

June 21–26

Osaka, Japan

www.isopec.org

The Nineteenth (2009) International
**Offshore (Ocean) and Polar
Engineering Conference**

AND

1st ISOPE **Sloshing Dynamics & Design**
(SDD-2009) Symposium

7th ISOPE **High-Performance Materials**
(HPM-2009) Symposium

3rd ISOPE **Strain-Based Design**
(SBD-2009) Symposium

ISOPE-2009
Osaka International Convention Center
Osaka, Japan; June 21–26

Technical Program

Refereed papers from **50** countries in **121** sessions and
6 plenary sessions
General Information, Reservations, Publication, Author
Index and Program Updates on www.isopec.org
Forms for Advance Registration and Venue Hotel:
Inside this program and on www.isopec.org

Organized by:

Technical Program Committee, ISOPE

Sponsored by:

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



ISOPE, P.O. Box 189
Cupertino, CA 95015-0189, USA
Fax: +1-650-254-2038
meetings@isopec.org; www.isopec.org

GENERAL INFORMATION

Further details are posted on www.isopec.org.

PLACE AND DATE: Osaka, Japan, June 21–26, 2009

All ISOPE-2009 Conference's technical events, tea breaks and registration will take place at:

Osaka International Convention Center*

5-3-51, Nakanoshima Kita-ku,

Osaka, Japan 530-0005

Fax: +81-(0)6-4803-5620; www.gco.co.jp/index.html

* Adjoined to the 5-star hotel, Rihga Royal Hotel Osaka. Use the reservation form of this hotel **to get ISOPE room rates**. Online booking is unavailable for ISOPE-2009 Special rate.

PARKING

The Osaka International Convention Centre (Grand Cube Osaka) has over 300 secured underground public parking stalls and charges \$5.00/hour for guests, taxes included.

The Rihga Royal hotel has over 840 secured underground public parking stalls at no charge for booked hotel guests and \$10.00/hour for non-hotel guests, taxes included.

LANGUAGE

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

AIR TRAVEL

Many major airlines provide direct flights to **Kansai International Airport (KIX)** from centres in Asia, Europe, and North America – see www.kansai-airport.or.jp. KIX is located in South Osaka and can be easily reached by taxi or bus.

AIRPORT TO HOTEL

Kansai International Airport

After the Immigration and Customs Control, follow the Exit signs. Outside the airport you will find taxi and bus stops.

Taxi

A taxi ride is the most convenient when you carry luggage. Taxis are readily available outside both the Domestic and International terminals and charge a metered rate based on time and distance traveled. The approximate fare to downtown Osaka is \$160-\$170 (inclusive of all taxes) under normal conditions.

Airport Limousine

The Airport Limousine bus provides service to major hotel destinations in downtown Osaka. The Airport Limousine bus terminal is located on the 1st floor, international arrivals lobby. No reservations required with departure. Bus runs every 20 minutes from 5:30 to 21:30. Tickets may be purchased at the ticket counter near bus stops, or at the service counter on the 1st floor. Fares are \$13.00 one-way. Further information on service, schedules and fares may be obtained from the Limousine bus ticket office located on the International and Domestic Arrivals levels, the website, <http://www.kate.co.jp/pc/index.html>, or by calling +81-(0)72-461-1371. Get off the Limousine at Habis Osaka bus stop and walk across the street in front of the post office, and walk across the street on your left, towards Postoffice. Get on the shuttle to the Rihga Royal Hotel.

Train

Nankai Railway and JR West both have stations at Kansai International Airport that can be accessed from *Kansai Airport Station* on the second floor of the airport terminal building (1F up from International Arrivals

level). The Nankai Railways provides airport express (Rapi:t) to Namba. If you wish to take the train, take Nankai Railways airport line from the airport to *Kansai Airport Station*, and then get off at *Namba station*. It leaves every 30 minutes. Then take a taxi to the Rihga Royal Hotel. Taxi will cost around \$15 to the hotel. See <http://www.kansai-airport.or.jp/en/access/train/index.html>

The JR West also provides airport express service to downtown Osaka. Guests can take Kansai Airport line from the airport to *Osaka Station*, and then take a taxi to the hotel (costs about \$9) or free shuttle bus. Visit: <http://jr-odekake.net>
<http://www.westjr.co.jp/english/travel/kix/index.html>

In any case, guests can take free Rihga Royal Hotel shuttle bus from Sakurabashi-guchi exit in JR *Osaka station* to the Rihga Royal Hotel Osaka.

CURRENCY EXCHANGE

Cash dispensers (ATMs) that accept all major credit/debit cards can be found at several locations in the airport, and at banks and retail areas throughout the city. Currency exchange services will charge either a flat fee for small denominations or a percentage of the amount exchanged: usually the exchange rate is more favourable at the banks. Major credit cards are widely accepted at hotels, department stores and restaurants

TAX

Most purchases in Japan are subject to sales tax totalling 5% of the purchase price. For more information call 03-3581-4161 from within Japan; outside Japan call +81-(0)3-3581-4161.

ACCOMODATION. Find the reservation form in this program or download the file from www.iso-pe.org > Meetings > ISOPE-2009 > hotel reservation form – **Rihga Royal Hotel**.

Reservations should be made absolutely before May 4, 2008.

This hotel is adjoined to the *Osaka International Convention Center*, the official venue for the Conference. Rooms are reserved at the ISOPE group rates for the Conference. You must use the Reservation Form for ISOPE group discount rate and send by fax or e-mail to the Hotel.

For **Rihga Nakanoshima Inn**, a sister economy hote nearby, use the same Reservation Form of other hotel choices.

CITY TRANSPORTATION

Within the city it is best to take public transportation.

Trains: Subway, JR WEST, and Private railways run regularly and will take you almost everywhere in and around the city. Regular fares from the hotel are:

To the downtown Osaka \$2.00 approx 10 minutes
To Kyoto \$6.00 approx 60 minutes
To Nara \$9.00 approx 60 minutes
To Kobe \$8.00 approx 45 minutes

ELECTRICITY AND ADAPTER

Japanese appliances operate on 100 volts (60 Hz) in Osaka, which is different from the U.S. voltage. A universal adaptor is required for overseas electrical devices.

TIPPING

It is customary not to tip at anyplaces in Japan. Tips are already included in the prices for restrants, hotels, and retails.

HOURS OF OPERATION

- * Offices in Osaka are usually open from 9:00 am to 5:00 pm.
- * Shops are usually open from 10:00 am to 9:00 pm.
- * Pharmacies keep similar hours to offices, with a few open 24 hours.
- * Banks are generally open 9:00 am to 4:00 pm Monday to Friday, with some banks open on Saturday.

SPOUSE PROGRAM: 1/2-Day Tour; Tuesday Afternoon, June 23

Update will be posted shortly. Sponsored by ISOPE, tickets will be issued to the spouses with ISOPE badge only, free of charge.

It is first-come-first-served basis. E-mail advance reservations (Subject line "Spouse Program") to isope-2@isope.org.

WHAT TO SEE IN THE KANSAI REGION

<http://www.osaka-info.jp/jp/index.phphellobc.com>; English version

<http://www.osaka-info.jp/en>

<http://www.kyokanko.or.jp/>

<http://www.kyotojoho.co.jp/english/index.html>;

<http://narashikanko.jp>; <http://narashikanko.jp/en/index.html>

<http://www.hvogo-tourism.jp/> <http://www.hvogo-tourism.jp/english/index.html>

Kansai is Japan's tourist Mecca. There are five registered World Heritage areas. Surrounded by these areas, especially Kyoto, Nara, Kobe, Osaka is home to spectacular natural scenery and a bustling metropolitan core. These areas can be reached on half day or day trips from Osaka. Osaka is a city that has always thrived around water. It also develops as the center of trade and distribution. Osaka is referred to as the "nation's kitchen" for delicious and distinctive Osaka style food. Another feature of Osaka is the many specialized shopping areas. Shopping areas are close to any of major railway terminals. Also, the city is full of historic places, there are many temples, and shrines. Highlights of the cities include:

Osaka

Osaka Castle. Osaka Castle is a symbol of Osaka, which has been handed down through dramas in the history to present day. Osaka Castle is widely known as an emblem of the power and fortune of Shogun Toyotomi Hideyoshi. It has been popular with both domestic and overseas tourists as a historic site. Also there is a park surrounding the Castle as a majestic urban Oasis, which welcomes people with changing seasonal views.

Tenjinbashi-Suji Shopping Street. A 2.6-kilometer line of small shops make up this roofed shopping street, which runs from Tenjinbashi 1 chome to 7 chome in Osaka, nearly as far as the distance between three subway stations. The street, whose high vaulted roof makes for a feeling of great spaciousness, is Japan's longest shopping street. Numerous movie theaters and game centers will be found along it, all of them frequented by familiar old faces; this is definitely a place for everyday people. There are events held on the street almost every day.

Dotombori. Dotombori is a symbol of the Minami (or south) Area and a mecca for the Kuidaore (ruin by extravagant meal) food culture of Osaka. Dozens of restaurants line the Dotomborigawa River, and large famous billboards draw diners' attention. On the north side of the river, where geisha used to entertain their customers, are now small bars and restaurants squeezed together in rows.

Kyoto

Kinkakuji Temple (Golden Pavilion). A UNESCO World Heritage Site, Kinkakuji was built in 1397 by Shogun Ashikaga Yoshimitsu as his retirement villa. The gardens are designed as a special national historic site. The tea house, located in the garden, is famous for its staggered shelves made of bush clover wood, and its Nantan alcove pillar.

Kiyomizu-dera Temple

A UNESCO World Heritage Site. The main hall, famous for its spacious outdoor, cliff-like balcony, supported on an intricate, several story high wooden structure of pillars, is a designated National Treasure. Kiyomizu means pure water. Much of the large temple area offers outstanding views of the city.

Gion Shinbashi Area. This well-preserved Edo-period area, centered around Shinbashi street, is famous for its refined scenery, tea houses, and appearance of geiko (geisha in Kyoto) and maiko (apprentice geiko) walking scenery to and from work. Twilight is considered the best time to photograph geisha in this unique setting.

Nara

Todayji Temple. The world famous Todayji Temple, designated as A UNESCO World Heritage Site, contains various pavilions and halls, including many designated as national treasures of Japan. Among them, the 'Daibutsuden Hall' is the world's largest wooden structure, and the home of the popular 'the Great Buddha of Nara'. This gigantic statue is 15m tall and weighs approximately 25 tonnes.

Nara

Nara Park. This beautiful lawn park extends 4km east to west and 2km north to south. Groups of deer, messengers of the gods, roam freely through the park. Its beautiful landscape with half-hidden views of temple and shrine rooftops enchants visitors throughout the seasons.

Kobe

Harborland Meriken Park area. Harborland is the seaside entertainment zone, where you can enjoy shopping, amusement and gourmet spots all together. Meriken Park is a refreshing seaside park with a view of Port Tower, a Kobe landmark. Cruise ships touring the Kobe port and Akashi Kaikyo Bridge are in service, and the view of Kobe from the sea is exceptionally beautiful.

SIGHT SEEING AND TOUR PROGRAM

The program will be posted on www.iso-pe.org > ISOPE-2009.

ADVANCE CONFERENCE REGISTRATION BY MAIL OR FAX (use the Registration Form)

Remember to send via **airmail or fax** the Advance Registration (*and Invoice*) Form in this Program (It can also be downloaded from www.iso-pe.org)

DEADLINE: Presenting Authors: March 24.

Non-Authors, non-presenting authors and co-authors: May 22.

In case one charges to a credit card via Fax, the **card number** should be **typed in bold face or written clearly** to be readable in the transmitted Fax copy. The ISOPE Fax number is **1-650-254-2038 USA.**

Forms received **after May 22** will not be processed and will be returned to the senders for on-site registration with a **surcharge of US\$100.** Registrants will not be separately invoiced.

REGISTRATION CANCELLATIONS

Requests in writing for cancellation of registration received by **June 4, 2008** only will be granted a refund minus US\$70 handling fee. **No refund** will be granted to **one "presenting" author** per paper, if the paper is already included in the proceedings. The registered **presenting author will receive** a proceedings CD-ROM.

REGISTRATION BADGE

Conference registration badges are required for admittance to all the conference activities, including the reception and banquet.

Advance Registration Fees: Deadline for the *presenting authors* is **March 24.**

US\$100 surcharge applies after **May 22 and for on-site registration fees.**

Category	Advance Registration Fee (US\$)*	
	Before May 22	After May 22
ISOPE member	2+days 620	1 day 520
Author, Co-author, Session Chair, Co-Chair (non-ISOPE member)	660	560
Member of Coop. organizations	660	560
Non-member of ISOPE	740	640
New ISOPE member application (incl. 2009 membership fee and one year journal issues)	720	620
ISOPE Membership fee, 2009	100	100
ISOPE Member Student with Full-time 2009 ID	410	410

Non-member Student with Full-time 2009 ID	480	480
New ISOPE student member application (incl. 2009 membership fee and one year journal issues)	460	460
Spouse/Separate Banquet Ticket	100	100

* The **full Conference registration fee** (2 days or more) **includes** the conference reception, a conference banquet, tea breaks, and a *CD-ROM* of the **3,500**-pp. (est.) **4-volume** conference proceedings.

* The **1-day registration fee** **includes** *CD-ROM* of the **4-volume** conference proceedings and tea breaks.

ON-SITE CONFERENCE REGISTRATION: Foyer

Participants who miss the advance registration (before **May 22**) may register on site at the Conference Registration Desk, but there is US\$100 surcharge. The registration desk will be open during the following hours:

Sunday, June 21	15:00-18:00	Wednesday, June 24	08:00-15:00
Monday, June 22	07:30 -16:00	Thursday, June 25	08:00-13:00
Tuesday, June 23	08:00 -16:00		

ISOPE-2009 CONFERENCE PROCEEDINGS

A 4-volume conference proceedings on CD-ROM (ISBN 978-1-880653-53-1; ISBN 1-880653-70-2; ISSN 1098-6189) is included in all conference registration fees. For additional or separate orders, download the publications order form from www.iso-pe.org for post-conference order:

A **4-volume Conference Proceedings** in CD-ROM (3,500 pp. est.)
Mail, E-mail or Fax order \$270 (ISOPE Member \$230)

Mail or Fax Order from ISOPE, 495 North Whisman Road, Suite 300, Mountain View, California 94043-5711, USA: Fax **1-650-254-2038**.

Advance payment is required. MasterCard, VISA, or AMEX; international money order or U.S. bank checks in US Dollars *payable to ISOPE* will be accepted. Shipping and handling charges will be added (Download the Publication Order Information from www.iso-pe.org).

CONFERENCE HEADQUARTERS Preparation room

BOARD Room 801, 8F

CONFERENCE RECEPTION
Sunday Rihga Royal Hotel, Sakura Room, 2F

ANNUAL CONFERENCE BANQUET
Wednesday Event Hall A-C, 3F

AUTHOR PRACTICE ROOM Individual session rooms
An overhead projector, power-point or LCD projector and screen are available during 08:00-17:00 (Monday - Thursday).

CHAIR/CO-CHAIR BRIEFING Room 1010
The session chairs and co-chairs will be briefed at 07:00 each morning for session briefings on the day of presentation. The manner of each session conduct and information on authors and presentation will be discussed. Presenting authors go directly to their session room 30 minutes before the session.

INFORMATION - MESSAGE CENTER.
The information and message center is located in the registration area. One may contact ISOPE Conference Registration Desk.

INTERNATIONAL PARTICIPANTS AND VISA APPLICATION
International authors, participants or attendees who need help (except financial) can contact: ISOPE-2009 Secretariat, 495 North Whisman

Road, Suite 300, Mountain View, California 94043-5711 USA. Fax: +1-650-254-2038; email: meetings@isope.org.

Entry Visa. Some authors may be required to apply for an entry visa. **Visa application form.** Get it from the Consulate Office of Japan in your country or click on http://www.mofa.go.jp/j_info/visit/visa/apply-form.pdf. If the Consulate requires you to submit an official letter of invitation, please contact ISOPE, USA (email: meetings@isope.org; Fax: +1-650-254-2038).

QUESTIONS ABOUT THE CONFERENCE ?

Please e-mail, call or fax before **June 23** to: ISOPE, USA (email: meetings@isope.org; Tel: +1-650-254-1871; Fax: +1-650-254-2038), if you have any questions about the conference. Also, click on <http://www.isope.org>.

TAX DEDUCTIBILITY

Expenses of attending professional meetings such as the registration fee and cost of technical publications may be tax-deductible as ordinary expenses for U.S. citizens and some countries.

CLIMATE

The climate of Osaka varies season to season. During June, and July, the average daily temperature is around 25°C. Generally the rainy season may start in late June. However, plenty of fine days can still be expected.

AUTHOR INDEX is posted on www.isope.org.



Prospective authors are invited to submit abstract to:

ISOPE-2010 Beijing — 20th Anniversary —

The 20th (2010) International
Offshore (Ocean) and Polar Engineering
Conference & Exhibition
Beijing, China, **June 20–26, 2010**

Call For Papers

Abstract Deadline **October 20, 2009**
Manuscript Deadline (review) **January 15, 2010**

E-mail or submit online) your abstract in 300-400 words to:

- (1) Submit Online on www.isope.org;
- (2) One of the TPC members (session organizers); or
- (3) **ISOPE-2010 TPC**, 495 North Whisman Road, Suite 300, Mountain View, California 94043-5711 USA; Fax: +1-650-254-2038; E-mail meetings@isope.org.

ISOPE Publication Order Information

(Download from www.isopec.org for further information.)

International Journal of Offshore and Polar Engineers - Quarterly (March, June, September, December) (ISSN 1053-5381): Indexed by SCI-E and Engineering Index.

Editors: Jin S. Chung, J. Wardenier, R.M.W. Frederking, W. Koterayama.

Topics: *offshore engineering, ocean engineering, environment, offshore mechanics, polar (Arctic and Antarctic) engineering, advanced marine technology, materials and technology and energy.* **Yearly subscription rates:** US\$150. (Member; complimentary) and US\$100 per a set of annual back issues. US\$60 per issue.

Proceedings of the 1st (1990) Pacific/Asia Offshore Mechanics Symposium (PACOMS '90), Seoul, Korea, 24-28 June 1990. For a set of 3 volumes, (ISBN 0-9626104-0-2; LCCN 90-082039): approx. 1260 pp., US\$150 per set.

Proceedings of Special Offshore Symposium China (SOSC-94) /the 3rd (1994) Pacific/Asia Offshore Mechanics Symposium (PACOMS-94), Beijing, China, 16-18 April 1994. A single volume (ISBN 1-880653-15-X); 797 pp., US\$100.

Proceedings of the 4th (1996) ISOPE Pacific/Asia Offshore Mechanics Symposium (PACOMS-96), Pusan, Korea, October 31-November 2, 1996. A single volume (ISBN 978-1-880653-27-2; ISSN 1946-0031); 325 pp., US\$80 (ISOPE Member; \$60).

Proceedings of the 5th (2002) ISOPE Pacific/Asia Offshore Mechanics Symposium (PACOMS-2002), Daejeon, Korea, November 17-20, 2002. A single volume (hard copy and CD-Rom) (ISBN 978-1-880653-59-3; ISSN 1946-0031); 252 pp., US\$120 (ISOPE Member; \$80).

Proceedings of the 6th (2004) ISOPE Pacific/Asia Offshore Mechanics Symposium (PACOMS-2004), Vladivostok, Russia, September 12-16, 2004. A single volume (hard copy and CD-Rom) (ISBN 978-1-880653-63-0; ISSN 1946-004X); 299 pp., US\$100 (ISOPE Member; \$80).

Proceedings of the 7th (2006) Pacific/Asia Offshore Mechanics Symposium (ISOPE PACOMS-2006), Dalian, China, September 17-21, 2006. A single volume (CD-ROM) (ISBN 978-1-880653-67-8; ISSN 1946-004X); 357 pp., US\$100 (ISOPE Member; \$80).

Proceedings of the 8th (2008) Pacific/Asia Offshore Mechanics Symposium (PACOMS-2008), Bangkok, Thailand, November 17-21, 2006. A single volume (CD-ROM) (ISBN 978-1-880653-52-4; ISSN 1946-004X); 334 pp., US\$100 (ISOPE Member; \$80).

Proceedings of the 1st (1990) European Offshore Mechanics Symposium (EUROMS-90), Trondheim, Norway, 20-22 August 1990. A single volume: (ISBN 0-9626104-4-5; LCCN 90-084691); approx. 590 pp., US\$80. (Member; US\$60.)

Proceedings of the 2nd (1999) ISOPE European Offshore Mechanics Symposium (EUROMS-99): s (of Synopsis in Russian and English), Moscow, Russia, 7-9 June 1999. A single volume: (ISBN 1-880653-44-3); approx. 126 pp., US\$50. (Member; US\$40.)

Proceedings of the 1st (1995) ISOPE Ocean Mining Symposium, Tsukuba, Japan, November 21-22, 1995. A single volume (ISBN 1-880653-21-4, LCCN 95-77708): 238 pp., US\$100 (Member; US\$80.)

Proceedings of the 2nd (1997) ISOPE Ocean Mining Symposium, Seoul, Korea, November 24-26, 1997. A single volume (ISBN 1-880653-33-8, LCCN 97-74490): 201 pp., US\$100 (Member; US\$80.)

Proceedings of the 3rd (1999) ISOPE Ocean Mining Symposium, Goa, India, November 8-10, 1999. A single volume (ISBN 978-1-880653-45-6; ISSN 1946-0074):298 pp., US\$100 (Member; US\$80.)

Proceedings of the 4th (2001) ISOPE Ocean Mining Symposium, Szczecin, Poland, September 23-27, 2002. A single volume (ISBN 978-1-880653-56-2; ISSN 1946-0074): 208 pp., US\$100 (Member; US\$80.)

Proceedings of the 5th (2003) ISOPE Ocean Mining Symposium, Tsukuba, Japan, September 15–19, 2003. A single volume (hard copy and CD-Rom) (ISBN 978-1-880653-61-6; ISSN 1946-0074):256 pp., US\$120 (Member; US\$80.)

Proceedings of the 6th (2005) ISOPE Ocean Mining Symposium, Changsha, Hunan, China, October 9–13, 2005. A single volume (hard copy and CD-Rom) (ISBN 978-1-880653-65-4; ISSN 1946-0066):276 pp., US\$100 (Member; US\$80.)

Proceedings of the 7th (2007) ISOPE Ocean Mining Symposium, Lisbon, Portugal, July 1–6, 2007. A single volume (hard copy and CD-Rom) (ISBN 978-1-880653-69-2; ISSN 1946-0066):219 pp., US\$100 (Member; US\$80.)

First (2003) ISOPE Symposium on High-Performance Materials in Offshore Industry (HMOI), ISOPE HPM-2003, Honolulu, Hawaii, US, May 25-30, 2003: Published in Proceedings of the 13th (2003) International Offshore and Polar Engineering Conference (ISOPE 2003), Honolulu, Hawaii, USA, May 25-30, 2003. For 4-volumes set CD-Rom (ISBN 978-1-880653-60-9; ISSN 1098-6189 (Set):2,912 pp., \$220 (ISOPE Member; \$180).

Second (2004) ISOPE High-Performance Materials Symposium: Friction Stir Welding, ISOPE HPM-2004, Toulon, France, May 23-28, 2004: Published in Proceedings of the 14th (2004) International Offshore and Polar Engineering Conference (ISOPE 2004), Toulon, France, May 23-28, 2004. For 4-volumes set CD-Rom (ISBN 978-1-880653-62-3; ISSN 1098-6189 (Set): 3,160 pp., \$220 (ISOPE Member; \$180).

Third (2005) ISOPE High-Performance Materials Symposium: Advanced Welding, ISOPE HPM-2005, Seoul, Korea, June 19-24, 2005: Published in Proceedings of the 15th (2005) International Offshore and Polar Engineering Conference (ISOPE 2005), Seoul, Korea, June 19-24, 2005. For 4-volume set CD-Rom, (ISBN 978-1-880653-64-7; ISSN 1098-6189: 3,110 pp., \$220 (ISOPE Member; \$180).

Fourth (2006) ISOPE High-Performance Materials Symposium, ISOPE HPM-2006, San Francisco, California, USA, May 28–June 2, 2006: Published in Proceedings of the 16th (2006) International Offshore and Polar Engineering Conference (ISOPE-2006), San Francisco, California, USA, May 28–June 2, 2006. For 4-volume set *CD-Rom*, (ISBN 978-1-880653-66-1; ISSN 1098-6189: 2,704 pp., \$220 (ISOPE Member; \$180).

Fifth (2007) ISOPE High-Performance Materials Symposium, ISOPE HPM-2007,), Lisbon, Portugal, July 1–6, 2007: Published in Proceedings of the 17th (2007) International Offshore and Polar Engineering Conference (ISOPE-2007), Lisbon, Portugal, July 1–6, 2007. For 4-volume set *CD-Rom*, (ISBN 978-1-880653-68-5; ISSN 1098-6189: 3,904 pp., \$270 (ISOPE Member; \$230).

First (2007) ISOPE HPM Nanomaterials for Structural Applications Symposium, ISOPE NANOS-2007, Lisbon, Portugal, July 1–6, 2007: Published in Proceedings of the 17th (2007) International Offshore and Polar Engineering Conference (ISOPE-2007), Lisbon, Portugal, July 1–6, 2007. For 4-volume set *CD-Rom*, (ISBN 978-1-880653-68-5; ISSN 1098-6189: 3,904 pp., \$270 (ISOPE Member; \$230).

First (2005) ISOPE Advanced Natural Gas Transport (ANGT) Symposium, ISOPE ANGT-2005, held during the 15th International Offshore and Polar Engineering Conference & Exhibition, ISOPE-2005, Seoul, Korea, June 19-24, 2005; Published in Proceedings of the 15th (2005) International Offshore and Polar Engineering Conference (ISOPE

2005), Seoul, Korea, June 19-24, 2005. For 4-volume set CD-Rom, (ISBN 1 880653 64-8; ISSN 1098-6189: 3,110 pp., \$220 (ISOPE Member; \$180).

Reprints of the 1st (1996) International Deep-Ocean Technology Symposium and Workshop, Los Angeles, May 22 - June 1, 1996: December 1996 issue, Vol. 6, No. 4, *International Journal of Offshore and Polar Engineering* (ISSN 1053-5381). Reprint volume (\$60) is available from ISOPE.

First (2007) ISOPE Strain-Based Design Symposium, ISOPE SBD-2007, Lisbon, Portugal, July 1-6, 2007: Published in Proceedings of the 17th (2007) International Offshore and Polar Engineering Conference (ISOPE-2007), Lisbon, Portugal, July 1-6, 2007. For 4-volume set *CD-Rom*, (ISBN 978-1-880653-68-5; ISBN 1-880653-68-5; ISSN 1098-6189: 3,904 pp., \$270 (ISOPE Member; \$230).

Proceedings of the 1st (1991) International Offshore and Polar Engineering Conference (ISOPE-91), Edinburgh, U.K., 11-16 August 1991. For a set of 4 volumes, (ISBN 0-9626104-5-3; LCCN 91-071635): approx. 2190 pp., \$320 (US\$240; member).

Proceedings of the 2nd (1992) International Offshore and Polar Engineering Conference (ISOPE-92), San Francisco, USA, June 14-19, 1992. For a set of 4 volumes, (ISBN 1-880653-00-1; LCCN 91-78280): 2,899 pp., \$340 (Member; \$260).

The Proceedings of the 3rd (1993) International Offshore and Polar Engineering Conference (ISOPE-93), Singapore, 6-11 June 1993. For a set of 4 volumes, (ISBN 1-880653-05-2; LCCN 92-76219): 2,965 pp., \$340 (ISOPE Member; \$260).

Proceedings of the 4th (1994) International Offshore and Polar Engineering Conference (ISOPE-94), Osaka, Japan, April 10-15, 1994. For a set of 4 volumes, (ISBN 1-880653-10-9; LCCN 93-80555): 2,589 pp., \$340 (ISOPE Member; \$260).

Proceedings of the 5th (1995) International Offshore and Polar Engineering Conference (ISOPE-95), The Hague, June 11-16, 1995. For a set of 4 volumes, (ISBN 1-880653-16-8; LCCN 94-73796): 2,543 pp., \$340 (ISOPE Member; \$260).

Proceedings of the 6th (1996) International Offshore and Polar Engineering Conference (ISOPE-96), Los Angeles, May 26-31, 1996. For a set of 4 volumes, (ISBN 1-880653-22-2): 2,326 pp., \$360 (ISOPE Member; \$280).

Proceedings of the 7th (1997) International Offshore and Polar Engineering Conference (ISOPE-97), Honolulu, May 25-30, 1997. For a set of 4 volumes, (ISBN 1-880653-28-1): 3,556 pp., *CD-ROM* only at \$300 (ISOPE Member; \$240).

Proceedings of the 8th (1998) International Offshore and Polar Engineering Conference (ISOPE-98), Montréal, May 24-29, 1998. For a set of 4 volumes, (ISBN 978-1-880653-34-0; ISSN 1098-6189): 2,577 pp., \$380 (ISOPE Member; \$300).

Proceedings of the 9th (1999) International Offshore and Polar Engineering Conference (ISOPE-99), Brest, May 30-June 4, 1999. For a set of 4 volumes, (ISBN 978-1-880653-39-5; ISSN 1098-6189): 3,061 pp., *CD-ROM* only at \$300 (ISOPE Member; \$240).

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