

Welcome to ISOPE-2003

We greatly appreciate the excellent responses and help we have received from colleagues around the world in the successful organization of the 13th International Offshore and Polar Engineering Conference (ISOPE-2003), Honolulu, May 25 -30, 2003. The Conference features **89 sessions of refereed papers and 4 plenary sessions** from more than 45 countries.

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 23 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 (SOSC-94) Beijing; PACOMS-96 Pusan and PACOMS-2002 Daejeon.
- The Annual ISOPE conferences, starting in Edinburgh, 1991 were held in San Francisco, Singapore, Osaka, The Hague, Los Angeles, Honolulu, Montréal, Brest, Seattle, Stavanger and Kitakyushu. 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, ISOPE OMS-99 Goa and ISOPE OMS-2001 Szczecin;
- The 1st (1996) International Deep-Ocean Technology (IDOT-96) Symposium and Workshop, Los Angeles; and IDOT-2001 Stavanger.

On behalf of the Technical Program Committee, it is our pleasure to welcome participants from all over the world to the ISOPE-2003 Conference in Honolulu.

Jin S Chung, USA
Wataru Koterayama, Japan

Ronald H Knapp, USA
Ivar Langen, Norway

Co-chairmen of the ISOPE-2003 Conference

SUNDAY MAY 25

09:00 ISOPE Board of Directors Meeting EkahiC

12:00
ISOPE-2003 Executive Committee Meeting EkahiC
EUROMS and PACOMS Executive Committees

15:00-18:00
CONFERENCE REGISTRATION Regency Ballroom Foyer

17:00-18:00
CONFERENCE RECEPTION Pool Terrace

For Tour Information (see the ISOPE bulletin board at Registration)

MONDAY MAY 26

07:30 Author Briefing Makai

08:00
Conference Opening Mauka/Maloko

08:00

1. OCEAN TECHNOLOGY REVIEW (V. 1) Mauka/Maloko

10:45

2. FPSO: CFD & Validation (V. 1) Makai
3. HYDRODYNAMICS W-I: Waves 1 (V. 3) Maloko
4. GEOTECH: Soil Properties 1 (V. 2) Mauka
5. HYDRODYNAMICS DF-I: Higher-Order Effects (V. 3) Ekahi
6. HYDRODYNAMICS DF-II: Forces 1 (V. 3) Leahi
7. MECHANICS: STRUCT & MEMBRANE (V. 4) Ewa Ballroom
8. RISERS/CABLES/MOORING I (V. 2) Elima
9. OCEAN & ARCTIC ENVIRONMENT I (V. 2) Ekolu
10. COMPOSITES & SMART STRUCTURE I (V. 4) Eha

13:20
PLENARY I (Chwang, Hydrodynamics) Makai
PLENARY II (Balaguru, Composites) Ewa Ballroom

14:00
11. GEOTECH: Cassions and Anchors (V. 2) Makai
12. HYDRODYNAMICS W-II: Waves 2 (V. 3) Maloko
13. GEOTECH: Soil Properties 2 (V. 2) Mauka
14. HYDRODYNAMICS VIV-I: Vortex Shedding (V. 3) Ekahi
15. HYDRODYNAMICS DF-III: Forces 2 (V. 3) Leahi
16. HMOI I : Steel Development (V. 4) Ewa Ballroom
17. RISERS/CABLES/MOORING II (V. 2) Elima
18. OCEAN & ARCTIC ENVIRONMENT II (V. 2) Ekolu
19. COMPOSITES & SMART STRUCTURE II (V. 4) Eha

17:00
ISOPE Technical Committee Meetings Makai

TUESDAY MAY 27

07:30 Author Briefing Makai

08:00

- 20. OFFSHORE I Engineering 1 (V. 1) Makai
- 21. HYDRODYNAMICS W-III: Waves 3 (V. 3) Maloko
- 22. GEOTECH: Soil Properties 3 (V. 2) Mauka
- 23. COASTAL ENG I: Breakwater Dynamics (V. 3) Ekahi
- 24. HYDRODYNAMICS DF-IV: Dynamics 1 (V. 3) Leahi
- 25. HMOI II : Offshore Materials (V. 4) Ewa Ballroom
- 26. RISERS/CABLES/MOORING III (V. 2) Elima
- 27. OCEAN & ARCTIC ENVIRONMENT III (V. 2) Ekolu
- 28. ADV SHIP, PROPULSION & OCEAN TECH I (V. 4) Eha

10:45

- 29. OFFSHORE II: Engineering 2 (V. 1) Makai
- 30. HYDRODYNAMICS W-IV: Waves 4 (V. 3) Maloko
- 31. GEOTECH: Seabed and Slope Deformation (V. 2) Mauka
- 32. COASTAL ENG II: Harbor Facilities (V. 3) Ekahi
- 33. HYDRODYNAMICS DF-V: Dynamics 2 (V. 3) Leahi
- 34. HMOI III : Pipeline Technology (V. 4) Ewa Ballroom
- 35. RISERS/CABLES/MOORING IV (V. 2) Elima
- 36. OCEAN & ARCTIC ENVIRONMENT IV (V. 2) Ekolu
- 37. ADV SHIP, PROPULSION & OCEAN TECH II (V. 4) Eha

13:20

PLENARY III (Ewida, PatroCanada) Maloko

14:00

- 38. OFFSHORE III: FPSO/SPAR/VLFS 1 (V. 1) Makai
- 39. HYDRODYNAMICS W-V: NWT (V. 3) Maloko
- 40. GEOTECH : Foundation 1 (V. 2) Mauka
- 41. COASTAL ENG III: Waves (V. 3) Ekahi
- 42. HYDRODYNAMICS DF-VI: Dynamics 3 (V. 3) Leahi
- 43. MATERIALS/WELDING/FATIGUE I (V. 4) Ewa Ballroom
- 44. PIPELINES I (V. 2) Elima
- 45. POLAR & ICE I: Atmospheric Icing (V. 1) Ekolu
- 46. UNDERWATER VEHICLES & SYSTEMS I (V. 2) Eha

Spouse Program see Bulletin Board
 16:30 Board of Editors Meeting Board Room Ewa Boardroom
 19:00 ISOPE-2003/-2004 Toulon TPC Meeting see Bulletin Board

Sunday - Thursday	
Audio/Vsual Practice	Ballroom Foyer
On-site Registration	Ballroom Foyer
Conference Headquarters	Registration
Proceedings CD-ROM Pickup	Registration Desk

WEDNESDAY MAY 28

07:30 Author Briefing Makai
08:00

47. OFFSHORE IV: FPSO/SPAR/VLFS 2 (V. 1) Makai
48. METOCEAN I: Waves/Sea States (V. 3) Maloko
49. GEOTECH: Foundation 2 (V. 2) Mauka
50. COASTAL ENG IV: Structure and Foundation (V. 3) Ekahi
51. GEOTECH: Soil Mechanics (V. 2) Leahi
52. MATERIALS/WELDING/FATIGUE II (V. 4) Ewa
Ballroom
53. PIPELINES II (V. 2) Elima
54. POLAR & ICE II: Ice Properties (V. 1) Ekolu
55. UNDERWATER VEHICLES & SYSTEMS II (V. 2) Eha

10:45

56. OFFSHORE V: FPSO/SPAR/VLFS 3 (V. 1) Makai
57. METOCEAN II: Sea States (V. 3) Maloko
58. GEOTECH: Foundation 3 (V. 2) Mauka
59. COASTAL ENG V: Floating Breakwater (V. 3) Ekahi
60. GEOTECH: Geosynthetics and Soil Improvement (V. 2) Leahi
61. MATERIALS/WELDING/FATIGUE III (V. 4) Ewa
Ballroom
62. COLLISION, IMPACT & SLAMMING I (V. 4) Elima
63. POLAR & ICE III: Ice Forces (V. 1) Ekolu
64. RESOURCES & ENERGY I (V. 1) Eha

13:20

PLENARY IV (Olagnon/ Quiniou-Ramus, MetOcean) Maloko

14:00

65. OFFSHORE VI: FPSO/SPAR/VLFS 4 (V. 1) Makai
66. METOCEAN III: Waves (V. 3) Maloko
67. GEOTECH: Soil Dynamics 1 (V. 2) Mauka
68. COASTAL ENG VI: Current/Long Period Motion (V. 3) Ekahi
69. GEOTECH XI: Pile Foundation (V. 2) Leahi
70. RELIABILITY, RISK & SAFETY I (V. 4) Ewa
Ballroom
71. COLLISION, IMPACT & SLAMMING II (V. 4) Elima
72. POLAR & ICE IV: Design & Navigation (V. 1) Ekolu
73. RESOURCES & ENERGY II (V. 1) Eha

19:00	Annual Banquet Banquet Program and Awards	Regency Ballroom
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Author Briefing Makai
Audio/Vsual Practice Ballroom Foyer

THURSDAY MAY 29

07:30 Author Briefing Makai

08:00

74. OFFSHORE VII: FPSO/SPAR/VLFS 5 (V. 1) Makai
75. METOCEAN IV: Climatology (V. 3) Maloko
76. GEOTECH: Soil Dynamics 2 (V. 2) Mauka
77. COASTAL ENG VII: Waves Over Breakwater (V. 3) Ekahi
78. HYDRO LWT-I: Long Waves & Tsunamis1 (V. 3) Leahi
79. RELIABILITY, RISK & SAFETY II (V. 4) Ewa
Ballroom
80. COLLISION, IMPACT & SLAMMING III (V. 4) Elima
81. POLAR & ICE V: Ice Motion & Waves (V. 1) Ekolu
82. RESOURCES & ENERGY III (V. 1) Eha

10:45

83. OFFSHORE VIII: FPSO/SPAR/VLFS 6 (V. 1) Makai
84. GEOTECH: Soil Dynamics 3 (V. 2) Mauka
85. COASTAL ENG VIII: Sediment/Disaster (V. 3) Ekahi
86. HYDRO LWT-II: Long Waves & Tsunamis 2 (V. 3) Leahi
87. TUBULAR STRUCTURES (V. 4) Ewa Ballroom
88. RESOURCES & ENERGY IV (V. 1) Eha

12 :30
OMWG Meeting Ewa Boardroom

13:00

89. HYDRO LWT-III: Long Waves & Tsunamis 3 (V. 3) Leahi

CONFERENCE TOUR: Buses depart at 14:15. See Bulletin Board for the place for the bus.

FRIDAY MAY 30

OPTIONAL TOURS

Visit the conference registration desk and check the ISOPE bulletin board on May 25, Sunday.

ISOPE-2003 Honolulu

The Conference features 89 technical and opening sessions and 4 plenary sessions with top experts from industry, academia and government. About 450 refereed papers will be presented and discussed by researchers, engineers and managers from more than 45 countries.

The Conference Proceedings will be available in a set of 4 volumes on *CD-ROM* (2,800 pp. est.) during the conference and later for worldwide post-conference mail order from ISOPE.

SESSION LIST BY TOPICS

OCEAN TECHNOLOGY REVIEW

1. OCEAN TECHNOLOGY REVIEW (V. 1) Makai

OCEAN RESOURCES & ENERGY

64. RESOURCES & ENERGY I (V. 1) Eha
73. RESOURCES & ENERGY II (V. 1) Eha
82. RESOURCES & ENERGY III (V. 1) Eha
88. RESOURCES & ENERGY IV (V. 1) Eha

OFFSHORE MECHANICS AND TECHNOLOGY

20. OFFSHORE I: Engineering 1 (V. 1) Makai
29. OFFSHORE II: Engineering 2 (V. 1) Makai
38. OFFSHORE III: FPSO/SPAR/VLFS 1 (V. 1) Makai
47. OFFSHORE IV: FPSO/SPAR/VLFS 2 (V. 1) Makai
56. OFFSHORE V: FPSO/SPAR/VLFS 3 (V. 1) Makai
65. OFFSHORE VI: FPSO/SPAR/VLFS 4 (V. 1) Makai
74. OFFSHORE VII: FPSO/SPAR/VLFS 5 (V. 1) Makai
83. OFFSHORE VIII: FPSO/SPAR/VLFS 6 (V. 1) Makai

OCEAN AND ARCTIC ENVIRONMENT

9. OCEAN & ARCTIC ENVIRONMENT I (V. 2) Ekolu
18. OCEAN & ARCTIC ENVIRONMENT II (V. 2) Ekolu
27. OCEAN & ARCTIC ENVIRONMENT III (V. 2) Ekolu
36. OCEAN & ARCTIC ENVIRONMENT IV (V. 2) Ekolu

GEOTECHNICAL ENGINEERING

4. GEOTECH: Soil Properties 1 (V. 2) Mauka
11. GEOTECH: Caissons and Anchors (V. 2) Makai
13. GEOTECH: Soil Properties 2 (V. 2) Mauka
22. GEOTECH: Soil Properties 3 (V. 2) Mauka
31. GEOTECH: Seabed and Slope Deformation (V. 2) Mauka
40. GEOTECH: Foundation 1 (V. 2) Mauka
49. GEOTECH: Foundation 2 (V. 2) Mauka
51. GEOTECH: Soil Mechanics (V. 2) Leahi
58. GEOTECH: Foundation 3 (V. 2) Mauka
60. GEOTECH: Geosynthetics and Soil Improvement (V. 2) Leahi
67. GEOTECH: Soil Dynamics 1 (V. 2) Mauka
69. GEOTECH XI: Pile Foundation (V. 2) Leahi
76. GEOTECH: Soil Dynamics 2 (V. 2) Mauka
84. GEOTECH: Soil Dynamics 3 (V. 2) Mauka

PIPELINES, RISERS AND CABLE MECHANICS

44. PIPELINES I (V. 2) Elima
53. PIPELINES II (V. 2) Elima
8. RISERS/CABLES/MOORING I (V. 2) Elima
17. RISERS/CABLES/MOORING II (V. 2) Elima
26. RISERS/CABLES/MOORING III (V. 2) Elima

35. RISERS/CABLES/MOORING IV (V. 2) Elima

AUV AND UNDERWATER CONTROL

46. UNDERWATER VEHICLES & SYSTEMS I (V. 2) Eha
55. UNDERWATER VEHICLES & SYSTEMS II (V. 2) Eha

POLAR AND ICE ENGINEERING

45. POLAR & ICE I: Atmospheric Icing (V. 1) Ekolu
54. POLAR & ICE II: Ice Properties (V. 1) Ekolu
63. POLAR & ICE III: Ice Forces (V. 1) Ekolu
72. POLAR & ICE IV: Design & Navigation (V. 1) Ekolu
81. POLAR & ICE V: Ice Motion & Waves (V. 1) Ekolu

METOCEAN

48. METOCEAN I: Waves/Sea States (V. 3) Maloko
57. METOCEAN II: Sea States (V. 3) Maloko
66. METOCEAN III: Waves (V. 3) Maloko
75. METOCEAN IV: Climatology (V. 3) Maloko

HYDRODYNAMICS

2. FPSO: CFD & Validation (V. 1) Makai
5. HYDRODYNAMICS DF-I: Higher-Order Effects (V. 3) Ekahi
6. HYDRODYNAMICS DF-II: Forces 1 (V. 3) Leahi
14. HYDRODYNAMICS VIV-I: Vortex Shedding (V. 3) Ekahi
15. HYDRODYNAMICS DF-III: Forces 2 (V. 3) Leahi
24. HYDRODYNAMICS DF-IV: Dynamics 1 (V. 3) Leahi
33. HYDRODYNAMICS DF-V: Dynamics 2 (V. 3) Leahi
42. HYDRODYNAMICS DF-VI: Dynamics 3 (V. 3) Leahi

Waves and Spectra

3. HYDRODYNAMICS W-I: Waves 1 (V. 3) Maloko
12. HYDRODYNAMICS W-II: Waves 2 (V. 3) Maloko
21. HYDRODYNAMICS W-III: Waves 3 (V. 3) Maloko
30. HYDRODYNAMICS W-IV: Waves 4 (V. 3) Maloko
39. HYDRODYNAMICS W-V: NWT (V. 3) Maloko

Long Waves And Tsunamis

78. HYDRO LWT-I: Long Waves & Tsunamis1 (V. 3) Leahi
86. HYDRO LWT-II: Long Waves & Tsunamis 2 (V. 3) Leahi
89. HYDRO LWT-III: Long Waves & Tsunamis 3 (V. 3) Leahi

COASTAL ENGINEERING

23. COASTAL ENG I: Breakwater Dynamics (V. 3) Ekahi
32. COASTAL ENG II: Harbor Facilities (V. 3) Ekahi
41. COASTAL ENG III: Waves (V. 3) Ekahi
50. COASTAL ENG IV: Structure and Foundation (V. 3) Ekahi
59. COASTAL ENG V: Floating Breakwater (V. 3) Ekahi
68. COASTAL ENG VI: Current/Long Period Motion (V. 3) Ekahi
77. COASTAL ENG VII: Waves Over Submerged Breakwater (V. 3) Ekahi
85. COASTAL ENG VIII: Sediment/Coastal Disaster (V. 3) Ekahi

MATERIALS, STRUCTURES, WELDING AND FATIGUE

43. MATERIALS/WELDING/FATIGUE I (V. 4) Ewa Ballroom
52. MATERIALS/WELDING/FATIGUE II (V. 4) Ewa Ballroom
61. MATERIALS/WELDING/FATIGUE III (V. 4) Ewa Ballroom
87. TUBULAR STRUCTURES (V. 4) Ewa Ballroom

COMPOSITES AND SMART STRUCTURES

10. COMPOSITES & SMART STRUCT I (V. 4) Eha
19. COMPOSITES & SMART STRUCT II (V. 4) Eha

ISOPE Symposium on High-Performance Materials in Offshore Industry (HMOI)

16. HMOI I : Steel Development (V. 4) Ewa Ballroom
25. HMOI II : Offshore Materials (V. 4) Ewa Ballroom
34. HMOI III : Pipeline Technology (V. 4) Ewa Ballroom

MECHANICS, RELIABILITY, RISK AND SAFETY

7. MECHANICS: STRUCT & MEMBRANE (V. 4) Ewa Ballroom
70. RELIABILITY, RISK & SAFETY I (V. 4) Ewa Ballroom
79. RELIABILITY, RISK & SAFETY II (V. 4) Ewa Ballroom

COLLISION, IMPACT AND SLAMMING

62. COLLISION, IMPACT & SLAMMING I (V. 4) Elima
71. COLLISION, IMPACT & SLAMMING II (V. 4) Elima
80. COLLISION, IMPACT & SLAMMING III (V. 4) Elima

ADVANCED SHIP, PROPULSION AND OCEAN TECHNOLOGY

28. ADV SHIP, PROPULSION & OCEAN TECH II (V. 4) Eha
37. ADV SHIP, PROPULSION & OCEAN TECH II (V. 4) Eha

Conference Opening Address	Mauka/Maloko
08:00 Monday May 26	

Annual Conference Banquet	Regency Ballroom
19:00 Wednesday May 28	

Plenary Presentation I: Monday 13:20 Makai

Interaction Hydrodynamics of Two Bodies
Chwang, A T, Univ of Hong Kong, China

Plenary PresentationII: Monday 13:20 Ewa Ballroom

High Strength Composites for Infrastructure: Current and Future Directions of Research
Balaguru, P N, National Science Foundation, USA

Plenary Presentation III: Tuesday 13:20 Makai

Petro-Canada East Coast – Innovative Quality Management in Offshore Development and Operations
Ewida, A, Power, R, Ludilow, J, Hopkins, R, Petro-Canada, Canada

Plenary Presentation IV: Wednesday 13:20 Maloko

Specification of Metocean Design Conditions: Recent Progress and Remaining Gaps
Olagnon, M, IFREMER; Quiniou-Ramus, V, TotalFinaElf, France

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 Dr. C.E. Myers, National Science Foundation, Arlington, VA, USA
 Dr. Y. Nabeshima, Osaka University, Osaka, Japan
 Prof. S. Naito, Osaka Univ., Osaka, Japan
 Dr. M. Nakamura, Kyushu Univ., Kasuga, Japan
 Dr. B.J. Natvig, Marine Technology Consulting AS, Asker, Norway
 Mr. B.W. Nesbit, National Energy Board, Calgary, Canada
 Prof. J.M. Niedzwecki, Texas A&M Univ., College Station, TX, USA
 Mr. M. Olagnon, IFREMER, Plouzané, France
 Dr. K. Otsuka, Univ. of Osaka Prefecture, Osaka, Japan
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 Dr. S. Prinsenber, Bedford Inst of Oceanography, Dartmouth, Canada
 Prof. V. Rey, University of Toulon, Touon, France
 Prof. J. Roesset, Texas A&M Univ., College Station, TX, USA
 Prof. H. Saeki, Hokkaido Univ., Sapporo, Japan
 Mr. V.Y. Salpekar, Engineers India Ltd., New Delhi, India
 Dr. A.J.N.A. Sarmento, Lisbon Technical Univ., Lisbon, Portugal
 Dr. M. Sayed, National Research Council, Ottawa, Canada
 Dr. G. Schriever, Biolab Forschungsinstitut, Hohenwestedt, Germany
 Prof. E.M. Schulson, Dartmouth College, Hanover, NH, USA
 Prof. T. Setoguchi, Saga Univ., Saga, Japan
 Dr. J.P. Singh, J P Singh & Associates; CA, USA
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