnold, Fabian Kirsch, Sara Schade, GuD Consult GmbH, Germany

The Effect of Wave Action on the Lateral Pile-Soil Interaction for Monopiles in Sandy Seabeds

Ting Huang, Shunya Bai, Zhongyuan Guo, Hohai Univ, China

Validation of Modifications to Lateral Support Functions for Offshore-Monopiles

Bert Schaedlich, Fabian Kirsch, Thomas Richter, GuD Consult GmbH, Germany

Visual Observation of the Pull-out Failure Mode of Belled Type Pile in Sandy Soil and its Evaluation

Junggoo Kang, Kyushu Univ; Shinji Aramaki, Kotobuki Sangyo Co; Noriyuki Yasufuku, Kyushu Univ, Japan

Numerical Study on Static Behavior of Guardrail Supporting Piles Subjected to Horizontal Load

Yun Wook Choo, Jong Seok Yun, Ki Jang Han, Hyo Il Ahn, Kee Dong Kim, Kongju National Univ, Korea

A Construction Management Method of the Bored Pile Foundation

Hikaru Yoshida, Shohei Ishida, Daiken Sekkei, Inc; Masao Okuda, Okuda Construction; Youji Nakane, Showa Concrete Industries; Yukihiro Kani, Eiton Co, Japan

Hybrid Subsea Foundations for Deepwater Developments

Jeong-Yun Won, Barr Engineering; Jean ME Audibert, Independent Consultant; Asutosh Misra, Samantha Bush, TechnipFMC, USA

Research on Failure Mode and Bearing Mechanism of the Single Pile Foundation [Oral presentation]

Bin Li, Tianjin Port Eng. Institute Ltd. of CCCC, China

21. UNDERWATER TECH II: Acoustics, Communication (V. 2)
Monday June 11 14:00 Room 10

Chair: Shuo Wang, CAS Inst of Automation, China

A Broadband Bayesian Sparsity Covariance Matrix Array Signal Processing Method

Daqian He, Dahai Zhang, Junhua Xing, China Ship Development & Design Center, China

The Application of Hermite Interpolation Filter in Sonar Fractional Delay

Lening Wang, Min Yu, Wuhan Univ of Tech, China

Acoustic Scattering from a Two-dimensional Underwater Vortical Flow over an Airfoil

Hao Du, Yongou Zhang, Aokui Xiong, Wuhan Univ of Tech, China

Development of Prototype High-Speed Communication Equipment for Underwater Re-Charging System

Makoto Sugawara, Hiroshi Yoshida, Shojiro Ishibashi, Kiyotaka Tanaka, JAMSTEC, Japan

Single Range Based Localization

Ying Lu, Vahid Hassani, Zhengru Ren, NTNU, Norway

Application of Acoustic Metamaterials in Underwater Airfoil Structure

Jiaxing Zhou, Min Yu, Yongou Zhang, Wuhan Univ of Tech, China

MONDAY 16:20

22. HYDRODYNAMICS III: Impact, Hydroelasticity 2 (V. 3)
Monday June 11 16:20 Room 1

Chair: Yonghwan Kim, Seoul National University, Korea,

Air-cushion and Impact Force Coefficient with the Water Entry of a Flat Rigid Body

Zhaobing Jiang, Sanjiang Univ, China; Minyi Tan, Univ of Southampton, UK; Benlong Wang, Shanghai Jiao Tong Univ, China

On the Uncertainty of Local Load Predictions for a Deterministic Breaking Wave Impacting a Semi Submersible - CFD Compared to Experiments

Henry Bandringa, Jopp Helder, MARIN, Netherlands

Local Impact Load Predictions on a Moving Semi Submersible Subject to an Extreme Breaking Wave - CFD Results Compared to Experiments

Joop Helder, Henry Bandringa, MARIN, Netherlands

Experimental and Numerical Studies on Loading and Flow Characteristics of Wave Impacts on Offshore Structure

Dongsoo Kim, Mingyu Kim, Tahsin Tezdogan, Univ of Strathclyde, UK; Kwanghyo Jung, Pusan National Univ, Korea; Atilla Incecek, Univ of Strathclyde, UK

Numerical Study of the Effect of Grid Scale on Bow Wave Breaking
Zhen Ren, Jianhua Wang, Decheng Wan, Shanghai Jiao Tong Univ, China

Using CFD to Predict the Breaking Wave Forces on Cylindrical Jack-up Legs near a Steeply Declining Seabed
Zana Sulaiman, GustoMSC B.V., Netherlands

Wave-in-Deck Loads and the Role of Wave Breaking
Li Ma, Chris Swan, Imperial College London, UK

A Full 3D Time-domain Numerical Model for the Wave-induced Motion of a Floating Body in Shallow Water
Jun-sheng Zhang, Bin Teng, Dalian Univ of Tech, China

23. SLOSHING III: Slushing-Structure Interactions (V. 3)
Monday June 11 16:20 Room 2

Chair: Yonghwan Kim, Seoul National University, Korea

Fluid Structure Interaction of Containment Structure on Offshore Platforms Using ALE Analysis
Parag S Nimse, Wood Group; Chayan Basak, Rogerio Nakano, Altair Engineering, USA

An Enhanced Comparative Methodology for the Structural Safety Assessment of Membrane Type CCS under Slushing Loads
Cheon-Jin Park, Yong-Tai Kim, Ki-Sup Noh, Hoon-Kyu Oh, Byung-Ki Choi, Kwang-Min Lee, Hyundai Heavy Industries, Korea

Damage Growth Analysis in Composite Structures Exposed to Slushing
Andre Baeten, Augsburg Univ of Applied Sciences, Germany

Seismic Numerical Analysis of Suspended Liquid Structure Considering Fluid-Structure Interaction
Jianbo Li, Guangzhou Li, Runyu Mei, Gao Lin, Dalian Univ of Tech, China

Three-dimensional Numerical Simulations of Flow Past a Rotating Circular Cylinder at a Reynolds Number of 500
Adnan Munir, Ming Zhao, Helen Wu, Western Sydney Univ, Australia

24. RENEWABLE ENERGY III: Floating: Substructures (V. 1)
Monday June 11 16:20 Room 3

Chair: Wojciech Popko, Fraunhofer IWES, Germany

The Investigation of Conceptual Approaches to the Creation of Marine Ice-Resistant Floating Wind Power Plant
VV Elistratov, Alexander Bolshev, AA Oanfilov, Peter the Great St-Petersburg Polytechnic Univ; KV Megretsky, VV Kupreev, Central Design Bureau for Marine Engineering "Rubin", Russia

Spar-type Wind Turbine Behavior: Modeling and Comparison with Experimental Data

He Yang, John M Niedzwecki, Texas A&M Univ, USA

Study on Typical Design Load Cases of Semi-submersible FOWTs

Xun Meng, Meng Liu, Weiping Huang, Ocean Univ of China; Qiang Fu, Yantai CIMC Ocean Engineering, China

Numerical Study on Influence of Turbulent and Steady Winds on Coupled Dynamic Response of 6-MW Spar-type FOWT

Long Meng, Yan-ping He, Ya-dong Liu, Yong-sheng Zhao, Long Yu, Shanghai Jiao Tong Univ, China

Study on Hydrodynamic Response of Semi-Submersible Wind Turbine Platform with Different Types of Mooring System

Chaohe Chen, Xinkuan Yan, Fuyong Liu, Guoliang Pang, Sizochen Li, Tianhui Fan, South China Univ of Tech, China

Hydrodynamic Performance of a Novel Floating Foundation for Offshore Wind Turbine

Jiawen Li, Tianjin Univ; Yichen Jiang, Guanqing Hu, Dalian Univ of Tech, China

Investigation on the Development of Spar-type Floating Wind Turbine and Potential Application in South China Sea

Fei Duan, Changjiang Inst of Survey, Planning, Design & Research; Jin Wang, Shanghai Jiao Tong Univ, China

25. VORTEX-INDUCED VIBRATIONS III (V. 3)

Monday June 11 16:20 Room 4

Chair: Jin S Chung, ISOPE, USA

Modal Analysis of a Top-Tensioned Riser Experiencing Vortex-Induced Vibration and Varying Axial Tensions

Zhe Wang, Di Deng, Decheng Wan, Shanghai Jiao Tong Univ, China

Coupling Effect of Vessel Heave and Vortex Induced Vibration of a Steel Catenary Riser

Kunpeng Wang, Jiangsu Univ of Sci & Tech, China

Dynamic Response of a Top-tensioned Riser under Vessel Motion

Decao Yin, Elizabeth Passano, Halvor Lie, SINTEF Ocean; Guttorm Grytøyr, Kristoffer H Aronsen, Statoil, Norway; Michael Tognarelli, BP, USA; Elizbar B Kebabze, BP Exploration Operating, UK

Numerical Simulations of Vortex Shedding of a Circular Cylinder Experiencing Oscillatory Flow at Low Keulegan-Carpenter Numbers

Di Zheng, Zhe Wang, Decheng Wan, Shanghai Jiao Tong Univ, China

Estimation of Flow Speed around Submerged Rigid Circular Cylinder Based on Its Vortex-induced Vibration and Nonlinear Filtering Theory

Yoshiki Nishi, Yosuke Toyoda, Yoshihiro Moriya, Yokohama National Univ, Japan

Bending Dominated Flexible Cylinder Experiments Reveal Insights into Modal Interactions for Flexible Body Vortex-induced Vibrations

Ersegun D Gedikli, NTNU, Norway; David Chelidze, Jason M Dahl, Univ of Rhode Island, USA

Power Generation Using Non-Linear Vortex-Excited Vibration of a Horizontal Circular Cylinder in Unidirectional Flow

Kenjirou Hayashi, Tuyosi Tada, Yosinori Shigihara, National Defense Academy, Japan; John Chaplin, Univ of Southampton, UK

Experimental Force Database from Controlled Inline and Cross Flow Cylinder Motion

Erdem Aktosun, Jason Dahl, Univ of Rhode Island, USA

26. HPM I: Advanced Materials 1 (V. 4)
Monday June 11 16:20 Room 5

Chair: Andrea Fonzo, Centro Sviluppo Materiali, Italy

Weldable Seamless Heavy Wall Line Pipes

Alessandro Paggi, Andrea Bellani, Emanuele Paravicini Bagliani, Philippe Darcis, Tenaris, Italy

The Effect of Strap Flattening Method on the Yield Strength of UOE Pipes

Jiwoon Yi, Korean Inst of Bridge & Structural Engineers; Soo-Chang Kang, POSCO; Jinkyoo F Choo, Konkuk Univ, Korea

Microstructural Influence on Low-Cycle Fatigue Resistance of Coiled Tubing Steel [Oral presentation]

Kyung-Min Noh, Chong Soo Lee, POSTECH, Korea

Effect of V and Mo Micro-alloying on Hot Deformation Behavior and Recrystallization Kinetics of High Mn TWIP Steel

Sung-Joon Kim, Dong Bae Park, Hojun Gwon, POSTECH, Korea

Slit Induced Self Magnetic Flux Leakage in a Square Steel Plate

Menno P van der Horst, Miroslaw L Kaminski, Delft Univ of Technology, Netherlands

Residual Stresses Measurement on a Repaired Stainless Steel Welded Cylinder, Using a Combination of Techniques

Xavier P Ficquet, Rémi Romac, Douglas Cave, VEQTER, UK

27. COASTAL I: Wave Mechanics 1 (V. 3)
Monday June 11 16:20 Room 6

Chair: Hiroyasu Kawai, National Inst. of Maritime, Port & Aviation Tech., Japan

Co-Chair: Kazuhiko Honda, National Inst for Land & Infrastructure Management, Japan

Ocean Wave Statistics Estimated from One-Decade-Long Observation on NOWPHAS GPS-mounted Buoy Network

Hiroyasu Kawai, Koji Kawaguchi, Fumikazu Suehiro, National Inst of Maritime, Port & Aviation Tech (MPAT), Japan

An Analysis Solution for Wave Propagating through a Poroelastic Medium

Yuan-Jyh Lan, National Taiwan Ocean Univ, Taiwan China

A Regression Analysis of Progressing Periodic Water Waves on Irrotational Flow over a Horizontal Bed

JangRyong Shin, Daewoo Shipbuilding & Marine Eng, Korea

Distribution of Particles in an Asymmetric Turbulent Plane Flow with No Wall Shear

Kun Yang, NTNU, Norway; Lihao Zhao, Tsinghua Univ, China; Helge I Andersson, NTNU, Norway

Oblique Wave Trapping by a System of Floating Elastic Plate and Submerged Porous Plate near a Rigid Wall

Chiu-On Ng, Univ of Hong Kong, China; Harekrushna Behera, Siluvai Antony Selvan, SRM Inst of Sci & Tech, India

28. OCEAN Tech III: Floatover Installation 3 (V. 1)

Monday June 11 16:20 Room 7

Chair: Alan M. Wang, Offshore Oil Engineering Co., China

Floatover Installation Technology with a DP2 Class Dynamic-Positioning Semisubmersible Vessel

Xiaojin Jin, Alan M Wang, Huailiang Li, Wentai Yu, Min He, China Offshore Oil Eng, China

A Low-Deck Floatover Installation Technology with Strand Jack Lifting Scheme

Alan M Wang, Xiaojian Jin, Yaosheng Lin, Fuwen Tao, Chen He, Min He, China Offshore Oil Eng, China

Experimental Investigation on Mating Operation with Jack System for Float-over Installation of Large Topside in Waves

N W Kim, S K Cho, B W Nam, I B Park, S H Oh, K Lee, H G Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Development of Mooring Tension Monitoring System for Wire with Various Diameter for on the Floating Crane

Hae-Young Lee, Chul-Soo Ahn, Mi-Hee Nam, Jae-Chang Lee, Dae-Kyung Kim, Samsung Heavy Industries; Hong-Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Dynamic Analysis of Moored Multi-Body System

Namkug Ku, Dong-Eui Univ; Jea-Hwa Kim, Hong-Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Comparison of Jacket Launch Simulation and Field Measurement

Min He, Alan M Wang, Litao Li, China Offshore Oil Eng; Xin Li, Lei Wang, Shanghai Jiao Tong Univ; Yining Chen, DNV GL Oil & Gas, China

Integrated Simulation Framework for Offshore Installation Operations considering Various Ocean Environments

Jun-Hyeok Bae, Ju-Hwan Cha, Sol Ha, Mokpo National Univ; Kwon-Ok Kim, Bo-Woo Nam, Hong-Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

29. MECHANICS, IMPACT, SAFETY III: Explosion (V. 4)
Monday June 11 16:20 Room 8

Chair: Helena Polezhayeva, Surrey, UK

Studying on Response of Square Core Sandwich Plate with Hyperelastic under Explosive Loading inside Closed Cabin

Pan Chen, Qiang Wei, China Ship Development & Design Center, China

Thermomechanical Analysis of Composites Under Shock Load Using Peridynamics

Yan Gao, Selda Oterkus, Univ of Strathclyde, UK

Numerical Study on the Performance of New Type Multi-Layer Protective Structures Subjected to Contact Underwater Explosion

Pan Zhang, Zhe Li, Ganchao Chen, Manxia Liu, Jun Liu, Yuansheng Cheng, Huazhong Univ of Sci & Tech, China

The Influence Analysis of Flat Steel on Explosive Loading inside Closed Cabin

Pan Chen, Qiang Wei, China Ship Development & Design Center, China

Numerical Simulation of the Ship Response Subjected to Blast Load with Runge-Kutta Discontinuous Galerkin Method

Fulin Yu, Lingling Ji, Lei Song, Mingyu Wang, Zhuoyi Yang, Bingbing Liu, Shandong Jiaotong Univ, China

30. GEOTECH III: Foundation 2 (V. 2)
Monday June 11 16:20 Room 9

Chair: Julie Q. Shang, Univ of Western Ontario, Canada

Effect of Soil Modeling on Lazy Wave Riser Fatigue Damage Prediction

Haydar Arslan, Rupak Ghosh, ExxonMobil Production, USA

Geotechnical Interpretation of the Mietsu Dry Dock World Heritage Site

Takaharu Shogaki, Daishi Okuda, National Defense Academy; Naofumi Suzuki, Kowa Co, Japan

Reliability-Based Design of Shallow Foundation based on the Plate Load Tests

Yunsup Shin, Zhongqiang Liu, Farrokh Nadim, Norwegian Geotechnical Inst, Norway; Jaehyun Park, Moonkyung Chung, Korea Inst of Building Construction Tech, Korea

Bearing Capacity of Shallow Foundations on Sand Overlying Clay Soils under Combined Loading Using Finite-Element Approach

Saeed Dehghanpoor Abyaneh, Justin Kennedy, Alasdair Maconochie, TechnipFMC, UK

Excess Pore Pressure Build-up Estimation at Cyclically Loaded Offshore Foundations

Martin Achmus, Klaus Thieken, Jann-Eike Saathoff, Leibniz Univ Hannover, Germany

Structures of the Subgrade of the Old Nagasaki Highway and Abutment of the East Gate Bridge of Saga Castle

Takaharu Shogaki, Daishi Okuda, National Defense Academy, Japan

Study on the Calculation of Limit Loads for Non-Homogeneous Soil Foundations

Aimin Liu, Tianjin Port Eng Inst of CCCC; Weiwei Xu, Hebei Univ of Eng; Zhifa Yu, Tianjin Port Eng Inst of CCCC, China

Numerical Simulation and Model Test of Scour on the Foundation of the Subsea Production System

Fei Wu, CNOOC Research Inst, China

Offshore Cofferdam Construction Technology with Bagged Soil Solidification

Jinfang Hou, Aimin Liu, Wenbin Liu, CCCC Tianjin Port Eng Inst, China

31. UNDERWATER TECH III: ROV (V. 2)

Monday June 11 16:20 Room 10

Chair: Hiroyoshi Suzuki, Osaka Univ, Japan

Numerical Motion Analysis of ROV Applying ANCF to Tether Cable Considering its Mechanical Property

Hiroyoshi Suzuki, Hiroto Tomobe, Asako Kuwano, Thant Zin Htun, Osaka Univ; Tomoya Inoue, JAMSTEC, Japan

An Experiment of Multicopter and Small ROV Combined Monitoring System for Coastal Area Environment

Keisuke Watanabe, Koshi Utsunomiya, Kazumasa Harada, Tokai Univ, Japan

Design and Performance Study of Additive Manufactured Thrusters for Remotely Operated Underwater Vehicle

Hirpa G Lemu, Univ of Stavanger, Norway; Karsten Kopperstad, Florida State Univ, USA

Thruster Model for Observation Class Remotely Operated Vehicle

Flore Remouit, Uppsala Univ, Sweden

TUESDAY 08:00

32. HYDRODYNAMICS IV: Ship Added Resistance (V. 3)

Tuesday June 12 08:00 Room 1

Chair: Decheng Wan., Shanghai Jiao Tong Univ, China

Co-Chair: Tingqiu Li, Wuhan Univ of Tech, China

Short Waves and the Wave Drag of a Ship

Jiayi He, Sheming Fan, Jinbao Wang, Marine Design & Research Inst of China; Francis Noblesse, Chen-Juh Yang, Wei Li, Shanghai Jiao Tong Univ, China

Study on the Resistance Reduction of High Speed Ship by New Bow Wave Suppression Appendage

Zhihua Liu, Wei Wang, Shu Zhai, Naval Univ of Engineering, China

Computation of the Speed Loss in Seaway by Different Approaches

Ching-Yeh Hsin, Ling Lu, Tao-Tang Mao, National Taiwan Ocean Univ, Taiwan China

Influence of Surface Roughness Changes Caused by Fouling on Ship Resistance Based on CFD Analysis

Chengqing Yuan, Xuelei Yao, Xiuqin Bai, Wuhan Univ of Tech, China

Study on Added Resistance in Oblique Seas

Dong-Min Park, Jae-Hoon Lee, Yoo-Won Jung, Yonghwan Kim, Seoul National Univ, Korea

Effect of the Diffraction in Regular Head Waves on the Added Resistance and Wake Using CFD

Jin-Won Yu, Cheol-Min Lee, Sung-Chul Park, Jung-Eun Choi, Inwon Lee, Pusan National Univ, Korea

33. SLOSHING IV: Assessment (V. 3)

Tuesday June 12 08:00 Room 2

Chair: Yusong Cao, C-Z Marine Technology, TX, USA

Study on Treatment of Outliers in Peak Pressure Statistics

Sang-Yeob Kim, Yonghwan Kim, Seoul National Univ, Korea

Experimental Comparison of Sloshing Loads on Weather Side and Lee Side for LNG Carrier Cargo Tanks

Yangjun Ahn, Sang-Yeob Kim, Jieung Kim, Jung-Kyu Lee, Yonghwan Kim, Seoul National Univ, Korea

Numerical Simulation for Sloshing Behavior of Moss-Type LNG Tank Based on Improved SPH Model

Chong Ma, Takahiro Ando, Masayoshi Oka, National Maritime Research Inst, Japan

Effect of the Sloshing Pressure Change Due to Sway and Roll Motions of a Tank

Kang-Hyuk Park, W Haewoo Shim, Dankook Univ, Korea

Experimental & Numerical Study of Anti-Roll Tanks

Louis Diebold, Bureau Veritas, France; Joong Soo Moon, Hyundai Heavy Industries, Korea

Multiphase MPS Method for Two-Layer-Liquid Sloshing Flows in Oil-Water Separators

Xiao Wen, Decheng Wan, Shanghai Jiao Tong Univ, China

34. RENEWABLE ENERGY IV: Aerodynamics (V. 1)

Tuesday June 12 08:00 Room 3

Chair: Fabian Vorpahl, Senvion GmbH, Germany

Large-Eddy Simulation for Multi-Turbine Floating Wind Power Platform

Filippo Campagnolo, Jiangang Wang, Technische Univ Muenchen, Germany

Numerical Investigations of Scale Effects on Aerodynamic Performances of a Floating Wind Turbine

Lin Yang, Harbin Engineering Univ, China; Q W Ma, City, Univ of London, UK; Kangping Liao, Hongde Qin, Harbin Engineering Univ, China

Analysis of the Tower Influence on Floating Offshore Wind Turbine Aerodynamic Performance Based on CFD Method

Chun-Ling Zou, Qiang Wang, Kang-Ping Liao, Harbin Engineering Univ, China;
Qingwei Ma, City Univ London, UK

Simulation and Parametric Analysis on Unsteady Aerodynamic Characteristics of NREL 5MW Wind Turbine

Shuangrui Yu, Xing Zheng, Harbin Engineering Univ, China; Qingwei Ma, City Univ London, UK

Actuator Line Method for Simulating NREL 5-MW Turbine Wakes

Zhiying Yu, Xing Zheng, Harbin Engineering Univ, China; Qingwei Ma, City Univ London, UK

The Optimization Design Method of Multiple Aerofoils Model Blades Based on the Map of Lift and Drag Coefficients

Zhe Chenm Yanping He, Yadong Liu, Yongsheng Zhao, Shanghai Jiao Tong Univ, China

Numerical Simulations of Flows around Floating Offshore Wind Turbine

Ping Cheng, Yang Huang, Decheng Wan, Shanghai Jiao Tong Univ, China; Changhong Hu, Kyushu Univ, Japan

35. VORTEX-INDUCED VIBRATIONS IV (V. 3)

Tuesday June 12 08:00 Room 4

Chair: Jin S Chung, ISOPE, USA

Co-Chair: Brad Stappenbelt, Univ of Wollongong, Australia

PIV Measurement Study on Flow around Circular Cylinders with Low Aspect Ratio Piercing the Free Surface

Keigo Sakata, Univ of Tokyo, Japan; Murilo M Cicolin, Univ of São Paulo, Brazil; Shinichiro Hirabayashi, Hideyuki Suzuki, Univ of Tokyo, Japan; Gustavo RS Assi, Univ of São Paulo, Brazil; Rodolfo T Gonçalves, Univ of Tokyo, Japan

LES of Wake Instabilities behind a Inclined Prolate Spheroid at 45 Degree

Zhiguo Zhang, Hongyu Zhou, Hao Liu, Dakui Feng, Xianzhou Wang, Huazhong Univ of Sci & Tech, China

Cross-Flow Vortex-Induced Vibration of Offshore Pipelines During J-Lay Process with Seabed Interaction Effect

Yang Qu, Delft Univ of Technology, Netherlands; Zhechen Hou, Univ of Western Australia, Australia

Vortex-induced Vibration of a Flexible Plate Located in the Wake of a Circular Cylinder

Huakun Wang, Qiu Zhai, Hohai Univ, China

Numerical Modeling of High Length-to-diameter Ratio Bare and Straked Risers Subjected to VIV

Mustafa C Kara, Vivek Jaiswal, Partha Sharma, DNV GL USA; Bhaskar Tulimilli, Stephen Cosgrove, Altair Engineering, USA

Wake Transition in the Flow around a Circular Cylinder with Dual Parallel Splitter Plates Attached

Dai Zhou, Rui Wang, Yan Bao, Zhaolong Han, Hongbo Zhu, Huan Ping, Shanghai Jiao Tong Univ, China

36. HPM II: Advanced Materials 2 (V. 4)
Tuesday June 12 08:00 Room 5

Chair: HyunWoo Jin, ExxonMobil Research & Engineering, USA
Co-Chair: Nobuyuki Ishikawa, JFE Steel Corporation, Japan

Technical Review on the Application Technology of High Manganese Steels [Oral presentation]

Keiji Ueda, Dai Izumi, Koichi Nakashima, Satoshi Igi, JFE Steel, Japan

High Temperature Torsion Behavior of Austenitic High Manganese Steels [Oral presentation]

Sung-Joon Kim, Woojun Kim, Youn Ha Kim, POSTECH, Korea

37. COASTAL II: Wave Mechanics 2 (V. 3)
Tuesday June 12 08:00 Room 6

Chair: Abbas Khayyer, Kyoto Univ, Japan
Co-Chair: Bob You, Ludong Univ, China

Wave and Circulation Numerical Modeling for Breakwater Rehabilitation Project at Tinian Harbor, Northern Marianna Islands

Lihwa Lin, Zeki Demirebilek, US Army Corps of Engineers, USA

On the Steady-state General Resonant Quartets in Water of Finite Depth

Xiaoyan Yang, Shijun Liao, Shanghai Jiao Tong Univ, China

Overtopping of Random Waves along a Truncated Plane Beach

Muhammad Shazril I Ibrahim, Tom E Baldock, Univ of Queensland, Australia

A Research of Breaker Impulse

Wen-Jer Tseng, Cheng Shiu Univ, Taiwan China

Large Eddy Simulation of Breaking Waves over a Sandbar Profile

Danxu Cao, Yongping Chen, Yi Pan, Hohai Univ, China; Naiyu Zhang, Univ of Southampton, UK

Laboratory Measurement and Analysis of the Force Exerted by Internal Solitary Wave over Ridge on Submerged Slender Body

Gang Wei, Mengmeng Gu, Bing Deng, Hui Du, Junlin Wu, National Univ of Defense Technology, China

Numerical Investigation on Wave Transmission Characteristics over a Submerged Breakwater

Yanxu Wang, Zegao Yin, Yong Liu, Ocean Univ of China, China

Analysis of Linear Shear Instability of Longshore Currents for Mild Slope

LiangDuo Shen, Hui Hu, Zhibo Tang, Gaofeng Jiang, Zhejiang Ocean Univ, China

38. OCEAN TECH IV: Subsea Systems (V. 1)
Tuesday June 12 08:00 Room 7

Chair: Alan M. Wang, Offshore Oil Engineering Co., China

Subsea Power Distribution of Lingshui 17-2 Gas Field in South China Sea

Che Wei, CNOOC Research Inst, China

Influence of Production Parameters on the Optimum Position of Submarine Manifolds

Juliana Souza Baioco, Philip Stape, Luiza de Mesquita Ortiz, Breno P Jacob, Federal Univ of Rio de Janeiro, Brazil

An Overall and Safe Design Method for Subsea Production System

Jing Ma, Yongtu Liang, Haoran Zhang, Xiaohan Yan, Bohong Wang, China Univ of Petroleum – Beijing; Zhongliang Huang, China National Petroleum Corp, China

Quantitative Study on the Location Selection of a Subsea Isolation Valve of Deep Water Riser

Qin Sun, CNOOC Research Inst, China

Manifold Installation: Optimizing Operational Windows through Hydrodynamic Model Testing

Rafael Guimaraes Pestana, Camila N Gomes, Leonardo de O Carvalho, Daniel Fonseca Silva, PETROBRAS; Paulo de T Esperança, Vincius Vileti, UFRJ, Brazil

Seismic Design of Large-Scale Integrated Subsea Facilities

Majid A Hesar, Tzi P Cheung, Qingjing Meng, Leonardo B Gitahy, Carlos R Charnaux, Subsea 7, UK

On the Stability of Subsea Wellhead in Deep-water Drilling: Based on the Bearing Capacity of Conductor

Yanbin Wang, Deli Gao, Jun Fang, Jing Zeng, China Univ of Petroleum - Beijing, China

Stability Analysis of Drilling Pipe and Subsea Wellhead for Riserless Drilling in Deepwater

Yuhan Liu, Honghai Fan, Deqiang Tian, Zixiang Wen, Wenlong Jiang, Yuguang Ye, Longteng Yu, China Univ of Petroleum - Beijing, China

Design Implementation of Subsea Isolation Valve System for Central Platform in South China Sea

Xuanze Ju, Peilin Liu, Ying Jiang, Jinlong Qi, China Offshore Oil Eng; Chunna Song, Shenzhen Offshore Oil Engineering Subsea Tech; Wei Fang, China Offshore Oil Eng; Shusheng Liu, Shenzhen Offshore Oil Engineering Subsea Tech, China

A Systems Engineering Framework for Delivering Reliable Subsea Equipment

Sirous Yasseri, Hamid Bahai, Brunel Univ London; Ramin Yasseri, Aker Solutions, UK

39. MECHANICS, IMPACT, SAFETY IV: Safety (V. 4)

Tuesday **June 12** **08:00** **Room 8**

Chair: Yong Won Lee, Lloyd's Register, UK

A Method of Individual Risk Analysis for Product Oil Pipeline

Ming Li, Xiaolin Wang, SINOPEC Dalian Research Inst of Petroleum & Petrochemicals; Liewu Dong, Qing Ye, SINOPEC Sales, China

A Probabilistic Approach for Joint Optimization of Fatigue Design, Inspection and Maintenance

Guang Zou, Kian Banisoleiman, Lloyd's Register, UK; Arturo Gonzalez, University College Dublin, Ireland

Development of Evaluation System for Safety Management Efficiency of Shipping Company by Empirical Data

Hwayoung Kim, Mokpo National Maritime Univ, Korea

Damage Assessment of a Building via a Bayesian Probabilistic Approach with Earthquake Responses

C S Huang, J W Lin, National Chiao Tung Univ; W C Su, National Applied Research Labs, Taiwan China

Research on the Three-dimensional Domain for VLCC Based on DUKC

Yunlei Zhang, Yanmin Xu, Chunming Zhou, Junchao Zhao, Jianyu Wang, Wuhan Univ of Tech, China

40. GEOTECH IV: Spudcan, Pipeline (V. 2)

Tuesday June 12 08:00 Room 9

Chair: Yun Wook Choo, Kongju National Univ, Korea

Physical and Numerical Modelling of Novel Spudcan to Ease Spudcan-Footprint Interactions

M J Jun, Y H Kim, Md. Shazzad Hossain, M J Cassidy, Y Hu, Univ of Western Australia, Australia; S G Park, Daewoo Shipbuilding & Marine Eng, Korea

Model Tests on Effects of Spudcan Penetration and Extraction on Jacket Platform Piles

Jianhua Wang, Yifei Fan, Weijie Gao, Tianjin Univ, China

Mechanism and Prediction of Spudcan Extraction Resistance Due to Base Suction

Pan Gao, Shanghai Maritime Univ; Menglan Duan, China Univ of Petroleum-Beijing; Ji Zeng, Shanghai Maritime Univ; Jianbo Li, Linsong Song, China Oilfield Services, China

The Study of Mechanism of Spudcan Punch-through in Multilayered Clay Based on Centrifugal Model Tests

Sa Li, Lan Lin, Tianjin Univ, China

Spudcan Penetration Behaviour on a Sloping Seabed by Numerical Analysis and Centrifuge Modeling

Yunsup Shin, Jung Chan Choi, Vaughan Meyer, Youhu Zhang, Huynh Dat Vu Khoa, Norwegian Geotechnical Inst, Norway; Heon-Joon Park, Jae-Hyun Kim, Dong-Soo Kim, Korea Advanced Inst of Sci & Tech; Jungin Choi, Samsung Heavy Industries; Jintae Han, Seongwon Lee, Youngeun Jang, Korea Inst of Civil Eng & Building Tech, Korea

Experimental Study on Evaluation Method of Trafficability of Seabed by Bucket Penetration for Hydraulic Excavator

Kazuo Tani, Rika Homma, Tokyo Univ of Marine Sci & Tech; Yosuke Tanaka, Takuma Kuwabara, Shinya Ohmori, Toa Corp, Japan

Large Displacement of Trenched Subsea Pipelines in Lateral Direction

Hodjat Shiri, Morteza Kianian, Memorial Univ of Newfoundland, Canada

Dynamic Response of Pipelines at Various Buried Depth Subjected to Underwater Explosion Considering FSI and Pore Water Effect

Chencong Liao, Yaguang Wang, Jianhua Wang, Shanghai Jiao Tong Univ, China

Interaction of Pipeline and Elasto-Plastic Sandy Seabed under Dynamic Loadings

Xiaowen Wang, Jian-Min Zhang, Tsinghua Univ, China

Large Deformation Finite Element Modeling of Pipe-Soil Interactions for Buried Submarine Pipelines

Shubhrajit Maitra, Santiram Chatterjee, Deepankar Choudhury, IIT Bombay, India

Model Experiments on Influence of the Bending Angles on Lateral Resistance Acting on Buried Pipe Bends

Yoko Ohta, Yutaka Sawada, Kobe Univ; Kohei Ono, Ehime Univ; Toshinori Kawabata, Kobe Univ, Japan

Frost Heave Induced Mechanics of Buried Pipelines

Byunghyun Ryu, Korea Inst of Civil Eng & Building Tech; Hyunwoo Jin; Korea Univ of Sci & Tech; Janguen Lee, Korea Inst of Civil Eng & Building Tech., Korea

41. UNDERWATER TECH IV: AUV Design (V. 2)

Tuesday

June 12

08:00

Room 10

Chair: Satoru Yamaguchi, Kyushu Univ, Japan

Conceptual Design of an Underwater Benthic Vehicle

Pengfei Xu, Hohai Univ; Ming Zhao, Shanghai Jiao Tong Univ; Lei Wan, Harbin Engineering Univ; Guohua Xu, Huazhong Univ of Sci & Tech; Hongxia Cheng, Hohai Univ, China

Conceptual Design of Underwater Recharging Unit Applied into the Long-term AUV Operation System

Shojiro Ishibashi, JAMSTEC, Japan

The Development Status of an Underwater Recharging Station

Kiyotaka Tanaka, Hiroshi Yoshida, Shojiro Ishibashi, Makoto Sugawara, JAMSTEC, Japan

Gliding Performance of an Underwater Glider for Ocean Floor Resources Exploration

Satoru Yamaguchi, Kyushu Univ; Hirofumi Sumoto, Kagoshima Univ; Ryota Sakamoto, Ryo Nogami, Kyushu Univ, Japan

Improved Particle Filter in Full-Depth Autonomous Underwater Vehicle Integrated Navigation

Zonglin Liu, Chao Wu, Tong Ge, Nailong Wu, Shanghai Jiao Tong Univ, China

A Research on AUV Underwater Mobile Recovery Navigation Based on Single-Beacon Positioning for Multi-sensor Data Fusion

Ziye Zhou, Yanqing Jiang, Yeyi Sun, Harbin Engineering Univ, China

TUESDAY 10:30

42. HYDRODYNAMICS V: Ship Drag Reduction (V. 3)

Tuesday June 12 10:30 Room 1

Chair: Guang Hua He, Harbin Inst Tech, China

Lattice Boltzmann Simulation on Drag Reduction by Adhesion-Regulated Superhydrophobic Surfaces

Liuming Yang, Guoxiang Hou, Yang Yu, Kai Wang, Huazhong Univ of Sci & Tech, China

Computation and Measurement of Wake Field of Fin Installed in Boundary Layer

Rikizo Yamashita, Sumitomo Heavy Industries Marine & Eng; Yusuyuki Toda, Osaka Univ, Japan

A Hydrodynamic Design Method of Ship Applying the Air Lubrication System

Chiharu Kawakita, National Maritime Research Inst, Japan

Experimental Investigation of Surface Pressure Distribution of the Duct-Type Energy Saving Device for Ships Both in Calm Water and in Wave Conditions

Kenichi Kume, Ryohei Fukasawa, National Maritime Research Inst, Japan

Improvement of Rudder-Bulb-Fin System in Ship and Propeller Wake Field of KVLCC2 Tanker in Calm Water

Tho Quang Truong, Junichiro Kishi, Ping-Chen Wu, Yasuyuki Toda, Osaka Univ, Japan

Experimental Investigation of the Hydrodynamic Force Acting on Ship Hull and Rudder in Various Wave Directions

Hyeong Kyu Yoon, Van Minh Nguyen, Anh Hoa Vo, Changwon National Univ, Korea

Optimal Oscillation Angle of Fin in the Propeller of Wave Glider Based on Quasi-steady Hydrodynamic Analysis

Zongyu Chang, Zhenjiang Yu, Zhongqiang Zheng, Zhanxia Feng, Jiakun Zhang, Haoran Zhao, Ocean Univ of China, China

43. SLOSHING V: Sloshing Mitigation (V. 3)

Tuesday June 12 10:30 Room 2

Chair: Andre Baeten, Augsburg Univ of Applied Sciences, Germany

Slosh Mitigation of LNG: New Challenges

Erik Eenkhoorn, ACCEDE BV, Netherlands

Slosh Mitigation Applications in LNG Containment Systems

Geert Ligtenbarg, ACCEDE BV, Netherlands

Hydrodynamic Study of a Sloshing Mitigation Technique Based on Internal Floating Structure

Chongwei Zhang, Peng Su, Dezhi Ning, Dalian Univ of Tech, China

Active and Passive Sloshing Mitigation in Tanks

Philipp Behruzi, Martin Konopka, Joerg Klatte, Yannick Jego, Francesco De Rose, ArianeGroup GmbH, Germany

Numerical Simulation of Liquid Sloshing with Multiple Flexible Baffles Using a Coupled SPH with Smoothed Point Interpolation Method

Guiyong Zhang, Shuangqiang Wang, Boqian Yan, Dalian Univ of Tech, China; Zhiqian Zhang, Inst of High Performance Computing, Singapore; Zhi Zong, Dalian Univ of Tech, China

Incompressible SPH for Simulating Sloshing Tank with Baffles

Yi You, Xing Zheng, Harbin Engineering Univ, China; Wingwei Ma, City Univ London, UK

44. RENEWABLE ENERGY V: Offshore Wind Simulations (V.

1)
Tuesday June 12 10:30 Room 3

Chair: Decheng Wan, Shanghai Jiao Tong Univ, China

Study of Free Vortex Wave Method with Curved Filament Correction

Yi Lin, Lei Duan, Ye Li, Shanghai Jiao Tong Univ, China

3D Fully Nonlinear Beam Dynamics of Offshore Wind Turbines

Carsten Corte, Corte (Ingenierbuero), Germany

Comparison of Integrated and Sequential Design Approaches for Fatigue Analysis of a Jacket Offshore Wind Turbine Structure

Ana Glisic, Leibniz Univ Hannover; Ngoc-Do Nguyen, DNV-GL; Peter Schaumann, Leibniz Univ Hannover, Germany

Simulation of Topography Change in an Offshore Wind Farm

Sung-Shan Hsiao, Hsing-Yu Wang, Hui-Ming Fang, National Taiwan Ocean Univ; Yun-Chih Chiang, Tzu Chi Univ; Jung-Chang Su, Chun-Sen Lu, Sinotech Engineering Consultants, Taiwan China

Application of a New OpenFOAM Tool to Design a Pilot Floating Wind Farm Offshore Mazara del Vallo (Italy)

Renata Archetti, Agnese Paci, Univ of Bologna, Italy

A Regression Analysis for Fatigue Damage Estimation on Offshore Wind Turbine Using Artificial Neural Network

Hyeon-Jin Kim, Beom-Seon Jang, Seoul National Univ, Korea

Dynamic Loading Comparison between Fully Coupled and Simplified Model on Offshore Wind Turbines with Jacket Support Structures under Seismic Condition

Wen Jeng Lai, Wei-Nian Su, Chin-Cheng Huang, Inst of Nuclear Energy Research; Yi-Mei Huang, National Central Univ, Taiwan China

**45. SUBSEA, PIPELINES, RISERS I:
Flexibles, Umbilicals (V. 2)**

Tuesday June 12 10:30 Room 4

Chair: Yijun Shen, Rose Group, UK

Burst Tests of Pipeline Containing Colonies of Metal Loss Defects with Different Sizes

Chenliang Su, Dalian Univ of Tech; Ying Li, Zhejiang Univ of Scienc & Tech; Xin Li, Dalian Univ of Tech, China

Analysis on Nonlinear Hysteresis Characteristic of Unbonded Flexible Pipes

Wei Wang, Hexiao wang, Liping Sun, Harbin Engineering Univ, China

Numerical Simulation of Nonlinear Vibration of Flexible Riser Conveying Fluid

Jianjie Niu, Jiangsu Univ of Sci & Tech; Xiaomin Li, Ocean Univ of China, China

Study of Mechanical Performance of New-type Non-metallic Composite Flexible Riser Offshore Environment

Lin Zhao, Yanju Yin, Ocean Univ of China, China

Global Analysis of a Flexible Riser with Nonlinear Bending Behaviour

Jeong Du Kim, Beom-Seon Jang, Seoul National Univ, Korea

Influence of Gap Span Creep Behaviour of Polymer Barrier Layer on Service Life in the HPHT Deepwater Unbonded Flexible Risers

Yijun Shen, Andrew Burton, Paul Birkinshaw, Roland Palmer-Jones, ROSEN Group, UK

Effect of the Curvature on the Dynamic Property of the Kevlar Tow Cable in Deep Water Operation

Ji Lu, Bao Heng Yao, Shanghai Jiao Tong Univ, China

A Procedure for Assessment of Umbilical Fatigue Damage Due to VIV [Proceedings only]

Yusong Cao, Fuwei Zhang, C-Z Marine Technology, USA

46. HPM III: Composite Materials (V. 4)
Tuesday June 12 10:30 Room 5

Chair: Harovel G Wheat, Univ of Texas at Austin, USA

Buckling Failure Load Analysis of Laminated Composite Beam Based on DTTM

Fulin Yu, Lingling Ji, Shaojun Zhang, Xin Peng, Xiao, Li, Shandong Jiaotong Univ; Jun Guo, Harbin Engineering Univ, China

Effect of Water-Cement Ratio of Ductile-Fiber-Reinforced Cementitious Composite Using Recycled Fine Aggregate on Shear Fracture Behavior of RC Beam

Ken Watanabe, Tokai Univ; Naoto Ohtsu, Sugatec Co, Japan

Neutralization of Concrete by Acid Hydrocarbon Products

Ni Zhen, National Univ of Singapore, Singapore; Harald Justnes, SINTEF Building & Infrastructure, Norway; Xudong Qian, Khim Chye G Ong, National Univ of Singapore, Singapore

Durability of Lightweight Aggregate Concrete Applied in Marine Environment

Ni Zhen, Xudong Qian, National Univ of Singapore, Singapore; Harald Justnes, Tor A M Hammer, SINTEF Building & Infrastructure, Norway; Kiang Hwee Tan, Khim Chue Ong, National Univ of Singapore, Singapore; Serina Ng, SINTEF Building & Infrastructure, Norway

Suitability of Amphoteric Ion Polymer as Retarder for Calcium Aluminate Phosphate Cement

Huajie Liu, Yuhuan Bu, China Univ of Petroleum-Qingdao, China

47. COASTAL III: Storm Surge (V. 3)
Tuesday June 12 10:30 Room 6

Chair: Katsuya Hirayama, Port and Airport Research Inst., Japan

Estimation of Storm Surge Characteristics Due to Hurricane Irma Using Experienced Hurricane Model

Takuto Haga, Katsumi Seki, Taro Arikawa, Chuo Univ, Japan

Integrated Model for Astronomic Tide and Storm Surge Induced by Typhoon for Ningbo Coast

Tian-yi Zhou, Ya Tan, Ao Chu, Chang-juab Zhang, Hohai Univ, China

Application of Building-Cube Method for Storm Surge Caused by Typhoon

Katsumi Seki, Chuo Univ; Kazuhiro Araki, Masayuki Kakehi, Genshichiro Katsumata, Mizuho Information & Research Inst; Taro Arikawa, Chuo Univ, Japan

High Surge in the Jeju Harbor during Typhoon Chaba and Its Mechanism

Sok Kuh Kang, Kyeong Ok Kim, Eun Jin Kim, Korea Inst of Ocean Sci & Tech, Korea

Inundation Risk due to Storm Surge for Ports in Three Major Bays of Japan

Kazuhiro Honda, Kazunori Sameshima, National Inst for Land & Infrastructure Mgmt, Japan

Long-lead-time Prediction of Storm Surge Using Effective Controlling Parameters and Artificial Neural Networks

Chih-Chieh Young, National Taiwan Ocean Univ, Taiwan China

48. OCEAN TECH V: LNG Process, Bunkering 1(V. 1)

Tuesday June 12 10:30 Room 7

Chair: Hong Gun Sung, Korea Research Inst of Ships & Ocean Engineering, Korea

Life-cycle Risk Management Plan for Floating LNG Bunkering Terminal (FLBT)

Tae-Hwan Joung, Jong-Kap Lee, Korea Research Inst of Ships & Ocean Eng; Chong-Min Kim, Korean Register of Shipping; Dong-Ho Jung, Hong-Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Development & Application of Simulator Systems for Floating LNG Bunkering Terminal (FLBT)

In-Young Gong, Seong-Phil Ann, Seung-Jun Yi, Young-Hwan Kim, Hyeon-Jin Jang, Jae-Seok Han, SafeTech Research; Hong-Gun Sung, Dong-Ho Jung, Korea Research Inst of Ships & Ocean Eng, Korea

Sloshing Load Assessments for 2-row Arrangement LNG Tank for Floating Offshore LNG Bunkering Terminal

Seong-min Woo, Chang Seop Kwon, Joe Kim, Dong Yeon Lee, Booki Kim, Samsung Heavy Industries, Korea

Development of LNG Bunkering Process Simulator to Achieve More Reliable Design Conditions Propulsion System for LNG Carrier

Sung-Yoon Choi, Ye-Rim Hwang, Ho-byung Yoon, Jae-Woong Choi, Samsung Heavy Industries, Korea

LNG Ageing Prediction Model

Jonas Thiau-court, Jean-François Hetet, Ecole Centrale Nantes; Etienne Delaire, Pascal Robert, French Maritime Academy, France

Design Impact of Frequent Loading Variation to Global Performance of Deep Draft SEMI Platform with Storage

Cong Yi, Da Li, Wenzhou Liang, Jingrui Zhao, Jiaguo Feng, CNOOC Research Inst, China

Technology Development and Application of Deep-draft Semi-Submersible Production Platform with Condensate Storage

Da Li, Haishan Zhu, Xu Jia, Cong Yi, Xueping Bai, CNOOC Research Inst, China

49. MECHANICS, IMPACT, SAFETY V: Impact 1 (V. 4)
Tuesday June 12 10:30 Room 8

Chair: Yong Won Lee, Lloyd's Register, UK

Experimental and Numerical Analysis of Single Side Ship Structure Laterally Punched by Different Indenters

Weiguang Liu, Jingxi Liu, Min Zhang, Huazhong Univ of Sci & Tech, China

Experimental Study on Crashworthiness of Corrugated Core Sandwich Structures

Jin Pan, Wei Gao, Wuhan Univ of Tech; Chuyang Zhou, Faurecia (China) Holding; Mingcai Xu, Huazhong Univ of Sci & Tech, China

Numerical Simulation Research on Ship Grounding of Double Bottom Tankers

Guoqing Feng, Kai Jin, Pengcheng Liu, Ying Tang, Yuhang Sun, Harbin Engineering Univ, China

Sensitivity Analysis of Impact Loads by CFD Solvers for Structural FEM Computation on Ship Structures

Giuliano Vernengo, Stefano Gaggero, Tomaso Gaggero, Marco Gaiotti, Stefano Ghelardi, Diego Villa, Univ of Genova, Italy

Low-velocity Impact Response and Residual Flexural Behavior of Composite Sandwich Structures with Corrugated Core

Wentao He, Ocean Univ of China; Jingxi Liu, Huazong Univ of Sci & Tech; Shuqing Wang, Ocean Univ of China; De Xie, Huazong Univ of Sci & Tech; Zhe Tian, Ocean Univ of China, China

Collision Risk Predication and Quantification Method for Multi-Ship Encountered Situation in Inland Water in Case of Multi-Factors

Yanfeng Wang, Xilong Xiong, Liwen Huang, Mengzi Wang, Haiwen Yuan, Lili Wang, Wuhan Univ of Tech, China

50. GEOTECH V: Computational Modeling (V. 2)

Tuesday June 12 10:30 Room 9

Chair: Saeed Dehghanpoor Abyaneh, TechnipFMC, UK

Multiphysics Coupling Model for Analyzing Submarine Slope Stability during Natural Gas Hydrate Dissociation

Xianqi Luo, Haitao Zhang, Jinfeng Bi, Gaofeng He, Zijing Guo, Shanghai Jiao Tong Univ, China

Prediction of Maximum Penetration Depth for Free Fall Penetrometers in Clay

Abhishek Ghosh Dastider, Divya S K Mana, Prasenjit Basu, Santiram Chatterjee, IIT Bombay, India

Numerical Modeling on the Drainage Problem for a Landfill Site on a Hillslope

Chia-Cheng Fan, Ching-Feng Wu, National Kaohsiung First Univ of Sci & Tech, Taiwan
China

Numerical Simulation of Oscillatory Seabed Response to Wave Propagating on Current

Chencong Liao, Dagui Tong, Dongsheng Jeng, Jianhua Wang, Shanghai Jiao Tong Univ, China

Numerical Studies for Wave-Induced Pore Pressures and Effective Stresses around Group of Piled Foundations

LL Duan, Dong-Sheng Jeng, Southwest Jiaotong Univ, China

Numerical Solution of Two-Dimensional Unsaturated Flow Problems Using the Meshless Method

Chih-Yu Liu, Cheng-Yu Ku, National Taiwan Ocean Univ; Yun-Shuen Wang, Yen-Chu Lin, Central Geological Survey; Sinotech Engineering Consultants; Li-Wei Chiang, Industrial Technology Research Inst, Taiwan China

On Solving Subsurface Flow Problems in Heterogeneous Soil Using a Novel Meshless Method

Jing-En Xiao, Cheng-Yu Ku, National Taiwan Ocean Univ, Taiwan China

51. UNDERWATER TECH V: AUV Control (V. 2)

Tuesday June 12 10:30 Room 10

Chair: Masahiko Nakamura, Kyushu Univ, Japan

Co-Chair: Shuo Wang, Institute of Automation, CAS, China

Study of Influence of Vertical Tail Wing of Disk-Type Underwater Glider on Motion Control

Masahiko Nakamura, Joshiro Noda, Hiroyuki Kajiwara, Yusei Shinkai, Kyushu Univ, Japan

Research and Experiments on Submergence for Self-propelled Model with Positive Buoyancy

Wenjin Wang, Yu Zheng, Guohua Xu, Huazhong Univ of Sci & Tech; Wang Li, Wuhan Second Ship Design & Research Inst; Xiaolong Ma, Huazhong Univ of Sci & Tech, China

Numerical Study on Estimation of Hydrodynamic Performance for Open-frame Underwater Vehicle Using CFD

Hiro Yoshi Suzuki, Yoshiki Nagai, Yosuke Okuda, Osaka Univ; Yutaka Ohta, Yoshitaka Watanabe, JAMSTEC; Toshio Iseki, Tokyo Univ of Marine Science & Tech, Japan

3D Space Obstacle Avoidance System of Large Scale Autonomous Underwater Vehicle

GuoHua Xu, Ben Li, GuanXue Wang, Xin Zhang, Huazhong Univ of Sci & Tech, China; Han Xu, Univ of Southern California, USA

Robust MRAC with Anti-windup Compensator for the Depth Channel of an Autonomous Underwater Vehicle

Nailong Wu, Zonglin Liu, Chao Wu, Tong Ge, Deqing Yang, Shanghai Jiao Tong Univ, China

TUESDAY 13:10

2018 Prof. Jin S Chung Award Lecture Royton Hall D

Technological Challenges Related to Sustainable Use of the Arctic Seas [Oral presentation to be published in Intl Journal of Offshore and Polar Engineering]

Ove T Gudmestad, Univ of Stavanger, Norway

Introduction: Jin S Chung, ISOPE

TUESDAY 14:00

52. HYDRODYNAMICS VI: Ship Seakeeping (V. 3)

Tuesday June 12 14:00 Room 1

Chair: Sa Young Hong, Korea Research Inst. of Ships & Ocean Eng, Korea

A Validation Study of CFD Simulations of a Tanker in Ballast Condition Advancing in Waves

Hideo Orihara, Hisafumi Yoshida, Japan Marine United Corp, Japan

Study on the Method of the Design Loads for Ultra Large Container Ship

Hui Li, Siyu Wang, Kaihong Zhang, Hexing Song, Zheng Yang, Harbin Engineering Univ, China

Analytical Formulation of Nonlinear Froude-Krylov Forces for Pitching Point Absorbers

Giuseppe Giorgi, John V Ringwood, Maynooth Univ, Ireland

Time Domain Ship Motion based on 3D Transient Green's Function and Simulation of Parametric Rolling

Wenjun Zhou, Renchuan Zhu, Xi Chen, Shanghai Jiao Tong Univ, China

Forces, Ship Motions and Velocity Wake Field for KRISO Container Ship Model in Regular Head Waves

Md Alfaz Hossain, Ping-Chen Wu, Yusuke Shibano, Yasuyuki Toda, Osaka Univ, Japan

A Numerical Study of a Freely Floating Lifeboat in Regular Waves
Hao Chen, Ling Qian, Zhihua Ma, Derek Causon, Clive Mingham, Manchester
Metropolitan Univ, UK

53. ARCTIC I: Ice Cover Mechanics (V. 1)
Tuesday June 12 14:00 Room 2

Chair: Dmitri Matskevich, ExxonMobil Upstream Research, USA

Accelerating and Decelerating Moving of Submarine under Ice Cover
Aleksandra V Pogorelova, Sholom-Aleichem Priamursky State Univ; Victor M Kozin,
Inst of Machining & Metallurgy; Vitaliy L Zemlyak, Sholom-Aleichem Priamursky State
Univ, Russia

**The Study of the Stressed Strain State of Ice Beams Reinforced by Surface
Reinforcement**
Vitaliy L Zemlyak, Sholom-Aleichem Priamursky State Univ; Victor M Kozin, Inst of
Machine Science & Metallurgy; Alexey S Vasiliev, Constantin I Ipatov, Sholom-
Aleichem Priamursky State Univ, Russia

**Effective Modeling of Hydrodynamics for Capturing Its Effect on the Bending
Failure of Level Ice**
Chris Keijdener, Andrei V Metrikine, Delft Univ of Technology, Netherlands

Laboratory Study of Ice Floes Collisions under Wave Action
Hongtao Li, Raed Lubbad, NTNU, Norway

Moving the Paired Loads over the Ice Cover in a Parallel Course
Elena G Rogozhnikova, Amur State Univ of Humanities & Pedagogy; Victor M Kozin,
Inst of Machining & Metallurgy; Vitaliy L Zemlyak, Sholom-Aleichem Priamursky State
Univ, Russia

**The Research of the Ice-Breaking Capacity of Flexural Gravity Waves Caused By
Motion of Submarine Vessel Under Conditions of Varying Bottom Contour**
Vitaliy L Zemlyak, Sholom-Aleichem Priamursky State Univ; Victor M Kozin, Inst of
Machine Sci & Metallurgy, Russia; Xiaolong Bai, Jinagsu Univ of Sci & Tech, China;
Nikita O Baurin, Sholom-Aleichem Priamursky State Univ, Russia

54. RENEWABLE ENERGY VI: Wind Turbine 1 (V. 1)
Tuesday June 12 14:00 Room 3

Chair: Anand Natarajan, Technical Univ of Denmark, Denmark
Co-Chair: Matti N Scheu, Ramboll, Germany

**Ice Load Design Portal for Sub-Structures in Offshore Wind Turbines in Ice-
Covered Sea Areas**
Jaakko Heinonen, Maria Tikanmäki, Juha Kurkela, Paul Klinge, Toni Hekkala, VTT
Technical Research Centre of Finland; Jussi Koskela, Semantum Oy; Anni Montonen,
Patrick Eriksson, Finnish Meteorological Inst, , Finland

Investigation of Ice Loads for Offshore Wind Turbine in Varying Ice Condition

Wei Shi, Dalian Univ of Tech, China; Xiang Tan, Nanyang Technological Univ, Singapore; Dezhi Ning, Dalian Univ of Tech, China; Zhen Gao, NTNU, Norway; Madjid Karimirad, Univ of Belfast, UK

Fatigue Damage Analysis for Offshore Wind Turbine Considering Coupled Loads Effects

Min Zhang, Qihao Wu, Yanjian Wu, Yu Xu, Ocean Univ of China; Xiaolong Xu, Siemens Corporate Technology, China

Spectral-based Fatigue Life Analysis of Offshore Wind Turbine in Ice Region

Guojun Wang, Dayong Zhang, Qianjin Yue, Dalian Univ of Tech - Panjin, China

Integrated Assessment of Pile Driving Noise for Offshore Wind Farm in Western Taiwan

Tai-Hua Liu, Wei-Chun Hu, Chi-Fang Chen, Wei-Shien Hwang, Chih-Hao Wu, National Taiwan Univ, Taiwan China

Fully Coupled Analysis of a Bottom Fixed Offshore Wind Turbine under Earthquake, Wind and Wave Loads

Wenhua Wang, Dalian Univ of Tech; Bin Wang, Jie Zhang, Powerchina Huadong Engineering; Xin Li, Dalian Univ of Tech, China

55. SUBSEA, PIPELINES, RISERS II: Riser Design 1 (V. 2)
Tuesday June 12 14:00 Room 4

Chair: Frank K. Lim, 2H Offshore Engineering, UK.

Numerical Modelling of Free-falling Drilling Riser Pipes through Water Column

Fauzi A Hardjanto, Univ of Tasmania, Australia; Heru Purnomo, Univ of Indonesia, Indonesia

Design of Steel Catenary Riser for LingShui 17-2 DeepDraft SEMI

Lusheng Jia, Yi Liu, Jia Xu, Jun Huang, CNOOC Research Inst, China

Analysis and Countermeasures of Grounding Accident of Marine Riser under Extreme Sea Conditions in Deepwater Drilling

Yanbin Wang, Deli Gao, Jun Fang, Jing Zeng, China Univ of Petroleum - Beijing, China

Nonlinear Dynamic Analysis of Offshore Structures with Corotational Beam Elements

Anastasia Tsolaridou, Demos Angelides, Aristotle Univ of Thessaloniki, Greece

The Application of Large Diameter Steel Catenary Riser (SCR) for Deep-Draft Semi in South China Sea

Yi Liu, Lusheng Jia, Xu Jia, Jun Huang, Da Li, Hong Lu, CNOOC Research Inst, China

56. HPM IV: Fatigue, Fracture (V. 4)
Tuesday June 12 14:00 Room 5

Chair: Hidekazu Murakawa, Osaka Univ, Japan

Ductile Fracture Behavior of Bainite-MA Dual-Phase Steels

Junji Shimamura, Shusaku Ota, Kyono Yasuda, Nobuyuki Ishikawa, Tomoyuki Yokota, Satoshi Igi, JFE Steel, Japan

Fracture Toughness Behaviour of High-strength Structural Bolting Assemblies of Large Diameters

Christoph Lorenz, Natalie Stranghöner, Univ of Duisburg-Essen; Markus Feldmann, Sandro Citarelli, Sebastian Münstermann, Victoria Brinnel, RWTH Aachen Univ, Germany

Study on Hot Spot S-N curve for Welded Aluminum Joints with Various Plate Thicknesses

Toru Shiratsuchi, Naruyoshi Izumi, Tatsuya Imai, Satoru Nishimoto, Yuta Hasegawa, Kawasaki Heavy Industries; Naoki Osawa, Osaka Univ, Japan

Influence of Tensile and Compressive Residual Stresses on the Crack Opening Strain: An in situ Neutron Diffraction Study [Oral presentation]

Wanchuck Woo, Dong-Kyu Kim, Korea Atomic Energy Research Inst; Gyu Baek An, Chosun Univ, Korea

Influence of Mean Strain on Low Cycle Fatigue Life of Pipeline with Root Crack in Circumferential Welded Joint

Hiroshi Shimanuki, Nippon Steel & Sumitomo Metal; Rie Ikeda, Nippon Steel & Sumikin Pipeline & Engineering, Japan

Study on Fatigue Strength Evaluation of Casting Alloy and Its Welded Joints for Offshore Structures

Yoon-duck Seo, Chan-hoe Kang, Chang-hyun Lee, Chang-hwan Jang, Sung-gun Park, Daewoo Shipbuilding & Marine Eng, Korea

57. COASTAL IV: Structures 1 (V. 3)

Tuesday June 12 14:00 Room 6

Chair: Eva Loukogeorgaki, Aristotle Univ of Thessaloniki, Greece

Co-Chair: Demos.C. Angelides, Aristotle Univ of Thessaloniki, Greece

Numerical Simulation of Water Wave Interaction with a Submerged Floating Breakwater

Xizeng Zhao, Xianmeng Wang, Zhejiang Univ, China

Numerical Simulation of a Floating Liquid Tank under Wave Action

Han Yu, Guoyu Wang, Yongxue Wang, Cong Ge, Dalian Univ of Tech, China

Development of Numerical Model of Mooring Chain to Simulate Dynamic Wave Response of Floating Body

Naoki Yoshifuji, Norimi Mizutani, Tomoaki Nakamura, Nagoya Univ, Japan

Numerical Simulation of Mooring System of Floating Breakwater in Shallow Water

Weiqliang Lu, Tingqiu Li, Wuhan Univ of Tech, China

Experimental Study on Hydrodynamic Characteristics of a New Comb-type Floating Breakwater

Guoxu Niu, Yongchun Yang, Xiuyi Nie, Shuangchen Liu, Xingquan Wang, Ocean Univ of China, China, Ocean Univ of China, China

Effect of Vertical Degree of Freedom on Hydrodynamic Resonance from Narrow Gap between Twin Floating Bodies

Guanghua He, Jingwen Zhang, Limin Chen, Jian Wang, Harbin Inst of Tech, Weihai, China

An Analysis of Perforated Plate Breakwaters

Alireza Valizadeh, Monash Univ; Ashkan Rafiee, Carnegie Clean Energy; Vivek Francis, Sean Loh, Murray Rudman, Monash Univ, Australia; Balaji Ramakrishnan, IITB, India

Design and Construction of Wave Splash Barriers for a Coastal Road of Route 231 at Hamamasu District in Hokkaido

Takao Nakoshi, Hokkaido Road Management Engineering Center; Katsutoshi Kimura, Mororan Inst of Tech; Katsumi Kamikubo, Civil Engineering Research Inst of Cole Region; Masashi Ochi, Nippon Data Service, Japan

Effect of Wave Height Reduction and Coastal Erosion Prevention by Constructing Ductile Structure on the Seabed

Sunghoon Hong, Gwuibong Kim, Taeyoon Kim, Pusan National Univ; Gwangsoo Lee, Sujie Lee, Han Ocean Corp; Soonchul Kwon, Pusan National Univ, Korea

58. OCEAN TECH VI: LNG Process, Bunkering 2(V. 1)

Tuesday June 12 14:00 Room 7

Chair: Youngsub Lim, Seoul National University, Korea

Application of a Simplified Method of Dynamic Modeling for Cold Box in FLNG Liquefaction Process

Yan Li, Xichong Yu, Chunsheng Wang, Qing Wang, CNOOC Research Inst, China

Application of Simplified Thermal Transfer Analysis in FLNG Tank Optimization

Xiaosong Zhu, Xuliang Han, Bin Xie, Junrong Wang, Xichong Yu, CNOOC Research Inst, China

Comparison of Liquefaction Processes for FLNG

Donghoi Kim, Truls Gundersen, NTNU, Norway

Design and Optimization of an Integrated LNG/NGL Coproduction Process for Offshore Liquefaction Units

Youngsub Lim, Chunhe Jin, Seoul National Univ, Korea

Optimal Process Design of BOG Re-liquefaction System for LNG Carrier (170k)

Chulmin Hwang, Youngsub Lim, Taejong Yu, Seoul National Univ, Korea

59. MECHANICS, IMPACT, SAFETY VI: Impact 2(V. 4)

Tuesday June 12 14:00 Room 8

Chair: Yong Won Lee, Lloyd's Register, UK

Numerical Simulation of Buckling and Fracture of a Side-shell Structure Subjected to Lateral Indentation

Zhaolong Yu, NTNU; Martin Storheim, Moss Maritime; Jørgen Amdahl, NTNU, Norway

Collapse Simulations of an Accidentally Dropped Drill Riser

Hema Wadhwa, INTECSEA Pty Ltd; Brad Skinner, INPEX Australia, Australia; Luca Chinello, Arya Majed, INTECSEA, USA

Numerical Simulation of Ship Collision on RC Cap with Anti-Collision Steel Box Barrier of Over-Sea Bridge

Chaoyi Xia, Beijing Jiaotong Univ; Jin Ma, CCCC Highway Consultants; Zhigang Liao, He Xia, Beijing Jiaotong Univ, China

Impact Scenario Models of Ship-bridge Collision Based on AIS Data

Jin Pan, Yong Wang, Wuhan Univ of Tech; Mingcai Xu, Huazhong Univ of Sci & Tech; Shuxia Ren, Shanghai Merchant Ship Design & Research Inst, China

Causes Analysis of Ship Collision Accidents: Using Fault Tree and Bayesian Network Approaches

Pengfei Lyu, Yubo Jia, Yuan Zhuang, Feixiang Wang, Wuhan Univ of Tech, China

60. GEOTECH VI: Geohazards, Liquefaction (V. 2)

Tuesday June 12 14:00 Room 9

Chair: Sangchul Bang, South Dakota School of Mines, USA

Liquefaction Potential of the Liquefied Site After Dynamic Compaction Improvement
Chih-Sheng Ku, Guan-Lin Huang, Wei-Hsin Chen, I-SHOU Univ, Taiwan China

The Study of Risk Assessment of Soil Liquefaction on Land Development and Utilization in Taiwan

Wen-Chien Tseng, National Applied Research Labs; Lien-Kwei Chien, Jing-Ping Wu, National Taiwan Ocean Univ, Taiwan China

Strong Motion Prediction at Electrical Substation Sites During Scenario Nankai Trough Earthquake

Junichi Katayama, Yoshiya Hata, Yutaro Okawa, Osaka Univ, Japan

Soil-Structure Interaction Analysis of Lateral Resistance of Piles in Liquefied and Laterally Spreading Ground

Yung-Yen Ko, Wei-Kuang Chang, Nat'l Ctr for Research on Earthquake Eng, Taiwan China

Prediction Model of Shallow Geological Hazards in Lingshui 17-2 Deepwater Based on Laboratory Experiment and a Hybrid Computational Approach

Bailing Zhang, Jin Yang, Deli Gao, China Univ of Petroleum – Beijing; Yingming He, CNOOC Research Inst; Xudong Wu, Ye Tian, CNOOC; Li Yan, China Univ of Petroleum – Beijing, China

Study on Seismic Performance Design of Road Embankment along the Coast

Kentaro Kuribayashi, Eight-Japan Engineering Consultants; Tadashi Hara, Kochi Univ; Shuichi Kuroda, Eight-Japan Engineering Consultants, Japan

Characterization of Rainfall-Induced Shallow Landslides in Taiwan

Cheng-Yu Ku, Chih-Yu Liu, Jing-En Xiao, National Taiwan Ocean Univ, Taiwan China

61. UNDERWATER TECH VI: Robotics, Propulsion (V. 2)

Tuesday June 12 14:00 Room 10

Chair: Guohua Xu, Huazhong Univ of Science & Tech.,
China

Co-Chair: Norimitsu Sakagami, Tokai University, Japan

Rigid-Flexible Coupling Model and Control of Underwater Manipulator

Daomin Huang, Guoyuan Tang, Guohua Xu, Lijun Han, Ruikun Xu, Huazhong Univ of
Sci & Tech, China

Development of an Attitude Control Mechanism for a Fish Type Robot

Hirofumi Sumoto, Kagoshima Univ; Satoru Yamaguchi, Kyushu Univ, Japan

**Negative Pressure Effect Plate for Maintaining Position and Orientation of
Underwater Robot**

Takahiro Takebayashi, Yosuke Yumamoto, Mingzhu Zhu, Sadao Kawamura, Ritsumeikan
Univ; Norimitsu Sakagami, Tokai Univ, Japan

**Numerical Predictions of Performance of Integrated Tunnel Thrusters and
Hydrodynamic Derivatives of an Autonomous Underwater Vehicle**

Jeonghoon Park, Jaeyeop Choi, Myungsub Shin, Yunho Jeon, Younghun Shin, Dongseok
Kang, LIG Nex1, Korea

TUESDAY 16:20

62. HYDRODYNAMICS VII: Loads, Responses 1 (V. 3)

Tuesday June 12 16:20 Room 1

Chair: Hamn-Ching Chen, Texas A&M Univ, USA

Experimental Study on Hydrodynamic Forces of Net Panel

Mingfu Tang, Tiaojian Xu, Guohai Dong, Dalian Univ of Tech, China

**Assessment of the Hydrodynamic Forces for Equivalent Modelling of the Jack-up
Legs**

Arman Ghezelbashan, C D'Mello, City University of London, UK

**Experimental Study of Wave-Current Load on the Leg of Jack-Up Offshore
Platform**

Yingchun Xie, Xiangkun Li, Bingchen Liang, Xiaojie Tian, Pengfei Chen, Guijie Liu,
Zepeng Zheng, Ocean Univ of China, China

Numerical Simulation of 2D Wave-Structure Interaction Using IMLPG_R

Abdul Salam Rijas, V Sriram, IIT Madras, India; S Yan, City Univ London, UK

**Motion Response Analysis of Truss Spar Platform with Small-Scale Cylinders under
Bichromatic Waves**

Ruijia Jin, Yan Xiong, Yina Wang, Tianjin Resch Inst of Water Transp Eng, China

**Dynamic Responses of a Moored Submerged Floating Tunnel under Moving Loads
and Wave Excitations**

Chungkuk Jin, Junho Choi, Heonyong Kang, Moohyun Kim, Texas A&M Univ, USA

**Indirect Wave Load Estimates Using Operational Modal Analysis - Preliminary
Findings**

Michael Vigsø, Julie C Kristoffersen, Aarhus Univ; Rune Brincker, Technical Univ of Denmark; Christos T Georgakis, Aarhus Univ, Denmark

63. TSUNAMI I (V. 3)
Tuesday June 12 16:20 Room 2

Chair: Hiroyasu Kawai, National Institute for Maritime, Port and Aviation Technology (MPAT), Japan

A Numerical Study on Tsunami Waveforms and Inundation along Vietnam Coast in the South China Sea
Zhisong Li, Xi Zhao, Hua Liu, Shanghai Jiao Tong Univ, China

Application of Tsunami Inundation Assessment Method Considering Fragility of Protective Facilities
Taro Arikawa, Katsumi Seki, Hiroaki Hirano, Minoru Tanaka, Takumi Watanabe, Yuri Doda, Chuo Univ; Kenichiro Shimosako, Tomohiro Takagawa, Yu Chida, Port and Airport Research Inst, Japan

Effects of Front Slope of a Breakwater on Tsunami Jet Flow Characteristics
Akio Nagayama, Tomotaka Tanaka, Toshiyuki Asano, Kagoshima Univ, Japan

Numerical Simulation of Tsunami Run-up around Coastal Structures on Quadtree Grids
Takuya Ueno, Masatoshi Yuhi, Shinya Umeda, Takehisa Saitoh, Kanazawa Univ, Japan

A Numerical Study on the Influence of Variation of Underwater Landslide Shape on Tsunami Generation
Masanobu Koba, Akinori Yamamoto, Takuya Ueno, Masatoshi Yuhi, Kanazawa Univ, Japan

Morphological Changes at the Mouth of the Shirakawa River after Kumamoto Earthquake
Ryota Yamaguchi, Takaomi Hokamura, Kumamoto Univ; Sota Nakajyo, Osaka City Univ; Kengo Tabata, Kumamoto Univ, Japan; Thanh Nguyen, Southern Inst of Water Resources Research, Vietnam; Gozo Tsujimoto, Kumamoto Univ, Japan

64. RENEWABLE ENERGY VII: Wind Turbine 2 (V. 1)
Tuesday June 12 16:20 Room 3

Chair: Michael Muskulus, NTNU, Norway

Numerical Simulations of Wake Flows of Wind Farm with Fourteen Wind Turbines
Xinze Duan, Yong Ai, Ping Cheng, Decheng Wan, Shanghai Jiao Tong Univ, China

Remaining Life Assessment of Offshore Wind Turbines Subject to Curtailment
Anand Natarajan, Troels F Pedersen, Technical Univ of Denmark, Denmark

Workability on Offshore Wind Turbines - a Comparative Study of Fxed-bottom and Floating Applications
Matti N Scheu, Ramboll, Germany; Athanasios J Kolios, Cranfield Univ, UK; Denis Matha, Ramboll, Germany

Numerical Study of Wake Interactions between Two Floating Offshore Wind Turbines

Yang Huang, Ping Cheng, Decheng Wan, Shanghai Jiao Tong Univ, China; Changhong Hu, Kyushu Univ, Japan

Analytical Study on Multi-Hazard Risk of Offshore Wind Turbine Subjected to Hydrodynamic and Aerodynamic Loads

Junwon Seo, Jharna Pokhrel, South Dakota State Univ, USA

Effect of Stationary vanes for Drag Force Type Multi-blade Vertical Axis Wind Turbine

Kazuhisa Naoi, Kentaro Tsuji, Mitsuhiro Shiono, Nihon Univ, Japan

Comparing Studies of Time-frequency Analysis Methods for an OWT

Fushun Liu, Gaojie Cui, Shujian Gao, Ocean Univ of China; Jinning Shen, Hu Zhou, Powerchina Huadong Engineering, China

65. SUBSEA, PIPELINES, RISERS III: Riser Design 2 (V.2)

Tuesday June 12 16:20 Room 4

Chair: Frank Lim, 2H Offshore, UK

The Influence of Internal Solitary Wave on Production Risers in Steel Catenary Riser and Steel Lazy Wave Riser Configuration

Ove T Gudmestad, Airindy Felicita, Daniel Karunakaran, Univ of Stavanger, Norway

Large Amplitude Motions of Deepwater Marine Riser Transporting Fluid

Karun Klaycham, Chainarong Athisakul, Somchai Chucheeepsakul, King Mongkut's Univ of Tech Thonburi, Thailand

Numerical Modelling of a Circular Cylinder under Surface Waves

Toni A Pearcey, Ming Zhao, Yang Xiang, Western Sydney Univ, Australia

Dynamic Response Analysis and Model Test on the Touchdown Zone of Risers

Jing Zhou, Yunyun Dai, Tong Zhu, Xin Feng, Dalian Univ of Tech, China

Flow Past A Forced Oscillating Cylinder: A Three-Dimensional Numerical Study

Yan Bao, Huan Ping, Dai Zhou, Zhaolong Han, Shanghai Jiao Tong Univ, China

Experimental Study of the Pipe with Buoyancy Modules

Jingyun Cheng, Peimin Cao, SBM Offshore, USA

Assessment of Fatigue Damage Initiation in FPSO's Oil Offloading Line in West Africa

Caihong Yang, Zhuang Kang, Harbin Engineering Univ, China

66. HPM V: Shipbuilding Steels (V. 4)

Tuesday June 12 16:20 Room 5

Chair: Odd. M. Akselsen, SINTEF, Norway

Co-Chair: Tomoya Kawabata, Univ of Tokyo, Japan

Investigation of Isothermal Crack Arrest Test Procedure Consistent with Kca - Development of isothermal Crack Arrest Test Procedure -2

Tetsuya Tagawa, JFE Steel; Takehiro Inoue, Nippon Steel & Sumikin Tech; Hisakazu Tajika, JFE Steel; Teppei Okawa, Nippon Steel & Sumitomo Metal; Hiroki Imamura, Kobe Steel; Tomoya Kawabata, Kazuki Shibanuma, Shuji Aihara, Univ of Tokyo, Japan

Brittle Crack Arrest Toughness for Extremely Thick Steel Plates - Required Kca Value of Steel Plates with Thickness of 100mm Used in Ultra-Large Container Ships

Kazuyuki Matsumoto, Tsutomu Fukui, Shota Nanno, Nippon Kaiji Kyokai; Shuji Aihara, Tomoya Kawabata, Kazuki Shibanuma, Univ of Tokyo; Takehiro Inoue, Nippon Steel & Sumikin Tech; Teppei Okawa, Nippon Steel & Sumitomo Metal; Tetsuya Tagawa, Hisakazu Tajika, JFE Steel; Hiroki Imamura, Kobe Steel, Japan

Effects of Test Parameters on Crack Arrest Temperature in Isothermal Brittle Crack Arrest Test - Development of Isothermal Crack Arrest Test Procedure - 1

Takehiro Inoue, Nippon Steel & Sumikin Tech; Teppei Okawa, Nippon Steel & Sumitomo Metal; Tetsuya Tagawa, Hisakazu Tajika, JFE Steel; Hiroki Imamura, Kobe Steel; Kazuyuki Matsumoto, Tsutomu Fukui, Shota Nanno, Nippon Kaiji Kyokai; Tomoya Kawabata, Kazuki, Shibanuma, Shuji Aihara, Univ of Tokyo, Japan

Numerical Simulation of Brittle Crack Propagation in NRL Drop-weight Test by Finite Element Analysis

Teppei Okawa, Nippon Steel & Sumitomo Metal; Tomoya Kawabata, Univ of Tokyo, Japan

Experiments on Shear Lip Formation of Brittle Crack Propagation in Steels [Oral Presentation]

Fuminori Yanagimoto, Kazuki Shibanuma, Katsuyuki Suzuki, Univ of Tokyo, Japan

CAT (Crack Arrest Temperature) Test Method Using Local Temperature Gradient System for Estimate of Fracture Toughness with Shipbuilding Steel

Gyubaek An, Chosun Univ; Hong-Yeol Bae, Boyoune Jeong, Youngho An, Hongcheol Jeong, POSCO, Korea

Evaluation of Brittle Fracture Toughness by Influence of Residual Stress

Gyubaek An, Chosun Univ; Hong-Yeol Bae, POSCO; Jeongung Park, Chosun Univ, Korea

Evaluation of Residual Stress and Distortion of Fillet Weld Considering Phase Transformation in Shipbuilding

Hyung Kook Jin, Ha Geun Kim, Dong Ju Lee, Sang Beom Shin, Hyundai Heavy Industries; Hyungson Ki, UNIST, Korea

Effect of Microstructure on Brittle Crack Arrest Behavior of a Heavy-gauge Steel Plate [Oral presentation]

Oh Jae Lee, Suk Gyu Lee, Bo Hee Lee, POSTECH; H Y Bae, POSCO; S H Lee, N J Kim, POSTECH, Korea

67. COASTAL V: Structures 2 (V. 3)

Tuesday

June 12

16:20

Room 6

Chair: Luca Martinelli, Univ of Padova, Italy

Experimental Study on the Wave Loading of a Twin-Plates Breakwater

Guoxing Huang, Qian Gu, Ningchuan Zhang, Yichao Sun, Dalian Univ of Tech, China

The Diffraction of Water Waves by the Gap between Asymmetrical Breakwaters
Xiaolei Li, Xiaozhou Ma, Guohai Dong, Yuxiang Ma, Dalian Univ of Tech, China

Development of Effective Technique on Rubble Mound Seawall in Artificial Island under Construction

Keitaro Fukumizu, Osaka Univ; Daiki Sakai, Tsuyoshi Kanazawa, Toyo Construction; Susumu Araki, Osaka Univ, Japan

Non-Hydrostatic Model for Solitary Wave interacting with a Submerged Horizontal Plate

Congfang Ai, Yuxiang Ma, Dalian Univ of Tech, China

Iterative Analytical Solution for Wave Scattering by Multiple Partially Immersed Slotted Barriers

Yang Zhao, Yong Liu, Huajun Li, Ocean Univ of China, China

Experimental Study on the Energy Dissipation Characteristics of Stepped Embankments

Ruey-Syan Shih, Tunghai Univ; Wen-Kai Weng, Chi-Yu Li, National Taiwan Ocean Univ, Taiwan China

Effects of Erosion Control Structures on Shoreline Evolution of Tainan Gold Coast

Hsien-Kuo Chang, Feng-Chun Tsai, Wei-Wei Chen, Jin-Cheng Liou, National Chiao Tung Univ; Shao-Gu Kuo, CECI Engineering Consultants, Taiwan China

68. OCEAN TECH VII: VLFS, TLP, TRUSS

(V. 1)

Tuesday

June 12

16:20

Room 7

Chair: Hong Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

A Primary Concept Design of a Novel Positioning Facility for VLFS Deployed in Shallow Water

Chuanpeng Ji, Xuefeng Wang, Shengwen Xu, Xiaolei Liu, Aibing Ding, Shanghai Jiao Tong Univ, China

Global Structural Strength Assessment of a Single Module of VLFS

Xiaolei Liu, Xuefeng Wang, Shengwen Xu, Aibing Ding, Shanghai Jiao Tong Univ, China

Kriging Fully Coupled Meta-modeling for TLP Floating Fatigue Design

Matteo Capaldo, Christophe Peyrard, Quentin Huchet, Germain Antoine, Electricite De France, France

Hydrodynamic Interactions of a Multi-modular Semi-submersible Type Very Large Floating Structure

Yiting Wang, Shengwen Xu, Xuefeng Wang, Lei Wang, Jun Li, Shanghai Jiao Tong Univ, China

Effects of Connector Stiffness and Damping on Motion Response of a Multi-Module VLFS

Yongheng Wang, Shengwen Xu, Xuefeng Wang, Lei Wang, Lijun Yang, Shanghai Jiao Tong Univ, China

On the Application of Simplified CFD Model in Assisting FPSO Green Water Assessment at Bow

Shuo Wang, Xin Wang, Wai Lok Woo, Newcastle Univ in Singapore, Singapore

Dynamic Behaviour of a TLP in Waves: CFD Versus Model Tests

Nagi Abdussamie, Roberto Ojeda, Yuriy Drobyshevski, Univ of Tasmania, Australia; Giles Thomas, University College London, UK; Walid Amin, Univ of Tasmania, Australia

69. ADVANCED SHIP TECH I: Ultimate Strength (V. 4)

Tuesday June 12 16:20 Room 8

Chair: Naoki Osawa, Osaka Univ, Japan

Study on Structural Availability of Local Stiffener Design for Hull Structure

Choung-ho Choung, Kang-Hyun Song, Korean Register, Korea

Research on Structural Strength of Different Car Ro-Ro Ships by Comparison between Flexible and Rigid Deck Designs in Upright Condition

Diyi Chen, Renjun Yan, Mengzhen Li, Wuhan Univ of Tech; Xin Lu, CSSC Huangpu Wenchong Shipbuilding, China

The Ultimate Hull Girder Strength Analysis Considering Section Modulus under Longitudinal Bending

Muhammad Zubair Muis Alie, Samuel Izaak Latumahina, Hasanuddin Univ, Indonesia

A Maximum Space Distance-based Adaptive Sampling Surrogate Model for Prediction of Strength and Buckling of a Ship Grillage

Yuansheng Cheng, Enen Yu, Jun Liu, Dawei Zhan, Jiachang Qian, Pan Zhang, Huazhong Univ of Sci & Tech, China

Study on the Ultimate Strength of River-to-Sea Ships

Wei Wang, Yonghe Xie, Baoyoung Geng, Jiping Zhang, Guoqiang Li, Zhejiang Ocean Univ, China

Numerical Analysis on Ultimate Strength of Stiffened Plates with Inclined Stiffener Under Lateral Pressure

Ling Zhu, Hanwei Zhou, Mingshen Chen, Wuhan Univ of Tech, China; Das Purnendu Kumar, ASRANet, UK

Study on the Influence of Temperature on the Collapse Behaviour of Stiffened Panels of Ship

Ming Cai Xu, Huazhong Univ of Sci & Tech, China

Application on Wide Band Spectrum of Large Container Ship's Fatigue Analysis

Beomil Kim, Kanghyun Song, Sunki Seo, Korean Register, Korea

A Methodology for Wave Load Prediction of Damaged Ship Based on Kriging Model

Yuansheng Cheng, Menghao Li, Pan Zhang, Jun Liu, Huazhong Univ of Sci & Tech, China

The Effect of Frame Space to the Ultimate Strength of 100 TEUS Container Ship
Samuel Izaak Latumahina, Muhammad Zubair Muis Alie, Hasanuddin Univ, Indonesia

70. GEOTECH VII: Soil Property, Mechanics 1 (V. 2)
Tuesday June 12 16:20 Room 9

Chair: Haydar Arslan, ExxonMobil Production Co.,USA
Co-Chair: Shazzad Hossain, University of Western Australia, Australia

Centrifuge Model Tests and Analytical Validation on Pullout Capacity of Suction Piles in Clay under Eccentric Vertical Loads [Oral Presentation]
Sangchul Bang, South Dakota School of Mines & Tech; Kasey Jones, DOWL HKM, USA;
You-Seok Kim, Yeong-Ki Cho, Daewoo Engineering & Construction, Korea

Cyclic and Post Cyclic Behaviour of Sand-clay Mixtures
P Subramaniam, Taeseo Ku, National Univ of Singapore, Singapore

Evaluation of Geotechnical Properties and Chemical Weathering Indices of Highly Weathered Granite Rock
Seung-Hwan Lee, Byeong Soo Yoo, Taek-Kyu Chung, Choong-Ki Chung, Seoul National Univ, Korea

Cyclic Shear Characteristics of Toyoura Sand by High Pressure Triaxial Test System
Shohei Noda, National Inst of AIST; Sho Kimura, Univ of the Ryukyus; Yasuhide Sakamoto, National Inst of AIST; Masayuki Hyodo, Yamaguchi Univ; Shinya Nishio, Nihon Univ; Hideki Minagawa, National Inst of AIST, Japan

Effect of Confining Pressure Influencing Deformation Behavior around Soils Caused by Tube and Cone Penetrations
Takaharu Shogaki, Daishi Okuda, National Defense Academy, Japan

Development of a New Resistivity Presentation Method for HEM Data to Detect Ground Characteristics of Expressway Slopes
Sadayuki Kamide, The Calamity Science Inst; Nobukazu Makiura, Keiji Sakuradani, West-Nippon Expressway Eng Kansai; Sadayuki Kamide, The Calamity Science Inst; Kazuhiro Oda, Osaka Univ; Tamorsu Matsui, Geotech Office MATSUI, Japan

Experimental Investigation on Frost Heave Characteristics using Thermal Controllable Cell
Hyunwoo Jin, Korea Univ of Sci & Tech; Jangguen Lee, Byunghyun Ryu, Korea Inst of Civil Eng & Building Tech, Korea

Fine-scale Monitoring for Seafloor Vertical Deformation Based on MEMS Accelerometer Array
Jiawang Chen, Chunying Xu, Huangchao Zhu, Houhong Liu, Lin Yuan, Zhejiang Univ, China

71. ARCTIC I: Arctic Ship Design (V. 1)
Tuesday June 12 16:20 Room 10

Chair: Hiromitsu Kitagawa, Ocean Policy Research Inst, Japan
Co-Chair: Takatoshi Matsuzawa, National Maritime Research Inst, Japan

Proposal of an Icebreaking Research Vessel with Multi-missions for International Cooperation

Hiromitsu Kitagawa, Eiji Sakai, Kenjiro Miki, Ocean Policy Research Inst, Japan

Modern Icebreaking Research Vessel - Essential Factors in the Process from Requirements to Successful Design

Anders Mård, Arto Uuskallio, Aker Arctic Technology Inc., Finland

Numerical Investigation of Propeller-Ice Interaction Effects

Quentin Hisette, Aaqib G Khan, Daniela Myland, Hamburg Ship Model Basin, Germany

Historical Developments in the Design and Construction of Ice Strengthened Vessels

Desmond Upcraft, Cold Climate Specialist, UK; Robert Bridges. TOTAL, France

Performance Comparison of Different Propulsion Schemes for a Polar Carrier

Shaopeng Ji, Zhailiu Hao, Yukui Tian, Zhipeng Wang, Yinghui Wang, China Ship Scientific Research Center, China

Development and Microstructure Analysis of High Strength Steel Plate Used for Polar Icebreaker and Polar Transport Ships

Peng Zhang, Jie Long, Wenzhong Zhao, Wuyang Steel Co; Zhongzhu Liu, CITIC Metal Co, China

Study of Electric Propulsion System Applications for Reducing Powerplant Load Fluctuations in Ice Going Ships

Tommi Heikkila, Esa Hakanen, Antero Jappinen, Aker Arctic Technology, Finland

An Investigation on the Feature of Seawater Spray Impinging on the R/V Mirai

Toshihiro Ozeki, Hokkaido Univ of Education; Shin Toda, Hajime Yamaguchi, Univ of Tokyo, Japan

Numerical Investigation on Heat-flow Coupling Mechanism in Cargo Oil Heating Process for an Arctic Tanker

Xiang Zhu, Jinshu Lu, Jiajia Deng, Wenfeng Wu, Jianwei Zhang, Zhejiang Ocean Univ, China

WEDNESDAY 08:00

72. HYDRODYNAMICS VIII: Loads, Responses 2 (V. 3)

Wednesday June 13 08:00 Room 1

Chair: Wataru Koterayama, Kyushu University, Japan

Preliminary Numerical Study on the Influence of a Wind Field on Wave-induced Load on a Circular Cylinder

Julie C Kristoffersen, Aarhus Univ; Henrik Bredmose, DTU; Christos T Georgakis, Aarhus Univ, Denmark

Green Water Flow on a Fixed Model Structure in a Large Wave Basin under Random Waves

Kuang-An Chang, Wei-Liang Chuang, Richard Mercier, Texas A&M Univ, USA

Research on Fishtailing Oscillations of a Single Point Moored Vessel in Shallow Waters

Dongjiao Wang, Ping Huo, Kun Liu, South China Univ of Tech, China

Non-Linear Hydrodynamics of Bluff Bodies Oscillating Near Free-Surface
Ashkan Rafiee, Alireza Valizadeh, Carnegie Clean Energy, Australia

A 3D Full Time-domain Combined Model for Flooding Body Motion Induced by Nonlinear Waves in Shallow Water
Bin Teng, Jun-sheng Zhang, Dalian Univ of Tech, China

Numerical Investigation of Hydrodynamic Behavior of a Deformable Trimaran in Head Waves
Zhijun Li, Cong Huo, Xiaopeng Gao, Naval Univ of Engineering, China

Numerical Simulation of Interaction between Internal Solitary Wave and Submerged Structure
Weiye Ding, Congfang Ai, Sheng Jin, Dalian Univ of Tech, China

73. TSUNAMI II (V. 3)

Wednesday June 13 08:00 Room 2

Chair: Hua Liu, Shanghai Jiao Tong University, China
Co-Chair: Shiqiang Yan, City Univ London, UK

Model Testing of Countermeasures for Caisson Type Breakwater under Tsunami-induced Seepage Flow and Overflow
Paren Mitra, Kiyonobu Kasama, Kouki Zen, Yasuyuki Nakagawa, Kyushu Univ, Japan

A Hydraulic Model Experiments for the Stability of Armor Blocks at Tsunami and Seepage Flow Action
Shuhei Takeshita, Kiyonobu Kasama, Yasuyuki Nakagawa, Koki Zen, Zentaro Furukawa, Yuiti Yahiro, Kyushu Univ, Japan

Tsunami Resilient Designs of Vertical Evacuation Buildings in Japan and the USA
Tatsuya Asai, Nagoya Univ, Japan; Gary K Chock, Martin & Chock Inc, USA; Yoshiaki Nakano, Univ of Tokyo, Japan; Ronald H Riggs, Ian N Robertson, Univ of Hawaii at Manoa, USA

Tsunami Inundation Forecasting System based on Database: Study Case Aichi and Mie Prefecture, Japan
Ardiansyah Fauzi, Norimi Mizutani, Nagoya Univ, Japan

Examination to Some Problems on the Prevention and Mitigation of Tsunami Disaster
Masihullah Sayed Ahmadi, Yoshimichi Yamamoto, Ryo Miyake, Tokai Univ, Japan

Mass, Momentum and Energy Paradigm of idealized Tsunami: On Steep Sloped Bathymetry
Dae-Hong Kim, Univ of Seoul; Sangyoung Son, Korea Univ, Korea

74. RENEWABLE ENERGY VIII: Wind Installations(V. 1)
Wednesday June 13 08:00 Room 3

Chair: Junwon Seo, South Dakota State Univ, USA

Assessing Offshore Wind Installation Tasks with Markov-switching Autoregressive Models

Jack Paterson, EDF Energy R&D UK Centre; Philipp Thies, Univ of Exeter, UK; Jerome Lonchampt, Roman Sueur, EDF Energy R&D, France; Federico D'Amico, EDF Energy R&D UK Centre, UK

Positioning Capability Analysis of Wind Turbine Installation Vessel

Yihua Chen, Xinquan Chen, Qi Yang, Jinhong Ding, Shanghai Jiao Tong Univ, China

A Simulation Study of Feeder-based Installation Concepts for Offshore Wind Farms

Abderrahim Ait Alla, Stephan Oelker, Michael Lütjen, Marco Lewandowski, Michael Freitag, Klaus-Dieter Thoben, Univ of Bremen, Germany

Suggestion of Jone Act Compliant WTIV Concept to Optimize Installation Cost for US Offshore Wind

Sunghun Jung, Jungin Choi, Bongjae Kim, Jaewoong Choi, Samsung Heavy Industries, Korea

Roll Motion of a Maintenance Ship Side by Side with a Spar-Type Floating Wind Turbine

Yingyi Liu, Shigeo Yoshida, Makoto Sueyoshi, Hongzhong Zhu, Kyushu Univ, Japan

Mating Control of a Wind Turbine Tower-nacelle-rotor Assembly for a Catamaran Installation Vessel

Zhiyu Jiang, Zhengru Ren, Zhen Gao, Karl Henning Halse, NTNU; Peter C Sandvik, PC Sandvik Marine, Norway

Single Blade Installation Using Active Control of Three Tugger Lines

Zhengru Ren, Zhiyu Jiang, Roger Skjetne, Zhen Gao, NTNU, Norway

75. SUBSEA, PIPELINES, RISERS IV: Flow Assurance (V. 2)

Wednesday June 13 08:00 Room 4

Chair: Partha Sharma, DNVGL, USA

Optimizing Electrical Heating System of Subsea Oil Production Pipelines

Jens K Lervik, SINTEF Energy Research; Oivind Iversen, Nexans Norway AS; Anyuan Chen, NTNU; Kristian Thinn Solheim, SINTEF Energy Research, Norway

Investigation of Severe Slugging Types under Various Gas-Liquid Ratio with Two-phase Flow Loop

Yutaek Seo, Ki Heum Park, Seoul National Univ; Jakyung Kim, KAIST; Wonjin Jang, Seoul National Univ, Korea

Research on Prevention and Elimination of Hydrate after Subsea Wet-Gas Pipeline Shut-down

Xiaying Du, CNOOC, China

Bohai Oilfield Heavy Oil Processing and Transportation Technology Research

Hong Lu, CNOOC Research Inst, China

Experimental Investigation of Wave-Induced Pore Pressure Response around Twin Pipelines Buried in the Fine-Sandy Seabed

Jisheng Zhang, Jialin Zhao, Dongying Dai, Hohai Univ, China

76. HPM VI: Offshore Structures (V. 4)
Wednesday June 13 08:00 Room 5

Chair: Stefan Herion, KoRoH GmbH, Germany

Research on the Fatigue Assessment of Offshore Wind Turbine Multi-Planar Tubular Joint under Torque Loading

Shiliu Bao, Dalian Univ of Tech; Shengxiao Zhao, Powerchina Huadong Engineering; Ying Li, Zhejiang Univ of Sci & Tech; Xin Li, Dalian Univ of Tech, China

Stress Wave Mitigation in the Cover Layer with Periodic Porous Structures

Yinggang Li, Ling Zhu, Lei Zhou, Wuhan Univ of Tech; Tongxi Yu, Hong Kong Univ of Sci & Tech, China

Remediation of Cracks Formed in Grouted Connection of Offshore Energy Structures under Static Loads

Md Shamsuddoha, Götz Hüsken, Matthias Baeßler, Stephan Pirskawetz, Hans-Carsten Kühne, Marc Thiele, Federal Inst for Materials Research and Testing (BAM), Germany

Full Scale Bending Test and Numerical Simulation of Buckling Behavior of Spiral Pipe

Hongyuan Chen, CNPC Tubular Goods Research Inst, China

High Strength Steels for Jack-up Rigs

Stefan Herion, KoRoH GmbH, Germany

Experimental Study on a Grouted Connection Stress Prediction Formula for an Offshore Wind Turbine Monopile Foundation

Daigo Ishii, Kenji Shimada, Shimizu Corp, Japan

Flexural Behavior of Steel Pipe with Residual Stress

Kyu Won Kim, Moon Kyum Kim, Yonsei Univ; Woo Yeon Cho, POSCO; Tae Beom Kim, Yonsei Univ, Korea

Experimental and Numerical Study on the Capacity of X80 Pipeline

Hongyuan Chen, CNPC Tubular Goods Research Inst, China

77. COASTAL VI: Structures 3 (V. 3)
Wednesday June 13 08:00 Room 6

Chair: Susumu Araki, Osaka Univ, Japan

Co-Chair: Yuxiang Ma, Dalian Univ of Technology, China

Numerical Study on the Fluid Structure Interaction of Largely Deformable Finite-length Flexible Structures in Tsunami Flow by Strongly Coupled Partitioned Approach

Thaw Tar, Hiroyoshi Suzuki, Naomi Kato, Osaka Univ, Japan

Numerical Modeling of Tsunami-Induced Loading on Coastal Structures with a Mitigation Wall Using Smoothed Particle Hydrodynamics Method

Xuesen Wei, Dai Zhou, Zhaolong Han, Yan Bao, Shanghai Jiao Tong Univ, China

Experimental Study on Passive Soil Resistance of Flap-Gate Breakwater to Tsunami

Kunie Miyamoto, Hitachi Zosen Corp; Seiji Mizutani, Toyo Construction; Toru Yamashita, Penta-Ocean Construction; Osamu Kiyomiya, Waseda Univ; Tetsuya Hiraishi, Hajime Mase, Kyoto Univ, Japan

Experimental Study of Wave-Dissipating Block Shape's Effects on Flow Characteristics around the Block

Kouhei Oguma, Hiroshi Matsushita, NIKKEN KOGAKU; Ryoukei Azuma, Osaka Inst of Tech; Takashi Nakanishi, NIKKEN KOGAKU; Hajime Mase, Tetsuya Hiraishi, Kyoto Univ, Japan

Innovative Vertical Slotted Wave Barriers for Reducing Wave Reflection of Relatively Long Gravity Waves

Neelamani Subramaniam, Taqi Altaf, Salem Al Khaled, Kuwait Inst for Scientific Research, Kuwait

A New Type of the Porous Concentric Cylinder System with Cosine-Type Cross Section

Ching-Yi Tu, Ching-Yun Yueh, Chih-Ting Chang, National Taiwan Ocean Univ; Shih-Hsuan Chuang, National Cheng Kung Univ, Taiwan China

Experimental Study on Wave Forces on Cylinder Group Piles at Front of Vertical Walls in Irregular Waves

Sheng Peng, Youde Feng, Xiandao Feng, CCCC Second Harbour Eng; Ziyu Xia, Wuhan Univ of Tech, China

Analysis on Pile Layout of Wharf with Arched Longitudinal Beams under Impact Force

Qiu Zhai, Jie Hou, Huakun Wang, Hohai Univ; Wen Xiang, Jiangsu Power Design Inst, China

78. OCEAN TECH VIII: Floating Dynamics (V. 1)

Wednesday June 13 08:00 Room 7

Chair: Masashi Kashiwagi, Osaka Univ, Japan

Whole Body Vibration on Offshore Structures: An Evaluation of Existing Guidelines for Assessing Low Frequency Motions

Marie-Antoinette Schwarzkopf, Matti N Scheu, Ramboll IMS; Okyay Altay, Aachen Univ, Germany; Athanasios Kolios, Cranfield Univ, UK

Current Status of Wind Load Calculations with CFD

Patrick Schrijvers, MARIN, Netherlands; Wei Xu, MARIN USA; Arjen Koop, MARIN, Netherlands; Daniel Ryu, Pusan National Univ, Korea

Irregular Seas Model Experiments of Side-by-Side Barges

Kie Hian Chua, Lloyd's Register Global Tech Centre, Singapore; Pedro C de Mello, Kazuo Nishimoto, Univ of São Paulo, Brazil; Yoo Sang Choo, National Univ of Singapore, Singapore; Rodney W Eatock Taylor, Univ of Oxford, UK

Experimental Study on the Motions of Tunnel-Pontoons System During Ballasting

Yue Song, Ningchuan Zhang, Guoxing Huang, Zhenxiang Sun, Dalian Univ of Tech, China

Dynamic Responses of a Flexible Floating Anti-collision System with Connected Horizontal Buoys under Regular Waves

Zhenxiang Sun, Guoxing Huang, Dalian Univ of Tech, China; Adrian Wing-Keung Law, Nanyang Technological Univ, Singapore; Ningchuan Zhang, Yue Song, Qian Gu, Dalian Univ of Tech, China

Vibration Mitigation of Offshore Platform Utilizing a Magnetorheological Elastomer Isolator

Dingxin Leng, Kai Xu, Guijie Liu, Yingchun Xie, Xiaojie Tian, Ocean Univ of China, China

Analysis of Coupling Characteristics of the Offloading Buoy System in West Africa Seas

Cheng Zhang, Harbin Engineering Univ; Ning He, COOEC; Zhuang Kang, Harbin Engineering Univ, China

Study on Motions of the Semisubmersible under Rogue Waves Using the Partially Nonlinear Time Domain Model

Liwei Yu, Shuqing Wang, Ocean Univ of China, China

A Variable Static-dynamic Polyester Stiffness Method for Semisubmersible Mooring System Design and Global Sensitivity Parameters Analysis

Wenzhou Liang, Da Li, Jinrui Zhao, Cong Yi, Mo Fan, Xueping Bai, CNOOC Research Inst, China

CFD Modeling on Gap Flows of Two Ships with Side-by-Side Configuration in Waves [Proceedings only]

Yuan Zhuang, Decheng Wan, Shanghai Jiao Tong Univ, China

79. ADVANCED SHIP TECH II: Hull Optimization (V. 4)
Wednesday June 13 08:00 Room 8

Chair: Yong Won Lee, Lloyd's Register, UK

Hull Form Optimization Design of KCS at Full Speed Range Based on Resistance Performance in Calm Water

Xinwang Liu, Jinkai Wang, Decheng Wan, Shanghai Jiao Tong Univ, China

Ship Hull Form Optimization Design for KCS Considering Uncertainty of Ship Speed

Taiwen Chen, Aiqin Miao, Decheng Wan, Shanghai Jiao Tong Univ, China

Multi-objective Optimization Design of KCS Based on Seakeeping Performance

Aiqin Miao, Taiwen Chen, Xiaozhou Qi, Decheng Wan, Shanghai Jiao Tong Univ, China

Multi-disciplinary Optimization Design of Sail for Underwater Vehicle Model

Jianwei Wu, Liang Dong, Qingjie Meng, Peng Liang, Haihua Deng, Wuhan Second Ship Design & Research Inst, China

Structural Optimization Method for Deck Grillage of Large Oil Tankers

Guoqing Feng, Qi Chang, Chenfeng Li, Huilong Ren, Harbin Engineering Univ, China

Structural Analysis and Optimization of Lashing Bridge of 21000TEU Ultra Large Container Ship

Bo Yuan, Zeng Ji, Ruijia Zhou, Yiting Zhan, Songyan Mai, Shanghai Maritime Univ, China

A Multi-Objective Optimization Method for Hybrid Electric Propulsion System

Li Chen, Jianyun Zhu, Bin Wang, Shanghai Jiao Tong Univ, China

80. IOR, Energy Storage (V. 1)

Wednesday June 13 08:00 Room 9

Chair: Raghavan Ayer, SK Innovation, Korea

Co-Chair: Jonggeun Choe, Seoul National Univ, Korea

An Intelligent Method for Deep-Water Injection-Production Well Pattern Design

Jing Ma, Yongtu Liang, Pengwei Di, Yun Shen, Anqi Huang, China Univ of Petroleum - Beijing, China

Modified Choke Models to Predict Natural Gas Well Flow Rate

Bingyuan Hong, Shangfei Song, Haihao Wu, Xiaoping Li, China Univ of Petroleum – Beijing; Zhi Wang, Xi'an Changqing Sci & Tech Eng; Jingjing Gao, Jing Gong, China Univ of Petroleum - Beijing, China

Reservoir Characterization Using Ensemble Smoother with Selected Measurement Data for Each Well

Jonggeun Choe, Gvan Dek Kim, Jaeho Choi, Seoul National Univ; Kyungbook Lee, Korea Inst of Geoscience & Mineral Resources; Hyundon Shin, Inha Univ, Korea

Passive Hybrid Storage Systems: Investigation of Lithium Ion Battery and Lithium Ion Capacitor Connections

Thorsten Grün, Anna Smith, Karlsruhe Inst of Tech, Germany

Pharos with Intelligence and Energy Saving Based on NB-IOT

Qionglin Shi, Wuhan Univ of Tech, China

LI-ion Batteries for Medium- and Large-scale Energy Storage in Marine Engineering

Sergey L Sinebryukhov, Sergey V Gnedenkov, Denis P Opra, Valery G Kuryavyi, Inst of Chemistry, FEB RAS; Alexander N Minaev, Alexander A Sokolov, Far Eastern Federal Univ, Russia

Study on Dynamic Simulation for Produced Liquid Treatment Process in Offshore Heavy Oil Thermal Recovery [Proceedings only]

Xiaying Du, Jihai Liu, Chunyu Liu, CNOOC, China

Experimental Feasibility Study of a Novel Organic-Inorganic Hybrid Material for Offshore Oil Well Cementation [Proceedings only]

Jiapei Du, Yuhuan Bu, Huajie Liu, Zhonghou Shen, China Univ of Petroleum, China

81. ARCTIC III: Navigation in Ice (V. 1)

Wednesday June 13 08:00 Room 10

Chair: E. Ross, ASL Environmental Sciences, Canada

Ice Resistance Test Using Synthetic Ice of Ship in Small Pack Ice Floes and Wave Interactions

Junji Sawamura, Kensuke Imaki, Takaya Shiraishi, Hidetaka Senga, Osaka Univ, Japan

Analytical Investigation of Navigation Channel Evolution in Severe Ice Conditions

Marina M Karulina, Evgeny B Karulin, Oleg V Tarovik, Krylov State Research Centre, Russia

A Practical Approach to Material Failure in Ice Collisions

Martijn Hoogeland, Varey Walters, TNO; Floriaan Bijleveld, TU Delft; Jan van Bergen, Ministry of Defense, Netherlands

Statistical Estimation of Uncertainties Associated with Ship Operations in Ice

Harsha Cheemakurthy, KTH Royal Inst of Tech, Sweden; Sören Ehlers, Franz von Bock, Hamburg Univ of Tech, Germany; Karl Garne, Magnus Burman, KTH Royal Inst of Tech, Sweden

Effect of Ice Floe Size on Ship Speed Reduction in Arctic Water Area

Takatoshi Matsuzawa, Haruhito Shimoda, Daisuke Wako, Shotaro Uto, National Maritime Research Inst, Japan

Prediction of Attainable Ship Speed in Brash Ice Using Empirical Formula

Hyun Soo Kim, Inha Technical College; Donghwa Han, Bumsu. Go, Inha Univ; Seong-Yeob Jeong, Korea Research Inst of Ships & Ocean Eng, Korea

WEDNESDAY 10:30

82. HYDRODYNAMICS IX: Rolling, Multi Body (V. 3)

Wednesday June 13 10:30 Room 1

Chair: V. Sriram, IIT Madras, India

Study on Estimation Methods of Roll Damping Coefficients Using Designed Excitation Device for Harmonic Roll Motion

Byeongwon Park, Jaesag Jung, Inbo Park, Dong Woo Jung, Seok-Kyu Cho, Hong Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Study on Effects of Different Roll Damping Devices of a Drillship

Jaehoon Lee, Yonghwan Kim, Seoul National Univ; Je-Eun Choi, Chuel-Hyun Kim, Young-Bum Lee, Daewoo Shipbuilding & Marine Eng, Korea

Energy Analysis of Wave Resonance in a Gap through an SPH Model

Domenico Davide Meringolo, Yong Liu, Ocean Univ of China; Lin Lu, Dalian Univ of Tech, China

Application of Hyper-singular Integral Equations for a Simplified Model of Viscous Dissipation

Chang-Ho Lee, Xuemei Zhu, WAMIT Inc., USA

Application of Genetic Algorithm (GA) in Reduction of Wave Drift Forces on the Four-Column Structure

Zhigang Zhang, Guanghua He, Zhengke Wang, Jian Wang, Harbin Inst of Tech, Weihai, China

Analysis on the Hydrodynamic Resonance of Fixed Rectangular Boxes with Narrow Gaps by a Constrained Interpolation Profile Method

Guanghua He, Limin Chen, Jingwen Zhang, Jian Wang, Harbin Inst of Tech, China

83. TSUNAMI III (V3)

Wednesday June 13 10:30 Room 2

Chair: Tetsuya Hiraishi, Kyoto Univ, Japan

Cloud-based Pipelined Nested Tsunami Modeling

Alexander Vazhenin, Kensaku Hayashi, Univ of Aizu, Japan; Andrey Marchuk, Inst of Computational Math and Math Geophysics, RAS, Russia

Experimental Study of Solitary Wave Interaction with Vertical Structures

Lei Li, Univ of Strathclyde, UK; Jingxin Zhang, Jian Wang, Shanghai Jiao Tong Univ, China

Behavior of Breakwater Foundation under Actions of Earthquake and Subsequent Tsunami

Babloo Chaudhary, Kyoto Univ; Hemanta Hazarika, Kyushu Univ; Akira Murakami, Kazunori Fujisawa, Kyoto Univ, Japan

Verification of Tsunami Simulation by Using Elliptical Particles of the MPS Method

Daisuke Yamada, Seiichi Koshizuka, Kazuya Shibata, Univ of Tokyo, Japan

Proposal for Validation Method for Drift Simulation Based on Ships Displaced by the 2011 Tohoku Tsunami

Ryuji Nikaido, Yusuke Igarashi, CTI Engineering, Japan

84. RENEWABLE ENERGY IX: Wave Energy 1 (V. 1)

Wednesday June 13 10:30 Room 3

Chair: Seok-Won Hong, Korea Research Inst. of Ships & Ocean Eng, Korea

Numerical Simulation of Attenuator Wave Energy Converter Using One-fluid Formulation

Liang Yang, Zehao Lyu, Pan Yang, Dimitrios Pavlidis, Fangxin Fang, Jiansheng Xiang, John-Paul Latham, Christopher Pain, Imperial College London, UK

Study of a Pelamis-like Wave Energy Converter in Regular Waves

Yulin Zhao, Yufei Ai, Stevens Inst of Tech, USA; Yao Liu, Wuchang Inst of Tech, China

Experimental Study on the Hydrodynamic Performance of a Shoreline Wave Energy Converter Coupled with Fixed Breakwater

Wei Peng, Rui He, Jisheng Zhang, Yaning Fan, Hohai Univ, China

Experimental Verification of an Oscillating-Body Wave Energy Converter with a Variable Tuned Inertial Mass Mechanism

Ryoko Sawada, Ruriko Haraguchi, Takehiko Asai, Univ of Tsukuba; Yoshikazu Araki, Kyoto Univ, Japan

85. SUBSEA, PIPELINES, RISERS V:

Pipeline 1 (V. 2)

Wednesday June 13 10:30 Room 4

Chair: Mason Wu, DMAR Engineering, USA

A Primary-Secondary Pipeline System Used for Offshore Marginal Oilfields

Yufei Wan, Zhaoguang Qu, Chunyu Liu, Xin Qian, Wenguang Wang, Renwei Liu, CNOOC, China

Study On Corrosion Resistant Alloy Lined Pipe Delamination

Antoine Jardin, Vincent Cocault-Duverger, Shulong Liu, SAIPEM SA, France

Thermal Conductivity of Seabed Soils in North Sea

Gi Jae Yun, David Brown, UTEC, UK

Prediction of Pipeline Rotation During the Installation of Residual Curvature Sections by Reel-lay

Nicholas J Vaughn, IKM Ocean Design; Anders Rødstøl, Statoil ASA; Per R Nystrom, Pal Foss, IKM Ocean Design, Norway

Carbon Diffusion across the Bimetallic Interface of Welded Clad Pipes

Dag Lindholm, Inst for Energy Tech, Norway

Walking Behaviour and Mitigation Strategies of the Deepwater Tullow TEN Project Swaged Pipe-In-Pipe Flowlines

Leonardo B Gitahy, Majid Hesar, Tzi Piau Cheong, Amit Prasad, Carlos Charnaux, Subsea 7, UK

Mechanical Analysis of Reinforced Thermoplastic Pipe under Combined Bending and Pressure Based on a 3D Nonlinear FE-model

Lu Yao, Shuqing Wang, Wentao He, Ocean Univ of China, China

86. HPM VII: Advances in Welding (V. 4)

Wednesday June 13 10:30 Room 5

Chair: Hyun Woo Jin, ExxonMobil Research & Engineering, USA

Co-Chair: Paul Kah, Lappeenranta Univ of Tech, Finland

Development of Rutile Cored Wires with High-fluoride Content for Underwater Welding

Paul Kah, Lappeenranta Univ of Tech, Finland; Sergey Parshin, Alexey Maystro, Peter the Great St. Petersburg Polytechnic Univ, Russia; Pavel Layus, Lappeenranta Univ of Tech, Finland

Study of Welding Wire Nanocoated with Lanthanum Boride for S960 High-Strength Steel Welding

Pavel Layus, Paul Kah, Lappeenranta Univ of Tech, Finland; Sergey Parshin, Vitaly Dmitriev, Peter the Great St-Petersburg Polytechnic Univ, Russia

Weldability of High Toughness X100 Seamless Pipes with a New Low Carbon Alloying Concept for Structural Arctic Offshore Applications

Stephan Scherf, Silke Harksen, Ralf Hojda, Vallourec Deutschland GmbH, Germany

Improvement of Toughness of Weld Metal after PWHT for TS90ksi Class Steels with Rutile Type Flux-Cored Wire

Satoru Kano, Yoshihiko Kitagawa, Shuji Sasakura, Masahiro Inomoto, Hidenori Nako, Yoshitomi Okazaki, Kobe Steel, Japan

Texture Development During High Frequency Electric Resistance Welding

Kensuke Nagai, Tatsuo Yokoi, Hideki Hamatani, Nippon Steel & Sumitomo Metal, Japan

Dissimilar Welding of Al and Cu Alloys by Friction Stir Welding and Impulse Friction Stir Welding

Anton A Naumov, Fedor Y Isupov, Mikhail Ozhegov, Evgeniy Rylkow, Peter the Great St-Petersburg Polytechnic Univ, Russia

Local Mechanical Properties Estimation of Friction Stir Welded Al-Mg-Si Joints

Oleg V Panchenko, Sergey Yu Ivanov, Anton A Naumov, Fedor Yu Isupov, Anatoly A Popovich, Peter the Great St-Petersburg Polytechnic Univ, Russia

Characterization of Weld Consumables for High-Strength Steel Plate for Offshore Applications

Tom McGaughy, EWI; Murali Manohar, ArcelorMittal, USA

87. COASTAL VII: Sediment Transport, Erosion 1 (V. 3)
Wednesday June 13 10:30 Room 6

Chair: Wei-Po Huang, National Taiwan Ocean Univ, Taiwan China

Calculation of Wave Inputs Required when Predicting Shoreline Erosion Caused by Vessels Operating in Inland Waterways

Amelia E Jenkins, Karl Garne, KTH Royal Inst of Tech, Sweden

Experimental Investigation of Spatiotemporal Change in Gravel Beach Profile

Shinwoong Kim, Tomoaki Hakamura, Soraka Nehashi, Yonghwan Cho, Norimi Mizutani, Nagoya Univ, Japan

Channel Sedimentation Causing by Grouping Waves at the Fishing Port, Japan

Takehito Horie, Takashi Kamo, Alpha Hydraulic Engineering; Yasuji Nozaka, Hokkaido Government Dept of Construction; Hitoshi Tanaka, Tohoku Univ, Japan

Transportation of Gravel on the Upper Part of a Sandy Beach

Muhajir, Hiroki Suga, Shin-Ichi Aoki, Osaka Univ, Japan

Extract Wave Run Up Beach in Niigata prefecture, Japan

Naoyuki Inukai, Nagaoka Univ of Tech; Masaya Shinohara, Penta-Ocean Construction; Hiroshi Yamamoto, Nagaoka Univ of Tech, Japan

Field Measurements of Dynamic Beach Profiles to Assess Coastal Erosion Hazard on the Coast of Yantai, China

Bob You, Hongyuan Shi, Bin Li, Yongqing Li, Ludong Univ, China

An Experimental Study on the Evolution of Beach Profile with a Submerged Berm

Yin Shuo, Pan Yi, Yongping Chen, Yubao Yang, Hohai Univ, China

A Study on Characteristics of Current and Sediment Transport around Porosity Artificial Reefs

Kyu-Han Kim, Catholic Kwandong Univ; Kyu-Tae Shim, Waterfront and Coastal Research Center, Korea

88. OCEAN TECH IX: Mooring Dynamics (V. 1)
Wednesday June 13 10:30 Room 7

Chair: Bo Woo Nam, Korea Research Inst of Ships & Ocean Eng, Korea

Coupled-Dynamic Analysis of Ship-shaped Floating Structure with Dynamic Multi-Component Mooring Lines in Horizontal Plane Motion

Yuda Apri Hermawan, Yoshitaka Furukawa, Kyushu Univ, Japan

Development of Platform 6-DOF Motion-Mooring System Coupled Solver using Open Source Libraries

Sang Chul Lee, Sunho Park, Korea Maritime and Ocean Univ, Korea

Relevance and Accuracy of Common Criteria for Heading Stability of Turret-Moored Vessels

Karl E Kaasen, Halgeir Ludvigsen, SINTEF Ocean, Norway

Multi-Mode Reliability Analysis of the Mooring System for Floating Structures

Junfeng Du, Man Zhang, Min Zhang, Anteng Chang, Ocean Univ of China, China

Safety Analysis of Underwater Ultra-long Fiber Optical Micro-cables

Xuesong Xu, Meng Yan, Shanghai Jiao Tong Univ, China

89. ADVANCED SHIP TECH III: Navigation, Control 1 (V. 4)
Wednesday June 13 10:30 Room 8

Chair: Michele Martelli, University of Genoa, Italy

Dynamic Analysis of Ship Transient Behavior in Slow Speeds Manoeuvres

Michele Martelli, Diego Villa, Michele Viviani, Nicolo Faggioni, Univ of Genova, Italy

Statistics and Analysis of Maritime Traffic Accidents in Yangtze River and Accidents Prediction

WenBo Xu, Yadong Yang, Feixiang Wang, Wuhan Univ of Tech, China

Optimization Study of Ship Path Planning in Complex Water Area Based on Nautical Practice

Zheng Chang, Yanmin Xu, Chunming Zou, Jianyu Wang, Junchao Zhao, Wuhan Univ of Tech, China

Path Following Control for Formation of Underactuated Surface Vessels

Gang Liao, Haixiang Xu, Wenzhao Yu, Wuhan Univ of Tech, China

Optimized Unbiased Grey Markov Ship Traffic Flow Prediction Model

Qingbo Fan, Fucai Jiang, Quangdang Ma, Fan Zhang, Hongbing Zou, Wuhan Univ of Tech, China

Metocean Data Drived Voyage Optimization Using Genetic Algorithm

Helong Wang, Wengang Mao, Leif Eriksson, Chalmers Univ of Technology, Sweden

Engineering Concerns of Passing Ship Effect at Typical Waterfronts

Erick T Huang, Naval Facilities Engineering Command; Hamn-Ching Chen, Chia-Rong Chen, Texas A&M Univ, USA

Numerical Study of Zigzag Maneuver of a Fully Appended ONR Tumblehome Ship in Waves

Jianhua Wang, Decheng Wan, Shanghai Jiao Tong Univ, China

Three-Coordinate Theory of Similarity for Likeness Models of the Ships

Nikolai A Taranukha, Evgenii I Selivanov, Irina N Zhurbina, Andrei A Kozlov, KnASTU, Russia

**90. OMGH I: DEEP OCEAN MINING 1:
Minerals, Exploration, Environment 1 (V. 1)**

Wednesday June 13 10:30 Room 9

Chair: Ning Yang, Chinese Academy of Sciences (CAS), China

Co-chair: J S Chung, ISOPE, USA

Introduction to Deep Ocean Mining

Jin S Chung, ISOPE, USA

**Ferromanganese Crusts in the Northwestern Pacific Seamounts - A Review:
Variations in Grade and Abundance on the Regional to Microscopic Scales**

Akira Usui, Kochi Univ, Japan

**A Series of Scientific Drilling at the Areas of Submarine Hydrothermal Deposits with
Core-log Integration for Deciphering Mineralization Processes**

Hidenori Kumagai, Tatsuo Nozaki, JAMSTEC; Jun-ichiro Ishibashi, Kyushu Univ; Tomokakzu Saruhashi, Lena Maeda, Yu'usuke Kubo, Ken Takai, JAMSTEC, Japan

**A Preliminary Study of the Relation between Geographical Features and the
Distribution of Polymetallic Nodules in Japanese License Area, the North Pacific**

Keisuke Nishi, Akira Koizumi, Soichiro Tanaka, Deep Ocean Resources Development, Japan

**Distributions of Megabenthic Organisms in the Areas of North-west Pacific
Seamounts Where are Covered with Cobalt Rich Ferromanganese Crust**

Hideki Sugishima, Takaaki Matsui, Nobuyuki Okamoto, Japan Oil, Gas & Metals National Corp; Tomohiko Fukushima, JAMSTEC, Japan

Origin of Neodymium in the Surface Layer of Ferromanganese Crusts

Hiroshi Amakawa, Yusuke Fukami, Junji Torimoto, Tatsuo Nozaki, Koishi Iijima, JAMSTEC; Akira Usui, Kochi Univ; Katsuhiko Suzuki, JAMSTEC, Japan

**Physical-Mechanical Properties of the Bottom Formations of the Hydrothermal Ore
Fields on the Mid-Atlantic Ridge**

Anatolii V Kondratenko, Igor V. Egorov, FSBI "VNIIOkeangeologia"; Victor N. Ivanov Polar Marine Geosurvey Expedition; Dmitrii L. Kell, Maria S. Stepanova, FSBI "VNIIOkeangeologia", Russia

91. ARCTIC IV: Ice Structure Interaction (V. 1)

Wednesday June 13 10:30 Room 10

Chair: Robert Frederking, National Research Council, Canada

Co-Chair: Vilho Jussila, VTT Technical Research Centre of Finland, Finland

Toward the Long-term Response Analysis of Ice Load for Fatigue Analysis

Jeong Hwan Kim, Yooil Kim, Inha Univ, Korea

Evaluation of Ice Loads on Offshore Structure Using GPU-Event-Mechanics

Hyunwook Kim, Dalian Univ of Tech, China; Claude G Daley, Memorial Univ of Newfoundland, Canada

Simulation of Ice-Sloping Structure Interactions with Peridynamic Method

Qing Wang, Wei Lu, Bin Jia, Li Shi, Harbin Engineering Univ, China

General Principles of Procedure for Ice-Structure-Interaction PSSII

Vilho Jussila, VTT Technical Research Centre of Finland, Finland

A Dynamic Ice-structure Interaction Model for Non-simultaneous Ice Failure

Xu Ji, Univ of Strathclyde, UK; Dale G Karr, Univ of Michigan, USA; Erkan Oterkus, Univ of Strathclyde, UK

The Influence of Initial Conditions on the Development of Frequency Lock-In Vibrations of Structures in Ice

Hayo Hendrikse, Delft Univ of Technology, Netherlands

WEDNESDAY 13:10

Keynote 3

Membrane Containment System : a Relevant Solution for LNG-as-Fuel Marine Applications [KEYNOTE, Oral presentation]

Manager, LNG as Fuel, GTT, France

Keynote 4

A Large-Scale Plant Construction and Transportation in the Arctic Region (KEYNOTE)

Shigeru Abe, JGC Corporation, Japan

WEDNESDAY 14:00

92. TSUNAMI IV: Panel

Wednesday June 13 14:00 Room 1

Chair: Hiroyasu Kawai, National Institute for Maritime, Port and Aviation Technology (MPAT), Japan

Co-Chair: Kazuhiko Honda, National Institute of Land and Infrastructure Management (NILIM), Japan

Tsunami Issues after 2011 East Japan Earthquake

93. HYDRODYNAMICS X: MetOcean 1 (V. 3)
Wednesday June 13 14:00 Room 2

Chair: Katsuji Tanizawa, National Maritime Research Inst, Japan

Hindcasting Accuracy of Meteorological Fields and Storm Surge Due to Hurricane Irma

Kazuhiro Fujiwara, Taro Arikawa, Katsumi Seki, Chuo University, Japan

Development of Statistical and Spectral Parameters of Waves During the Storms at Filyos, Western Black Sea

Berguzar Oztunali Ozbahceci, Izmir Inst of Technology, Turkey; Saleh Abdalla, ECMWF, UK

Characteristics of Sea Level Change along China Coast During 1968-2017

Hui Wang, Wenjing Fan, Wenshan Li, Jianli Zhang, National Marine Data & Info Service, China

Statistical Characteristics of Global Winds and Waves

Masaru Tsujimoto, Takatoshi Matsuzawa, Kenichi Kume, National Maritime Research Inst, Japan

Estimation of Extreme Significant Wave Heights in the Yellow Sea, China

Huijun Gao, Lvqing Wang, Bingchen Liang, Xinying Pan, Ocean Univ of China, China

Numerical and Experimental Investigation of Extreme Events in JONSWAP Seas [Proceedings only]

Guillaume Ducrozet, Ecole Centrale de Nantes, France; Alessandro Toffoli, Univ of Melbourne, Australia; Amin Chabchoub, Aalto Univ, Finland

94. RENEWABLE ENERGY X: Wave Energy 2 (V. 1)
Wednesday June 13 14:00 Room 3

Chair: Lars Johanning, Univ of Exeter, UK

Experimental Investigation into the Hydrodynamic Performance of a TLP-OWC Device [Proceedings only]

Nagi Abdussamie, Jack Hore, Univ of Tasmania, Australia

Coupled Modelling of a Non-linear Wave Energy Converter and Hydraulic PTO

Caitlin J Worden Hodge, William Bateman, Zyba Ltd; Zhiming Yuan, Univ of Strathclyde; Philipp R Thies, Univ of Exeter; Tom Bruce, Univ of Edinburgh, UK

Hydrodynamic Model Fitting for Wave Energy Applications Using Moment-Matching: A Case Study

Nicolás Faedo, Yeraí Pena, John V Ringwood, Maynooth Univ, Ireland

A Cost and Time Effective Prediction Technique for OWC-WEC Devices

Nagi Abdussamie, Minki Ham, Univ of Tasmania, Australia

Effects of Foils Quantity and Distance on the Propulsive Performance of Tandem Foils Propulsor

Peng Liu, Xing-yu Zhou, Ocean Univ of China, China; Dian-zi Liu, Univ of East Anglia, UK; Fu-shun Liu, Xu-jie Wang, Wei Xiao, Tong-shun Yu, Ocean Univ of China, China

95. SUBSEA, PIPELINES, RISERS VI: Pipeline 2 (V. 2)
Wednesday June 13 14:00 Room 4

Chair: Mason Wu, DMAR Engineering, USA

Global Buckling Feature Comparison Between Snaked-Laid and Straight-Laid Submarine Pipeline

Wenbin Liu, CCCC Tianjin Port Eng Inst, China

Effect of Initial Imperfection on the Global Buckling of Submarine Pipelines with Different Length

Run Liu, Chengfeng Li, Tianjin Univ, China; Xinli Wu, Pennsylvania State Univ, USA;

Effect of Pre-straining on Ductility and Toughness on Line Pipe Steels

Jacques Besson, ParisTech, PSL Research Univ, France; Yasuhiro Shinohara, Nippon Steel & Sumitomo Metal; Yazid Madi, MINES ParisTech, France

Tail Behaviour of Pipeline Mechanical Strength Distributions

Ruud Selker, PinG Liu, INTECSEA; Erich Jurdik, Jay Chaudhuri, South Stream Transport, , Netherlands

Improving the Analysis Accuracy for Deformation by the Internal Loading Method Applied to Centrifugal Reinforced Concrete Pipe

Kouki Ooyama, Masahiro Hyodo, Hidehiko Ogata, Tottori Univ; Masayuki Ishii, Shimane Univ, Japan

Nonlinear Analysis of Large-diameter and Thin-walled Submarine Pipeline against Fault Movement [Proceedings only]

Wenran Cao, Xiongzhi Wang, CNPC Engineering Technology Research , China

96. ENVIRON-ASSISTED CRACKING I: Sour Service
Materials (V. 4)
Wednesday June 13 14:00 Room 5

Chair: Takuya Hara, Nippon Steel & Sumitomo Metal Corp., Japan

Assessing the Performance of Carbon Steel Pipes for Severe Sour Service [Oral presentation]

Amir Bahrami, Brian D Newbury, ExxonMobil Production, USA

Microstructural Design for Improving the Resistance to Hydrogen Induced Cracking in Recent Linepipe Steels

Tomoyuki Yokota, Nobuyuki Ishikawa, Norichika Aramaki, Satoshi Ueoka, Shinichi Kakihara, Joe Kondo, JFE Steel, Japan

Influence of Crack Tip Process on Crack Growth Rate in Sour Environments

Ramgopal Thodla, Feng Gui, DNV GL USA, USA

Proposal of the Severity of Sour Environment Determined from Equal Hydrogen Concentration

Takuya Hara, Taishi Fujishiro, Nippon Steel & Sumitomo Metal; Daisuke Mizuno, Nobuyuki Ishikawa, JFE Steel; Eiji Tada, Tokyo Inst of Tech; Mitsuo Kimura, Univ of Tokyo, Japan

Analysis of Hydrogen Flux on X65 Pipe Steel Measured in a Sour Environment
Feng Gui, Ramgopal Thodla, DNV GL USA, USA

97. COASTAL VIII: Sediment Transport, Erosion 2 (V. 3)
Wednesday June 13 14:00 Room 6

Chair: Luca Martinelli, Univ of Padova, Italy
Co-Chair: N Inukai, Nagaoka Univ of Tech, Japan

Innovative Sand Groin Beach Nourishment with Environmental, Defense and Recreational Purposes

Piero Ruol, Chiara Favaretto, Luca Martinelli, Daniele Scroccaro, Univ of Padova, Italy

Numerical Investigation on Hydrodynamic Performance of a WEC Array Integrated into a Pontoon

Dezhi Ning, Xuanlie Zhao, Dalian Univ of Tech, China; Lars Johanning, Univ of Exeter, UK; Bin Teng, Dalian Univ of Tech, China

Raster Based Model of Inland Coastal Flooding Propagation Using Linearized Bottom Friction and Application to a Real Case Study in Caorle, Venice (IT)

Chiara Favaretto, Piero Ruol, Luca Martinelli, Univ of Padova, Italy

Design of Multipurpose Coastal Protection Measures at the Reno River Mouth (Italy)

Renata Archetti, Maria G Gaeta, Univ of Bologna; Sandro Carniel, CNR-ISMAR, Italy

A CFD Study on Impact Wave Loadings Exerted behind Overtopping Type WECs

Mohammad Daliri, Mariano Buccino, Univ of Naples Federico II; Fabio Dentale, Angela Di Leo, Univ of Salerno, Italy

Structural Response of Seawave Slotcone Generators (SSG): Analysis of a Nearshore Device

Daniela Salerno, Univ of Salerno; Mariano Buccino, Univ of Naples Federico II; Diego Vicinansa, Univ of Campania "Luigi Vanvitelli", Italy

The Effects of Porous Sea-Access Road on the Hydrodynamics and Suspended Sediment Transport in the Yellow River Delta, China

Rui Liu, Bingchen Liang, Guoxiang Wu, Bing Shi, Ocean Univ of China, China

Effect of Jetties in Northern Part of Coastal Change at Chumphon Estuary

Atsanupong Promngam, King Mongkut's Inst of Tech Ladkrabang, Thailand

Numerical Monitoring of Coastal Topography Change Forecast around Taipei Harbor

Ying-Chi Chen, Ching-Piao Tsai, Chun-Han Ko, National Chung Hsing Univ, Taiwan
China

98. OCEAN TECH X: FPSO (V. 1)
Wednesday June 13 14:00 Room 7

Chair: Sungho Lee, Glosten, Inc., USA

Numerical Study of a Fixed FPSO-Shaped Body under Focused Waves in Different Headings

Yuan Zhuang, Qi Li, Decheng Wan, Shanghai Jiao Tong Univ, China

On the Wind-induced Roll/Heel of New Generation Weathervaning FPSO

Chuks N Ojieh, DNV GL, UK

Experimental Investigation on Oil-water Displacement Process of a Vertical Oil Storage System in Offshore Floating Platform

Dongxi Liu, Shanghai Maritime Univ, China; Jim Wang, COTEC Offshore Engineering Solutions, USA; Yunxiang You, Wenyong Tang, Shanghai Jiao Tong Univ, China

Research on Ethylene Glycol Loss in Dew Point Control System

Mengying Zhu, Tao Cheng, Xia Ying Du, Zhao Guang Qu, Bing Kong, Yi Shan Guo, CNOOC, China

Predicting Wind Loads on Single Vessels and in Side by Side Offloading Configuration for FPSO and Shuttle Tanker Using CFD

Daniel JH Yoo, Pusan National Univ, Korea; Patrick Schrijvers, Arjen Koop, MARIN, Netherlands

Global Strength Analysis of a Monocolumn FPSO

Yue Lei, Shunhuai Chen, Lizheng Wang, Wuhan Univ of Tech; Hongchang Xu, Port & Shipping Administration of Jiaxing, China

Combined Supersonic Separator for FPSO

Viktor S Vlasenko, Vlacheslav V Slesarenko, Georgiy M Karpov, Far Eastern Federal Univ, Russia

Development of the New Concept of Sandglass-type Floating Production, Storage and Offloading System

Wenhua Wang, Yazhen Du, Linlin Wang, Yi Huang, Dalian Univ of Tech, China

99. ADVANCED SHIP TECH IV: Navigation, Control 2 (V. 4)
Wednesday June 13 14:00 Room 8

Chair: Suak Ho Van, Korea Research Inst. of Ships & Ocean Eng, Korea

Image-based Ship Detection and Classification for Unmanned Surface Vessel Using Real-Time Object Detection Neural Networks

SungJun Lee, Myung-Il Roh, Hye-Won Lee, Ji-Sang Ha, Seoul National Univ; Il-Guk Woo, Daewoo Shipbuilding & Marine Eng, Korea

Development of Track Keeping Algorithm Using Fuzzy Inference

Bora Choe, Yoshitaka Furukawa, Kyushu Univ, Japan

An Optimization Tool for Ship Route Planning in Real Weather Scenarios

Raphael Zaccone, Massimo Figari, Michele Martelli, Univ of Genova, Italy

Evaluation of Heading Control System for Offshore Service or Observation

Takayuki Watanabe, Nobukazu Wakabayashi, Kobe Univ; Misako Urakami, Oshima College, Japan

The Prediction of Shipping Traffic Flow Based on GA-SVM Model

Jiapei Deng, Yadong Yang, Wuhan Univ of Tech, China

Numerical Study of the Hydrodynamic and Flow Field Characteristics of a Conformal Rudder

Qing Ye, Zhihua Liu, Naval Univ of Engineering, China

CFD Simulation of Site-Specific Passing Ship Effects on Multiple Moored Ships

Hamn-Ching Chen, Chia-Rong Chen, Texas A&M Univ; Erick T Huang, Naval Facilities Engineering Command, USA

**100. OMGH II: DEEP OCEAN MINING 2:
Minerals, Mining Systems, Tech 1 (V. 1)**

Wednesday June 13 14:00 Room 9

Chair: Jin S. Chung, ISOPE, USA

Surface Ship Thrust Power and Control for 6,000-m-deep Ocean Floor Mining System Operation

Jin S Chung, ISOPE, USA

Electro-Osmotic with Injection of Microbial for Strengthening Soft Clay

Shao-Chi Chien, Hsuan Chuang Univ; Chang-Yu Ou, National Taiwan Univ of Sci & Tech; Pio-Go Hsieh, Hwa Hsia Univ of Tech, Taiwan China

Dynamic Response of a Deepsea Mining Riser

Ting Ting Li, Frank Lim, Yong Sha, Hui Zhang, 2H Offshore, UK

Testing of Umbilical Cable for Reliable and Safe Operation

Aravind Gnanaraj Anbu, K Venkatesan, R Sasikala, NR Ramesh, P Muthuvel, S Muthukrishna Babu, K Gopkumar, GA Ramadass, National Inst of Ocean Tech, India

101. ARCTIC V: Arctic Environment (V. 1)

Wednesday June 13 14:00 Room 10

Chair: Vladimir Pavlenko, Arkhangelst Scientific Center, RAS, Russia

Co-Chair: Aleksey Novikov, RAS, Russia

Investigation of Wave Propagation below Drift Ice in Svalbard Region

Aleksey Marchenko, University Centre in Svalbard, Norway

Indirect Economic Impact Assessment of Sea Ice Disasters on Industries Related in China

Xueqin Liu, Shuai Yuan, National Marine Environmental Monitoring Center; Jidong Wu, Beijing Normal Univ; Yuxian Ma, Wenqi Shi, Yuan Chen, National Marine Environmental Monitoring Center; Shanshan Sun, Dalian Univ of Tech, Ning Xu, National Marine Environmental Monitoring Center, China

Analysis of Iceberg Drift Trajectories Using the Multivariate Empirical Mode Decomposition

Leif E Andersson, NTNU; Francesco Scibilla, Statoil ASA, Norway; Luke Copland, Univ of Ottawa, Canada; Muhammad Faisal Aftab, Lars Imsland, NTNU, Norway

Reconstruction of Icea Drifting Lines in the Barents Sea Using IFREMER Sea Ice Products

Nataliya A Marchenko, University Centre in Svalbard, Norway

Study of Short-term Sea Ice Prediction along the Northern Sea Route

Liyanarachchi Waruna Arampath De Silva, Hajime Yamaguchi, Univ of Tokyo, Japan

A Snowdrift Study for a New Japanese Observation Building in Syowa Station, Antarctica

Koui Kim, Fukushima College; Yoichi Yamagishi, Kanagawa Inst of Tech; Toshio Hannuki, Yuichiro Ishinabe, Nihon Univ; Kenji Kosugi, National Research Inst for Earth Science & Disaster Prevention; Kenji Ishizawa, National Inst of Polar Research., Japan

WEDNESDAY 16:20

102. HYDRODYNAMICS XI: Comparative Study Panel

Wednesday June 13 16:20 Room 1

Chair: Sa Young Hong, Korea Research Inst. of Ships & Ocean Eng, Korea

Co-Chair: Shiqiang Yan, City Univ London, UK

Panelists

103. HYDRODYNAMICS XVI: Wave Mechanics 3 (V. 3)

Wednesday June 13 16:20 Room 2

Chair: Moo Hyun Kim, Texas A&M Univ, USA

Co-Chair: Shiqiang Yan, City Univ London, UK

Direct Numerical Simulations of Air Entrainment Induced by Vortex Structures

Shangyu Yu, Lei Wang, Xiangming Yu, Shanghai Jiao Tong Univ, China; Dick K P Yue, Massachusetts Inst of Tech, USA

A Generalised Equivalent Storm Model for Long-Term Statistics of Ocean Waves

Ed B L Mackay, Univ of Exeter, UK

Water Wave Scattering by Two Unequal Surface-Piercing Vertical Plates with Stepped Bottom Topography

Lixin Wang, Wuhan Univ of Tech; Zhengzhi Deng, Zhejiang Univ, China

Study of Process of Energy Conversion in the Development of Gravity Current

Yosuke Sawano, Teruki Kitauchi, Nobuhiro Baba, Osaka Prefecture Univ, Japan

Flow Evolution of Mode-2 Internal Solitary Waves Propagating over a Submerged Ridge

Ming Hung Cheng, National Taiwan Ocean Univ; Chih Min Hsieh, Chia Kai Yu, National Kaohsiung Marine Univ; Robert R Hwnag, Academia Sinica; Wen Chang Yang, National Applied Research Labs, Taiwan China

New Wave Spectrum Models Developed Based on HOS Method
Jiaqi Song, Decheng Wan, Shanghai Jiao Tong Univ, China

104. RENEWABLE ENERGY XI: Wave Energy 3 (V. 1)
Wednesday June 13 16:20 Room 3

Chair: Mariano Buccino, Univ of Naples, Italy

Numerical and Experimental Study on 30kW-class Impulse Turbine for Wave Energy Conversion

Seung-Kwon Yang, Beom-Soo Hyun, Korea Maritime and Ocean Univ; Kilwon Kim, Korea Research Inst of Ships and Ocean Eng, Korea

Experimental Study on the Effects of External Electrical Resistance on the Efficiency of a Point Absorber Wave Energy Converter

Chi-Yu Li, Wen-Kai Weng, Ruey-Syan Shih, Hung-Yi Chen, Sheng-Yang Wu, National Taiwan Ocean Univ, Taiwan China

Maximise Absorbed Wave Power with Wave Energy Converter Arrays in Time Domain

Fuat Kara, Cranfield Univ, UK

Wave Energy Converter with Wave Sensor and Velocity Control

Takashi Kawaguchi, AQUUSYS Corp; Kunio Nakano, Mitsui Zosen Steel Structures Engineering; Shogo Miyajima, Mitsui Zosen Akishima Labs; Taro Arikawa, Chuo Univ, Japan

Numerical and Experimental Study for a Cylindrical Wave Energy Converter with Different Rotational Axes

Haeng Sik Ko, Yoon Hyeok Bae, Il-Hyoung Cho, Jeju National Univ, Korea

105. SUBSEA, PIPELINES, RISERS VII: Pipeline 3 (V. 2)

Wednesday June 13 16:20 Room 4

Chair: Han-Il Park, Korea Maritime and Ocean Univ, Korea

A Thermal Study of the Subsea Bundled Pipelines for Offshore Marginal Oilfields

Wenguang Wang, Yufei Wan, Ming Hao, Zhaoguang Qu, Xin Qian, CNOOC, China

Long-Term Monitoring System of Submarine Pipeline Vibration Based on Fiber Grating Sensor Technology

Xiuyi Nie, Yongchun Yang, Yingfeng Cui, Changlong Chen, Ocean Univ of China, China

Impact of Dropped Objects and Anchor Dragging on Pipeline Integrity

Ruud Selker, Ping Liu, Dimitrios Karras, INTECSEA; Romke Bijker, ACRB; Ozturk Aktan, INTECSEA, Netherlands

Numerical Simulation Research of Submarine Pipeline Depth against Emergency Anchor Loading

JianGuang Yue, Langxiong Gan, YuanZhou Zheng, Lei Zhang, Ying Ouyang, Wuhan Univ of Tech, China

A Model Test on a Rigid Pipe Installation Using J-lay Method

Y J Kwon, B W Nam, N W Kim, I B Park, S Y Hong, Korea Research Inst of Ships & Ocean Eng, Korea

Form of Energy Equation in Gas-Pipeline Simulations

Filip Sund, Uni Research Polytec; Tor Ytrehus, NTNU, Norway

Numerical Simulation of a Propagating Buckle in Sandwich Pipe Systems

Shunfeng Gong, Xixpeng Wang, Qingui Xu, Zhejiang Univ, China

Research on Hydrodynamic Performance of Pipe Laying Vessel with Stinger during Operating

Hongsheng Yan, Tianjin Univ; Yongxin Chen, COOEC, China

106. ENVIRON-ASSISTED CRACKING II:

Hydrogen Embrittlement (V. 4)

Wednesday June 13 16:20 Room 5

Chair: Hyun Jo Jun, ExxonMobil Research & Engineering, USA
Co-Chair: Yasuhiro Shinohara, Nippon Steel & Sumitomo Metal, Japan

Understanding the Interaction between a Steel Microstructure and Hydrogen: The Key to Develop More Hydrogen Resistant Materials?

Tom Depover, Kim Verbeken, Ghent Univ, Belgium

Multi-scale Analysis of Hydrogen Cracking Behavior of High Strength Steels under Gaseous Hydrogen

Nobuyuki Ishikawa, Akihide Nagao, Hitoshi Sueyoshi, JFE Steel; Toshihito Ohmi, Teikyo Univ; A Toshimitsu Yokobori, Shonan Inst of Tech; Shigenobu Ogata, Osaka Univ, Japan

Effect of Heat Treatment Paths on the Microstructure and Mechanical Properties of High Cr Containing Ultrahigh Strength Steels [Oral presentation]

G Park, Y Kwon, POSTECH, Korea; D Shih, Kumamoto Univ, Japan; Nack Joon Kim, POSTECH, Korea

Hydrogen Embrittlement Behavior of High-Mn TWIP Steels: Effects of Alloy Composition and Microstructure [Oral presentation]

Young Jin Kwon, POSTECH; Young Soo Chun, POSCO, Korea; HyunWoo Jin, ExxonMobil Research & Engineering, USA; Chong Soo Lee, POSTECH, Korea

Hydrogen Trapping in X70 Structural Pipeline Steel and Weldment

Vigdis Olden, Vidar Osen, SINTEF Materials and Chemistry; Hallvard Fjær, Inst for Energy Technology, Norway; Jean-Gabriel Sezgin, National Inst of AIST; Junichiro Yamabe, Hisao Matsunaga, Kyushu Univ, Japan

Hydrogen Embrittlement in Martensitic Steel: Diffusion, Trapping Mechanisms and Some Implications on Local Approach of Fracture

S Cohendoz, C Berziou, C Rebere, R Milet, C Savall, A Oudriss, A Metsue, J Bouhattate, J Creus, X Feaugas, Université de La Rochelle, France

Inhibition of Hydrogen Embrittlement of Cr-Mo Steel by the Addition of Impurities to Hydrogen Environment and the Effect of Material Strength

Masanobu Kubota, Ryosuke Komoda, Shuichi Yoshida, Aleksandar Staykov, Kyushu Univ; Patrick Ginet, K K Air Liquide Labs, Japan; Françoise Barbier, Jader Furtado, Air Liquide R&D, France

107. COASTAL IX: Sediment Transport, Erosion 3 (V. 3)
Wednesday June 13 16:20 Room 6

Chair: Piero Ruol, Univ of Padova, Italy
Co-Chair: Yoshimichi Yamamoto, Tokai Univ, Japan

Theoretical Study on the Decline and Recovery Processes of River Deltas within Two Boundaries

Dinh Van Duy, Hitoshi Tanaka, Tohoku Univ, Japan; Nguyen Trung Viet, Thuyloi Univ, Vietnam

Study on Hydrodynamic Characteristics of Tidal Estuary in Qianshan River of Pearl River Delta

Lin Zhao, Qi Zhao, Ocean Univ of China, China

Comparison of Flow and Energy Reduction by Representative Intertidal Plants, Southeast China

Yining Chen, Tinglu Cai, Yang Chang, Tian Xia, Silong Huang, Second Inst of Oceanography, China

Prediction of Cohesive Sediment Suspension using Bayesian Networks

Minsang Cho, Myongji Univ; Heui-Jung Seo, Hyein Engineering & Construction; Hyun-Doug Yoon, Myongji Univ, Korea

Marine Bottom Boundary Layer Sediment Flux Measurements of Fluidized Mud and Muck Using Vertical and Horizontal Sonde Arrays

Charles R Bostater, Florida Inst of Tech, USA

Spatio-temporal Characterization of Gravel Grain Size at Shichiri-Mihama Ida Beach Using UAV Images

Masami Kiku, Gifu College; Tomoaki Nakamura, Norimi Mizutani, Nagoya Univ, Japan

Suspended Clay Load from Mixed Soil under Regular Waves

Rei Akahoshi, Yong-hwan Cho, Tomoaki Nakamura, Norimi Mizutani, Nagoya Univ, Japan

Three Dimensional Numerical Simulation on the Characteristic of Bow-Spray for Trailing Suction Hopper Dredger[Proceedings only]

Jifu Yin, Feixin Wang, Guojun Hong, National Eng Research Ctr of Dredging Tech & Equip; Lihua Wang, CCCC Shanghai Dredging, China

108. OCEAN TECH XI: Jackup & Installation (V. 1)
Wednesday June 13 16:20 Room 7

Chair: L F. Boswell, City University London, UK

Research on Power System for Lingshui 17-2 SEMI platform with Large Capacity Electric-driven Compressors

Guofeng Liu, Hao Zhang, Yiru Hu, Che Wei, CNOOC Research Inst, China

A Low Motion Floater Unlocking Offshore Marginal Fields

Alaa M Mansour, Chunfa Wu, Ricardo Zuccolo, Cheng Peng, Bill Greiner, INTECSEA, WorleyParsons Group, USA

Numerical Analysis of Penetration and Extraction of Pile-Leg for J350 Jack-up Rig

Chao Wang, Xuehui Zhang, Shanghai Waigaoqiao Shipbuilding; Guangxing Lou, China Telecom Corp; Bo Zhou, Shanghai Waigaoqiao Shipbuilding, China

Evaluation of Drag Coefficient Variation in Transit Mode on Leg & Spud can of DP Jackups Vessel

Nitin D Thulkar, Satoru Yamaguchi, Kyushu Univ, Japan

Study on Punch-Through Prediction and Risk Control Method of Jack-Up Spudcan

Hao Xu, Zhenwen Liu, Lei Qi, Haifeng Deng, Chun Li, CNPC Engineering Technology Research Co, China

Application of RPD on Spudcan Slip during Jack-up Installation near the Old Footprints

Chang Gao, China Classification Society, China

Dynamic Simulation Studies on Spudcan Penetrating Adjacent a Pile

Run Liu, Wenguan Ma, Haiyang Zhang, Tianjin Univ; Hui Xiao, Jun Wan, CNOOC, China

CFD Investigation of Regular Wave Forces on Pile Group in China-Maldives Friendship Bridge

Ningbo Gao, Hong Zhang, CCCC Second Harbour Eng; Jianmin Yang, Shanghai Jiao Tong Univ; Yongtao Zhang, CCCC Second Harbour Eng, China

109. ADVANCED SHIP TECH V: Powering 1 (V. 4)

Wednesday June 13 16:20 Room 8

Chair: Munehiko Minoura, Osaka Univ, Japan

Numerical Prediction of Hydroelastic Performance of the Flexible Composite Propeller

Ji-Hye Kim, Byoung-Kwon Ahn, Chang-Sup Lee, Chungnam National Univ, Korea

RANS Simulations for Propeller Open Water Characteristics in Towing Tank Tests

Kwang-Soo Kim, Yoo-Chul Kim, Yoonsik Kim, Jin Kim, Suak Ho Van, Korea Research Inst of Ships & Ocean Eng, Korea

Numerical Simulations of Sheet and Cloud Cavitation on NACA0015 with RANS and LES Turbulence Model

Kaijie Chen, Dongya He, Decheng Wan, Shanghai Jiao Tong Univ, China

Propeller-Engine Interaction in a Dynamic Model Scale Environment

Lode Huijgens, Arthur Vrijdag, Hans Hopman, Delft Univ of Technology, Netherlands

Numerical Investigation of Scale Effect for Propeller Boss Cap Fins

Lurong Xu, Decheng Wan, Shanghai Jiao Tong Univ, China

Research on the Technology of Vibration Reduction by Air Curtain to Control Fluctuating Pressure of Propeller

Xin Gu, Weiguo Wu, Yongshui Lin, Tao Yang, Jiezheng Wei, Wuhan Univ of Tech, China

Numerical Simulation of Fluid-structure Interaction of Anisotropic Composite Propeller

Peng-peng He, Zi-ru Li, Wei He, Ling-yu Zhu, Wuhan Univ of Tech, China

Estimation of Thruster-thruster/Current Interaction in a Dynamic Positioning System Using Supervised Learning Methods

Bo Li, Lei Wang, Xuefeng Wang, Shengwen Xu, Shanghai Jiao Tong Univ, China

110. OMGH III: OCEAN MINING 3 - Minerals, Exploration, Environment 2 (V. 1)

Wednesday June 13 16:20 Room 9

Chair: Akira Usui, Kochi Univ, Japan

Environmental Condition 17 Years After the Benthic Impact Experiment

Tomohiko Fukushima, JAMSTEC; Akira Tsune, Deep Ocean Resources Development Co, Japan

Periodic Behavior of Abyssal Flow in Okinawa Trough Hydrothermal Fields

Yasuo Furushima, JAMSTEC; Hironori Higashi, National Inst for Environmental Studies; Tatsuo Fukuhara, KANSO Co; Takeya Matsuda, Kokusai Kogyo Co; Hiroyuki Yamamoto, JAMSTEC; Naoki Furuichi, Japan Fisheries Resesarch & Education Agency; Tomohiko Fukushima, JAMSTEC, Japan

Lander Observatory with Non-Contact Power Supply and Communication Interfaces for Long-Term Ecosystem Monitoring at Deep-Sea

Tatsuhiko Fukuba, Jin-Kyu Choi, Tetsuya Miwa, Yasuo Furushima, Hiroyuki Yamamoto, JAMSTEC, Japan

Comparison of Components and Description for Benthic Organisms between Existing Environmental Impact Statements and Administrative Frameworks

Yoji Miyata, Tomohiko Fukushima, JAMSTEC, Japan

Review of Sediment Plume Influencing Factors in the Environmental Impacts Consideration Derived from Deep Sea Mining

Wenbin Ma, Delft Univ of Technology, Netherlands

Confirming the Validity of ADCP Velocity Measurements for Physical Environmental Assessment in Exploration Areas for Cobalt-rich Ferromanganese Crusts

Masayuki Nagao, Yoshio Takasugi, Atsushi Suzuki, Yuichiro Tanaka, National Inst of AIST; Hideki Sugishima, Takaaki Matsui, Nobuyuki Okamoto, Japan Oil, Gas and Metals National Corp, Japan

Evaluation of Turbidity and Resedimentation through Seafloor Disturbance Experiments for Assessment of Environmental Impacts associated with Exploitation of Seafloor Massive Sulphides Mining

Takaaki Matsui, Hideki Sugishima, Nobuyuki Okamoto, Japan Oil, Gas & Metals National Corp, Japan

111. ARCTIC VI: Ice Management, Stationkeeping (V. 1)
Wednesday June 13 16:20 Room 10

Chair: Mohamed Sayed, National Research Council, Canada.

Numerical and Experimental Investigations of Managed Ice Loads acting on Fixed Conical Structure

Kenta Hasegawa, Shotaro Uto, Haruhito Shimoda, Daisuke Wako, Takatoshi Matsuzawa, National Maritime Research Inst, Japan

Numerical Estimation of Ice Clearing Performance of Ships and Its Validation with Model Tests

Akihisa Konno, Kogakuin Univ; Mizuno Shigeya, Japan Marine United Corp, Japan

2D Simulation of the Icebreaking Pattern for Sea Ice Management

Junji Sawamura, Osaka Univ, Japan; Egil Pedersen, UiT , Norway

An Illustration of Acceptable Ice Conditions for Vessel Station-keeping Operations in Pack Ice

Mohamed Sayed, Shameem Islam, David Watson, National Research Council Canada; Brian Wright, B Wright & Assoc, Canada

An Experimental Investigation of Ice-paning Control for Arctic Station-keeping

Young-Shik Kim, Korea Research Inst of Ships & Ocean Eng; Jinwhan Kim, KAIST; Hyung-Do Song, KukJin Kang, Korea Research Inst of Ships & Ocean Eng, Korea

THURSDAY 08:00

112. HYDRODYNAMICS XII: MetOcean 2 (V. 3)
Thursday June 14 08:00 Room 1

Chair: Qingwei Ma, City Univ London, UK

Spatio-Temporal Modelling of Wind Speed Variation

Wengang Mao, Igor Rychlik, Chalmers Univ of Technology, Sweden

Observation of Near Surface Wind Profile for Typhoon Dujuan

Y S Tsai, J M Yu, W T Chang, W C Yang, Taiwan Ocean Research Inst, Taiwan China

Design and Test Performance of a Wave Overtopping Automated Measurement System

Xu Zhao, Yanan Xu, Yunpeng Jiang, Yajing Zhang, Hanbao Chen, Tianjin Resch Inst of Water Transp Eng, China

Reconstruction of Ocean Current Distribution Using Coastal Acoustic Tomography in Bali Strait

Aruni Dinan Hanifa, Hidemi Mutsuda, Yasuaki Doi, Arata Kaneko, Hiroshima Univ; Fadli Syamsudin, Agency for the Assessment & Application of Technology, Japan

Characteristics of Tidal Variation along China Coast

Hui Wang, Wenjing Fan, Jianli Zhang, Wenshan Li, National Marine Data & Info Service, China

113. HYDRODYNAMICS XVII: CFD 1-Applications (V. 3)

Thursday June 14 08:00 Room 2

Chair: Yonghwan Kim, Seoul National University, Korea

Co-Chair: Shiqiang Yan, City Univ London, UK

On Development of Accurate Multi-phase Particle Methods with SPS Turbulence Modeling for Ocean Engineering Applications

Yuma Shimizu, Kyoto Univ; Naoki Tsuruta, Port and Airport Research Inst; Abbas Khayer, Hitoshi Gotoh, Kyoto Univ, Japan

Fluid Structure Interactions Between Waves and Coastal Structures Using Particle Based Method

Taiga Kanehira, Hidemi Mutsuda, Andi Ardianti, Yasuaki Doi, Hiroshima Univ, Japan

SPH Simulations of Fluid Flow with Surface Tension

Kazuhiko Kakuda, Shinichiro Miura, Nihon Univ, Japan

Numerical Prediction of Flow in a Circular Tank for Seedings

Koichi Tsubogo, Open University of Japan; Tetsuya Sumida, Oshima College, Japan

Numerical Analysis in Wastewater Purification Circulation Equipment

Koichi Tsubogo, Open University of Japan; Takahiro Yasuhara, Mitsunori Ouchi, Yasuhara Setsubi Kougyou Ltd, Japan

An Efficient Shape Parametrisation by Free-form Deformation Enhanced by Active Subspace for Hull Hydrodynamic Ship Design Problems in Open Source Environment

Andrea Mola, Marco Tezzele, Nicola Demo, Gianluigi Rozza, SISSA (Int'l School for Advanced Studies), Italy

Numerical Modelling of Over-wash, Wave Pressures & Loads on Soft Vegetated Defences Subject to Extreme Waves

Soroush Abolfathi, Coventry Univ; Jonathan Pearson, MD Salauddin, Univ of Warwick, UK

114. RENEWABLE ENERGY XII: Wave Energy 4 (V. 1)

Thursday June 14 08:00 Room 3

Chair: Lars Johanning, Univ of Exeter, UK

Optimization of Mooring Line Axial Stiffness Characteristics for Offshore Renewable Energy Applications

Ajit C Pillai, Philipp R Thies, Lars Johanning, Univ of Exeter, UK

Study on the Flow of Magnetofluid in Wave Power Device

Yang Liu, Xueling Cao, Aiguo Chen, Weiwei Tang, Guangzhou Maritime Univ, China

Research on Negative Drift Force Acting on a Floating OWC-Type Wave Energy Converter “Backward Bent Duct Buoy”

Yutaka Okamoto, Hitachi Zosen; Shuichi Nagata, Yasutaka Imai, Tengen Murakami, Saga Univ, Japan

Pile-Soil Interaction Analysis of Hybrid 3kW Ocean Wave Energy Extraction Device Subjected to Hydrodynamic Loads

Jeongsoo Kim, Min-Su Park, Yeon-Ju Jeong, Korea Inst of Civil Eng & Building Tech, Korea

Numerical Study on Oil-seawater Mixed Flow under Electromagnetic Field

Lingzhi Zhao, Xiaoqiang Chen, Ciwen Sha, Ran Li, Aiwu Peng, Inst of Electrical Engineering, CAS, China

Design and Performance Analysis on 5kW Prototype Device of Heaving Float Wave Energy Conversion with Liquid Metal MHD Generator [Proceedings only]

Yanjiao Liu Baolin Liu Mina Liu Aiwu Peng, Chinese Academy of Sciences, China

On the Absorption of Wave Power Using Ship-Like Structures [Proceedings only]

Kim Nielsen, Ramboll Offshore Wind; Harry Bingham, Univ of Denmark; Jonas Bjerg Thomsen, Aalborg Univ, Denmark

115. SUBSEA, PIPELINES, RISERS VIII: Pipeline 4 (V. 2)
Thursday June 14 08:00 Room 4

Chair: A.M. Gresnigt, Delft Univ. of Technology, Netherlands

Model Tests of Pipeline Rotation during Installation with Residual Curvature Sections

Kashif Ali, Ljiljana D Oosterkamp, Univ of Stavanger; Per R Nystrom, IKM Ocean Design, Norway

Upheaval Buckling Analysis of a Subsea Trenched Pipeline Accounting for Slurry

Nikolaos Chatzimanolis, Gianluca Colonnelli, Pasupathy Ragupathy, Subsea 7, UK

Numerical and Experimental Studies on Motion Response Characteristic of J-lay Vessel

Mingyuan Sun, Jinhong Ding, Shanghai Jiao Tong Univ; Meng Yuan, COSCO Shipping Specilized Carriers; Qi Yang, Shanghai Jiao Tong Univ, China

Seepage Force on a Pipeline Buried in a Poroelastic Seabed Induced by a Solitary Wave

Meng-Yu Lin, Chung Yuan Christian Univ, Taiwan China

Hydrodynamic Loads on a Sub-Sea Pipeline

Ashkan Rafiee, Carnegie Clean Energy, USA; Kourosh Abdolmaleki, INTECSEA, Australia; Alireza Valizadeh, Carnegie Clean Energy, USA

Numerical Investigation of Current-induced Local Scour below Two Parallel Vibrating Pipelines

Xiang-Lian Zhou, Qi Zhang, Jian-hua Wang, Shanghai Jiao Tong Univ, China

116. ENVIRON-ASSISTED CRACKING III: Hydrogen Embrittlement (V. 4)

Thursday June 14 08:00 Room 5

Chair: Hyun Jo Jun, ExxonMobil Research & Engineering, USA

Session 106 continues here

Thursday June 14 08:00 Room 6
117. COASTAL X: Reef Islands (V. 3)

Chair: Yuxiang Ma, Dalian Univ of Tech, China
Co-Chair: Eva Loukogeorgaki, Aristotle Univ of Thessaloniki, Greece

The Influence of Vertical-wall Structure on Wave Propagation over the Deep-sea Coral Reefs

Gancheng Zhu, Yunqiang Xia, Bing Ren, Guoyu Wang, Dalian Univ of Tech, China

Geohazard Mitigation in the Design of Offshore Structures for a Luxury Island Resort in the Philippines

Jose Carlo Eric L Santos, Michael B Gargullo, Joanne M Parafina, AMH Philippines, Philippines

Wave Transformation on Submerged Reef

R Panneer Selvam, R Rahul Dev, IIT Madras; S Sakhtivel, Ocean Eng & Consultancy; De Saiket, R Sundaravadivelu, IIT Madras; K Anbazhagan, Hitech Civil Engineers; MV Ramanamurthy, National Inst of Ocean Tech, India

Study of Waves Impinging Piles on Reefs in Large Wave Flume

Songgui Chen, Hanbao Chen, Tianjin Research Inst of Water Transp Eng; Jinhai Zheng, Chi Zhang, Hohai Univ, China

Experimental Study of the Multidirectional Wave Transformation Characteristics on a Simplified Reef Flat Topography

Jiayi Xu, Shuxue Liu, Jinxuan Li, Zichun Lin, Dalian Univ of Tech, China

Numerical Simulation of Solitary Wave Transformation over Fringing Reef Profiles Using a Multi-layer Non-hydrostatic Model

Kezhao Fang, Shufeng Cheng, Dalian Univ of Tech; Jiawen Sun, National Marine Environmental Monitoring Center; Zhongbo Lu, Dalian Maritime Univ, China

A Numerical Study of Freak Wave Generated Over a Fringing Reef

Ruili Fu, Yuxiang Ma, Guohai Dong, Dalian Univ of Tech; Qiannan Du, China Continent Property & Casualty Insurance, China

Laboratory Research on Response of Artificial Sandbar to Regular Waves

Cuiping Kuang, Xuejian Han, Yue Ma, Hao Zhang, Tongji Univ, China

Wave Attenuation Mechanism of the Artificial Reef in Beidaihe, China

Cuiping Kuang, Yue Ma, Xuejian Han, Boling Dong, Tongji Univ, China

Continue at Session 127.

Thursday June 14 08:00 Room 7
118. OCEAN TECH XII: Offshore, Aquaculture (V. 1)

Chair: Hong Gun Sung, Korea Research Inst of Ships & Ocean Eng, Korea

Review on Typical Marine Operations in Aquaculture and Numerical Simulation of One Example Operation Scenario

Jingzhe Jin, Ørjan Selvik, Frøydis Solaas, SINTEF Ocean; Xue Yang, NTNU; Vegard Ø Aksnes, SINTEF Ocean, Norway

Application of Dynamic Simulation Technology on Process Design Optimization of Offshore Oil and Gas Fields Development

Hualei Yi, Yuehong Cui, Zejun Yang, Haishan Zhu, Yuxiao Jing, Ruilong Li, CNOOC Research Inst, China

Surface Response Approach for Early Stage Design of Offshore Vehicles

Martin Gutsch, Vahid Hassani, NTNU, Norway

The Impacts of Mooring Line Failure for Box-Shape Aquaculture Net Cages

Hung-Jie Tang, Ray-Yeng Yang, National Cheng Kung Univ, Taiwan China

Experimental Study on the Hydrodynamic Performance of a Long-Line Aquaculture Facility in Waves

Hui Yang, Yun-Peng Zhao, Chun-Wei Bi, Guo-Hai Dong, Tiao-Jian Xu, Dalian Univ of Tech, China

119. ADVANCED SHIP TECH VI: Powering 2 (V. 4)

Thursday June 14 08:00 Room 8

Chair: Alexios Anagnostopoulos, Chalmers Univ of Tech, Sweden

Experimental Research on the Influence of Air Film on Propulsion Performance and Power Forecast of Low-speed Ship

Hao Wang, Shunhuai Chen, Lizheng Wang, Wuhan Univ of Tech, China

Research of Porpoising Phenomenon of M-hull Planing Craft

Xiaofei Mao, Zeshuang Yu, Liang Yan, Wuhan Univ of Tech, China

Long-term Recovery Power of Ship Motion Energy by Linear Generator

Munchiko Minoura, Naoya Hashimoto, Osaka Univ; Hisafumi Yoshida, Hisao Tanaka, Japan Marine United Corp, Japan

Comparative Study of Numerical Simulation and Empirical Methods for Air Resistance Analysis of a Ship

Seong-Wook Jeong, Seung-Gyu Jeong, Young-Doo Kim, Lloyd's Register Asia; Suak Ho Van, Kwang Soo Kim, Korea Research Inst of Ships & Ocean Eng, Korea

Numerical Estimation of Self-propulsion Factors for Ship with Air Lubrication

Daijiro Arakawa, Hideki Kawashima, Chiharu Kawakita, National Maritime Research Inst, Japan

A Practical Prediction Method for Self Propulsion Factors in Actual Seas

Masaru Tsujimoto, Naoto Sogihara, Mariko Kuroda, Kenichi Kume, Hiroki Ohba, National Maritime Research Inst, Japan

Applying Steady and Unsteady Body Force Methods to the Simulation of Ship Self-Propulsion

Ching-Yeh Hsin, Yu-Wen Hsieh, Suz-Kuan Huang, Sin-An Lai, National Taiwan Ocean Univ, Taiwan China

120. OMGH IV: OCEAN MINING 4:

Mining Systems, Tech 2 (V. 1)

Thursday June 14 08:00 Room 9

Chair: K Gopkumar, National Inst of Ocean Tech, India

Co-Chair Akira Usui, Kochi Univ, Japan

Development and Testing of Locomotion Trials on Soft Sea Bed Soil and System Performance Checks of Experimental Undercarriage System

C Janarthanan, V Chandran, V Sundaramoorthi, BO Viswanath, T Rethna raj, P Muthuvei, S Rajesh, AA Gnanaraj, S Muthukrishna Babu, K Gopkumar, NR Ramesh, GA Ramadass, National Inst of Ocean Tech, India

Investigation on Vertical Incipient Motion of Spherical Particles in Hydraulic Collecting

Guocheng Zhao, Longfei Xiao, Weijie Zhao, Yufeng Kou, Shanghai Jiao Tong Univ, China

An Analytical Model of the Effect of Internal Density Waves in Risers Subjected to Vortex Shedding

Mats J Thorsen, Svein Sævik, NTNU, Norway

Numerical Study on Settling and Floating Movements of a Sphere Particle Flowing in a Vertical Pipe

Hong Xiong, Yuxiang Chen, Ning Yang, Jianyu Xiao, Inst of Deep-sea Sci & Eng, CAS, China

121. ARCTIC VII: Ice Loads, Safety in Operations (V. 1)

Thursday June 14 08:00 Room 10

Chair: Ove T Gudmestad, Univ of Stavanger, Norway

Co-Chair: Ling Zhu, Wuhan Univ of Technology, China

An Examination of the Besetting of the MV Berge Atlantic

Thomas M Browne, Mohamed Sayed, Ivana Kubat, David Watson, National Research Council Canada, Canada

Impacts of Emergency Response Systems in the Arctic

Uffe Jakobsen, Univ of Copenhagen, Denmark

Numerical Study of Interaction between Moored Ship and Ice Ridge for Head on Case

Li Zhou, Xu Bai, Kun Liu, Xiaolong Bai, Yazhou Zhu, Jiangsu Univ of Sci & Tech, China

Dynamic Analysis of Ship Plates under Repeated Ice Floes Impacts Based on A Simplified Ship-Ice Collision Model

Ling Zhu, Wei Cai, Mingsheng Chen, Wuhan Univ of Tech, China; Shengming Zhang, Lloyd's Register EMEA, UK

THURSDAY 10:30

122. HYDRODYNAMICS XIII: Nonlinear Wave (V. 3)
Thursday June 14 10:30 Room 1

Chair: Bin Teng, Dalian Univ of Technology, China,
Co-Chair: Guanghua He, Harbin Inst of Tech at Weihai, China

Numerical Simulation of Solitary Waves Interacted with a Trapezoid Obstacle on the Sloping Beach

Guanghua He, Rui You, Jian Wang, Zhishuo Zhang, Harbin Inst of Tech, Weihai, China

Numerical Simulation of Internal Solitary Waves Interacting with a Uniform Slope
Junnan Cui, Sheng Dong, Zhifeng Wang, Ocean Univ of China, China

Experimental and Numerical Investigation on the Interaction between Freak Waves and a Submerged Breakwater

Xizeng Zhao, Mongyu Li, Zhouteng Ye, Zijun Hu, Zhejiang Univ, China

123. HYDRODYNAMICS XVIII: CFD 2-FSI/WSI 1 (V. 3)
Thursday June 14 10:30 Room 2

Chair: Benlong Wang, Shanghai Jiao Tong University, China,
Co-Chair: Abbas Khayyer, Kyoto Univ, Japan

CFD Investigation of Flow Interactions of Four Fixed Columns with Free Ends in Square Configuration

Jiawei He, Decheng Wan, Shanghai Jiao Tong Univ, China

A Coupled Incompressible SPH-Hamiltonian SPH for Fluid-Structure Interactions
Hosein Falahaty, Abbas Khayyer, Hitoshi Gotoh, Kyoto Univ, Japan

Numerical Simulation of Vortex Shedding when the Linearly Stratified Fluid Past a Hydrofoil

Yong Ding, Fenglai Huang, Linxin Lan, Shaoshi Dai, Harbin Engineering Univ, China

Numerical Simulations of the Strongly Stratified Flow Past Two Cylinders

Yong Ding, Weizhuang Ma, Yunbo Li, Fenglai Huang, Harbin Engineering Univ, China

Numerical Study of the Nozzle Spacing Effect on Dual Jets in a Wavy Cross-Flow
Yuling Zhang, Zhenshan Xu, Yongping Chen, Hohai Univ, China

Computational Simulation of Submarine Propeller Based on Overset Structured Grid and DES Model

Peng Wei, Zhiguo Zhang, Huazhong Univ of Sci & Tech, China

Large Eddy Simulation of Flows around a Free Surface Piercing Fixed 2D Rectangle Using a Ghost-cell Immersed Boundary Method

Xiaohui Zhang, Junli Bai, Xiechong Gu, Ning Ma, Shanghai Jiao Tong Univ, China

124. RENEWABLE ENERGY XIII: Resources (V. 1)
Thursday June 14 10:30 Room 3

Chair: Fabian Vorpahl, Senvion GmbH, Osnabrück, Germany.

Optimization of a Grid Connect Wave Energy Farm and a Comparison with Wind and Solar Farm

Arvind Parwal, Cecilia Bostrom, Uppsala Univ, Sweden

Dynamic Response and Power Production of an Integrated Offshore Renewable Energy System

Liang Li, Zhiming Yuan, Univ of Strathclyde, UK

Effect of Viscous Damping on the Performance of a Pitch-type WEC Rotor

Sunny Kumar Poguluri, Yoon Hyeok Bae, Jeju National Univ, Korea

The Effect of Wavelength on a Floating Body and its Location for Wave Energy Absorption Using CFD

Kui Ming Li, Nanjundan Parthasarathy, Yoon Hwan Choi, Pukyong National Univ, Korea; Nobuyuki Oshima, Hokkaido Univ, Japan; Yeon Won Lee, Pukyong National Univ, Korea

Extreme Wave Height Estimation Formula for a Substructure of an Offshore Wind Turbine

Kenji Shimada, Shimizu Corp; Takeshi Ishihara, Univ of Tokyo, Japan

Effect of Typhoon Soulik on Kuroshio and Green Island Wakes

Shin-Jye Liang, Tai-Wen Hsu, National Taiwan Ocean Univ, Taiwan China

125. OMGH V - GAS HYDRATES 1

Fundamental (V. 1)

Thursday June 14 10:30 Room 4

Chair: Yutaek Seo, Seoul National Univ, Korea

Co-chair: Hideki Minagawa, National Inst. of AIST, Japan

Experimental Study on Mechanical Properties of Clay Sediment Containing Tetrahydrofuran Hydrate

Shuyun Wang, Xuhui Zhang, Xiaobing Lu, Inst of Mechanics, CAS, China

Effect of High Molecular Weight Asphaltenes on the Phase Stability of Methane Hydrates

Jitendra S Sangwai, Siddhant K Prasad, Deepjyoti Mech, Vishnu C Nair, Pawan Gupta, IIT Madras, India

Spectroscopic Observation and Formation Kinetics of Chlorodifluoromethane Hydrate under Salt Environments

Ji-Ho Yoon, Korea Maritime and Ocean Univ; Yesol Woo, Ocean Science & Tech School; Jeasung Park, Korea Inst of Industrial Tech, Korea

Numerical Simulation of Dissociation Behavior in Experimental Production System Depending on Gas Hydrate Saturation

Jong-Se Lim, Seo-Yoon Moon, Hyo-Jin Shin, Korea Maritime and Ocean Univ; Jaehyoung Lee, Korea Inst of Geoscience & Mineral Resources, Korea

Estimation of the Flow Regime in Internal Piping of Methane Hydrate Production Well

Hiromitsu Morita, Fumio Kiyono, Yoshitaka Yamamoto, National Inst of AIST, Japan

126. HPM VIII: Arctic, Cryogenic Materials (V. 4)
Thursday June 14 10:30 Room 5

Chair: Satoshi Igi, JFE Steel, Japan

Co-Chair: Neerav Verma, ExxonMobil Upstream Research, USA

Characterization of Weld Consumables for Arctic Service

Tom McGaughy, EWI, USA

Welding in the Arctic: A Consideration on Weldable Structural Steels, Intelligent Adaptive Welding Techniques and the Value Chain

Emmanuel A Gyasi, Paul Kah, Pavel Layus, Lappeenranta Univ of Tech, Finland; Sanbao Lin, Harbin Inst of Tech, China

Properties of Polyurethane Foam Blown by Environment Friendly Blowing Agent

Yeongbeom Lee, Youongcheol Yang, KOGAS, Korea

A New High Strength 9 %Ni Cryogenic Steel

George J Fraley, Fred B Fletcher, M Manohar, ArcelorMittal Global R&D, USA

New Cryogenic Material Technologies: Incentive Analysis & Opportunity Identification

Neerav Verma, Cecilie Haarsest, Timothy Anderson, ExxonMobil Upstream Research, USA

Factors Influencing Fatigue Behavior of High-Mn Steels [Oral presentation]

Sangshik Kim, Daeho Jeong, Hyokyung Sung, Gyeongsang National Univ; Jehyun Lee, Changwon National Univ, Korea

127. COASTAL XI: Ships & Harbors (V. 3)
Thursday June 14 10:30 Room 6

Chair: Ray-Yeng Yang, National Cheng Kung Univ, Taiwan
China

Co-Chair: Yuxiang Ma, Dalian Univ of Tech, China

Numerical Study on the Resistance and Ship Wave of Ships Advancing Through a Canal

Sijing Zhang, Lizheng Wang, Shunhuai Chen, Yan Jin, Wuhan Univ of Tech, China

A Generation Method of Harbor Ship Wave for Boussinesq-type Wave Transformation Model

Katsuya Hirayama, Port and Airport Research Inst; Naoto Higuchi, ECOH Corp, Japan

Effects on the Harbour Resonance of the Secondary Oscillations by Tidal Motion Inside the Small Bay

Kenji Tanaka, Shimizu Munehiro, Hiroshima Inst of Tech, Japan

Investigation on Effects of Vertical Baffle on Sloshing in a Tank under Random Excitation

Mi-An Xue, Xiaoli Yuan, Yichao Chen, Jianjian Xing, Hohai Univ, China

128. OCEAN TECH XIV: CCP-WSI Blind Tests 1V. 1)

Thursday June 14 10:30 Room 7

Chair: Deborah Greaves, University of Plymouth, UK

Co-Chair: Shiqiang Yan, City, University of London, UK

Numerical Simulation of Focused Wave Group and Its Impact on a Fixed FPSO Using HOBEM

Dezhi Ning, Dalian Univ of Tech, China

Numerical Nonlinear Analysis of Slamming of a Fixed FPSO-like Structure in Breaking Focused Wave

Qi Li, Yuan Zhuang, Decheng Wan, Shanghai Jiao Tong Univ, China

Numerical Simulation of FPSO-like Structure in Waves by RANS Method

Hao Wu, Tingqiu Li, Wuhan Univ of Tech, China

Focused Wave Loading on a Fixed FPSO Using Naval Hydro Pack

Hrvoje Jasak, V Vukcevic, I Gatin, Univ of Zagreb, Croatia; Steven Downie, Arup, UK

Spectral Element FPNF Simulation of Focused Wave Groups Impacting a Fixed FPSO

Allan Peter Engsig-Karup, Technical Univ of Denmark, Denmark

129. ADVANCED SHIP TECH VII: Powering 3 (V. 4)

Thursday June 14 10:30 Room 8

Chair: Suak-Ho Van, Korea Research Inst of Ships & Ocean Eng, Korea

Co-Chair: C Kawakita, Mitsubishi Heavy Industries, Japan

Characteristics of Wind Speed and Direction during Sea Trials of Ships

Semyun Oh, Soonho Choi, DaeYoul Kang, Donghyun Lee, Sehoon Kim, DongYeon Lee, Samsung Heavy Industries, Korea

Big Data Techniques for Ship Performance Study

Alexios Anagnostopoulos, Chalmers Univ of Technology, Sweden

Estimation Model of Energy Efficiency Operational Indicator Using Public Data Based on Big Data Technology

Sung-Woo Park, Myung-Il Roh, Seong-Hoon Kim, Min-Jae Oh, Seoul National Univ; Won Joon Lee, In Il Kim, Chang Yong Kim, Daewoo Shipbuilding & Marine Eng, Korea

Water Piston Engine Propulsion System

Eyad K Al Smadi, Royal Scientific Society; Khaled Asfar, Jordan Univ of Sci & Tech, Jordan

Numerical Simulation and Analysis of Thrust Deduction of Waterjet Propelled High Speed Planing Craft

Jiabing Jiang, Jiangming Ding, Wuhan Univ of Tech, China

Analysis for the Powering Performance of Dry Cargo Ship in Operation

Ho Kim, Beom Jin Park, Suak-Ho Van, Korea Research Inst of Ships & Ocean Eng, Korea

Numerical Prediction of Cavitation Performance for Rim Driven Thruster

Li-wei Zhang, Zi-rui Li, Wei He, Ling-yu Zhu, Wuhan Univ of Tech, China

A Study on G-modulus Measurement Using Strain Gauge Method for Accurate Shaft Power Measurement

Kyong-Min Bae, Sung-Won Yoon, Jong-Rok Ha, Jun Seok, Je-Hyoung Cho, Research Inst of Medium&Small Shipbuilding, Korea

130. GEOTECH VIII: Soil Property, Mechanics 2 (V. 2)

Thursday June 14 10:30 Room 9

Chair: Jing Wen Chen, National Cheng Kung Univ, Taiwan china

Interaction between Grout Penetration and Fracture Deformation

Fei Xiao, Zhiye Zhao, Nanyang Tech Univ, Singapore

Application of Sparse Modeling to Geotechnical Inverse Problems

Takayuki Shuku, Okayama Univ, Japan

**Shallow Water Depth Inversion Based on the Multi-spectral Data of GF-1 Satellite -
- Case Study on the Ganquan Island**

Wenhu Lu, Shuming Liu, Renhan Cai, Yue Yin, Ting Yu, National Marine Data & Info Service, China

Evaluation of Soil Thrust Interference Effect in Track Systems from Model Track Tests

Gyu-Beom Shin, Sung-Ha Baek, Choong-Ki Chung, Seoul National Univ, Korea

Correlation of Soil Resistivity and Critical Shear Stress Using Rotating Cylinder Test

Young Sang Kim, Gyrong-o Kang, Chonnam National Univ; Jae-seong Lim, KEPCO Research Inst; Sung-ho Suh, Korea Fisheries Resources Agency, Korea

Experimental Study on the Effect of Relative Compaction on Long-term Settlement of the Embankment of High-speed Railways

Chan-Young Yune, Kean Thai Chhun, Gangneung-Wonju National Univ; Su-Hyung Lee, Yeong-Tae Choi, Korea Railroad Research Inst, Korea

Retesting on Tension Fracture of Sand-packed Container in Small-size Model Tests

Yasuyuki Nabeshima, NIT, Akashi College, Japan

131. ARCTIC VIII: Ice Loads on Ships (V. 1)

Thursday June 14 10:30 Room 10

Chair: Dmitri Matskevich, ExxonMobil Upstream Research Co., USA

Co-Chair : Koh Izumiya, Hokkaido University, Japan.

Local Normal and Tangential Ice Forces on the R. V. Polarstern

Robert Frederking, National Research Council Canada, Canada

Improved Numerical Method for Calculation of Icebreaking Force

Jianwei Wang, Qing Wang, Bin Jia, Wei Lu, Harbin Engineering Univ, China

Estimation of Ship Bow-Iceberg Impact Forces with Consideration of the Sliding Effect

Ming Song, Jiangnan Shipyard (Group), China; Zhenhui Liu, Aker Solutions; Jorgen Amdahl, NTNU, Norway

Simulation of Ship-ice Collision Using a Constitutive Model of Ice Material Considering the Effect of Temperature

Tongqiang Yu, Kun Liu, Zhe Wang, Jiangsu Univ of Sci & Tech, China

Calculation of Ship Hull Fatigue Damage caused by Local Ice Loads in Ridged Ice Fields

Yue Han, Junji Sawamura, Osaka Univ, Japan

THURSDAY 12:00

Student Forum

THURSDAY 13:10

Keynote 5

Recent Status of Methane Hydrate R&D Program in Japan (KEYNOTE)

Yoshihiro Masuda, Univ of Tokyo, Japan

Keynote 6

The Prospects for Large-scale Use of Resources Renewable Energy in the Russian Arctic (KEYNOTE)

V I Pavlenko, S Yu Kutsenko, Federal Center for Integrated Arctic Research, Russian Academy of Sciences, Russia

THURSDAY 14:00

132. HYDRODYNAMICS XIV: Wave Mechanics 1 (V. 3)

Thursday June 14 14:00 Room 1

Chair: Erik Vanem, DNV GL, Norway

Co-Chair: Shiqiang Yan, City Univ London, UK

A High-order Spectral Method for Nonlinear Water Waves Interacting with a Linear Shear Current

Philippe Guyenne, Univ of Delaware, USA

Accuracy and Stability of Virtual Source Method for Numerical Simulations of Nonlinear Water Waves

David I Graham, Omar Al-Tameemi, Univ of Plymouth; Kurt Langfeld, Univ of Liverpool, UK

Effect of Storm Surge Barrier at the North Branch on the Extreme High Water Level in Yangtze Estuary

Ao Chu, Jia'ai Tai, Hohai Univ, China

Inland Flooding Responses to the Inclusion of Estuarine Discharges in the Storm Surge Modelling

Sangyoung Son, Chilwoo Lee, Korea Univ, Korea

Simulation of Coastal Flooding during a Typhoon Event with the Consideration of Future Sea-level Rises in Tamsui River

Chih-Chung Wen, Hung-Kuang Univ; Yong-Jun Lin, National Taiwan Univ; Shu-Huei Jhang, National Taiwan Ocean Univ; Li-Hung Tsai, Inst of Transportation, Taiwan China

133. HYDRODYNAMICS XIX: CFD 3-FSI/WSI 2 (V. 3)

Thursday June 14 14:00 Room 2

Chair: Abbas Khayyer, Kyoto Univ, Japan

Co-Chair: Shiqiang Yan, City Univ London, UK

New Method for the Parameterization of Wind Drag Coefficient under Coastal Storm Conditions

Hongyuan Shi, Zaijin You, Ludong Univ; Baoshu Yin, Chinese Academy of Sciences, China

Relaxation Zone Method in SPH-based Model Applied to Wave-Structure Interaction

Corrado Altomare, Flanders Hydraulics Research Tomohiro Suzuki, Ghent Univ, Belgium; Bonaventura Tagliaferro, Univ of Salerno, Italy; Riccardo Briganti, Univ of Nottingham, UK; Jose Domniguez, Alejandro JC Crespo, Vigo Univ, Spain

Simulation of Dam-break Wave Impacting onto Square Column by GPU Accelerated MPS Method

Xin Tian, Xiang Chen, Decheng Wan, Shanghai Jiao Tong Univ, China

Hydrodynamic Behaviour of Two-Dimensional Tandem Arranged Flexible Foils in Uniform Flow

Bin Teng, Longfei Cong, Dalian Univ of Tech, China

134. RENEWABLE ENERGY XIV: Hybrid, Thermal Systems

Thursday June 14 14:00 Room 3
(V. 1)

Chair: Shuichi Nagata, Saga Univ, Japan

Transient Behavior of an Ocean Thermal Energy Conversion (OTEC) System for Electricity Production: Modelling and Experimentation

Alexandre Dijoux, Frantz Sinama, Olivier Marc, Univ of Reunion Island; Bertrand Clauzade, NAVAL Energies; Jean Castaing-Lasvignottes, Univ of Reunion Island, France

The Influence of Wave Energy Absorber Sizes on the Response of a Floating Hybrid Wind-Wave System

Jiyuan Men, Fasuo Yan, Harbin Engineering Univ, China; QW Ma, City University London, UK

Optimization Model for Island Multi-Energy Complementary Power Supply System for Based on Life-cycle Cost

Jing Jia, Bei Li, Huiying Gao, Hai Sun, Ocean Univ of China, China

Finite Element Analysis of Photovoltaic Floating Body Based on Design Wave Method

Wei Li, Lilan Zhou, Wuhan Univ of Tech, China

Numerical Investigation for Mooring System Analysis Accounting for Blade Force

Fan Bu, Yuhang Long, Yanping He, Shanghai Jiao Tong Univ, China

135. OMGH VI: GAS HYDRATES 2

-Production Fundamental (V. 1)

Thursday June 14 14:00 Room 4

Chair: Takeshi Komai, Tohoku Univ, Japan

Considering Small Particles Origins in Turbidite Layers during Methane Hydrate Production Process

Hiroyuki Oyama, Tomoya Ogino, Georgios Fytianos, Toru Sato, Univ of Tokyo, Japan

Experimental Study on Acid Injection for Enhanced Gas Recovery from Gas Hydrate Reservoir

Yusuke Nakano, F Kaneko, K Nakamura, Y Sakamoto, T Komai, Tohoku Univ, Japan

Risk Management of Hydrate Reformation Using Synergistic Inhibition during Methane Hydrate Production

Yutaek Seo, Seoul National Univ; Jakyung Kim, KAIST; Ki Heum Park, Seoul National Univ; Daejun Chang, KAIST, Korea

Risk Management of Hydrate Reformation Using Synergistic Inhibition during Methane Hydrate Production

Yutaek Seo, Seoul National Univ; Jakyung Kim, KAIST; Ki Heum Park, Seoul National Univ; Daejun Chang, KAIST, Korea

Adaptation of an Oilfield Subsea Tree for Gas Hydrates Production

Jun Kai Feng, Tian Feng Zhao, Frank Lim, China Univ. of Petroleum – Beijing, China

Particular Qualities of the Formation and Decomposition of Natural Gas Hydrates from Sakhalin 3 Offshore Fields

Iurii M Em, Alexey A Morozov, Svetlana G Gulkova, Alexander N Gulkov, Far Eastern Federal Univ, Russia

136. HPM IX: Developments in Materials Panel (V. 4)

Thursday June 14 14:00 Room 5

Chair: Eric J Wright, ExxonMobil Production, USA

Co-Chair: E Tsuru, Nippon Steel & Sumitomo Metal;

Panelists

137. COASTAL XII: Coastal Management 1 (V. 3)
Thursday June 14 14:00 Room 6

Chair: L.-K. Chien, National Taiwan Ocean Univ., Taiwan China
Co-Chair: Kazuhiko Honda, National Inst for Land &Infrastructure Management, Japan

Experiment on Coastal Dikes Having Resilience Against Unexpected Wave Overtopping

Tetsuya Takeshita, Fuminori Kato, Naoki Fukuhara, National Inst for Land & Infrastructure Mgmt; Tatsuyuki Igarashi, Public Works Research Center; Tomoyoshi Koizumi, Nihon Mikuniya Corp; Takaaki Uda, Public Works Research Center, Japan

Risk Analysis of Regional Wave Overtopping

Wen-Son Chiang, Kai-Cheng Hu, Wei-Shiun Lu, National Cheng Kung Univ, Taiwan China

The Influence of Coastal Developments on the Coastal Changes at Hsinchu Coast, Taiwan

Jui Chan Hsu, Wei Po Huang, Jaw Guei Lin, National Taiwan Ocean Univ, Taiwan China

The Comprehensive Renovation and Restoration of Coastal Zone in China

Shuxiu Liang, Wenbin Jiang, Dalian Univ of Tech; Jiawen Sun, National Marine Environmental Monitoring Center, China

138. OCEAN TECH XV: CCP-WSI Blind Tests 2(V. 1)
Thursday June 14 14:00 Room 7

Chair: Ling Qian, Manchester Metropolitan University, UK

Numerical Modelling of Focusing Wave Impact on a Fixed Offshore Structure

Zhihua Xie, Cardiff Univ; Shiqiang Yan, Qingwei Ma, City Univ of London; Thorsten Stoesser, Cardiff Univ, UK

Numerical Simulation of Focused Wave Impact with a Fixed FPSO Using FNPT and Hybrid Solvers

S Yan, Q W Ma, City, University of London, UK

Numerical Study on Flow Evolution after Dual Stepped Cylinder at Low Reynolds Number

Junxian Wang, Q W Ma, City, University of London, UK; Decheng Wan, Shanghai Jiao Tong Univ, China; Shiqiang Yan, City, University of London, UK

Examination on Errors of Two Simplified Models for Simulating Weakly Spreading Seas

Jinghua Wang, Qingwei Ma, Shiqiang Yan, City, University of London, UK

Numerical Modelling of a Focused Wave Impact on a Fixed Structure

Liang Yang, Imperial College London, UK

139. OCEAN TECH XIII: Structural Health, Monitoring (V. 1)
Thursday June 14 14:00 Room 8

Chair: Constantine Michailides, Cyprus Univ of Technology,
Cyprus

Co-Chair: Athanasios Kolios, Cranfield University, UK

Structural Integrity Management of Offshore Structures via RB-FEA Based Digital Twins

David J Knezevic, Akselos, Inc; Partha Shrama, Brian Healy, Grzegorz Malinowski, DNV GL, USA

Structural Health Monitoring (SHM) of Residual and Applied Stresses Using a Non-Destructive Ultrasonic Technique

Jacob Kleiman, Yuri Kudryavtsev, Structural Integrity Technologies, Canada; Hiroo Sugihara, Laser Measurement Corp, Japan

Technologies for Monitoring the Performance of Marine Structures

Renos Votsis, Constantine Michailides, Elia Tantele, Toula Onoufriou, Cyprus Univ of Technology, Cyprus

Data Processing Strategies for Monitoring an Offshore SPM System

Michele Rizzo, Univ of Florence; P Castelli, Edison SpA; O Spadaccini, A Vignoli, Univ of Florence, Italy

An Efficient Energy Management Scheme for Wireless Sensor Network-based Structural Health Monitoring System Using On-Site Earthquake Early Warning System and Wake-on Radio

Jiun-Ting Ding, Shih-Lin Hung, Yung-Chi Lu, National Chiao Tung Univ, Taiwan China

Study on Jacket Structural Design by Rule Scantling and Structural Strength Evaluation for a 20K-ton Jacket Platform

Doyoub Kim, Kangsu Lee, Byoungjae Park, Hyun-seok Kim, Korea Research Inst of Ships & Ocean Eng, Korea

Shaped Pipes in Jack-up Rigs

Jennifer Hrabowski, Stefan Herion, Oliver Fleischer, KoRoH GmbH, Germany

Advanced Reliability Assessment of Offshore Wind Turbine Monopiles by Combining Reliability Analysis Method and SHM/CM Technology [Proceedings only]

Athanasios Kolios, Lin Wang, Cranfield Univ, UK

140. GEOTECH IX: Ground Improvement, Soft Soil (V. 2)
Thursday June 14 14:00 Room 9

Chair: Osoon Kwon, Korea Inst of Ocean Science and Technology, Korea

Co-Chair: Dong-Sheng Jeng, Griffith Univ, Australia

Assessment of the Rainfall-Induced Landslide Distribution

Jing-Wen Chen, National Cheng Kung Univ; Yie-Ruey Chen, Shun-Chieh Hsieh, Chang Jung Christian Univ, Taiwan China

Strength Behavior and Hydraulic Resistance Properties of Dredged Marine Clay Stabilized with Basic Oxygen Furnace Steel Slag

Gyeong-o Kang, Chonnam National Univ, Korea; Takashi Tsuchida, Arlyn Aristo Cikmit, Hiroshima Univ; Hideki Honda, JFE Steel; Yi Xin Tang, Kanmon Kowan Construction, Japan; Young-sang Kim, Tan Manh, Do, Chonnam National Univ, Korea

Strength Development of Stabilized Dredged Marine Clay Using Basic Oxygen Furnace Steel Slag

Arlyn Aristo Cikmit, Takashi Tsuchida, Gyeong O Kang, Hiroshima Univ; Yi Xin Tang, Kanmon Kowan Construction; Hideki Honda, JFE Steel, Japan

The Effect of Sand Content on Strength Development of Cement Treated Soil with Different Initial Water Content

Erika Yamashita, Arlyn Aristo Cikmit, Gyeong O Kang, Tarhata Pantao Kalim, Takashi Tsuchida, Hiroshima Univ, Japan

Determination of Settlement Considering the Lateral Flow on Soft Ground Induced by Embankment

Heuisoo Han, Kumoh National Inst of Tech; Eun Sang Im, Korea Water Resources Development Corp; Min Cheol Park, Kumoh National Inst of Tech; Moon S Nam, Korea Expressway Corp, Korea

Verification of Field Application of Soft Ground Improvement Method by Ground Heating Methods

Min Cheol Park, Kumoh National Inst of Tech; Moon S Nam, Korea Expressway Corp; Eun Sang Im, Korea Water Resources Development Corp; Heuisoo Han, Kumoh National Inst of Tech, Korea

An Experimental Study on Ground Improvement Effect after Soil Improvement at the Back of the L-Shaped Retaining Wall

Toru Osakabe, Shozo Wada, Ashikaga Inst of Tech; Hiroshi Ijyuin, Asahi Kasei Homes; Jodetp Sato, Nihon Univ, Japan

Experimental Investigations of Solute Transport Behavior in Underground Dam

Rinako Hamada, Kazuya Inoue, Hiroki Takada, Tsutomu Tanaka, Kobe Univ, Japan

Behavior of Road Embankments on Soft Soil Using Lightweight Air Foamed Soil

Geuguwen Yeo, Yongjae Lee, Hongyeon Kim, Sambu Construction; Gillim Yoon, Korea Inst of Ocean Sci & Tech, Korea

Continue at Session 150

141. ARCTIC IX: Arctic Monitoring (V. 1)

Thursday June 14 14:00 Room 10

Chair: Nataliya A Marchenko, University Centre in Svalbard, Norway

Co-Chair: Aleksey Marchenko, University Centre in Svalbard, Norway

Experimental Analysis of Uniaxial Compressive Strength of Columnar Saline Model Ice

Yukui Tian, Shaopeng Ji, Xuan Zhang, Yinghui Wang, Wei Wu, China Ship Scientific Research Center, China

An Approach for Estimation of Ice Thickness Region Using TensorFlow
Dong-Ham Kim, Jong-Ho Nam, Korea Maritime and Ocean Univ, Korea

Experimental Investigation on the Wellhead Stability during the Drilling Behavior in Permafrost Layer

Lilin Li, Jin Yang, China Univ of Petroleum – Beijing; Ke Ke, Lei Wang, Sinopec Research Inst of Petroleum Eng; Qishuai Yin, Li Yan, China Univ of Petroleum – Beijing, China

Variability Characteristics of Winter Sea Ice in the Barents Sea Based on a Statistical Approach

Chenglin Duan, Sheng Dong, Zhifeng Wang, Shanshan Tao, Ocean Univ of China, China

Morphodynamic Explanation of Wave Erosion of Marine Terraces during the Autumn-Winter Period

Victor Afanas'ev, Inst of Marine Geology & Geophysics, FEB RAS, Russia

Research and Development of Temperature and Depth Profile Measurement System for Seawater under Ice and its Application in Liaodong Bay

Ning Xu, National Marine Environmental Monitoring Center; Yanlin Wang, Dalian Univ of Tech; Yuan Chen, Yongjun Yang, National Marine Environmental Monitoring Center; Ruiqiang Huang, Xiyu Zhao, Likun Zhao, Dalian Univ of Tech; Shuai Yuan, Xueqin Liu, Wenqi Shi, Weibin Chen, National Marine Environmental Monitoring Center, China

THURSDAY 16:20

142. HYDRODYNAMICS XV: Wave Mechanics 2 (V. 3)

Thursday June 14 16:20 Room 1

Chair: Philippe Guyenne, Univ of Delaware, USA

Combined Long-Term and Short-Term Description of Extreme Ocean Wave Conditions by 3-Dimensional Environmental Contours

Erik Vanem, DNV GL; Arne B Huseby, Univ of Oslo, Norway

Velocity Distribution and Energy Dissipation in Experimental Breaking Waves

Yuanyuan Xu, Shuxiu Liang, Zhaochen Sun, Dalian Univ of Tech; Yihui Zhang, Nanjing Inst of Geography & Limnology, China

Research on Equivalent Design Waves of Container Vessel Based on Stress Spectrum Analysis

Yachong Liu, Marine Design & Research Inst of China, China

Extreme Value Analysis of Linear Wave-induced Load Based on Brent Method

Penghao Shan, Jiameng Wu, Marine Design & Research Inst of China, China

Study on the Wave Dissipation Performance of Vertical Revetment in Inland Waterway

Lilei Mao, Yimei Chen, Southeast Univ, China

143. HYDRODYNAMICS XX: CFD Panel

Thursday June 14 16:20 Room 2

Chair: Shiqiang Yan, City Univ London, UK

Co-Chair: Sa Yong Hong, KRISO, Korea

Panelist

144. RENEWABLE ENERGY XV: Tidal, Current Energy (V.

Thursday June 14 16:20 Room 3

Chair: Beom Soo Hyun, Korea Maritime & Ocean Univ, Korea

Motion Response Study of Floating Tidal Station with Consideration of the Turbine Working Load

Yishan Yu, Zhejiang Ocean Univ; Silu Chen, Shanghai Micropowers Co; Honghe Xie, Zhejiang Ocean Univ, China

MPPT Control Scheme for a Tidal Current Power Generation System using DFIG - Effect of the Gear Ratio and the Rated Capacity of Generator by Stator D-axis Current

Kentaro Tsuji, Kazuhisa Naoi, Mitsuhiro Shiono, Nihon Univ, Japan

Undersea Noise and Scale Effect of Counter-rotating Propellers in Tidal Stream

Pin Liu, Hoyun Jung, Tengen Murakami, Toshiaki Kanemoto, Saga Univ; Morihito Inagaki, JSE Limited Co, Japan

Control Strategy for a Tidal Compensation System for Wave Energy Converter Device

Mohd Nasir Ayob, Valeria Castellucci, Johan Abrahamsson, Uppsala Univ, Sweden

Characterisation of Wave-Tidal Current-Turbulence Interactions for Tidal Energy Sites in the Orkney Islands

Vengatesan Venugopal, Brian Sellar, Alistair Borthwick, Gareth Wakelam, Univ of Edinburgh, UK

The Relationship between Efficiency and Power Take-off Damping in Pivoted-cylinder Vortex-induced Vibration Marine Current Energy Extraction

Brad Stappenbelt, Samantha Clark, Andrew Johnstone, Univ of Wollongong, Australia

Post-Evaluation and Analysis of Key Components Design of Tidal Current Energy Generation Devices of 500kW Ocean Energy Isolated Power System Demonstration Project

Zhichuan Li, Ting Yu, Yonghu Wu, Juan Yue, Li Zhang, CNOOC Research Inst; Liang Zhang, Harbin Engineering Univ; Shujie Wang, Ocean Univ of China, China

145. OMGH VII: GAS HYDRATES 3 - CO₂ Storage (V. 1)

Thursday June 14 16:20 Room 4

Chair: Norio Tenma, National Inst. of AIST, Japan

Calculation for Solubility of Methane and Carbon Dioxide in Water in Presence of Hydrate

Zunzhao Li, Xiaolin Wang, Ming Li, SINOPEC Dalian Research Inst of Petroleum and Petrochemicals, China

Pore-scale Numerical Simulation of CO₂ Hydrate Formation

Tatsuya Fuji, Univ of Tokyo, Japan

Experimental Verification of CH₄ – CO₂ Replacement in Various Gas Hydrate Structures for CH₄ Production and CO₂ Sequestration

Wonjung Choi, Yohan Lee, Yongwon Seo, Ulsan National Inst of Science & Tech, Korea

Research of Improving CO₂ Hydrate Conversion from Microscopic Ice Particle in Fluidized Bed

Erii Kinoshita, Shinichiro Hirabayashi, Univ of Tokyo; Yoshitaka Yamamoto, Naoko Suzuki, Michika Otake, National Inst of AIST, Japan

Simultaneous Olivine Alteration and Carbonation in CO₂-rich Geological Condition

Jiajie Wang, Kengo Nakamura, Noriaki Watanabe, Takeshi Komai, Tohoku Univ, Japan

Experimental Study of the Effect of Intensifier Gases on the Kinetics of the Methane Replacement Process with Carbon Dioxide in Gas Hydrate

Pavel I Osmolovskiy, Yuri M Em, Anton A Pichugov, Ivan V Zemchenko, Alexander N Gulkov, Far Eastern Federal Univ, Russia

146. UNDERWATER TECH VII: Panel (V. 2)

Thursday June 14 16:20 Room 5

Chair: Satoru Yamaguchi, Kyushu Univ, Japan
Co-Chair: Shojiro Ishibashi, JAMSTEC, Japan

Panelist

147. COASTAL XIII: Coastal Management 2 (V. 3)

Thursday June 14 16:20 Room 6

Chair: Hiroyasu Kawai, National Inst. of Maritime, Port & Aviation Tech, Japan

Tsunami Interaction with Bay Beaches and Associated Headlands – A Numerical Case Study Based on 2004 and 2011 Tsunami Disasters

Kukulege Bhathisha Akalanka Silva, Susumu Araki, Osaka Univ, Japan

Coastal Engineering Design for a Stable Beach Resort Development along Davao Gulf

Laurenz Luigi B Cruz, AMH Philippines; Eric C Cruz, Univ of the Philippines; Jose CEL Santos. AMH Philippines, Philippines

Sensitivity Analysis of Diffusion Coefficient in Water Environmental Capacity Calculation

Shasha Lu, Xiaoming Xia, Second Inst of Oceanography, China

Applicability of Environmental DNA Analysis and Numerical Simulation to Evaluate Seagrass Inhabitants in a Bay

Maiko Akatsuka, Yuriko Takayama, Kazunori Ito, Taisei Corp, Japan

Numerical Analysis of Air Bubble Barrier to Prevent Harmful Substances Accessing to Power Plant Intake

Sunghoon Song, Youngjun You, Younju Jeong, Minsu Park, Korea Inst of Civil Eng & Building Tech, Korea

148. OCEAN TECH XVI: CCP-WSI Blind Tests 3 (V. 1)
Thursday June 14 16:20 Room 7

Chair: Qingwei Ma, City University of London, UK

Numerical Simulation of Phase-Focused Wave Group Interaction with an FPSO-Shaped Body

Hao Chen, Ling Qian, Zhihua Ma, Derek Causon, Clive Mingham, Manchester Metropolitan Univ, UK

Numerical Simulation of Focused Wave Impact with a Fixed FPSO Using Hybrid Solver Combining the QALE-FEM with ISPH

Georgios Fourtakas, Benedict Rogers, Steven Lind, Peter Stansby, Manchester Univ, UK

Numerical Modelling of Wave Interaction with a FPSO Using a Combination of OpenFOAM and Lagrangian Models

Pablo Higuera, National Univ of Singapore, Singapore; Eugeny Buldakov, Dimitris Stagonas, University College London, UK

Numerical Modelling of Focused Wave Impact with a Fixed FPSO-like Structure Using Particle-in-Cell Solver

Qiang Chen, Jun Zang, Univ of Bath, UK

CPP-WSI Blind Test Series1: Assessment of the Required Model Fidelity for Numerical Simulation of Wave Interactions with a Fixed FPSO-like Structure [Oral Presentation]

Deborah Greaves, Univ of Plymouth, UK, et al

Numerical Simulation of Focused Wave Interactions with a Fixed FPSO Using OpenFOAM 4.1

S Brown, P-H Musiedlak, E Ransley, D Greaves, Univ of Plymouth, UK

149. ADVANCED SHIP TECH VIII: Ship Production (V. 4)
Thursday June 14 16:20 Room 8

Chair: Myung-II Roh, Seoul National Univ, Korea

Statistical Analysis and Case Study in Shipyard Production Management

Jong Hun Woo, Korea Maritime and Ocean Univ; Yong-Kuk Jeong, Seoul National Univ; Philipe Lee, Xinnos, Ji Hye Kim, Yong Kil Lee, Korea Maritime and Ocean Univ, Korea

Tablet Control System for Offshore Support and Research Vessel — Development, Implementation, and Operational Testing—

Nobukazu Wakabayashi, Takayuki Watanabe, Kobe Univ; Misako Urakami, Tokuyama College; Yoshiji Yano, Kobe Univ, Japan

Experimental Investigation of Shafting Bearing Load Measurement under Dynamic Running State Condition

Zhongchi Liu, Ji Wang, Dalian Univ of Tech; Jianyi Bi, Bohai Shipbuilding Heavy Industries, China; Wie Min Gho, Nanyang Technological Univ, Singapore; Xiao Liu, Dalian Univ of Tech, China

Double-stage Mounting System Applied in Superyacht

Tatiana Pais, Dario Boote, Univ of Genova, Italy

Experimental Study on the Vibration Characteristics of Ship Propulsion Forced by the Hull Deformation

Zhe Tian, Ocean Univ of China; Wei Li, Powerchina Huadong Engineering; Fushun Liu, Wentao He, Ocean Univ of China; Cong Zhang, Wuhan Univ of Tech, China

Finite Element Frequency Analysis of Bridge Pier under the Soil-Pile Interaction

Hsuan-Teh Hu, P-J Chen, K-M Wu, K-Y Liu, National Cheng Kung Univ, Taiwan China

Flooding Analysis Based on PBD (Position Based Dynamics) for Ships and Offshore Structures

Ki-Su Kim, Myung-Il Roh, Seung-Min Lee, Seoul National Univ, Korea

Thursday **150. GEOTECH X: Panel (V. 2)**
June 14 **16:20** Room 9

Chair: Chun Fai Leung, National Univ of Singapore, Singapore

Co-chair: Yun Wook Choo, Kongju National Univ, Korea

Panelist

Thursday **151. ARCTIC X: Panel(V. 1)**
June 14 **16:20** Room 10

Chair: Mohamed Sayed, National Research Council, Canada

Co-Chair: Vladimir Pavlenko, Arkhangelst Scientific Center, RAS, Russia

Panelist