

Welcome to ISOPE-2006

We greatly appreciate the excellent responses and help we have received from colleagues around the world in the successful organization of the 16th International Offshore and Polar Engineering Conference (ISOPE-2006), **San Francisco**, California, May 28–June 2, 2006. The Conference features **91 sessions of refereed papers and 5 plenary sessions** from more than **45 countries**, including the *4th ISOPE High-Performance Materials (HPM) Symposium*.

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 (in both originality and significance) papers 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 Offshore and Polar Engineers (ISOPE) has already held 34 successful international meetings:

- The 1st (1990) European Offshore Mechanics Symposium (ISOPE **EUROMS-90**) Trondheim, 1990; **EUROMS-99** Moscow;
- The 1st (1990) Pacific/Asia Offshore Mechanics Symposium (ISOPE **PACOMS-90**) Seoul; **PACOMS-94** Beijing; **PACOMS-96** Pusan, **PACOMS-2002** Daejeon and **PACOMS-2004** Vladivostok;
- The **Annual ISOPE** conferences, starting in Edinburgh, 1991 were held in San Francisco, Singapore, Osaka, The Hague, Los Angeles, Honolulu, Montréal, Brest, Seattle, Stavanger, Kitakyushu, Honolulu, Toulon and Seoul. Since 1992, the annual ISOPE Conference has been held with the world's largest technical program of its kind with refereed papers;
- The 1st (1995) ISOPE Ocean Mining Symposium (**OMS-95**), Tsukuba, 1995, ISOPE **OMS-97** Seoul, **OMS-99** Goa, **OMS-2001** Szczecin, **OMS-2003** Tsukuba and **OMS-2005** Changsha;
- The 1st (1996) International Deep-Ocean Technology (**IDOT-96**) Symposium and Workshop, Los Angeles; and **IDOT-2001** Stavanger.
- The ISOPE **HPM** Symposium: Honolulu, 2003, Toulon, 2004 and
- The ISOPE **ANGT** Symposium to be held in 2005.

On behalf of the Technical Program Committee, it is our pleasure to welcome participants from all over the world to the ISOPE-2005 Conference in Seoul.

Jin S Chung, USA	Cuneyt Capanoglu, USA	Ro-sik Park, Korea
Guy Herrouin, France	Ronald H Knapp, USA	Wataru Koterayama, Japan

Co-chairmen of the ISOPE-2006 Conference

SUNDAY MAY 28

09:00 ISOPE Board of Directors Meeting Tiburon, 2F
 12:00 ISOPE-2006 Executive Committee Meeting Tiburon, 2F
 EUROMS and PACOMS Executive Committees

15:00-18:00
 CONFERENCE **REGISTRATION** San Francisco Foyer, 1B

18:00-19:30
 CONFERENCE **RECEPTION** Mezzanine

For Tour Information Visit tour desk in ISOPE registration area; Sunday/
 Monday: Click on www.isopec.org
 Spouse Program E-mail-book in advance: Instruction inside this program

All technical events take place at Grand Hyatt San Francisco.

MONDAY MAY 29

07:30 **On-Site Registration** starts at San Francisco Foyer, 1B
 07:30 (Monday only)

07:30 Sausalito, 2F
Session Chair/Co-chair Briefing

09:00
Conference Opening **Plaza Ballroom**
 Opening Addresses: **ISOPE President**

09:00
1. OCEAN INDUSTRY REVIEW (V. 1) Plaza Ballroom

13:30
PLENARY I (26-12-2004 Tsunami, V. 3) Dolores
PLENARY II (Advance in Welding, V. 4) Butron

14:30
2. FPSO/TLP/Compliant Structures I (V. 1) Farallon
3. HYDRO I. METOCEAN 1 (V. 3) Dolores
4. GEOTECH I: Liquefaction (V. 2) Merced
5. International Standards for Offshore Struct. (V. 1) San Miguel
6. FLOW-INDUCED VIBRATIONS I (V. 3) Potrero
7. HPM I: Residual Stress & NDE 1 (V. 4) Butron
8. ENVIRONMENT I: Oil Pollution (V. 1) San Francisco A
9. ARCTIC & ICE I: Forecasting (V. 1) San Francisco B
10. AQUABIOMECHANICS (V. 2) San Francisco C

17:00
ISOPE Technical Committee Meetings Find from the bulletin board

Sunday - Thursday	
Author Practice On-site Registration Conference Headquarters Proceedings Pickup/Sales	Individual session rooms San Francisco Foyer, 1B Belvedere, 2F Registration Desk, Foyer, 1B

TUESDAY MAY 30

07:30 Session Chair/Co-chair Briefing Sausalito, 2F

08:00

11. FPSO/TLP/Compliant Structures II (V. 1)	Farallon
12. HYDRO II. METOCEAN 2 (V. 3)	Dolores
13. GEOTECH II: Seismic & Cyclic Loading (V. 2)	Merced
14. COASTAL I: Wave-Structure Interactions (V. 3)	San Miguel
15. FLOW-INDUCED VIBRATIONS II (V. 3)	Potrero
16. HPM II: Residual Stress & NDE 2 (V. 4)	Butron
17. ENVIRONMENT II: Assessment (V. 1)	San Francisco A
18. ARCTIC & ICE II: Ice-Structure Interact... (V. 1)	San Francisco B
19. WAVE IMPACT & COLLISION I (V. 4)	San Francisco C

10:45

20. FPSO/TLP/Compliant Structures III (V. 1)	Farallon
21. HYDRO III. METOCEAN 3 (V. 3)	Dolores
22. GEOTECH III: In-situ and Field Tests (V. 2)	Merced
23. COASTAL II: Coastal Waves (V. 3)	San Miguel
24. SUBSEA SYSTEMS (V. 1)	Potrero
25. HPM III: Fatigue & Fracture 1 (V. 4)	Butron
26. ENVIRONMENT III: Water Purification (V. 1)	San Francisco A
27. ARCTIC & ICE III: Ice & Environment I (V. 1)	San Francisco B
28. WAVE IMPACT & COLLISION II (V. 4)	San Francisco C

12:10 Student Forum Conference Theater

13:30

PLENARY III (Jin S Chung Award Lecture) Farallon

14:30

29. FPSO/TLP/Compliant Structures IV (V. 1)	Farallon
30. HYDRO IV. METOCEAN 4 (V. 3)	Dolores
31. GEOTECH IV: Soil Improvement (V. 2)	Merced
32. COASTAL III: Tidal & Storm Surge (V. 3)	San Miguel
33. PIPELINES, RISERS, ...I: Caspian ... (V. 2)	Potrero
34. HPM IV: Fatigue & Fracture 2 (V. 4)	Butron
35. GAS HYDRATES (V. 1)	San Francisco A
36. RENEWABLE ENERGY I: Tidal, OTEC (V. 1)	San Francisco B
37. DESIGN & ANALYSES (V. 4)	San Francisco C

15:30 Awards Committee Meeting Tiburon, 2F

16:30 Board of Editors Meeting Tiburon, 2F

19:00 **ISOPE-2006/ISOPE-2007 Lisbon TPC Meeting** See bulletin board

Sunday - Thursday	
Author Practice	Individual session rooms
On-site Registration	San Francisco Foyer, 1B
Conference Headquarters	Belvedere, 2F
Proceedings Pickup/Sales	Registration Desk, Foyer, 1B

WEDNESDAY MAY 31

07:30 Session Chair/Co-chair Briefing Sausalito, 2F

08:00

38. LNG & TERMINAL (V. 1)	Farallon
39. HYDRO V: Roll & Numerical (V. 3)	Dolores
40. GEOTECH V: Seepage & Consolidation (V. 2)	Merced
41. COASTAL IV: Breakwater & Wave ... (V. 3)	San Miguel
42. PIPELINES, RISERS, ...II: Riser Mech (V. 2)	Potrero
43. HPM IX: Composites & Smart Struct 1 (V. 4)	Butron
44. UNDERWATER VEHICLES I: Acoustics (V. 2)	San Francisco A
45. RENEWABLE ENERGY II: ...Wind 1 (V. 1)	San Francisco B
46. ULTIMATE STRENGTH (V. 4)	San Francisco C

10:45

47. Model Basin & Measurements (V. 3)	Farallon
48. HYDRO VI: Airgap and Diffraction (V. 3)	Dolores
49. GEOTECH VI: Anchor & Offshore (V. 2)	Merced
50. COASTAL V: Floating Breakwaters (V. 3)	San Miguel
51. PIPELINES, RISERS, ...III: SCR (V. 2)	Potrero
52. HPM X: Composites & Smart Struct 2 (V. 4)	Butron
53. ARCTIC & ICE IV: Ice & Environment 2 (V. 1)	San Francisco A
54. RENEWABLE ENERGY III: ... Wind 2 (V. 1)	San Francisco B
55. RELIABILITY, RISK & SAFETY I (V. 4)	San Francisco C

12:00 ISOPE Board of Directors Meeting Tiburon, 2F

13:30

PLENARY IV (Sakhalin Island Pipeline , V. 2)	Potrero
PLENARY V (Wave Generation/Absorption, V. 3)	Dolores

14:30

56. HYDRO XI: Wave Modeling & Experi...1 (V. 3)	Farallon
57. HYDRO VII: LNG Sloshing & Impact (V. 3)	Dolores
58. GEOTECH VII: Pile (V. 2)	Merced
59. COASTAL VI: Port & Terminal Design (V. 3)	San Miguel
60. PIPELINES, RISERS, ... IV: Pipelines 1 (V. 2)	Potrero
61. HPM V: Advance in Welding Technology (V. 4)	Butron
62. PROPULSION & POSITIONING ... (V. 4)	San Francisco A
63. RENEWABLE ENERGY IV: Wave 1 (V. 1)	San Francisco B
64. RELIABILITY, RISK & SAFETY II (V. 4)	San Francisco C

Find Updates in Program on <http://www.isope.org>

19:00

Plaza Ballroom, 1F

Annual Conference Banquet
Cultural Program, Best Paper, Scholarships and Awards

THURSDAY JUNE 1

07:30 Session Chair/Co-chair Briefing Sausalito, 2F

08:00

65. HYDRO XII: CFD & Modeling (V. 3)	Bayview, 36F
66. HYDRO VIII: Nonlinear Wave-Body I (V. 3)	Union Square, 36F
67. GEOTECH VIII: Environment (V. 2)	Conference Theater
68. COASTAL VII: Seabed Responses (V. 3)	San Miguel
69. PIPELINES, RISERS, ... V: Pipelines 2 (V. 2)	Potrero
70. HPM VI: Linepipe Steels & Tubular 1 (V. 4)	Butron
71. UNDERWATER ... II: Deep Ocean (V. 2)	San Francisco A
72. RENEWABLE ENERGY V: 2 (V. 1)	San Francisco B
73. FATIGUE (V. 4)	San Francisco C

10:45

74. HYDRO XIII: Wave Modeling, Exper... 2 (V. 3)	Bayview, 36F
75. HYDRO IX: Nonlinear Wave-Body II (V. 3)	Union Square, 36F
76. GEOTECH IX: Foundation & Stability (V. 2)	Conference Theater
77. COASTAL VIII: Waves, Submerged ... (V. 3)	San Miguel
78. Pipelines, ... Mooring VI: : Cable/Mooring (V. 2)	Potrero
79. HPM VII: Linepipe Steels & Tubular 2 (V. 4)	Butron
80. UNDERWATER VEHICLES III: Control (V. 2)	San Francisco A
81. RENEWABLE ENERGY VI: Wave 3 (V. 1)	San Francisco B
82. OCEAN MINING I (V. 1)	San Francisco C

13:30

OMWG Meeting Tiburon, 2F

14:30

83. HYDRO XIV: Wave Modeling, Exper...3 (V. 3)	Bayview, 36F
84. HYDRO X: NWT (V. 3)	Union Square, 36F
85. GEOTECH X: Modeling & Simulation (V. 2)	Conference Theater
86. COASTAL IX: Coastal Erosion (V.3)	San Miguel
87. Pipelines, Risers and Mooring VII: (V. 2)	Potrero
88. HPM VIII: Linepipe Steels & Tubular 3 (V. 4)	Butron
89. UNDERWATER VEHICLES IV: (V. 2)	San Francisco A
90. RENEWABLE ENERGY VII: Wave 4 (V. 1)	San Francisco B
91. OCEAN MINING II (V. 1)	San Francisco C

FRIDAY JUNE 2

Conference Tour: Buy tickets at Tour Desk, Monday, May 29.

- Napa /Sonoma wine country tour
- Monterey Aquarium and Carmel
- Others

Find further details inside the program and www.isoqe.org .

ISOPE-2006 San Francisco Conference

This 16th annual conference features **91** technical and opening sessions and **5** plenary sessions with top experts from industry, academia and government. About **450** papers after peer review will be presented and discussed by researchers, engineers and managers from more than **45** countries. The conference proceedings of peer-reviewed papers in PDF files will be available in a set of 4 volumes on CD-ROM (3,000 pp. est.) — paginated within each volume — during the conference and later for worldwide post-conference mail order from ISOPE.

SESSION LIST BY TOPICS

OFFSHORE INDUSTRY REVIEW

1. OFFSHORE INDUSTRY REVIEW (V. 1) **Plaza Ballroom**

OFFSHORE MECHANICS AND TECHNOLOGY

5. International Standards for Offshore Struct (V. 1) San Miguel
24. SUBSEA SYSTEMS (V. 1) Potrero
2. FPSO/TLP/Compliant Structures I (V. 1) Farallon
11. FPSO/TLP/Compliant Structures II (V. 1) Farallon
20. FPSO/TLP/Compliant Structures III (V. 1) Farallon
29. FPSO/TLP/Compliant Structures IV (V. 1) Farallon
38. LNG & TERMINAL (V. 1) Farallon
47. Model Basin & Measurements (V. 3) Farallon

GAS HYDRATES AND DEEP-OCEAN MINING

35. GAS HYDRATES (V. 1) San Francisco A
82. OCEAN MINING I (V. 1) San Francisco C
91. OCEAN MINING II (V. 1) San Francisco C

OCEAN AND OFFSHORE WIND ENERGY

36. RENEWABLE ENERGY I: Tidal, OTEC (V. 1) San Francisco B
45. RENEWABLE ENERGY II: ...Wind 1 (V. 1) San Francisco B
54. RENEWABLE ENERGY III: ... Wind 2 (V. 1) San Francisco B
63. RENEWABLE ENERGY IV: Wave 1 (V. 1) San Francisco B
72. RENEWABLE ENERGY V: Wave 2 (V. 1) San Francisco B
81. RENEWABLE ENERGY VI: Wave 3 (V. 1) San Francisco B
90. RENEWABLE ENERGY VII: Wave 4 (V. 1) San Francisco B

OCEAN AND POLAR ENVIRONMENT

8. ENVIRONMENT I: Oil Pollution (V. 1) San Francisco A
17. ENVIRONMENT II: Assessment (V. 1) San Francisco A
26. ENVIRONMENT III: Water Purification (V. 1) San Francisco A

GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERING

4. GEOTECH I: Liquefaction (V. 2) Merced
13. GEOTECH II: Seismic & Cyclic Loading (V. 2) Merced
22. GEOTECH III: In-situ and Field Tests (V. 2) Merced
31. GEOTECH IV: Soil Improvement (V. 2) Merced
40. GEOTECH V: Seepage & Consolidation (V. 2) Merced
49. GEOTECH VI: Anchor & Offshore (V. 2) Merced
58. GEOTECH VII: Pile (V. 2) Merced
67. GEOTECH VIII: Environment (V. 2) Conference Theater
76. GEOTECH IX: Foundation & Stability (V. 2) Conference Theater
85. GEOTECH X: Modeling & Simulation (V. 2) Conference Theater

OFFSHORE AND ARCTIC PIPELINES, RISERS AND MOORING

33. PIPELINES, RISERS, ...I: Caspian & North Seas (V. 2)	Potrero
42. PIPELINES, RISERS, ...II: Riser Mech (V. 2)	Potrero
51. PIPELINES, RISERS, ...III: SCR (V. 2)	Potrero
60. PIPELINES, RISERS, ... IV: Pipelines 1 (V. 2)	Potrero
69. PIPELINES, RISERS, ... V: Pipelines 2 (V. 2)	Potrero
78. Pipelines, ...MooringVI: : Cable/Mooring (V. 2)	Potrero
87. Pipelines, Risers and Mooring VII: (V. 2)	Potrero

DEEP OCEAN ROV, AUV AND COMMUNICATION

44. UNDERWATER VEHICLES I: Acoustics (V. 2)	San Francisco A
71. UNDERWATER ... II: Deep Ocean (V. 2)	San Francisco A
80. UNDERWATER VEHICLES III: Control (V. 2)	San Francisco A
89. UNDERWATER VEHICLES IV: (V. 2)	San Francisco A

6. DEEP-OCEAN VEHICLES & NAVIGATION I (V. 2)	311A
15. DEEP-OCEAN VEHICLES & NAVIGATION II (V. 2)	311A
24. DEEP-OCEAN VEHICLES & NAVIGATION III (V. 2)	311A
38. DEEP-OCEAN VEHICLES & NAVIGATION IV (V. 2)	307AB

ICE SCIENCE AND ENGINEERING

9. ARCTIC & ICE I: Forecasting (V. 1)	San Francisco B
18. ARCTIC & ICE II: Ice-Structure Interactions (V. 1)	San Francisco B
27. ARCTIC & ICE III: Ice & Environment 1 (V. 1)	San Francisco B
53. ARCTIC & ICE IV: Ice & Environment 2 (V. 1)	San Francisco A

METOCEAN

3. HYDRO I. METOCEAN 1 (V. 3)	Dolores
12. HYDRO II. METOCEAN 2 (V. 3)	Dolores
21. HYDRO III. METOCEAN 3 (V. 3)	Dolores
30. HYDRO IV. METOCEAN 4 (V. 3)	Dolores

HYDRODYNAMICS

39. HYDRO V: Roll & Numerical (V. 3)	Dolores
48. HYDRO VI: Airgap and Diffraction (V. 3)	Dolores
57. HYDRO VII: LNG Sloshing & Impact (V. 3)	Dolores
66. HYDRO VIII: Nonlinear Wave-Body I (V. 3)	Union Square, 36F
75. HYDRO IX: Nonlinear Wave-Body II (V. 3)	Union Square, 36F
84. HYDRO X: NWT (V. 3)	Union Square, 36F
56. HYDRO XI: Wave Modeling & Experi...1 (V. 3)	Farallon
65. HYDRO XII: CFD & Modeling (V. 3)	Bayview, 36F
74. HYDRO XIII: Wave Modeling, Exper... 2 (V. 3)	Bayview, 36F
83. HYDRO XIV: Wave Modeling, Exper...3 (V. 3)	Bayview, 36F

COASTAL ENGINEERING

14. COASTAL I: Wave-Structure Interactions (V. 3)	San Miguel
23. COASTAL II: Coastal Waves (V. 3)	San Miguel
32. COASTAL III: Tidal & Storm Surge (V. 3)	San Miguel
41. COASTAL IV: Breakwater & Wave ... (V. 3)	San Miguel
50. COASTAL V: Floating Breakwaters (V. 3)	San Miguel
59. COASTAL VI: Port & Terminal Design (V. 3)	San Miguel
68. COASTAL VII: Seabed Responses (V. 3)	San Miguel
77. COASTAL VIII: Waves, Submerged ... (V. 3)	San Miguel
86. COASTAL IX: Coastal Erosion (V.3)	San Miguel

FLOW-INDUCED VIBRATIONS

6. FLOW-INDUCED VIBRATIONS I (V. 3) Potrero
 15. FLOW-INDUCED VIBRATIONS II (V. 3) Potrero

The 4th ISOPE HIGH-PERFORMANCE MATERIALS SYMPOSIUM —HPM

7. HPM I: Residual Stress & NDE 1 (V. 4) Butron
 16. HPM II: Residual Stress & NDE 2 (V. 4) Butron
 25. HPM III: Fatigue & Fracture 1 (V. 4) Butron
 34. HPM IV: Fatigue & Fracture 2 (V. 4) Butron
 61. HPM V: Advance in Welding Technology (V. 4) Butron
 70. HPM VI: Linepipe Steels & Tubular 1 (V. 4) Butron
 79. HPM VII: Linepipe Steels & Tubular 2 (V. 4) Butron
 88. HPM VIII: Linepipe Steels & Tubular 3 (V. 4) Butron

COMPOSITES & SMART STRUCTURES

43. HPM IX: COMPOSITES & Smart Struct 1 (V. 4) Butron
 52. HPM X: COMPOSITES & Smart Struct 2 (V. 4) Butron

MECHANICS, RELIABILITY, RISK & SAFETY

37. DESIGN & ANALYSES (V. 4) San Francisco C
 46. ULTIMATE STRENGTH (V. 4) San Francisco C
 55. RELIABILITY, RISK & SAFETY I (V. 4) San Francisco C
 64. RELIABILITY, RISK & SAFETY II (V. 4) San Francisco C
 73. FATIGUE (V. 4) San Francisco C

BIOMECHANICS & CONTROL

10. AQUABIOMECHANICS (V. 2) San Francisco C

PROPULSION AND POSITIONING

62. PROPULSION & POSITIONING ... (V. 4) San Francisco A

WAVE IMPACT, IMPACT, COLLISION,

19. WAVE IMPACT & COLLISION I (V. 4) San Francisco C
 28. WAVE IMPACT & COLLISION II (V. 4) San Francisco C

Conference Reception 18:00-19:30 SUNDAY May 28	Plaza Ballroom
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Conference Opening Address 09:00 Monday May 29	Plaza Ballroom
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Annual Conference Banquet 19:00 Wednesday May 31	Plaza Ballroom
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Monday	Plenary Presentation I (V.1) May 29 13:30	Dolores
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The 12/26/04 Indian Ocean Tsunami: Latest Modeling, Case Studies, and Perspectives for Tsunami Forecasting and Mitigation Grilli, S, Univ of Rhode Island, USA; Ioualalen, M, IRD-Geosciences Azur, France; Asavanant, J, Chulalongkorn Univ, Thailand
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Plenary Presentation II (V.2)

Monday May 29 13:30 Butron

Recent Developments in Welding Technology

Threadgill, P, TWI, UK

Student Forum (All Student Participants Are Invited)

Tuesday May 30 12:00 Conf Theater, 1B

E-mail by May 5 your intention of attending this meeting to

meetings@isope.org.

Plenary Presentation III

Tuesday May 30 13:30 Farallon

Jin S Chung Award Lecture

Fatigue Reliability of Marine Structures – From the Alexander Kielland Accident to Life Cycle Assessment of Safety

Moan, Torgeir, Norwegian Univ of Science and Technology, Norway

Plenary Presentation IV (V.2)

Wednesday May 31 13:30 Potrero

Materials and Welding Engineering for the Sakhalin Island Phase 1 Oil Export Pipeline

Hukle, M W, Trendsetter Engineering; Hoyt, D S, Lillig, D B, ExxonMobil Development; Dwyer, J P, Worrall Lees Associates, USA; Horn, A M, Det Norske Veritas, Norway

Plenary Presentation V (V.3)

Wednesday May 31 13:30 Dolores

Wave Generation and Absorption, Theory and Application

Naito, S, Osaka Univ, Japan

ISOPE-2006 Technical Program Committee (TPC)

Mr. N. Ames, EWI, Columbus, OH, USA
Prof. Angelides, D C, Aristotle University of Thessaloniki, Thessaloniki, Greece
Dr. Taro Aoki, JAMSTEC, Yokosuka, Japan
Prof. S. Araki, Osaka University, Osaka, Japan
Dr. R. Ayer, ExxonMobil Research & Engineering Co., Annandale, NJ, USA
Prof. S.C. Bang, South Dakota School of Mines and Technology, Rapid City, SD, USA
Prof. A.T. Bekker, Far Eastern State Tech. Univ., Vladivostok, Russia
Dr. Frank G Bercha, Bercha Engineering Ltd, Calgary, Canada
Dr. S. Berg, Technip Offshore Engineering, Oslo, Norway
Dr. H.G. Brandes, Univ. of Hawaii, Honolulu, HI, USA
Dr. F. Bransby, Univ. of Dundee, Dundee, UK
Prof. B.B. Budkowska, University of Windsor, Canada
Mr. C. Capanoglu (**Co-Chair**), I.D.E.A.S., Inc., San Francisco, CA, USA
Prof. J.R. Chaplin, Southampton University, Southampton, UK
Dr. H.-C. Chen, Texas A & M Univ., College Station, TX, USA
Prof. J.-W. Chen, National Cheng Kung Univ., Taiwan, China
Prof. L.-K. Chien, National Taiwan Ocean Univ., Keelung, Taiwan, China
Prof. WC. Cho, ChungAng University, Seoul, Korea
Prof. H. S. Choi, Seoul National University, Seoul, Korea
Prof. Jin S. Chung (**Chairman**), ISOPE, Cupertino, CA, USA
Prof. A T Chwang, University of Hong Kong, Hong Kong,
Prof. G. Clauss, TU Berlin, Berlin, Germany
Dr. R. Curran, Queen's University of Belfast, Belfast, UK
Prof. F. Dias, Ecole Normale Supérieure-Cachan, Cachan, France
Dr. A.S. Duggal, FMC Technologies Floating Systems, Houston, TX, USA
Dr. P. K. Dutta, ERDC-CRREL, Hannover, NH, USA
Dr. C.P. Ellinas, Mott McDonald Ltd, Croydon, UK
Mr. G. Ersdal, Petroleum Safety Authority, Stavanger, Norway
Dr. D. Fairchild, ExxonMobil Upstream Research Co., Houston, TX, USA

Dr. K. Fakharian, Amirkabir University of Technology, Tehran, Iran
 Dr. P. Ferrant, Ecole Centrale de Nantes, Nantes, France
 Dr. E. Fontaine, Institut Français du Pétrole, Rueil Malmaison, France
 Dr. A. Francescutto, Univ. of Trieste, Trieste, Italy
 Dr. R.M.W. Frederking, National Research Council, Ottawa, Canada
 Dr. J. Garnier, Laboratoire Central des Ponts et Chaussées, Bouguenais, France
 Dr. Marie-France Gauthier, Environment Canada, Ottawa, Canada
 Prof. A.M. Gresnigt, Delft Univ. of Technology, Delft, The Netherlands
 Prof. S.T. Grilli, University of Rhode Island, Narragansett, RI, USA
 Dr. Mark Grosenbaugh, Woods Hole Oceanographic Institution, Woods Hole, MA, USA
 Dr. A.R. Henderson, Ceasa, Stroud, UK
 Dr. Kjell Herfjord, Norsk Hydro, Bergen, Norway
 Dr. S. Herion, Karlsruhe University, Karlsruhe, Germany
 Dr. T. Hiraishi, Port and Airport Research Inst., Yokosuka, Japan
 Dr. S.W. Hong, Maritime and Ocean Engineering Research Inst, Daejeon, Korea
 Dr. S.Y. Hong, Maritime and Ocean Engineering Research Inst, Daejeon, Korea
 Prof. T. Huang, Univ. of Texas, Arlington, TX, USA
 Prof. Y. Inoue, Yokohama National Univ., Yokohama, Japan
 Dr. K. Izumiya, National Maritime Research Institute, Tokyo, Japan
 Dr. A. D. Jenkins, University of Bergen, Bergen, Norway
 Dr. H.W. Jin, ExxonMobil Research & Engineering Co., Annandale, NJ, USA
 Dr. C. Jo, Inha University, Incheon, Korea
 Dr. H.J. Jun, ExxonMobil Research & Engineering Co., Annandale, NJ, USA
 Dr. H. Kanegaonkar, Samsung Heavy Industries Co., Geoje, Korea
 Dr. K.B. Kang, POSCO, Pohang, Korea
 Dr. H. Karadeniz, Delft Univ. of Technology, Delft, The Netherlands
 Prof. M. Kashiwagi, Kyushu Univ., Kasuga, Japan
 Dr. N. Kato, Osaka University, Japan
 Dr. H. Kawai, Port and Airport Research Inst., Yokosuka, Japan
 Prof. K. Kawano, Kagoshima Univ., Kagoshima, Japan
 Dr. S.T. Kee, Seoul National University of Technology, Seoul, Korea
 Prof. D. S. Kim, Korea Advanced Inst of Science and Technology, Daejeon, Korea
 Dr. M.H. Kim, Texas A & M Univ., College Station, TX, USA
 Prof. S.S. Kim, Hanyang Univ, Ansan, Korea
 Dr. W.J. Kim, Mokpo National University, Mokpo, Korea
 Dr. W.J. Kim, Shell International E&P, Houston, TX, USA
 Dr. Y.H. Kim, Seoul National University, Seoul, Korea
 Prof. R.H. Knapp (**Co-Chairman**), Univ. of Hawaii, Honolulu, HI, USA
 Dr. J.J. Kollé, Tempres Technologies, Inc, Kent, WA, USA
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