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June 15–20, Busan, Korea

at BEXCO

The Twenty-fourth (2014) International
**Ocean and Polar
Engineering Conference**

Including additional ISOPE symposia:

- 1st Additive Manufacturing & 3D Printing
- 2nd Manganese Steel
- 3rd Tsunami & Safety
- 3rd Asset Integrity
- 5th Arctic Science & Technology
- 4th Arctic Materials
- 5th Renewable Energy & Environment
- 6th Sloshing Dynamics & Design
- 6th Frontier Energy Tech
- 7th Strain-Based Design
- 12th High-Performance Materials

ISOPE-2014

Busan, Korea, June 15–20

Technical Program

(Updated April 1, 2014)

Refereed papers from 48 countries in 152 technical sessions
10 plenary and keynote presentations

Full Program with Paper List, General Information, Reservations,
Publications and Updates on

www.isopec.org www.isopec2014.org

Forms for Advance Registration and Venue Hotel:

Inside this program and at www.isopec.org or www.isopec2014.org

Organized by:

Technical Program Committee, ISOPE

Sponsored by:

International Society of Offshore and Polar Engineers (ISOPE)
with cooperating organizations (listed inside)



ISOPE, P.O. Box 189
Cupertino, CA 95015-0189, USA
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Reception and Registration: ISOPE-2013



Conference Opening Session: ISOPE-2013



Annual Conference Banquet: **ISOPE-2013**

More ISOPE-2013 Anchorage photos on www.isopec.org and www.isopec2014.org

ISOPE-2014 Busan

The 24th Annual International Ocean and Polar Engineering
Conference, Busan, Korea, June 15-20, 2014

Full Program with Paper List: Download from
www.isopec.org and www.isopec2014.org or
<http://www.isopec.org/conferences/conferences.htm>

Additional sponsors to be added

SK innovation **ExxonMobil.**
Busan Metropolitan City



2013 ISOPE Awards: Best Student Paper, Scholarship, Session Organizer, CH Kim, Best Paper: Presentations at 23rd Annual ISOPE Conference Banquet

Welcome to the ISOPE-2014 Conference

We greatly appreciate the excellent response, with **1150+** abstracts, and help we have received from colleagues around the world in the successful organization of the 24th International Ocean and Polar Engineering Conference (ISOPE-2014), Busan, Korea, June 15–20, 2014. The Conference features **152** sessions of peer-reviewed papers and 10 plenary and keynote presentations from more than **48** countries, including the ISOPE specialty symposia as a part of the ISOPE-2014 Conference.

The conference program is issued in 2 versions: Session time and rooms printed and full conference program online (www.isopec.org and www.isopec2014.org).

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 high-quality papers (in both originality and significance) accepted through rigorous review, establishing high international standards for publication and worldwide distribution, and promoting interdisciplinary interaction between academia and industry.

The International Society of Ocean and Polar Engineers (ISOPE) has already held 54 successful international meetings with peer-reviewed papers:

- 1st (1990) European Offshore Mechanics Symposium (**EUROMS-90**) Trondheim; EUROMS-99 Moscow; EUROMS-2012 Istanbul.
 - 1st (1990) Pacific/Asia Offshore Mechanics Symposium (**PACOMS-90**) Seoul; 1994 Beijing; 1996 Pusan; 2002 Daejeon; 2004 Vladivostok; 2006 Dalian; 2008 Bangkok; 2010 Busan; 2012 Vladivostok; 2014 to be Shanghai.
 - Annual **ISOPE** conferences, starting in Edinburgh, 1991, have been held in San Francisco, Singapore, Osaka, The Hague, Los Angeles, Honolulu, Montréal, Brest, Seattle, Stavanger, Kitakyushu, Honolulu, Toulon, Seoul, San Francisco, Lisbon, Vancouver, Osaka, Beijing, Maui, Rhodes, and Anchorage. Since 1992, the annual ISOPE conference program has been the world's largest of its kind with peer-reviewed papers.
 - 1st (1995) ISOPE Ocean Mining & Gas Hydrates Symposium (**OMS-95**), Tsukuba, 1995; Seoul; Goa; Szczecin; Tsukuba; Changsha; Lisbon; Chennai, Szczecin.
 - 1st (1996) International Deep-Ocean Technology (**IDOT-96**) Symposium and Workshop, 1996 Los Angeles; 2001 Stavanger; 2009 Beijing.
 - ISOPE **HPM** (High-Performance Materials) Symposium: Started in Honolulu 2003 and expanded every year.
 - ISOPE Series of specialty symposia: **ANGT**: Seoul 2005-;
- Strain-Based Design SBD**: Lisbon 2007-; **Nanotechnology NANOS**: Lisbon 2007; **Frontier Energy** 2009; **Sloshing Dynamics, Sloshing** 2009-; **Renewable Energy/Environment, REES-2010**; **Tsunami, Arctic Science & Tech, Arctic-2010**; **Arctic Materials-2011**; **Asset Integrity-2012**; **Manganese Steel-2013**; **Additive Manufacturing-2014**.

On behalf of the Technical Program Committee, it is our pleasure to welcome participants from all over the world to the ISOPE-2014 Conference in Busan, Korea.

Jin S Chung, USA	Han-il Park Korea	Raghavan Ayer USA
Demos Angelides Greece	Ronald H Knapp USA	Xizhao Jiang China

Co-chairs of the ISOPE-2014 Conference

SUNDAY JUNE 15

09:00	ISOPE Board of Directors Meeting II	BEXCO 208, 2F
10:30	ISOPE-2014 Executive Committee Meeting EUROMS and PACOMS Executive Committees	BEXCO 208, 2F
15:00-18:00	CONFERENCE REGISTRATION	Lobby, 1F
17:00-18:00	WELCOME RECEPTION	301, 3F
19:00	STUDENT FORUM (advance reservation by April 10 to isope-2@isope.org)	BEXCO Room
Tour Information	Visit tour desk in ISOPE registration area: www.isope.org	
Spouse Program	Join Tour program: see www.isope.org	

MONDAY JUNE 16

On-Site Registration starts at 07:30	BEXCO Lobby, 1F
07:30 Session Chair/Co-chair Briefing	Lobby, 1F
08:30 CONFERENCE OPENING CEREMONY	301, 3F
08:30	
1. OCEAN AND ENERGY REVIEW—2013	301, 3F
10:30	
2. LNG SLOSHING I: LNG Sloshing Assessment	BEXCO Room 1
3. HYDRODYNAMICS I: Wave Mechanics 1	Room 2
4. RENEWABLE ENERGY I: Wind Foundation 1	Room 3
5. ADDITIVE MFG & 3D PRINTING I: Additive Mfg	Room 4
6. ASSET INTEGRITY I: Asset Integrity Management	Room 5
7. VORTEX-INDUCED VIBRATION I	Room 6
8. SBD I: Numerical Modeling	Room 7
9. FERT I: Gas Hydrates 1	Room 8
10. ADVANCED SHIP TECH I: Hull Form Design	Room 9
11. FERT VI: Drilling & Production 1	Room 10
13:00 Plenary I: South China Sea Deepwater	Room 4
13:15 Plenary II: Arctic Stationkeeping	Room 10
14:00	
12. LNG SLOSHING II: Loads & Structural Assess	Room 1
13. HYDRODYNAMICS II: Wave Mechanics 2	Room 2
14. RENEWABLE ENERGY II: Wind Foundation 2	Room 3
15. ADDITIVE MFG & 3D PRINTING II: Novel Materials	Room 4
16. ASSET INTEGRITY II: Marine Integrity	Room 5
17. VORTEX-INDUCED VIBRATION II	Room 6
18. SBD II: Strain Capacity	Room 7
19. FERT II: Gas Hydrates 2:	Room 8
20. ADVANCED SHIP TECH II: Ship Hydrodynamics	Room 9
21. FERT VII: Drilling & Production 2	Room 10
16:20	
22. LNG SLOSHING III: Korean Sloshing Projects	Room 1
23. HYDRODYNAMICS III: Metocean	Room 2
24. RENEWABLE ENERGY III: Wind Structure	Room 3
25. RISK ASSESSMENT AND RELIABILITY I	Room 4
26. ASSET INTEGRITY III: Pipeline/Flow/Riser Integrity	Room 5
27. VORTEX-INDUCED VIBRATION III	Room 6
28. SBD III: Material Development	Room 7
29. FERT III: Deep Ocean Minerals & Environ 3	Room 8
30. ADVANCED SHIP TECH III: Hydrodynamic Load	Room 9
31. FERT VIII: Enhanced Oil Recovery (EOR) 1	Room 10
18:30 ISOPE Technical Committee Meetings	Notice on bulletin board
19:30 PACOMS, EUROMS, ISOPE founding members: Reunion	Hotel and Room TBA

TUESDAY JUNE 17

07:30	Session Chair/Co-chair Briefing	Lobby, 1F
08:00		
32.	LNG SLOSHING IV: Ship & Liquid Motion Coupling	Room 1
33.	HYDRODYNAMICS IV: CFD I	Room 2
34.	RENEWABLE ENERGY IV: Wind Floating 1	Room 3
35.	RISK ASSESSMENT AND RELIABILITY II	Room 4
36.	ASSET INTEGRITY IV: Structural Integrity	Room 5
37.	ASSET INTEGRITY V: Integrity Assess Methods	Room 6
38.	SBD IV: Assessment	Room 7
39.	FERT IV: Clean Coal 1	Room 8
40.	ADVANCED SHIP TECH IV: Shipbldg & Simulation	Room 9
41.	FERT IX: EOR 2	Room 10
10:30		
42.	LNG SLOSHING V: Breaking Wave Impacts	Room 1
43.	HYDRODYNAMICS V: CFD 2	Room 2
44.	RENEWABLE ENERGY V: Wind Floating 2	Room 3
45.	STRENGTH AND RISK	Room 4
46.	HMS I: Wear/Erosion Resistance	Room 5
47.	ADVANCED SHIP TECH VII: Transport/Navigation	Room 6
48.	SUBSEA-PIPELINE-RISER I: Concept and	Room 7
49.	FERT V Clean Coal 2	Room 8
50.	ADVANCED SHIP TECH V: Ultimate Strength	Room 9
51.	UNDERWATER SYSTEMS I: AUV, Robotics ...1	Room 10
13:00		
	Jin S Chung Award Lecture (Ocean and Global Environment)	Room 2
14:00		
52.	LNG SLOSHING VI: Numerical Simulations	Room 1
53.	HYDRODYNAMICS VI: CFD 3 & NWT	Room 2
54.	RENEWABLE ENERGY VI: Wind Analysis 1	Room 3
55.	OCEAN TECH I: SCS LIWAN 3– Floatover	Room 4
56.	HMS II: Phase Transf & Deformation Mechanism	Room 5
57.	COASTAL HYDRODYNAMICS I: Storm Surge	Room 6
58.	SUBSEA-PIPELINE-RISER II: Analysis	Room 7
59.	GEOTECH I: Suction Piles	Room 8
60.	ADVANCED SHIP TECH VI: Struct Impact Response	Room 9
61.	UNDERWATER SYSTEMS II:AUV, Robotics ... 2	Room 10
16:20		
62.	LNG SLOSHING VII: Experiments	Room 1
63.	HYDRODYNAMICS VII: DP and Control	Room 2
64.	RENEWABLE ENERGY VII: Wind Analysis 2	Room 3
65.	OCEAN TECH II: SCS - Subsea Construction	Room 4
66.	HMS III: Corrosion & Hydrogen Cracking Resist	Room 5
67.	COASTAL HYDRODYNAMICS II: Waves 1	Room 6
68.	SUBSEA-PIPELINE-RISER III:Engrg 1	Room 7
69.	GEOTECH II: Offshore Foundation	Room 8
70.	TSUNAMI & SAFETY I: Generation to Inundation	Room 9
71.	UNDERWATER SYSTEMS III:AUV, Robotics ... 3	Room 10
15:30	Awards Committee Meeting	208, 2F
16:30	Board of Editors Meeting (IJOPE and JOWE)	208, 2F
19:30	ISOPE-2014/2015 TPC Meeting	Hotel TBA

WEDNESDAY JUNE 18

07:30 Session Chair/Co-chair Briefing **Lobby, 1F**

08:00

72. LNG SLOSHING VIII: Classification Society Panel	Room 1
73. HYDRODYNAMICS VIII: Fluid-Structure 1	Room 2
74. RENEWABLE ENERGY VIII: Wind Analysis 3	Room 3
75. OCEAN TECH III: SCS LIWAN 3– Field Development	Room 4
76. HPM I: Advanced Materials & Offshore Struct 1	Room 5
77. COASTAL HYDRODYNAMICS III: Waves 2	Room 6
78. SUBSEA-PIPELINE-RISER IV:Engrg 2	Room 7
79. GEOTECH III: Soil Improvement	Room 8
80.TSUNAMI & SAFETY II: Forces 1	Room 9
81. UNDERWATER SYSTEMS IV:AUV, Robotics ... 4	Room 10

10:30

82. LNG SLOSHING IX: Benchmark Test	Room 1
83. HYDRODYNAMICS IX: Fluid-Structure 2	Room 2
84. RENEWABLE ENERGY IX: Wind General	Room 3
85. OCEAN TECH IV: Installation 1	Room 4
86. HPM II: Advanced Materials & Offshore Struct 2	Room 5
87. COASTAL HYDRODYNAMICS IV: Structures 1	Room 6
88. SUBSEA-PIPELINE-RISER V: Pipelines 1	Room 7
89. GEOTECH IV: Soil Properties	Room 8
90.TSUNAMI & SAFETY III: Forces 2	Room 9
91. UNDERWATER SYSTEMS V: AUV, Robotics ... 5	Room 10

12:00 ISOPE Board of Directors Meeting III 208, 2F

13:15 Plenary III: Advances in Subsea, Pipeline, Risers Room 7

13:15 Keynote IV: 2013 Typhoon Haiyan – Storm Surge Room 6

14:00

92. HPM IX: Arctic Materials 1	Room 1
93. HYDRODYNAMICS X: Fluid-Structure 3	Room 2
94. RENEWABLE ENERGY X: OTEC	Room 3
95. OCEAN TECH V: Installation 2	Room 4
96. HPM III: Advances in Welding Technology	Room 5
97. COASTAL HYDRODYNAMICS V: Structures 2	Room 6
98. SUBSEA-PIPELINE-RISER VI: Pipelines 2	Room 7
99. GEOTECH V: Stability and Seepage	Room 8
100.TSUNAMI & SAFETY IV: Remote Sensing	Room 9
101. ARCTIC SCI & TECH I: Arctic (NSR) Shippings 1	Room 10

16:20

102. HPM X: Arctic Materials 2	Room 1
103. HYDRODYNAMICS XI: Fluid-Struct 4 & Green Ship	Room 2
104. RENEWABLE ENERGY XI: OTEC & Biomass	Room 3
105. OCEAN TECH VII: Offshore Systems 1	Room 4
106. HPM IV: Advances in Shipbuilding Steels	Room 5
107. COASTAL HYDRODYNAMICS VI: Current 1	Room 6
108. SUBSEA-PIPELINE-RISER VII:Subs Install	Room 7
109. GEOTECH VI: Piles and Foundation	Room 8
110.TSUNAMI & SAFETY 5: Panel	Room 9
111. ARCTIC SCI & TECH II: Arctic Mechanics	Room 10



19:00 **BEXCO Room 301, 3F**

ANNUAL CONFERENCE BANQUET

24th ISOPE Cultural Event, Best Paper, Best Student Paper, Outstanding Students and Awards

Don't forget the banquet ticket.

THURSDAY JUNE 19

07:30 Session Chair/Co-chair Briefing **Lobby, 1F**

08:00

- | | |
|--|---------|
| 112. OCEAN TECH VI: Jackup and Jacket | Room 1 |
| 113. HYDRODYNAMICS XII: Fluid-Struct 5 - Impact | Room 2 |
| 114. RENEWABLE ENERGY XII: OWC 1 | Room 3 |
| 115. OCEAN TECH VIII: Offshore Systems 2 | Room 4 |
| 116. HPM V: Fatigue & Fracture 1 | Room 5 |
| 117. COASTAL HYDRODYNAMICS VII: Current 2 | Room 6 |
| 118. SUBSEA-PIPELINE-RISER VIII: Riser SCR | Room 7 |
| 119. GEOTECH VII: Cyclic Loading | Room 8 |
| 120. ENVIRONMENT I: CCS (Carbon Capture and Stor) | Room 9 |
| 121. ARCTIC SCI & TECH III: Arctic (NSR) Shippings 2 | Room 10 |

10:30

- | | |
|---|---------|
| 122. RENEWABLE ENERGY XVI: OWC 5 | Room 1 |
| 123. HYDRODYNAMICS XIII: Fluid-Struct 6- Ships | Room 2 |
| 124. RENEWABLE ENERGY XIII: OWC 2 | Room 3 |
| 125. OCEAN TECH IX: FPSO/FLNG/FSRU 1 | Room 4 |
| 126. HPM VI: Fatigue & Fracture 2 | Room 5 |
| 127. COASTAL HYDRODYNAMICS VIII: Beach & Est 1 | Room 6 |
| 128. SUBSEA-PIPELINE-RISER IX: Riser TTR | Room 7 |
| 129. GEOTECH VIII: Numerical Analysis | Room 8 |
| 130. ENVIRONMENT II: Oil Spill and Containment | Room 9 |
| 131. ARCTIC SCI & TECH IV: Ships and Structures 1 | Room 10 |

12:00 PACOMS-2014 Shanghai Executive Committee **208, 2F**

14:00

- | | |
|--|---------|
| 132. RENEWABLE ENERGY XVII: Tidal & Current | Room 1 |
| 133. HYDRODYNAMICS XIV: Springing & Whipping | Room 2 |
| 134. RENEWABLE ENERGY XIV: OWC 3 | Room 3 |
| 135. OCEAN TECH XI: FPSO/FLNG/FSRU 2 | Room 4 |
| 136. HPM VII: Adv Concretes and Composites 1 | Room 5 |
| 137. COASTAL HYDRODYNAMICS IX: Beach & Estu 2 | Room 6 |
| 138. SUBSEA-PIPELINE-RISER X: Fatigue | Room 7 |
| 139. GEOTECH IX: Testing and Instrumentation | Room 8 |
| 140. ENVIRONMENT III: Ocean Environment | Room 9 |
| 141. ARCTIC SCI & TECH V: Ships and Structures 2 | Room 10 |

16:20

- | | |
|---|---------|
| 142. RENEWABLE ENERGY XVIII: Panel | Room 1 |
| 143. HYDRODYNAMICS XV: Comparative Studies | Room 2 |
| 144. RENEWABLE ENERGY XV: OWC 4 | Room 3 |
| 145. OCEAN TECH XII: -Semisub/SPAR/TLP | Room 4 |
| 146. HPM VIII: Adv Concretes and Composites 2 | Room 5 |
| 147. COASTAL HYDRODYNAMICS X: Beach & Estu 3 | Room 6 |
| 148. SUBSEA-PIPELINE-RISER XI: Flow Assur | Room 7 |
| 149. GEOTECH X: Construction and Materials | Room 8 |
| 150. ENVIRONMENT IV: Oil Development and Ecology | Room 9 |
| 151. ARCTIC SCI & TECH VI: Ships and Structures 3 | Room 10 |

Sunday – Thursday	
Author Practice	Individual session rooms
On-site Registration	Lobby, 1F
ISOPE Headquarters	Office 252, 2F
Proceedings Pickup	Registration Desk, Lobby

FRIDAY June 20

152. LNG SLOSHING WORKSHOP **09:00** **Room 252, 2F**
Industry Tours (Advance Signup required) _ See Updated Program
Sightseeing Tours: Click www.isopec.org and General Information
Find Updates in Program on www.isopec.org and www.isopec2014.org

TECHNICAL PROGRAM

ISOPE-2014 Busan **The Twenty-fourth (2014) International** **Ocean and Polar Engineering Conference** Busan, Korea, June 15–20, 2014



This 24th annual conference features **152** technical and opening general sessions, 7 plenary presentation and 3 keynote presentations with top experts from industry, academia and government. After peer review of the manuscripts selected from 1,180+ abstracts, some **650+** peer-reviewed-papers will be presented and discussed by researchers, engineers and managers from more than **48** countries. The conference proceedings of peer-reviewed papers in PDF files will be available in a set of 4 volumes on CD-ROM (4,000+ pp. est.) — paginated within each volume — during the conference and later for worldwide post-conference mail order from ISOPE: ISBN 978-1-880653-91-3; ISSN 1098-6189.

The number at end of the session title indicates the tentative number of the proceedings volume. Only the changes in titles or authors the Technical Program Committee received in writing before February 5, 2014 are reflected in this program. Final corrections will be updated in the Conference Proceedings of peer-reviewed papers and the Final Program.

All ISOPE publications are indexed by Engineering Index (EI), SCOPUS and others.

FULL CONFERENCE PROGRAM WITH SESSION / PAPER
LIST: Updated at

<http://www.isope.org/conferences/conferences.htm> or
www.isope2014.org
<http://www.isope.org/publications/publications.htm>

2014 Jin S Chung Award & Lecture

Tuesday 13:00

An Ocean Engineering Researcher's Effort toward Global Environmental Problems

Koterayama, W, Kyushu University, Kasuga, Japan

Plenary and Keynote Presentations and Topics of Interest:

Systematic Approach to Facilities Integrity Management (Plenary)

William J Sisak, **ExxonMobil** Production Company, Houston, Texas, USA

Technologies for Integrated Gas Value (Plenary)

Sergio Kapusta, **Shell** International E&P, Inc., Houston, Texas, USA

An Emerging Renewable Energy Solution: Photovoltaics (Plenary)
Dongman Cho, head, Performance Materials R&D Center, **SK Innovation**,
Daejeon, Korea

China's Offshore Developments in South China Sea: Challenge and Opportunity (Plenary I): Monday
Xiaojian Jin, general manager, CNOOC Engineering, Beijing, China

Storm Surges in Leyte Gulf, Philippines Caused by 2013 Typhoon Haiyan and Major Typhoons with Similar Tracks (Keynote IV):
Wednesday
Hiroyasu Kawai, Katsumi Seki, Takashi Fujiki, Port & Airport Research
Inst. (PARI), Yokosuka, Japan

Arctic Stationkeeping, Past, Present and Future (Plenary II): Monday
Robert Frederking, Ivana Kubat, James Millan, Mohamed Sayed,
National Research Council Canada, Canada

Recent Advances in Deepwater Subsea Flowline and Pipeline Technology
(Plenary III): Wednesday
Paul Juke, P. group, managing director, and Burak Ozturk, MCS Kenny,
Inc., **Wood Group Kenny**, Houston, Texas, USA

Arctic Sci & Tech I & III: Arctic (NSR) Shipping 1 & 2 -Sessions 101,
121

Yamal ARC7 LNGC: Beyond the Heavy Ice Ridge
Oh-Yig Kwon, Daewoo Shipbuilding & Marine Engineering, Korea

Status of Methane Hydrates Production R&D and Enhanced Recovery Technologies
Takeshi Komai, Tohoku Univ, Japan

The Outline of Environmental Impact Assessment for Mining Seafloor Massive Sulfides in Japan Outline in Japan's Massive Sulphide Development
Teruyoshi Narita, JOGMEC (Japan Oil, Gas and Metals National Corp.),
Japan

Piper Alpha Incident – 25 years (quarter century) and Carrying the Message Forward - Providing Renewal of Lessons Learned as a Keystone of Prevention
Bob Wittkower, Adriana Botto, Jose Garcia, Paul Jukes, Wood Group
Kenny, USA

Additive Manufacturing and 3D Printing for Oil and Gas: Transformative Potential and Technology Constraints (Invited)
Joseph A Camisa, ExxonMobil Research & Engineering; Vinit Verman,
ExxonMobil Technical Computing Co, USA

SATURDAY, June 14

Board of Directors: Annual Meeting I
16:00 BEXCO Lounge, 1F

SUNDAY, June 15

Board of Directors: Annual Meeting II

09:00 BEXCO Room 208, 2F

Conference Reception

17:00 BEXCO Room 301, 3F

Student Forum

19:00 BEXCO, Room TBA

MONDAY, June 16

Monday Session Chair Briefing

07:30 BEXCO Lobby 1F

Conference Opening Ceremony

08:30 BEXCO Room 301, 3F

ISOPE Technical Committee Meetings

18:00 BEXCO Rooms to be announced

Reunion: PACOMS, EUROMS, ISOPE founding members

19:30 Hotel and Room to be announced

TUESDAY, June 17

Tuesday Session Chair Briefing

07:30 Lobby, 1F

Awards Committee Meeting

08:30 Room 208, 2F

Board of Editors: IJOPE and JOWE

18:00 Room 208, 2F

ISOPE-2014/2015 TPC Meeting

19:30 Hotel and Room to be announced

WEDNESDAY, June 18

Wednesday Session Chair Briefing

07:30 Lobby 1

24th Annual ISOPE Conference Banquet

19:00 Room 301, 3F

THURSDAY, June 19

Thursday Session Chair Briefing

07:30 Lobby 1F

Ocean Mining and PACOMS Executive Committee

12:00 208, 2F

FRIDAY, June 20

152. LNG Sloshing Workshop

09:00 Room 208, 2F

INDUSTRY TOURS. See Updated Full Program on www.iso-pe.org: Advance reservation required.

SESSION LIST BY TOPICS

OCEAN AND ENERGY REVIEW (VOL. 1)

1. OCEAN AND ENERGY REVIEW (VOL. 1) 301, 3F

FRONTIER ENERGY RESOURCES TECHNOLOGY (VOL. 1)

9. FERT I: Gas Hydrates 1 Room 8
19. FERT II: Gas Hydrates 2 Room 8
29. FERT III: Deep Ocean Minerals & Environ 3 Room 8
39. FERT IV: Clean Coal 1 Room 8
49. FERT V Clean Coal 2 Room 8
11. FERT VI: Drilling & Production 1 Room 10
21. FERT VII: Drilling & Production 2 Room 10
31. FERT VIII: Enhanced Oil Recovery, EOR 1 Room 10
41. FERT IX: EOR 2 Room 10

RENEWABLE ENERGY (OFFSHORE WIND AND OCEAN) AND ENVIRONMENT (VOL. 1)

4. RENEWABLE ENERGY I: Wind Foundation 1 Room 3
14. RENEWABLE ENERGY II: Wind Foundation 2 Room 3
24. RENEWABLE ENERGY III: Wind Structure Room 3
34. RENEWABLE ENERGY IV: Wind Floating 1 Room 3
44. RENEWABLE ENERGY V: Wind Floating 2 Room 3
54. RENEWABLE ENERGY VI: Wind Analysis 1 Room 3
64. RENEWABLE ENERGY VII: Wind Analysis 2 Room 3
74. RENEWABLE ENERGY VIII: Wind Analysis 3 Room 3
84. RENEWABLE ENERGY IX: Wind General Room 3
94. RENEWABLE ENERGY X: OTEC Room 3
104. RENEWABLE ENERGY XI: OTEC & Biomass Room 3
114. RENEWABLE ENERGY XII: OWC 1 Room 3
124. RENEWABLE ENERGY XIII: OWC 2 Room 3
134. RENEWABLE ENERGY XIV: OWC 3 Room 3
144. RENEWABLE ENERGY XV: OWC 4 Room 3
122. RENEWABLE ENERGY XVI: OWC 5 Room 1
132. RENEWABLE ENERGY XVII: Tidal & Current Room 1
142. RENEWABLE ENERGY XVIII: Panel Room 1

120. ENVIRONMENT I: CCS (Carbon Capture and Storage) Room 9
130. ENVIRONMENT II: Oil Spill and Containment Room 9
140. ENVIRONMENT III: Ocean Environment Room 9
150. ENVIRONMENT IV: Oil Development and Ecology Room 9

OFFSHORE MECHANICS AND HYDRODYNAMICS (VOL. 1)

55. OCEAN TECH I: SCS LIWAN 3– Floatover Install Room 4
65. OCEAN TECH II: SCS - Subsea Construction Room 4
75. OCEAN TECH III: SCS LIWAN 3– Field Development Room 4
85. OCEAN TECH IV: Installation 1 Room 4
95. OCEAN TECH V: Installation 2 Room 4
112. OCEAN TECH VI: Jackup and Jacket Room 1
105. OCEAN TECH VII: Offshore Systems 1 Room 4
115. OCEAN TECH VIII: Offshore Systems 2 Room 4
125. OCEAN TECH IX: FPSO/FLNG/FSRU 1 Room 4
135. OCEAN TECH XI: FPSO/FLNG/FSRU 2 Room 4
145. OCEAN TECH XII: -Semisub/SPAR/TLP Room 4

GEOTECHNICAL ENGINEERING (VOL. 2)

59. GEOTECH I: Suction Piles Room 8

69. GEOTECH II: Offshore Foundation	Room 8
79. GEOTECH III: Soil Improvement	Room 8
89. GEOTECH IV: Soil Properties	Room 8
99. GEOTECH V: Stability and Seepage	Room 8
109. GEOTECH VI: Piles and Foundation	Room 8
119. GEOTECH VII: Cyclic Loading	Room 8
129. GEOTECH VIII: Numerical Analysis	Room 8
139. GEOTECH IX: Testing and Instrumentation	Room 8
149. GEOTECH X: Construction and Materials	Room 8

SUBSEA, PIPELINES, RISERS AND UMBILICALS (VOL. 2)

48. SUBSEA-PIPELINE-RISER I: Concept and	Room 7
58. SUBSEA-PIPELINE-RISER II: Analysis	Room 7
68. SUBSEA-PIPELINE-RISER III: Engrg 1	Room 7
78. SUBSEA-PIPELINE-RISER IV: Engrg 2	Room 7
88. SUBSEA-PIPELINE-RISER V: Pipelines 1	Room 7
98. SUBSEA-PIPELINE-RISER VI: Pipelines 2	Room 7
108. SUBSEA-PIPELINE-RISER VII: Subs Install	Room 7
118. SUBSEA-PIPELINE-RISER VIII: Riser SCR	Room 7
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Subsea and Install	Nonlinear Waves	Additive Mfg
Risers/Pipelines/Cable	Coastal Engineering	Safety, Risk , Reliability
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Ocean Resources	Remote Sensing	Tubular & Linepipe
Geotech&Envir Eng	Structures	Robotic Fish, AUV, ROV
	Environ &Modeling	Emerging Topics

The abstract should stress the originality and the significance of the results, and include the complete names, postal and e-mail addresses and fax numbers of all authors.

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TECHNICAL PROGRAM

ISOPE–2014 Busan, Korea
BEXCO Convention Center :
June 15–20, 2014

Full Program (Session and Paper List) and Update:

<http://www.isopec.org/conferences/conferences.htm> and
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ISOPE Journals and Conference Proceedings:
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Full Program and Updates include:

2014 Technical Program Committee (TPC) List

General Information

Information on Travel to Busan, and Entry Visa

Hotel reservation form (PDF version): *(June is the start of peak summer beach crowds. Book early in March to secure a room.)*

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11th PACOMS-2014 Symposium, Shanghai, China, October 12-16

25th Annual ISOPE–2015 Conference, Kona, Hawaii, USA, June 21-26

11th Deep Ocean Mining & Gas Hydrates Symposium: OMS-2015, Kona, Hawaii, USA, June 21-26