

October 4-7, 2016
Gold Coast, Australia

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

The Twelfth (2016) ISOPE
Pacific-Asia
Offshore Mechanics
Symposium



(as of **September 6**)

Final Program

Invited and Peer-reviewed Papers from:

UK, Norway, France, Germany, Russia, UAE, Libya, India,
Malaysia, Singapore, Indonesia, Thailand, Australia,
China, Korea, Taiwan China, Japan, Canada, USA

Hydrodynamics & CFD	Wind and Ocean Energy
Coastal Dynamics	Subsea, Pipelines, Risers
Offshore, Ocean Technology	Underwater Systems
Arctic Transport & Ice	Environment & Seabed

Organized by:

ISOPE International Organizing Committee (IOC) and Local Organizing Committee (LOC); Griffith University

Sponsored by:

International Society of Offshore and Polar Engineers (ISOPE) with Cooperating organizations: Griffith University, Gold Coast Tourism

Hosted by:

PACOMS-2016 Gold Coast Secretariat and LOC
e-mail: pacoms2016@griffith.edu.au
Tel: +61 7 55529015



ISOPE
P.O. Box 189
Cupertino, Calif. 95015-0189
USA; www.isopec.org

The PACOMS-2016 participants and PACOMS Executive Committee, International Organizing Committee and Local Organizing Committee would like to thank:

**Supporters of
ISOPE PACOMS-2016
Gold Coast Symposium**



**ISOPE-2017
San Francisco, California, USA**

The 27th (2017) International
Ocean and Polar Engineering Conference
San Francisco, California, USA
June 25-30, 2017

Call For Papers

Abstract Deadline: **October 20, 2016**
A full version on www.isopec.org or ask meetings@isopec.org.

Abstract Submission (now):
<http://www.isopec.org/call4papers/2015/HowToSubmitAbstractOnline.htm>
and Technical Program (in February, 2017) on
www.isopec.org; Fax 1-650-254-2038

Welcome to PACOMS-2016 Gold Coast

We greatly appreciate the excellent responses and help we have received from colleagues around the North America, Oceania, Europe and Asia in the successful organization of the 12th ISOPE Pacific/Asia Offshore Mechanics Symposium (PACOMS-2016), Gold Coast, Australia, October 4-8, 2016. The symposium features 18 sessions of peer-reviewed papers and invited papers from 20 Asian, North American and European countries. This year's focus is on Ocean Renewable Energy, Offshore and Arctic Technologies.

The purposes of the ISOPE conference are to:

- promote technological progress and activities, international technological transfer and cooperation, and opportunities for engineers to maintain and improve technical competence; and
- provide a timely international forum for technical activities, cooperation, opportunity and fellowship among researchers and engineers,

by developing focused session topics with peer-reviewed papers accepted through rigorous review, establishing high international standards for publication and worldwide distribution and promoting regional cooperation among the Pacific/Asian countries.

The International Society of Ocean and Polar Engineers (ISOPE) has already held 50 successful international meetings:

- The *Annual ISOPE Conference* has been held with the world's largest technical program of its kind with refereed papers since 1992. It started in Edinburgh, 1991, and rotated among Europe, Asia and N. America; most recently in Shanghai, 2014.
- Additional specialty and regional symposia:
- 1st (1990) *European Offshore Mechanics* (EUROMS-90), Trondheim.
- 1st (1990) *Pacific/Asia Offshore Mechanics* (PACOMS-90), Seoul.
- 1st (1995) *Ocean Mining* (OMS-95), Tsukuba.
- 1st (1996) *International Deep-Ocean Technology and Workshop* (IDOT-96), Los Angeles.
- 1st (2003) High Performance Materials, Honolulu.
- 1st (2005) Advanced Natural Gas Transport, Seoul.
- 1st (2007) Nanotechnology, Lisbon.
- 1st (2007) Strain-Based Design, Lisbon.
- 1st (2008) Frontier Energy Resources Tech., Vancouver.
- 1st (2009) Sloshing Dynamics and Design, Osaka.
- 1st (2010) Renewable Energy & Environment, Beijing.
- 1st (2010) Arctic Science and Technology, Beijing.
- 1st (2010) Arctic Steel, Maui, Hawaii
- 1st (2012) Tsunami and Safety, Rhodes
- 1st (2012) Asset Integrity, Rhodes
- 1st (2013) Manganese Steel, Anchorage
- 1st (2014) MRRP in Petrochemicals, Busan
- 1st (2016) Underwater Systems, Rhodes

On behalf of PACOMS Executive Committee, International Organizing Committee and Local Organizing Committee, we would like to express our appreciation to the financial sponsors and welcome participants to the PACOMS-2016 Symposium in Gold Coast.

Jin S. Chung, Chair and **Hong Zhang**, Co-Chair
The 12th ISOPE PACOMS-2016 Symposium

TUESDAY October 4

All sessions will be held at Crowne Plaza Surfers Paradise

16:00 - 19:00
On-Site Registration and Badge and Badge and Proceedings Pickup **Function Area**

18:30 – 20:00
Welcome Cocktail Reception **Poolside**

WEDNESDAY October 5

08:00
Chairs and Presenters: Test PPT files **Session Room**

8:00 - 12:30
On-Site Registration and Badge and Proceedings Pickup **Hotel Lobby**

8:30
1. Opening Plenary Session **Norfolk Room**
Chair: Hong Zhang, Griffith University, Australia
Co-chair: Sa Young Hong, KRISO, Korea

Symposium Opening Address
PACOMS Welcome Address
Keynote Address

10:00
Coffee/Tea Break **Prefunction Area**

10:20
2. Wind & Ocean Energy I **Kauri Room**
3. Mechanics & Structures **Cypress Room**

12:20
Lunch **Relish Restaurant**

13:30
4. Hydrodynamics I **Kauri**
5. Wind & Ocean EnergyII **Cypress**

15:30
Coffee/Tea Break **Pre Function Area**

15:50
6. Hydrodynamics II **Kauri**
7. Arctic Transport & Ice Mechanics **Cypress**

19:00
PACOMS Executive Committees **TBA**

THURSDAY October 6

08:00	Chairs and Presenters: Test PPT files	Session Room
08:30	8. Hydrodynamics III 9. Subsea, Pipeline, Riser I	Kauri Cypress
10:30	Coffee/Tea Break	Norfolk Pre Function Area
10:50	10. Hydrodynamics & Environment IV 11. Subsea, Pipeline, Riser II	Kauri Cypress
12:50	PACOMS Lunch	Relish Restaurant
14:00	12. Hydrodynamics V 13. Ocean Technology I	Kauri Cypress
16:00	Coffee/Tea Break	Pre Function Area
16:20	14. Coastal Dynamics I 15. Ocean Technology II	Kauri Cypress
19:00-21:00	PACOMS Banquet	
19:00-21:00	Thursday	Norfolk



FRIDAY October 7

08:00	Chairs and Presenters: Test the PPT files	Session Room
08:30	16. Coastal Dynamics II 17. Geotechnical Engineering	Kauri Cypress
11:00	18. Symposium Closing Session	Kauri/Cypress
11:30	PACOMS Lunch	Relish Restaurant
13:30 – 17:00	SYMPOSIUM TOUR	

Hinterland half day tour including Springbrook National Park

First-come-first-serve basis

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



Sponsored by

International Society of Offshore and Polar Engineers (ISOPE)
Griffith University, Australia
Gold Coast Tourism

Cooperated by

Griffith University, Australia
Korea Society of Ocean Engineers (KSOE)
China Society of Ocean Engineers (CSOE)
Engineering Institute of Thailand (EIT)
Engineers Australia (EA)
The Institution of Engineers Indonesia (PII)
Taiwan Society of Ocean Engineering (TSOE)
International Society of Offshore and Polar Engineers (ISOPE)

Hosted by

PACOMS 2016 Australia LOC

Local Symposium LOC Chair

Prof. Hong Zhang, Griffith University, Australia

PACOMS-2016 Symposium

Secretariat

International Society of Offshore and Polar Engineers (ISOPE)

Chair and Co-Chairs

Prof. Jin S. Chung (chair), ISOPE, Cupertino, California, USA
Prof. Hong Zhang (co-chair), Griffith University, Australia

International Organizing Committee (IOC)

Dr. M.A. Atmanand (Natl Inst of Ocean Tech, India)
Prof. A.T. Bekker (Far Eastern Federal Univ, Russia)
Mr. Chuan Cao, CNPC, China
Prof. S Chucheepsakul, King Mongkut's Univ. of Tech. Thonburi, Thailand
Prof. Jin S. Chung (Chair), ISOPE, USA
Prof. Fu-ping Gao, CAS Inst Mechanics, China
Dr. Sa Young Hong, KRISO, Korea
Prof. Hua Liu, Shanghai Jiao Tong Univ, China
Prof. Wataru Koterayama, Open Univ, Japan
Prof. Rob Melchers, Univ of New Castle, Australia
Dr. A. Nezamian, Advisian, Australia
Prof. Bin Teng, Dalian Univ of Tech, China
Dr. Alan Wang, CNOOC-COPEC, China
Prof. Hong Zhang, Griffith Univ, Australia

Local Organizing Committee (LOC):

Gildas Colleter	Aurecon Group, Australia
Jeung-Hwan Doh	Griffith University
Yuxia Hu	The University of Western Australia
Shannon Hunt	Gold Coast City Council
Hassan Karampour	Griffith University
Dong Jeng	Griffith University
Chengwang Lei	The University of Sydney
Charles Lemckert	Griffith University

Simon Mortensen	DHI, Australia
Robert Melchers	The University of Newcastle, Australia
A Nezamian	Advisian, Melbourne
Erwin Oh	Griffith University
Oz Sahin	Griffith University
Hong Zhang	Griffith University

ISOPE Board of Directors (2016-2017)

A T Bekker (Russia), W Dong (China), K Tanizawa (Japan), A M Gresnigt (Netherlands), QW Ma (UK), S W Hong (Korea), T Mathai (USA), W C Kan (USA), R H Knapp (USA)

ISOPE

President (2016-17)

Dr. H W Jin, ExxonMobil Research & Engineering, USA

Executive Director:

Prof. Jin S Chung, USA

PACOMS Executive Committee

Prof. Alexandr T. Bekker, Far Eastern State Tech. Univ., Russia

Prof. Somchai Chucheeepsakul, King Mongkut's Univ. of Tech. Thonburi, Thailand

Prof. Jin S. Chung (Chair), ISOPE, California, USA

Dr. Seok Won Hong, KRISO, Korea

Prof. Wataru Koterayama, Open Univ., Japan

Prof. Han-il Park, Korea Maritime and Ocean Univ., Korea

Prof. Bin Teng, Dalian Univ. of Tech., China

Prof. Hua Liu, Shanghai Jiao Tong Univ., China

Prof. Hong Zhang, Griffith Univ., Australia

TECHNICAL PROGRAM

The Twelfth (2016) Pacific-Asia Offshore Mechanics Symposium

ISOPE PACOMS-2016

Gold Coast, Australia, October 4–7, 2016

All technical session and function events will take place at **Crowne Plaza Surfers Paradise, Gold Coast, Australia**. Onsite registration will commence on Tuesday, October 4, 2016. The changes on titles or authors the PACOMS-2016 International Organizing Committee (IOC) received in writing before **August 2, 2016** are reflected in this program. Final corrections will be updated in the Symposium Proceedings (**ISBN 978-1-880653-98-2, ISSN 1946-004X**). Proceedings in USB of peer-reviewed papers (610 pp. est.) in 18 sessions will be available from ISOPE during and after the Symposium.

PACOMS Symposium proceedings are **indexed by Engineering Index, EI Compendex, Scopus**. Further updates will be posted on www.isopec.org.



TUESDAY October 4

16:00-19:00 **Hotel Lobby**
On-Site Registration and Badge and Proceedings Pickup

18:30-20:00 **Poolside**
Welcome Cocktail Reception

WEDNESDAY October 5

1. Opening/General Session
Wednesday October 5 08:30 Norfolk Room

Chair: Hong Zhang, Griffith University, Australia
Co-Chair: Sa Young Hong, KRISO, Korea

Symposium Opening Address

Jin S Chung, Symposium Chair, ISOPE, Cupertino, USA

PACOMS-2016 Welcome Address

Ian O'Connor, Vice Chancellor and President, Griffith University,

Australia

KEYNOTE

Recent Advances in Anchor Design for Floating Structures

C. Gaudin, M.J. Cassidy, C.D. O'Loughlin, Y. Tian, D. Wang, S. Chow, Univ of Western Australia, Australia

10:00

Coffee/Tea Break

Prefunction Area

2. Wind & Ocean Energy I

Wednesday

October 5

10:20

Kauri

Chair: Osoon Kwon, Korea Inst of Ocean Science and Tech, Korea

Co-Chair: Ke Sun, Harbin Engineering Univ, China

Sensitivity Analysis of Structural Behaviors on Key Design Parameters of Tripod for Offshore Wind Farm

Jianhua Zhang, Yiqun Xie, Harbin Engineering Univ, China; Dianwei Gao, Western Sydney Univ, Australia

The Optimization of Wind Farm Layout and Estimation of Annual Energy Production Using Wind Model

Pei-Chi Chang, Jing-Bo Hung, Chi-Ming Lai, Ray-Yeng Yang, National Cheng Kung Univ, Taiwan China

Numerical Comparative Study for Marine Current Turbine in Steady Uniform and Shear Inflow

Hang Li, Long Yu, Yanping He, Shanghai Jiao Tong Univ; Yiping Dai, Lloyd's Register Classification Society (China) Co. Ltd, China

Influence of Tidal Stream Farm on Hydrodynamics in Zhoushan Demonstration Project, China

Cong Ding, Jisheng Zhang, Peng Gao, Hohai Univ; Tiantian Zhang, China Three Gorges Corporation, China

Experimental Research on HYSWATH's Floating State and Resistance

Yadong Liu, Zhongyang Wu, Shanghai Jiao Tong Univ, China

3. Mechanics & Structures

Wednesday

October 5

10:20

Cypress

Chair: Dong Sheng Jeng, Griffith Univ, Australia

Co-Chair: Igor Chaves, Univ of Newcastle, Australia

Shear Behaviors of Inter-Cells in Open-Cell Caisson Breakwaters

JiHye Seo, Deokhee Won, Woo-Sun Park, Korea Inst of Ocean Science and Technology (KIOST), Korea

Sensitivity of Stress Concentration Factors to Geometrical Parameters in Single Side Welded Tubular Joints

Nastaran Ayoubi, Cube Offshore Pty Ltd; Mehrdad Kimiaei, Univ of Western Australia

The Role of Local Joint Flexibility (LJF) in the Structural Assessments of Ageing Offshore Structures

Riaz Khan, Ivana Kraincanic, Kenneth Smith, Michael Gunn, London South Bank Univ, UK

Wave Interaction with a Tripile Foundation Using SBFEM

Renjie Mo, Dalian Univ of Technology, China; Miao Li, Charles Sturt Univ, Australia; Haigui Kang, Dalian Univ of Technology, China

Study on the Ultimate Strength of Semi-submersible Platform Considering the Effect of Accommodation Structures

Yanchang Zhang, Marine Design & Research Inst of China; Kun Liu, Jiangsu Univ of Science and Technology; Pu Wang, Marine Design & Research Inst of China, China

Studies of Inter-link Cyclic Wear of Axially Loaded Mooring Chains

Robert E. Melchers, Igor A, Chaves, Amin Lotfollahi Yaghin, Univ of Newcastle, Australia

Lunch

Wednesday October 5 12:20 Relish Restaurant

4. Hydrodynamics I

Wednesday **October 5** **13:30** **Kauri**

Chair: Wenrong Hu, Shanghai Jiao Tong Univ, China

Co-Chair: Gildas Colleter, Aurecon Group, Australia

A Note on Morison Equation and Hydrodynamics Equation [Oral Presentation]

Jin S. Chung, ISOPE, USA

Floating Body Wave Interaction Simulation Using a Lagrangian Approach

André Baeten, Augsburg Univ of Applied Sciences, Germany

Numerical Study on the 3D Interaction between an Internal Solitary Wave and Vertical Cylinder

Chih-Min Hsieh, National Kaohsiung Marine Univ; Ming-Hung Cheng, Robert R. Hwang, National Taiwan Ocean Univ; Wen-Chang Yang, Taiwan Ocean Research Inst-NARL; Ting-Chieh Lin, National Cheng Kung Univ, Taiwan China

Global In-Place Dynamic Wave Analysis for Mono Column Platform

Tianran Han, Southeast Univ, China

A Numerical Study of Frequency Characteristics of Wave Force on Vertical Free Surface Piercing Cylinder

Xiang Fan, Jing-xin Zhang, Hua Liu, Shanghai Jiao Tong Univ, China

Numerical Simulations of Flow around a Circular Cylinder at High Reynolds Number

Hongwei An, Liang Cheng, Univ of Western Australia; Ming Zhao, Western Sydney Univ; Feifei Tong, Univ of Western Australia, Australia

Validation of the Viscous CFD Method with 6 DOF Model for Simulating the Maneuvering Motion of Ship

Zhu Tao, Ran He, Zhijian Xiao, Xianzhou Wang, Huazhong Univ of Science and Technology, China

5. Wind & Ocean Energy II

Wednesday October 5 13:30 Cypress

Chair: Yuxia Hu, University of Western Australia, Australia
Co-Chair: Pei-Chi Chang, National Cheng Kung University, Taiwan
China

Investigations on Dynamic Responses of Offshore Wind Turbine Supported by Monopile in Sand

Yupei Huang, Zhen Guo, Yi Hong, Zhejiang Univ; Jianguo Tong, Lvjun Tang, China Energy Construction Group Zhejiang Electric Power Design Institute Co; Lizhong Wang, Zhejiang Univ, China

Fatigue Analysis of a Floating Wind Turbine Supporting Structure

Hyeon-jin Kim, Beom-seon Jang, Seoul National Univ, Korea

Counter-Rotating Turbine in Unique Power Unit Provided for Bidirectional Tidal Streams

Toshiaki Kanemoto, Nak-Joong Lee, Man-Woong Heo, Bin Huang, Kyushu Inst of Tech; Yuji Nakanishi, Yuki Funami, Kanagawa Univ, Japan

Effect of Geometric Parameters on the Performance of a Double-layer Vertical Axis Hydro Turbine

Ke Sun, Jinhui Zhao, Feng Wang, Liang Zhang, Harbin Engineering Univ, China

Vortex Structures and Performance of a Tadpole in the Wake of a Blunt Body

Wenrong Hu, Haotian Yuan, Shanghai Jiao Tong Univ, China

15:30

Coffee/Tea Break

Prefunction Area

6. Hydrodynamics II

Wednesday October 5 15:50 Kauri

Chair: André Baeten, Augsburg Univ of Applied Sciences, Germany
Co-Chair: Shuguang Liu, Tongji Univ China

Wind Field Characteristics Study at Different Sea and Land Sites Using Floating LiDAR

Jing-Bo Hung, Pei-Chi Chang, Ray-Yeng Yang, National Cheng Kung Univ, Taiwan China

Scattering of Surface Waves by a Platform Supported by a Pile Array

Xiaoyu Guo, Benlong Wang, Hua Liu, Shanghai Jiao Tong Univ, China

Numerical Simulation of Wave Radiation and Diffraction Problems with Current Effect

Aichun Feng, Wei Bai, National Univ of Singapore, Singapore

Experimental and Numerical Examinations of Gap Resonance between Twin Oppositely Leaning Floating Barges in Proximity

Bin Teng, Shu Li, Junjun Tang, Yifan Zhao, Dalian Univ of Technology, China

Laboratory Test on Dynamic Response of a Flexible Cylinder in Uniform Flow Using Optical Measurement

Hao Wu, Song Yan, Dalian Univ of Tech, China; Ming Zhao, Western Sydney Univ, Australia; Lin Lu, Hai Du, Dalian Univ of Tech, China

Hydrodynamic Forces of a Yawed Square Cylinder in Oscillating Flows

Xiaofan Lou, Tongming Zhou, Liang Cheng, Univ of Western Australia

Prediction of 100-Year Responses of Fixed Offshore Structures Using the Modified Version of Finite Memory Nonlinear System Models [Proceedings only]

N.I. Mohd Zaki, M.K. Abu Husain, Universiti Teknologi Malaysia, Malaysia; G. Najafian, Univ of Liverpool, UK

7. Arctic Transport & Ice Mechanics

Wednesday October 5 15:50 Cypress

Chair: Alexandr T. Bekker, Far Eastern Federal Univ., Russia
Co-Chair: Sunho Park, Korea Maritime and Ocean Univ, Korea

Estimation of Engineering-and-Economical Performance in the Arctic Offshore Oilfield Development at Preliminary Stages

A. T. Bekker, A. A. Shmykov, E. E. Pomnikov, T. A. Bekker, Far Eastern Federal Univ, Russia

Moving Load on Ice Plate of Varying Thickness

Alexandra V. Pogorelova, Victor M. Kozin, Inst of Machining and Metallurgy, RAS-FEB; Anna A. Matiushina, Alina Ol. Goncharic, Amur State Univ of Humanities and Pedagogy, Russia

Experimental Study of Effects of Boundary Conditions and Scale on Ice Crushing Failure

Kashfi B. Habib; Rocky S. Taylor, C-CORE; Pranav R. Birajdar, Ridwan B. Hossain, Memorial Univ of Newfoundland, Canada

A Method for Reducing the Icebreaking Image into a Relevant Cropped Section for Fast Analysis of Ice Thickness

Dong-Ham Kim, Jong-Ho Nam, Korea Maritime and Ocean Univ, Korea

The Dependences of Displacement on Icebreaking Characteristics in Designing of Ship for Navigation in Freezing Seas

Sergey A. Ogai, Michael V. Voyloshnikov, Maritime State Univ named Admiral Nevelskoy, Russia

Inertial Measurement System Method for Predicting Global Ice Load on Korean IBRV ARAON

Sang Chul Lee, Sunho Park, Kyungsik Choi, Korea Maritime and Ocean Univ; Seong-Yeob Jeong, Korea Research Inst of Ships and Ocean Engineering; Young Kyo Seo, Korea Maritime and Ocean Univ, Korea

The Sequences of the Characteristics and Particulars Determination in Designing of Multipurpose Ship for Icy Sea

Sergey A. Ogai, Michael V. Voyloshnikov, Maritime State Univ named Admiral Nevelskoy, Russia

19:00
PACOMS Executive Committees

TBA

THURSDAY October 6

8. Hydrodynamics III

Thursday October 6 08:30 Kauri

Chair: Sa Young Hong, KRISO, Korea
Co-Chair: Chengwang Lei, Univ of Sydney, Australia

Evaluation of Dolphin Swimming Speed and Thrust Based on CFD

Ye Yuan, Ziyu Ding, Zongxin Yu, Zhiguo Zhang, Huazhong Univ of Science and Technology, China

Offshore Platforms in Waves – CFD Simulations for Devastating Conditions

Nagi Abdussamie, Roberto Ojeda, AMCS, Univ of Tasmania, Australia; Giles Thomas, University College London, UK; Walid Amin, AMCS, Univ of Tasmania, Australia

Numerical Simulation for Hydrodynamic Behaviour of a Single Vessel in Regular Waves Using OpenFOAM

J.H. Choi, S.J. Lee, H.T. Ok, H.C. Song, Korea Maritime and Ocean Univ, Korea

Validation of the 6 DOF Viscous CFD Method for Simulating the Roll Motion on DTC

Shiqi Gong, Zhu Tao, Ran He, Ye Yuan, Huazhong Univ of Science and Technology, China

Accurate Prediction of Fully-nonlinear Wave Run-up over a Semi-submersible Platform Using a Particle-based Method

Sang-Moon Yun, Jong-Chun Park, Gyu-Mok Jeon, Pusan National Univ, Korea

MPS (Moving Particle Semi-implicit) Simulation of Free-Surface Flow with Arbitrary-Shaped Boundary

Hee-Sung Shin, Di Ren, Jong-Chun Park, Pusan National Univ, Korea

Numerical Simulation of Submarine Surfacing with 6 DOF Model in the Ocean Current Effect

Zhilin Wang, Zhenwei Dong, Ran He, Xianzhou Wang, Huazhong Univ of Science and Technology, China

9. Subsea, Pipeline, Riser I

Thursday October 6 08:30 Cypress

Chair: Abe Nezamian, Advisian Worley Parson Group, Australia
Co-Chair: Shuqing Wang, Ocean Univ of China, China

Propagation Buckling of Pipe-in-Pipe Systems, an Experimental Study

Mahmoud Alrsai, Hassan Karampour, Griffith Univ, Australia

Numerical Analysis of the Buckling Behaviour of Curved-crease Origami Pipelines

Zhiming Guo, Tianjin Univ, China; Joseph Gattas, Univ of Queensland; Hassan Karampour, Griffith Univ, Australia; Shibin Wang, Tianjin Univ, China; Faris Albermani, Univ of Queensland, Australia

Dynamic Response of Pipeline in Touchdown Zone under Complicated Loadings

Yun-yun Dai, Jing Zhou, Dalian Univ of Technology, China

Seabed-Proximity Effects on the Wave-induced Hydrodynamic Forces on a Submarine Pipeline

Xiao-Fan Peng, Wen-Gang Qi, Fu-Ping Gao, Inst of Mechanics, CAS, China

Time-dependent Reliability Assessment of Mooring System

Shanying Lin, Gang Ma, Harbin Engineering Univ; Huibin Yan, Zhejiang Univ; Yong Bai, Harbin Engineering Univ, China

10:30

Coffee/Tea Break

Prefunction Area

10. Hydrodynamics IV: Hydrodynamics & Environment

Thursday

October 6

10:50

Kauri

Chair: Fumikazu Otsuka, Nihon Univ, Japan

Co-Chair : Long Yu, Shanghai Jiao Tong Univ, China

The Effect of Different Methods of Simulating Wave Induced Water Particle Kinematics on the 100-Year Responses

M.K. Abu Husain, N.I. Mohd Zaki, Universiti Teknologi Malaysia, Malaysia; G. Najafian, Univ of Liverpool, UK

A Numerical Study for Low Motion FPSO with Solid Ballast Tank

Hong Gun Sung, Hyung Do Song, Jang Pyo Hong, Sung Chul Hwang, Tae Hwan Joung, Korea Research Inst of Ships & Ocean Engineering (KRISO), Korea; Alaa Mansour, Chunfa Wu, WorleyParsons Group INTECSEA, USA

Development and Application of an One-dimensional Hydrodynamic and Water Quality Model for a Flat Tidal River Network

Lisha Gao, Shuguang Liu, Guihui Zhong, Tongji Univ, China; Yiping Guo, McMaster Univ, Canada

A Numerical Model on Vertical Movement of Planktonic Larvae of Clam *Ruditapes Philippinarum* in Tokyo Bay

Fumikazu Otsuka, Nihon Univ; Mao Hironaka, Mitsui Consultants Co; Toshimasa Kawanishi, Koichi Masuda, Nihon Univ, Japan

The Designing of Drifter Buoy Used as Coastal Ocean Wave Measuring System

Sarinya Sanitwong na Ayutthaya, Phansak Iamraksa, Kasetsart Univ, Thailand

Characterization of Treated Water Using Solid-Phase Extraction Technique and Spectrophotometry

Supawat Chaikasem, Kasetsart Univ, Thailand

11. Subsea, Pipeline, Riser II

Thursday

October 6

10:50

Cypress

Chair: Fu-Ping Gao, Inst of Mechanics, CAS, China

Co-Chair: Hassan Karampour, Griffith Univ Australia

Fatigue Damage Assessment of Deep Water Steel Catenary Risers Considering the Riser-Seabed Interaction

Xiancang Song, Anteng Chang, Shuqing Wang, Junfeng Du, Ocean Univ of China, China

Design and Analysis of Flexible Reinforced Thermoplastic Pipes (RTPs) for Offshore Oil and Gas Applications

Evgeny V. Morozov, Kuang Yu, Univ of New South Wales, Australia

Life Extension of Coastal and Marine Reinforced Concrete Infrastructures

Abe Nezamian, Advisian, WorleyParsons, Australia

Effect of Line Dynamics in Fatigue Response Analysis of Mooring Lines in Deep Waters

Hamid Sedghi, BW Offshore Norway AS, Norway; Mehrdad Kimiaei, Univ of Western Australia, Australia

Optimization Analysis of Mooring System Based on Genetic Algorithm

Gang Ma, Hongwei Wang, Zhuang Kang, Zhiyou Niu, Harbin Engineering Univ, China

Lunch
Wednesday October 6 12:50 Relish Restaurant

12. Hydrodynamics V
Thursday **October 6** **14:00** **Kauri**

Chair: Erwin Oh, Griffith University, Australia
Co-Chair: Benlong Wang, Shanghai Jiao Tong University, China

LES Investigations of Flow over a Sphere at Reynolds Numbers between 10^4 and 10^5
Zhijian Xiao, Xianzhou Wang, Ziyou Ding, Ran He, Dakui Feng, Huazhong Univ of Science and Technology, China

Effect of Tripping Wires on the Hydrodynamics of a Circular Cylinder in Uniform and Shear Flows
Chengwang Lei, Taylor Weston, Kieran Dawson, Univ of Sydney, Australia

Vortex-induced Vibration of Side-by-side Dual Cylinders of Different Diameters
Ming Zhao, Jaime Midson, Toni Pearcey, Western Sydney Univ, Australia

Numerical Study on Steady Flow around a Pipeline Laid on Seabed with Gaps
Feifei Tong, Liang Cheng, Univ of Western Australia, Australia

Experimental Investigation of the Three-dimensional Sloshing in a Square-base Tank with Elasticity
Jie Tang, Bing Ren, Guoyu Wang, Dalian Univ of Technology, China

A Simple Tsunami Warning Method for South China Sea [Oral Presentation]
Hua Liu, Shanghai Jiao Tong Univ, China

13. Ocean Technology I: Underwater Systems
Thursday **October 6** **14:00** **Cypress**

Chair: Nakwan Kim, Seoul National Univ, Korea
Co-Chair: Binbin Li, Bureau Veritas Marine & Offshore, Singapore

Path Following Control Using Nonlinear Guidance and Sliding Mode Control for UUV under Current Disturbance and Measurement Noise
Jooho Lee, Nakwan Kim, Seoul National Univ, Korea

Vector Field Based Guidance Method for Docking of an Unmanned Surface Vehicle
Joohyun Woo, Nakwan Kim, Seoul National Univ, Korea

Risk-based Underwater Inspection for Fixed Offshore Platforms in West Madura Offshore – Indonesia
Ricky L. Tawekal, Parama Shanti, Institut Teknologi Bandung; Dwinanto B. Kurniawan, PT. Bina Rekacipta Utama (BIRU); Muhamad Arifin, Doni Zen, PT. Pertamina Hulu Energi (PHE WMO); Haryanto, Fentarie Gumilang, Banarwoto, Ministry of Energy and Mineral Resources, Indonesia

Assessment of Operational Risks of LNG and FLNG Vessels during Manoeuvring in Bad Weather Conditions

Nagi Abdussamie, Mohamed Daboos, Univ of Tripoli, Libya; Shuhong Chai, AMC, Univ of Tasmania, Australia

An Application of BN to Envisage Potential Accidents in FLNG Facility

Md. A Baksh, Rouzbeh Abbassi, Vikram Garaniya, Australian Maritime College, Univ of Tasmania, Australia; Faisal Khan, Memorial Univ of Newfoundland, Canada

Concept Design of Deepwater Catenary Mooring Lines with Submerged Buoys

Jun Yan, Dongsheng Qiao, Tianhui Fan, Jinping Ou, Dalian Univ of Technology, China

16:00

Coffee/Tea Break

Prefunction Area

14. Coastal Dynamics I

Thursday

October 6

16:20

Kauri

Chair: Bin Teng, Dalian Univ. of Tech., China

Co-Chair: Toshiaki Kanemoto, Kyushu Inst of Tech, Japan

Development of Tsunami Design Provisions for ASCE 7-16 [Oral presentation]

Ian N Robertson, Univ of Hawaii, USA

A Comparison of the Uncertainty of Parameter Estimation Methods Using Annual Extreme Precipitation in the Taihu Basin of China

Yuyin Liang, Shuguang Liu, Zhengzheng Zhou, Tongji Univ, China; Yiping Guo, McMaster Univ, Canada

Modified Predictive Methods of Mean Overtopping Discharge for Perforated Caissons with Non-breaking Waves

Xiao Liu, Yong Liu, Ocean Univ of China, China

Coastal Reservoir--to Supply SE Queensland Sufficient Freshwater from the Sea without Desalination

Shu-Qing Yang, Univ of Wollongong, Australia

Preliminary Study on Response of Offshore Tidal Level to Sea Temperature Rise in the Yangtze River Estuary

Wei Chen, Zhejiang Ocean Univ; Cuiping Kuang, Tongji Univ; Jie Gu, Shanghai Ocean Univ; Liangduo Shen, Zhejiang Ocean Univ, China

Experimental Study of Coastal Protection by the Hinged Concrete Slab Mattress

Jianwei Zhang, Yuyang Shao, Zhenglei Zhu, Hohai Univ; Feipeng Wang, Ningbo China Communication Water Transportation Design and Research Co, China

Current Pattern Distribution and Characteristics near Port of Keelung

Hsing-Yu Wang, Hui-Ming Fang, National Taiwan Ocean Univ; Yun-Chih Chiang, Tzu Chi Univ; Chih-Chung Wen, Hung Kuang Univ; Sung-Shan Hsiao, National Taiwan Ocean Univ, Taiwan China

15. Ocean Technology II

Thursday

October 6

16:20

Cypress

Chair: Binbin Li, Bureau Veritas Marine & Offshore, Singapore

Co-Chair: Pei-Chi Chang, National Cheng Kung Univ, Taiwan China

Fully Coupled Analysis of Offshore Deck Mating Operation of a Large Topside Module

Sa Young Hong, Bo Woo Nam, Yoon-Jin Ha, Seok Won Hong, Korea Research Inst of Ships and Ocean Engineering, Korea

An Experimental Study on the Mating Operation of a Large Topside Module on a FLNG

Yoon Jin Ha, Bo Woo Nam, Korean Research Inst of Ship and Ocean Engineering; Dong Woo Jung, Samsung Heavy Industry; Sa Young Hong, Korean Research Inst of Ship and Ocean Engineering; Hyun Jo Kim, Samsung Heavy Industry, Korea

Global Performance and Tendon Tension Analysis of Tension Leg Platform: Quasi-dynamic Approach vs Fully Coupled Approach

Binbin Li, Wei Huang, Bureau Veritas Marine & Offshore, Singapore; Sime Malenica, Guillaume De-Hauteclocque, Bureau Veritas, France; Xiaobo Chen, Bureau Veritas Marine & Offshore, Singapore

The Optimal Flow Structure in a Two-direction Rotating Annular Flume

Zhenglei Zhu, Yuyang Shao, Jianwei Zhang, Hohai Univ; Kun Cao, CCCC Third Harbor Consultants, China

A Study on Moored Floating Body Using Non-linear FEM Analysis

Namkug Ku, Dong-Eui Univ; Ju-Hwan Cha, Mokpo National Univ, Korea

Comparing Time Domain and Frequency Domain Transfer Functions in Spectral Fatigue Design of Fixed Platforms

Mehrdad Kimiaei, Univ of Western Australia; Vikas Kejriwal, Atkins Australasia Pty Ltd, Australia

isope

PACOMS Banquet

19:00-21:30 Thursday

Norfolk

FRIDAY October 7

16. Coastal Dynamics II

Friday

October 7

08:30

Kauri

Chair: Hua Liu, Shanghai Jiao Tong Univ., China
Co-Chair: Bin Ren, Dalian University of Technology, China

Predicting the Wave Overtopping Rate at Berm Breakwaters

Karthika Pillai, Amir Etemad-Shahidi, Charles Lemckert, Griffith Univ, Australia

Wave Forces on a Submerged Horizontal Plate over a Sloping Beach due to a Solitary Wave

Jie Dong, Benlong Wang, Hua Liu, Shanghai Jiao Tong Univ, China

A Numerical Study on Asymmetries of Obliquely Incident Waves over a Slope Bottom

Yuxiang Ma, Hongzhou Chen, Xiaozhou Ma, Guohai Dong, Dalian Univ of Technology, China

Numerical Modeling of Current and Wave Interaction in Huanghua Harbor, China

HL Song, CP Kuang, HD Liang, Tongji Univ; J Gu, Shanghai Ocean Univ, China

Porous Seabed Response under Skewed and Asymmetric Waves

Chi Zhang, Yuchen Sun, Hohai Univ; Huimin Zhu, Jiangsu Province Surveying and Mapping Engineering Inst; Jundong Chen, Qingyang Zhang, Yuan Li, Hohai Univ, China

Urban Beaches Coastal Monitoring Program [Oral presentation]

Matthew Harry, Kim Bowra, City of Gold Coast; Derek Todd, Griffith Centre for Coastal Management, Australia

17. Geotechnical Engineering
Friday October 7 08:30 Cypress

Chair: C. Gaudin, Univ of Western Australia, Australia
Co-Chair:

A Comparative Study on Standard Analysis and CEL Method of Evaluation on the Penetration of Double Suction Plate Anchor in Clay
Insuk Han, Osoon Kwon, Myounghak Oh, Korea Inst of Ocean Science and Technology, Korea

Discrete Element Numerical Analysis on Keying Characteristics of Suction Embedded Plate Anchor [Proceedings Only]
Huiming Tan, Keda Cao, Jia Chen, Zhong Wang, Hohai Univ, China

Finite Element Analyses of Soil Squeezing and Its Application to Offshore Foundations in Multi-layer Stratigraphies
Shah Neyamat Ullah, National Univ of Singapore, Singapore; Yuxia Hu, Univ of Western Australia, Australia

Experimental Study of Wave Motion and Pore Pressure around a Submerged Impermeable Breakwater in a Sandy Seabed
Yanyan Zhai, Jisheng Zhang, Lai Jiang, Qianchen Xie, Hao Chen, Hohai Univ, China

Wave-Induced Oscillatory Response in a Randomly Heterogeneous Seabed with Cross-correlated Soil Properties
X. Y. Peng, L. L. Zhang, Shanghai Jiao Tong Univ, China

18. Closing Session

Friday October 7 11:00 Cypress/Kauri

Chair: Jin Chung, ISOPE, USA
Co-Chair Sa Young Hong, KRISO, Korea

PACOMS Lunch
Friday October 7 11:30 Relish Restaurant

SYMPOSIUM TOUR: October 7, Friday

13:30-17:00
Hinterland - Springbrook National Park sponsored by ISOPE.
Reservation on *first-come-first-serve* basis.
Download the form from:

<http://www.isopec.org/conferences/conferences.htm> >PACOMS-2016, or Email to isopec-2@isopec.org for a form



GENERAL INFORMATION

PLACE AND DATE: Gold Coast, Australia, October 4-7, 2016

All ISOPE-PACOMS-2016 Symposium and Social Events will take place at the venue **Crowne Plaza Surfers Paradise, Gold Coast, Australia**, the official venue for the Symposium.

Crowne Plaza Surfers Paradise
2807 Gold Coast Highway
Surfers Paradise, QLD, 4217, Australia
Tel: +61 7 5592 9900
<http://www.crowneplazasurfersparadise.com.au/>

HOTEL RESERVATION ONLINE BOOKING

<https://aws.passkey.com/g/55077295>
[/www.griffith.edu.au/__data/assets/pdf_file/0005/790709/Conference-Booking-Form-12th-ISOPE-Pacific-Asia-Offshore-Mechanics-Symposium.pdf](http://www.griffith.edu.au/__data/assets/pdf_file/0005/790709/Conference-Booking-Form-12th-ISOPE-Pacific-Asia-Offshore-Mechanics-Symposium.pdf)

SYMPOSIUM REGISTRATION FORM

Download from www.isopec.org > Program > Symposium > PACOMS-2016

Reception

Tuesday, Oct. 4, 2016, 18:30,

Poolside

Symposium Banquet

Thursday, Oct. 6, 2016, 19:30,

Norfolk

PARKING: Free parking.

LANGUAGE

The language for the conference is English. No translation service will be arranged.

AIR TRAVEL

Gold Coast is the host city of PACOMS-2016. There are 2 airports you can fly into to get to the conference: Brisbane and Gold Coast (Coolangatta) Airports. Brisbane Airport is about 80 km from the venue while Coolangatta Airport is about 30 km. Most international airlines fly into Brisbane and a smaller number fly direct to Coolangatta. However, if you are combining the conference with a holiday and you intend to arrive or depart via another airport such as Sydney/Melbourne, you can save time and money if you organize your domestic flight to Coolangatta Airport.

CURRENCY EXCHANGE

Pay attention to the exchange rate fluctuation. (A\$1 = US\$0.75 as of July 12, 2016).

AIRPORT to Crowne Plaza Surfers Paradise, Gold Coast

Please find the travel information at www.griffith.edu.au/conference/pacoms-2016/travel-and-visa-information

Brisbane International Airport to Crowne Plaza Surfers Paradise

Train (A\$30.30): Take the Airtrain to Nerang Station,
Shuttle Bus: A\$49 per adult each way or A\$92 return
Taxi: A\$200-\$280

Gold Coast/Coolangatta Airport Transfer to Crowne Plaza Surfers Paradise
 Shuttle Bus (A\$22 per adult each way or \$41 return)
 Taxi (A\$50 for a sedan, or A\$65 for a Maxi Taxi.)

**PACOMS-2016 ADVANCE REGISTRATION FEES
 (if received before September 11)**

REGISTRATION. Use the Advance Registration Form from www.isopec.org

Register directly through ISOPE, California, USA: Fax **1-650-254-2038** or meetings@isopec.org. Payment of the registration fees should be made only in US dollars.

DEADLINE for Advance Symposium Registration:

1) April 20, 2016 for one presenter per paper: No cancellation refund granted.

2) September 12, 2016 for others.

Complete and send this Registration Form with correct payment amount in US\$. The fee-paid participants will receive confirmation. If received after the deadline, the sender registers on site with a surcharge of US\$150.

Registration after the deadline below costs additional US\$150.

Complete this form with correct amount to reach **ISOPE** by **applicable deadlines.**

Download our form from:

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

All persons attending the symposium are required to register, pay the appropriate fee, and get a symposium badge. Registration fees are as follows:

Category	Advance Registration Fee (US \$)*	
	Received before the Deadlines	
<input type="checkbox"/> Author, Co-authors	500	_____
<input type="checkbox"/> Session or Symposium Chair, Co-Chair	500	_____
<input type="checkbox"/> ISOPE Member	450	_____
<input type="checkbox"/> ISOPE member with new application (incl. 2016 membership fee and 1-year journal issues)	650	_____
<input type="checkbox"/> Non-Member	650	_____
<input type="checkbox"/> Spouses (no proceedings, incl. lunch, banquet)	Free	_____
<input type="checkbox"/> Full-time Student with 2016 ID Card	400	_____
<input type="checkbox"/> PACOMS Banquet	Free	_____
<input type="checkbox"/> Booking Friday Afternoon Tour**	ISOPE-sponsored	

* The fee in this table is for the advance-registered participants. The Symposium registration fee *includes* Reception, PACOMS Banquet, tea breaks, and the symposium proceedings.

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

REGISTRATION CANCELLATIONS

Request for cancellation of registration by non-authors must be received in writing by **September 12, 2016** only will be granted a refund minus US\$150 US processing charge.

REGISTRATION BADGE

Registration badges are required for admittance to all the symposium activities, including the reception and banquet.

ON-SITE SYMPOSIUM REGISTRATION

Participants who miss the advance registration may register at the Symposium Registration Desk, but there is US\$150 surcharge. The registration desk will be open during the following hours:

Tuesday, Oct.4 17:00 - 18:30

ISOPE PUBLICATION ORDER

A **PACOMS-2016 Symposium Proceedings** (USB, ISBN 978-1-880653-98-2, ISSN 1946-004X) is included in the symposium registration fees. A single-volume proceedings in USB (610 pp. est.) can also be ordered by email, fax or air mail at:

\$100 (ISOPE Member \$80) plus \$30 Express shipping & handling.

ISOPE PUBLICATION can be ordered from ISOPE, 495 North Whisman Road, Suite 300, Mountain View, California 94043-5711, USA: FAX 1-650-254-2038; orders@isope.org . Advance payment is required. MasterCard, VISA, AMEX card, bank wire-transfer or U.S. bank checks in US Dollar *payable to ISOPE* will be accepted. (Download the ISOPE Publication Order Form from www.isope.org > Orders or email to orders@isope.org for publication order form.)

PACOMS-2016 HEADQUARTERS

RECEPTION

18:30-20:00 Tuesday, Oct. 4

Poolside, Crowne Plaza

PACOMS SYMPOSIUM BANQUET

19:00-21:00 Thursday, Oct. 6

Norfolk

PPT TEST 08:00 daily

Session Room

A **power-point** projector connected to PC (Read Author Information form) and screen is set up during 08:00-17:00 (Oct. 5-7) in the session rooms.

INTERNATIONAL PARTICIPANTS AND VISA APPLICATION

International authors, participants or attendees who need help (except financial) can contact: Prof. Hong Zhang, **PACOMS-2016 Griffith University Local Secretariat**

Email: pacoms2016@griffith.edu.au

Entry Visa to Australia. See details at

www.griffith.edu.au/conference/pacoms-2016/travel-and-visa-information

PACOMS-2016 Local Secretariat will assist, if the request for invitation letter is received by August 10, 2016.

CLIMATE

The October weather in Gold Coast is fine and warm, temperature ranges 15°C~25°C.



About Gold Coast, please go to <http://www.visitgoldcoast.com/>

TECHNICAL PROGRAM
PACOMS-2016 Gold Coast
Gold Coast, Australia, October 4-7, 2016

*Download the Hotel Reservation Form and Advance
Registration Form from*
<http://www.isopec.org/conferences/conferences.htm>
> PACOMS-2016.



Forthcoming ISOPE Meetings

ISOPE-2017 San Francisco

The 27th (2017) International
Ocean and Polar Engineering Conference
San Francisco, CA, USA, June 25-30, 2017

Abstract Deadline: October 20, 2016

Online Abstract Submission

[http://www.isopec.org/call4papers/2017/HowToSubmit
AbstractOnline.htm](http://www.isopec.org/call4papers/2017/HowToSubmitAbstractOnline.htm) and Technical Program
<http://www.isopec.org/conferences/conferences.htm>
Call For Papers on www.isopec.org

Including additional ISOPE symposia sessions:

*Arctic Science and Tech Arctic Materials -
Renewable Energy and Environment- Frontier Energy Tech-
Sloshing- Tsunami and Safety Underwater System
Strain Based Design- High-performance Materials (HPM)
Asset Integrity Manganese Steel*

ISOPE-2018 Sapporo

28th International Ocean and Polar Engineering Conference
Sapporo, Japan, June 10-15, 2018

OMS-2018/OMGH-2018 Sapporo

12th ISOPE Ocean Mining & Gas Hydrates Symposium
Sapporo, Japan, June 10-15, 2018
www.deepoceanmining.org : www.isopec.org

PACOMS-2018 Jeju Island (visa-free)

13th ISOPE Pacific-Asia Offshore Mechanics Symposium
Jeju Island, Korea, October, 2018



International Society of
Offshore and Polar Engineers
P.O. Box 189
Cupertino, CA 95015-0189, USA
Fax: 1-650-254-2038
meetings@isopec.org; www.isopec.org