



28th International Conference
on Ocean, Offshore and
Arctic Engineering
Honolulu, Hawaii • 31 May - 5 June 2009

OOAE Division Newsletter

Editor: Daniel T. Valentine

Winter 2008/Spring 2009

The Newsletter of the OOAE Division of the International Petroleum Technology Institute (IPTI) of ASME.

MESSAGE FROM THE CHAIR



Segen F. Estefen

Division Chair, Ocean, Offshore and Arctic Engineering (OOAE) Division of ASME
Professor of Ocean Structures, COPPE / Federal University of Rio de Janeiro

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OOAE Roster	3	<p>Ocean, Offshore and Arctic Engineering (OOAE) Division of the American Society of Mechanical Engineers (ASME) is focused on both scientific and technical interests related to the better understanding of environmental loading, hydrodynamic behavior, materials selection, structural strength, safety and in-service performance of ships, floating units and subsea equipment mainly associated with the oil & gas industry. More recently, challenges imposed by climate change have motivated a new initiative on ocean renewable energies from waves, tides and currents and, also, on innovative solutions for offshore wind energy. The main forum for these activities is the annual International Conference on Ocean, Offshore and Arctic Engineering (OMAE).</p>
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Message from Division Chair cont'd.

The OMAE Conference is widely recognized as the main international event, which bring together academia, industry and regulatory institutions to exchange experiences on relevant subjects in the interest of the ocean engineering activities. The international approach, characterized by the diversity of both technical interests and regional themes, has gained the recognition as an outstanding environment to learn from each other. For example, the conference provides a forum for better interaction between field experience and research activities. The quality of the papers has motivated the ISI Web of Knowledge to consider the OMAE Conference as one of those which deserves special attention from the scientific community.

Under the IPTI umbrella, the OOAE Division has the opportunity for a synergistic cooperation with both Petroleum Division (PD) and Pipeline Systems Division (PS). This possibility should be explored in the near future for special events of common interests in order to provide a wider range of activities to the members of the three Divisions. Three symposia conducted under OMAE Conference should provide direct links for the cooperation: Pipeline & Riser Technology, Polar & Arctic Sciences and Technology, and Petroleum Technology.

The 2008-2009 roster of the OOAE Division leadership is provided in the attached table.

On behalf of OOAE Division of ASME, I would like to invite you to OMAE2009, which will be held in an outstanding location, Honolulu, Hawaii, in which the most challenging aspects related to ocean, offshore and arctic engineering will be presented, discussed and experiences exchanged in a truly international atmosphere.



I deeply regret to inform everyone that our colleague Subrata Chakrabarti passed away on 23 January 2009.

Subrata contributed continuously for more than two decades to the Ocean, Offshore and Arctic Engineering Division of ASME and, during this period, coordinated the Offshore Technology Symposia of the OMAE Conferences.

He was a leader in the field of Offshore Engineering, a fellow of ASME and a member of the U.S. National Academy of Engineering. The scientific and engineering community working in related subjects will miss his guidance and friendship.

OMA E 2009 will be an opportunity to honor our dear friend Subrata Chakrabarti.

Segen Estefen, Chair
OOAE Division of ASME

Please note the obituary was added after preparation of the newsletter.

OOAE Division: 2008-2009 Roster American Society of Mechanical Engineers (ASME)

B. Executive Committee	
Chair	Segen Estefen (Pipelines)
First Vice-Chair	Ron Riggs (Offshore)
Second Vice-Chair and Treasurer	Walter Kuehnlein (Polar & Arctic)
Secretary	Jon Mikkelsen (Ocean)
Member	Owen Oakley (CFD & VIV)
Member	Mehernosh Irani (Offshore)
Member	George Wang (SSR)
Member-Elect	Hideyuki Suzuki (OSU)
F. Technical Committees	
P-1 Offshore Technology	Subrata Chakrabarti
P-2 Structures, Safety & Reliability	Carlos Guedes Soares
P-3 Materials Technology	Mamdouh Salama
P-4 Pipeline and Riser Technology	Segen Estefen
P-5 Ocean Space Utilization	Takeshi Kinoshita
P-6 Ocean Engineering	Cengiz Ertekin
P-7 Polar & Arctic Sciences & Technology	Walter Kuehnlein
P-8 Computational Fluid Dynamics & Vortex Induced Vibrations	Owen Oakley
C. Advisory Committee	
Chair	Cengiz Ertekin
Past OOAE Chairs	Xiaozhi (Christina) Wang, Bernt Leira, John Halkyard, Daniel Valentine, Michael Bernitsas, Arvid Naess, Cengiz Ertekin, Stephen Liu
IC Committee OOAE Reps	Jim Brekke, Denby Morrison
Symposia Coordinators	Subrata Chakrabarti, Mamdouh Salama, Carlos Guedes Soares, Takeshi Kinoshita
E. International Conference Committee	
Chair OMAE 2008	Carlos Guedes Soares
Chairs OMAE 2009	Cengiz Ertekin, Ron Riggs
OOAE Representatives	Jim Brekke, Denby Morrison
Co-sponsoring Society Representatives	http://www.ooae.org/omaecosponsors.htm
G. Technical Program Committee	
OMAEO 2009 Chairs	Cengiz Ertekin, Ron Riggs
OMAEO-ASME Liaison & Technical Program Chair	Subrata Chakrabarti

¹Who are not EC members (According to the by-laws, EC members cannot be on the Advisory Committee).

OOAE Division: 2008-2009 Roster cont'd.

Symposia Coordinators	Subrata Chakrabarti, Cengiz Ertekin, Segen Estefen, Walter Kuehnlein, Takeshi Kinoshita, Owen Oakley, Mamdouh Salama, Carlos Guedes Soares
OMAE Session Organizers	http://www.ooae.org/omaesympoia/sympoia.htm
H.a. Transactions JOMAE Editorial Board	
Technical Editor and Chair	Solomon Yim
Associate Technical Editors	http://www.ooae.org/jomae/jomae.html
H.b. Honors & Awards Committee	
Chair for Division & Conference Awards	Xiaozhi (Christina) Wang (Chair), Carlos Guedes Soares, Segen Estefen
Chair for ASME Honors & Awards	Xiaozhi (Christina) Wang
H.c. Student Activities Committee	
Chair	Jon Mikkelsen
Vice-Chair	Mehernosh Irani
ISODC Representatives Chair	Bob Randall
ISODC Representatives	Mike Bernitsas, Charles Dalton, Mehernosh Irani
H.d. Newsletter & Publicity Committee	
Chair	Daniel Valentine
Newsletter Editor	Daniel Valentine
All Committee Chairs and all OMAE Session Organizers	B.1 and http://www.ooae.org/omaesympoia/sympoia.htm
H.e Representation to ASME National Committees	
Representatives	Michael Bernitsas, Cengiz Ertekin
Representation to International Petroleum Technology Institute	
Representative	Denby Morrison
I. International, Regional or Local Chapters Committee	
Co-Chairs for International Chapters	Takeshi Kinoshita, Denby Morrison
Chair for Regional/Local Chapters	John Halkyard
H.f. Long-Range Strategic Planning Committee	
Co-Chairs	Michael Bernitsas, Arvid Naess, Ron Riggs
OOAED Webmaster	
www.ooae.org or www.omaee.org	To be determined
ASME/IPTI Staff Support	Kimberly Miceli, micelik@asme.org



OMAE 2009
Honolulu, USA

**28th International Conference
on Ocean, Offshore and
Arctic Engineering**
Honolulu, Hawaii • 31 May - 5 June 2009

The 28th International Conference on Ocean, Offshore and Arctic Engineering
May 31—June 5, 2009, Honolulu, Hawaii

Article prepared by **R. Cengiz Ertekin**, University of
Hawaii and Local Conference Organizer and Conference Chair

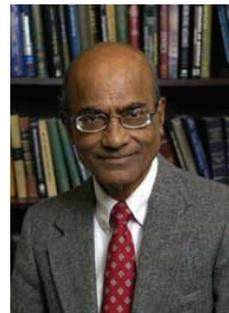


Conference Co-Chair:



Ron Riggs,
University of Hawaii

Technical Program Chair:



Subrata Chakrabarti,
Offshore Structure Analysis, Inc.

On behalf of the OOAEE Division of the International Petroleum Technology Institute of the American Society of Mechanical Engineers International and the University of Hawaii, we welcome you to OMAE 2009, the 28th International Conference on Ocean, Offshore and Arctic Engineering. We are very pleased to be co-chairing this conference in Honolulu.

OMAE 2009 will be full of interesting technical activities, but we hope you also find time to enjoy some of the many things that Honolulu offers while you are here. OMAE is well known as a place for ocean, offshore and ocean engineers and researchers from academia, industry and governmental organizations to meet and exchange ideas. We hope you will take the time to participate in as many of the technical programs being offered as you can. They cover a range of technologies represented by thirteen symposia and expected to include more than 500 technical papers. The symposia are:

SYMP-1: Offshore Technology

SYMP-2: Structures, Safety and Reliability

SYMP-3: Materials Technology

SYMP-4: Pipeline and Riser Technology

SYMP-5: Ocean Space Utilization

SYMP-6: Ocean Engineering

SYMP-7: Polar and Arctic Sciences and Technology

SYMP-8: CFD and VIV

SYMP-9: C.C. Mei Symposium on Wave Mechanics and Hydrodynamics

SYMP-10: Offshore Renewable Energy

SYMP-11: Offshore Measurement and Data Interpretation

SYMP-12: Offshore Geotechnics

SYMP-13: Petroleum Technology

Symposia 9 through 13 are special symposia, some of which have been around the last few years due to the fact that they offer areas that have become of more interest in recent years.

Occasionally, OMAE conference series honors outstanding academicians and engineers who have contributed to our profession significantly. This year, we will honor the accomplishments of Professor C.C. Mei of MIT whose work has dramatically changed the course of how we look at wave mechanics and hydrodynamics problems. His colleagues and students will participate in this symposium, and we expect it to be an excellent one.

There will also be special forums such as the Shallow Water Waves and Hydrodynamics forum jointly organized by the Offshore Technology, Structures, Safety and Reliability, and Ocean Engineering Symposia.

We are offering three very special short courses on the weekend preceding the conference. These courses cover the topics of

- Wave Energy Conversion and Resource Assessment
- Vortex Induced Vibrations
- Ice mechanics

There will also be technical visits, accompanying persons tours, and other events for networking, such as the luncheons and the banquet. **We hope you enjoy OMAE 2009!**

OCEAN ENGINEERING SYMPOSIUM

R. CENGIZ ERTEKIN AND DANIEL T. VALENTINE, CO-ORGANIZERS



The first Ocean Engineering Symposium was organized in OMAE 2002, so this is the seventh year for the Ocean Engineering Symposium. More than 150 abstracts have been submitted to the Ocean Engineering Symposium that will be held during OMAE 2009 in Honolulu. We plan to have sessions on wave mechanics, underwater technology, marine vehicles and structures, towed and undersea cables and pipes, mooring and buoy technology, coastal hydrodynamics, geotechnology, foundation engineering, computational mechanics, aquaculture, marine environmental engineering, model tests and instrumentation. The three areas that are traditionally included within the OE symposium, namely the Offshore Renewable Energy, Ocean Measurements, and Offshore Geotechnics are made separate, special symposia in 2009.

Ocean engineering is an integral part of the Ocean, Offshore and Arctic Engineering Division of our society, and we invite all our colleagues who work on ocean engineering related fields to join us in Hawaii to discuss subjects of great interest to us and exchange our knowledge in making the oceans a better place to serve humankind.

Hope to see you in Honolulu!

JOMAE NEWS BRIEF FROM SOLOMON YIM, TECHNICAL EDITOR



On behalf of the OMAE Division, I would like to acknowledge the recently rotated out editor Stephen Liu, and associate editors Antonio C. Fernandes, Beverly Ronalds, Krish Thiagarajan, Eddie H.H. Shih, Chon Tsai, Daniel T. Valentine and Ge (George) Wang for their the excellent service to the Journal of Offshore Mechanics and Arctic Engineering. We thank the service of the continuing members and welcome the incoming and recently renewed associate editors Charles Dalton, R. Cengiz Ertekin, John Halkyard, Shan Huang, Rene Huijsmans, Dong S. Jeng, Arvid Naess, Thomas E. Schellin and Longbin Tao. Both subscriptions and paper submissions to the journal have increased significantly over the past few years. To balance the workload of the associate editors and improve the turn-around time of the publication process, we will continue to increase the number of associate editors and are negotiating with the ASME Administration to increase the yearly publication pages. For those who are interested in becoming an associate editor of the journal, please contact me at solomon.yim@oregonstate.edu for requirement details.

Editor's Note

Exemplars of life-long learning and life-time achievement



Daniel T. Valentine

When I learned that in Hawaii at OMAE 2009 we are honoring the achievements of **Chiang C. Mei**, the Donald and Marhta Harleman Professor in the Civil and Environmental Engineering Department at MIT, it filled me with great pleasure and pride. The Ocean, Offshore and Arctic Engineering (OOAE) Division of ASME International is hosting a symposium in his honor of Mei, an exemplar of life-long learning and life-long achievement. As pointed out by Cengiz Ertekin and Ron Riggs in their article on the OMAE 2009: "Occasionally, OMAE conference series honors outstanding academicians and engineers who have contributed to our profession significantly." Taking advantage of the editorship of this newsletter I want to take this opportunity to review the origin of this series of symposia, the creation of the OOAE Division Life-time achievement award, and the leadership provided by the first four honorees of this award.

We all know that life-long learning is an integral part of our continued growth as individuals whether or not we are scientists, engineers or even ordinary citizens of the world. This is also one of the stated outcomes of the engineering profession concerning an undergraduate engineering education in the United States. (This outcome is the "recognition of the need for, and an ability to engage in life-long learning". This was quoted from the published ABET, Inc. Criterion 3 accreditation requirements for an accredited engineering degree program from all U. S. universities.) The notion of "life-long learning" is epitomized by our need to get together and interact with mentors and colleagues at our annual OMAE International Conference, where we share ideas and learn new things from each other in technical areas of mutual interest.

If we need inspiration, encouragement and guidance in our pursuit of knowledge to help solve our technical problems, we could do no better than to look for our mentors, i.e., those exemplary individuals whom we aspire to emulate, within our own Ocean, Offshore and Arctic Engineering community. For the OMAE 2002 International Conference in Oslo, Norway we (R. Cengiz Ertekin and I) proposed the idea and organized the first of this series of now nearly annual symposia honoring the achievements of very special life-long learners and life-long teachers of the best kind. They learn by doing and, hence, by advancing the body of knowledge of their subjects throughout their lifetime. The first person we honored was the late Professor **John Vrooman Wehausen**. At the age of 92, when he came to Oslo and honored us with his presence, he was quite alert and sharp. He followed the talks with great interest and gave the presenters constructive comments as well as encouragement. We presented him with the first Ocean Offshore and Arctic Engineering Division of ASME

Editor's Note cont'd.

International Life-Time Achievement Award, 2003 (the notion of creating this award, I am proud to say, was initiated by Cengiz and me; I want to also acknowledge the fact that Ronald W. Yeung played a pivotal role in organizing the Wehausen Symposium). In addition to the papers published in the proceedings of this symposium, several of the most important papers were published in the *Special Issue of JOMAE on Ocean Engineering*, JOMAE, Volume 125, Number 1 (February 2003).

Although we waited several years to organize a symposium in honor of **John 'Nick' Newman** (OMAE 2008), we awarded him the second OOA Division Life-time Achievement Award dated 2003. Forty refereed papers on topics of present interest to our community were published from this symposium in the proceedings of OMAE 2008.

At OMAE 2004 in Vancouver we honored Professor **Theodore Y.-T Wu**. He is the recipient of the third OOA Division Life-time Achievement Award, 2004. I was fortunate to be directly involved in the organization of the second honorary symposium in this OMAE Conference series, viz., the Theodore Y.-T. Wu Symposium on Engineering Mechanics. At the conclusion of the Wu symposium we encouraged the presenters of the more than fifty talks to prepare and submit papers for a book. More than 45 papers were published in *Advances in Engineering Mechanics Reflections and Outlooks* edited by Allen T. Chwang, Michelle H. Teng and myself. It was published by World Scientific in 2005.

At OMAE 2005 in Greece I had the great pleasure of actually handing **Subrata Chakrabarti** the fourth OOA Division Life-time Achievement Award. Subrata is very well known in the area of offshore technology. He is also well known and admired for his tireless leadership in the OOA Division and in his tireless efforts in organizing the annual Offshore Technology Symposium (typically the biggest symposium) in at the OMAE conferences. He has led and helped organize all of the OMAE conferences directly and indirectly since their beginnings more than 25 years ago. Subrata has written a number of books and numerous papers on offshore technology that have helped all of us advance our own knowledge significantly.

In summary, the primary motivations for preparing this editorial are two: (1) I wanted to recall some of the pleasures I enjoy with my participation in the Ocean, Offshore and Arctic Engineering Division of ASME International. (2) I want to encourage others, especially young engineers and scientists with interests in engineering problems we face associated with offshore and oceans environments around the world, to consider volunteering to work with this division. We will welcome you and encourage you to get involved in the activities of our division. As an example, I enjoy organizing symposia on topics of interest to me. The now annual Ocean Engineering Symposium was initiated and organized by Cengiz Ertekin and me in 2002. As a result, I attend symposia that I enjoy immensely, learn many new things, meet great friends, interact with mentors and enjoy a variety of cultures because our annual conference has been hosted by many countries around the world.

Message from Conference Chair 2008



Carlos Guedes Soares, Conference Chairman 2008

In keeping with tradition, this year the OMAE Conference held in Estoril, Portugal, was a success with participants and organizers alike. OMAE 2008 returned to Portugal exactly ten years after the first Conference was organised by Instituto Superior Técnico in Lisbon.

This year, the OMAE Conference was held at the Congress Centre, in Estoril, comprised of eight traditional Symposia (Offshore Technology, Structures, Safety and Reliability, Materials Technology, Pipeline and Risers Technology, Ocean Space Utilization, Ocean Engineering, Polar and Arctic Sciences and Technology, and CFD and VIV).

These were complemented by four Special Symposia on Marine Hydrodynamics in honour of Prof. J. Nick Newman, on Ocean Space Utilization in honour of Prof. Koichiro Yoshida, and Prof. Hisaaki Maeda. There were also Special Symposium on Offshore Renewable Energy and Offshore Measurement and Data Interpretation.

The OMAE 2008 Conference Programme consisted of close to 640 papers presented in 14 parallel sessions, selected from close to 1000 abstracts initially submitted. Papers were distributed in the following manner by symposium: Offshore Technology – 16%, Structures, Safety and Reliability – 19%, Materials Technology – 7%, Pipeline and Risers Technology – 12%, Ocean Space Utilization – 4%, Ocean Engineering – 13%, Polar and Arctic Sciences and Technology – 2%, CFD and VIV – 9%, Nick Newman Symposium on Marine Hydrodynamics – 6%, Yoshida & Maeda Special Symposium on Ocean Space Utilization – 3%, Offshore Renewable Energy – 5%, and Offshore Measurement and Data Interpretation – 4%.

The event was attended by more than 800 participants throughout the 4 days of technical presentations. 44% of participants were drawn from Universities, 35% from Industry, and about 5% from government agencies, classification societies and research institutes each. In terms of geographical distribution of participants, we can highlight from the USA there where about 20% of participants, from Norway around 10%, from UK and Portugal approximately 8,5% and from Brazil and Japan 7,5% from the 45 countries represented.

The Outreach to Engineers Forum was organised for young engineers the second year running, and attracted about 30 participants.

Comparing with previous years, the Conference is showing an increase in size and quality, a feature that we hope to continue and consolidate in future Conferences.

An Outreach for Engineers Specialty Forum During OMAE, May 31—June 5, 2009

“Career Opportunities in the Oil and Gas Profession”

OVERVIEW

The ASME Ocean, Offshore and Arctic Engineering Division (OOAE) of the International Petroleum Technology Institute (IPTI) is hosting a specialty forum at the 2009 International Conference on Ocean, Offshore and Arctic Engineering (OMAE) in Honolulu, Hawaii. The specialty forum is designed for new graduates and early professionals who may not be familiar with the industry as well as those who have already specialized in this area.

Highlights of the Forum will include presentations of the various technologies required, types of job opportunities and possible career paths, as well as site tours. A job fair will also be featured which allows you the opportunity to discuss your situation with engineers, managers and human resources professionals from some of the leading companies in the industry

In addition, Outreach to Engineers Specialty Forum delegates will be provided with the opportunity to attend the 28th International Conference Ocean, Offshore and Arctic Engineering as conference delegates.

THROUGH THE GENEROSITY OF OUR SPONSORS, THE ORGANIZERS OF THE OUTREACH FORUM WILL BE OFFERING **SCHOLARSHIPS** TO COVER REGISTRATION COSTS AND HELP OFFSET TRAVEL AND ACCOMMODATION COSTS. THE SCHOLARSHIPS ARE OPEN TO STUDENTS AND YOUNG ENGINEERS FROM AROUND THE WORLD.



“The program was excellent. I learned a lot from the sessions, and am considering working in this industry in the future as a result.” – Comment from a 2007 Outreach attendee.

WHO SHOULD ATTEND?

Senior Undergraduate Students enrolled in Engineering or Science Curricula.

Graduate Students (both Masters and Doctoral levels) with specialization in fields such as ocean and/or offshore engineering, civil engineering, mechanical engineering, petroleum engineering, and aerospace engineering.

Early professionals who graduated with the related engineering or science qualifications and have gained experience in other industrial and research environments but are interested in exploring the exciting career opportunities in the ocean, offshore and arctic engineering fields.

Please note that related fields for an early engineering professional might include experience in the automotive and aerospace sectors, building construction, manufacturing, ship building, etc. Many of the engineering skills learned in related fields can be applied to ocean, offshore and arctic engineering.

**Please visit the forum website for an application.
Submission deadline is April 1, 2009.**

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