

TECHNICAL PROGRAM

The Tenth (2000) International Offshore and Polar Engineering Conference Seattle, USA, May 28–June 2, 2000

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-2000 Technical Program Committee (TPC) received in writing before December 30, 1999 are reflected in this program. Final corrections will be updated in the Conference Proceedings. Proceedings are available in a set of 4 volumes (2,900 pp. est.) from ISOPE during and after the Conference.

SUNDAY

ISOPE Reception

18:00-19:00 Sunday May 28

Cirrus (35F)

MONDAY 08:00

Conference Opening 08:00 **Grand Ballroom**

1. TECHNOLOGY REVIEW (V. 1)

Monday May 29 08:00 Grand Ballroom

Chair: Frederkig, RMW, National Research Council, Canada

Co-Chair: Kollé, J, Tempres Technologies, Inc, USA

Building the First FPSO for the Grand Banks of Newfoundland: The Challenges of Sea Ice, Icebergs and Freezing Temperature

Lever, G V, Terra Nova Project, Canada

Phase II Research of Mega-Float

Sueoka, H, Mitsubishi Heavy Industries, Japan

Assessment of Technology for Mobile Offshore Base

Zueck, R, Palo, P, Taylor, R, Naval Facilities Engineering
Service Center, USA

Experiences with the First Sea Launch of Satellite [Oral Presentation Only]

Roosebelt, D, Sea Launch LDC, USA

MONDAY 10:45

2. METOCEAN I: Waves 1 (V. 3)

Monday May 29 10:45 West Ballroom A

Chair: Prevosto, M, Ifremer, France

Nonlinear Extreme Wave Evolution in Random Wave Groups
Stansberg, C T, MARINTEK, Norway

Maximum Wave Height Distribution of a Nonlinear Narrow Banded Random Wave Train

Mori, N, Central Resesarch Inst of Electric Power Industry; Yasuda, T, Gifu Univ, Japan

Study on Reliability of Hilbert Transform to Random Ocean Waves Statistics

Yang, K H, Chuang, L Z H, Kao, C C, National Cheng Kung Univ, Taiwan, China

Markov Theory for Runs of High Waves

Dawson, T H, US Naval Academy, USA

An Experimental Study of the Surface Elevation Probability Distribution

Dai, D, Wang, Z, Wang, W, Ocean Univ of Qingdao, China

Multi-Wave Resonant Interactions and Appearance of Large-Amplitude Waves

Annenkov, S Y, Badulin, S I, P P Shirshov Inst of Oceanology, Russia

3. MOB AND MEGA-FLOAT I (V. 1)

Monday May 29 10:45 West Ballroom B

Chair: Koterayama, W, Kyushu Univ, Japan

Co-Chair: Mathai, T, The Glosten Assoc., USA

At-Sea Towing of Mega-Float Unit

Hara, S, Yamakawa, K, Hoshino, K, Yukawa, K, Ship Research Inst, Japan

Assessment of the Construction Feasibility of the Mobile Offshore Base

Bender, W J, Central Washington Univ; Ayyub, B M, Univ of Maryland, USA

MOB SBU Transit Draft Dynamics and Stability Analytic Study

Falzarano, J, Kaalyan, U, Rodrigues, W, Vassilev, R, Univ of New Orleans, USA

Wave Drift Force and Moment on a VLFS Supported by a Great Number of Floating Columns

Kashiwagi, M, Kyushu Univ, Japan

Simple Equation for Estimating Added Mass of Large Floating Structures

Hamamoto, T, Musashi Inst of Technology; Fujita, K, Yokogawa Bridge Corp, Japan

An Efficient Time-Domain Analysis of Very Large Articulated Floating Structures

Garrison, C J, C J Garrison & Associates, USA

4. EARTHQUAKE ENGINEERING (V. 4)

Monday May 29 10:45 Douglas

Chair: Kawano, K, Kagoshima Univ, Japan

The Seismic Stratigraphic and Sedimentological Investigation of the Candarli Bay

Eftelioglu, M, Inst of Marine Sciences and Technology, Turkey

Rehabilitation Situation of 1998 Aitape Earthquake Tsunami in Papua-New-Guinea

Hiraishi, T, Port and Harbour Research Inst, Japan

Dynamic Responses of a Large Offshore Structure Due to Seismic Loads

Kawano, K, Kagoshima Univ; Hashimoto, T, NEWJEC; Iwanaga, S, Softbrain Ltd, Japan

Hydrodynamic Pressure Due to Seaquakes in Deep Ocean

Chatterjee, P K, Jain, R, Salpekar, V Y, Engineers India Ltd, India

Earthquake Analysis of Buried Structures and Pipelines Based on Rayleigh Wave Propagation

Karadeniz, H, Delft Univ of Technology, The Netherlands

Storage Tanks under Earthquake Loading Evaluation of Eurocode 8 Predictions

Pandohi-Mishre, P, Delft Univ of Technology; Courage, W M G, TNO Building and Construction Research; Gresnigt, A M, Delft Univ of Technology, The Netherlands

5. GEOTECH I: Foundation 1 (V. 2)

Monday May 29 10:45 Aspen

Chair: Das, B M, California State Univ at Sacramento, CA USA

Co-Chair: Shin, E C, Univ of Inchon, Korea

Centrifuge and Numerical Modelling of Bearing Capacity of Suction Piles under Cyclic and Long Term Loading

Allersma, H G B, TU Delft; Kirstein, A A, Suction Pile Technology; Brinkgreve, R B J, Maes, D, TU Delft, The Netherlands

A Theoretical Study of the Vertical Uplift Capacity of Suction Caissons

Deng, W, Carter, J P, Univ of Sydney, Australia

Estimation of Tensile Capacity of Suction Piles

Vasquez, L F G, Tassoulas, J L, Univ of Texas at Austin, USA

Finite Element Modeling of Suction Caisson Foundations

El-Gharbawy, S, Delmar Systems; Olson, R, Univ of Texas at Austin, USA

The Effect of Installation on the Pullout Capacity of Ground Anchor

Zakaria, I, MARA Inst of Technology, Malaysia

6. ADVANCED SHIP & OCEAN TECH I (V. 4)

Monday May 29 10:45 Madrona

Chair: Ikeda, Y, Univ. of Osaka Prefecture, Osaka, Japan

Co-Chair: Hua, J, Royal Inst of Technology, Sweden

Ship Model Wake Analysis by Means of PIV in Large Circulating Water Channel

Di Felice, F, INSEAN; De Gregorio, F, Italian Aerospace Research Centre, Italy

Propulsive Performance of Twin Oscillating Hydrofoils

Tam, J, Triantafyllou, M, Hover, F, MIT, USA

Sea-Keeping Computations Using the Ship Motion Green's Function

Boin, J-P, Univ de Poitiers; Ba, M, ENSMA; Guilbaud, M, Univ de Poitiers, France

Numerical and Experimental Transient Tests for Seakeeping Ships

Colagrossi, A, Lugni, C, Landrini, M, INSEAN; Graziani, G, Univ di Roma "La Sapienza", Italy

Behavior of Sail-Equipped Motor Ship by Automatic Control of Sail

Takaoka, S, Murayama, Y, Yuge National College of Maritime Technology; Kubo, M, Kobe Univ of Mercantile Marine, Japan

Improvement of Performance on Multi-Purpose Work Vessel

Hara, S, Yamakawa, K, Hoshino, K, Yukawa, K, Ship Research Inst, Japan

7. RISERS & MOORING I (V. 2)

Monday May 29 10:45 Cedar

Chair: Huang, T, Univ of Texas at Arlington, USA

3-D Responses of Vertical Pipe Bottom Pin-Joined to a Horizontal Pipe to Ship Motion and Thrust on Pipe—Part II. Comparison of RBE and FEM Results

Chung, J S, Colorado School of Mines, USA

Deep Water Top Tension Risers for Dry Tree Concepts: Issues and Challenges

Moros, A, Garside, R, BP Amoco Exploration, UK

Review of Design Criteria for Deepwater Riser in a Multidirectional Environment

Silva, R M C, Petrobras – E&P; Jacob, B P, Vasconcellos, J M, Parente, C E, Fernandes, A C, COPPE/UFRJ, Brazil

Deepwater Riser Systems: Local Riser Impact

Chan, H, Wilmshurst, S R, Ellinas, C P, Mott MacDonald; Moros, T, BP Amoco Exploration, UK

On the Kinematics of Transported Mass Inside a 3-D Riser [Oral Presentation Only]

Huang, T, Univ of Texas at Arlington, USA; Chucheepsakul, S, King Mongkut's Univ of Technology, Thailand

Memory Effects on Dynamics of Risers for Upwelling Deep Ocean Water

Otsuka, K, Bando, A, Ikeda, Y, Osaka Prefecture Univ, Japan

8. COMPOSITES AND SMART STRUCTURES I (V. 4)

Monday May 29 10:45 Douglas

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

Co-Chair: Hirose, Y, Kanazawa Univ, Japan

Results from Cyclic Internal Pressure Tests on Fiberglass Pipes

Ramirez, G, Univ of Kansas; Engelhardt, M D, Fowler, T J, Univ of Texas at Austin, USA

Failure Analysis of Graphite/Epoxy Filament Wound Tubes Under Cyclic Loading

Green, J, Masudi, H, Bradley, W, Prairie View A&M Univ, USA

Effects of Low Temperature Thermal Cycling and Moisture on Izod Notch Toughness of a Glass FRP

Kellogg, K G, Kallmeyer, A R, North Dakota State Univ, USA

Damage Development in a Pultruded Glass Fiber Composite Subjected to Low Temperature Thermal Cycling

Kallmeyer, A R, Kellogg, K G, North Dakota Univ, USA

Fiber Optic Sensor System for Filament-Wound Pressure Vessels

Knapp, R H, Structural Solutions/Univ of Hawaii, USA

Thermochemical Modelling of Glass Reinforced Plastic Pipes Subject to Fire

Looyeh, M R E, Robert Gordon Univ, UK

9. OCEAN & RENEWABLE ENERGY I (V. 1)

Monday May 29 10:45 Juniper

Chair: Setoguchi, T, Saga Univ., Saga, Japan

Co-Chair: Lee, Y W, Pukyong National Univ, Korea

Experimental Investigation of CA9 Blades on a 0.3m Wells Turbine Rig

Thakker, A, Frawley, P, Sheikbajeet, E, Heffernan, A, Univ of Limerick, Ireland

Comparative Study of Performances of Turbine for Wave Power Conversion

Setoguchi, T, Takao, M, Kinoue, Y, Kaneko, K, Saga Univ; Inoue, M, Kyushu Univ, Japan

Aeroelastic Divergence Investigation of a Wells Turbine Blade

Curran, C, Queen's Univ of Belfast, UK; de Visser, J A P, TU Delft, The Netherlands; Sterling, S, Queen's Univ of Belfast, UK; Rothwell, A, TU Delft, The Netherlands

Productivity Predictions for Contemporary Wells Turbines

Curran, R, Queen's Univ of Belfast, UK

Use of Oscillation Constraints in Providing a Reaction for Deep Water Floating Wave Energy Devices

Korde, U A, Indiana Inst of Technology, USA

10. HYDRODYNAMICS: Hydrodynamic Forces 1 (V. 3)

Monday May 29 10:45 East Ballroom B

Chair: Teng, M, Univ. of Hawaii, USA

Hydrodynamic Force on a Vertical Wall Due to Breaking Waves

Shu, J J, Chwang, A T, Univ of Hong Kong, Hong Kong

Field Measurements of Fender Forces and Transient Flow Induced by a Berthing Ship

Davis, D A, Huang, E T, Hatch, W G, Naval Facilities Engineering Service Center, USA

Experimental Evidence of Trapped Modes for an Array of Bottom-Mounted Circular Cylinders in Regular Waves

Contento, G, D'Este, F, Univ of Trieste; Calcagno, G, Penna, R, INSEAN, Italy

Hydrodynamic Damping of Liquid Sloshing in Ship Tanks

Isaacson, M, Premasiri, S, Univ of British Columbia, Canada

Wall Proximity Effects on Velocity Field Around a Cylinder Loaded under Waves

Mouaze, D, Belorgey, M, Univ de Caen, France

MONDAY 13:20

Monday Plenary Presentation I (V. 1)
May 29 13:20 Cedar

Ice Loads Acting on Offshore Structures: Overview of the JOIA Project

Saeki, H, Hokkaido Univ, Japan
Introduction by Frederking, R M W, National Research Council, Canada

Monday Plenary Presentation II
May 29 13:20 West Ballroom A

Numerical Wave Tanks: State of the Art and Axes of Development [Oral Presentation Only]

Clément, A H, Ecole Centrale de Nantes, France
Introduction by Kim, C H, Texas A & M Univ., USA

Monday **11. METOCEAN II: Waves 2 (V. 3)**
May 29 14:00 West Ballroom A

Chair: Chaplin, J R, Southampton Univ, UK

Co-Chair: Choi, H S, Seoul National University, Korea

Simulation of Extreme Waves in a Background Random Sea

Kriebel, D L, Alsina, M V, US Naval Academy, USA

A Numerical Study of High Shallow Water Waves and the Appearance Probability for Some Severe Wave Conditions

Hua, J, Royal Inst of Technology, Sweden

On the Variability of Wave Groups Statistics

Yim, J Z, Chou, C R, Lin, J G, National Taiwan Ocean Univ, Taiwan, China

Nonlinear Wave Motions in Domains with Irregular Boundaries

Beji, S, Barlas, B, Istanbul Tech Univ, Turkey

Time-Frequency Analysis of Dispersive Wave Phenomena

Shin, Y J, Chao, A, Powers, E J, Univ of Texas at Austin, USA

Simulation of Random Wave Groups

Wang, L, Norwegian Univ of Science and Technology, Norway

Monday **12. MOB AND MEGA-FLOAT II (V. 1)**
May 29 10:45 West Ballroom B

Chair: Zueck, R, Naval Facilities Engineering Service Center, USA

Co-Chair: Sueoka, H, Mitsubishi Heavy Industries, Japan

Application of the Ray-Theory to Hydro-Elastic Behavior of VLFS

Takagi, K, Kohara, K, Osaka Univ, Japan

Hydroelastic Analysis of a Very Large Floating Structure in Waves

Shin, H, Lee, H Y, Univ of Ulsan; Shin, H S, Park, I K, Hyundai Heavy Industries; Yang, Y S, Univ of Ulsan, Korea

The Interaction Problem of Structure and Fluid Flow for a Half-Cylinder Membrane Structure

Nishikawa, T, Tahara, Y, Masaoka, K, Himeno, Y, Osaka Prefecture Univ, Japan

Hydroelastic Calculations of Viscous Flow Around a Cylinder-Spring System

Yu, Z X, Liu, Y Z, Shanghai Jiao Tong Univ, China

Nonlinear Analysis on the Interaction of Waves and Flexible Floating Structure

Liu, X D, Sakai, S, Iwate Univ, Japan

13. JOIA: Ice Research I (V. 1)

Monday May 29 14:00 East Ballroom A

Chair: Saeki, H, Hokkaido University, Japan

Co-Chair: Sayed, M, National Research Council, Canada

Ice and Earthquake Loads on a Structure in Offshore Sakhalin: Annual Report of JOIA Project FY1998

Kato, K, Ishikawajima-Harima Heavy Industry; Kamesaki, K, NKK Corp; Akagawa, S, Shimizu Corp; Kobayashi, H, High Tech Research; Mito, M, Penta Ocean Construction; Kawasaki, T, Mitsubishi Heavy Industries; Nakazawa, N, Forest Works; Kurokawa, A, Japan Ocean Industries Association, Japan

Experiment and Numerical Analysis on the Response of an Ice-Surrounded Structure

Mito, M, Iwasa, T, Okubo, Y, PENTA-OCEAN Construction Corp, Japan

Behavior of Sand Seabed Underneath Gravity Offshore Structure Subjected to Ice and Seismic Loads

Hyodo, M, Yamamoto, S, Fukuda, K, Yamaguchi Univ; Kamesaki, K, Yamauchi, Y, NKK Corp, Japan

14. GEOTECH II: Foundation 2 (V. 2)

Monday May 29 14:00 Aspen

Chair: Matsui, T, Osaka Univ., Osaka, Japan

Co-Chair: Bransby, M F, Univ of Dundee, UK

Field Verification on Holding Power of Mooring Anchors

Maeno, Y, Ishikawa, M, Nihon Univ; Kumagai, Y, Murakawa, H, Kawamoto, H, Japan Sea Pollution Prevention Association, Japan

Development and Validation of Mooring Line Analysis in Cohesive Seafloor

Bang, S, Han, H, South Dakota School of Mines & Technology; Taylor, R J, Naval Facilities Engineering Service Center, USA

Modelling the Vertical Response of Untrenched Offshore Pipelines

Zhang, J, Stewart, D P, Randolph, M F, Univ of Western Australia, Australia

Bearing Capacity of Unsaturated Oil-Contaminated Sand

Shin, E C, Univ of Incheon, Korea; Das, B M, California State Univ, Sacramento, USA

Mechanism of Slurry Trench Wall Stability in Soft Clay Grounds

Fukui, S, Osaka municipal Government; Tamano, T, Osaka Sangyo Univ;
Matsui, T, Osaka Univ, Japan

15. ADVANCED SHIP & OCEAN TECH II (V. 4)

Monday May 29 14:00 Madrona

Chair: Lalli, F, INSEAN, Italy

Co-Chair: Ohta, T, Niigata College of Technology, Japan

Application of Wavelet Method in Signal Analysis: Two Case Studies

Hua, J, Royal Inst of Technology, Sweden; Shyu, R J, National Taiwan
Ocean Univ, Taiwan, China

**Numerical and Experimental Investigations on the Characteristics of
Viscous Flows Around Large-Size Twin-Skeg Container Carriers**

Hong, C B, Ahn, S M, Shin, S C, Samsung Heavy Industries; Jeong, U C,
Park, C W, Inha Technical Junior College, Korea

**Experimental Investigation of the Hydrodynamic Forces Acting on the
Control Surfaces of a New WIG Concept**

Pistani, F, Dessi, D, Olivieri, A, INSEAN, Italy

**Characteristics of Hydrodynamic Derivatives in Maneuvering
Equations for Super High-Speed Planing Hulls**

Ikeda, Y, Takayama, T, Okumura, H, Osaka Prefecture Univ, Japan

**Integration Singularity of Higher-Order Boundary Element Method
and Its Applications in Hydroelastic Analysis of High-Speed Vessels**

Ye, W, American Bureau of Shipping; Lu, X, McDermott Engineering
Houston; Zhang, J, Texas A&M Univ, USA

**Application of Active Optimal Control to the Primary Hull Responses
of High-Speed Ships**

Sun, H H, Wu, X H, Wuhan Transportation Univ, China

16. RISERS & MOORING II (V. 2)

Monday May 29 14:00 Cedar

Chair: Otsuka, K, Osaka Prefecture Univ, Japan

**Identification of Modes of VIV on an Drilling Riser from
Measurements of Acceleration and Rate of Rotation**

Kaasen, K E, MARINTEK, Norway

Modeling of Contact Interactions in Floating Systems Analysis

Heurtier, J-M, Le Cunff, C, Institut Francais du Petrole; Le Buhan, P,
Principia RD, France

Deflections of Flexible Risers Subjected to Ocean Currents

Furnes, G K, Norsk Hydro E&P Research Centre, Norway

**Assessment of Alternative Approaches for the Representation of
Torque and Twist in Pipelines and Riser Analysis**

Mullarkey, T P, McNamara, J F, National Univ of Ireland; Lang, D, MCS
International, Ireland

**An Analytical Model for Dynamic Compression in Subsea Catenary
Riser: Preliminary Results**

Silva, R M C, Petrobras; Pinto, M, Aranha, J, Univ of Sao Paulo, Brazil

17. COMPOSITES AND SMART STRUCTURES II (V. 4)

Monday May 29 14:00 Douglas

Chair: Knapp, R H, Univ of Hawaii, USA
Co-Chair: Wheat, H G, Univ of Texas at Austin, USA

Mathematical Model of Failure Process of Concrete as Three-Component Structure

Tsuprik, V G, Makarova, N V, Far Easter State Tech Univ, Russia

The Suitability for Using Glass and Fly Ash in Portland Cement Concrete

Tuncan, M, Karasu, B, Tuncan, A, Yalcin, M, Anadolu Univ, Turkey

Experimental Study on Behavior of Prestressed High Strength Lightweight Concrete Platform

Song, Y P, Song, X R, Dalian Univ of Technology, China

Ultimate Strength of Composite Steel-Concrete Shell Structure of Open Sandwich System

Iwata, S, Matsuishi, M, Matsuno, S, Tanaka, H, Hitachi Zosen Corp, Japan

A Need for Structural Lightweight Concrete in Kuwait and the Gulf as the New Millennium Dawns: A Case Study (Experimental Structural Model)

Haq, M N, Al-Khaiat, H, Alduaij, J, Alshaleh, K, Kuwait Univ, Kuwait

Evaluation and Performance Monitoring of Corrosion Protection Provided by Fiber-Reinforced Composites

Verhulst, S, Fuentes, L, Jirsa, J O, Fowler, D W, Wheat, H G, Whitney, D, Berver, E, Univ of Texas at Austin, USA

18. OCEAN & RENEWABLE ENERGY II (V. 1)

Monday May 29 14:00 Juniper

Chair: White, P, Coventry Univ, UK
Co-Chair: Washio, Y, JAMSTEC, Japan

The Offshore Floating Type Wave Power Device “Mighty Whale” Open Sea Test

Washio, Y, Osawa, H, Nagata, Y, Fujii, F, Furuyama, H, Fujita, T, JAMSTEC, Japan

The Performance of Wells Turbine with 3D Guide Vanes

Takao, M, Setoguchi, T, Kaneko, K, Saga Univ; Inoue, M, Kyushu Univ, Japan

An Experimental Assessment of 3D Panel Methods for Response Prediction of Generic OWCs

Delaure, Y M C, Lewis, A, University College Cork, Ireland

Experimental Results for the Wave Rotor Wave Energy Device

Retzler, C H, Southampton Univ, UK

Electric Output of Pneumatic Wave Power Conversion System with Water Valve Rectifier

Nakagawa, H, Akishima Labs (Mitsui Zosen); Ueki, K, Tohoku Electric Power Co, Japan

19. HYDRODYNAMICS: Hydrodynamic Forces 2 (V. 3)

Monday May 29 14:00 East Ballroom B

Chair: Naito, S, Osaka Univ, Japan
Co-Chair: Rychlik, I, Lund Univ, Sweden

Laboratory Stokes 5th Order Waves and Forces on a Vertical Truncated Cylinder

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

Numerical Examination on Third-Order Force on Axisymmetric Bodies

Teng, B, Dong, G H, Dalian Univ of Technology, China

Prediction of the Complete Second-Order Wave Drift Damping Force for Offshore Structures

Finne, S, Nestegard, A, Det Norske Veritas; Grue, J, Univ of Oslo, Norway

Nonlinear Wave Diffraction Due to a Vertical Structure of Arbitrary Cross Section and Axisymmetric Structure of Arbitrary Longitudinal Section

Mizutani, N, Nagoya Univ; Sanada, T, Japan Port Consultants; Iwata, K, Nagoya Univ, Japan

An Approach on Calculating Mean Drifting Forces Acting on a 3-D Floating Body Under Waves and Currents

Lee, T H, Chen, J L, Tamkang Univ, Taiwan, China

TUESDAY 08:00

20. METOCEAN III: Waves 3 (V. 3)

Tuesday May 30 08:00 West Ballroom A

Chair: Jenkins, A D, DNMI, Norway

Co-Chair: Pao, F H-P, Catholic Univ. of America, USA

A Simple Formula for Nonlinear Wave-Wave Interaction

Jenkins, A D, DNMI, Norway; Phillips, O M, Johns Hopkins Univ, USA

Spilling Breaking Characteristics of Freak Waves in Deep Water Depth

Schlurmann, T, Univ of Wuppertal; Lengrich, J, Graw, K-U, Univ of Leipzig, Germany

Large-Eddy Simulations for a Free-Surface Turbulent Flow Past Vertical Cylinders

Chen, T, Chwang, A T, Zhang, D H, Univ of Hong Kong, Hong Kong

A Three Dimensional Compound Model for Numerical Simulation of Nonlinear Waves

Qi, P, Zou, Z, Wang, Y X, Zheng, Y H, Dalian Univ of Technology, China

Effects of the Solitary Wave in the Pacific Ocean Coasts

Govea, M C G, Univ de Caen, France; Casarin, R S, UNAM, Mexico; Levacher, D, Univ de Caen, France

A Nearshore Wave Breaking Model Based on Boussinesq Equation

Li, D J, Zhang, W, Li, S W, Tianjin Univ, China

21. OFFSHORE I: Systems & Design 1 (V. 1)

Tuesday May 30 08:00 West Ballroom B

Chair: Ma, K-T, ABS America, Houston, TX, USA

Comparative Fatigue Performance of Alternative Outer Hull Connection Details

Healy, B, American Bureau of Shipping, USA; Thomsen, T, Det Norske Veritas, Norway

Approximate Method for Estimating Lives in Side Shell Connection Details

Healy, B, American Bureau of Shipping, USA

Effects of Various Stiffeners on Offshore Steel Jacket Strength

Son, C Y, Jo, C H, Lee, K S, Inha Univ, Korea

The Development of a Pan and Tilt Actuator Mechanism: From Concept to Application

Meikle, A, Banks, W M, Univ of Strathclyde; Paterson, I, Air Power and Hydraulics, UK

The Simplified Numerical Analysis of Deformed Thin-Walled Tubular Piles

Cai, S Q, Deeks, A J, Univ of Western Australia

22. JOIA: Ice Research II (V. 1)

Tuesday May 30 08:00 East Ballroom A

Chair: Frederking, R M W, National Research Council, Ottawa, Canada

Co-Chair: Kamesaki, K, NKK Corp, Japan

Medium-Scale Field Indentation Tests: Physical Characteristics of First-Year Sea Ice at Notoro Lagoon, Hokkaido

Kamio, Z, Takawaki, T, Mitsui Eng & Shipbldg; Matsushita, H, Nippon Kaiji Kyokai; Takeuchi, T, Hachinohe Inst of Technology; Sakai, M, Taisei Corp; Terashima, T, Pacific Consultants; Akagawa, S, Shimizu Corp; Nakazawa, N, Forest Works; Saeki, H, Hokkaido Univ, Japan

Experimental Study on Ice-Structure Interaction During Earthquake

Yamauchi, Y, Kamesaki, K, NKK Corp, Japan

A Consideration of Failure Mode of Sea Ice Sheet

Matsushita, H, Nippon Kaiji Kyokai; Kamio, Z, Mitsui Eng & Shipbldg; Sakai, M, Taisei Corp; Takeuchi, T, Hachinohe Inst of Technology; Terashima, T, Pacific Consultants; Akagawa, S, Shimizu Corp; Nakazawa, N, Forest Works; Saeki, H, Hokkaido Univ, Japan

23. GEOTECH III: Foundation 3 (V. 2)

Tuesday May 30 08:00 Aspen

Chair: Allersma, H G B, TU Delft, The Netherlands

Dynamic Behavior of Buried Water Pipe Fitted with a Ball Type Flexible Joint in Liquefied Ground

Tanaka, Y, Kobe Univ; Kuruma, A, Taisei Kikou Co; Asada, T, Mizoguchi, Y, Asanuma Corp, Japan

Load-Settlement Characteristics at the Tip of Bored Precast Piles

Oguri, T, Housing and Urban Development Public Corp; Kani, Y, Nippon Concrete Industries; Hayakawa, K, Ritsumeikan Univ; Matsui, T, Osaka Univ, Japan

Analyses for Load Test Data of PC Piles on Reclaimed Areas Along Taiwan West Coast

Hwang, J H, National Central Univ; Chen, C H, National Taiwan Univ, Taiwan, China

Some Case Histories of Steel Grid Reinforced Walls

Uchihata, K, Sakata, N, Geosystem Co; Ogawa, N, Reinforced Earth Engineering; Matsui, T, Nabeshima, Y, Osaka Univ, Japan

The Behavior of PC-Pile Group Subjected to Lateral Loading

Ni, S H, Chuang, M J, National Cheng-Kung Univ, Taiwan, China

24. ADVANCED SHIP & OCEAN TECH III (V. 4)

Tuesday May 30 08:00 Madrona

Chair: Lin, S S, US Naval Facilities Engineering Service Center, USA
Co-Chair: Ye, W, American Bureau of Shipping, USA

Verical Load Anchor Project

Fernandes, A O, Testa, G R, Dias, C A N, Goncalves, E, Univ of Sao Paulo, Brazil

Track Monitor Device for VLA Embeddement

Dominguez, M A G, Testa, G R, Dias, C A N, Goncalves, E, Univ of Sao Paulo, Brazil

Transverse Deformation of the Upper Deck Due to Longitudinal Bending Moment in a Box Girder

Ohta, T, Niigata College of Technology, Japan

On Substructure Based FE Analysis to Find Out Stress Concentration Factors in Ship Structures

Mukherjee, S, Hayashi, S, Osaka Univ, Japan

Study on Welding Models in Shipbuilding CIM

Hamada, K, Hiroshima Univ, Japan

Engineering Aspects of a Submersible Pontoon System — Sea Cache

Huang, E T, Naval Facilities Engineering Service Center, USA

25. RISERS & MOORING III (V. 2)

Tuesday May 30 08:00 Cedar

Chair: Pesce, C P, Univ of São Paulo, Brazil

Hydrate and Wax Prevention of Risers by Electrical Heating

Lervik, J K, SINTEF Energy Research; Klevjer, G, NTNU; Tidemand-Johannessen, A, Coflexip Stena Offshore Norge; Raphael, H, Statoil; Lauvdal, T, Saga Petroleum; Torstensson, L, Norsk Hydro; Iversen, O, Alcatel Kabel Norge, Norway

Fatigue Design of Risers: An Improved Methodology Incorporating a Transverse Hydrodynamic Force Model

Serta, O B, Petrobras E&P; Sphaier, S H, Fernandes, A C, COPPE/UFRJ, Brazil

A Parametric Analysis of Steel Catenary Risers: Fatigue Behavior Near the Top

Martins, C A, Higashi, E, Univ of Sao Paulo; Silva, R M C, Petrobras, Brazil

Combined Riser-Bundle-Template Installed by Controlled Depth Tow Method

Knutsen, C, Halliburton AS, Norway

Numerical Simulation of Flow Interference Between Two Circular Cylinders in Tandem Arrangement

Meneghini, J R, Flatschart, R B, Saltara, F, Siqueira, C R, Univ of Sao Paulo, Brazil

Design and Installation of Typical Riser Support Structures for Deepwater Application

Tjelta, E, Song, R, Brown & Root Energy Services, Norway

26. COMPOSITES AND SMART STRUCTURES III (V. 4)

Tuesday May 30 08:00 Douglas

Chair: Iwata, S, Hitachi Zosen Corp, Japan
Co-Chair: Knapp, R H, Univ of Hawaii, USA

Analysis of Sandwich Panel as a 2-D Orthotropic Thick Plate Continuum

Lok, T S, Cheng, Q H, Nanyang Technological Univ; Heng, L, Lands and Estates Organization, Singapore

Composite Slabs with Expanded Metal Used as Metal Decking

Keyder, E, Tengirsenk, O, Middle East Technical Univ, Turkey

A Fatigue Strength Prediction Model for Steel-Resin Co-Cured Jointed Interfaces with Roughness

Chiaki, S, Ship Research Inst, Japan

Application of Synchrotron Radiation to Investigate Deformation Behavior of Sintered Fe-Cr/TiN Composites

Takago, S, Sasaki, T, Hirose, Y, Kanazawa Univ, Japan

Microstructure Property by the Manufacturing Process of TiNi Shape Memory Composites

Yun, D P, Kim, S K, Dong-A Univ; Lee, S S, Kim, S Y, Pusan College of Information Technology, Korea

27. OCEAN & RENEWABLE ENERGY III (V. 1)

Tuesday May 30 08:00 Juniper

Chair: Sarmiento, A J N A, Instituto Superior Tecnico, Portugal
Co-Chair: Curran, R, Queen's Univ of Belfast, UK

Development of the Wave Energy Converter — Wave Dragon

Kofoed, J P, Frigaard, P, Aalborg Univ; Soerensen, H C, EMU; Friis-Madsen, E, Loewenmark Consulting Engineer F R I, Denmark

Numerical Analysis of Flow Characteristics in a Wells Turbine for Wave Power Conversion

Kim, J H, Lee, H G, Lee, Y W, Pukyong National Univ, Korea; Setoguchi, T, Saga Univ, Japan; Kang, C S, Kyungpuk National Univ, Korea

Maximum Wave-Energy Absorption by Oscillating Systems Consisting of Bodies and Water Columns with Restricted or Unrestricted Amplitudes

Falnes, J, Norwegian Univ of Science and Technology, Norway

Numerical Analysis of Impulse Turbine for Wave Energy Conversion

Lee, Y W, Kim, T S, Lee, H G, Pukyong National Univ, Korea; Kinoue, Y, Setogushi, T, Saga Univ, Japan

Electricity from Ocean Waves off Eastern Australia

Curran, R, Queen's Univ of Belfast, UK; Denniss, T, Energetech Australia PLT, Australia

28. HYDRODYNAMICS: Hydrodynamic Forces 3 (V. 3)

Tuesday May 30 08:00 East Ballroom B

Chair: Falzarano, J M, Univ of New Orleans, USA
Co-Chair: Teng, B, Dalian Univ of Technology, China

Hydrodynamic Damping Coefficients of Very Long Pipe in Positioning Control: An Adaptive Algorithm

Chung, J S, Colorado School of Mines, USA; Nam, D H, Incheon Junior College, Korea

WAFO – a Matlab Toolbox for Analysis of Random Waves and Loads
Brodtkorb, P A, NTNU, Norway; Johannesson, P, Lindgren, G, Rychlik, I, Ryden, J, Sjo, E, Lund Univ, Sweden

Hydrodynamic Coefficients of Subsea Structures
McBride, D W, Wilkins, R H, HR Wallingford, UK; Sandvik, P C, Norwegian Marine Technology Research Inst, Norway

Inundation Effect of Wave Forces on Jack-Up Platforms
Liaw, C Y, National Univ of Singapore, Singapore

Transient Flows and Associated Hydrodynamic Loads Induced by Moving Cylinders
Huang, E T, Naval Facilities Engineering Service Center, USA

TUESDAY 10:45

29. METOCEAN IV: Sea State (V. 3)

Tuesday May 30 10:45 West Ballroom A

Chair: Powers, E J, Univ of Texas at Austin, USA
Co-Chair: Haver, S, Statoil, Norway

On the Characteristics of Storm Waves
Wolfram, J, Linfoot, B, Stansell, P, Heriot-Watt Univ, UK

Dependence of the Directional Spreading of Wind Waves on the Estimating Method
Zhao, D L, Ocean Univ of Qingdao, China

Some Observed Characteristics of Sea States with Extreme Waves
Olagnon, M, van Iseghem, S, IFREMER, France

Bivariate Simulation of Nonstationary and Non-Gaussian Observed Processes: Application to Sea State Parameters
Monbet, V, IUT Genie Informatique et Statistique; Prevosto, M, IFREMER, France

Generation of Strong Asymmetric Wave in Random Seaway
Zou, J, ABB Lummus Global Oil & Gas—America; Kim, C H, Texas A&M Univ, USA

30. OFFSHORE II: Systems & Design 2 (V. 1)

Tuesday May 30 10:45 West Ballroom B

Chair: Kashiwagi, M, Kyushu Univ, Japan

Hydroelastic Behavior of a Submersible Plate in Waves
Tsubogo, T, Osaka Prefecture Univ, Japan

Numerical Aspects of Multiple Body Hydrodynamics
Teigen, P, Statoil, Norway

Numerical Investigation of Slowly Varying Drift Forces of Multiple Floating Bodies in Short Crested Irregular Waves
Inoue, Y, Rafiqul, I M, Yokohama National Univ, Japan

Three-Dimensional Simulation of Local Scour Around a Vertical Cylinder

Ou, Z, Ping, Z, Cheng, L, Univ of Western Australia, Australia

31. POLAR I: Ice Forces 1 (V. 1)

Tuesday May 30 10:45 East Ballroom A

Chair: Sayed, M, National Research Council, Canada

Ice Load Uncertainties: Progress in Their Resolution

Croasdale, K R, K R Croasdale and Associates, Canada

Mathematical Model of Ice Ridge's Action on the Offshore Structures

Bekker, A T, Sabodash, O A, Venkov, A V, Far-Eastern State Technical Univ, Russia

Design and Cost Study on Gravity-Based Substructure in the Sea of Okhotsk

Kamesaki, K, Shimazaki, K, Kasui, K, NKK Corp; Matsumoto, H, Japan National Coil Corp; Frederking, R, Timco, G W, Sayed, M, National Research Council; Tseng, J, Sandwell Engineering, Canada

Rubble Pile Observations

Mayne, D C, Brown, T G, Univ of Calgary, Canada

Experimental Study on Vertical Ice Load Acting on Multi-Leg Structures

Terashima, T, Kawai, T, Nakazawa, N, Pacific Consultants; Saeki, H, Hokkaido Univ, Japan

32. GEOTECH IV: Foundation 4 (V. 2)

Tuesday May 30 10:45 Aspen

Chair: Nabeshima, Y, Osaka Univ, Japan

Co-Chair: El-Gharbawy, S, Delmar Systems, USA

Finite Element Analysis of Jacket Structures with Bucket Foundations

Bransby, M F, Univ of Dundee, UK

Consolidation Parameters from Axial Pile Load Tests

Mirza, U A A, Kvaerner Oil & Gas, UK

A Case Study on the Application of Pile Driving Analyzer (PDA) and CAPWAP to Bearing Capacity of Piles

Fakharian, K, Amirkabir Univ of Technology, Iran

Deep Penetrating Anchor: Further Development Optimization and Capacity Verification

Lieng, J T, GeoProbing Technology, Norway

Stability of Enlarged-Bottom Excavation for Under-Reamed Pile

Kanaoka, M, Osaka Sangyo Univ, Japan; Hong, T T, Hochiminh City Univ, Vietnam; Tamano, T, Osaka Sangyo Univ, Japan

33. COASTAL ENGINEERING I: Breakwater Dynamics (V. 3)

Tuesday May 30 10:45 Madrona

Chair: Mizutani, N, Nagoya Univ, Japan

Solitary Wave Pressure on a Barrier

Hamzah, M A, Mase, H, Takayama, T, Kyoto Univ, Japan

Wave Forces on a Horizontal Cylinder in the Coastal Zone

Chevalier, C, Lambert, E, Belorgey, M, Univ of Caen, France

Hydrodynamic Forces on a Submerged Horizontal Plate Type of Breakwater

Takaki, M, Hiroshima Univ, Japan

Wave Load Decay Along Composite Breakwaters in Directional Seas

Calabrese, M, Univ degli Studi di Napoli Federico II, Italy; Allsop, W, Univ of Sheffield, UK; Buccino, M, Univ degli Studi di Napoli Federico II, Italy

DDA Model for Block Fracture Analysis in Seawall

Oh, Y N, Chien, L K, National Taiwan Ocean Univ, Taiwan, China

The Performance of Dual Floating Buoy/Membrane Breakwaters in Oblique Seas

Kee, S T, Seoul National Univ of Technology, Korea; Kim, M H, Texas A&M Univ, USA; Park, J E, Seoul National Univ of Technology, Korea

Wave Control by Floating Sheet

Deguchi, I, Osaka Univ; Yasui, A, Taiyo Kogyo; Miyamoto, T, Osaka Univ, Japan

34. RISERS & MOORING IV (V. 2)

Tuesday May 30 10:45 Cedar

Chair: Silva, R M C, Petrobras – E&PJ, Brazil

Statistical Variability in PET Fiber Physical Properties

Sloan, F, AlliedSignal Performance Fibers, USA

On the Use of Synthetic Mooring Lines for SPARS and Deepwater Floaters

Mekha, B B, Antani, J, INTEC Engineering, USA

Experimental and Numerical Study on Deep Sea Mooring of Ocean Observation Platform

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

Fretting Fatigue of Flexible Pipe Pressure Armour

Burker, R N, Witz, J A, University College London, UK

A Comparative Analysis Between Analytical and FE-Based Models for Flexible Pipes Subjected to Axisymmetric Loads

Ramos Jr, R, Pesce, C P, Martins, C A, Univ of Sao Paulo, Brazil

A New Concept of Multipoint Mooring System Fan Weathervane Multipoint Counterweight Mooring (FWMCM)

Chen, J C, Pan, H Q, Guangzhou Marine Engineering Corp, China

Study on the Dynamics of Truncated Mooring Line

Chen, X, Zhang, J, Texas A&M Univ; Johnson, P, Irani, M, Offshore Technology Research Center, USA

Added 2000.01.11 after the program is printed.

A Moored Buoy Observatory for the Deep Ocean

Frye, D, Grosenbaugh, M, Paul, W, Wooding, B, Petit, R, Peters, D, Gobat, J, Woods Hole Oceanographic Inst, USA

35. RELIABILITY, RISK & SAFETY I (V. 4)

Tuesday May 30 10:45 Douglas

Chair: Langen, I, Stavanger University College, Norway

Co-Chair: Louca, L A, Imperial College, UK

Requalification of Platforms Offshore Tampico—Tuxpan, Mexico: Conditions and Criteria

Bea, R, Univ of California, Berkeley, USA; Perez, F, Rodriguez, R, Instituto Mexicano del Petroleo, Mexico

Requalification of Platforms Offshore Tampico—Tuxpan, Mexico: Arenque Platforms

Bea, R, Univ of California, Berkeley, USA; Perez, F, Rodriguez, R, Instituto Mexicano del Petroleo, Mexico

Reliability Assessment of Marine Platforms Installed in the Bay of Campeche, Mexico

Florentino, S, De Leon, D, Instituto Mexicano del Petroleo, Mexico

Optimal Operational Decision Making for Pol-A Compression Platform in Mexico

De Leon, D, Instituto Mexicano del Petroleo, Mexico

36. OCEAN & RENEWABLE ENERGY IV (V. 1)

Tuesday May 30 10:45 Juniper

Chair: Hong, S W, Korea Research Inst. of Ship and Ocean Engineering, Korea

Co-Chair: Soerensen, H C, EMU, Denmark

Numerical Modelling of OWC-Shoreline Devices Including the Effect of Surrounding Coastline and Non-Flat Bottom

Brito-Melo, A, Hofmann, T, Sarmento, A J N A, Instituto Superior Tecnico, Portugal; Clément, A H, Delhommeau, G, Ecole Centrale de Nantes, France

3D Computational Fluid Dynamics Analysis of the Wells Turbine

Thakker, A, Frawley, P, Sheikbajeet, A, Univ of Limerick, Ireland

Guide Vane Design for Wells Turbine Rotor

Thakker, A, Frawley, P, Sheikbajeet, A, Harper, J, Univ of Limerick, Ireland

CFD Modelling and Comparison of the Aerodynamic Characteristics of 2D Isolated Symmetrical Aerofoil Profiles for Use in a Wells Turbine

Thakker, A, Frawley, P, Daly, J, Univ of Limerick, Ireland

CFD Modelling and Optimization of Symmetrical Aerofoil Profiles in 2D Cascade Flow

Thakker, A, Frawley, P, Daly, J, Abughahia, Y, Univ of Limerick, Ireland

Numerical Simulation of 3-D Stall Mechanism on Wells Turbine for Wave-Power Generating System

Suzuki, M, Arakawa, C, Univ of Tokyo, Japan

37. ENVIRONMENT (V. 1)

Tuesday May 30 10:45 East Ballroom B

Chair: Kyojuka, Y, Kyushu Univ., Japan

Co-Chair: Kryjov, V N, EPS “Eco-System,” Russia

Experimental Study on Recovery Method of Spilled Oil Which Trapped under Rubble Ice Field

Otsuka, N, Usami, N, Ogiwara, K, Hayakawa, T, North Japan Port Consultants, Saeki, H, Hokkaido Univ, Japan

Development of Hydrodynamic Module in the Specialized Information Analytical Systems

Arkhipov, B V, Solbakov, V V, Tsvetsinsky, A S, Kryjov, V N, EPS "Eco-System," Russia

The Impact of Water Quality to Construction of Harbor Structures in Coastal Region

Jee, H K, Kim, K H, Kwangdong Univ, Korea

The Modeling of Potential Ground Water Contamination in Eskisehir Region

Tombul, M, Tuncan, M, Anadolu Univ. Turkey

A New Correlation for the Drag Coefficient of Real Drill-Cuttings

Carles, L J, Bryden, I G, Oyenyin, M B, Robert Gordong Univ, UK

TUESDAY 13:20

Plenary Presentation III (V. 1)

Tuesday May 30 13:20 West Ballroom B

Research and Development Challenges in Subsea Technology

Aleksandersen, J, Plugging Specialists International; Eriksseon, C B, Smedvig ASA, Norway

Introduction by Langen, I, Stavanger University College, Norway

Plenary Presentation IV (V. 2)

Tuesday May 30 13:20 Aspen

The Strongest Chi-Chi Earthquake of the Century in Taiwan

Chin, Y P, National Cheng Kung Univ, Taiwan, China

Introduction by Das, B M, California State Univ at Sacramento, USA

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

Tuesday May 30 14:00 Aspen

Chair: Brandes, H G, Univ. of Hawaii, USA

Geotechnical and Geological Contrasts of Basin and Plateau Sediments in Deep Water Gulf of Mexico

Silva, A J, Univ of Rhode Island; Bryant, W R, Texas A&M Univ, USA

Drained Test Simulations for Clay by Strain Path Controlled Mini-Triaxial Test Device

Nabeshima, Y, Oda, K, Matsui, T, Osaka Univ, Japan

Sedimentation State of Ariake Clays in Japan

Hong, Z S, Tsuchida, T, Port and Harbor Research Inst, Japan

Consolidation Characteristics of Osaka Pleistocene Clay by Separated-Type Consolidometer

Kang, M S, Tsuchida, T, Port and Harbour Research Inst, Japan

A Case Study on the Slope Instability of Coastal Park in Southern Taiwan

Hsaio, D H, Hwang, L J, National Kaohsiung Inst of Technology, Taiwan, China

The Influence of Seepage Conditions on Slope Stability

Lane, P A, UMIST, UK; Griffiths, D V, Colorado School of Mines; Torres, R, US Burea of Reclamation, USA

Small Strain Shear Modulus of Natural Marine Clays from Laboratory and Field Tests

Tanaka, H, Shiwakoti, D R, Tanaka, M, Mishima, O, Port and Harbour Research Inst, Japan

A Probe for in situ Characterization of Marine Carbonate Sands and Other Sediments

Cruickshank, M J, Shimabukuro, T A, Knapp, R H, Structural Solutions; Morgan, C, Morgan & Associates, USA

39. COASTAL ENGINEERING II: Hydrodynamics (V. 3)

Tuesday May 30 14:00 Madrona

Chair: Chwang, A T, Univ. of Hong Kong, Hong Kong

Detailed Study of the Wave Characters Affected by Detached Breakwaters

Huang, W P, Yim, J Z, National Taiwan Ocean Univ, Taiwan, China

Scattering of Long Waves over a Submerged Step

Ohashi, M, Sato, Y, Kitami Inst of Technology; Hamanaka, K, Hokkaido Tokai Univ, Japan

Three Dimensional Numerical Modelling of the Marmaris Bay

Balas, L, Gazi Univ; Ozhan, E, Middle East Technical Univ, Turkey

DRBEM Model on the Wave-Induced Oscillation Due to Energy Dissipation

Hsiao, S S, Fang, H M, National Taiwan Ocean Univ, Taiwan, China

Dissipation of Wave Energy Due to Bottom Effect on Very Mild Slope

Yu, Y, Li, Y C, Dalian Univ of Technology, China

Hydrodynamics in the Swash Zone

Petti, M, Univ of Udine; Longo, S, Univ of Parma, Italy

Reliability Analysis in Coastal Engineering

Benassai, E, Calabrese, M, Uberti, G S, Univ di Napoli Federico II, Italy

TUESDAY

Conference Tour

Museum of Flight

Planned for **Tuesday Afternoon, June 1**

Reservation must be made on the Advance Registration Form.

Museum of Flight at the Boeing Company: the history of aviation and the future.

WEDNESDAY 08:00

40. METOCEAN V: Climatology 1 (V. 3)

Wednesday May 31 08:00 West Ballroom A

Chair: Olagnon, M, IFREMER, France

Extreme Wave Analysis in a Variable Climate

Krogstad, H E, NTNU; Barstow, S F, OCEANOR, Norway

Statistical Properties of Freak Waves Observed in the Sea of Japan

Yasuda, T, Gifu Univ; Nakayama, S, Penta-Ocean Construction; Mori, N, Central Research Inst of Electric Power Industry, Japan

Statistics of Freak and/or Abnormal Waves from the In-situ Data of Japan Sea

Tomita, H, Kawamura, T, Ship Research Inst, Japan

Freak Waves: Rare Realizations of a Typical Extreme Wave Populations or Typical Realizations of a Rare Extreme Wave Population?

Haver, S, Andersen, O J, Statoil, Norway

Estimation of Extremes Waves Using a Waverider Buoy and Vertical Lasers: Methods and Case Studies

Magnusson, A K, Donelan, M, DNMI-Marine Forecasting Centre, Norway

41. OFFSHORE III: Structures & Design 1 (V. 1)

Wednesday May 31 08:00 West Ballroom B

Chair: Gudmestad, O T, Stavanger University College/Statoil, Norway

Engineering Considerations for a Floating Swing Arch Bridge in the Port of Osaka

Watanabe, E, Kyoto Univ; Ueda, S, Tottori Univ; Maruyama, T, Osaka Municipal Government; Tanaka, H, Takeda, S, Hitachi Zosen Corp, Japan

On some Remaining Research-Issues for Fixed Steel Jacket Structures

Gudmestad, O T, Stavanger University College/Statoil; Hansen, K, Stavanger University College, Norway

Experimental Determination of the Hydrodynamic Loading on a Model of Offshore Jacket under Waves and Current

Mendes, A C, Univ da Beira Interior, Portugal; Kishev, R, Bulgarian Ship Hydrodynamics Center, Bulgaria; Chapling, J R, Southampton Univ, UK; Tomchev, S, SRDD-Varna Shipyard, Bulgaria

Experimental Study on Wave Loads and Responses of a Barge-Mounted Plant with Dolphin-Fender Mooring System

Choi, Y R, Hong, S W, Kim, H J, Kim, J H, Korea Research Inst of Ships and Ocean Engineering, Korea

Dynamic Analysis of a Guyed-Tower Platform in Regular Waves

Wu, J S, Su, M F, National Cheng Kung Univ, Taiwan, China

42. POLAR II: Ice Forces 2 (V. 1)

Wednesday May 31 08:00 East Ballroom A

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

Effects of Factors on Total Ice Load by the Use of Medium-Scale Field Indentation Test Data

Takeuchi, T, Agakawa, S, Sakai, M, Nakazawa, N, Terashima, T, Kamio, Z, Matsushita, H, Nashimaki, H, Kurokawa, A, Hirayama, K, Saeki, H, Japan

Ice Failure Mode Predominantly Producing Peak-Ice-Load Observed in Continuous Ice Load Records

Akagawa, S, Shimizu Corp; Nakazawa, N, Forest Works; Sakai, M, Taisei Corp; Matsushita, M, Nippon Kaiji Kyokai; Terashima, T, Pacific

Consultants; Takeuchi, T, Hachinohe Inst of Tech; Saeki, H, Hokkaido Univ, Japan

Formation of Ice Compacting and Ice Fracture Zones on the North-East Sakhalin Shelf Under Action of Tidal Ice Drift

Kalinin, E N, Zemliuk, S, Astafiev, V N, A M, Sakhalin Oil & Gas Inst, Russia

Evaluation of Ice Forces Acting on Sea Bed Due to Ice Scouring

Kioka, S, Yasunaga, Y, Watanabe, Y, Saeki, H, Hokkaido Univ, Japan

Ice Gouge Measurement Strategy

Poplin, J P, Wang, A T, Leidersdorf, Exxon-Mobil Upstream Research Company, USA

Added 2000.01.11 after the program is printed.

Ice Ridge Crack Loads on Multifaceted Conical Structure

Wang, M Z, American Bureau of Shipping, USA

43. GEOTECH VI: Soil Treatment (V. 2)

Wednesday May 31 08:00 Aspen

Chair: Wong, P C, Exxon Production Research Co., USA

Ultimate Capacities of Suction Caissons and Pile Elements for Deepwater Applications

McCarron, W O, Schnabel Engineering Associates; Sukumaran, B, Rowan Univ, USA

Consolidation and Strength Properties of Calcareous Sediments from Kaneohe Bay, Hawaii

Brandes, H G, Univ of Hawaii, USA; Khadge, N H, National Inst of Oceanography, India; Nakayama, D D, Univ of Hawaii, USA

Advances in Deep and Ultra-Deep Water Site Investigations

Humphrey, G D, Audibert, M E, Fugro-McClelland Marine Geosciences, USA

Electrochemical Treatment of Polluted Soils

Mohamed, A M O, UAE Univ, United Arab Emirates

Evaluating Undrained Shear Strength Using the Vane Shear Apparatus

Watson, P G, Randolph, M F, Univ of Western Australia, Australia; Suemasa, N, Musashi Inst of Technology, Japan

Evaluation of the Liquefaction Potential of Calcareous Sand

Morioka, B T, URS Greiner Woodward Clyde; Nicholson, P G, Univ of Hawaii, USA

Size and Shape of Tamper's Base in Dynamic Compaction of Loose Sands

Feng, T W, Chung Yuan Christian Univ, Taiwan, China

Using Multi-Neural Networks to Estimate the Screening Effect of Surface Waves by In-Filled Trenches

Ni, S H, Hung, C C, National Cheng Kung Univ, Taiwan, China

**44. COASTAL ENGINEERING III:
Hydrodynamics in Harbor (V. 3)**

Wednesday May 31 08:00 Madrona

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

On the Interaction of Surface Waves with a Semi-Infinite Elastic Plate
Sahoo, T, Yip, T L, Chwang, A T, Univ of Hong Kong, Hong Kong

Low-Frequency Harbor Oscillations
Nomura, K, Kitami Inst of Technology; Furuta, Y, Hamanaka, K, Hokkaido Tokai Univ, Japan

Numemrical Simulation of Wave Refraction-Diffraction in Pearl River Estuary
Chen, Y, Wai, O W H, Li, Y S, Hong Kong Polytechnic Univ, Hong Kong

Analysis of Hydraulics Characteristics in Lock Chamber of Kyungin Canal Using Hydraulic Model Tests
Park, J W, Kim, K H, Park, C K, Pyun, C K, Kwangdong Univ, Korea

Numerical Analysis of Waves in a Harbor with Protruding Thin Breakwater
Hueh, C Y, Tsaur, D H, National Taiwan Ocean Univ, Taiwan, China

A Study on Motions of Pleasure Boats Moored to Floating Piers in Marina
Shiraishi, S, Yoneyama, H, Kawahara, H, Port and Harbour Research Inst, Japan

45. PIPELINES I (V. 2)

Wednesday May 31 08:00 Cedar

Chair: Maple, J.A. Maple & Associates, USA

Co-Chair: Sriskandarajah, T, Granherne Ltd, UK

Bundle Pipeline Installation Technique for a Curved Route
Jo, C H, Inha Univ; Park, C W, Hong, K S, Inha Technical Junior College; Han, B H, Song, W J, Jang, I S, Korea Gas Corp, Korea

Submerged Floating Pipeline
Paulson, G, Soereide, T, REINERTSEN Engineering; Nielsen, F G, Norsk Hydro, Norway

Pipeline Isolation
Aleksandersen, J, Plugging Specialists International, Norway

Strategies for Upgrading of Pipeline Transport Systems: Case Studies
Nes, H, Sortland, L, Kathrud, K, STATOIL; Kolstad, S T, Reinertsen Engineering, Norway

46. RELIABILITY, RISK & SAFETY II (V. 4)

Wednesday May 31 08:00 Douglas

Chair: Bea, R G, Univ of California at Berkeley, USA

Reliability Assessment of the Veslefrikk B Mooring Lines
Haver, S, Statoil; Larsen, K, MARINTEK; Meling, T S, Statoil, Norway

Enhancement of Mooring System Reliability for FPSOs in Tropical Environments
Huang, K, American Bureau of Shipping, USA

Survey and Maintenance of Oil Storage Vessels at Mooring Site
Muraoka, E, Japan National Oil Corp, Japan

Safety Evaluation of Fishing Boats Entering into a Harbor under Severe Wave Conditions

Kubo, M, Kobe Univ of Mercantile Marine; Mizui, S, Hiroshima national College of Maritime Technology; Inoue, K, Tachibana, H, Mitsui Engineering & Shipbuilding, Japan

Integrity Assessment of Tripod Offshore Structure

Wan Mahmood, W A M, Embong, M, Ahmad, A R, Stork Protek Engineers, Malaysia

47. OCEAN & RENEWABLE ENERGY V (V. 1)

Wednesday May 31 08:00 Juniper

Chair: Lewis, A, University College Cork, Ireland

Co-Chair: Suzuki, M, Univ of Tokyo, Japan

Counter-Rotating Type Machine Suitable for Tidal Current Power Generation

Kanemoto, T, Kyushu Inst of Technology; Tanaka, D, DMW Corp; Kashiwabara, T, Kochi National College of Technology; Uno, M, Kyushu Kyoritsu Univ; Nemoto, M, Kanagawa Inst of Technology, Japan

A SITE Assessment Methodology for Tidal Current Plants

Dim, D E, Bryden, I G, Rados, K G, Robert Gordon Univ, UK

Middelgrunden 40 MW Offshore Wind Farm: A Prestudy for the Danish Offshore 750 MW Wind Program

Soerensen, H C, EMU; Larsen, J H, KMEK; Olsen, F A, Svenson, J, SEAS, Denmark

Assessment of Combined Extreme Load Conditions for Offshore Wind Energy Converters

Cheng, P W, van Bussel, G, Delft Univ of Technology, The Netherlands

Wave-Energy Application to Water Pump and Its Systems of Utilization: Fish Meat Improving and Production Systems Powered by Wave-Energy Pumps

Kawaguty, K, Tsuchimoto, M, Ueki, H, Nagasaki Univ, Japan

48. HYDRODYNAMICS: Vortex & Vibration 1 (V. 3)

Wednesday May 31 08:00 East Ballroom B

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

VIV Lift Coefficients Found from Response Build-Up Elastically Mounted Dense Cylinder

Vikestad, K, MARINTEK; Halse, K H, Statoil, Norway

Simulating Vortex Shedding at High Reynolds Numbers: Towards a CFD Approach to the Fluid-Structure Problems of Deep Water Oil Exploration Systems

Sampaio, P A B, Instituto de Engenharia Nuclear/CNEN; Coutinho, A L G A, COPPE/UFRJ, Brazil

Effect of Ground on Vortical Flows Behind a Square Cylinder

Hwang, R R, Academia Sinica, Taiwan, China

Wave-Induced Vortices and Boundary-Layer Flows

Dong, C M, Huang, C J, National Cheng Kung Univ, Taiwan, China

DNS and LES of the Incompressible Turbulent Plane Shear Flows with BGK Scheme

Su, M D, MIT, USA

**Prediction of Viscous Forces on Free and Forced Oscillating Cylinder
by Navier-Stokes Technique**

Korpus, R, Oakley, O, Leonard, I; and Jones, P, SAIC, USA

**Nonlinear Wave Forces on a Stationary Vertical Cylinder by HOBEM-
NWT**

Hong, S Y, Korea Research Inst of Ships and Ocean, Korea; Kim, M H,
Texas A&M Univ, USA

WEDNESDAY 10:45

49. METOCEAN VI: Climatology 2 (V. 3)

Wednesday May 31 10:45 West Ballroom A

Chair: Krogstad, NTNU, Trondheim, Norway

**Statistical Extreme Wave Analysis of the Italian Sea Wave
Measurement Network Data in the Period 1989-1999**

Corsini, S, Guiducci, F, Inghilesi, R, Servizio Idrografico e Mareografico
Nazionale, Italy

Forecasting Internal Solitons in the Gulf of Guinea

Michallet, H, Lefevre, A, Ebelle, C, Crosnier, L, Lab des Ecoulements
Geophysiques et Industriels; Lyard, F, LEGOS; Barthelemy, E, Lab des
Ecoulements Geophysiques et Industriels, France

Baydaratskaya Bay Coastal Climate Conditions in Recent Years

Goryainov, Y A, JSC "Gazprom"; Kryjov, V N, EPS "Eco-System";
Dubikov, G I, PNIIS; Toujilkine, V S, EPS "Eco-System", Russia

**Meteorarine Forecast, Ballast Water and Safety of Navigation:
Analysis and Reliability**

Pezzoli, A, Pezzoli, G, Franza, M, Turin Polytechnic, Italy

**Modelling of Wind and Wave Joint Occurrence Probability and
Persistence Duration from Satellite Observation Data**

Nerzic, R, Optimer; Prevosto, M, Bouffandeau, B, IFREMER, France

50. OFFSHORE IV: Structures & Design 2 (V. 1)

Wednesday May 31 10:45 West Ballroom B

Chair: Teigen, P, Statoil, Norway

Green Sea on Norwegian Production Ships

Ersdal, G, Kvitrud, A, Norwegian Petroleum Directorate, Norway

New Semi-Dode Multipurpose Offshore Platform

Huang, Y T, San Tai International; Kim, M H, Arcandra, Texas A&M Univ,
USA

**Applications and Prospects Analysis of Liquid-Liquid Hydrocyclones
in China's Oilfield Productions**

Zhao, L X, Li, F, Wang, Z, Jiang, M H, Daqing Petroleum Inst, China

**The Integrated Use of GIS and Virtual Reality Techniques: A Campos
Basin Case**

Cunha, G G, Santos, C L N, Landau, L F N M, COPPE/UFRJ, Brazil

Extreme-Wave Response Simulation of a C.A.L.M. Buoy in Shallow Water

Hwang, Y L, IMODCO, USA

51. POLAR III: Ice Mechanics 1 (V. 1)

Wednesday May 31 10:45 East Ballroom A

Chair: Croasdale, K R, K R Croasdale and Associates, Canada

Sea Ice Floe Impacts – Large Scale Experiments

Frederking, R, Timco, G W, National Research Council, Canada

Anisotropy of Sea Ice Strength Characteristics in the Okhotsk Sea

Surkov, G A, Zemliuk, S, Astafiev, V N, Polomoshnov, A M, Sakhalin Oil & Gas Inst, Russia

Mathematical Model for Crushing and Fracturing of Polycrystalline Ice

Derradji, A A, Inst for Marine Dynamics, Canada

Theoretical and Experimental Researches of Specific Energy at Ice Mechanical Failure

Tsuprik, V G, Far Eastern State Tech Univ, Russia

Ice Hummocking in Bering Sea

Yakunin, L P, Moskalev, I N, Far-Eastern State Technical Univ, Russia

52. GEOTECH VII: Soil Improvement 1 (V. 2)

Wednesday May 31 10:45 Aspen

Chair: Tanaka, Y, Kobe Univ., Kobe, Japan

Co-Chair: Tuncan, A, Anadolu Univ, Turkey

Soft Ground Improvement by Vertical Drains at Yangsan Test Site in Korea

Chung, H I, Jin, H S, Korea Inst of Construction Technology; Jin, K N, Korea Land Corp, Korea

Acceleration of Self-Weight Consolidation of Dredged Clay with Wicked Plastic Boards

Sato, K, Fukuoka Univ; Nomura, T, Kinjo Rubber Co; Yoshida, N, Fukuoka Univ, Japan

A Numerical Study of the Consolidation Efficiency of Fiber and Plastic Board

Jang, Y S, DongGuk Univ; Kim, Y W, Kim, S S, Chung-Ang Univ, Korea

Analytical Study on Consolidation Behavior of Soft Clay Ground with Board Shaped Drains

Oda, K, Matsui, T, You, S K, Osaka Univ, Japan

Stability of Refuse Landfill Reinforced by Stone Columns

Shin, B W, Chungbuk National Univ; Lee, B J, Chungju National Univ; Yoon, J S, Dansan Consultant; Bae, W S, Chungbuk National Univ, Korea

A Study on the Improvement of Soft Ground by Quick Lime Piles

Chun, B S, Kim, J C, Choi, H S, Hanyang Univ, Korea

53. COASTAL ENGINEERING IV: Porous Breakwaters (V. 3)

Wednesday May 31 10:45 Madrona

Chair: Hiraishi, T, Port and Harbour Research Inst., Japan

Wave Interactions with Permeable Vertical Barriers

Yang, G, Baldwin, J, Isaacson, M, Univ of British Columbia, Canada

Wave-Induced Flow in a Porous Vertical Breakwater

Mizutani, N, Mostafa, A M, Nagoya Univ, Japan

Scattering Phenomena in Perforated Breakwater

Rousset, J-M, Belorgey, M, Univ of Caen, France

On the Propagation of Water Waves Over a Submerged Porous Dike

Chang, H H, Dong, C M, Huang, C J, National Cheng Kung Univ, Taiwan, China

Wave Trapping by Porous and Flexible Barriers

Yip, T L, Sahoo, T, Chwang, A T, Univ of Hong Kong, Hong Kong

Wave Impacts on Vertical and Composite Breakwaters

Calabrese, M, Buccino, M, Univ degli Studi di Napoli Federico II, Italy

54. PIPELINES II (V. 2)

Wednesday May 31 10:45 Cedar

Chair: Jo, C H, Inha Univ, Korea

Co-Chair: Song, R, Brown & Root Energy Services, Norway

Experiment on Formation Rate of Methane Hydrate: Study on Transportation/Storage Technology of Natural Gas Hydrate

Arai, T, Mitsui Eng & Shipbldg; Ebinuma, T, Uchida, T, Narita, H, Hokkaido National Industrial Research Inst; Kato, Y, Mitsui Eng & Shipbldg; Matsuo, K, Inst of Applied Energy, Japan

The Testing of Low Cost Instruments for the Identification of Wax in a Hydrocarbon Pipeline

Smith, G H, Heriot-Watt Univ; Short, G, Russell, D, R S T Projects Ltd; Owens, E H, Heriot-Watt Univ, UK

The Smart Acquisition and Analysis Module (SAAM) for Pipeline Inspection

Smith, G H, Heriot-Watt Univ; Short, G, Russell, D, R S T Projects Ltd; Owens, E H, Heriot-Watt Univ, UK

A Method to Obtain High Reliability of Mechanical Pipeline Couplings

Mellom, T, Det Norske Veritas, Norway

55. RELIABILITY, RISK & SAFETY III (V. 4)

Wednesday May 31 10:45 Douglas

Chair: Karadeniz, H, Delft Univ of Technology, The Netherlands

Co-Chair: Duan, M L, China Classification Society, China

Critical Review of Fracture Mechanics Model Applied in Fatigue Reliability Upgrading of a Floating Structure

Engesvik, K, Johannesen, J M, Vardal, O T, Aker Offshore Partner, Norway

Fatigue Life Calibration of Bass Strait Platforms Based on Inspection History

Barton, A D, Esso Australia; Milani, N K, Worley Limited, Australia, Australia

Fatigue Reliability Analysis of Offshore Structures in Ice Environment

Fang, H, Univ of Petroleum China; Duan, M L, Xu, F, China Classification Society; Shen, Z H, Inst of Mechanics, China

Reliability Assessment of a FPSO Hull Girder Subjected to Degradations of Corrosion and Fatigue

Sun, H H, Wuhan Transportation Univ, China; Bai, Y, Stavanger University College, Norway

Fatigue Reliability of Girth Welded Pipes Containing Welding Defects

Song, R, Tjelta, E, Clausen, T, Brown & Root Energy Services, Halliburton AS, Norway

56. MATERIALS/WELDING/FATIGUE I (V. 4)

Wednesday May 31 10:45 Juniper

Chair: Suga, Y, Keio Univ, Japan

The Classification of Metal Weld Deposits in Terms of the Amount of Nitrogen

Wegrzyn, T, Univ da Beira Interior, Portugal

Tensile Strength Characteristics of Friction Welded Joints of A1050, A2017, A6061 Aluminum Alloy to SUS304 Stainless Steel

Tsujino, R, Osaka Inst of Technology; Morikawa, K, Ohue, Y, Nakayama, H, Osaka Sangyo Univ; Yamaguchi, H, Ogawa, K, Osaka Prefecture Univ, Japan

Evaluation of Joint Performance of 5056 Aluminum Friction Welded Joints by Heat Input and Burn-Off Quantity

Ochi, H, Osaka Inst of Technology; Sawai, T, Osaka Sangyo Univ; Yamamoto, Y, Setsunan Univ; Ogawa, K, Osaka Prefecture Univ; Suga, Y, Keio Univ, Japan

Fatigue Strength Characteristics of A6061 Aluminum Alloy and S35C Carbon Steel Friction Welded Joints

Morikawa, K, Ohue, Y, Osaka Sangyo Univ; Ogawa, K, Osaka Prefecture Univ; Nakayama, H, Osaka Sangyo Univ, Japan

Automatic Control of Penetration by Monitoring Oscillation of Molten Pool in TIG Welding of Thin Steel Plates

Suga, Y, Yasuda, K, Hayakawa, K, Keio Univ; Ichiyama, Y, Nippon Steel; Ogawa, K, Osaka Prefecture Univ, Japan

57. HYDRODYNAMICS: Vortex & Vibration 2 (V. 3)

Wednesday May 31 10:45 East Ballroom B

Chair: Moe, G, NTNU, Norway

Co-Chair: Jordan, D, Univ. of Virginia, USA

Coupled Transverse and In-Line Vortex Induced Vibration of Cable Suspensions

Kim, W J, Perkins, N C, Univ of Michigan, USA

Effect of Variable Current on the Vortex-Induced Vibrations

Vikestad, K, Halse, K H, MARINTEK, Norway

Vortex Induced Vibrations Between End Stops

Chaplin, J R, Southampton Univ; Gbedemah, W, City Univ, UK

Numerical Prediction of Vortex-Induced Vibration on Steel Catenary Risers

Dalheim, J, Det Norske Veritas Houston, USA

Vortex-Induced Vibrations of Moored Floats in Steady Currents
Venkataramana, K, Yoshihara, S, Kawano, K, Aikou, Y, Kagoshima Univ,
Japan

**An Application of Numerical Methods to the Mechanics of Vortex
Induced Vibrations in Two Dimensions**
Oliveira, M C, Barros, A M, Sphaier, S H, COPPE/UF RJ, Brazil

WEDNESDAY 13:20

Plenary Presentation V (V. 4)
Wednesday May 31 13:20 Juniper

How to Improve the Conceptual Design of Tubular Joints Wardenier, J, Delft Univ of Technology, The Netherlands Introduction by Grundy, P, Monash Univ., Australia
--

58. HYDRODYNAMICS: NWT 1 (V. 3)
Wednesday May 31 14:00 West Ballroom A

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

**Absorption of Outgoing Waves in a Numerical Wave Tank Using a
Self-Adaptive Boundary Condition**
Duclos, G, Clément, A H, Chatry, G, Ecole Centrale de Nantes, France

**Calculations of Nonlinear Free Surface Flows Around Submerged and
Floating Sea Caches**
Chen, H C, Liu, T, Texas A&M Univ; Huang, E T, Naval Facilities
Engineering Service Center, USA

**A Numerical Model for 3-D Floating Body Motion in Nonlinear Waves
Using the B.E.M.**
Ikeno, M, Central Res Inst of Electric Power Industry, Japan

**Wave Attenuation and Dynamic Response of a Floating Dock with a
Wave Wall**
Williams, A N, Univ of Houston; McDougal, W G, WGMcorp, USA

**An Efficient Finite Difference Scheme for Improvement of Boussinesq
Equations**
Zhan, J M, Zhongshan Univ, China; Li, Y S, Hong Kong Polytechnic Univ,
Hong Kong

**Two-Dimensional Viscous-Flow Simulations for a Circular Cylinder in
Motion**
Tavassoli, A, Kim, M H, Park, J C, Texas A&M Univ, USA

59. OFFSHORE V: Structures & Design 3 (V. 1)
Wednesday May 31 14:00 West Ballroom B

Chair: Niedzwecki, J M, Texas A&M Univ., USA
Co-Chair: Watanabe, E, Kyoto Univ, Japan

**Model Experiments on Dynamic Positioning System Using Gain
Scheduled Controller**
Nakamura, M, Kajiwara, H, Hyakudome, T, Koterayama, W, Mochizuki,
M, Kyushu Univ, Japan

Random Vibration Excitation Study of a Model Offshore Structure for Damage Detection

Huang, F J, Leong, M S, Univ Teknologi Malaysia, Malaysia

Experimental Research on the Behavior of Platforms in the Adriatic Sea

Spadaccini, O, Vignoli, A, Zavattiero, R, Univ of Florence, Italy

Rehabilitation for Offshore Structure

Nuruddin, M F, Institut Teknologi Mara; Diah, A B M, Concrete Society of Malaysia, Malaysia

Nonlinear Structural Analysis for In-situ Platform Demolition

Betti, M, Spadaccini, O, Univ of Florence, Italy

The Structural Analysis of a Offshore Oil Storage Artificial Island

Gu, Y N, Shanghai Jiaotong Univ; Li, X Z, Chinese Offshore Oil Production and Research Center; Chen, W G, Teng, X Q, Shanghai Jiaotong Univ, China

60. POLAR IV: Ice Mechanics 2 (V. 1)

Wednesday May 31 14:00 East Ballroom A

Chair: Hørrigmo, G, NORUT Teknologi, Narvik, Norway

Co-Chair:

An Analytic Model for Wave Propagation Across a Crack in an Ice Sheet

Squire, V A, Dixon, T W, Univ of Otago, New Zealand

Effect of the Floating Broken Ice on the Interaction of Surface Waves of Finite Amplitude

Bukatov, A E, Bukatov, A A, Marine Hydrophysical Inst, Ukraine

Numerical Simulation of Pack Ice Forces on Structures: A Parametric Study

Sayed, M, Frederking, R, Barker, A, National Research Council, Canada

Field Strength Properties of a Flooded Sea Ice Road

Masterson, D M, Sandwell Engineering, Canada; Yockey, K E, Alaska Interstate Construction, USA

61. GEOTECH VIII: Soil Improvement 2 (V. 2)

Wednesday May 31 14:00 Aspen

Chair: Chien, L K, National Taiwan Ocean Univ, Taiwan, China

Co-Chair: Mirza, U A A, Kvaerner Oil & Gas, UK

The Use of Natural Zeolites as an Impervious Liner in Sanitary Landfills

Tuncan, A, Tuncan, M, Guney, Y, Koyuncu, H, Anadolu Univ, Turkey

The Stability of the Rubble Mound on the Improved Soft Ground by Deep Mixing Method

Hong, W P, Song, Y S, Chung-Ang Univ; Kim, G, Sae-Kwang Engineering, Korea

Properties and Applicability of Filled Materials for Compaction Methods

Tsuboi, H, Yamamoto, M, Harada, K, Fudo Construction, Japan

Dredged Sludge Treated by Cement: Analysis of Heavy Metals Migration and Porosity

Boutouil, M, Levacher, D, Joly, V, Centre de Geomorphologie, France

Underground River Tunnel for Flood Control by Shield Tunneling: New Tunnel Lining System Bearing External and Internal Loads

Miyao, H, Kamoshita, Y, Ministry of Construction; Kanai, M, Fukumoto, K, Obayashi Corp, Japan

**62. COASTAL ENGINEERING V:
Shallow-Water Dynamics (V. 3)**

Wednesday May 31 14:00 Madrona

Chair: Yim, J, National Taiwan Ocean Univ, China

Surf Zone Experimental Current-Wave Interactions

Di Natale, M, Vicinanza, D, Univ degli Studi di Napoli, Italy

A New Form of the Shallow-Water Wave Equation with the Presence of Currents

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

Experimental Study on Long Wave Run-Up on Plane Beaches

Teng, M H, Feng, K, Liao, T I, Univ of Hawaii, USA

Wave-Current Interactions — A Numerical Model and Simulations of Wave Propagation

Mohiuddin, M, Togashi, H, Hirayama, Y, Nagasaki Univ, Japan

Flow Separation in Wave Current Field

Zaman, M H, Hiraishi, T, Port and Harbor Research Inst, Japan

Sediment Transport: Continuous Versus Discrete Model

Lalli, F, INSEAN; Piscopia, R, Univ di Roma "La Sapienza"; Verzicco, R, Politecnico di Bari, Italy

A Procedure to Evaluate the Longshore Sediment Transport Due to Random Waves

Gentile, R, Univ of Genova, Italy

63. PIPELINES III (V. 2)

Wednesday May 31 14:00 Cedar

Chair: Gresnigt, A M, Delft Univ of Technology, The Netherlands

Co-Chair: Bjornoy, O, Det Norske Veritas, Norway

A Field Data Calibrated Model for Predicting Growth Rate of Scour Generated Freespans and Application in Span Assessment

Grass, A J, University College London; Mansour-Tehrani, M, J P Kenny & Partners, UK

FEA Based Seabed Intervention Design for Pipeline Bundle System

Song, R, Knutsen, C, Brown & Root Energy Services, Norway

On the Interaction of Pipelines on the Sea Bed

Rados, K G, Pitt, D, MacFarlane, D M, Dimla, D E, Robert Gordon Univ, UK

Numerical Modeling of Gas Leakage of Pipeline Under Seawater

Shiau, B S, National Taiwan Ocean Univ, Taiwan, China

Finite-Element Simulation of Pipeline Puncture with a Damage Model
Arndt, S, Ronalds, B, Univ of Western Australia, Australia

64. RELIABILITY, RISK & SAFETY IV (V. 4)

Wednesday May 31 14:00 Douglas

Chair: Yao, T, Hiroshima Univ, Japan

Co-Chair: Florentino, S, Instituto Mexicano del Petroleo, Mexico

Risk Based Inspection Planning Applied to 14 Steel Jacket Structures in Bass Strait, Australia – Case Study

Barton, A D, Esso Australia; Descamps, B, QCL International, Australia

Optimal In-Service Inspection and Replacement Planning of Flowlines Subjected to CO₂ Corrosion

Hellevik, S G, Aker Offshore Partner; Langen, I, Stavanger University College, Norway

Optimization for Inspection Planning of Ship Structures Considering Corrosion Effects

Kim, S C, Yoon, J H, Samsung Heavy Industries, Korea; Fujimoto, Y, Hiroshima Univ, Japan

The Approach of Turkish Construction Firms to Risk Component

Arslan, G, Adanolu Univ, Turkey

Reliability-Based Risk Assessment in Project Management of Coastal Structures

Balas, C E, Gazi Univ; Ergin, A, Middle East Technical Univ, Turkey; Williams, A T, Davies, P, Bath Spa Univ, UK

65. MATERIALS/WELDING/FATIGUE II (V. 4)

Wednesday May 31 14:00 Juniper

Chair: Prof. S.-K. Oh, S-K, Pukyong National Univ, Korea

Co-Chair: Koo, J, Exxon Research & Engineering Co., USA

Numerical Analysis on Heat Transfer of Combustion Flow Field During Line-Heating Process

Tomita, Y, Osawa, N, Hashimoto, K, Sawamura, J, Shinkai, N, Osaka Univ, Japan

Fatigue Strength of Coated Steel Structures in Seawater

Kumakura, Y, Kinki Univ; Onozuka, M, Fuji, A, Ishikawajima-Harima Heavy Industries; Kino, H, Tada, M, Mitsubishi Heavy Industries, Japan

High Cycle Fatigue Behaviour of High-Strength Spring Steel Wires

Li, Z B, Wang, Q Y, Bathias, C, ITMA-CNAM, France

Near-Threshold Fatigue Crack Growth Behavior of a Stainless Steel at Ultrasonic Frequency

Sun, Z D, Bathias, C, Dubois, A, ITMA-CNAM, France

A Study on the Creep Behavior and Fracture Life of Marine Part Al 7075 Alloy

Sim, S B, Kang, D M, Pukyong National Univ, Korea

Propagation and Non-Propagation of Small Fatigue Cracks

Fujimoto, Y, Hamada, K, Hiroshima Univ, Japan

66. HYDRODYNAMICS: Dynamic Responses 1 (V. 3)

Wednesday May 31 14:00 East Ballroom B

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

Mathematical Modelling of Roll Motion of a Catamaran in Intact and Damage Condition in Beam Waves

Francescutto, A, Univ of Trieste, Italy

Nonlinear Effects in Ship Dynamics and Capsizing

Kreuzer, E, Wendt, M, TU Hamburg-Harburg, Germany

The Hybrid-Antirolling System of R/V Mirai

Tsukioka, S, Momma, H, JAMSTEC, Japan

Sea-Keeping Computations Using the Ship Motion Green's Function

Boin, J-P, Univ de Poitiers; Ba, M, ENSMA; Guilbaud, M, Univ de Poitiers, France

On Freely-Floating Cylinders Fitted with Bilge Keels

Roddier, D., Liao, S-W, Yeung, R W, University of California at Berkeley, USA

WEDNESDAY 19:00

Annual Conference Banquet

19:00

Grand Ballroom (2F)

THURSDAY 08:00

67. HYDRODYNAMICS: NWT 2 (V. 3)

Thursday June 1 08:00 West Ballroom A

Chair: Yeung, R W, Univ. of California, Berkeley, CA, USA

Co-Chair: Williams, A N, Univ of Houston, USA

Modeling of Overturning Waves Over Arbitrary Bottom in a 3D Numerical Wave Tank

Grilli, S T, Univ of Rhode Island, USA; Guyenne, P, Dias, F, Ecole Normale Supérieure, France

Numerical Optimization of Nonlinear Transient Design Waves in Random Sea

Clauss, G F, Steinhagen, U, Berlin Univ of Technology, Germany

Second Order and Fully Nonlinear Wave Diffraction Patterns about Complex Offshore Structures

Ferrant, P, Pelletier, K, Ecole Centrale de Nantes, France

Estimation of Wave Drift Force by Numerical Wave Tank: 2nd Report

Tanizawa, K, Minami, M, Ship Research Inst; Naito, S, Osaka Univ, Japan

A Numerical Beach for Two and Three Dimensional Fully Nonlinear Numerical Wave Tanks

Westhuis, J-H, Twente Univ, The Netherlands

68. OFFSHORE VI: FPSO/TLP/SPAR 1 (V. 1)

Thursday June 1 08:00 West Ballroom B

Chair: Natvig, B J, Marine Technology Consulting AS, Norway

Possibilities of Using SPAR Type Platforms in Arctic Conditions
Toropov, Y Y, Gintovt, A R, RUBIN-Central Design Bureau for Marine Engineering, Russia

On the Nonlinear Motion Response of SPAR Platforms
Haslum, H A, Umoe Oil & Gas/NTNU; Faltinsen, O M, NTNU, Norway

On the Design and Analysis of a SPAR Platform
Ye, W, Lee, C, Song, X, Tan, P, American Bureau of Shipping, USA

Dynamics of a SPAR Platform
Irani, M B, Rouckout, T, Johnson, R P, Offshore Technology Research Center, USA

Measurement of the Instantaneous Characteristics of Natural Response Modes of a SPAR Platform Subjected to Irregular Wave Loading
Teisseire, L M, Delafoy, Ecole Naval, France; M G, Jordan, D A, Miksad, R W, Univ of Virginia; Weggel, D C, California Polytechnic State Univ; Roesset, J M, Offshore Technology Research Center, USA

The Influence of Edge Sharpness on the Heave Damping Forces Experienced by a TLP Column
Tao, L, Cheng, L, Thiagarajan, K, Univ of Western Australia, Australia

69. POLAR V: Sakhalin (V. 1)

Thursday June 1 08:00 East Ballroom A

Chair: Bekker, A T, Far Eastern State Tech. Univ, Russia

Evaluation of Seismic Load upon Offshore Structure in Ice-Covered Waters
Kobayashi, H, High Tech Research; Kawaguchi, H, Japan Ocean Industries Association, Japan

Physical and Mechanical Characteristics of Ice Cover for the North Sakhalin Shelf
Surkov, G A, Zemliuk, S, Astafiev, V N, Polomoshnov, A M, Turskov, P A, Sakhalin Oil & Gas Inst, Russia

Development of New Oil Prospects – Fractured and Cavernous-Fractured Reservoirs as One of Basic Sources for Oil Resources Growth on the Sakhalin Offshore
Koblov, E G, Nychkov, A V, Zakalsky, V M, Khalakhinov, A V, Sakhalin Oil & Gas Inst, Russia

The Concept of Creation of the Transport Communications Through Reservoirs at Sea-Coast of Primorye Territory of Russia
Zelensky, Y V, Voyloshnikov, M V, Far Eastern State Technical Univ, Russia

The Ice Loads on a Wide Construction on the Shelf
Afanasyev, V, AARI; Afanasyev, S, Inst Inform. & Automation RAS, Russia

DP Operation in Ice, Offshore Sakhalin, May-June 1999
Keinonen, A, AKAC Inc, Canada; Wells, H, Sakhalin Energy Investment Corp, USA; Dunderdale, P, P.E. Dunderdale and Associates, Canada; Miller, G, Coflexip Stena Offshore Ltd, UK; Pilkington, R, Canatec Consultants Ltd, Canada

70. GEOTECH IX: Earthquakes and Dynamics (V. 2)

Thursday June 1 08:00 Aspen

Chair: Chin, Y-P, National Cheng Kung Univ, Taiwan, China

Seismic Ground Settlement in Reclaimed Lands Due to the 1995 Kobe Earthquake

Hayakawa, K, Ritsumeikan Univ; Matsui, T, Osaka Univ; Harada, K, Fudo Cooperation/Geo-Engineering, Japan

Liquefaction Induced Permanent Deformation of Embankments on Sand Deposits by Online Earthquake Response Tests

Fujii, T, Fukken Co; Hyodo, M, Yamaguchi Univ; Kusakabe, S, Okumuragumi Co; Fukuda, K, Yamaguchi Univ, Japan

Seismic Behavior of Caisson Type Foundation in Clayey Ground Using Centrifugal Shaking Tests

Satoh, T, Miyake, M, Toyo Construction; Matsui, T, Osaka Univ; Nakahira, A, CTI Engineering; Aoshima, I, Murakami, H, Osaka Prefectural Government, Japan

An Experimental Study on the Stability of Open-Ended Pipe Piles Installed in Deep Sea During the Simulated Seaquakes

Nam, M S, Choi, Y K, Kyungsoong Univ, Korea

Sea Floor Soil Properties Predicted from Underway Seismic Profiler Data [Oral Presentation only]

Davis, A, Haynes, R, Bennell, J, Univ of Wales Bangor, UK

On Liquefaction Countermeasure in the Soils Around a Caisson Type Quay Wall on Pile Foundation

Takatani, T, Maizu National College of Technology; Maeno, Y, Nihon Univ, Japan

Wave Induced Seabed Instability

Nanda, A, Paul, M, Bhowal, S, Engineers India Ltd, India

71. TUBULAR STRUCTURES I (V. 4)

Thursday June 1 08:00 Madrona

Chair: Grundy, G, Monash Univ, Australia

Co-Chair: Choo, Y S, National Univ of Singapore, Singapore

Multiplanar Influence on the Strength of SHS Multiplanar KK-Joints

Liu, D K, Wardenier, J, Delft Univ of Technology, The Netherlands

Tests on the Ultimate Behavior of CHS KTKT-Joints

Kiuchi, T, Makino, Y, Kumamoto Univ; Kurobane, Y, Kumamoto Inst of Technology, Japan

The Static Strength of Ring-Stiffened Tubular Joints

Willibald, S, Herion, S, Puthli, R S, Univ of Karlsruhe, Germany

In-Plane Moment Strength of T-Joints Reinforced with Doubler Plates

Choo, Y S, National Univ of Singapore, Singapore; van der Vegte, G J, Delft Univ of Technology, The Netherlands; Chng, K C, National Univ of Singapore, Singapore; Zettlemoyer, N, Exxon Production Research Co, USA

Fatigue Crack Growth in Notched Thin-walled Tubes under Non-proportional Mixed Mode Loads

Yu, X and Abel, A, The University of Sydney, Australia.

72. PIPELINES IV (V. 2)

Thursday June 1 08:00 Cedar

Chair: Ellinas, C P, Mott McDonald Ltd, U.K.
Co-Chair: Damsleth, P, ABB Offshore Systems, Norway

Collapse of UOE Manufactured Steel Pipes
Gresnigt, A M, Delft Univ of Technology; van Foeken, R J, TNO Building and Construction Research, The Netherlands

Residual Strength of Dented Pipes, DNV Test Results
Bjornoy, O, Rengard, O, Det Norske Veritas, Norway

Residual Strength of Corroded Pipelines, DNV Test Results
Bjornoy, O, Sigurdsson, G, Det Norske Veritas, Norway

Buckle Propagation in Corroded Pipelines
Hoo Fatt, M S, Liu, Y L, Univ of Akron, USA

A New Buckle Arrestor for Reeled Pipe-in-Pipe
Bastard, A H, Coflexip Stena Offshore, UK

Non-Equilibrium Sediment Transport Process of Local Scour Around Pipelines
Li, F, Cheng, L, Univ of Western Australia, Australia

73. COLLISION/IMPACT/DAMAGE (V. 4)

Thursday June 1 08:00 Douglas

Chair: Ueda, Y, Kinki Univ, Wakayama, Japan

Collapsing Behavior of Continuous Rectangular Panels of a Deck Subjected to In-Plane Combined Loads
Masaoka, K, Okada, H, Osaka Prefecture Univ; Ueda, Y, Kinki Univ, Japan

The Effect of Hydroelasticity on the Impact Pressure Due to Bottom Slamming on Ship Structure
Berezniński, A, Boon, B, TU Delft, The Netherlands; Postnov, V, St Petersburg State Marine Tech Univ, Russia

FE Approach to the Ship Grounding Event
Kajaste-Rudnitski, J, Kujala, P, HUT, Finland

Impact of Semi-Submerged Obstacles on the Composite Fin of a New Concept High-Velocity Craft
Bucci, A, Palmieri, S, Roccotelli, S, Marchetti, M, Univ of Rome "La Sapienza," Italy

74. MATERIALS/WELDING/FATIGUE III (V. 4)

Thursday June 1 08:00 Juniper

Chair: Tomita, Y, Osaka Univ, JAPAN
Co-Chair: Wegrzyn, T, Univ da Beira Interior, Portugal

Effects of Strain Precycling on the Tensile Fracture Morphology of Nickel 270
Harvey II, D P, Naval Research Laboratory, USA

Study of FEM Simulation of Cyclic Plastic Deformation Behavior of Face-Centered Cubic Crystal (f.c.c.) Crystalline Materials
Osawa, N, Tomita, Y, Hashimoto, K, Osaka Univ, Japan

Creep Life Prediction for Dissimilar Friction Welded Joints of Turbine Impeller Heat Resisting Steel and AE Evaluation (1) – FRW and AE Evaluation

Oh, S K, Lee, B S, Park, H D, Pukyong National Univ, Korea

Creep Life Prediction for Dissimilar Friction-Welded Joints of Turbine-Impeller-Heat-Resisting Steels and AE Evaluation (2) – Creep Life Prediction by ISM

Oh, S K, Pukyong National Univ; Chung, M H, Lee, S G, Korea Electric Power Research Inst; Lee, B S, Pukyong National Univ, Korea

75. UNDERWATER VEHICLES & CONTROL (V. 2)

Thursday June 1 08:00 East Ballroom B

Chair: Grosenbaugh, M A, Woods Hole Oceanographic Inst., USA

CFD Modelling of a Novel Electromagnetic Tip Driven Thruster for Underwater Vehicles

Hughes, A W, Turnock, S R, Abu Sharkh, S, Univ of Southampton, UK

Design and Testing of a Novel Electromagnetic Tip Driven Thruster for Underwater Vehicles

Hughes, A W, Turnock, S R, Abu Sharkh, S, Univ of Southampton, UK

Ice Penetrating Communication Buoy for Autonomous Underwater Vehicles Operating in the Arctic

Bahlavouni, A, Andersen, D, Stein, P J, Scientific Solutions, USA

Dynamics and Control Simulator for the THESEUS AUV

Seto, M L, ISE Research Ltd; Watt, G, Defence Research Establishment Atlantic, Canada

Design of Underwater Vehicle-Mounted Manipulator System and Non-Regressor-Based Adaptive Control of It

Hong, S W, Lee, P M, Jeon, B H, KRISO/KORDI, Korea

A Dynamic Simulation of an Underwater Towed System with Multiple Cables

Huang, G, Lu, J, Shanghai Jiaotong Univ, China

THURSDAY 10:45

76. HYDRODYNAMICS: NWT 3 (V. 3)

Thursday June 1 10:45 West Ballroom A

Chair: Clauss, G F, TU Berlin, Berlin, Germany

Development of 3-D Fully Nonlinear Numerical Wave Tank to Simulate Floating Bodies Interacting with Water Waves

Shirakura, Y, Osaka Univ; Tanizawa, K, Ship Research Inst; Naito, S, Osaka Univ, Japan

Detection of Wave Breaking in a 2D Viscous Numerical Wave Tank

Gentaz, L, Alessandrini, B, Ecole Centrale de Nantes, France

Application of the Mass-Consistent Model for Image Processing of Wave Motion Fields

Yamada, F, Kakinoki, T, Takikawa, K, Kumamoto Univ, Japan

Numerical Simulation of Shallow Water Waves Around Mega-Float Structures

Chen, H C, Liu, T L, Texas A&M Univ, USA

Finite Element Approach for the Proposed Test Cases in Numerical Wave Absorption

Barros, A M, Oliveira, M C, Sphaier, S H, COPPE/UFRJ, Brazil

Wave Measurement and Transfer Functions

Maisondieu, C, LeBoulluec, M, IFREMER, France

77. OFFSHORE VII: FPSO/TLP/SPAR 2 (V. 1)

Thursday June 1 10:45 West Ballroom B

Chair: Roesset, J, Texas A&M Univ., , USA

Co-Chair: Inoue, Y, Yokohama National Univ, Japan

Column/Pontoon Variation of Deep Water North Sea Wellhead TLPs and the Effect on Economics, Operation and Motion Behaviour

Botker, S, Kvaerner Engineering; Johnsen, O, Natvig, B J, Marine Technology Consulting, Norway

A New Concept of Mini Tension Leg Platform for Marginal Oil Fields

Li, R P, Gu, Y N, Bao, Y B, Shanghai Jiao Tong Univ, China

Coupled Dynamics of Tether and Platform for a North Sea Wellhead TLP

Natvig, B J, Johnsen, O, Marine Technology Consulting, Norway

A Dynamic Analysis of FPSO-Shuttle Tanker System

Lee, D H, Choi, H S, Seoul National Univ, Korea

Roll Center Effect on Damping for FPSO Sections by Experiment

Park, I K, Shin, H S, Kim, J W, Jo, J W, Hyundai Heavy Industry, Korea

78. POLAR VI: Remote Sensing (V. 1)

Thursday June 1 10:45 East Ballroom A

Chair: Carrieres, T, Canadian Ice Service, Canada

Co-Chair: Pettersson, L H, Nansen Environmental and Remote Sensing Center, Norway

Satellite Radar Ice Monitoring for Ice Navigation of a Tanker Convoy in the Kara Sea

Pettersson, L H, Sandven, S, Dalen, O, Nansen Environmental and Remote Sensing Center, Norway; Melentyev, V, Nansen International Environmental and Remote Sensing Center; Babish, N I, Murmansk Shipping, Russia

Satellite Ice Monitoring for Navigation of an Ice-Going Tanker in the Kara Sea

Pettersson, L H, Sandven, S, Dalen, O, Nansen Environmental and Remote Sensing Center, Norway; Melentyev, V V, Nansen Int'l Environmental and Remote Sensing Center, Russia; Babich, N I, Murmansk Shipping Co, Russia

Observing Sea Ice Properties with a Helicopter-Borne Video/Laser/GPS Sensor

Prinsenbergh, S, Bedford Inst of Oceanography, Canada

Iceberg Drift Forecasts Using Neuro-Fuzzy Systems

Deacu, D, Popescu, R, Memorial Univ of Newfoundland, Canada

Overview of a New Operational Iceberg Prediction Model [Oral Presentation Only]

Savage, S B, McGill Univ; Carrieres, T, Canadian Ice Service; Sayed, M, National Research Council; Crocker, G, Ballicater Consulting, Canada

79. GEOTECH X: Soil Dynamics (V. 2)

Thursday June 1 10:45 Aspen

Chair: Jang, Y S, Dongguk Univ, Korea

The Effects of Anisotropy Consolidation on Liquefaction Strength and Deformation for Reclaimed Soil

Chien, L K, Huang, C C, Chang, C H, National Taiwan Ocean Univ, Taiwan, China

Mine Burial Due to Wave-Induced Liquefaction of a Sandy Soil

Gratiot, N, Lab des Ecoulements Geophysiques et Industriels; Mory, M, Ecole Nationale Supérieure en Genie des Technologies Industrielles, France

Cyclic Shear Behaviour of Marine Clays

Hyodo, M, Yamaguchi Univ; Ito, S, Kisojiban Co; Yamamoto, Y, Mitsui Construction; Fuji, T, Fukken Co, Japan

Dispersion Phenomena of SF-Wave Caused by Obstacles in Layered Soil Strata

Chang, J J, National Cheng Kung Univ; Liu, S W, National Taiwan Univ; Yeh, Y J, Suen, Y J, National Cheng Kung Univ, Taiwan, China

Inverse Analysis for Elastic Medium with Various Lozenge Cavities under In-Plane and Out-of-Plane Loadings

Shozu, M, Maizuru National College of Technology, Japan

Usage of Curie Depths for the Determination of Geothermal Areas in the Izmir Bay

Ozel, E, Inst of Marine Sciences and Technology, Turkey

80. TUBULAR STRUCTURES II (V. 4)

Thursday June 1 10:45 Madrona

Chair: Abel, A, Univ. of Sydney, Australia

Co-Chair: Makino, Y, Kumamoto Univ, Japan

Incremental Collapse of Tension Legs and Catenary Risers

Grundy, P, Hewitt, M, Monash Univ, Australia

Shakedown Analysis of CHS YT-Joints

Dale, K, Grundy, P, Zhao, X L, Monash Univ, Australia

General SCF Design Equations for Steel Multiplanar Tubular XX-Joints

Chiew, S P, Soh, C K, Wu, N W, Nanyang Technological Univ, Singapore

Stress Concentration Factors of T-Joints Reinforced with Doubler Plates

Choo, Y S, National Univ of Singapore, Singapore; Berkout, C P, Romeijn, A, van der Vegte, G J, Delft Univ of Technology, The Netherlands

Stress Intensification Factors for Pipe Tees Using Finite Element Analysis

Russo, E P, Traynham, Y, Univ of New Orleans, USA

81. PIPELINES V (V. 2)

Thursday June 1 10:45 Cedar

Chair: Bai, Y, ABB Offshore Systems, Norway
Co-Chair: Salpekar, V Y, Engineers India Ltd., India

Subsea Pipeline Stability in Various Trench Sections

Jo, C H, Kim, K S, Hong, S G, Inha Univ, Korea

In-Service Buckling of Submarine Pipelines with an Arbitrary Initial Out-of-Straightness

Kapurja, S, Salpekar, V Y, Sengupta, S, Engineers India Ltd, India

Finite Element Based Fracture Assessment of HP/HT Subsea Pipelines

Sriskandarajah, T, Anurudran, G, Ragupathy, P, Granherne Ltd, UK

Design and Installation of Large Diameter and Ultra Deepwater Pipelines

Sriskandarajah, T, Ragupathy, P, Anurudran, G, Granherne Ltd, UK

Nonlinear 3-D Dynamic Vibration for the Offshore Pipeline Subjected to Waves

Lee, H H, Chung, P Y, Liaw, G L, National Sun Yat-sen Univ, Taiwan, China

82. MECHANICS & ANALYSIS (V. 4)

Thursday June 1 10:45 Douglas

Chair: Boswell, L, City Univ, UK
Co-Chair: Wan Mahood, Wan, A M, Mara Inst. of Tech, Malaysia

Plastic Analysis of Grillages under Point Load

Lee, S C, Kim, K S, Inha Univ, Korea

Experimental and Numerical Study of Torsional Buckling of Stiffeners in Aluminium Panels

Zha, Y, Moan, T, Hanken, E, Norwegian Univ of Science & Technology, Norway

On the Post-Buckling Behaviour of Steel Plates

Mateus, A F, Witz, J A, University College London, UK

Permutation of Frame Type Offshore Structures to Equivalent Beam

Park, H I, Piao, C J, Korea Maritime Univ, Korea

Adaptive Substructuring of Frame Models for Finite Element Analysis

Monaghan, D J, Lee, K Y, Armstrong, C G, Ou, H, Queen's Univ of Belfast, UK

83. DEEP-OCEAN MINING (V. 1)

Thursday June 1 10:45 Juniper

Chair: Yamazaki, T, National Inst. of Resources and Environment, Japan
Co-Chair: Park, I K, Hyundai Heavy Industry, Korea

Effective Size Distribution of Resuspended Deep-Sea Sediments

Yamazaki, T, National Inst for Resources and Environment; Kuboki, E, Metal Mining Agency of Japan; Yoshida, H, Suzuki, T, Sumiko Consultants Co, Japan

New Safe Technologies of Extraction of Thick Coal Seams on the Shelf with Method of Hydraulic Mining with Holes

Niskovskiy, Y N, Niskovskaya, E V, Ivaniev, S A, Far Eastern State Tech Univ, Russia

An Experimental Study on Laboratory-Scale Air-Lift Pump Flowing Solid-Liquid-Air Three-Phase Mixtures

Yoon, C H, Kwon, K S, Kwon, O K, Kwon, S K, Korea Inst of Geology, Mining and Materials; Lee, H S, Korea Environmen Inst, Korea

An Experimental Study on Route Tracking of Deep Sea Mining Vessel

Kim, H J, Hong, S Y, Hong, S, Korea Research Inst of Ships and Ocean Engineering, Korea

The Optimizing of Technological Parameters of Mining Complex “Mining-Transportaion-Marine Terminal” in Shakhtersk of Sakhalin Island

Bekker, A T, Zhukov, A V, Vituk, A K, Far-Eastern State Technical Univ, Russia

84. HYDRODYNAMICS: Dynamic Responses 2 (V. 3)

Thursday June 1 10:45 East Ballroom B

Chair: Clément, A, Ecole Centrale de Nantes, France

Planar Motion of a Slightly Distorted Circular Cylinder Around Another Circular One

Sun, R, Chwang, A T, Univ of Hong Kong, Hong Kong

Nonlinear Stochastic Extreme Multiple-Degrees of Freedom Motions Analysis for Design of Ships and Floating Offshore Platforms

Falzarano, J M, Vishnubhotla, S, Clague, R, Univ of New Orleans, USA

Use of Generalized Modes in Hydrodynamic Analysis of Multiple Bodies

Mathai, T, The Glosten Associates, USA

Nonlinear Model Evaluation Via System Identification of a Moored Structural System

Narayanan, S, Skillings-Connolly, Inc; Yim, S C S, Oregon State Univ, USA

Effect of Antipitching Fins on Ship’s Motions by the Methods of Evaluation of Passengers’ Comfort

Shigehiro, R, Kuroda, T, Kagoshima Univ, Japan

THURSDAY 13:00

85. THE 3RD NWT WORKSHOP

Thursday June 1 13:00 West Ballroom A

Chair: Tanizawa, K, Ship Research Inst, Japan

Co-Chair: Clément, A, Ecole Centrale de Nantes, France

Benchmark Computation of Diffraction Forces on a 2-D Fixed Body in Regular Waves

Results of benchmark computations by contributors will be presented, followed by open discussions by all the workshop participants.

86. OFFSHORE VIII: Petrobras FPSOs (V. 1)

Thursday June 1 13:00 West Ballroom B

Chair: Sphaier, S H, COPPE/UFRJ, Brazil

Co-Chair: Fernandes, A C, COPPE/UFRJ, Brazil

Petrobras Experience on the Operation of FPSOs

Mastrangelo, C F, Henriques, C C D, Petrobras, Brazil

Petrobras Experience on the Mooring of Conventional Shuttle Tankers to Dynamically Positioned FPSOs

Henriques, C C D, Petrobras, Brazil

Parametric Study of Intervention System in Ultra-Deepwater up to 3000m Using Passive Heave Compensation

Cerqueira, M B, Capllonch, R W, Petrobras E&P; Sphaier, S H, Fernandes, A C, COPPE/UFRJ, Brazil

Maneuvering Models for FPSO Horizontal Plane Behavior

Sphaier, S H, Fernandes, A C, COPPE/UFRJ, Correa, S H, Petrobras, Brazil

FPSO Behaviour Under Beam Seas Conditions

Silva, A M, Oliveira, M C, Albuquerque, C F A, Petrobras, Brazil

87. POLAR VII: Technology (V. 1)

Thursday June 1 13:00 East Ballroom A

Chair: Kurokawa, A, Japan Ocean Industries Association, Japan

Co-Chair: Tsvetsinsky, A S, Eco-System, Russia

Analysis of Various Designs of the Stationary Platform Substructures for the Pechora Sea Shelf

Bellendir, E N, B.E. Vedenev VNIIG; Toporov, E E, CDB ME "Rubin", Russia

Submarine Ingo-Like Structures and Shallow Gas Accumulations with High Formation Pressure in North-Eastern Pechora Sea

Kostin, D, State Enterprises "Arctic Marine Engineering Geological Expeditions", Russia

Spread Footing Settlements at the Endicott Facility

Masterson, D M, Masterson, M F, Sandwell Engineering, Canada

The Effect of Plant Growth and Development on Interannual Variability in Mesoscale Atmospheric Simulations

Tsvetsinskaya, E, Mearns, L O, NCAR; Easterling, W E, Penn State Univ, USA

Ice Shell – Recent Application to Winter Architecture

Kokawa, T, Watanabe, K, Hokkaido Tokai Univ; Sato, Y, Alpha Resort Tomamu, Japan

Azimuth and Multi Purpose Vessel Technology for Arctic and Non-Arctic Offshore

Keinonen, A, AKAC Inc, Canada; Lohi, P, Aker Finnyards Oy; Harjula, A, Finnish Maritime Administration, Finland

88. GEOTECH XI: Soil Mechanics (V. 2)

Thursday June 1 13:00 Aspen

Chair: Bang, S C, South Dakota School of Mines and Tech, USA

Creep Potential Model for Anisotropic Cohesive Soils

Abe, N, Osaka Univ, Japan

FE Analysis for T-Bar and Ball Penetrometers in Cohesive Soil

Lu, Q, Hu, Y, Randolph, M F, Univ of Western Australia, Australia

Effects of Uniformity Coefficient on Steady State Line

Chen, Y C, Fan, A S, National Taiwan Univ of Science and Technology, Taiwan, China

Bounding Surface Plasticity Model for Loose Beach Sand under Cyclic Loading

Chin, Y P, National Cheng Kung Univ, Taiwan, China

A New Approach to the Finite Element Slope Stability Analysis Incorporating the Slice and the Pile Deformations

Hazarika, H, Maizuru National College of Technology; Terado, Y, Terado Consulting Engineering; Hayamizu, H, Chiba Inst of Technology, Japan

Finite Difference Analysis to Obtain the Rate of Consolidation over a Stress Range Below and Above the Pre-Consolidation Pressure

Shirakawa, K, Hanshin Consultants; Tanaka, Y, Kobe Univ, Japan

Heap Shape of Materials in Shallow Waters Dumped from Hopper Barges by Drum Centrifuge

Miyake, M, Yanagihata, T, Toyo Construction, Japan

The Rate Effect on p_c Value for Marine Clays

Tanaka, H, Mishima, O, Tanaka, M, Port and Harbour Research Inst, Japan

89. TUBULAR STRUCTURES III (V. 4)

Thursday June 1 13:00 Madrona

Chair: Chiew, S-P, Nanyang Technological Univ, Singapore

Co-Chair: Puthli, R, Karlsruhe Univ, Germany

An Adaptive Way for Aluminum Alloy Structure Fatigue Test

Ye, N, Moan, T, Tveiten, B W, Norwegian Univ of Science and Technology, Norway

The Fatigue Behaviour of L-Joints Made of Circular Hollow Sections

Puthli, R, Herion, S, Karcher, D, Univ of Karlsruhe, Germany

The Effect of Chord Support Conditions on the Force-Displacement Characteristics of Tubular YT-Joints

Leen, S B, Hyde, T H, Univ of Nottingham, UK

Modelling Arbitrary Through-Thickness Crack in a Tubular T-Joint

Lie, S T, Nanyang Technological Univ, Singapore

90. PIPELINES VI: Design Through Analysis (V. 2)

Thursday June 1 13:00 Cedar

Chair: Moshagen, H, Statoil, Norway

Co-Chair: Maple, J.A. Maple & Associates, USA

Materials and Design of High Strength Pipelines

Bai, Y, ABB Offshore Systems, Norway; Knauf, G, Mannesmann Forschungsinstitut; Hillenbrand, H-G, EUROPIPE, Germany

Deepwater Pipelaying with a Twist

Damsleth, P, Gustafsson, C, Viken, A-O, ABB Offshore Systems, Norway

Load-Carrying Capacity Interaction Criteria for Design of Pipelines Based on a Calibration Study Using Full-Scale Tests

Hauch, S, Bai, Y, ABB Offshore Systems, Norway

Assessment of Pipeline Girth Weld Defects

Dong, G, Jakobsen, R A, Bai, Y, Stavanger University College, Norway

Design Experience for Pipeline Free Span Fatigue

Reid, A, Grytten, T, Nystrom, P R, ABB Offshore Systems, Norway

Risk Based Inspection and Integrity Management of Subsea Pipelines

Willcocks, J, Bai, Y, ABB Offshore Systems, Norway

91. REMOTE SENSING & INTERNAL WAVES (V. 3)

Thursday June 1 13:00 Douglas

Chair: Bruce, T, University of Edinburgh, U.K.

Co-Chair: Jenkins, A D, DNMI, Norway

Nonlinear Internal Waves in a Two-Liquid System

La Rocca, M, Sciortino, G, Mele, P, Univ degli Studi Roma III, Italy

Satellite Studies of Ocean Fronts and Eddies for Deepwater Development in the Norwegian Sea

Sandven, Kloster, K, Hamre, T, Nansen Environmental and Remote Sensing Center, Norway

Nonlinear Internal Waves in the Offshore Area of the Yellow Sea

Wang, T, Gao, T F, Jiang, D J, Zhang, Y P, Academia Sinica, China

The Rayo Network: Implementation and First Results

Fanjul, E A, Alfonso, M, Sanchez-Arevalo, I R, Puertos de Estado, Spain

92. HYDRODYNAMICS: Dynamic Responses 3 (V. 3)

Thursday June 1 13:00 East Ballroom B

Chair: Francescutto, A, Univ. of Trieste, Italy

The Effectiveness of Porous Damping Devices

Graham, M, Imperial College; Downie, M J, Univ of Newcastle upon Tyne; Wang, J, Imperial College and Univ of Newcastle upon Tyne, UK

Linear and Nonlinear Ship Motions at Zero Speed in Random Waves

Kim, Y H, Shin, Y S, Kang, C H, American Bureau of Shipping, USA

Nonlinear Dynamic Analysis of Buoyant Elastic Framed Structures

Vendhan, C P, Indian Inst of Technology, India

Linear Time-Domain Model for Dynamic Response of Fluid-Filled Membranes in Waves

Phadke, A, Cheung, K F, Univ of Hawaii, USA

Study of Nonlinear Local Flow

Krokstad, J R, Solaas, F, MARINTEK, Norway

FRIDAY, June 4

Boeing 747/767/777 Assembly Plant Tour

Visit www.isopec.org for booking information (Advance reservation with payment will be required).

Other Optional Tours

Find places to visit for tour in this program and on ISOPE-2000 Web site and visit the conference registration desk, and check the ISOPE bulletin board as you arrive.

Breton Night at Ecole Naval, ISOPE-99 Brest

Technical Committee Meeting at ISOPE-99 Brest

Sheraton Seattle Hotel & Towers

Inside Back cover

ISOPE OMS-99 Goa, India

80-page program (Cover separate: cost more if print inside cover)

Front: 14 pages (p. 1-14 = 14 p. Session with Brest photo #1 on p. 14 Brest)

Paper list: 50 pages (p. 15-64 w/ 600 dpi) with Brest #2 on p. 64

Registration Form: 4 page tear-out of Registration Form

Gen. Info: 16 pages (p. 65-76),

Total: 14+50+4+12(must reduce to) = 80 pages

Brest Photos:

Photo # 1 on page 14

Photo # 2 on page 64

Photo # 3 on backside of Regist Form

Le Quartz: use left-over space

Other ISOPE and Brest Photos: use left-over space

~~\CONFERENCEPAP00FNLD~~ 2000.1.2 – 1.7, 1.14 format copied from
~~PAP99FNLD~~ 98.12.31 - 99.1.2