

July 6–11

Vancouver, Canada

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**The Eighteenth (2008) International
Offshore (Ocean) and Polar
Engineering Conference**

AND

**1st ISOPE Frontier Energy Resources
(FER-2008) Symposium**

**6th ISOPE High-Performance Materials
(HPM-2008) Symposium**

**2nd ISOPE Strain-Based Design
(SBD-2008) Symposium**

ISOPE-2008

Sheraton Vancouver Wall Center Hotel
Vancouver, Canada; July 6–11

Technical Program

Refereed papers from 48 countries in 114 sessions and
5 plenary sessions

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TECHNICAL PROGRAM

The Eighteenth (2008) International Offshore and Polar Engineering Conference Vancouver, Canada, July 6–11, 2008

The number at end of the session title indicates the tentative number of the proceedings volume. Only the changes on titles or authors the ISOPE-2008 Technical Program Committee (TPC) received in writing before [January 22, 2008](#) are reflected in this program. Final corrections will be updated in the Conference Proceedings of peer-reviewed papers and the Final Program. Proceedings CD-ROM ([ISBN 978-1-880653-70-8](#)) will be available as a set of 4 volumes (3,600 pp. est.) from ISOPE during and after the Conference.

Proceedings papers are **indexed** by [Engineering Index](#) and [Compendex](#) and others.

SUNDAY, July 6

Conference Reception

17:00

Pavilion Ballroom and Foyer, 3F

MONDAY 09:00

1. OFFSHORE AND ARCTIC REVIEW — 2008 (V. 1)

Monday July 7 09:00 Grand Ballroom

Chair: Isaacson, M, University of British Columbia, Canada

Co-Chair: Naito, S, Osaka University, Japan

Opening Address

Koterayama, W, Professor, ISOPE President, Kyushu Univ., Kasuga, Japan

What's Really Happening with Canada's Arctic Sea Ice?

Bancroft, D, Director, Canadian Ice Service, Environment Canada, Canada

Underwater Autonomous Sensing Technologies at the Office of Naval Research

Herr, F L, Department Head, Office of Naval Research, USA

Beyond Easy Oil – What Lies Ahead for Energy?

Kapusta, S, Chief Scientist, Shell Global Solutions International, The Netherlands

Development of the Far East and Zabaikalye of Russia Till 2013

Levdanskyi, A Y, Chairman, Oil & Gas Association of Far East, Russia

MONDAY 13:00

Plenary Presentation I (V.2)

Monday July 7 13:00 Jr Ballroom C
Strain-based Design: 2007 Review
Lillig, D B, ExxonMobil Development Co, USA
Introduction by Wang, Y-Y, Center for Reliable Energy Systems, USA

2. FPSO AND COMPLIANT STRUCTURES I (V. 1)

Monday July 7 14:00 Pavilion D

Chair: Ghoneim, G A, Det Norske Veritas, USA
Co-Chair: Sun, L P, Harbin Engineering Univ, China

The Coupled Dynamic Responses of Tension Leg Platform
Zeng, X H, Wu, W H, Li, X W, Wu, Y X, Inst of Mechanics, CAS, China

Modeling and Simulation of a Tension Leg Platform
Masciola, M, Nahon, M, McGill Univ, Canada

An Extended Tension Leg Platform for Post-Katrina Gulf of Mexico
Murray, J J, Yang, C, FloaTEC; Krishnayswamy, P, J Ray McDermott; Zou J, Houston Offshore Engineering, USA

Robust Design Optimization of Mass Damper for Control of Offshore Platform
Taflanidis, A A, Duke Univ, USA; Angelides, D C, Aristotle Univ of Thessaloniki, Greece; Scruggs, J T, Duke Univ, USA

Hull Form Optimization of a Tension-leg Platform Based on Coupled Analysis
Lee, J Y, Lim, S J, Samsung Heavy Industries, Korea

Computation of Extreme Tendon Bending Moment and Its Impacts on Tendon Design
Zou, J, Zhou, Y, Boo, S Y, Houston Offshore Engineering, USA

3. HYDRODYNAMICS I: CFD 1 - NWT (V. 3)

Monday July 7 14:00 Jr Ballroom D

Chair: Naito, S, Osaka Univ, Japan

On the Controlled Generation of Fully Nonlinear Irregular Waves in an Inviscid NWT
Greene, N, Grilli, S T, Univ of Rhode Island, USA

A Sensitivity Analysis of the Bottom-up Algorithm for the Segmentation of Hs-time Series
Soukissian, T H, Hellenic Center for Marine Research; Photiadou, C S, National Technical Univ, Greece

Prediction of Dam Break Hydrodynamic Wall Pressure
Baeten, A, Stern, D, Lenkflugkoepersysteme, Germany

CFD Modelling of Extreme Wave Loads on Offshore Wave Energy Devices
Causon, D M, Mingham, C G, Hu, Z Z, Gao, F, Manchester Metropolitan Univ, UK

Numerical Simulation of Strongly Nonlinear Wave-ship Interaction by CIP/Cartesian Grid Method
Hu, C H, Kashiwagi, M, Sueyoshi, M, Nakagiri, I, Kyushu Univ, Japan

4. GEOTECH I: Wave & Slope Stability (V. 2)

Monday July 7 14:00 Pavilion C

Chair: Brandes, H G, Univ of Hawaii, USA
Co-Chair: Hong, W P, Chung-Ang Univ, Korea

Ormen Lange Pipelines – Geotechnical Challenges

Eiksund, G R, Brennodden, H, GeoPartner Marin; Paulsen, G, Reinertsen AS; Witsø, S-A, StatoilHydro, Norway

Effect on a Decrease in the Ground Vibration by Using Anchoring Type Scrap Isolation Wall

Hayakawa, K, Kashimoto, T, Nakaya, I, Ritsumeikan Univ; Matsui T, Fukui Univ of Technology, Japan

Vertical Pullout Capacity of Torpedo Piles for Offshore Structures

Won, J Y, Morvant, M N, Fugro Consultants; Gilbert, R B, Univ of Texas at Austin, USA

The Study of In-situ Pore Pressure Monitoring of Seabed Soil under Wave Loading

Chien, L K, Tzeng, W C, Feng, T S, Chang, S C, National Taiwan Ocean Univ, Taiwan, China

FEM Analysis of Seabed Stabilization Method against Sea Wave Loading with Permeable Columns

Asahara, S, Miura, K, Toyohashi Univ, of Tech; Otsuka, N, North Japan Port and Harbor Consultant; Tanaka, J, Toyohashi, Univ of Tech, Japan

Field Observation of Wave-induced Seabed Behavior for the Estimation of Geomaterial Properties and the Effect of Permeable Column Method

Asahara, S, Miura, K, Toyohashi Univ of Tech; Otsuka N, North Japan Port and Harbor Consultant; Tanaka, J, Toyohashi Univ of Tech, Japan

Effects of Tidal Currents and Waves on Bottom Suspended Sediment Fluxes off Two River Mouths

Sidik, S, Aoki, S, Kato, S, Toyohashi Univ of Technology, Japan

A Successful Case to Mitigate the Slope Instability of Coastal Park in Southern Taiwan during Heavy Waves

Hsiao, D H, National Kaohsiung Univ of Applied Science, Taiwan, China

7. COASTAL I: Wave-Structure Interactions (V. 3)

Monday July 7 14:00 Pavilion B

Chair: Angelides, D C, Aristotle Univ of Thessaloniki, Greece
Co-Chair: Cho, W C, ChungAng Univ, Korea

Transformations of Wave Pass through Cylinders

Lin, M C, Hsu, C M, Ting, C L, National Taiwan Univ, Taiwan, China

Experimental Study on Fluid Force on Bridge Beam Due to Tsunami

Araki, S, Deguchi, I, Osaka Univ; Itoh, S, CTI Engineering, Japan

Wave Energy Dissipation Due to the Offshore Porous Structure

Hsiao, S S, Fang, H M, Lee, T S, National Taiwan Ocean Univ; Huang, S Y, National Cheng Kung Univ, Taiwan, China

Experiments on Nonlinear Wave Scattering by a Submerged Rectangular Step in the Presence of a Current

Huang, Z H, Nanyang Technological Univ, Singapore

A Study for Wave Absorbing Effect of Submerged Breakwater

Shin, M S, Lee, H J, Kunsan National Univ, Korea

On Effect of Plane Arrangement of Submerged Breakwaters on Setup, Swash and Runup over Beach

Hur, D S, Gyeongsang National Univ; Kee, S T, Seoul National Univ of Tech; Lee, D W, Gyeongsang National Univ; Yoon, J S, Inje Univ, Korea

8. UNDERWATER & DEEP SEAFLOOR I (V. 2)

Monday **July 7** **14:00** Jr Ballroom A

Chair: Nakamura, M, Kyushu Univ, Japan

Communications between Vehicles in Thetis, A Real Time Multi-vehicles Hybrid Simulator for Heterogeneous Vehicles
Parodi, O, Creuze, V, Jouvencel, B, LIRMM, France

On-line High-resolution Sonar Image Recognition Technique for Autonomous Vehicles
Yu, S C, Univ of Hawaii, USA; Yuh, J K, Korea Aerospace Univ, Korea

Performance Analysis of IEEE 802.11 Based MAC for Underwater Acoustic Networks
Park, J W, MOERI/KORDI; Cho, A R, Univ of Science and Technology; Ko, H L, Univ of Ho-Seo; Lim, Y K, MOERI/KORDI, Korea

Design of the MAC Protocol for Distributed Underwater Acoustic Networks
Lim, Y K, Park, J W, MOERI/KORDI; Cho, A R, Univ of Science and Technology; Ko, H L, Univ of Ho-Seo, Korea

Underwater SLAM with ICP Localization and Neural Network Objects Detection
Gambella, L, Marani, G, Univ of Hawaii, USA; Conte, G, Scaradozzi, D, Zanoli, S M, Univ Politecnica delle Marche, Italy

9. OCEAN & WIND ENERGY I: Waves 1 (V. 1)

Monday **July 7** **14:00** Jr Ballroom B

Chair: Sarmiento, AJNA, IST, Lisbon Technical Univ, Portugal

Co-Chair: Hyun, B S, Korea Maritime Univ, Korea

Global Wave Energy Resource Assessment
Cornett, A M, National Research Council, Canada

A Proposal for New OWC-type Wave Power Generation System
Hadano, K, Taneura, K, Koirala, P, Yamaguchi Univ, Japan

Modelling of a Wave Energy Harnessing Breakwater
Koutitas, C, Savvidis, Y, Aristotle Univ of Thessaloniki, Greece

Determination of Optimum Caisson Configuration for Cross-flow Type Wave Power Hydro Turbine
Lee, Y H, Choi, Y D, Korea Maritime Univ, Korea

Analysis and Design of Wave Energy Conversion Buoy
Oh, J S, Korea Maritime Univ, Korea; Komatsu, T, Kyushu Univ, Japan; Kim, Y H, Korea Maritime Univ, Korea

Second Order Diffraction of Surface Gravity Waves around Cylindrical Shell in Water of Finite Depth
Zhu, S P, Yue, T C L, Univ of Wollongong, Australia

Design of an Oscillating-arm of Double-stroke Mechanism to Harvest Ocean Wave Energy
Viggiani, P, UNEXPO LCM, Venezuela

10. RELIABILITY & ADV SHIP I: Reliability 1 (V. 4)

Monday **July 7** **14:00** Orca

Chair: Langen, I, Stavanger University, Norway

Co-Chair: Kawano, K, Kagoshima Univ, Japan

Assessment of Risk of Failures and Possibility of Extreme Situations for the Substructure of Tanker Loading Unit (TLU)

Bellendir, E N, Finagenov, O M, The B.E.VEDENEEV VNIIG, Russia

Assessment of the Level of Uncertainty of the Hull Girder Shear Stresses

Ivanov, L D; American Bureau of Shipping, USA

Cognitive Maps for Structural Reliability Control

Kim, L V, Far Eastern State Technical Univ, Russia

Crack Detection in Offshore Structure Using Dynamic Characteristics and Wavelet Transform

Zhang, Z, Ocean Univ of China; Wang, D, Shanghai Jiao Tong Univ, China

An Efficient Integration Procedure to Calculate Response Spectral Moments of Offshore Structures

Karadeniz, H, Delft Univ of Technology, The Netherlands

Cohesive Zone Modelling of Hydrogen Induced Fracture in Duplex Stainless Steel

Olden, V SINTEF; Thaulow, C, Johnsen, R, NTNU; Østby, E, SINTEF, Norway

Fatigue Design of Ship Structures: Application of “Strain-Life” Criterion

Petinov, S V, St. Petersburg Polytechnic Univ, Russia

11. PIPELINES & RISERS I: Deepwater Installation 1 (V. 2)

Monday

July 7

14:00

Finback

Chair: Teigen, P, Statoil, Norway

Co-Chair: Frazer, I, Acergy, UK

ATLANTIS Pipe-in-pipe Installation by Heerema Marine Contractors

Van Opstal, A, Heerema Marine Contractors, USA

On the Resonant Behaviour of Suspended Modules during Deepwater Installation

Teigen, P, Statoil, Norway

Installation of Reeled Rigid Pipelines Connected to Large and Heavy Subsea Structures in Ultra Deepwater

Xavier, M, Johnson, K, Moen, K, Tanscheit, P, Sampaio, R, Subsea7; Braga, V, Neto, B, Petrobras, Brazil

Flow Assurance by Direct Electrical Heating for Shallow Water Installations at Continuous Operation

Lervik, J K, SINTEF Energy Research; Heggdal, O, Krah, J, Aker Kvaerner Subsea; Kulbotten, H, SINTEF Energy Research; Nysveen, A Norwegian Univ of Science & Technology, Norway

Optimised Snaked-Lay Geometry

Rundsag, J O, J P Kenny Norge, Norway; Tjørnes, K, Cumming, G, Rathbone, A, J P Kenny Pty, Australia

Fibre Rope Deployment System and Rope Management Process

Torben, S, ODIM Alitec; Bunes, Ø, ODIM; Ingeberg, P, ODIM Alitec, Norway

MONDAY 16:20

12. FPSO AND COMPLIANT STRUCTURES II (V. 1)

Monday July 7 16:20 Pavilion D

Chair: Huang, Z J, ExxonMobil Upstream Research, USA

Interim Construction Phase of Compliant Piled Tower (CPT) in West Africa [Oral Presentation]

Lee, G T, Moon, H A, Kim, J T, Kim, J K Daewoo Shipbldg & Marine Engineering, Korea

Dynamic Responses of a Dry Tree Semi-submersible Platform with Ram Style Tensioners in the Post-Katrina Irregular Seas

Zou, J, Houston Offshore Engineering, USA

Assessment of Alternative Implementation Schemes for the Coupled Analysis of Floating Systems

Bahiense, R A; Lima, A L; Corrja, F N; Jacob, B P, COPPE/UFRRJ, Brazil

Numerical Simulations of Hydrodynamic Resonance in Narrow Gap between Twin Bodies Subject to Water Waves

Lu, L, Dalian Univ of Tech, China; Cheng, L, Univ of Western Australia, Australia; Teng B, Li, Y C, Dalian Univ of Tech, China

Performance Evaluation of Articulated Multi-body Floaters in Harsh Environment

Mansour, A M, Huang, E W, Zhong, J, VersaMarine Eng, USA

Tuning Air Pressure of Large Aircushion Supported Structures

Van Kessel, J L F, Delft Univ of Technology, The Netherlands

13. HYDRODYNAMICS II: CFD 2 - NWT (V. 3)

Monday July 7 16:20 Jr Ballroom D

Chair: Ferrant, P, Ecole Centrale de Nantes, France

Co-Chair: Wan, D C, Shanghai Jiao Tong Univ, China

Coupling of NWT and Large Eddy Simulation Models for Wave-induced Sediment Transport

Harris, J, Grilli, S T, Univ of Rhode Island, USA

On the Interactions between Random Waves and a Freely Floating Body in a Fully Nonlinear Numerical Wave Tank

Huang, C C; Tang, H J, National Sun Yat-Sen Univ, Taiwan, China

Development of an Underwater Glider with Independently Controllable Main Wings

Ichihashi, N, Ikebuchi, T, Arima, M, Osaka Prefecture Univ, Japan

Numerical Simulation of Water Entry of Axisymmetrical Bodies Using a Two Fluid Free Surface Capturing Code

Qian, L, Causon, D M, Mingham, C G, Manchester Metropolitan Univ, UK

A Numerical Study of the Neptune Wave Energy Converter

Mingham, C G, Causon, D M, Higgins, S, Manchester Metropolitan Univ, UK

An Eulerian Scheme with Lagrangian Particles for Solving Impact Pressure Caused by Wave Breaking

Mutuda, H, Shinkura, Y, Doi, Y, Hiroshima Univ, Japan

14. GEOTECH II: In-situ Test (V. 2)

Monday July 7 16:20 Pavilion C

Chair: Chen, J W, National Cheng Kung Univ, Taiwan, China

Finite Difference Analysis of Dilatory Dissipation on Piezocone Test in Overconsolidated Cohesive Soil

Ha, T G, Seoul National Univ; Kwon, H M, Korea Inst of Construction Technology; Chung, C K, Seoul National Univ; Cho, S M, Jung, J H, Korea Expressway Corp, Korea

The Quantitative Analysis of Influencing Factors of Artificial Land Development for Sediment Disasters in Eastern Taiwan

Chen, Y R, Hsieh, S C, Chang Jung Christian Univ; Chen, J W, Hui, Y W, National Cheng Kung Univ, Taiwan, China

Development of Automated, Unmanned Seabed-Type Marine CPT System

Jang, I S, Kwon, O S, KORDI; Jang, E R, Chung, C K, Seoul National Univ, Korea

Earth Pressure Measured Around a Round Corrugated Steel Culvert with High Cover

Jung, G J, Kim, H J, Lyu, T J, Korea Expressway Corporation, Korea

Analysis of Long-Term Behavior of Metro NATM Tunnels Based on Automatic Tunnel Monitoring System

Kim, B H, Do, J N, Kim Y H, Chun, B S, Hanyang Univ Korea

Field Load Test for Geogrid Encased Stone Column in Soft Ground

Lee, D Y, Korea Inst of Construction Technology; Yoo, C S, Sungkyunkwan Univ; Park, S, GS E&C, Korea

17. COASTAL II: Breakwaters 1 (V. 3)

Monday July 7 16:20 Pavilion B

Chair: Vicinanza, D, Second Univ of Naples, Italy

Co-Chair: Kee, S T, Seoul National Univ of Technology, Korea

Multiphase-model to Predict Arbitrarily-shaped Objects Moving in Free Surface Flows

Ushijima, S, Kyoto Univ, Japan

Performance of Free and Pile Restrained Flexible Floating Breakwaters

Diamantoulaki, I, Angelides, D C, Manolis, G D, Aristotle Univ of Thessaloniki, Greece

Wave Energy Dissipation by Submerged Membranes

Park, W T, Cho, I S, Kee, S T, Seoul National Univ of Technology, Korea

Multidisciplinary Optimization of a Moored Rectangular Floating Breakwater

Elchahal, G, Lafon, P, Univ Tech of Troyes, France; Younes, R, Lebanese Univ, Lebanon

Analysis of the Performance of Arrays of Moored Hinged Floating Breakwaters

Diamantoulaki, I, Angelides, D C, Aristotle Univ of Thessaloniki, Greece

Investigation of the Performance of a Flexible Mat Shaped Floating Breakwater

Loukogeorgaki, E, Michailidis, K, Angelides, D C, Aristotle Univ of Thessaloniki, Greece

Experimental Study on Breaking Force Characteristics of Tugboats in Shallow Water

Yang L J, Kobe Univ; Lee, S S, Ship Research Inst Co, Inoue, K, Sadakane, H, Sera, W, Kobe Univ, Japan

18. UNDERWATER & DEEP SEAFLOOR II (V. 2)

Monday July 7 16:20 Jr Ballroom A

Chair: Marani, G, Univ of Hawaii, USA

Co-Chair: Lim, Y K, MOERI, Korea

Technological Improvements of Ocean Bottom Seismograph Achieved Better Recovery Rate

Ito, M, Sugano, M, Terada, I, Nippon Marine Enterprises, Japan

Short Cluster Airgun Array for Shallow to Deep Crustal Survey

Shimizu, S, Nippon Marine Enterprises; Tsukuda, K, JAMSTEC; Shibata, H, Nippon Marine Enterprises, Japan

Innovation Technology and Equipments for Deep Sea Exploration and Survey

Voronov, M A, Rozhdestvensky, V H, Ivanov, V A, SEVMORGEО, Russia

Disk Type Underwater Glider for Virtual Mooring and Field Experiment

Nakamura, M, Koterayama, W, Inada, M, Marubayashi, K, Kyushu Univ; Hyodo, T, Mitsui Eng & Shipbldg; Yoshimsura, H, Morii, Y, Nagasaki Univ, Japan

19. RELIABILITY & ADV SHIP II: Reliability 2 (V. 4)

Monday July 7 16:20 Orca

Chair: Yao, T, Osaka Univ, Japan

Co-Chair: Kim, L V, Far Eastern State Technical Univ, Russia

Instantaneous Bispectral Analysis of Non-Linear and Non-Stationary Ship Motion Data

Iseki, T, Tokyo Univ of Marine Science and Technology, Japan

Uncertainty Effects on Performance Based Evaluation of Offshore Platform Due to Dynamic Force

Kawano, K, Kimura, Y, Park, M S, Kagoshima Univ; Iida, T, Osakasangyou Univ, Japan

Two New Methods for Estimating Outcrossing Rates of Stochastic Processes

Li, Y, Sandwell Engineering; Lence, B, Univ of British Columbia, Canada

Design Code Calibration of Coastal Defences against Typhoon Attacks for Nuclear Power Plant

Liu, D F, Pang, L A, Xie, B T, Huang, Y, Jiang, H, Ocean Univ of China, China

Reliability Analysis of a Rotary Vane Type Steering Gear System

Martins, M R, Univ of Sao Paulo; Natacci, F B, Brazilian Navy Tech Center, Brazil

Application of Uncertainties in Evaluating the Static Stability of Vessels [Proceedings only]

Oliveira, N G V, Vasconcellos, J M, COPPE/UFRJ, Brazil

20. PIPELINES & RISERS II: Deepwater Installation 2 (V. 2)

Monday July 7 16:20 Finback

Chair: Wu, M, Acergy, USA

Co-Chair: Van Opstal, A, Heerema Marine Contractors, USA

Bending Fatigue Testing of Large Diameter Steel Wire Rope for Subsea Deployment Applications

Vennemann, O, Acergy, UK; Tornqvist, R, DNV, Norway; Frazer, I, Acergy, UK

Vessel Motion Based Laying Criteria for Rigid and Flexible Pipes

Legras, J-L, Acergy, USA

A Discussion of the Effect of the Reeled Installation Process on Pipeline Limit States

Manouchehri, S, Technip UK; Howard, B, Denniel, S, Technip Offshore UK, UK

Model Testing to Reveal the Mechanics of Pipeline Ploughs in Sand Waves

Bransby, M F, Hatherley, A, Lauder, K D, Brown, M J, Univ of Dundee, UK

Development of a Training Simulator for Dynamic Reentry Operations of a Riser Pipe Hanged Off

Koterayama, W, Kajiwara, H, Nakamura, M, Kyushu Univ, Japan

TUESDAY 08:00

21. FPSO AND COMPLIANT STRUCTURES III (V. 1)

Tuesday July 8 08:00 Pavilion D

Chair: Buckham, B J, Univ of Victoria, Canada

Co-Chair: Wu, Y X, Inst of Mechanics, CAS, China

Verification of Motion Analysis for an LNG Carrier Moored at a GBS Terminal in Shallow Water

Huang, Z J, ExxonMobil Upstream Research; Hughes, C S, ExxonMobil Development; Yung, T W, ExxonMobil Upstream Research, USA

Model Testing and Complex Numerical Simulations for Offshore Installation

van der Wal, R, Cozijn, H, MARIN, The Netherlands; Dunlop, C, Saipem UK, UK

Simulation of the Dynamic Positioning of a FPSO and a Shuttle Tanker during Offloading Operation

Peng, H, Spencer, D, Oceanic Consulting, Canada

Detail Design and Fabrication Challenges and Solutions for the Belanak FPSO

Ma, Y D, Dalian Shipbuilding Industry, China

Numerical Studies of Green Water Effect on a Moored FPSO

Yang, C, Lu, H D, Lohner, R, George Mason Univ, USA

22. HYDRODYNAMICS III: CFD 3 (V. 3)

Tuesday July 8 08:00 Jr Ballroom D

Chair: Kim, M H, Texas A&M Univ, USA

A Two-fluid Model for Violent Aerated Flows [Oral Presentation Only]
Dias, F, Dutykh, D, Ghidaglia, J-M, ENS-Cachan, France

Numerical Simulations of water Impact in 3DF by LVOF
Li, T Q, Troch, P, De Rouck, J, Ghent Univ, Belgium

Numerical Investigation of the Multidirectional Wave Focusing Properties
Liu, S X, Li, J X, Sun, Y Y, Dalian Univ of Technology, China

Numerical Implementation of Solid Boundary Conditions in Meshless Methods
Zhou, J T, Ma, Q W, City Univ, UK

Grid Deformation-Multigrid Fictitious Boundary Method for Cylinder Undergoing Vortex-induced Vibrations
Wan, D C, Shanghai Jiao Tong Univ, China

Prediction of Deterministic Wave Loads with a VOF Method
Bunnik, T, MARIN, Veldman, A, RuG Blauwborgje Groningen; Wellens, P, TU Delft, The Netherlands

23. GEOTECH III: Modeling & Simulation (V. 2)

Tuesday July 8 08:00 Pavilion C

Chair: Newson, T, Univ of Western Ontario, Canada

Co-Chair: Oda, K, Osaka Univ, Japan

Discrete Element Modeling and Shape Characterization of Realistic Granular Shapes
Sukumaran, B, Rowan Univ; Das, N, GEI Consultants; Giordano, P, Barrot, D, Mandayam, S, Rowan Univ, USA; Ashmawy, A K, UAE

An Energy-Based Excess Pore Pressure Generation Model using Damage Potential
Kim, S I, Park, K B, Lee, J H, Kim, K P, Yonsei Univ, Korea

A Practical Approach to Numerical Modeling of Pipe-soil Interaction
Tian, Y H, Cassidy, M, Univ of Western Australia, Australia

An Analytical Tool for Predicting the Lateral Behavior of Foundations for Single-Pole Structures
Lee, S R, Choi, H Y, Kim, Y H, KAIST, Korea

Numerical Study of the Mechanics of Inflatable Anchors in Clay
Liang, Y, Newson, T, Hinchberger, S, Univ of Western Ontario, Canada; Larkin, P, Acergy, UK

Evaluation of the Predictive Ability of Simplified Deformation Analysis of Embankment Foundation Using Physical Properties of Soils Only
Kamei, T, Shimane Univ; Shuku, T, Omoto-Gumi Co; Shibi, T, Shimane Univ, Japan

Expansion Characteristics of Ground by Pulse Power
Cha, K S, Kim T H, Kim S J, Daewoo E & C, Korea

26. COASTAL III: Breakwaters 2 (V. 3)

Tuesday July 8 08:00 Pavilion B

Chair: Mizutani, N, Nagoya Univ, Japan,

Co-Chair: Araki, S, Osaka Univ, Japan

Wave Reflection from Absorbing-type Breakwaters

Yueh, C Y, Chuang, S H, Wu, M T, National Taiwan Ocean Univ, Taiwan, China

Development of a Highly Dissipative Breakwater with Vertical Mixing Functions

Saeki, S, Aratani Construction Consultant Co; Nakamura, T, Ehime Univ, Japan

Reflection and Transmission of Irregular Waves by Multiple-row Curtainwall-pile Breakwaters

Suh, K D, Ji, C H, Seoul National Univ, Korea

Pore Pressure Buildup in the Subsoil under a Caisson Breakwater

Sumer, S K, Dixen, F G, Sumer, B M, Technical Univ of Denmark, Denmark

Numerical Simulation of Wave Transmissions and Transformations over Impermeable Low-crested Breakwaters

Peng, Z, Zou, Q P, Univ of Plymouth, UK

27. UNDERWATER & DEEP SEAFLOOR III (V. 2)

Tuesday July 8 08:00 Jr Ballroom A

Chair: Herr, F L, Office of Naval Research, USA

Co-Chair: Yu, S C, Univ of Hawaii, USA

Experiments in Direct Energy Extraction through Flapping Foils

Simpson, B, Licht, S, Hover, F, Triantafyllou, M, MIT, USA

A Study on Characteristics of a Flexible Body for a Fish Type Robot

Terada, M, Yamaguchi, S, Kyushu Univ, Japan

A Practical Approach to the Development of Thruster Models for Underwater Robots

Hanai, A, McLeod, C, Rosa, K, Marine Autonomous Systems Engineering; Marani, G, Choi, S K, Univ of Hawaii, USA

Maneuverability Experiment of AUV

Hyakudome, T, Aoki, T, Nakamura, M, Tsukioka, S, Yoshida, H, Sawa, T, Ishibashi, S, JAMSTEC; Ishikawa, A, Nippon Marine Enterprises, Japan

28. OCEAN & WIND ENERGY II: Waves 2 (V. 1)

Tuesday July 8 08:00 Jr Ballroom B

Chair: Nagata, S, Saga University, Japan

Capture and Conversion of Multidirectional Wave Energy

Waid, R L, Marine Development Assoc, USA

Modeling and Optimization of a 3-body Heaving Wave Energy Converter

Beatty, S J, Buckham, B J, Wild, P, Univ of Victoria, Canada

Application of Numerical Wave Tank to OWC Air Chamber for Wave Energy Conversion

Hyun, B S, Liu, Z, Korea Maritime Univ; Hong, K Y, MOERI/KORDI, Korea

Dynamic Response Analysis of a Multi-body Wave Energy Converter in the Frequency Domain

Taghipour R, Moan, T, Norwegian Univ of Science and Technology, Norway

Research on Hydrodynamic Force Acting on a Floating OWC “Backward Bent Duct Buoy”

Nagata, S, Toyota, K, Imai, Y, Setoguchi, T, Saga Univ; Kyozuka, Y, Kyushu Univ; Masuda, Y, Ryokusei-sha, Japan

29. RELIABILITY & ADV SHIP III: Slamming & Strength (V. 4)
Tuesday July 8 08:00 Orca

Chair: Shibue, T, Kinki Univ, Japan
Co-Chair: Ueda, S, Tottori Univ, Japan

Computation of Slamming Forces on Wedges of Small Deadrise Angles Using a CIP Method
Qiu, W, Yang, Q, Memorial Univ of Newfoundland, Canada

Plunging Wave Impact on a Wall
Shu, J J, Nanyang Tehcnological Univ, Singapore

Dynamic Effects of Stress Concentration around Defects within a Thick Steel Plate
Shibue, T, Hayami, T, Kinki Univ; Nakano, S, Mitsubishi Automotive Engineering, Japan

Over and Under-pressurizing of Ship Tanks during Ballasting and Deballasting – Hull Damage
Kumar, M, Indian Register of Shipping, India

A Study of Ultimate Collapse Strength in Sagging of Ship Structures with Side Collision Damage
Lee, T K, Rim, C W, Kim B H, KIMM; Kim K S, MOERI/KORDI; Han, D S, Lee, J M, Pusan National Univ, Korea

30. PIPELINES & RISERS III: VIV 1 (V. 3)
Tuesday July 8 08:00 Finback

Chair: Hover, F S, MIT, USA
Co-Chair: Blevins, R D, USA

Innovative Riser Wake Interference Assessment
Wu, M, Saint-Marcoux, J-F, Acergy, Blevins, R D, Quiggin, P, Ocina, USA

Riser VIV Induced Fatigue Assessment by a CFD Approach
Huang, K, Chen, H C, Chen, C R, Texas A&M Univ, USA

Fatigue Life Calculations of Risers by Taking into Account the Higher Harmonic Force Components
Modarres-Sadeghi, Y, Triantafyllou, M S, Hover, F S, MIT, USA

Numerical Predictions of Flow Structure for a Circular Cylinder with Exterior Surface Dimples
Park, J M, Yoon, C H, Park, Y C, Kim, Y J, Korea Inst of Geoscience and Mineral Resources, Korea

Hydrodynamic Forces on Multiple Hanging-off Circular Cylinders in Uniform Flows
Prastianto, R W, Otsuka, K, Ikeda, Y, Osaka Prefecture Univ, Japan

Experimental Study on Ship Equipments Vibration Recution Based on Magnetorheological Damper
Deng, Z C, Zhang, D G, Yao, X L, Harbin Engineering Univ, China

Numerical Study of Turbulent Drag Reduction over Riblet Surface
Zhang, H Y, Yang, H X, Li, G, Harbin Engineering Univ, China

TUESDAY 10:30

31. FPSO AND COMPLIANT STRUCTURES IV (V. 1)

Tuesday July 8 10:30 Pavilion D

Chair: Mangiavacchi, A, EXPERIA Consulting, USA

Co-Chair: Walker, D A G, BP Exploration and Production, USA

Coupled Spar Response with Buoyancy Cans vs. Tensioners

Chen, C Y, Kang, C H, Mills, T, J. Ray McDermott Engineering, USA

Global Performance of Floating Harbor and Container Ship: Predicted vs. Experimental Results

Lim, S H, Worley Parsons Sea; Kim, M H, Texas A&M Univ, USA

Engineering Issues to be Incorporated into FPSO Topside Structure Design

Min, G G, Shin, Y G, Jung, T D, Nam H S, Seno, J J, Hong, S G, Daewoo Shipbuilding & Marine Eng, Korea

Effect of Hydrodynamic Interaction on the Dynamic Behavior of Two Ships in Tandem

Sousa Junior, J R, Morishita, H M, Univ of Sao Paulo, Brazil

32. HYDRODYNAMICS IV: CFD 4 (V. 3)

Tuesday July 8 10:30 Jr Ballroom D

Chair: Ma, Q W, The City Univ, UK

Co-Chair: Felli, M, INSEAN, Italy

Consideration on 3-D Effects on Results of Forced Oscillation Test in a 2-D Wave Channel

Kashiwagi, M, Hu, C H, Hashimoto, T, Yasunaga, M, Kyushu Univ, Japan

Analysis of Freak Waves Appearance with Large Scale Fully Nonlinear High Order Spectral (HOS) Simulations

Ducrozet, G, Bonnefoy, F, Le Touzé, D, Ferrant, P, Ecole Centrale de Nantes, France

Extreme Wave Interaction with Wave Energy Converters Using Computational Fluid Dynamics

Westphalen, J, Greaves, D, Williams, C, Zang, J, Univ of Bath; Taylor, P, Univ of Oxford, UK

An Unstructured 3D LES Solver for Free Surface Flow and Breaking Waves

Lv, X, Zou, Q P, Reeve, D, Wang, Z Y, Univ of Plymouth, UK

Wave Run-up and Response Spectrum for Wave Scattering from a Cylinder

Zang, J, Univ of Bath, UK; Liu, S, Dalian Univ of Tech, China; Taylor, P H, Eatock Taylor, R, Univ of Oxford, UK

Fluid-Structure Interaction Modelling, Relating to Membrane LNG Ship Cargo Containment Systems

Kim, W S, Nam, S K, Noh, B J, Hyundai Heavy Industries, Lee, H S, Kim, J W, ABS Pacific, Korea; Mravak, Z, de Lauzon, J, Bureau Veritas, France; Maguire, J R, Radosavljevic, D, Lloyd's Register, UK; Kwon, S H, Chung, J Y, Pusan National Univ, Korea

Simulating Surf Zone Hydrodynamics Using a Two Phase Flow Model

Wang, Z Y, Zou, Q P, Reeve, D, Lv, X, Univ of Plymouth, UK

33. GEOTECH IV: Consolidation & Embankment (V. 2)

Tuesday July 8 10:30 Pavilion C

Chair: Leung, C F, National Univ of Singapore, Singapore

Use of Thermal Imaging in Study of Heat Loss from Buried Pipelines

Thusyanthan, I, Cleverly, W, Univ of Cambridge, UK

Sensitivity Analysis and Time Estimation of Consolidation Delay by Construction Work, Especially Perpendicularity, Using Prefabricated Vertical Drain in Deep-soft Clay Deposits

Lee, C H, R-geo E&C; Chae, Y S, Suwon Univ, Korea

Series of Long-term Consolidation Tests of Ma12 Clay in Higashi-Osaka Area

Oda, K, Osaka Univ, Japan

Two-Dimensional Electro-Osmotic Consolidation

Rittirong, A, Shang, J, Univ Western Ontario, Canada

Prediction and Performance on Consolidation Settlement for Ground Improvement Project in the Coastal Area.

Jeon, J S, Lee, J W, Korea Water Resources Corp, Korea

Case History of Embankment Failure on Soft Soils

Shogaki, T, Kumagai, N, National Defense Academy; Yamada, T, Koa Kaihatsu Co, Japan

Failure Mode in Embankments Supported by Piles with Geosynthetics

Lee, J H, Hong, W P, Chung-Ang Univ; Lee, K W, Korea Inst of Construction Technology; Yun, J M, Ansan College of Technology; Yea, G G, Sambu Construction Co, Korea

36. COASTAL IV: Breakwater 3 (V. 3)

Tuesday July 8 10:30 Pavilion B

Chair: Grilli, S T, Univ of Rhode Island, USA

Co-Chair: Li, Y-C, Dalian Univ of Technology, China

The Near-Bed Mass Transport under Surf-Zone Spilling Breakers

Hwang, H H, Hunag, Z C, National Cheng Kung Univ, Taiwan, China

Using RANS to Simulate Breaking Wave on a Slopping Bed

Hsieh, C M, National Kaohsiung Marine Univ; Hwang, R R, Academia Sinica, Taiwan, China

SPH Method for Simulation of Wave Breaking and Overtopping with Experimental Validation

Bai, Z G, Zhang, X B, Wang, Y X, Tianjin Univ, China

Numerical and Physical Modelling of the Overtopping of a Porous Breakwater

Reis, M T, Neves, M G, LNEC, Portugal; Hu, K M, Royal Haskoning, UK; Silva, L G, LNEC, Portugal

Numerical and Experimental Study on Wave Deformation and Overtopping around Vertical Seawall in Coral Reef Sea Area

Kawasaki, K, Kiku, M, Yasuo, S, Nagoya Univ, Japan

Hydraulic Performances Non-wave Overtopping Type Seawall against Sea Level Rise Due to Global Warming

Murakami, K, Miyazaki Univ; Kamikubo, Y, Yatsushiro National College of Tech; Kataoka, Y, Kobe Steel, Japan

37. UNDERWATER & DEEP SEAFLOOR IV (V. 2)

Tuesday **July 8** **10:30** Jr Ballroom A

Chair: Yamaguchi, S, Kyushu Univ, Japan
Co-Chair: Hover, F S, MIT, USA

The Prototype System to Control the Rotational Motion of an Inertial Navigation System Equipped with an Autonomous Underwater Vehicle
Ishibashi, S, Yoshida, H, Hyakudome, T, Sawa, T, Tsukioka, S, Nakamura, M, JAMSTEC, Japan

Robust Motion Planning for Marine Vehicle Navigation
Greytak, M, Hover, F S, MIT, USA

Ship and Winch Control for Remotely Operated Vehicle Waypoint Navigation
Zand, J, Steinke, D, Buckham, B J, Soylu, S, Constantinescu, D, Univ of Victoria, Canada

Dynamic Simulation of Autonomous Manipulation Task for UVMS with Fusing Vision and Inertial Measurements
Li, Q, Zhang, Q F, Wang, X H, Shenyang Inst of Automation, CAS, China

38. OCEAN & WIND ENERGY III: Waves 3 (V. 1) Jr Ballroom B
Tuesday **July 8** **10:30**

Chair: Hong, S W, Maritime and Ocean Engineering Research Inst (MOERI), Korea

Recent Developments and Real-Scale Test Data from the Pico OWC Wave Power Plant
Neumann, F, Wave Energy Center; Thiebaut, F, Instituto Superior Tecnico; Winands, V W E, Brito-Melo, A M C F, Wave Energy Center; Sarmento, A J N A, Instituto Superior Tecnico, Portugal

Study of the Smoothing Effect on the Power Production in an Array of SEAREV Wave Energy Converters
Babarit, A, Tissandier, J, Clément, A H, Ecole Centrale de Nantes, France

Comparison of Different Solutions to Absorb Wave Energy Based on the Relative Motion between Two Heave Oscillating Bodies
Alves, M, Martifer, Portugal

Seawave Slot-Cone Generator Overtopping Performance in 3D Conditions
Margheritini, L, Aalborg Univ, Denmark; Vicinanza, D, Second Univ of Naples, Italy; Frigaard, P, Aalborg Univ, Denmark

Examination on the Optimization of Accelerating Ratio in the Power Generation System from Tidal Current
Naoi, K, Shiono, M, Suzuki, K, Nihon Univ, Japan

39. RELIABILITY & ADV SHIP IV: Earthquake & Tsunami (V. 4)
Tuesday **July 8** **10:30** Orca

Chair: Herion, S, Univ of Karlsruhe, Germany
Co-Chair: Karadeniz, H, Delft Univ of Technology, The Netherlands

Study on Earthquake Resistant Reinforcement of Existing Quay in Fishing Port by Nankai Earthquake
Okabayashi, K, Tagaya, K, Hayashi, Y, Kochi National College of Technology, Japan

Round Butte Selective Water Withdrawal Seismic Study
Yang, G, Westmar Consultants, Canada; Rogge, M, CH2M Hill, USA; Li, J, Westmar Consultants; Isaacson, M, Univ of British Columbia, Canada; Bennett, W, CH2M Hill, USA; Allyn, N, Westmar Consultants, Canada

Numerical Assessment on Inundation Risk and Efficiency of Countermeasure for Wave Overtopping in a Coastal Area

Hiraishi, T, Port and Airport Research Inst; Oshimura, Y, Nagase, K, Fujita Co, Japan

Analysis of the Rubble Mound Foundation Failure of a Caisson Breakwater Subjected to Tsunami Attack

Esteban, M, United Nations Univ, Japan; Nguyen, D T, Ho Chi Minh City Univ of Technology, Vietnam; Takagi, H, Shibayama T, Yokohama National Univ, Japan

40. PIPELINES & RISERS IV: VIV 2 (V. 3)

Tuesday July 8 10:30 Finback

Chair: Miksad, R W, Univ. of Virginia, USA

Co-Chair: Chen, C Y, J. Ray McDermott Engineering, USA

Vortex-induced Vibrations and Galloping of Two Cylinders Placed in Tandem Arrangement

Etienne, S, Ecole Polytechnic de Montreal, Canada; Fontaine, E, Institut Francais du Petrole, France

Vortex-induced Motion of a Deepdraft Semi-submersible in Current and Waves

Hong, Y P, Choi, Y H, Lee, J Y, Kim, Y B, Samsung Heavy Industries, Korea

Variation of Hydrodynamic Force on Obliquely Oscillating Offshore Structures

Marzouk, O A, Nayfeh, A H, Virginia Polytechnic Inst, USA

Experimental Study on Flow Induced Vibration of a Cylinder with Two Degrees of Freedom near a Rigid Wall

Yang, B, Gao, F P, Wu Y X, Inst of Mechanics, CAS, China

Vortex-induced Vibration Experiments and Models

Blevins, R D, Consultant, USA

High Harmonic Forces from Forced Vibration of a Circular Cylinder in Cross-flow and In-line Motion

Dahl, J M, Hover, F S, Triantafyllou, M S, MIT, USA

Student Forum

All Student Participants Are Invited.

Tuesday July 8 12:10 Port Abernrie

E-mail by June 1 your intention of attending this meeting to meetings@isope.org.

Advisors: Dr. Stefan Herion, Germany, Dr. Sung Tai Kee, Korea; and Prof. Harovel G. Wheat, USA

TUESDAY 13:00

Plenary Presentation II (IJOPE)

Tuesday July 8 13:00 Pavilion D

2008 Jin S Chung Award Lecture:

Nonlinear Response of Offshore Structure to High Seas

Kim, C H, Texas A&M Univ, USA

Introduction by Koterayama, W, Kyushu University, Japan

41. FPSO AND COMPLIANT STRUCTURES V (V. 1)

Tuesday July 7 14:00 Pavilion D

Chair: van der Wal, R, MARIN, The Netherlands
Co-Chair: Hwang, J H, Samsung Heavy Industries, Korea

The Effect of Functional Loads on Spanning Pipeline VIV Response
Ai, S M, Sun, L P, Harbin Engineering Univ, China

P53 Turret – A Unique Design of Its Own Class
George, B, Zhong, Z B, Basset, F, SBM Atlantia, USA

Fatigue Damage Assessment for Drillship Structures Based on Stochastic Method
Park, S G, Jang, C H, Heo J H, Daewoo Shipbuilding & Marine Eng, Korea

Numerical Method for the Analysis of Mooring Systems in Deep Water
Ha, T P, Chan, H S, Newcastle Univ, UK

42. HYDRODYNAMICS V: CFD 5 (V. 3)

Tuesday July 8 14:00 Jr Ballroom D

Chair: Dias, F, ENS-Cachan, France

Three-dimensional Drag Coefficient and Wakes about a Resistance Body Using Numerical Experiments
Lee, G H, Park, I H, Chonnam National Univ, Korea

Ship Hull Impact on Calm Water: Experiments and SPH Simulations
Rousset, J-M, Oger, G, Le Touze, D, Ferrant, P, Ecole Centrale de Nantes, France

The Lie-group Shooting Method for Multiple-solutions of Falkner-Skan Equation under Suction-injection Conditions
Liu, C S, Chang, J R, Taiwan Ocean Univ, Taiwan, China

The Numerical Simulation of Oil Spill from Seabed Pipeline
Gao, Q J, Lin, J G, Yu, D, Dalian Maritime Univ, China

Multi-Objective Hull Optimization Using Integrated CFD Tools
Yang, C, Kim, H Y, Lohner, R, George Mason Univ, USA

Numerical Prediction of Interactions between Wave Flows and Flexible Structures with 3D MICS
Kuroda, N, Ushijima, S, Kyoto Univ, Japan

A New Numerical Model on Venting Systems of Liquid Cargo Tanks in FPSO
Lu, J S, Wu, W Q, Dalian Maritime Univ, China

43. GEOTECH V: Soil Properties (V. 2)

Tuesday July 8 14:00 Pavilion C

Chair: Matsui, T, Fukui Univ of Technology, Japan
Co-Chair: Gaudin, C, Univ of Western Australia, Australia

Dynamic and Static Behavior of Calcareous Sands
Brandes, H G, Seidman, J, Univ of Hawaii, USA

Investigation on Collapse Potential of Loess Soil
Hormdee, D, Khon Kaen Univ, Thailand

Undrained Thixotropic Hardening on Strength Properties of Clayey Soils
Shogaki, T, Nagasaka, M, Kumagai, N, National Defense Academy, Japan

Relationships between Compressive Strength, Curing and Testing Method of Cemented Soils
Kanaoka, M, Tamano, T, Osaka Sangyo Univ; Matsukawa, H, Kansai Geo-Environment Research, Japan; Shrestha, B, CenterLife Prediction Technologies, Canada

Study on Stabilization of Soft Marine Clay Using Coal Ash
Kang, M S, Samsung E&C; Kim, S S, Hanyang Univ; Han, S J, Expert Group for Earth & Environment, Korea

Soil Thermal Conductivity Study in Western Coastal Zone of Taiwan
Lin, C K, China Engineering Consultants, Taiwan, China; Kulasiri, D, Lincoln Univ Canterbury, New Zealand; Chien, L K, National Taiwan Ocean Univ, Taiwan, China

A Simple Method for Estimating the Shear Strength Ratio of Soft Peaty Soils
Oikawa, H, Akita Univ; Itakiyo, H, Ookubo, K, Nippon Expressway Research Inst; Igarashi, M, Diaconsultants Co; Tsushima, M, Akita National College of Tech; Ogino, T, Akita Univ, Japan

Consideration on Regional Difference of Compression Characteristics of Ma12 Clay in Osaka Bay through Neural Network
Oda, K, Osaka Univ, Japan

46. HPM I: Adv Materials & Structures 1 (V. 4)

Tuesday July 8 14:00 Pavilion B

Chair: Osawa, N, Osaka Univ, Japan
Co-Chair: Price, J C, GATE LLC, Engineering Consultants, USA

Challenging Material and Fabrication Solutions for Deepwater Hydrocarbon Development
Price, J C, GATE LLC, Laws, P, Subramanian V, INTEC Engineering, USA

DWTT Properties for High Strength Line Pipe Steels
Hara, T, Terada, Y, Shinohara, Y, Asahi, H Nippon Steel, Japan

Development of Cold Rolled Micro Alloyed High Strength Steel
Al-Ghamdi, H A, Narayan, A R, Cheema, K, Saudi Iron & Steel Co, Saudi Arabia

Microstructure and Mechanical Properties of Simulated HAZs of Offshore Structural Steels
Kim, S H, Jang, W K, POSCO; Lee, K H, Hong, S H, KAIST, Korea

Correlation of Metallurgical Factors with the Susceptibilities to HIC in ERW Pipe Using Slitted Hot Coils
Hong, H U, Korea Inst of Materials Science; Lee, J B, POSCO, Korea; Choi, H J, Saudi Aramco, Saudi Arabia

The Effect of Metallurgical Factors on SOHIC Initiation in HIC Free Linepipe Steels

Kim, W K, Pohang Univ of Science and Tech; Jung, H G, Koh, S U, POSCO; Kim K Y, Pohang Univ of Science and Tech, Korea

47. UNDERWATER & DEEP SEAFLOOR V (V. 2)

Tuesday July 8 14:00 Jr Ballroom A

Chair: Hyakudome, T, JAMSTEC, Japan

A Development of the AUV

Yoshida, H, Lindsay, D J, Ishibashi, S, Hyakudome, T, JAMSTEC, Japan

AUV for Shallow Water Applications: Some Design Aspects

Shome, S N, Nandy, S N, Das, S K, Biswas, D K, Pal, D, CMERI, India

Short Range Full Ocean Depth Underwater Precision 6 DOF Positon/motion Tracker for Autonomous Manipulation

Marani, G, Gambella, L, Yuh, J K, Choi, S K, Univ of Hawaii, USA

Exploitation of Redundancy in Underwater Vehicle-manipulator Systems Coupled with a Chattering Free Sliding Mode Control

Soylu, S, Buckham, B J, Podhorodeski, R P, Univ of Victoria, Canada

Computing the Hydrodynamic Coefficients of Underwater Vehicle Based on Added Momentum Source

Hu, Z Q, Yang, L, Shenyang Inst of Automation, China

48. OCEAN & WIND ENERGY IV: Waves 4 (V. 1)

Tuesday July 8 14:00 Jr Ballroom B

Chair: Waid, R L, Marine Development Assoc, USA

Co-Chair: Calisal, S, Univ of British Columbia, Canada

Analytical Study on Liquid Metal MHD Wave Energy Conversion System

Peng, Y, Lin, Z W, Zhao, L Z, Sha, C W, Li, R, Xu, Y Y, Liu, B L, Li, J, Inst of Electrical Engineering, CAS, China

Development of Cross-Flow Type Hydro Turbine for Wave Power System

Choi, Y D, Lee, Y H, Korea Maritime Univ, Korea

Performance of Wells Turbines for Use in Small-Scale Oscillating Water Columns

Dorrell, D G, Univ of Glasgow, UK; Hsieh, M F, National Cheng Kung Univ, Taiwan, China

Analyses of the Impact of a Pilot Zone for the Wave Energy Exploration Deployed at the Offshore West Coast of Portugal

Fortes, C J, Mendes, L, Palha, A, LNEC; Sarmiento, A, Brito-Melo, A, Wave Energy Center, Portugal

Investigation of Fluid Film Bearings for Use in Direct Drive Linear Generators

Caraher, S L, Mueller, M, Chick, J, Univ of Edinburg, UK

Experimental Study of Closely Spaced Point Absorber Arrays

Stallard, T J, Stansby, P K, Brown, R J, Univ of Manchester, UK

49. RELIABILITY & ADV SHIP V: Advanced Ships 1 (V. 4)

Tuesday July 8 14:00 Orca

Chair: Fujikubo, M, Hiroshima Univ, Japan

NURBS Based Ship Form Design Using Adaptive Genetic Algorithm
Lu, C H, Lin, Y, Ji, Z S, Ming, C, Dalian Univ of Technology, China

Estimation of Welding Distortion using Neural Network
Okumoto, Y, Kinki Univ, Japan

Hydrodynamic Optimisation of High-Speed Trimaran Hull Forms
Bruzzone, D, Brizzolara, S, Univ of Genoa, Italy

Exact Solutions for In-plane Displacements of Curved Bridge Subjected to Thermal Load
Li, X F, Zhao, Y H, Dalian Maritime Univ, China

Estimation of Buckling and Collapse Behaviours of Stiffened Curved Plates under Compressive Load
Park, J S, Yao, T, Iijima, K, Osaka Univ, Japan

General Solution of Spatial Warping Curved Beams under Multiple Loads
Zhu, L L, Dalian Jiaotong Univ; Zhao, Y H, Dalian Maritime Univ, China

Structural Analysis for Oil Tanker Applied Common Structure Rule
Bang, J K, Choi, Y D, Shin, S K, Lee K H, STX Shipbuilding & Ocean Research Inst, Korea

Study on FE Analysis of Membrane Type LNG Carrier's Aft Transition Area
Kim, Y K, Chung, W K, Jeong, Y J, Daewoo Shipbldg & Marine Engineering Co, Korea

50. PIPELINES & RISERS V: SCR 1 (V. 2)

Tuesday July 8 14:00 Finback

Chair: Fontaine, E, Institut Francais du Petrole, France
Co-Chair: Thusyanthan, I, Univ of Cambridge, UK

Qualification of Weldable X65 Steel Riser Sections with Upset Ends to Improve Fatigue Performance of Deepwater Steel Catenary Risers
Izquierdo, A, Quintanilla, H, TenarisTamsa R&D, Mexico; Aggarwal, R, KBR, USA; Garcia, E, Lopez, V, Richard, G, Marques, E, Dell'Erba, D, Di Vito, L, TenarisTamsa R&D, Mexico

Large Scale Soil-Riser Model Testing on High Plasticity Clay
Langford, T E, Norwegian Geotechnical Inst, Norway; Charles, A P, Texas A&M Univ, USA

Advanced Design Methodologies for SCRs
De Amicis, L, Mahoney, G, Saipem Energies, France; Grealish, F, Connaire, A, MCS, Ireland

Effects of Interactions with the Seafloor on the Fatigue Life of a SCR
Zhang, J, Nakhaee, A, Texas A&M Univ, USA

Unburied Offshore Pipeline Stability Analysis Based on Nonlinear Relationship between Pipeline and Carbonate Soil
Takatani, T, Maizuru National College of Technology; Kaya, T, Gifu Univ, Japan

TUESDAY 16:20

**51. FPSO AND COMPLIANT STRUCTURES VI:
Deepwater & Arctic Risk & Standards (V. 1)**

Tuesday July 8 16:20 Pavilion D

Chair: Capanoglu, C, I.D.E.A.S., Inc., USA

Thunder Horse Drilling Riser Centralizer – Increased Production and Reduced Risk during Hurricane Season [Oral Presentation]

Walker, D A G, Buzarde, V D, Baugh, B F, BP Exploration and Production, USA

International and US Standards for Offshore Structures

Mangiavacchi, A, EXPERIA Consulting, USA

Recent Developments in Offshore Codes, Rules and Regulations for Deepwater and Arctic E&P Systems

Ghoneim, G A, Det Norske Veritas, USA

The Importance of Caspian Natural Gas Resources to European Natural Gas Market and the Role of Trans Caspian Pipelines

Kerimli, S A, Universal Enseo, USA

Gravity Based Substructure Solutions for Arctic LNG

Raine, B, Powell, J, Suwan, S, Safaqaq, O, Jackson, G, Arup Energy Americas, USA

The Selection of Floating Production System Configurations for Deepwater Field Developments

Wodehouse, J, Breaux, D, SBM Atlantia, USA

52. HYDRODYNAMICS VI: CFD 6 – Sloshing (V. 3)

Tuesday July 8 16:20 Jr Ballroom D

Chair : Moe, G, Norwegian Univ of Science and Tech, Norway

Co-Chair: Godderidge, B, Univ of Southampton, UK

Identification of Dangerous LNG Sloshing Using a Rapid Sloshing Model Validated with Computational Fluid Dynamics

Godderidge, B, Turnock, S, Univ of Southampton; Earl, C, BMT SeaTech; Tan, M, Univ of Southampton, UK

The Effects of LNG-tank Sloshing on the Global Responses of Floating Terminal and LNG Carrier

Lee, S J, Kim M H, Texas A&M Univ; Shin, Y, Kim, B K, American Bureau of Shipping, USA

An Experimental Study and Numerical Simulation on Sloshing Impact Pressures with Two Identically Shaped Rectangular 2-Dimensional Model Tanks with Different Sizes

Hwang, Y S, Jung, J H, Kim, D W, Ryu, M C, Daewoo Shipbuilding and Marine Engineering, Korea

PIV Analyses on the Sloshing Flows

Doh, D H, Jo, H J, Cho, Y B, Pyeon, Y B, Korea Maritime Univ; Kwon, S H, Pusan National Univ; Lee, J H, Hwang, Y S, Ryu, M C, Daewoo Shipbuilding & Marine Engineering, Korea

Characteristics of Sloshing Impact Pressures of 2 and 3 –Dimensional Model Tanks in Regular and Irregular Motions

Jung, J H, Hwang, Y S, Ryu, M C, Kim, D W, Daewoo Shipbuilding and Marine Engineering, Korea

53. GEOTECH VI: Soil Properties & Centrifuge (V. 2)

Tuesday July 8 16:20 Pavilion C

Chair: Nabeshima, Y, Akashi National College of Technology, Japan

Undrained Behaviour of Lime Treated Soft Clays

Oh, E Y N, Balasubramaniam, A S, Griffith Univ, Australia; Buessucesco, B, Univ of the Philippines, Philippines; Bolton, M W, Griffith Univ, Australia

Behaviors of Lightweight Air Foamed Soils Considering Underwater and Water Pressure

Yoon, G L, KORDI; You, S K, Myungji Univ, Korea

Centrifuge Experiments Investigating the Keying Process of Plate Anchors in Normally Consolidated Clay

Gaudin, C, Univ of Western Australia, Australia

Postcyclic Strength Degradation of Undisturbed and Remolded Marine Silty Clay

Wang, S Y, Lu, X B, Inst of Mechanics, CAS, China

A Series of Dynamic Centrifuge Model Tests on Improvement of Earthquake Resistance of Road Embankments

Oda, K, Tokida, K, Osaka Univ; Nakahira, A, CTI Engineering; Ohtsuki, A, Shimizu Corp, Japan

The Experimental Study on Effectiveness of Water Levels for Dynamic Impacts on Reclaimed Soils

Chen, J W, Chen, F C, Lu, C W, National Cheng Kung Univ, Taiwan, China

Changes in the Engineering Properties of Reconstituted Ariake Clay Undergoing Drying [Proceedings Only]

Tanaka, M, Port and Airport Research Inst; Kamei, T, Shimane Univ, Japan

55. HPM II: Adv Materials & Structures 2 (V. 4)

Tuesday **July 8** **16:20** Pavilion A

Chair: Jin, H W, ExxonMobil Research & Engineering Co., USA

High-Performance Steel Grades for Special Applications in Ships and Offshore Constructions

Lücken, H, Kern, A, Schriever, U, ThyssenKrupp Steel, Germany

Evaluation of Corrosion Property on Repair Welding Zone of Exhaust Valve by Plasma Transferred Arc Welding Method

Moon, K M, Cho, H R, Lim, C H, Kim, Y H, Kim, Y S, Korea Maritime Univ, Korea

Fluorescent Coatings for Corrosion Detection

Wheat, H G, Liu, G, Univ of Texas at Austin, USA

The Characteristics of Nickel Nano-scale Plating on Stainless Steel Using Supercritical CO₂

Kim, Y H, Bae, S Y, Kim, D H, Lee, S H, Kim, D W, Moon, K M, Korea Maritime Univ, Korea

Effects of Heat Treatment Conditions on the Wear Behaviors of Thermally Sprayed Ni-base Self-flux Alloy Coatings

Kim, K T, Hong, H, Kim, Y S, Pukyong National Univ, Korea

The Cavitation Erosion Resistance of the B2-type Intermetallics Alloys and FeAl

Jasionowski, R, Przetakiewicz, W, Maritime Univ of Szczecin; Zasada, D, Military Univ of Technology, Poland

The Effect of Metallurgical Factors on SOHIC Initiation in HIC Free Linepipe Steels

Kim, W K, Pohang Univ of Science and Tech; Jung, H G, Koh, S U, POSCO; Kim, K Y, Pohang Univ of Science and Tech, Korea

56. Offshore East Coast of Canada (V. 1)

Tuesday July 8 16:20 Jr Ballroom A

Chair: Hurley, S J, Petro-Canada, Canada

White Rose: Overview of Current Development and Plans for Future Growth

Norman, P, Lochte, G, Husky Energy; Hurley, S, Petro-Canada, Canada

Hybrid Offshore Drilling and Production Concepts for the East Coast of Canada

Fitzpatrick, J, Kennedy, K, IMV Projects; Lush, S, Paulin, J M, IMV Projects Atlantic, Canada

Evacuation Training Using Immersive Simulators

Veitch, B, Memorial Univ of Newfoundland; Billard, R, Virtual Marine Technology, Canada

Terra Nova FPSO Mooring System Repair – Lessons Learned [Oral presentation]

O'Brien, S R, Petro-Canada, Canada

East Coast Canada Overview – Current Developments & Future Opportunities [Oral presentation]

Hurley, S, Petro-Canada, Canada

57. RELIABILITY & ADV SHIP VI: Advanced Ships 2 (V. 4)

Tuesday July 8 16:20 Orca

Chair: Bellendir, E N, The B.E. VEDENEV VNIIG, Russia

Co-Chair: Shiotani, S, Kobe Univ, Japan

Numerical Analysis of the Zig-Zag Manoeuvre of a VLCC

Muscari, R, Broglia, R, Di Mascio, A, INSEAN, Italy

Precise 3-D Vessel Velocity Measurement for Docking and Anchoring

Tatsumi, K, Hiroshima National College of Maritime Technology; Kouguchi, N, Yoo, Y, Kobe Univ; Kubota, T, Oshima National College of Maritime Technology; Arai, Y, Marine Technical College, Japan

Study on Wave Piercing Catamaran Form and Its Performance

Li, T L, Lin, Y, Dalian Univ of Technology, China

Navigational Simulation Using Tidal Simulation and Tidal Effects on Sailing Ship

Shiotani, S, Kobe Univ, Japan

Feasible Study on the Application of All Electric Vehicle Carriers in Upper Yangtze River of China

Cai, W, Wu, W G, Wuhan Univ, China

58. PIPELINES & RISERS VI: SCR 2 (V. 2)

Tuesday July 8 16:20 Finback

Chair: Lim, F K, 2H Offshore Engineering Ltd, UK

Co-Chair: Saint-Marcoux, J-F, Acergy, USA

Development of a Failure Detection System for Flexible Risers

Elman, P, Alvim, R A, 2H Offshore, Brazil

Determination of Electrical Parameters in Umbilical: Simulations and Measurements

Pedersen, A, Ohma, H F, SINTEF Energy Research, Norway

Fatigue Life Evaluation of Deepwater Steel Catenary Risers

Xia, J, Das, P K, Univ of Glasgow and Strathclyde, UK; Karunakaran, D, Subsea 7, Norway

Seafloor Interaction with Steel Catenary Risers

You, J H, Aubeny, C P, Biscontin, G, Texas A&M Univ, USA

Frequency-domain Identification and Linearization of Long Catenary Riser Dynamics Due to Heave Excitation

Xiros, N I, Florida Atlantic Univ, USA; Chatjigeorgiou, I K, National Tech Univ of Athens, Greece

WEDNESDAY 08:00

59. OFFSHORE SYSTEMS I (V. 1)

Wednesday July 9 08:00 Pavilion D

Chair: Heo, J H, Daewoo Shipbuilding & Marine Eng, Korea

Co-Chair: Jia, J B, Aker Kvaerner Offshore Partner, Norway

Use of Sensor Network for Real-time Monitoring Systems in Ships and Offshore Structures

Lee, D K, Park, B J, Paik, B G, Cho, S R, Cho, I S, Kim, Y H, Maritime Ocean Engineering Research Inst/KORDI, Korea

Optimized Methodology to Build the Integrated Solution on Offshore Torside Process Engineering

Hwang, J H, Min, J H, Ahn, Y J, Kim, H C, Samsung Heavy Industries; Kim, H J, Woo-Byung Engineering; Roh, M I, Univ of Ulsan; Lee, K Y, Seoul National Univ, Korea

Sequential Quadratic Programming Optimization of a Direct Drive Active Heave Compensator

Nicoll, R S, Dynamic Systems Analysis; Buckham, B J, Univ of Victoria, Canada; Driscoll, R, Florida Atlantic Univ, USA

Creating Better Cost Estimates for Floating Offshore Structures by Assessing Cost Correlation and Understanding Risk

Cocodia, E O, Univ of Western Australia, Australia

Refinement of Procedure for Dynamic Gust Forcing Analysis of High-rise Structures

Ostroumov, B V, Melnikov Inst of Steel Structures, Russia

The Numerical Investigation on the Tension Distribution in the Sea Cage Net

Zhao, Y P, Li, Y C, Dong, G H, Dalian Univ of Technology; Gui, F K, Zhejiang Ocean Univ, China

60. HYDRODYNAMICS VII: Measurements (V. 3)

Wednesday July 9 08:00 Jr Ballroom D

Chair: Qiu, W, Memorial Univ of Newfoundland, Canada

How Fixing Devices Affects Measurement Accuracy in an Experiment of the Submerged Body Flow

Liu, T L, Chung Cheng Inst of Tech; Tsai, T C, Navy Fleet Command; Chen, D W, Chung Cheng Inst of Tech, Taiwan, China

Wall-Distance Effects on an Impinging Swirl Jet by Means of Hot-Film and Wall-Pressure Measurements

Felli, M, Falchi, M, Pereira, F, INSEAN, Italy

Velocity Field Measurements Using Bubble Tracers in a Cavitation Tunnel

Paik, B G, Kim, K Y, Ahn, J W, Kim, K S, MOERI/KORDI, Korea

61. GEOTECH VII: Foundation & Stability (V. 2)

Wednesday July 9 08:00 Pavilion C

Chair: Yang, S, NGI, Norway

Sediment Properties in the Upper Part of the Hinlopen-Yermak Landslide, Northern Svalbard Continental Margin

Yang, S, Vanneste, M, Forsberg, C F, Solheim, A, NGI; Mienert, J, Univ in Tromso, Norway

The Performances of the Stability Embankment on Peaty Soils and Its Behaviour in Central Kalimantan

Munarto, E. S; Febrijanto, R, Inst of Road and Bridge Engineering, Indonesia

Method for the Construction of a Rammed-earth Wall Using Soil-cement

Fujii, M, Hashimoto, Y, Katoh, Y, Watanabe, K, Arai, M J, Tokai Univ, Japan

Application of Grouting of the Sea-Crossing Bridge Foundation in Busan-Geoje Fixed Link

Jeong, G H, Park, C W, Kwon, J W, Kim J H, Dong-A Geological Engineering; Kim, C H, Jeong, S K, Daewoo E&C, Korea

Community-based Landslide Monitoring System around the Seto Inland Sea, Shikoku, Japan

Mimura, T, Hasegawa, S, Kagawa Univ; Akiyama, K, Akiyama Co; Ranjan, D K, Yamanaka, M, Kagawa Univ, Japan

An Establishment on the Disaster GIS Mapping System for Nantou County in Taiwan

Tsai, K J, Chen, K T, Lin, C C, Chang Jung Christian Univ, Taiwan, China

Investigation on Mechanism of Fault Formation Using Bifurcation Analysis,

Shibi, T, Kamei, T, Ishikawa, T, Shimane Univ, Japan

The Effect of Liquefied Stabilized Soil with Geosynthetics against Thrust Force of Buried Bend

Kawabata, T, Sawada, Y, Kobe Univ; Mohri, Y, National Inst of Rural Engineering; Kashiwagi, A, Izumi, A, Kobe Univ; Nakajima, H, Ministry of Agriculture; Uchida, K, Kobe Univ, Japan

63. HPM III: Fatigue & Fracture (V. 4)

Wednesday July 9 08:00 Pavilion A

Chair: Ames, N, EWI, USA

Experimental and Theoretical Investigations on the Fracture Criteria for Structural Steels

Choung, J M, Hyundai Heavy Industries; Cho, S R, Univ of Ulsan; Yoon, K Y, Hyundai Heavy Industries, Korea

Numerical Study on the Fatigue Crack Propagation Behavior in Flattened Martensite Dual Phase Steel

Osawa, N, Ueno, D, Shimoike, R, Hashimoto, K, Osaka Univ; Nakashima, K, Nose, T, Nippon Steel, Japan

Stress Intensity Factors for Embedded and Surface Cracks Subjected to Arbitrary Stress Fields by Slice Synthesis Methodology

Gotoh, K, Nagata, Y, Kyushu Univ, Japan

Fatigue Life and Crack Growth Properties of Fe-9Cr-2W Ferritic Steel

Yoon, H K, Dong-eui Univ; Kim, S J, Pukyong National Univ, Korea; Kim, S W, Kohyama, A, Kyoto Univ, Japan

64. COASTAL V: Beach Modeling 1 (V. 3)

Wednesday July 9 08:00 Pavilion B

Chair: Deguchi, I, Osaka Univ, Japan

Co-Chair: Fortes, C J, LNEC, Portugal

N-line Beach Evolution Model Considering Advection and Diffusion Effects of Nourished Sand

Shibutani, Y, Kuroiwa, M, Matsubara, Y, Tottori Univ, Japan

Evaluation of New Alternative Method for Beach Nourishment

Kim, K H, Widayati, A Y W, Kwandong Univ; Park, J W, Ecomarine Co; Pyun, C K, Myongji Univ, Korea

A Numerical Model for Gravel Beach Deformation Based on 2-Way Method

Lee, K H, Mizutani, N, Nagoya Univ, Japan; Kim, D S, Korea Maritime Univ, Korea; Fujii, T, Nagoya Univ, Japan

Cover Stones on Liquefied Seabed

Sumer, B M, Dixen, F H, Fredsøe, J, Technical Univ of Denmark, Denmark

65. ARCTIC & ICE I: Ice Environment (V. 1)

Wednesday July 9 08:00 Jr Ballroom A

Chair: Squire, V A, Univ of Otago, New Zealand

Co-Chair: Zubakin, G K, AARI, Russia,

Characteristics of Ice Bottom Topography on Okhotsk Sea of Hokkaido – Observation Results in 2006

Kioka, S, Yamamoto, Y, Civil Eng Research Inst of Hokkaido; Takeuchi, T, Hachinohe Inst of Tech, Japan

Locating Pure Ice Features in Permafrost Using Ground Penetrating Radar

De Vries, M H, Finseth, J, SINTEF; Grande, L O, Wold, M, Univ Centre in Svalbard, Norway

Wave Scattering by a Periodic Line Array of Axisymmetric Ice Floes

Bennetts, L G, Squire, V A, Univ of Otago, New Zealand

Scattering and Damping of Ice Coupled Waves

Vaughan, G L, Squire, V A, Otago Univ, New Zealand

Ice Conditions and Fast Ice of the Anadyr Bay
Yakunin, L P, Far-Eastern State Univ, Russia

66. OCEAN & WIND ENERGY V: Winds 1 (V. 1)

Wednesday July 9 08:00 Jr Ballroom B

Chair: Faber, T, Germanischer Lloyd Ind Services, Germany

Grouted Connections for Offshore Wind Turbines
Klose, M, Faber, T, Germanischer Lloyd Industrial Services, Germany

Hybrid-Towers for Offshore Wind Energy Converters
Keindorf, C; Schaumann, P; Leibniz Univ, Germany

Intelligent Wind Turbine Unit with Tandem Rotors Applicable to Offshore Wind Farm (Characteristics of Peculiar Generator, and Performance of Three Dimensional Blades)
Kubo, K, Kanemoto, T, Mitarai, H, Hano, Y, Hirano, K, Kyushu Inst of Technology, Japan

Numerical Consideration of Local Joint Flexibilities
Boeker, C, Schaumann, P, Leibniz Univ of Hannover, Germany

Coupled Dynamic Analysis of Floating Offshore Wind-energy Converters
Shim, S Y, SOFEC Inc; Kim, M H, Texas A&M Univ, USA

Application of an Abandoned Jacket for an Offshore Structure Base of Wind Turbine in Bohai Heavy Ice Conditions
Wang, Y, Dalian Univ of Tech; Duan, M, China Univ of Petroleum; Shang, J H, CNOOC, China

Application on Fuzzy Analytic Hierarchy Process to Assess the Potential of Offshore Wind Energy in Taiwan
Chang, T M, Lee, T L, Jeng, D S, Hsu, T W, Leader Univ, Taiwan, China

67. OFFSHORE SYSTEMS II: Underwater Earthquake & Buoy (V. 1)

Wednesday July 9 08:00 Orca

Chair: Hiraishi, T, Port and Airport Research Inst, Japan

Methodology for Estimating Tsunami Disaster Damage using Geo-Spatial Information
Charusrojthanadech, N, King Mongkut's Inst of Technology, Thailand; Yamamoto, Y, Kawai, K, Tokai Univ, Japan

On the Triggering of Underwater Landslides by Earthquakes: a Microfluidics Modeling and Experimental Approach
El Bettah, M, Grilli, S T, Baxter, C D P, Bollinger, K, Univ of Rhode Island, USA; Krafczyk, M, TU Braunschweig, Germany

On the Triggering of Underwater Landslides by Earthquakes: Effect of Grain Size and Shape on Pore Pressure Generation
Gemme, D, Baxter, C D P, Grilli, S T, Univ of Rhode Island, USA

Development of Small Size TRITON Buoy and Its New Data Processing System
Ishihara, Y, Yamaguchi, M, Matsumoto, T, Kuroda, Y, JAMSTEC, Japan

Experimental Study on Wave-induced Motion of Offshore Observation Buoy
Hiraishi, T, Port and Airport Research Inst; Hasegawa, I, ECOH Co, Japan

Development of Pneumatic Type Buoy for Surface and Subsea
Sakakibara, S, Yamada, S, The Yokohama Rubber Co, Japan

68. PIPELINES & RISERS VII: Riser Concept (V. 2)

Wednesday July 9 08:00 Finback

Chair: Kan, W C, ExxonMobil Development Co, USA

Co-Chair: Wu, M, Acergy, USA

Advances in Deepwater Top Tension Riser Design Considerations
Natarajan, S, Walters, D, 2H Offshore, USA

Minimum Production Riser System for Deepwater Application
Saint-Marcoux, J-F, Wu, M, Legras, J-L, Acergy, USA

The Group SLOR – An Evolution of Free Standing Riser
Nguyen, C, 2H Offshore, USA; Lim, F, 2H Offshore, UK

A Dry-Tree TLP for Deepwater Gulf of Mexico Applications
Williams, A N, Heidari, H, Large, S, Padmanabhan, R, Byrne, J, SBM
Atlantia, USA

Development of Deep Ocean Water Intake System in Simplified System
Jung, D H, Kim, H J, MOERI/KORDI; Chung, H, Oceanspace; Park, H I,
Korea Maritime Univ, Korea

WEDNESDAY 10:30

69. HYDRODYNAMICS XIII: Wave & Structure 1 (V. 3)

Wednesday July 9 10:30 Pavilion D

Chair: Niedzwecki, J M, Texas A&M Univ, USA

Discussion of Morison Formula Applied to Floating Structure
Hao, S H, Dong, G H, Zong, Z, Dalian Univ of Technology, China

Sea Waves Coating by Elastic Plate
Shugan, I V, Yang R Y, Hwung, H H, National Cheng Kung Univ, Taiwan,
China

**Time-Domain Analysis of Motion Responses of Adjacent Multiple
Floating Bodies in Waves**
Kim, K H, Kim, Y H, Seoul National Univ, Korea

A Fully Coupled Model for the Wave-Induced Drift of Oil Slicks
Christensen, K H, Univ of Oslo, Norway; Terrile, E, Univ of Genova, Italy

**Mathematical Model of Wave Forces for the Depth Control of a
Submerged Body beneath Free Surface**
Rhee, K P, Choi, J W, Lee S K, Seoul National Univ, Korea

**Numerical Investigations on Responses of Two Moored 3D Floating
Structures to Steep Waves**
Yan, S, Ma, Q W, City Univ, UK

**Global Response of Semisubmersibles with Various Hull Forms in
Harsh Environment**
Mansour, A M, Huang, E W, Zhang, S S, Zhong, J, VersaMarine
Engineering, USA

70. HYDRODYNAMICS VIII: Nonlinear Waves 1 (V. 3)

Wednesday July 9 10:30 Jr Ballroom D

Chair: Kim, C H, Texas A&M Univ, USA

Features of QALE-FEM and Its Applications to Nonlinear Wave Hydrodynamics

Ma, Q W, Yan, S, City Univ, UK

Application of the Statistics of Extreme Value Theory on Ocean Waves

Liu, J D, Fugro Seismic Imaging, Kvalstad, H, NTNU, Norway

Generation of Extreme Wave and Letter Wave by Reverse Ring Wave

Minoura, M, Osaka Univ; Okuyama, E, Mitsui Zosen, Inc; Naito, S, Osaka Univ, Japan

Three-Dimensional Rogue Wave Generation over Vertically Sheared Wind-Generated Currents

Nwogu, O, Univ of Michigan, USA

Floating Structure Responses in Shallow-water Rough Sea

Li, L, American Bureau of Shipping, USA

Theoretical Modelling of the Kinematics of Extreme Wave Generated by Focusing

Ojeh, N C, Bartrop, N D P, Univ of Glasgow & Strathclyde, UK

Spatial Wave Structure Created by Wind Input

Adcock, T A A, Taylor, P H, Univ of Oxford, UK

71. GEOTECH VIII: Piles & Caissons (V. 2)

Wednesday July 9 10:30 Pavilion C

Chair: Bang, S C, South Dakota School of Mines & Technology, USA

Use of Suction Piles for Temporary Mooring of Immersed Tunnel Elements

Bang, S C, South Dakota School of Mines & Technology, USA; Cho, I H, Kwag, D J, AdvaCT; Cho, Y K, Daewoo E & C, Korea

3-D Numerical Investigation of Piles under Monotonic and Cyclic Lateral Loads in Clay

Fakharian, K, Ahmari, S, Amiri, A, Amirkabir Univ of Tech, Iran

The Horizontal Resistance of a Pile Installed in a Soil Cement Column under a Combined Load

Arai, F, Noguchi, H, Suemasa, N, Katada, T, , Takahashi, T, Musashi Inst of Technology, Japan

Behavior of Socket Steel H-pile

Liu, Y T, Univ of Hong Kong, China

The Capacity of Sheet Pile Foundation on Sand under Eccentric Loading

Punrattanasin, P; Khon Kaen Univ, Thailand

p-y Curves of Piles in Saturated Degradation Sands with Residual Pore Water Pressures

Wang, J H, Qi, C X, Tianjin Univ, China

Fundamental Study on the Pile-Tip Protection Block using the Ductile-Fiber-Reinforced Cementitious Composite

Asai, Y, Toyoasano Foundation; Watanabe, K, Fujii, M, Tokai Univ, Japan

A Parametric Study on the Installation of Papered Suction Caissons in Clay

Zeinoddini, M, Nabipour, M, KNTToosi Univ of Technology; Parchami, F, IREDCo, Iran

New Analysis Technique for the Evaluation of Tunnel Safety by Using the SBD Concept

Park, S H, Korea Infrastructure Safety & Technology, Korea

72. HPM IV: Adv in Welding Technology (V. 4)

Wednesday July 9 10:30 Pavilion A

Chair: Murakawa, H, Osaka Univ, Japan
Co-Chair: Yoon, H K, Dong-eui Univ, Korea

Microstructure Development of Ultra-High Strength Steel Weld Metal for Avoiding Hot and Cold Cracking
Komizo, Y, Terasaki, H, Osaka Univ, Japan

Mechanical Properties of Hyperbaric GMA X70 Welds Made at Different Pressure
Akselsen, O M, Fostervoll, H, SINTEF, Norway

Welding under Service Load Conditions – Influence of the Load Conditions on the Integrity of High Strength Steel Welds
Nitschke-Pagel, T N, Dilger, K, TU Braunschweig, Germany

Robotic Welding Cell Monitoring Throughout a PDA
Siqueira, M L, Siqueira, T A, Alfaro, S C A, Univ of Brazilia, Brazil

Prediction Method of Transient Temperature Distribution in Friction Welding of Two Similar Materials of Steel
Isshiki, Y, Setsunan Univ; Kawai, G, Osaka Sangyo Univ; Ochi, H, Osaka Inst of Tech; Ogawa, K, Osaka Prefecture Univ, Japan

Cryogenic Fatigue Tests of 9% Nickel Weldments
Gioielli, P C, ExxonMobil Upstream Research; Zettlemoyer, N, ExxonMobil Development, USA

Evaluation of the Joint-interface Properties of SCM440-S45C Steels Joined by Friction Welding
Kim, S J, Kong, Y S, Pukyong National Univ; Yoon, H K, Dongeui Univ; Jung, W T, Choi, S Y, Pukyong National Univ, Korea

Tensile Strength of Friction-welded Joints of Copper Alloys to Steels
Ochi, H, Osaka Inst of Technology; Kawai, G, Osaka Sangyo Univ; Yamamoto, Y, Setsunan Univ; Suga, Y, Keio Univ, Japan

73. COASTAL VI: Beach Modeling 2 (V. 3)

Wednesday July 9 10:30 Pavilion B

Chair: Sumer, B M, Technical Univ of Denmark, Denmark
Co-Chair: Lee, J W, Korea Maritime Univ, Korea

Cross-shore Change of Beach Profile in Two Shapes of Beach Slope Breakdown
Cho, W C, ChungAng Univ; Kim, I H, Kangwon National Univ, Korea

Effect of Bed Roughness on Turbulent Boundary Layer and Net Sediment Transport under Asymmetric Waves
Suntoyo, Tanaka, H, Tohoku Univ, Japan

Field Observations of Velocity Profiles and Sheet Flow in the Swash Zone of a Steep Beach
Lin, P C, Ho, L S, Ministry of Transportation and Communications; Chou, H T, National Central Univ; Jiang, W D, Ministry of Transportation and Communication, Taiwan, China

Suspension Characteristics of Sediment in the Swash Zone
Cho, Y J, Kim, K S, Univ of Seoul, Korea

74. ARCTIC & ICE II: Ice Forecasting (V. 1)

Wednesday July 9 10:30 Jr Ballroom A

Chair: Prinsenber, S, Bedford Inst of Oceanography, Canada
Co-Chair: Choi, K S, Korea Maritime Univ, Korea

Ice and Ocean Mooring Data Statistics from Barrow Strait, the Central Section of the NW Passage in the Canadian Arctic Archipelago
Prinsenbergh, S, Pettipas, R, Bedford Inst of Oceanography, Canada

Formation of Heavy Ice Conditions in the Southwestern Kara Sea
Zubakin, G K, Egorov, A G, Ivanov, V V, Lebedev, A A, Buzin, I V, AARI, Russia; Eide, L I, Hydro Oil & Energy, Norway

An Ensemble Iceberg Prediction Model
Carrieres, T, Environment Canada, Canada

Modeling Sea Ice Dynamics in the Vicinity of Land Boundaries
Sayed, M, Kubat, I, National Research Council; Savage, S B, McGill Univ; Carrieres, T, Environment Canada, Canada

Canadian Coupled Atmosphere - Ocean - Ice Forecast System for the Gulf of St. Lawrence, Canada
Faucher, M, Environment Canada, Canada

75. OCEAN & WIND ENERGY VI: Tidal 1 (V. 1)

Wednesday July 9 10:30 Jr Ballroom B

Chair: Atmanand, A, National Inst of Ocean technology, India
Co-Chair: Stallard, T J, Univ of Manchester, UK

Vertical and Horizontal Axis Tidal Current Turbines: Innovative Configurations and Experimental Investigations
Coiro, D P, Nicolosi, F, Scherillo, F, Maisto, U, Familio, R, Univ of Naples "Federico II", Italy

Computational Fluid Dynamics Modelling of a Vertical-Axis Tidal Current Turbine
Gretton, G I, Bruce, T, Univ of Edinburgh, UK

Application of Floating Tidal Current Power System in Cooling Water Channel
Jo, C H, Inha Univ; Jeong, H, Ocean Space; Park, R S, Ulsan Univ; Cho, W C, Chung-Ang Univ, Korea

Tide Characteristics Change by Coastal Constructions at Mokpo Coastal Zone in Korea
Kang, J W, Park, S J, Mokpo National Univ; Jo, C H, Inha Univ, Korea

76. OFFSHORE SYSTEMS III: Subsea (V. 1)

Wednesday July 9 10:30 Orca

Chair: Natarajan, S, 2H Offshore, USA
Co-Chair: Das, S, Univ of Windsor, Canada

Industry Advancements in Deepwater Subsea Integrity Management
Kavanagh, K, Hull, M, Bledsoe, S, MCS, USA

Floating Dry Process Caissons for Maintenance of Submerged Ocean Structures
Lee, J W, Kim, P S, Korea Maritime Univ, Korea

Finite Element Modelling of Scour around a Subsea Structure in Steady Current
Zhao, M, Cheng, L, Univ of Western Australia, Australia

77. PIPELINES & RISERS VIII: Integrity (V. 2)

Wednesday July 9 10:30 Finback

Chair: Kim, W J, Shell Oil Company, Houston, TX, USA
Co-Chair: Fontaine, E, Institut Francais du Petrole, France

Limit Capacity Prediction for Submarine Pipeline with Long Corrosion Defect

Li, X, Chen, Y F, Jin, Q, Zhou, J, Dalian Univ of Technology, China

Integrity Management of Hybrid Riser Towers

Saint-Marcoux, J-F, Legras, J-L, Acergy, USA

Design Loads Uncertainties Study - Thermal Buckling of Subsea Pipelines

Guan, J, Nyström, P R, IKM Ocean Design, Norway

Implementation of Direct Electric Heating as Part of the Hydrate Control and Management System

Kulbotten, H, SINTEF Energy Research, Norway; Kogon, J, INPEX, Australia; Lervik, J K, SINTEF Energy Research; Nysveen, A, NTNU, Norway

Riser Integrity Monitoring Techniques and Data Processing Method

Podskarbi, M, Walters, D, 2H Offshore, USA

WEDNESDAY 13:00

Plenary Presentation III (V.1)

Wednesday July 9 13:00 Jr Ballroom D

Synergies between VLFS Hydroelasticity and Sea-ice Research

Squire, V A, Univ of Otago, New Zealand

Introduction by Jin S Chung, ISOPE, USA

Plenary Presentation IV (V.2)

Wednesday July 9 13:00 Pavilion D

Start-up and Operation of the Ormen Lange Flowlines

Burns, C, Lorimer, S E, Pradhan, V, Norske Shell, Norway; Henkes, R, Shell Global Solutions, The Netherlands; Hartenhof, M, Norske Shell; Vanvik, T, SPT Group, Norway

Introduction by Paulsen, G, Reinertsen A/S, Norway

78. HYDRODYNAMICS XIV: Wave & Structure 2 (V. 3)

Wednesday July 9 14:00 Pavilion D

Chair: Zang, J, Univ of Bath, UK

Hydrodynamic Interaction of a Coupled Ship/barge System and Its Effects on Fender and Mooring Line Forces

Xie, C, Niedzwecki, J M, Texas A&M Univ, USA; Teigen, P, Statoil, Norway

The Beau Rivage Resort Casino Barge Substructure: The Design and Why It Survived Hurricane Katrina

Johnson, J, Westmar Consultants, USA

Comparative Study on Time-domain Analysis of Ship Motions and Structural Loads in Waves

Kim, Y H, Kim, K H, Seoul National Univ; Song, M J, Daewoo, Shipbuilding & Marine Eng; Kim, M S, Samsung Heavy Industries; Sun, J, STX Shipbuilding; Song, K H, Korean Register; Shin, K S, Hanjin Heavy Industries; Yang, J H, Hyundai Heavy Industries, Korea

The Beau Rivage Resort Casino Barge Substructure: The Design and Why It Survived Hurricane Katrina

Johnson, J, Westmar Consultants, USA

Dynamic Simulation of the Fish Cage Net and Floating Collar Subjected to Current and Waves

Lee, C W, Lee, G H, Choe, M Y, Lee, M K, Song, D H, Pukyong National Univ, Korea

Study on Critical-uncontrollable Hydrodynamics Interaction between Ships

Xu, Y M, Wuhan Univ of Technology; Zou, Z, J, Shanghai Jiao Tong Univ; Liu, M, J, Wuhan Univ of Technology, China; Varyani, K S, Univ of Glasgow and Strathclyde, UK

79. HYDRODYNAMICS IX: Nonlinear Waves 2 (V. 3)

Wednesday July 9 14:00 Jr Ballroom D

Chair: Li, L, American Bureau of Shipping, USA

Response Function of Offshore Structure Affected by Severities of Seas

Kim, C, H, Rajendran, S, Texas A&M Univ, USA; Kwon, S H, Pusan National Univ, Korea

A Discussion of Probability Distribution of Nonlinear Response

Zhang, Y M, American Bureau of Shipping, USA

Large or Freak Waves?

Bertotti, L, Cavaleri, L, Inst of Marine Sciences (ISMAR), Italy

Weather Window Statistical Analysis for Offshore Marine Operations

Chen, Y, J, Cao, P M, Mukerji, P, SBM Atlantia, USA

80. GEOTECH IX: Anchor (V. 2)

Wednesday July 9 14:00 Pavilion C

Chair: Wong, P C, ExxonMobil Development Co, USA

Co-Chair: Fakharian, K, Amirkabir Univ of Tech, Iran

Response of Skirted Foundations for Buoyant Facilities Subjected to Cyclic Uplift Loading

Acosta-Martinez, H E, Gourvenec, S M, Univ of Western Australia, Australia

Experimental and Numerical Investigation of Stevmanta VLA Performance

Ruinen, R M, Vryhof Anchors, The Netherlands; Elkhatab, S, Arup, Gaudin, C, Univ of Western Australia, Australia

Implementation of a Force-resultant Model Describing Spudcan Load-displacement Behaviour Using an Implicit Integration Scheme

Vlahos, G, Parsons Brinckerhoff Australia; Cassidy, M J, Univ of Western Australia, Australia

Studies on Jack-up Spudcans

Leung, C F, Chow, Y K, National Univ of Singapore, Singapore

Behavior of Plate Anchors under Partially-drained Condition

Wang, D, Univ of Western Australia; Hu, Y X, Curtin Univ of Technology; Randolph, M, Univ of Western Australia, Australia

Recent Advances in Deep Penetrating Anchor Technology

Lieng, J T, GeoProbing Technology; Tjelta, T I, StatoilHydro, Norway

A New Method to Predict the Kinematic Trajectory of Drag Anchors

Liu, H X, Xiao, Z J, Tianjin Univ, China

Keying and Bearing Capacity of Plate Anchor in Normally Consolidated Clay

Song, Z H, Hu, Y X, Muelle, E, Curtin Univ of Technology, Australia

81. ENVIRONMENT I: Water Quality (V. 1)

Wednesday July 9 14:00 Jr Ballroom C

Chair: Kyoizuka, Y, Kyushu Univ, Japan

Study on Conservation of Habitat Network of Fiddler Crab *Uca Lactea* in Hyogo Prefecture in Japan

Uno, K, Kobe City College of Tech; Nakano, S, Univ of Tokushima, Tsujimoto, G, Kakinoki, T, Kobe City College of Tech, Japan

Non-Steady Growth Modeling of Anaerobic Consortium of Microorganisms around Methane Seepage

Yamazaki, T, AIST; Monoe, D, Oomi, T, Chuden CTI Co; Nakata, K, Tokai Univ; Fukushima, T, Ocean Policy Research Foundation, Japan

A Study on the Cause of Long-term Variations in Water Exchange and Water Quality in a Semi-enclosed Bay

Yuk, J H, Aoki, S, Toyohashi Univ of Technology, Japan

Automatic Measurement of Dissolved Inorganic Nitrogen Ion at Coastal Field Using Simplified Flow Injection Method

Arai, R, Tada, K, Osaka Prefecture Univ; Ohta, K, Toyota Motor; Nakatani, N, Okuno, T, Osaka Prefecture Univ, Japan

Material Properties of White Cement Mortar Using Pyroclastic Flow Deposits

Watanabe, K, Fujii, M, Arai, J M, Tokai Univ, Japan

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

Wednesday July 9 14:00 Pavilion A

Chair: Kang, K B, POSCO, Korea

High Performance Steel Plates of POSCO for Shipbuilding Applications

Kwon, O J, Kang, K B, POSCO, Korea

GA-based Heat Input Estimation Technique for Simulation of Shell Forming by Line-heating

Osawa, N, Hashimoto, K, Sawamura, J, Osaka Univ; Tanaka, H, Nippon Steel, Japan

Effect of Welding Heat Input on the Crack Arrest Toughness of Thick Steel Plate Welds

Park, J S, An, G B, Jung, B Y, Lee, J B, POSCO, Korea

Fracture Toughness of Very Thick EH Grade Steel Weldments

Youn, J G, Goo, Y B, Lee W J, Kwon, J C, Hyundai Heavy Industries, Korea

Tandem Electrogas Welding of Higher-Strength Hull Structural Steel

Kim, D C, Jang T W, Yun, D R, Kim, H J, Samsung Heavy Industries, Korea

Influential Factors Affecting Inherent Deformation during Plate Forming by Line Heating (Report 3): The Effect of Crossed Heating Lines

Vega, A, Sherif, R, Serizawa, H, Murakawa, H, Osaka Univ, Japan

Effect of Weld Groove Shape and Thickness of Ultra Thick Plate on Crack Initiation, Propagation and Arrest

Lee, Y S, Jang, Y C, Chung-Ang Univ, Korea

A Predictive Method for the Transverse Residual Stress Distribution at a Thick EH 40 Weldment

Lee, D J, Kim, K G, Shin, S B, Youn, J G, Hyundai Heavy Industries, Korea

83. COASTAL VII: Seabed & Waves 1 (V. 3)

Wednesday July 9 14:00 Pavilion B

Chair: Teng, B, Dalian Univ, China

Co-Chair: Kawai, H, Port and Airport Research Inst, Japan

Distribution of the Engineering Water Levels Along the Coast of China Sea under Sea Level Variation

Chen, M X; Ocean Univ of China; Zuo, J C, Hohai Univ; Du, L; Li, P L; Li, L, Ocean Univ of China, China

Wave Field Monitoring at Taipei Harbour, Taiwan

Yim, J Z, Chou, C R, Wong, W K, National Taiwan Ocean Univ, Taiwan, China

Study on the Characteristics of Storm Surge over Taiwan Eastern Waters by Wavelet Transform

Lee, B C, Huafan Univ; Huang, C C, Kao, C C, National Cheng Kung Univ, Taiwan, China

Finite Volume and Finite Difference Scheme for the Solution of 2D Extended Boussinesq Equations

Tonelli, M, Petti, M, Universita degli Studi di Udine, Italy

Measurements of Coastal Waves Using Stereo Matched Image Sequences

Arita, M, Deguchi, I, Osaka Univ, Japan

Generation of Rip Currents from Single Disturbance in Bottom Topography

Deguchi, I, Arita, M, Osaka Univ; Yoshii, T, Central Research Inst of Electric Power Industry, Japan

84. ARCTIC & ICE III: Navigation in Ice (V. 1)

Wednesday July 9 14:00 Jr Ballroom A

Chair: Frederking, R, National Research Council, Canada

Co-Chair: Karlinsky, S L, CDB "RUBIN", Russia

Submarine Moving Close to the Ice-surface Conditions

Kozin, V M, Pogorelova, A V, Inst of Machining and Metallurgy, RAS, Russia

Global Ice Load Prediction Formulas for Icebreaking Vessels

Choi, K S, Jeong, S Y, Korea Maritime Univ, Korea

Development of a GTT NO96 Membrane Type 170K m3 LNG Carrier with Ice Class IA

Lee, H J, Oh, Y T, Han, S K, Yoo, I S, Daewoo Shipbuilding & Marine Eng, Korea

Performance of Podded Propulsors

Akinturk, A, Lau, M, Inst for Ocean Technology, NRC, Canada

Comparison of Local Ice Pressures on the CCGS Terry Fox with Other Data

Frederking, R, Johnston, M, National Research Council, Canada

85. OCEAN & WIND ENERGY VII: Tidal 2 (V. 1)

Wednesday July 9 14:00 Jr Ballroom B

Chair: Jo, C H, Inha Univ, Korea

Experimental and Numerical Investigation of Fixed Blade Angle of Attack on a Vertical Axis Tidal Current Turbine

Rawlings, G W, Alidadi, M, Klaptocz, V, Nabavi, Y, Li, Y, Calisal, S, Univ of British Columbia, Canada

Application of End Plates for Vertical Axis Hydro Turbine Performance Enhancement

Rawlings, G W, Klaptocz, V, Alidadi, M, Nabavi, Y, Li, Y, Calisal, S, Univ of British Columbia, Canada

Modelling a Tidal Turbine Wake in Unsteady Flow

Stallard, T J, Gant, S E, Univ of Manchester, UK

Antifouling for Plate Type Heat Exchanger Using Seawater by the Heat-treatment

Ikegami, Y, Urata, K, Iwasaki, K, Tashiro, S, Saga Univ; Yamane, K, National Maritime Research Inst; Aya, I, Inohara, Y, Fujiki, N, Matsumoto, T, Taiko Sangyo Co, Japan

Experimental Study of OTEC Using Ammonia/water Mixture as Working Fluid

Ikegami, Y, Asou, H, Yasunaga, T, Inadomi, J, Saga Univ, Japan

Calculation of Typical Meteorological Year for a Solar Heat Supply by the Example of the Russian Far Eastern South

Abbasov, P A, Smirnova, G N, Grichkovskaya, N V, Far Eastern Research Institute of Construction, Russia

Development of the Process for Making Agricultural Cultivation Water from Seawater Using Natural Zeolite

Wajima, T, Akita Univ; Simizu T, Yamato, T, Ikegami Y, Saga Univ, Japan

86. OFFSHORE SYSTEMS IV: Technology Advances in Seismic Hazard Analysis (V. 1)

Wednesday July 9 14:00 Orca

Chair: El Menchawi, O A, Fugro West, USA

Seismic Hazard Assessment of Platforms Hogan and Houchin
El Menchawi, O, Fugro West, USA

Requalification Process for Existing Platforms - Implications of Newly Acquired Criteria on Mitigation
Capanoglu, C, I.D.E.A.S, Inc; Coombs, S, Carone Petroleum, USA

Geophysical Mapping of Ground Ice Hazards in the Western Canadian Arctic
De Pascale, G P, William Lettis & Assoc, USA

Probabilistic Fault Displacement Hazard Assessment for the Mad Dog and Atlantis Field Developments, Deepwater Gulf of Mexico
Angell, M, William Lettis & Assoc; Hanson, K, Swan, B, Youngs, R, Abramson, H, Geomatrix Consultants, USA

87. PIPELINES & RISERS IX: Pipeline 1 (V. 1)

Wednesday July 9 14:00 Finback

Chair: Frye, C A, ExxonMobil Development Co, USA
Co-Chair: Gresnigt, A M, Delft Univ of Technology, The Netherlands

Upheaval Buckling Resistance of Pipelines Buried in Clayey Backfill
Thusyanthan, I, Univ of Cambridge, UK

The Sequential Reeling and Lateral Buckling Simulation of Pipe-in-pipe (PIP) Flowlines using Finite Element Analysis of Deepwater Applications
Wang, J, Wang S, Jukes, P, J P Kenny, Inc, USA

Upheaval and Lateral Buckling Analysis of a Crossing Pipeline in High Temperature
Zhao, T F, Dalian Univ of Tech; Duan, M, China Univ of Petroleum; Pan, X D, Offshore Oil Engineering, China

Numerical Study on Failure of X52 Wrinkled Pipelines Subjected to Axial Deformation
Das, S, Univ of Windsor, Canada

Monitor of Leakage in Long-distance Pipeline Based on Detecting Theory of Abrupt Change
Li, J H, Shanghai Maritime Univ; Sun, Z C, Cui, L, Dalian Univ of Technology; Liu, W B, Shanghai Maritime Univ, China

A Non-linear Constitutive Equation of Reynolds Stress
Kang, H G, Dalian Univ of Tech, China

WEDNESDAY 19:00
Conference Annual Banquet

19:00 Grand Ballroom

THURSDAY 08:00

88. HYDRODYNAMICS XV: MetOcean 1 (V. 3)

Thursday July 10 08:00 Pavilion D

Chair: Soukissian, T, Hellenic Centre for Marine Research, Greece
Co-Chair: Nagai, T, Port and Airport Research Inst, Japan

Estimation of Collision Force of a Drifted Container Due to Run-up Tsunami

Mizutani, N, Yeom, G S, Usami, A, Nagoya Univ, Japan

Estimation of Extreme Tidal Level in Japanese Bays by Using Stochastic Typhoon Model and Tide Observation Data

Kawai, H, Port and Airport Research Inst; Hashimoto, N, Kyushu Univ; Matsuura, K, Japan Weather Assn, Japan

Trapped Tsunami Generated by the Heng-Chun Earthquake

Chen, G Y, Chien, H C, Sun Yat-Sen Univ, Taiwan, China

Fast Warning System for Typhoon Wind Waves and Storm Surges in the Coastal Region of Korea

Lee, D Y, Korea Ocean Research & Development Inst; Lee, J L, Lee, J Y, Sungkyunkwan Univ, Korea

Response of Coastal Structures Against Seismic and Tsunami Forces

Reddy, S R K, Gudlavalleru Engineering College; Reddy, G C S, Osmania Univ, India

Application of Rough Set Theory to Analyze the Cause-effect Relationship of Typhoon Disaster

Shiau, T A, Lin, H W, National Taiwan Ocean Univ, Taiwan, China

89. HYDRODYNAMICS X: Viscous Flows (V. 3)

Thursday July 10 08:00 Jr Ballroom D

Chair: Yang, C, George Mason Univ, USA,

Observation of the Coherent Turbulent Structure under Breaking Wave

Huang, Z C, Hwung, H H, National Cheng Kung Univ, Taiwan, China

Investigation on the Edge-Layer Theory of Internal Wave upon Seabed Topography in Stratified Ocean

Wei, G, Shanghai Jiao Tong Univ; Su, X B, Shanghai Inst of Applied Mathematics and Mechanics; You, Y X, Miao, G P Shanghai Jiao Tong Univ, China

Numerical Simulation of Vortex Induced Vibration of Two Circular Cylinders of Different Diameters

An, H W, Cheng, L, Zhao, M, Univ of Western Australia, Australia

A Study on the Rotating Flow in an Annulus

Kim, Y J, Yoon, C H, Park, Y C, Park, J M, Kang, J S, Kwon, S K, KIGAM; Woo, N S, Hwang, Y K, Sungkyunkwan Univ, Korea

Numerical Simulations of a Flow around an America's Cup Class Keel

Ambrogio, M M, Broglia, R, Muscari, R, Di Mascio, A, INSEAN, Italy

A Viscous Free Surface Flow Solver Using the Spectral Element Method

Sung, H G, Hong K Y, MOERI/KORDI, Korea

90. GEOTECH X: Liquefaction & Seismic Loading (V. 2)

Thursday July 10 08:00 Pavilion C

Chair: Uchida, K, Kobe Univ, Japan

Damage Caused by Liquefaction on Houses and Residential Areas of Niigata Prefecture in 2004 Chuetsu and 2007 Chuetsu Offshore Earthquakes (Part 1)

Matsushita, K, Misawa Homes Inst Research and Development; Fujii M, Tokai Univ; Takata, T, Soil Design Inc, Japan

Damage Caused by Liquefaction on Houses and Residential Areas of Niigata Prefecture in 2004 Chuetsu and 2007 Chuetsu Offshore Earthquakes (Part 2)

Takata, T, Soil Design Inc; Fujii, M, Tokai Univ; Matsushita, K, Misawa Homes Inst Research and Development; Seki, H, Kanazawa Univ, Japan

Comparative Study of Experimental Results on the Wave-Induced Liquefaction

Yang, S B, Zen, K, Kasama, K, Kyushu Univ, Japan

Effect of Shape on Seismic Behavior of Tunnels

Cilingir, U, Thusyanthan, I, Madabhushi, G, Univ of Cambridge, UK

Shear Characteristics of Peat Consolidated under Cyclic Loading

Igarashi, M, Diaconsultants Co; Tsushima, M, Akita National College of Tech; Oikawa, H, Ogino, T, Akita Univ, Japan

Lateral Loading Tests for Buried Bend with Light-weight Thrust Restraint in Liquefaction

Kawabata, T, Sawada, Y, Kobe Univ; Mohri, Y, National Inst of Rural Engineering; Kashiwagi, A, Izumi, A, Kobe Univ; Ariyoshi, M, National Inst of Rural Engineering; Uchida, K, Kobe Univ, Japan

91. ENVIRONMENT II: Tidal Effects (V. 1)

Thursday July 10 08:00 Jr Ballroom C

Chair: Pavlenko, V I, RAS Arctic Research Center, Russia

Co-Chair: Uno, K, Kobe City College of Tech, Japan

Estimation of Nutrient Fluxes over 2 Tidal Cycles in Tidal Flat

Hatano, T, Murakami, K, Musashi Inst of Technology; Nakase, K, PENTA-OCEAN Construction, Japan

Diminished Water Purification Capacity of Tidal Areas Covered by *Ulva* sp.

Yauchi, E, Ishii, K, Chiba Inst of Technology, Japan

M2 tidal Current in the Tokara Strait South of Kyushu, Japan

Yamashiro, T, Kagoshima Univ; Kawabe, M, Univ. of Tokyo; Maki, D, Miyazaki Univ, Japan

Measurement Method for Nutrient by Ultraviolet Spectrometry [Proceedings only]

Arai, R; Nakatani, N; Okuno, T; Osaka Prefecture Univ, Japan

92. HPM VI: Tubular Structures (V. 4)

Thursday July 10 08:00 Pavilion A

Chair: Wardenier, J, Technical Univ of Delft, The Netherlands

Co-Chair: Choung, J M, Hyundai Heavy Industries, Korea

Joints between Plates or I Sections and a Circular Hollow Section Chord

Wardenier, J, van der Vegte, G J, TU Delft, The Netherlands; Makino, Y, Kumamoto Univ, Japan

Design Considerations for End-to-End Connections between Cast Steel and Hollow Sections under Fatigue Loading

Veselic, M, Herion, S, Puthli, R, Univ of Karlsruhe, Germany

A Study on the Fatigue Life of Large-scale Tubular K-joint

Im, S W, Chang, I H, RIST, Korea

An Application to Welded Joints of the Crack Inspection System by Using Magnetic Properties

Hashimoto, K, Osawa, N, Sawamura, J, Asai, H, Osaka Univ, Japan

93. COASTAL VIII: Estuary (V. 3)

Thursday July 10 08:00 Pavilion B

Chair: Hwung, H H, National Cheng Kung Univ, Taiwan, China
Co-Chair: Yauchi, E, Chiba Inst of Technology, Japan

Wave Design in Distorted Physical Model for Estuarine and Coastal Regions

Kong, L S, Wang, N, Qingdao Technological Univ; Cao, Z D, Tianjin Scientific Research Inst for Water, China

River Mouth Flow Analysis by In situ Particle Image Velocimetry

Bruschi, A, Corsini, S, Lalli, F, Lama, R, Liberti, L, Mandrone, S, Pesarino, V, APAT; Romano, G P, Univ of Rome "La Sapienza", Italy

The Effect of Wave Radiation Stresses on Tidal Current Vertical Distribution

Wang, S P, Qin, Y L, CNPC; Liang, S X, Sun, Z C, Dalian Univ of Technology, China

94. ARCTIC & ICE IV: Arctic Emergency Evacuation (V. 1)

Thursday July 10 08:00 Jr Ballroom A

Chair: Simoes Ré, A, Inst for Ocean Technology, Canada
Co-Chair: Veitch, B, Memorial Univ of Newfoundland, Canada

ARKTOS Evacuation Craft: History, Capability and Future Developments

Hatfield, P S; Seligman, B, ARKTOS Developments; Lacy, G; Allyn, N F B, Westmar Consultants; Hall, T A, Hall Marine Design, Canada

The Development and Application of an Offshore Evacuation and Rescue Toolset

Igloliorte, G, Kendrick, A, Mills, J, Thomas, M, BMT Fleet Technology, Canada

Human Thermal Regulation in Wind and Waves

Power, J, Simões Ré, A, Inst for Ocean Technology; MacKinnon, S, Memorial Univ of Newfoundland; Brooks, C, Survival Systems Ltd, Canada; Tipton, M, Univ of Portsmouth, UK

Field Trials of an Instrumented Lifeboat in Ice Conditions

Simoes Re, A J, Inst for Ocean Technology; Veitch, B J, Memorial Univ of Newfoundland; Timco, G, Barker A, Canadian Hydraulics Center, Canada

Escape-evacuation-rescue Response in Ice-covered Regions

Simoes Re, A J, Inst for Ocean Technology, NRC; Veitch, B J, Memorial Univ of Newfoundland, Canada

Free Fall Lifeboats as Safe and Efficient Evacuation Means during Harsh Weather Conditions – Industry and Regulatory Experience from the Norwegian Continental Shelf

Eriksson, S A, Solheim, R, Petroleum Safety Authority Norway, Norway

95. Reunion of Prof. Isaacson Class I

Thursday July 10 08:00 Jr Ballroom B

Chair: Mathai, T, The Glosten Associates, USA
Co-Chair: McTaggart, K, Defence R&D Canada - Atlantic, Canada

Coastal Flood Hazards: From Modeling to Mitigation [Oral presentation]

Cheung, K F, Univ of Hawaii, USA

Nearshore Maritime Projects – Some Case Histories [Oral presentation]

Byres, R, Moffatt and Nichol, Canada

A Montage of Major Projects over the Last Ten Years [Oral presentation]

Mattila, M, Seabulk Systems, Canada

Examples of Physical Modeling in Coastal and Ocean Engineering [Oral presentation]

Cornett, A, National Research Council, Canada

96. OFFSHORE SYSTEMS V: Jacket Structures & Loads (V. 1)
Monday July 7 14:00 Orca

Chair: Duan, M L, China Univ of Petroleum, China

Co-Chair: Boswell, L, The City University, London, UK

Numerical Study of Jack-up Leg Hydrodynamic Loads

Zhang, B; Tan, X; Lou, J; Lu, C, Inst of High Performance Computing, Singapore

Wave Loads on Piles – Spectral Versus Monochromatic Approach

Barua, D K, Coastal Technology Corp, USA

Fluid-structure Interaction for a Jacket Model Structure under Motion Excitation

Mendes, A C, Correia, H D, Universidade da Beira Interior, Portugal

Parametric Investigations of the Fatigue Damage for a Jacket Structure Based on a New Type of Wave Energy Spectrum Input

Jia, J B, Aker Kvaerner Offshore Partner, Norway

97. PIPELINES & RISERS X: Pipeline 2 (V. 1)
Thursday July 10 08:00 Finback

Chair: Moshagen, H, Statoil, Trondheim, Norway

Co-Chair: Bransby, M F, Univ of Dundee, UK

Numerical Study on Failure of X52 Wrinkled Pipelines Subjected to Bending Deformation

Zhang, Y H, Das, S, Univ of Windsor, Canada

Finite Element Simulation for Shear Failure of Wrinkled Pipeline

Nazemi, N, Das, S, Univ of Windsor, Canada

Critical Thermal, Corrosion and Material Issues Related to Flowline Pipe-in-pipe (PIP) Systems

Jukes, P, Sing, B, Garcia, J, Delille, F, J P Kenny, USA

Experimental Testing of the Performance of Pipeline Ploughs

Lauder, K D, Bransby, M F, Brown, M, Univ of Dundee; Pyrah, J, CTC Marine, UK

Automatic Pipeline Welding System Equipped with Six Welding Carriages, Laser Vision Sensor and Arc Sensor for Offshore Pipeline Laying

Moon, H S, Ko, S H, Kim, J C, Hyundai Heavy Industries, Korea

Effect of Lateral Pipelay Imperfections on Global Buckling Design

Rathbone, A, J P Kenny, Australia; Rundsag, J-O, J P Kenny Norge, Norway; Tørnes, K, Cumming, G, J P Kenny, Australia

THURSDAY 10:30

98. HYDRODYNAMICS XVI: MetOcean 2; Tsunami (V. 3)
Thursday July 10 10:30 Pavilion D

Chair: Rhee, K P, Seoul National Univ, Korea
Co-Chair: Yim, J Z, National Taiwan Ocean Univ, Taiwan, China

Nonlinear Simulation of 3D Freak Waves Using a Fast Numerical Method
Yan, S, Ma, Q W, City Univ, UK

Barge Mounted Low Temperature Thermal Desalination Plant
Kathiroli, S, Jalihal, P, Sistla, P V S, National Inst of Ocean Technology, India

Modeling and Experimental Validation of the UHF Radar Signature on Surface Waves of a Tsunami Approaching Coastal Areas
Dubosq, S, Saillard, M, Francius, M. Univ of Toulon, France; Grilli, S T, Univ of Rhode Island, USA; Branger, H, Univ of Marseille, France

Time-Space Variations and Spectral Evolutions of Sandy Beach Profiles under Tsunami and Regular Waves
Tsujiimoto, G, Kobe City College of Tech; Yamada, F, Kumamoto Univ; Kakinoki, T, Kobe City College of Tech, Japan

Model Study of Tsunami Wave Loading on Bridge Structures
Thusyanthan, I, Martinez, E, Univ of Cambridge, UK

A Guideline of Ship Evacuation from Tsunami Attack
Kobayashi, E, Kobe Univ; Koshimura, S, Tohoku Univ; Yoneda, S, Imabari Zousen, Japan

Typhoon-induced Wind and Wave Simulation in Inner Bay
Kawaguchi, K, Kawai, H, Port and Airport Research Inst; Nakano, T, Japan Weather Assn, Japan

99. HYDRODYNAMICS XI: Dynamic Stability (V. 3)

Thursday July 10 10:30 Jr Ballroom D

Chair: Noblessee, F, NSWC-CD, USA
Co-Chair: Kim, Y H, Seoul National Univ, Korea

Active Roll Stabilization of a Coastal Naval Vessel Using Azimuthing Propellers
McTaggart, K A, Defense R&D Canada Atlantic, Canada

Dynamic Stability of a Deep Draft Semi-submersible in Survival Environments
Grgas, I, Kuriakose, V, SBM Atlantia, USA

Computational and Experimental Studies on Parametric Roll of Containerships in Head Seas
Yang, J H, Lee, Y W, Hyundai Heavy Industries; Kim, Y H, Seoul National Univ, Korea

100. GEOTECH XI: Soil Improvement 1(V. 2)

Thursday July 10 10:30 Pavilion C

Chair: Kim, S S, Hanyang Univ, Korea

Pullout Resistance of Reinforcement with Expanded End Subjected to Cyclic Force
Nabeshima, Y, Akashi National College of Technology; Konami, T, Hayashi, T, Okasan Livic; Ito, H, Dai Nippon Doboku, Japan

Effect of Grouting Procedure on Effectiveness of Compaction Grouting
El-Kelesh, A M, Osaka Univ; Matsui, T, Fukui Univ of Technology, Tokida, K, Osaka Univ, Japan

Evaluation on Site of the Suction Drain Method for Soft Ground Improvement

Kim, S S, Hanyang Univ; Han, S J, Expert Group for Earth & Environment, Kim, J Y, Hanyang Univ, Korea

In-situ Test Research on Vacuum Dynamic Consolidation Method to Improve Double-layered Soft Ground

Shi, D D, Shanghai Maritime Univ; Zhou, J, Tongji Univ; Liu, W B, Shanghai Maritime Univ; Jia, M C, Tongji Univ, China

Implicit Integration Algorithm of Elastoplastic Constitutive Relation for Cohesionless-frictional Geomaterial

Yuan, F F, Inst of Rock and Soil Mechanics, CAS; Zhan, Y G, Luan, M T, Dalian Univ of Technology, China

101. ENVIRONMENT III: Monitoring (V. 1)

Thursday July 10 10:30 Jr Ballroom C

Chair: Otsuka, K, Osaka Prefecture Univ, Japan

Co-Chair: Hayashi, M, Kobe Univ, Japan

Marginal Stability Analysis on Salt Finger Convection with Parabolic Temperature and Salinity Profiles

Yang, R Y, Hwung, H H, National Cheng Kung Univ, Taiwan, China

Application of Information Theory for Analyzing High-Frequency Environmental Monitoring Data to Signal Potential Coastal Pollution Events

Liu, T K, Hwung, H H, Tasi, K P, National Cheng Kung Univ, Taiwan, China

A Risk Assessment Study on Fluid Dynamics of Single CO₂ Droplet Released into Turbulent Seawater

Nagosa, R, Yamasake, A, Kiyono, F, AIST, Japan

Ubiquitous Port Environment Monitoring and Management System

Jang, M S, Lee D K, Moon I S, MOERI/KORDI, Korea

Development and Assessment of a Fine Particle Acquisition Technique Using the Sodagarami Method in Field Tests

Tokunaga, T, Araki, H, Yamanishi, H, Kurogi, K, Ono, S: Saga Univ, Japan

Influence of Bulk Algorithm for Air-Sea Fluxes and Breaking Waves on Oceanic Mixed Layer

Zhao, D L, Mei, C J, Ocean Univ of China, China

102. HPM VII: Smart Structures (V. 4)

Thursday July 10 10:30 Pavilion A

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

Co-Chair: Mouring, S E, US Naval Academy, USA

Composite Cryogenic Tank Development

Delay, T K, NASA, USA

Buckling Response of Impact-Damaged Composite Panels

Mouring, S E, US Naval Academy, USA; Louca, L, Imperial College London, UK

Accurate Measurement of Loss Factor and Young's Modulus for a Composite Structure Using a Multi-degree Curve Fitting Method

Park, H I, Min, C H, Korea Maritime Univ; Bae, S R, ADD, Korea

A Relationship between the Degradation and Micrographic/Fractographic Behavior of Laminated Composites in the Moisture Environments

Kim, Y H, Bae, S Y, Kim, K J, Han, J W, Moon, K M, Korea Maritime Univ, Korea

Study on Ductile Property of Corroded Reinforced Concrete Beam

Fang, F Y, Dalian Maritime Univ; Qiang, H Z, Dalian Univ of Technology, China

Experimental Study on Properties of Corroded DFRP Reinforced Concrete Column under Repeating Load

Hou, Y L, Zhao, Y H, Zhang, L W, Dalian Maritime Univ, China

Effect of W/C and Thickness to Corrosion Property of Reinforced Concrete

Moon, K M, Cho, H R, Lee, M H, Kim, Y H, Korea Maritime Univ, Korea

Experimental and Theoretical Investigation on Abrasion Strength of Brittle Matrix Composites

Makarova, N V, Inst of Automation and Control Processes; Bekker, A T, Far-Eastern State Tech Univ, Russia

Effect of Cooling Speed on the Structure and Tribological Properties of Metal Composite Casts

Gawdzinska, K, Glowacki, B, Maritime Univ of Szczecin; Hajkowski, J, Poznan Univ of Technology, Poland

103. COASTAL IX: Seabed & Waves 2 (V. 3)

Thursday July 10 10:30 Pavilion B

Chair: Lalli, F, APAT, Italy

Co-Chair: Lin, M C, National Taiwan Univ, Taiwan, China

Turbulent Solitary Wave Boundary Layer

Sumer, B M, Jensen, P M, Sørensen, L. B, Fredsøe, J, Technical Univ of Denmark, Denmark

Overturning of a Solitary Wave on a Continental Shelf

Huang, C J, Lin, C Y, National Cheng Kung Univ, Taiwan, China

Computation of Reflection Coefficient Using Wave Amplitude and Phase Function

Kim H, S, Jung, B S, Kookmin Univ, Korea

Application of Wave Momentum Flux in Runup Prediction

Juang, J T, Chienkuo Technology Univ; Lin, C F, You, J Y, Fen-Chia Univ, Taiwan, China

A Depth-Averaged Hyperbolic Model for Wave Propagation, Dissipation and Breaking in Coastal Waters

Matsoukis, P F C, Democritus Univ of Thrace, Greece

Typhoon Rainfall and Landsliding on the Pacific Ocean Side of Japan

Dahal, R K, Hasegawa, S, Yamanaka, M, Nonomura, A, Kagawa Univ, Japan

104. ARCTIC & ICE V: Ice Cover (V. 1)

Thursday July 10 10:30 Jr Ballroom A

Chair: Bekker, A T, Far-Eastern State Technical Univ, Russia

Co-Chair: Williams, F M, Inst for Ocean Technology, Canada

State of the Art of the Problem of Hummock Impact on the Seabed and Underwater Pipelines for the Northern Sakhalin Offshore Projects

Bekker, A T, Sabodash, O A, Far-Eastern State Technical Univ, Russia

Conceptions and Mechanisms on Determination of Static Ice Pressure on Slopes

Li, F, Li, H S, Dalian Univ of Technology, China

Some Improvements for Ice Brush Test Procedure

Lee, C J, MOERI/KORDI, Korea; Lau, M, Wang, J Y, Inst for Ocean Technology, Canada; Cho, S R, MOERI/KORDI, Korea

Floating Production Platform for Polar Seas Designed to Resist Iceberg Impact

Chernetsov, V A, Malyutin, A A, Karlinsky, S L, CDB "RUBIN", Russia

105. Reunion of Prof. Isaacson Class 2

Thursday July 10 10:30 Jr Ballroom B

Chair: Cheung, K F, Univ of Hawaii, USA

Co-Chair: Nwogu, O, Univ of Michigan, USA

Prediction of Ship Motions in Waves and Naval Applications [Oral presentation]

McTaggart, K, Defence Research and Development Canada - Atlantic, Canada

Some Examples of Hydrodynamic Analysis Projects [Oral presentation]

Mathai, T, The Glosten Associates, USA

Wave Structure Interaction Studies through Non-linear Diffraction Theory, Physical Models and CFD Methods [Oral presentation]

Prasad, S, Sandwell Engineering, Canada

Coastal Engineering Projects in Florida, Caribbean and Pacific Northwest [Oral presentation]

Yang, G, Westmar Consultants, Canada

106. PIPELINES & RISERS XI: Pipeline 3 (V. 1)

Thursday July 10 10:30 Finback

Chair: Paulsen, G, Reinertsen AS, Norway

Co-Chair: Takeuchi, I, Sumitomo Metal Industries, Japan

Integrated Assessment of the Underwater Pipeline Construction Conditions

Koff, G L, Georisk, Russia

The Efficient Assessment of Subsea Pipelines and Flowlines for Complex Span Scenarios

Wang, J, Wang S, Duan, G, Jukes, P, J P Kenny, USA

Finite Element Analysis of the Vertical Penetration of On-bottom Pipelines in Clay

Bransby, M F, Amman, S, Zajac, P, Univ of Dundee, UK

A Finite Element Model on Onset of Scour below Offshore Pipeline

Cheng, L, Univ of Western Australia, Australia; Zang, Z P, Dalian Univ of Technology, China; Zhao, M, Univ of Western Australia, Australia; Teng, B, Dalian Univ, China

Structural Condition Identification for Free Spanning Submarine Pipelines

Feng, X, Zhou, J, Li, X, Hu, J S, Dalian Univ of Technology, China

A 3D Elasto-plastic Soil Model for Lateral Buckling Analysis

Hededal, O, Technical Univ of Denmark; Strandgaard, T, GeoLine APS, Denmark

Nonlinear Seismic Analysis of Free Spanning Submarine Pipelines under Spatially Varying Earthquake Ground Motions

Jing, Z, Dong, R, Feng, X, Li, X, Dalian Univ of Technology, China

THURSDAY 14:00

107. HYDRODYNAMICS XVII: MetOcean 3 (V. 3)

Thursday July 10 14:00 Pavilion D

Chair: Choi, H S, Seoul National Univ, Korea

Dynamic System Simulation of Ships Evacuation Due to Tsunami Attack Considering Traffic Density Condition

Pitana, T, Kobayashi, E, Kobe Univ, Japan

Improvement of the Japanese NOWPHAS Network by Introducing Advanced GPS Buoy

Nagai, T, Shimizu, K, Sasaki, M, Port and Airport Research Inst; Murakami, A, Ministry of Land, Infrastructure & Transport, Japan

Improved Estimation of Ocean Wave Fields from Marine Radars Using Data Assimilation Techniques

Aragh, S, Nwogu, O, Lyzenga, D, Univ of Michigan, USA

A Controller Design for Lightering Operation Using Relative Distance Sensor

Shimizu, E, Tokyo Univ of Marine Science and Tech, Japan; Pedersen, E, NTNU, Norway

Emergency Lightering in Open Seas

Berg, T E, MARINTEK; Gudmundset, G, Ship Maneuvering Simulator Centre, Norway

108. HYDRODYNAMICS XII: Hydrodynamic Performance (V. 3)

Thursday July 10 14:00 Jr Ballroom D

Chair: Kashiwagi, M, Kyushu Univ, Japan

Practical Green Function for Thin-ship Theory

Noblesse, F, NSWCCD, USA; Delhommeau, G, Univ of Nantes, France; Kim, H Y, Yang C, George Mason Univ, USA

Experiment and Numerical Study on Hydrodynamic Performance of a Gliding-hydrofoil Craft

Yang, S L, Chen, S L, Jiangsu Univ, China

Void Fraction in Greenwater

Chang, K A, Texas A&M Univ, USA; Ryu, Y U, Korea Inst of Construction Technology, Korea

Prediction of Hydrodynamic Performance of Ship-Shaped Hulls under Excessive Roll Motions Using an Unsteady Navier-Stokes Solver

Kinnas, S A, Yu, Y H, Vinayan, V, Univ of Texas at Austin, USA

109. GEOTECH XII: Soil Improvement 2 (V. 2)

Thursday July 10 14:00 Pavilion C

Chair: Kim, S S, Hanyang Univ, Korea

Ultimate Capacity of Vertically Loaded Anchors under Rapid and Sustained Loading

Taiebat, H A, Zad, A A, Univ of Technology Sydney, Australia

Calcium Leaching Properties of Lime-Treated Soil Caused by Infiltration of Tidal River Water

Hara, H, Suetsugu, D, Hayashi, S, Du, Y J, Saga Univ, Japan

Probabilistic Analysis of Consolidation Considering Uncertainties of Geotechnical Parameters in the PBD Method

Lee, K H, Konyang Univ; Yoon, G L, KORDI; Yang, T S, Kimpo College; Koo, J D, KICT, Korea

Chemical and Physical Factors Influencing of Sodium Silicate-Cement Grout

Yang, H C, Jung, H S, Gong, J Y, Chun, B S, Hanyang Univ, Korea

110. ENVIRONMENT IV: Characteristic in Regions (V. 1)

Thursday July 10 14:00 Jr Ballroom C

Chair: Sayed, M, National Research Council, Canada

Co-Chair: Jang, M S, MOERI, Korea

Seasonal Variation of Nitrogen Cycling in Manila Bay

Hayashi, M, Kobe Univ; Yanagi, T, Kyushu Univ, Japan; San Deigo-Mcglone, M L, Univ of Philippines, Philippines

Ecological Risks of the Natural Resources Exploitation in the Russian Polar Regions

Pavlenko, V I, Glukhareva, E K, Arctic Research Center, Russia

Topographical Change of the Sandbar and Estimation of Suspended Solid Flux in the Nakdong River Estuary, Korea – Focused on Jinudo

Lim, S P, Lee, I C, Yi, B H, Yoon, H S, Pukyong National Univ, Korea

Spatial Distribution of Sea Level Trend and Annual Range in the China Seas from 50 Long Term Tidal Gauge Station Data

Zuo, J C, Chen, M C, Ocean Univ of China; Zhang, J L, National Marine Data & Information Service; Du, L, Ocean Univ of China, China

Changes in the Engineering Properties of Reconstituted Ariake Clay Undergoing Drying [Proceedings Only]

Tanaka, M, Port and Airport Research Inst; Kamei, T, Shimane Univ, Japan

111. HPM VIII: NDE & Life Prediction (V. 4)

Thursday July 10 14:00 Pavilion A

Chair: Kwon, D I, Seoul National Univ, Korea

The Safe Operating Life of Isothermal Steel Vessels

Basko, E M, Larionov, V V, Lazutin, V N, MELNIKOV Central & Design Inst of Steel Structures, Russia

Lifetime Prediction of Fatigue Loaded Welded Joints with Help of Micromagnetic Parameters

Nitschke-Pagel, T N, Dilger, K, Markus, B, TU Braunschweig, Germany

Estimation of Fracture Toughness Using Instrumented Indentation Technique

Kwon, D I, Lee, K W, Seoul National Univ, Kim, K H, Frontics, Korea; Jung, G H, Kim, D S, Shell Global Solutions, USA

Study on Non-destructive Detection System by Magnetic Characteristics (3rd Report)

Hashimoto, K, Osawa, N, Osaka Univ; Tanaka, Y, National Maritime Research Inst, Japan

Using the Neuber Plot to Account for the Effects of Scatter, Corrosion and Welding in Strain-life Fatigue Test Data

Conle, F A, Bonnen, J J, Ford Motor, USA

Numerical Simulations of the Growth and Deflection of a Stress-Corrosion Notch on the Interface between Two Brittle Materials on Ship Body

Tang, Z; Zou, H; Lou, L; Zhejiang Ocean Univ, China

Analysis of Elastostatic Crack Problems Using B-spline Wavelet Finite Element Method

Tanaka, S, Hiroshima Univ; Okada, H, Kagoshima Univ; Okazawa, S, Fujikubo, M, Hiroshima Univ, Japan

Fitness for Service Assessment of Spherical Oxygen Storage Vessel
Han, S I, Kwon, J R, Kim, J Y, Korea Gas Corp, Korea; Kim, D S, Shell Global Solutions; Tsai, C, Ohio State Univ, USA

112. COASTAL X: Seabed & Waves 3 (V. 3)
Thursday July 10 14:00 Pavilion B

Chair: Chien, L K, National Taiwan Ocean Univ, Taiwan, China
Co-Chair: Kim, K H, Kwandong Univ, Korea

Transformation of Short Wave Groups and Generation of Infragravity Waves on a Bar Type Beach
Asano, T, Soe, N M, Kagoshima Univ, Japan; Akbarpour Jannat, M R, Iranian National Center for Oceanography, Iran

Wave Breaking Termination on Bar-Trough Shaped Beaches
Okamoto, T, Fortes, C J, LNEC, Portugal; Basco, D R, Old Dominion Univ, USA

Numerical Simulations of Shallow-water Wave Propagation over Arbitrary Bottom Topography Using Modified Boussinesq Equation
Yuck, R H, Park, B W, Choi, H S, Seoul National Univ, Korea

A Comparison Study of Refraction of Interfacial Waves over a Circular Hump
Harun, F N, Zhu, S P, Univ of Wollongong, Australia

Analytical Solutions for Long Waves on Real Axis-Symmetric Topographies
Jung, T H, Hanyang Univ; Lee, C H, Sejong Univ; Cho, Y S, Hanyang Univ, Korea

The Viability of the Implementation of an Artificial Surf Reef in Sao-Pedro's Beach, Estoril, Portugal
Nogueira, M J V O, Mayor of Cascais; Bicudo, P, Custsdió, A M O, Instituto Superior Tecnico; Fortes, C J, Neves, M G, LNEC; Carvalho, L M A, Mayor of Cascais, Portugal

Analysis of Directionally Spreading Random Waves Propagating over Various Trench
Cho, Y S, Lee, J W, Jung, T H, Hanyang Univ, China

113. ARCTIC & ICE VI: Arctic Structures & Icing (V. 1)
Thursday July 10 14:00 Jr Ballroom A

Chair: Cowdell, S R, Westmar Consultants Inc., Canada
Co-Chair: Kioka, S, Civil Eng Research Inst of Hokkaido, Japan

Detailed Design of Marine Terminal in Edward's Cove, Labrador, Canada
McPherson, R, Kullmann, H, Westmar Consultants, Canada

Anchor System for Ice-resistant Floating Platform Designed to Resist Iceberg Impact
Chernetsov, V A, Malyutin, A A, Karlinsky, S L, SOE RUBIN", Russia

Mapping Mean Annual Icing Hours for the Quebec Wind Energy Industry
Comeau, M, Masson, C, Morency, F, Ecole de Technologie Superieur; Pelletier, F, Helimax Energie, Canada

114. PIPELINES & RISERS XII: Mooring & Riser (V. 1)
Thursday July 10 14:00 Finback

Chair: Park, H I, Korea Maritime Univ, Korea
Co-Chair: Knapp, R H, Univ. of Hawaii, USA

Near-surface BOP Drilling System

Lim, F, 2H Offshore, UK; Guo, Y F, Ji, S J, COSL; Xu, L B, CNOOC, China

Responses of Multi Point Mooring Systems under the Influence of Different Sea Conditions

Bayraktar, D, Kükner, A, Istanbul Technical Univ, Turkey

Design of Moorings for Complex Fish Passage Project

Allyn, N F B; Li, J, Westmar Consultants, Canada; Yang, G, Johnson, J, Westmar Consultants, USA

Fatigue Life Assessment of a Drilling Riser Containing Corrosion Defects: Pits, Patches and Grooves

Campello, G C, Benjamin, A C, Cunha, D J, Roveri, F E, PETROBRAS R&D Center; Silva, R C, Guerreiro, J N, National Laboratory for Scientific Computation, Brazil

Strength Evaluation of Drill Pipe for Scientific Drilling in NANKAI Trough with High Current

Inoue, T, Ozaki, M, Miyazaki, T, JAMSTEC; Makoto, N, Koji, S, Mitsubishi Heavy Industries, Japan

Numerical Simulation of Hydrodynamic Behaviors of Single Grid Mooring Net Cage under Waves

Chen, C P, Li, Y C, Zhao, Y P, Dalian Univ of Technology, China

Mooring Design and Analysis: A Simple Approach

Thein, Z, Univ of California-Berkeley, USA

Progressive Mooring-line Failure of a MODU During Hurricane Ivan

Zhang, Z, Kim, M H, Texas A&M Univ, USA; Ma, S, Harbin Engineering Univ, China

**First (2008) ISOPE
Frontier Energy Resources Symposium
Vancouver, Canada, July 6–11**

6. FRONTIER ENERGY RESOURCES I:

General (V. 1)

Monday **July 7** **14:00** Pavilion A

Chair: Ayer, R, ExxonMobil Research & Engineering Co., USA

Introductory Remarks

R Ayer, ExxonMobil Research & Engineering
D S Kim, Shell Global Solutions (US) Inc
G E. Kim, Perpetual Technologies

**Present Energy Status and Policies to Address Climate Change in Korea
(Keynote)**

Kang, J M, Seoul National Univ, Korea

The Plans for Accelerated Biofuels in the USA (Keynote)

Mielenz, J R, Oak Ridge National Laboratory, USA

**The Simulation Study of Gasification System with Various Feedstocks
and Products**

Shim, H M, Kim, H T, Ajou Univ, Korea

**Development of Catalytic Coal Gasification: Regeneration and Recycle
of Catalysts Using Crude Vinegars Derived from Lignocellulosic
Biomass**

Zhang, Y, Ashizawa, M, Kajitani, S, Hara, S, Central Research Inst of Power
Industry, Japan

16. FRONTIER ENERGY RESOURCES II: Oil Shale (V. 1)

Monday **July 7** **16:20** Pavilion A

Chair: Kim, D S, Shell Global Solutions (US) Inc, USA

**Solids-stabilized Emulsions – A Novel Heavy Oil Recovery Technology
[Keynote]**

Kaminsky, R D, Wattenbarger, R C, ExxonMobil Upstream Research, USA

**The Role of Oil Shale in the Future of Hydrocarbon Production
[Keynote]**

Boak, J, Nummedal, D, Bartov, Y, Colorado School of Mines, USA

Oil Shale Mining Environmental Impact Assessment in Brazil [Keynote]

Porto Alegre, H K, Sosinski, L F, Petrobras, Brazil

**World's Oil Shale Available Retorting Technologies and the Forecast of
Shale Oil Production [Keynote]**

Qian, J L, Wang, J Q, Li, S Y, China Univ of Petroleum, China

25. FRONTIER ENERGY RESOURCES III:

Oil Sands (V. 1)

Tuesday **July 8** **08:00** Pavilion A

Chair: Kim, G E, Perpetual Technologies, Inc., Canada

Co-Chair: Boak, J, Colorado School of Mines, USA

**Syncrude and the Oil Sands - Technical Challenges and Opportunities
[Keynote, Oral presentation]**

Fair, A, Syncrude Canada Ltd, Canada

Bitumen Production from Canadian Oil Sands Deposits [Keynote, Oral presentation]

Xu, Z H, Masliyah, J, Univ of Alberta, Canada

Corrosion Damage and Materials Selection in Canadian Sands Oil Process with Heavy Naphthenic Acid

Eun, T J, Jacobs Engineering Group, USA

Oil Sands Gathering Conditions and Models in Compressive Basin

Zhao, Q, Li, J M, Liu, R H, Bai, W H, PetroChina; Wang, H Y, Beijing Univ, China

Fluvial-estuarine System of Kyeonggi Bay as a Modern Analog of Athabasca Oil Sands

Kwon, Y K, Chang, T S, Jin, J H, Korea Inst of Geoscience and Mineral Resources, Korea

35. FRONTIER ENERGY RESOURCES IV:

Gas Hydrates (V. 1)

Tuesday July 8 10:30 Pavilion A

Chair: Porto Alegre, H, Petrobras, Brazil

Gas Hydrate R&D Activities of Korea (Keynote)

Lee, T S, Korea Inst of Geoscience and Mineral Resources, Korea

Temperature Calculation and Prediction of Gas Hydrates Formed Region in Wellbore in Deepwater Drilling

Sun, B J, Gao, Y H, Wang, Z Y, Li, H, China Univ of Petroleum, China

Analysis of Reservoir Performance of Messoyakha Gas Hydrate Field

Grover, T, Holditch, S A, Moridis, G J, Texas A&M Univ, USA

Study on Mechanical Properties of the Tetrahydrofuran Hydrate Deposit

Lu, X B, Wang, L, Wang S Y, Zhao, J, Wang A L, Inst of Mechanics, CAS, China

Experimental Investigation of Methane Hydrate Dissociation under Hot-Brine Injection in Sand Packed Core Holder

Ahn, T W, Kang, J M, Seoul National Univ, Korea

Stability of Methane Hydrate-Bearing Sand in Deep Seabed

Hyodo, M, Nakata, Y, Yoshimoto, N, Yoneda, J, Yamaguchi Univ Japan

45. FRONTIER ENERGY RESOURCES V:

Deep Ocean & Environment (V. 1)

Tuesday July 8 14:00 Pavilion A

Chair: Lee, T S, Korea Inst of Geoscience and Mineral Resources, Korea

A Study on Competitiveness and CO₂ Mitigation Effect of IGCC and Carbon Capture Technology through Carbon Tax Change

Jeon, Y S, Kim, Y C, Kim, H T, Ajou Univ, Korea

Solid-liquid Flow Experiment with Actual Manganese Nodules in the Flexible Pipe

Yoon, C H; Kang, J S; Park Y C; Kim, Y J; Park J M, KIGAM, Korea

Research into Effects of Grounding Specific Pressure of Seabed Tracked Vehicle on Trafficability

Wu, H Y, Central South Univ, China

3-D Numerical Simulations on Artificial Upwelling by Seafloor Mounted Structures

Kida, H, Nippon Steel Engineering; Inouchi, K, Nakamura, T, Ehime Univ, Japan

**The Second (2008) ISOPE
Strain-Based Design Symposium
Vancouver, Canada, July 6–11**

5. SBD I: Materials (V. 4)

Monday July 7 14:00 Jr Ballroom C

Chair: Lillig, D B, ExxonMobil Development Co, USA
Co-Chair: Mannucci, G, Centro Sviluppo Materiali, Italy

Introductory Remarks

Y-Y Wang, CRES
D B Lillig, ExxonMobil Development
Tsuru, E, Nippon Steel

Mechanical and Metallurgical Properties of Grade X80 High Strain Linepipe Produced by Heat Treatment Online Process

Ishikawa, N, Okatsu, M, Endo, S, Muraoka, R, Kondo, J, JFE Steel, Japan

Development of High Strength and High Deformable Linepipe Steels for Strain Based Design Application

Okaguchi, S, Nakamura, H, Hamada, M, Shitamoto, H, Takahashi, N, Yamamoto, A, Nagase, M, Takeuchi, I, Sumitomo Metal Industries, Japan

Development of X80/X100 Linepipe Steels with High Strain Aging Resistance

Yoo, J Y, Seo, D H, Ahn, S S, Kang, K B, POSCO, Korea

Concepts of Grade X100 for High Toughness and Strain Based Design Application

Schwinn, V, Fluess, P, Dillinger Hüttenwerke; Liessem, A, Schroeder, J, Europipe GmbH, Germany

Thermal and Microstructure Simulation of Girth Welds in High-strength Pipelines

Chen, Y S, Wang, Y Y, CRES, USA; Gianetto, J, CANMET, Canada

15. SBD II: Tensile Strain Capacity 1 (V. 4)

Monday July 7 16:20 Jr Ballroom C

Chair: Tsuru, E, Nippon Steel Co, Japan
Co-Chair: Ishikawa, N, JFE Steel, Japan

Preliminary Analysis of Full-scale Tensile Strain Tests with Internal Pressure

Wang, Y Y, Liu, M, CRES, USA; Stephens, M, Horsley, D, BP, Canada

Girth Welds for Strain-based Design Pipelines

Fairchild, D P, ExxonMobil Upstream Research; Crawford, M D, ExxonMobil Development; Cheng, W, Ford, S J, ExxonMobil Upstream Research; Sleigh, J, Lillig, D B, ExxonMobil Development, USA

Advanced Tensile Behaviour Evaluation of Girth Welds

Fonzo, A, Mannucci, G, Centro Sviluppo Materiali, Italy; Di Vito, L, Richard, G, TenarisTamsa R&D, Mexico

Large Scale Tests of Strain Capacity of Pipe Sections with Circumferential Defects Subjected to Installation Induced Plastic Strain History

Nyhus, B, Østby, E, SINTEF Materials and Chemistry; Zhang, Z L, NTNU; Røstadsand, P A, StatoilHydro; Wærø, A, Technip Norge, Norway

Strain Capacity of SENT Specimens – Influence of Weld Metal Mismatch and Ductile Tearing Resistance

Østby, E, SINTEF Materials and Chemistry; Hauge, M, Levold, E, Sandvik, A, StatoilHydro; Nyhus, B, SINTEF Materials and Chemistry; Thaulow, C, NTNU, Norway

Fracture Control of Offshore Pipelines JIP: Use of ABAQUS/Explicit to Simulate Ductile Tearing in Pipes with Defects Loaded Beyond Yielding

Sandvik, A, StatoilHydro ASA; Østby, E, SINTEF Materials and Chemistry; Thaulow, C, NTNU, Norway

24. SBD III: Tensile Strain Capacity 2 (V. 4)

Tuesday July 8 08:00 Jr Ballroom C

Chair: Østby, E, SINTEF Materials and Chemistry, Norway

Co-Chair: Igi, S, JFE Steel, Japan

Effect of Crack Geometry and Tensile Properties on Tensile Strain Limit of X80 Linepipe

Igi, S, Sadasue, T, Kubo, T, Ishikawa, N, JFE Steel; Suzuki, N, JFE R&D, Japan

Testing Methodology to Characterize the Tensile Strain Capacity of a Welded Pipeline

Gioielli, P C, Cheng, W, Minnaar, K, Fairchild, D P, ExxonMobil Upstream Research, USA

Generalized Strain Capacity Equation to Predict the Strain Capacity Performance of a Welded Pipeline

Minnaar, K, Kibey, S A, Issa, J A, Pakal, R, Gioielli, P C, ExxonMobil Upstream Research, USA

Tensile Strain Limit of SMAW Girth Welds on X70 Pipe: Camisea Pipeline

Hines, J R, C-FER Technologies, Canada; Otegui, J L, Fazzini, P, Gie, Argentina; Codega, H A, TGP, Peru

Strain Capacity Analysis for Strain-based Design

Gao, H, Yu, Z F, CPPE, China

Strain Limits Prediction of X80 High-Strain Line Pipes

Chen, H Y, Ji, L K, Gong, S T, CNPC Tubular Goods Research Center, China

Advanced Methods for the Strain Limit Assessment in Pipeline

Applications Subjected to Extreme Loading

Coppola, T, Demofonti, G, Centro Sviluppo Materiali, Italy

34. SBD IV: Compressive Strain Capacity & Inspection (V. 4)

Tuesday July 8 10:30 Jr Ballroom C

Chair: Suzuki, N, Osaka Univ/JFE R&D, Japan

Co-Chair: Liu, M, Center for Reliable Energy Systems, USA

Numerical Simulation of Buckling Resistance for UOE Line Pipes with Orthogonal Anisotropic Hardening Behavior

Tsuru, E, Nippon Steel; Yoshida, K, Yamagata Univ; Shirakami, S, Kuwabara, T, Tokyo Univ of Agriculture and Technology, Japan

Correlative Hardening Parameters to Strain Capacity of High Strength Line Pipes

Suzuki, N, Osaka Univ/JFE R&D; Igi, S, Kondo, J, Muraoka, R, JFE Steel, Japan

Compressive Strain Limits for Thick-walled Linepipe

DeGeer, D, Timms, C, C-FER Technologies, Canada

Evaluation of Influence Factors of Compressive Buckling by FE Analysis

Shitamoto, H, Makino, H, Okaguchi, S, Hamada, M, Takahashi, N, Yamamoto, A, Takeuchi, I, Sumitomo Metal Industries; Fujita, S, Sumitomo Metal Pipeline and Piping, Japan

New UST Inspection Procedure for Heavy Wall SAW Pipe

Nagase, M, Hirose, Y, Horikiri, T, Yamano, M, Sumitomo Metal Industries, Japan

Matrix Phased Array AUT Technology for Pipeline Girthweld Inspection

Wassink, C, Applus RTD, The Netherlands; Lozev, M G, Eddison Welding Institute; USA; Portzgen, N, van der Ent, J, Applus RTD, The Netherlands; Atkins, G J, ExxonMobil Development Company, USA

44. SBD V: Testing & Evaluation (V. 4)

Tuesday July 8 14:00 Jr Ballroom C

Chair: Fairchild, D P, ExxonMobil Upstream Research Co, USA

Co-Chair: Yoo, J-Y, POSCO, Korea

Anisotropic Behavior of X100 Pipeline Steel

Treinen, J M, McColskey, J D, Luecke, W E, National Inst of Science and Tech; Wang, Y Y, Center for Reliable Energy Systems, USA

Evaluation of Material Response Subjected to High Plastic Deformation When Forged into Saipem Submarine Repairing System

Mannucci, G, Malatesta, G, CSM; Brandi, R, Saipem-Sonsub; Spinelli, C M, ENI G&P, Italy

Effect of Embedded Defects in Pipelines Subjected to Plastic Strains during Operation

Olso, E, SINTEF Materials and Chemistry; Berg, E, Holthe, K, NTNU; Nyhus, B, SINTEF Materials and Chemistry; Skallerud, B, Thaulow, C, NTNU; Østby, E, SINTEF Materials and Chemistry, Norway

The Effect of Prestrain History on Ductile Crack Resistance Curves of Pipeline Steels

Zhang, Z L, NTNU, Norway

Constraint Evaluation and Effects on J-R Resistance Curves for Pipes under Combined Load Conditions

Ernst, H, TENARIS; Cravero, S, SIDERCA; Bravo, R, TENARIS, Argentina

Design Criteria for X80 Pipe Welding: Process and Strength Effects on Weld Performance in Wide Plate Tests

Dallam, C, Lincoln Electric, Spain

Development of High Strength SMAW Consumables for SBD Applications

Kapoor, A, Ogborn, J, Lincoln Electric, USA

54. SBD VI: SBD in Service Environment (V. 4)

Tuesday July 8 16:20 Jr Ballroom C

Chair: Wang, Y-Y, Center for Reliable Energy Systems, USA

Co-Chair: Jin, H W, ExxonMobil Research and Engineering Co, USA

Response of Pipelines under Seismic Conditions

Liu, M, Wang, Y Y, CRES, USA; Yu, Z F, CNPC, China

Deformation Behavior and Limit State of High-Grade Induction Bend Pipes Subjected to Large Ground Deformation

Mitsuya, M, Hashimoto, Y, Sakanoue, T, Yatabe, H, Tokyo Gas Co, Japan

Effects of Linepipe and Girth Weld Properties on Strain Capacity of Pipelines

Wang, Y Y, Liu, M, Chen, Y S, CRES, USA; Horsley, D, BP, Canada

Determining the Demanded Strain at Fault Crossing in Strain-based Design

Yu, Z F, Gao, H, CPPE, China

Investigating the Effects of Mining Subsidence and Collapse on Buried Pipeline Using Finite Element Modeling

Wang, X L, Shuai, J, Wang, H B, China Univ of Petroleum, China

Strain-based Pipelines: A Technology Overview

Biery, N E, ExxonMobil Upstream Research; Kan, W C, Zhang, M M, Lillig, D B, ExxonMobil Development; Barbas, S T, Macia, M L, ExxonMobil Upstream Research, USA

62. SBD VII: SBD Panel Discussion

Wednesday July 9 08:20 Jr Ballroom C

Moderator: Wang, Y-Y, Center for Reliable Energy Systems, USA

Panel Discussion

The State-of-the-Art in SBD and Gap Analysis

Moderated by Yong-Yi Wang

FRIDAY July 11

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PLACE AND DATE: Vancouver, July 6–11, 2008

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LANGUAGE

The language for the conference is English. No translation service will be arranged.

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Cash dispensers (ATMs) that accept all major credit/debit cards can be found at several locations in the airport, and at banks and retail areas throughout the city. Currency exchange services will charge either a flat fee for small denominations or a percentage of the amount exchanged: usually the exchange rate is more favourable at the banks. Major credit cards are widely accepted at hotels, department stores and restaurants

TAX

Most purchases in British Columbia are subject to sales tax totalling 12% of the purchase price. The provincial sales tax (PST) of 7% applies to most retail purchases. (Some items, including groceries, restaurant meals, children's clothing and books, are PST exempt.) The federal Goods and Services Tax (GST) of 5% is applicable to most purchased goods and services, but rebates on accommodations and purchases taken out of the country can be claimed by non-residents of Canada. Some restrictions apply. For more information call 1-800-66-VISIT from within Canada; outside Canada call 902-432-5608.

ACCOMODATION (Find the reservation form in this program or download the **WORD** file of it from www.isopec.org > **conference** > **ISOPE-2008** > **hotel reservation form**.)

*Reservations should be made **absolutely before June 4, 2008**.*

[Sheraton Vancouver Wall Centre Hotel](#) is the official venue for the Conference. Rooms are reserved at the ISOPE group rates for the Conference. You must use the Reservation Form for ISOPE group discount rate and send by fax or e-mail to the Hotel.

For some **other hotels** nearby, click on www.isopec.org > **Conference** > **isope-2008** Vancouver, and download the Reservation Form of **other hotel choices**.

CITY TRANSPORTATION

Within the city it is best to take public transportation. *Translink* buses, *Skytrain* and *Seabus* run regularly and will take you almost everywhere in and around the city. Regular fares are:

1 Zone	\$2.50 (all travel within the city of Vancouver)
2 Zone	\$3.75
3 Zone	\$5.00

ELECTRICITY AND ADAPTER

Canadian appliances operate on 110 volts (60 Hz), which is identical to the U.S. voltage. A universal adaptor is required for overseas electrical devices.

TIPPING

It is customary to tip between 15% and 20% at bars and restaurants in British Columbia. Tips are also given to tour guides, and for taxi service, spa treatments and haircuts.

HOURS OF OPERATION

- * Offices in Vancouver are usually open from 8:00 am to 5:00 pm
- * Shops are usually open from 10:00 am to 9:00 pm.
- * Pharmacies keep similar hours to offices, with a few open 24 hours.
- * Banks are generally open 10:00 am to 4:00 pm Monday to Friday, with some banks open on Saturday

SPOUSE PROGRAM: 1/2-Day Tour; Tuesday Afternoon, July 8

Update will be posted shortly. Sponsored by ISOPE, and tickets will be issued to the spouses with ISOPE badge only, free of charge.

It is first-come-first-served basis. E-mail advance reservations (Subject "**Spouse Program**") to isope-2@isope.org.

WHAT TO SEE IN THE CITY

www.hellobc.com; www.tourismvancouver.com

Surrounded by water on three sides and nestled alongside the Coast Mountain Range, Vancouver is home to spectacular natural scenery and a bustling metropolitan core. It boasts one of the mildest climates in Canada, while the surrounding snow-covered slopes are the venues for winter sports and breathtaking views of the city twinkling below. The Greater Vancouver region is home to more than two million people, making it the third largest metropolitan area in Canada. The city has been chosen to host the 2010 Winter Olympic and Paralympic Games, and maintains a permanent position on the Economist's "Most Livable Cities" list. Highlights of the city include:

[Stanley Park](#)

It is the largest city-owned park in Canada and the third largest in North America. The park attracts an estimated eight million visitors every year. An 8.8 km seawall path circles the park. Much of the park remains forested with an estimated half million trees that can be as tall as 76 metres and hundreds of years old. The park is also home to the internationally-acclaimed Vancouver Aquarium Marine Science Centre, one of North America's five largest aquariums.

Granville Island

Once an industrial manufacturing area, Granville Island is now a major tourist destination, providing amenities such as a public market, a large marina, a hotel, the Emily Carr Institute of Art and Design, various theatres including one run by The Arts Club Theatre, and a number of shopping areas clustered around the one remaining industrial outpost. It also boasts a healthy community of craft studios.

Robson Street

Robson is Vancouver's most famous shopping street set in the heart of downtown Vancouver; On it you'll find a commercial mecca which includes premier fashions stores, fine dining, services and all the amenities a tourist or local might need. At night, the streets come alive with colorful buskers and performers. Visitors enjoy delicious drinks and fine foods at some of the city's most celebrated restaurants. The street is recognized both on a worldwide level as well as locally as Vancouver's favorite shopping destination.

Capilano Suspension Bridge

Just outside of downtown Vancouver, Capilano Suspension Bridge takes you to the natural splendor of rainforest trails through magnificent evergreens from the unique perspective of this swaying 136 meter long suspension bridge with spectacular views of the canyons 70 meters below.

Vancouver Art Gallery

In the heart of downtown, the Art Gallery features the works of Vancouver's internationally renowned artists and significant historical artists, including the most extensive collection of the work of Canada's renowned Emily Carr. Permanent holdings number more than 9,000 artworks, making it one of the most valuable collections in Canada.

Grouse Mountain

It is well worth taking a ride up to the top on the 100-passenger tram, appreciating breathtaking panoramic vistas of the Lower Mainland en route.

UBC Museum of Anthropology

Home to one of the world's most magnificent collections of First Nations totem poles, carvings and other artifacts, the museum is housed in an award-winning glass-and-concrete building designed by the world-renowned architect, Arthur Erickson, based on traditional Northwest Coast post-and-beam structures.

Gastown

Vancouver began here - stroll down charming cobbled streets, explore heritage buildings and mews, visit unique stores and dine in restaurants - from quirky to gourmet.

Chinatown

Vancouver is home to one of the largest Chinese communities in North America. Its downtown Chinatown (the other major centre is in Richmond) is worth a visit for the historic buildings (including the world's narrowest), exotic markets and herbal apothecaries, not to mention bargains on imported goods, particularly kitchen supplies.

SIGHT SEEING AND TOUR PROGRAM

The program will be posted on www.isopec.org > ISOPE-2008.

ADVANCE CONFERENCE REGISTRATION BY MAIL OR FAX (use the Registration Form)

Remember to send via **airmail or fax** the Advance Registration (*and Invoice*) Form in this Program (It can also be downloaded from www.isopec.org)

DEADLINE: Presenting Authors: March 24.

Non-Authors, non-presenting authors and co-authors: May 31.

In case one charges to a credit card via Fax, the **card number** should be **typed in bold face or written clearly** to be readable in the transmitted Fax copy. The ISOPE Fax number is **1-650-254-2038 USA**.

Forms received **after May 31** will not be processed and will be returned to the senders for on-site registration with a **surcharge of US\$100**. Registrants will not be separately invoiced.

REGISTRATION CANCELLATIONS

Requests in writing for cancellation of registration received by **June 4, 2008** only will be granted a refund minus US\$70 handling fee. **No refund** will be granted to one **“presenting” author** per paper, if the paper is already included in the proceedings. The registered **presenting author will receive a** proceedings CD-ROM.

REGISTRATION BADGE

Conference registration badges are required for admittance to all the conference activities, including the reception and banquet.

Advance Registration Fees: Deadline for the *presenting authors* is March 24.

US\$100 surcharge applies after May 31 and for on-site registration fees.

Category	Advance Registration Fee (US\$)*	
	Before <u>May 31</u>	1 day
ISOPE member	600	500
Author, Co-author, Session Chair, Co-Chair (non-ISOPE member)	640	540
Member of Coop. organizations	640	540
Non-member of ISOPE	670	570
New ISOPE member application (incl. 2005 membership fee and one year journal issues)	690	590
ISOPE Membership fee, 2008	90	90
ISOPE Member Student with Full-time 2008 ID	390	390
Non-member Student with Full-time 2008 ID	430	430
New ISOPE student member application (incl. 2008 membership fee and one year journal issues)	440	440
Additional /Separate Banquet Ticket	95	95

* The **full Conference registration fee** (2 days or more) **includes** the conference reception, a conference banquet, tea breaks, and a **CD-ROM** of the 3,600-pp. (est.) **4-volume** conference proceedings.

* The **1-day registration fee includes CD-ROM** of the **4-volume** conference proceedings, tea breaks.

ON-SITE CONFERENCE REGISTRATION: Foyer

Participants who miss the advance registration (before **May 31**) may register on site at the Conference Registration Desk, but there is US\$100 surcharge. The registration desk will be open during the following hours:

Sunday, July 6	15:00-18:00	Wednesday, July 9	08:00-15:00
Monday, July 7	07:30 -16:00	Thursday, July 10	08:00-13:00
Tuesday, July 8	08:00 -16:00		

ISOPE-2008 CONFERENCE PROCEEDINGS

A 4-volume conference proceedings on CD-ROM (ISBN 978-1-880653-70-8; ISBN 1-880653-70-2; ISSN 1098-6189) is included in all conference registration fees. For additional or separate orders, download the publications order form from www.isopec.org for post-conference order:

A **4-volume Conference Proceedings** in CD-ROM (3,600 pp. est.)
Mail, E-mail or Fax order \$270 (ISOPE Member \$230)

Mail or Fax Order from ISOPE, 495 North Whisman Road, Suite 300, Mountain View, California 94043-5711, USA: Fax **1-650-254-2038**. Advance payment is required. MasterCard, VISA, or AMEX; international money order or U.S. bank checks in US Dollars *payable to ISOPE* will be accepted. Shipping and handling charges will be added (Download the Publication Order Information from www.isopec.org).

CONFERENCE HEADQUARTERS Parksville

BOARD Chartroom

CONFERENCE RECEPTION
Sunday Pavilion Ballroom +Foyer

ANNUAL CONFERENCE BANQUET
Wednesday Grand Ballroom

AUTHOR PRACTICE ROOM Individual session rooms
An overhead projector, power-point or LCD projector and screen are available during 08:00-17:00 (Monday - Thursday).

CHAIR/CO-CHAIR BRIEFING Port Hardy
The session chairs and co-chairs will be briefed at 07:30 each morning for session briefings on the day of presentation. The manner of each session conduct and information on authors and presentation will be discussed. Presenting authors go directly to their session room 30 minutes before the session.

INFORMATION - MESSAGE CENTER.
The information and message center is located in the registration area. One may contact ISOPE Conference Registration Desk.

INTERNATIONAL PARTICIPANTS AND VISA APPLICATION
International authors, participants or attendees who need help (except financial) can contact: ISOPE-2008 Secretariat, 495 North Whisman Road, Suite 300, Mountain View, California 94043-5711 USA. Fax: +1-650-254-2038; email: meetings@isope.org.

Entry Visa. Some authors may be required to apply for an entry visa. **Visa application form.** Get it from the Consulate Office of Canada in your country or click on <http://www.cic.gc.ca/english/visit/visas.asp>. If the Consulate requires you to submit an official letter of invitation, please contact ISOPE, USA (email: meetings@isope.org; Fax: +1-650-254-2038).

QUESTIONS ABOUT THE CONFERENCE ?
Please e-mail, call or fax before **June 23** to: ISOPE, USA (email: meetings@isope.org; Tel: +1-650-254-1871; Fax: +1-650-254-2038), if you have any questions about the conference. Also, click on <http://www.isope.org>.

TAX DEDUCTIBILITY
Expenses of attending professional meetings such as the registration fee and cost of technical publications may be tax-deductible as ordinary expenses for the U.S. citizens and some countries.

CLIMATE
The climate of Vancouver is a moderate oceanic climate tempered by the warm Japan Current. The city is also sheltered by the mountains of Vancouver Island, to the west. These influences contribute to making Vancouver the warmest of Canada's major cities. During June, July and August, the average daily temperature is around 25 degrees Celsius.

AUTHOR INDEX is posted on www.isope.org.



Prospective authors are invited to submit abstract to:

ISOPE OMS-2009 Chennai, India

The 8th ISOPE

Ocean Mining Symposium

Chennai, India, September 20–24, 2009

Call For Papers

Abstract Deadline **January 20, 2009**
Manuscript Deadline (review) **April 15, 2009**

Three-day symposium sessions are being organized with emphasis on:

**Deep-Ocean Mining Programs, Nodules, Crust and Sulfide,
Exploration, Mining Systems and Technology, Processing
Gas Hydrates and Engineering, Deepsea Drilling,
Deep-Ocean Water Utilization
Environment Science and Engineering**

E-mail your abstract in 300-400 words to: (1) One of the IOC members (session organizers); (2) **ISOPE OMS-2009 IOC**, ISOPE, 495 North Whisman Road, Suite 300, Mountain View, California 94043-5711 USA: Fax: **+1-650-254-2038**; meetings@isope.org.
For detail, visit www.isope.org.

ISOPE Publication Order Information

(Download from www.isope.org for further information.)

International Journal of Offshore and Polar Engineers - Quarterly (March, June, September, December) (ISSN 1053-5381).

Proceedings of the 1st (1990) Pacific/Asia Offshore Mechanics Symposium (PACOMS '90), Seoul, Korea, 24-28 June 1990. For a set of 3 volumes, (ISBN 0-9626104-0-2; LCCN 90-082039): approx. 1260 pp., US\$150 per set.

Proceedings of Special Offshore Symposium China (SOSC-94) /the 3rd (1994) Pacific/Asia Offshore Mechanics Symposium (PACOMS-94), Beijing, China (ISBN 1-880653-15-X); 797 pp.

Proceedings of the 4th (1996) ISOPE Pacific/Asia Offshore Mechanics Symposium (PACOMS-96), Pusan, Korea (ISBN 1-880653-27-3); 325 pp.

Proceedings of the 5th (2002) ISOPE Pacific/Asia Offshore Mechanics Symposium (ISOPE PACOMS-2002), Daejeon, Korea (ISBN 1-880653-59-1); 252 pp.

Proceedings of the 6th (2004) ISOPE Pacific/Asia Offshore Mechanics Symposium (ISOPE PACOMS-2004), Vladivostok, Russia (ISBN 1-880653-63-X); 299 pp.

Proceedings of the 7th (2006) ISOPE Pacific/Asia Offshore Mechanics Symposium (ISOPE PACOMS-2006), Dalian, China (ISBN 1-880653-67-2); 357 pp.

Proceedings of the 1st (1990) European Offshore Mechanics Symposium (EUROMS-90), Trondheim, Norway, (ISBN 0-9626104-4-5; LCCN 90-084691); approx. 590 pp.

Proceedings of the 2nd (1999) ISOPE European Offshore Mechanics Symposium (EUROMS-99): s (of Synopsis in Russian and English), Moscow, Russia (ISBN 1-880653-44-3); approx. 126 pp

Proceedings of the 1st (1995) ISOPE Ocean Mining Symposium, Tsukuba, Japan, November 21-22, 1995. A single volume (ISBN 1-880653-21-4, LCCN 95-77708): 238 pp.

Proceedings of the 2nd (1997) ISOPE Ocean Mining Symposium, Seoul, Korea, (ISBN 1-880653-33-8): 201 pp.

Proceedings of the 3rd (1999) ISOPE Ocean Mining Symposium, Goa, India, (ISBN 1-880653-45-1): 298 pp.

Proceedings of the 4th (2001) ISOPE Ocean Mining Symposium, Szczecin, Poland (ISBN 1-880653-56-7): 208 pp.

Proceedings of the 5th (2003) ISOPE Ocean Mining Symposium, Tsukuba, Japa, (ISBN 1-880653-61-3): 256 pp.

Proceedings of the 6th (2005) ISOPE Ocean Mining Symposium, Changsha, Hunan, China (ISBN 1-880653-65-6): 276 pp.

Proceedings of the 7th (2007) ISOPE Ocean Mining Symposium, Lisbon, Portugal (ISBN 978-1-880653-69-2; ISBN 1-880653-69-9): 219 pp.

First (2003) ISOPE Symposium on High-Performance Materials in Offshore Industry (HMOI), ISOPE HPM-2003, Honolulu, Hawaii, USA (in ISBN 1 880653 60-5; ISSN 1098-6189 (Set): 2,912 pp.

Second (2004) ISOPE High-Performance Materials Symposium: Friction Stir Welding, ISOPE HPM-2004, Toulon, France (in ISBN 1 880653 62-1; ISSN 1098-6189 (Set): 3,160 pp.

Third (2005) ISOPE High-Performance Materials Symposium: Advanced Welding, ISOPE HPM-2005, Seoul, Korea (in ISBN 1 880653 64-8; ISSN 1098-6189: 3,110 pp.

Fourth (2006) ISOPE High-Performance Materials Symposium, ISOPE HPM-2006, San Francisco, California, USA (in ISBN 1-880653-66-4; ISSN 1098-6189: 3,000 pp. est.

Fifth (2007) ISOPE High-Performance Materials Symposium, ISOPE HPM-2007, , Lisbon, Portugal, Published in (ISBN 978-1-880653-68-5; ISBN 1-880653-68-5; ISSN 1098-6189: 3,904 pp.

First (2007) ISOPE HPM Nanomaterials for Structural Applications Symposium, ISOPE NANOS-2007, Lisbon, Portugal (in ISBN 978-1-880653-68-5; ISSN 1098-6189: 3,904 pp.

First (2005) ISOPE Advanced Natural Gas Transport (ANGT) Symposium, ISOPE ANGT-2005, Seoul, Korea; (in ISBN 1 880653 64-8; ISSN 1098-6189: 3,110 pp.

Reprints of the 1st (1996) International Deep-Ocean Technology Symposium and Workshop, Los Angeles, in December 1996 issue, Vol. 6, No. 4, *International Journal of Offshore and Polar Engineering* (ISSN 1053-5381).

First (2007) ISOPE Strain-Based Design Symposium, ISOPE SBD-2007, Lisbon, Portugal (in ISBN 978-1-880653-68-5; ISSN 1098-6189: 3,904 pp

Proceedings of the 1st (1991) International Offshore and Polar Engineering Conference (ISOPE-91), Edinburgh, U.K., 11-16 August 1991 (ISBN 0-9626104-5-3; LCCN 91-071635): approx. 2190 pp., \$320 (US\$240; member).

Proceedings of the 2nd (1992) International Offshore and Polar Engineering Conference (ISOPE-92), San Francisco (ISBN 1-880653-00-1; LCCN 91-78280): 2,899 pp.

The Proceedings of the 3rd (1993) International Offshore and Polar Engineering Conference (ISOPE-93), Singapore (ISBN 1-880653-05-2; LCCN 92-76219): 2,965 pp.

Proceedings of the 4th (1994) International Offshore and Polar Engineering Conference (ISOPE-94), Osaka, Japan (ISBN 1-880653-10-9; LCCN 93-80555): 2,589 pp.

Proceedings of the 5th (1995) International Offshore and Polar Engineering Conference (ISOPE-95), The Hague. (ISBN 1-880653-16-8; LCCN 94-73796), 2,543 pp.

Proceedings of the 6th (1996) International Offshore and Polar Engineering Conference (ISOPE-96), Los Angeles (ISBN 1-880653-22-2): 2,326 pp.

Proceedings of the 7th (1997) International Offshore and Polar Engineering Conference (ISOPE-97), Honolulu (ISBN 1-880653-28-1): 3,556 pp.

Proceedings of the 8th (1998) International Offshore and Polar Engineering Conference (ISOPE-98), Montréal (ISBN 1-880653-34-6; ISSN 1098-6189): 2,577 pp.

Proceedings of the 9th (1999) International Offshore and Polar Engineering Conference (ISOPE-99), Brest (ISBN 1-880653-39-7; ISSN 1098-6189): 3,061 pp.

Proceedings of the 10th (2000) International Offshore and Polar Engineering Conference (ISOPE-2000), Seattle (ISBN 1-880653-46-X; ISSN 1098-6189): 2,689 pp.

Proceedings of the 11th (2001) International Offshore and Polar Engineering Conference (ISOPE-2001), Stavanger, Norway (ISBN 1-880653-51-6; ISSN 1098-6189): 3,039 pp.

Proceedings of the 12th (2002) International Offshore and Polar Engineering Conference (ISOPE-2002), Kitakyushu, Japa, (ISBN 1-880653-58-3; ISSN 1098-6189): 3,304 pp.

Proceedings of the 13th (2003) International Offshore and Polar Engineering Conference (ISOPE-2003), Honolulu, Hawaii, USA (ISBN 1-880653-60-5; ISSN 1098-6189): 2,912 pp.

Proceedings of the 14th (2004) International Offshore and Polar Engineering Conference (ISOPE-2004), Toulon, France (ISBN 1-880653-62-1; ISSN 1098-6189): 3,167 pp.

Proceedings of the 15th (2005) International Offshore and Polar Engineering Conference (ISOPE-2005), Seoul, Korea (ISBN 1-880653-64-8; ISSN 1098-6189): 3,116 pp.

Proceedings of the 16th (2006) International Offshore and Polar Engineering Conference (ISOPE-2006), San Francisco, California, USA (ISBN 1-880653-66-4; ISSN 1098-6189): 2,704 pp.

Proceedings of the 17th (2007) International Offshore and Polar Engineering Conference (ISOPE-2007), Lisbon, Portugal (ISBN 978-1-880653-68-5; ISBN 1-880653-68-0; ISSN 1098-6189): 3,904 pp.

Proceedings of the 18th (2008) International Offshore and Polar Engineering Conference (ISOPE-2008), Vancouver, BC, Canada, July 6–11, 2008. For 4-volume set *CD-Rom* (ISBN 978-1-880653-70-8; ~~ISSN 1098-6189~~): 3,600 pp. est.

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Mountain View, California 94043-5711 USA
Fax 1-650-254-2038: orders@isopec.org.



HOTEL RESERVATION FORM (must use this form)
Sheraton Vancouver Wall Centre Hotel, July 6–11, 2008

Sheraton Vancouver Wall Centre is the official venue for the Conference. If making your reservation at ISOPE room rate without this form, you must indicate that reservations are for the *ISOPE Conference*. In order to have your room guaranteed, this reservation form must be filled out with a credit card number. Reservations must be completed by the cut off date **June 4, 2008**:

Group Reservations (ISOPE-2008):
The Sheraton Vancouver Wall Centre (WC) Hotel
1088 Burrard Street
Vancouver, BC, Canada V6Z 2R9

- (a) **Email-attach** this form to reservations@wallcentre.com
 (b) **Reserve your room online:** Download this form in **WORD** file from www.isopec.org and click <http://www.starwoodmeeting.com/StarGroupsWeb/booking/reservation?id=0712285672&key=B219F> or
 (c) **Faxing** this form to +1-604-893-7123 (Sheraton Vancouver WC).

No reservations will be considered without credit card and signature

(Family Name) _____ First (Fore) & Middle: _____
 Surname: _____
 Circle: Male/Female; Title Mr. Ms. Mrs. Prof. Dr. _____
 Company: _____
 Address _____
 _____ City _____
 Country _____ Postal (ZIP) Code _____
 Fax No. _____; Email _____
 Arrival: July __ Time _____; Depart: July __, Time _____

Room Choice*:	Single/Double	No of Rooms (<i>and Circle One</i>)
<input type="checkbox"/> King/Double	CDN \$189	___ Sgl / Dbl / ___ Twin**
<input type="checkbox"/> Deluxe Corner	CDN \$229	___ Sgl / Dbl / ___ Twin**
<input type="checkbox"/> Club Floor	CDN \$254	___ Sgl / Dbl / ___ Twin**

CDN = Canadian Dollar. King Double = Traditional King Double.
 ** Rates above do not include Tax: 10% sales tax and 6% service tax will be accumulated onto the rate
 ** Name of the person to share: _____

Guarantee to my credit card (*circle one*): Please note that any cancellation must be confirmed to the hotel before 6:00pm on the day of the reservation to avoid one-night cancellation charge.

_____ Visa MasterCard Discover
 _____ Diner's Club American Express JCB
 Card no.: _____, 3 or 4-digit code ____
 Name on card: _____ Exp. Date: _____
 Signature: _____ Date: _____, 2008

The Sheraton Vancouver Wall Centre Hotel accepts reservations via (a) **fax**, (b) **e-mail** or (c) **online**. For **online reservation**, download a **WORD** file from www.isopec.org and click the website **in the form** <http://www.starwoodmeeting.com/StarGroupsWeb/booking/reservation?id=0712285672&key=B219F>

Reservation after **June 4, 2008** is subject to best available room rate

In case the room you request is not available at Sheraton Vancouver Wall Centre Hotel, click on www.isopec.org to find **other hotel choices** available.