Welcome to ISOPE-2013 Conference

We greatly appreciate the excellent response with 1200+ abstracts and help we have received from colleagues around the world in the successful organization of the 23rd International Ocean (Offshore) and Polar Engineering Conference (ISOPE-2013), Anchorage, Alaska, June 30–July 5, 2013. The Conference features 151 sessions of peer-reviewed papers and 8 keynote presentations from more than 52 countries, including the ISOPE specialty symposia as a part of the ISOPE-2013 Conference.

The conference program is issued in 2 versions: Printed and internet (www.isope.org and www.isope2013.org). To meet the page limit, only the first author data are listed in the printed version, and the internet version lists all authors.

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 (Offshore) and Polar Engineers (ISOPE) has already held 52 successful international meetings with peer-reviewed papers:
3. Annual ISOPE conferences, starting in Edinburgh, 1991 have been held in San Francisco, Singapore, Osaka, The Hague, Los Angeles, Honolulu, Montreál, Brest, Seattle, Stavanger, Kitakyushu, Honolulu, Toulon, Seoul, San Francisco, Lisbon, Vancouver, Osaka, Beijing, Maui and Rhodes. Since 1992, the annual ISOPE conference program has been the world's largest of its kind with peer-reviewed papers.
4. 1st (1995) ISOPE Ocean Mining Symposium (OMS-95), Tsukuba, 1995; Seoul; Goa; Szecezin; Tsukuba; Changsha; Lisbon; Chennai.
6. ISOPE HPM (High-Performance Materials) Symposium: Started in Honolulu, 2003 and expanded every year.

On behalf of the Technical Program Committee, it is our pleasure to welcome participants from all over the world to the ISOPE-2013 Conference in Anchorage, Alaska.

Jin S Chung, USA
Raghavan Ayer, USA
Demos Angelides, Greece
Ronald H Knapp, USA
Xizhao Jiang, China
Shigeru Naito, Japan
Co-chairmen of the ISOPE-2013 Conference

646 papers, peer-reviewed in the ISOPE-2013 Conference proceedings and 42 additional papers for oral presentation only in 151 sessions, plus lectures and keynote sessions from 52 countries

General Information, Publication and Program on www.isope.org

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
Fax: +1-650-254-2038
meetings@isope.org: www.isope.org
SUNDAY  JUNE 30

09:00  ISOPE Board of Directors Meeting
10:30  ISOPE-2013 Executive Committee Meeting
15:00-18:00  CONFERENCE REGISTRATION
17:00-18:00  WELCOME RECEPTION sponsored by POSCO

CONFERENCE ROOMS
Artega

Sponsor Program  Join Tour program: see  www.isopeco.org

MONDAY  JULY 1

08:30  Conference Opening
Cook Hall

1. OCEAN AND ENERGY REVIEW—2013
Cook Hall

10:00  On-Site Registration starts at 07:30

07:30  Session Chair/co-chair Briefing
Lobby

08:00  Tuesday JULY 2

07:30  Session Chair/co-chair Briefing  Lobby

08:00  32. LNG Sloshing IV: Numer Simulation ...
33. HYDRODYNAMICS IV: Fluid-Structure Int...
34. RENEWABLE ENERGY IV: Offshore Wind 4
35. STRUCTURAL STRENGTH
36. ASSET INTEGRITY IV: Fatigue & Corrosion
37. VORTEX-INDUCED VIBRATION IV: Upstream
38. SB IV: Strain Capacity
39. FERT IV: Shales Gas
40. ADV SHIP TECH IV: Ship Design
41. SUBSEA-PIPELINES-RISERS-CABLE I:

10:30  42. LNG Sloshing V: CFD
43. HYDRODYNAMICS V: Fluid-Structure
44. RENEWABLE ENERGY V: Offshore Wind 5
45. HPM IV: Adv in Welding Technology 3
46. MANGANESE STEEL FOR ENERGY I: Phase
47. ARCTIC SCI & TECH I: Arctic Environment
48. SUBSEA-PIPELINES-RISERS-CABLE II: Install
49. FERT V: Panel
50. ADV SHIP TECH V: Maneuvering & Control
51. UNDERWATER SYSTEMS I: AUV & UUV

12:30  52. LNG Sloshing VI: Sloshing & Statistics
53. HYDRODYNAMICS VI: Fluid-Structure 5
54. RENEWABLE ENERGY VI: Offshore Wind 6
55. OCEAN TECH I SCS LIWAN 3-1 Field
56. MANGANESE STEEL FOR ENERGY II: Weld.
57. COASTAL I: Waves & Storm Surge 1
58. SUBSEA-PIPELINES-RISERS-CABLE III: Concept
59. GEOTECH I: Offshore Geotechnics 1
60. ADV SHIP TECH VI: Impact & Collision
61. UNDERWATER SYSTEMS II Propulsion ...

14:00  62. LNG Sloshing VII: Load Prediction & Struct...
63. HYDRODYNAMICS VII: Fluid-Structure 6...
64. RENEWABLE ENERGY VII: Offshore Wind 7 Dyn...
65. OCEAN TECH II SSC LIWAN 3-1 Field Dev
66. MANGANESE STEEL FOR ENERGY III: Cryogenic
67. COASTAL II: Waves & Storm Surge 1
68. SUBSEA-PIPELINES-RISERS-CABLE IV: Floww...
69. GEOTECH II: Offshore Geotechnics 2
70. ENVIRONMENT I: CO2 Capture and …
71. UNDERWATER SYSTEMS III: Control & Maneuver.

16:20  72. LNG Sloshing VIII: Liquid Cargo & Ship Motions ...%
73. HYDRODYNAMICS VIII: MetOcean I
74. RENEWABLE ENERGY VIII: Offshore Wind 8
75. OCEAN TECH III SCS LIWAN 3-1 Install...
76. HPM V: Adv Materials & Offshore Struc 1
77. COASTAL III: Waves & Storm Surge 2
78. SUBSEA-PIPELINES-RISERS-CABLE V: Perform...
79. GEOTECH III: Offshore Anchors
80. ENVIRONMENT II: Energy & Environment
81. UNDERWATER SYSTEMS IV: Navigation & …

18:00  Student Forum  Moved to Tuesday 12:30

18:30  Room names on bulletin board

ISOPE Technical Committee Meetings:

WEDNESDAY JULY 3

07:30  Session Chair/co-chair Briefing  Lobby

08:00  72. LNG Sloshing VIII: Liquid Cargo & Ship Motions ...%
73. HYDRODYNAMICS VIII: MetOcean I
74. RENEWABLE ENERGY VIII: Offshore Wind 8
75. OCEAN TECH III SCS LIWAN 3-1 Install...
76. HPM V: Adv Materials & Offshore Struc 1
77. COASTAL III: Waves & Storm Surge 2
78. SUBSEA-PIPELINES-RISERS-CABLE V: Perform...
79. GEOTECH III: Offshore Anchors
80. ENVIRONMENT II: Energy & Environment
81. UNDERWATER SYSTEMS IV: Navigation & …

10:30  82. LNG Sloshing IX: Panel 1 CFD 1
83. HYDRODYNAMICS IX: MetOcean 2
84. RENEWABLE ENERGY IX: Offshore Wind ...
85. OCEAN TECH IV: DP & Control
86. HPM VI: Adv Materials & Structures 2
87. COASTAL IV: Breakwaters 1
88. SUBSEA-PIPELINES-RISERS-CABLE VI: Subsea
89. GEOTECH IV: Foundation
90. ENVIRONMENT III: Oil Spill & Contaminat...
91. ARCTIC SCI & TECH II: Ice Mech 1
92. ISOPE Board of Directors Meeting
93. Plenary Presentation: Arctic in-situ Hydrates
94. Plenary Presentation: Wind Energy
95. LNG Sloshing X: Panel 2 Benchmark Model Tests
96. HYDRODYNAMICS X: MetOcean 3
97. RENEWABLE ENERGY X: Offshore Wind 10
98. OCEAN TECH V: Installation & Operation
99. COASTAL V: Offshore Geotechnics 3
100. TUNAII & SAFETY I: Recent & Future Tsuna...
101. ARCTIC SCI & TECH III: Arctic Vessels & …
102. RENEWABLE ENERGY XI: Ocean Energy 6 Wave
103. HYDRODYNAMICS XI: NWT 2; CFD
104. RENEWABLE ENERGY XII: Ocean Energy, OTEC
105. OCEAN TECH VI: Bottom-Fixed Structures
106. HPM VI: Adv Materials & Structures 4
107. COASTAL VI: Waves-Structures (V. 3)
108. SUBSEA-PIPELINES-RISERS-CABLE VIII: …
109. GEOTECH VI: Ground Improvement
110. TSUNAMI & SAFETY II: Generation & …
111. ARCTIC SCI & TECH IV: Operations 1

18:00  Annual Conference Banquet  Explorers Hall
23rd ISOPE Cultural Event, Best Paper, Best Student Paper, Outstanding Presentations and Awards

Don’t forget the banquet ticket.
**THURSDAY JULY 4**

**07:30 Session Chair/Co-chair Briefing**

**08:00**

112. RENEWABLE ENERGY XIII: Ocean Energy Tidal 1

113. HYDRODYNAMICS XIII: NWT 2; CFD

114. RENEWABLE ENERGY XIV: Ocean Wave 1

115. OCEAN TECH VII: TLP and Semisubmersibles

116. HPX IX: Arctic Materials

117. COASTAL VII: Harbor & Coast

118. SUBSEA-PIPELINES-RISERS-CABLE IX: Install

119. GEOTEC IX: Soil & Rock Mechanics

120. TSUNAMI & SAFETY III: Warning & Floating

121. ARCTIC SCI & TECH V: Ice Mech 2

**09:00-11:30**

09:30 - 11:30 LNG Sloshing Benchmark Committee

122. RENEWABLE ENERGY XV: Ocean Energy Tidal 2

123. HYDRODYNAMICS XIII: NWT 3; CFD Floating 1

124. RENEWABLE ENERGY XV: Ocean Wave 2

125. OCEAN TECH VIII: FPS, FPSO & SPAR 1

126. HPX XII: Composite Materials

127. COASTAL VIII: Tide & Current

128. SUBSEA-PIPELINES-RISERS-CABLE X: Analysis 2

129. GEOTEC VIII: Soil Properties 1

130. TSUNAMI & SAFETY IV Structures & Sediment

131. ARCTIC SCI & TECH VII: Vessels & …2)

12:00 TBA

132. RENEWABLE ENERGY XVII Ocean Energy Panel

133. HYDRODYNAMICS XIV: NWT 4; CFD Floating 2

134. RENEWABLE ENERGY XVIII: Ocean …Wave 3

135. OCEAN TECH IX: FPS, FPSO & SPAR 2

136. HPX XIII: Fatigue & Fracture 1

137. COASTAL IX: Beach Erosion

138. SUBSEA-PIPELINES-RISERS-CABLE XI: Tests…

139. GEOTEC IX: Soil Properties 1

140. TSUNAMI & SAFETY V Risk Assessment

141. ARCTIC SCI & TECH VII: Operations 2

16:20

142. RENEWABLE ENERGY XIX: Wind Energy Panel

143. SUBSEA-PIPELINES-RISERS-CABLE XII: Flex…

144. RENEWABLE ENERGY XX: Ocean Energy Wave 4

145. OCEAN TECH X: FLNG and FSRU

146. HPX XIV: Fatigue & Fracture 2

147. COASTAL X: Sediment & Transport

148. SUBSEA-PIPELINES-RISERS-CABLE XII: System…

149. GEOTEC X: Soil Properties 2

150. TSUNAMI & SAFETY VI Panel

151. ARCTIC SCIENCE & TECH VIII: Ice Mech 3

**FRIDAY JULY 5**

**TOURS:** Visit Hotel concierge desk

**SESSION LIST BY TOPICS**

**OCEAN AND ENERGY REVIEW (V. 1)**

1. OCEAN AND ENERGY REVIEW

2. FRONTIER ENERGY RESOURCES TECHNOLOGY (V. 1)

3. RENEWABLE ENERGY (OFFSHORE WIND AND OCEAN)

4. RENEWABLE ENERGY (OCEAN AND ENVIRONMENT (V. 1))

5. # Keynote: STRAIN-BASED DESIGN

6. 41. SUBSEA-PIPELINES-RISERS-CABLE I: Space4

7. 42. SUBSEA-PIPELINES-RISERS-CABLE II: Install Space6

8. 59. FERT IV: Offshore Wind Tech 3 Space1

9. 34. RENEWABLE ENERGY IV: Offshore Wind Tech 3 Space2

10. 34. RENEWABLE ENERGY IV: Offshore Wind Tech 4 Space3

11. 44. RENEWABLE ENERGY V: Offshore Wind 5 Space4

12. 44. RENEWABLE ENERGY V: Offshore Wind 6 Space5

13. 44. RENEWABLE ENERGY V: Offshore Wind 7 Space6

14. 74. RENEWABLE ENERGY VII: Offshore Wind 8 Space1

15. 74. RENEWABLE ENERGY VII: Offshore Wind 9 Space2

16. 74. RENEWABLE ENERGY VII: Offshore Wind 10 Space3

17. 94. RENEWABLE ENERGY VIII: Offshore Wind 11 Space4

18. 94. RENEWABLE ENERGY VIII: Offshore Wind 12 Space5

19. 102. RENEWABLE ENERGY VIII: Offshore Wind 13 Space6

20. 102. RENEWABLE ENERGY VIII: Offshore Wind 14 Space1

21. 102. RENEWABLE ENERGY VIII: Offshore Wind 15 Space2

22. 102. RENEWABLE ENERGY VIII: Offshore Wind 16 Space3

23. 102. RENEWABLE ENERGY VIII: Offshore Wind 17 Space4

24. 102. RENEWABLE ENERGY VIII: Offshore Wind 18 Space5

25. 102. RENEWABLE ENERGY VIII: Offshore Wind 19 Space6

26. 102. RENEWABLE ENERGY VIII: Offshore Wind 20 Space1

27. 102. RENEWABLE ENERGY VIII: Offshore Wind 21 Space2

28. 102. RENEWABLE ENERGY VIII: Offshore Wind 22 Space3

29. 102. RENEWABLE ENERGY VIII: Offshore Wind 23 Space4

30. 102. RENEWABLE ENERGY VIII: Offshore Wind 24 Space5

31. 102. RENEWABLE ENERGY VIII: Offshore Wind 25 Space6

Sunday - Thursday

**Author Practice**

**On-site Registration**

**ISOPE Headquarters**

**Proceedings Pickup**

**Registration Desk, Lobby**

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**ISOPE-2013 Anchorage**

The Twenty-third (2013) International Ocean (Offshore) and Polar Engineering Conference

Anchorage, Alaska, USA, June 30 –July 5, 2013

This 23rd annual conference features 151 technical and opening general sessions, 3 keynote presentations and 6 keynote presentations with top experts from industry, academia and government. After peer review of the manuscripts selected from 1,200+ abstracts, some 645 papers will be presented and discussed by researchers, engineers and managers from more than 52 countries.

The conference proceedings of peer-reviewed papers in PDF files will be available in a set of 4 volumes on CD-ROM (4,384 pp.) — paginated within each volume — during the conference and later for worldwide post-conference mail order from ISOPE: ISBN 978-1-880653-99-9; ISSN 1098-6189.

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

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**KEYNOTE: STRAIN-BASED DESIGN**

**SUBSEA, PIPELINES, RISERS AND UMBILICALS (V. 2)**

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**UNDERSEA VEHICLE, COMMUNICATION & CONTROL (V. 2)**

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**ARCTIC SCIENCE & TECHNOLOGY (V. 1)**

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**ARTIFICIAL MATERIALS (V. 4)**