The Seventeenth (2007) International Offshore (Ocean) and Polar Engineering Conference

5th ISOPE HPM Symposium:
Nanomaterials for Structural Application

1st ISOPE Strain-Based Design Symposium

7th ISOPE
Ocean Mining (& Gas Hydrates) Symposium

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ISOPE-2007
Corinthia Lisboa Hotel
Lisbon, Portugal; July 1–6

Technical Program

Refereed papers from 48 countries in 120 sessions and
7 plenary sessions

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Organized by:
Technical Program Committee, ISOPE
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International Society of Offshore and Polar Engineers
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ISOPE, P.O. Box 189
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Lisbon, Portugal, July 1–6, 2007

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-2007 Technical Program Committee (TPC) received in writing before January 22, 2007 are reflected in this program. Paper titles in blue color are additions to the printed version of the technical program. Final corrections will be updated in the Conference Proceedings and the Final Program. Proceedings CD-ROM (ISBN 1-880653-68-0; ISBN 978-1-880653-68-5) will be available as a set of 4 volumes (3,600 pp. est.) from ISOPE during and after the Conference.

SUNDAY, July 1

Conference Reception
17:00
To Be Announced

MONDAY 09:00

1. OCEAN & ARCTIC INDUSTRY REVIEW (V. 1)
Monday July 2 09:00 Floriana

Chair: Langen, I, University of Stavanger, Norway
Co-Chair: Isaacson, M, University of British Columbia, Canada

Opening Address
Matsui, T, ISOPE President, USA.

Engineering Challenges Driven by the Navy and Navy after
Next [Oral presentation]
Gruber, P L, Office of Naval Research, USA

Subsea Development in the Ormen Lange Offshore Project
Eklund, T, Hydro Oil and Energy, Norway

Polar Rules: Are Harmonized Standards Good for Shipping?
Santos-Pedro, V, Transport Canada, Canada

East Siberian Pipeline: State and Development
Koff, GL, Russian Ministry of Emergency Situations/Rosstroy;
Bekker, AT, Far-Eastern State Technical Univ, Russia

Eurocode 8 – Design for Earthquake Resistance of Foundations
Sêco e Pinto, P S, Univ of Coimbra /LNEC, Portugal
The 7th (2007) ISOPE
Ocean Mining (& Gas Hydrates)
Symposium
at ISOPE-2007 Conference, Corinthia Lisboa Hotel
Lisbon, July 1–6, 2007

Cooperated by:
International Society of Offshore and Polar Engineers (ISOPE)
U.S. National Science Foundation (NSF)
Mining and Materials Processing Institute of Japan (MMIJ)
Korea Association for Deep Ocean Minerals Development (KADOM)
Korea Society of Ocean Engineers (KSOE, formerly KCORE)
National Institute of Oceanography (NIO, India)
Interocceanmetal Joint Organization (IOM, Poland)
Japan Society of Naval Architects and Ocean Engineers (JSNAOE)
China Ocean Mineral Resources R&D Association (COMRA)

51. OMS-2007 OCEAN MINING I (V. 1)
Tuesday July 3 14:00 Jade I
Chair: Liu, S, Central South Univ, China
Co-Chair: Stoyanova, V, Interocceanmetal Joint Organization, Poland

The 7th Ocean Mining Symposium: Introduction
Chung, J S, ISOPE, USA

Deep Sea Scientific Drilling Vessel “CHIKYU” – for New Science at Deeper Frontier of the Earth’s Interior
Kyo, M, JAMSTEC, Japan

The Dawning of Deep Sea Mining of Metallic Sulfides: The Geologic Perspective
Scott, S D, Univ of Toronto, Canada

Establishment of the Environmental Baselines Within the IOM’s Contact Area in Context of the Current Recommendations and Requirements Created by the ISA
Stoyanova, V, Interocceanmetal Joint Organization, Poland

Deep-ocean Mining Technology III: Developments
Chung, J S, ISOPE, USA

58. OMS-2007 OCEAN MINING II: DOW (V. 1)
Tuesday July 3 16:20 Jade II
Chair: Otsuka, K, Osaka Prefecture Univ, Osaka, Japan
Co-Chair: Ouchi, K, Ouchi Ocean Consultant, Japan

Three Years Operation of Ocean Nutrient Enhancer TAKUMI in Sagami Bay
Ouchi, K, Ouchi Ocean Consultant, Japan

Strain Measurement on Riser Pipe of “TAKUMI”
Maeda, K, Takahashi, I, National Maritime Research Inst; Miyabe, H, IHI Marine United; Masuda, S, JFE Soldc, Japan

Study on Discharged Water from Ocean Nutrient Enhancer “TAKUMI” Using Thermal Stratified Tank
Ikegami, Y, Umeki, M, Bando, A, Sakurazawa, S, Saga Univ; Ouchi, K, Ouchi Ocean Consultant, Japan

Ecological Footprint Accounting of “TAKUMI”
Otsuka, K, Osaka Prefecture Univ, Japan
Hybrid Installation Method for the Construction of Deep Water Intake System
Jung, D H, Kim, H J, MOERI/KORDI; Park, H I, Korea Maritime Univ, Korea

Deep Ocean Water in Taiwan: Water Quality and Future Utilization
Liu, T K, Yu, J L, Kao, R C, Hwnung, H H, National Cheng Kung Univ, Taiwan, China

68. OMS-2007 OCEAN MINING III: Gas Hydrates 1 (V. 1)
Wednesday July 4 08:00 Opala III

Chair: Komai, T, AIST, Tsukuba, Japan
Co-Chair: Kang, S P, KIER, Korea

An Experimental Investigation of Rheology of Condensate Oil/Tetrahydrofuran Hydrate Slurry
Yao, H Y, Li, Q P, CNOOC; Chen, G J, Gong, J, China Univ of Petroleum, China

Compaction Behavior of Toyoura Sand during Methane Hydrate Dissociation
Aoki, K, Masui, A, Haneda, H, Ogata, Y, National Inst of AIST, Japan

Mechanical Properties of Sandy Sediment Containing Marine Gas Hydrate in Deep Sea off the Coast of Japan
Masui, A, Haneda, H, Ogata, Y, Aoki, K, National Inst of AIST, Japan

Application of Compliance Technique to Understanding of Stress-strain Relationship for Methane Hydrate Bearing Sediment
Miyazaki, K, Masui, A, Haneda, H, Ogata, Y, Aoki, K, National Inst of AIST, Japan

Simulation of Triaxial Compression Tests on Soil Samples Obtained from Seabed Ground in Deep Sea by Elasto-visco Plastic Constitutive Equation
Ogisako, E, Nishio, S, Denda, A, Shinzizu Corp; Oka, F, Kimoto, S, Kyoto Univ, Japan

Estimation of Surface of Area of Methane Hydrate in Sediments
Nakayama, H, Univ of Tokyo; Ogasawara, K, AIST; Sato, T, Univ of Tokyo; Yamazaki, A, Kiyono, F, AIST, Japan

Seafloor Displacement Monitoring by Double Integral Technique Using Servo-accelerometer System
Tokoyama, T, Saito, H, Úchiyama, S, OYO Corp, Japan

78. OMS-2007 OCEAN MINING IV: Gas Hydrates 2 (V. 1)
Wednesday July 4 10:30 Opala III

Chair: Ohga, T, Hokkaido Univ, Japan
Co-Chair: Masui, A, AIST, Japan

Measurement of Thermal Properties for Methane Hydrate Sedimentary Layer – 2
Yamamoto, Y, Kawamura, T, Ohtake, M, Komai, T, Tsuji, T, Tsukada, Y, National Inst of AIST, Japan

Experimental Study on Steam Injection Method Using Methane Hydrate Core Samples
Kawamura, T, Ohtake, M, Sakamoto, Y, Yamamoto, Y, Haneda, H, Komai, T, Higuchi, S, National Inst of AIST, Japan

Experimental Study on the Liquid CO₂ Formation at the 30MPa
Jung, R T, Ryu, J W, Kang, S G, MOER/KORDI, Korea

Effects of Pore Sizes on Formation Kinetics of Carbon Dioxide and Methane Hydrates in Porous Media
Kang, S P, Korea Inst of Energy Research, Korea
An Investigation for Dissociation Process of Methane Hydrate Using Inhibitor Injection
Nakatani, N, Osaka Prefecture Univ; Kuroda, K, Kurimoto Ltd; Okuno, T, Osaka Prefecture Univ, Japan; Masutani, S M, Hawaii Natural Energy Inst, USA

Experimental Study on Dissociation Behavior of Methane Hydrate by Hot-brine Injection

88. OMS-2007 OCEAN MINING V: Gas Hydrates 3 (V. 1)
Wednesday July 4 14:00 Opala III

Chair: Sato, T, Univ of Tokyo, Japan
Co-Chair: Kawamura, T, AIST, Japan

Measurement of Methane Hydrate Sediment Permeability Using Several Chemical Solutions as Inhibitors
Minagawa, H, Nishikawa, Y, Ikeda, I, Sakamoto, Y, Komai, T, Narita, H, National Inst of AIST, Japan

Assessment of the Absolute Permeability of Natural Methane Hydrate Sediments by Microfocus X-ray Computed Tomography
Jin, Y, Hayashi, J, Nagao, J, Suzuki, K, Minagawa, H, Ebinuma, T, Narita, H, National Inst of AIST, Japan

The Experimental Studies and Development Concept for the Offshore Natural Gas Hydrate

Field Scale Simulation for the Effect of Relative Permeability on Dissociation and Gas Production Behavior during Depressurization Process of Methane Hydrate in Marine Sediments
Sakamoto, Y, Komai, T, Kawamura, T, Tenma, N, Yamaguchi, T, AIST, Japan

Permeability of Artificial Methane Hydrate Sediment in Radial Flow System
Shimokawara, M, Ohga, K, Hokkaido Univ; Sakamoto, Y, Komai, T, Yamaguchi, T, AIST, Japan

Observation of Self-preservation Effect of Methane and Ethane Hydrate
Nagao, J, Shimomura, N, Jin, Y, National Inst of AIST; Shima, W, Toyama Univ; Ebinuma, T, Narita, H, National Inst of AIST, Japan

Complex Structure Transition Induced by Swapping Process Occurring in Natural Gas Hydrate Layer

Experimental Study on Formation of Propane Gas Hydrate by Fluidized Bed Type Reactor
Arai, T, Kato, Y, Iwasaki, T, Kanda, N, Uchida, K, Mitsui Engineering & Shipbuilding, Japan

Preliminary Modeling of Chemosynthetic Ecosystem around Methane Seepage
Yamazaki, T, Takeuchi, R, National Inst of AIST; Monoe, D, Oomi, T, Chuden CITi; Nakata, K, Kotai Univ; Fukushima, T, Ocean Policy Research Foundation, Japan

98. OMS-2007 OCEAN MINING VI (V. 1)
Thursday July 5 08:00 Opala III

Chair: Hong, S, MOERI, Korea
Identification of Factors and Conditions Potentially Responsible for the Buried Nodules Occurrence in the Eastern Clarion-Clipperton Zone (NE Pacific)
Kotlinski, R, Stoyanova, V, Interoceanmetal Joint Organization, Poland

Applicability Evaluation of the Surface Wave Exploration to the River Marine Geology Investigation
Fujimura, H, Tottori Univ; Tanaka, T, Hayashi, K, OYO Co; Kita, T, TK Land and Sea Investigation Office, Japan

Concentrated and Gastight Sampler of Deep-sea Microplankton
Huang, Z H, Li, L, Central South Univ; Jin, B, Zhejiang Univ; Liu, S J, Central South Univ, China

Economic Validation Analyses of Japan’s Nodule, Crust, and Kuroko-type SMS Mining in 2006
Yamazaki, T, National Inst of AIST, Japan

Slip Control Simulation of Tracked Vehicle Based on Prediction of Instantaneous Rotation Center
Yeu, T K, Hong, S, Park, S J, Choi, J S, Kim, H W, Maritime and Ocean Engineering Research Inst, Korea

Design of a Hardware-in-the-loop Simulation (HILS) of Control and Monitoring System for Deep-seabed Manganese Nodule Miner

Metamodel-based Multidisciplinary Design Optimization of Ocean Mining Collector for Manganese Nodules

Rich-crusts Miner’s Simulation of Moving Ability on Seamount
Li, L, Central South Univ, China

Experimental Study of Manganese Separation from Solid-liquid Mixture Using Hydrocyclone

Development of a Self-propelled Test Collector for Deep-seabed Manganese Nodules

A Study on the Solid-liquid Helical Flow in a Slim Hole Annulus

Chair: Yoon, C H, Korea Inst of Geoscience and Mineral Resources, Korea
Co-Chair: Li, L, Central South Univ, China

Chair: Sobota, J, Wroclaw Univ, Poland
Co-Chair: Sharma, R, National Inst of Oceanography, India

Development and Testing of Underwater Mining Systems for Long Term Operations Using Flexible Riser Concept

Three Dimensional Solid-liquid Flow Analysis for Design of Two-stage Lifting Pump

COMRA’s Research on Lifting Pump
Zou, W S, Central South Univ/Hunan Univ, China

Effect of Particle Size Distribution and Concentration on Flow Behaviour of Complex Slurries
Vlasak, P, Chara, Z, Inst of Hydrodynamics, Academy of Sciences, Czech Republic

Two-Phase Vertically Upward Transport of Fine Silica Sands in Dilute Polymer Solution: Drag Reduction and Effects of Sand Size and Concentration
Chung, J S, ISOPE; Lee, K, Kiewit Construction; Tischler, A, Aera Energy, USA

Research on the Movement of Solid Particles in Vertical Pipeline
Palarski, J, Plewa, F, Silesian Univ of Technology; Sobota, J, Wrocław Univ; Strozik, G, Silesian Univ of Technology, Poland

Analysis of Elementary Head Loss by the Flow of Two Phase (Water-solid Particles) Mixtures in Vertical Pipeline on the Basis of Theoretical Model of Two Phase Mixtures Flow in Vertical Transportation Systems
Palarski, J, Plewa, F, Silesian Univ of Technology; Sobota, J, Wrocław Univ; Strozik, G, Silesian Univ of Technology, Poland

Prospective authors are invited to submit abstract to:
ISOPE PACOMS-2008 Bangkok
The 8th ISOPE Pacific/Asia Offshore Mechanics Symposium
Bangkok, Thailand, November 10–13, 2008

Call For Papers
Abstract Deadline: February 25, 2008
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