



The Newsletter of the OOAE Division of International Petroleum Technology Institute of ASME

Editors: Cengiz Ertekin & Dan Valentine

Message from the Chair

The OMAE Conference Series is the OOAE Division's primary activity. OMAE 2006 through OMAE 2008 are described elsewhere in this newsletter. I encourage all of you to attend these international conferences to learn more about the state-of-art of offshore mechanics and arctic engineering. While organizing the OMAE Conferences is the Division's main activity, I am pleased to report that **Jon Mikkelsen** of the University of British Columbia has agreed to head up our recently dormant **Student Contest & Scholarship Committee**. He has met with others of like mind at our winter Extended Executive Committee meeting, Feb. 3 in Houston, to reactivate our

scholarship and student contest activities. These activities are complemented by our participation, together with SNAME, in the International Student Offshore Design Competition (<http://www.isodc.com>). We hope to have more information on this activity in the next newsletter. If you are interested in helping to put this program together, contact Jon at mikk@mech.ubc.ca. We hope with Jon's enthusiasm and those on his committee, **Bob Randall, Mike Bernitsas, Charles Dalton and Meher-nosh Irani**, that we can provide a boost in the interest of Mechanical Engineering students to enter the offshore world.



Jon Halkyard
OOAED Chair, 2005-2006

In Table 1(a) the newly elected Executive Committee of the OOAE Division for 2006-2007 is provided on page 2. As is tradi-

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The 25th International Conference on Offshore Mechanics and Arctic Engineering (OMAe 2006) will be held at the CCH (Congress Center Hamburg), Germany from **June 4th – 9th, 2006**. The conference will draw together members of the scientific community, researchers, academia and the offshore engineering industry from several parts of the world. ASME International, the OOAE Division of the International Petroleum Technology Institute (IPTI), and the German Society of Marine Technology (GMT) are organizing the conference.

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The OOAED Division of ASME promotes technological progress and international cooperation in ocean, offshore and arctic engineering, and in recovering resources, such that environmental and economic successes are achieved safely. Become a member of OOAED today!

Message from the Chair

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tional, the OOAED Division 2005-2006 Roster is provided in Table 1(b) to acknowledge the services of all members of the Extended Executive Committee. We look forward to the leadership of the new Executive Committee which will take the helm on July 1, 2006 to embark on another productive year. See you in Hamburg.

John Halkyard

Table 1(a): 2006-2007 Executive Committee of OOAED

Chair	Bernt Leira (Safety & Reliability)
First Vice-Chair	Xiaozhi (Christina) Wang (Materials)
Second Vice-Chair & Treasurer	Segen Estefen (Pipelines)
Secretary	Ron Riggs (Offshore)
Voting Member	Takeshi Kinoshita (Ocean Space Utilization)
Voting Member	Walter Kuehnlein (Polar & Arctic)
Voting Member	Jon Mikkelsen (Ocean)
Non-Voting Member-Elect	Owen Oakley (CFD & VIV)
Non-Voting Member-Elect	Mehernosh Irani (Offshore)



**25th International Conference
on Offshore Mechanics and
Arctic Engineering**
Hamburg, Germany • 4-9 June 2006



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The Chair, **Walter Kuehnlein**, and the Technical Chair, **Daniel T. Valentine**, following the tradition of excellence of previous OMAE conferences, report that OMAE 2006 will be held to advance the development and exchange of information regarding ocean, offshore and arctic engineering. It will be the ideal forum for researchers, engineers, managers, technicians, and students, to discuss new and advanced technology developments and their applications in industry. It will also help promote international cooperation. More than 400 technical papers shall be presented at the conference

distributed in its symposia. Also, industry workshops, special sessions and keynote lectures will be included in the technical program. National and international companies are expected to sponsor and participate in the conference. For more information, please visit <http://www.omae2006.com>

The 25th OMAE Conference is a milestone. It is a celebration of an evolving and highly successful Conference Series (see Chakrabarti's article on page 9). A panel discussion, initiated by a panel of past Conference Chairs, is proposed to discuss the evolution of the problems that have confronted the offshore industry over the past 25

years. Within the context of this history, discussion on the following topics is expected: merger of the Ocean Engineering Division with the OMAE Division to form the OOAED Division, the recent addition of an 8th Symposium on Computational Fluid Dynamics and Vortex-Induced Vibrations in the harsh ocean environment, the OOAED's becoming part of IPTI, and the future of offshore exploration, resources extraction and sustainable development.

The highlights of some of the symposia and Workshops are on pages 8-10.

Walter Kuehnlein & Dan Valentine

Table 1 (b): Extended Executive Committees	2005-2006 Chairs/Members
D.1. Executive Committee	
Chair	John Halkyard (Offshore)
First Vice-Chair	Takeshi Kinoshita (Ocean Space Utilization)
Second Vice-Chair and Treasurer	Xiaozhi (Christina) Wang (Materials)
Secretary	Bernt Leira (Safety & Reliability)
Member	Segen Estefen (Pipelines)
Member	Ron Riggs (Offshore)
Member	Walter Kuehnlein (Polar & Arctic)
Member-Elect	Jon Mikkelson (Ocean)
Member-Elect	Alberto Morandi (Safety & Reliability)
B.1. Technical Committees	
P-1 Offshore Technology	Subrata Chakrabarti
P-2 Safety & Reliability	Carlos Guedes Soares
P-3 Materials Technology	Mamdouh Salama
P-4 Pipeline Technology	Segen Estefen
P-5 Ocean Space Utilization	Takeshi Kinoshita
P-6 Ocean Engineering	Cengiz Ertekin
P-7 Polar & Arctic Sciences & Technology	Walter Kuehnlein
B.2. Advisory Committee	
OOAE Chair	John Halkyard
OOAE First Vice-Chair	Takeshi Kinoshita
Past OOAE Chairs	Dan Valentine, Michael Bernitsas, Arvid Naess, Cengiz Ertekin, Stephen Liu
IC Committee OOAE Reps	Jim Brekke, Denby Morrison
Symposia Coordinators	Subrata Chakrabarti, Cengiz Ertekin, Segen Estefen, Walter Kuehnlein, Takeshi Kinoshita, Mamdouh Salama, Carlos Guedes Soares
B.3. International Conference Committee	
Chairs OMAE 2005	Spyros Mavrakos, Michael M. Bernitsas
Chair OMAE 2006	Walter Kuehnlein
OOAE Representatives	Jim Brekke, Denby Morrison
Co-sponsoring Society Representatives	http://www.oaee.org/omaecosponsors.htm
B.4. Technical Program Committee	
OMAEE 2006 Chair	Walter Kuehnlein
OMAEE-ASME Liaison & Technical Program Chair	Dan Valentine
Symposia Coordinators	Subrata Chakrabarti, Cengiz Ertekin, Segen Estefen, Walter Kuehnlein, Takeshi Kinoshita, Mamdouh Salama, Carlos Guedes Soares
OMAEE Session Organizers	http://www.oaee.org/omaesymposia/symposia.htm

Table 1(b) Continued on page 4

Table 1 (b) Continued from page 3: Extended Executive Committees	2005-2006 Chairs/Members
B.5a. Transactions JOMAE Editorial Board	
Technical Editor and Chair	Stephen Liu
Associate Technical Editors	http://www.oaee.org/jomae/jomae.html
B.5b. Member Services Committee	
Chair	Jon Mikkelson
B.5c. Codes & Standards Committee	
Chair	John Halkyard
Vice-Chair	Terry Jones
B.5d. Honors & Awards Committee	
Chair for Division & Conference Awards	Carlos Guedes Soares (Chair), Xiaozhi (Christina) Wang, Segen Estefen
Chair for ASME Honors & Awards	Carlos Guedes Soares
B.5e. Student Contest & Scholarship Committee	
Chair	Jon Mikkelson
Vice-Chair	Mehernosh Irani
ISODC Representatives Chair	Bob Randall
ISODC Representatives	Mike Bernitsas, Charles Dalton, Mehernosh Irani
B.5f. Newsletter & Publicity Committee	
Chair	Takeshi Kinoshita
Newsletter Editor	Dan Valentine
All Committee Chairs and all OMAE Session Organizers	B.1 and http://www.oaee.org/omaesympoia/sympoia.htm
B.5h. Representation to ASME National Committees	
Representatives	Michael Bernitsas, Cengiz Ertekin, Arvid Naess, Terry Jones
B.5i. Representation to International Petroleum Institute	
Representative	Denby Morrison
B.6. International, Regional or Local Chapters Committee	
Co-Chairs for International Chapters	Takeshi Kinoshita, Denby Morrison
Chair for Regional/Local Chapters	John Halkyard
C.1 Long-Range Strategic Planning Committee	
Co-Chairs	Michael Bernitsas, Arvid Naess
OOAED Webmaster	
	www.oaee.org or www.omaee.org Cengiz Ertekin
ASME/IPTI Staff Support	
	Manny Mones, Lisa Elliot



**The 26th International Conference on
OFFSHORE MECHANICS AND ARCTIC ENGINEERING
San Diego, USA, 10-15 June, 2007**



[The permanent OMAE 2007 Web Site will be ready in fall 2006.](#)

For more information, please visit:

<http://www.oaee.org/omae/omae2007/omae2007.htm>

Conference Announcement

The International Committee of the OMAE Conference has announced that it will return to the USA in 2007. This will be the first conference held in the USA since 2000.

The site selected in San Diego, California situated at the extreme southwest corner of the country, a neighbor to Tijuana, Mexico. Conference Chair, Dr. John Halkyard, said "I am very excited that San Diego will host this important event. Our organizing committee includes key members of the Navy research community and Scripps Institution of Oceanography. We plan to maximize the interaction and technology exchange with these San Diego constituents." San Diego is a great venue for visitors with sites such as the World Famous San Diego Zoo, Balboa Park, Sea World, the USS Midway and some of the worlds best weather. We have selected the Paradise Point Resort on Mission Bay as the conference venue. This is conveniently located between San Diego's downtown and La Jolla, home of Scripps Institution of Oceanography. Sail boat rentals and beach lounging are just a few of the activities awaiting delegates.

Chair:

Dr. John Halkyard, Technip Offshore, Inc., 11700 Old Katy Road Ste. 150, Houston, TX 77079 USA, Tel: +1 281-249-8922 (Houston), Tel: +1 858-748-8861 (San Diego), Fax +1-281-249-1333, Eml: Jhalkyard@Technip.com

Co-Chairs:

Dr. Richard J. Seymour, Scripps Institution of Oceanography, University of California at San Diego, 9500 Gilman Dr, Mail Code 0214, La Jolla, CA USA 92093-0214 USA, Tel: +1 858-534-2561, Eml: rseymour@ucsd.edu

Dr. Barbara Fletcher, Ocean Technology Branch D-744, SPAWAR Systems Center, 49590 Lassing Rd, San Diego, CA 92152 USA, Tel: +1 619-553-3859, Fax: +1 619-553-1915, Eml: bfletch@spawar.navy.mil

Meeting Manager:

Ms. Lisa Elliott, ASME-International Petroleum Technology Institute (IPTI), 11757 Katy Freeway, Suite 865, Houston, TX USA 77079 USA, Tel: +1 281-493-3491, Fax: +1-281-493-3493, Eml: elliottl@asme.org



**The 27th International Conference on
OFFSHORE MECHANICS AND ARCTIC ENGINEERING
Estoril, Portugal, 15-20 June, 2008**



[The permanent OMAE 2008 Web Site will be ready in 2007](#)

For more information, please visit <http://www.oaee.org/omae/omae2008/omae2008.htm>

Conference Announcement

The International Committee of the OMAE Conferences announces that the Conference will return to Portugal ten years after the first Conference was organized by Instituto Superior Técnico (Unit of Marine Technology and Engineering) in Lisbon.



This time round, the site of OMAE 2008 will be Estoril located on the outskirts of Lisbon and approximately 25 km from the city centre. It is one of the principal towns situated along the Estoril Coast which, owing to a Mediterranean type microclimate, has mild winters and an ideal summer temperature. Estoril is well known as a seaside resort with its inviting beaches and local night attractions.

Estoril being a coastal town with a much sought after warm climate, it is also a popular tourist resort. The town has the required infrastructure to accommodate Conferences of the nature of the OMAE Conferences. There are many hotels in Estoril and surrounding areas to choose from, allowing participants a wide ranging of choice.

The Conference will be Chaired by Prof. Carlos Guedes Soares and it will be supported by the Portuguese Association of Engineers (Ordem dos Engenheiros).

The Estoril Congress Centre is situated in the centre of the town has the required facilities and necessary capacity available to accommodate the special requirements of OMAE Conferences. All its facilities can be consulted at <http://www.estorilcongresscenter.com>.

It is planned that OMAE 2008 will take the usual form of OMAE Conferences, complemented by specific national details. The Congress Centre has a large combination of various rooms which would accommodate very well the specific requires of OMAE Conferences. It also has large open spaces for exhibitions, receptions, meals and refreshments.

Chair:

Prof. Carlos Guedes Soares, Instituto Superior Técnico, Unit of Marine Technology and Engineering, Instituto Superior Técnico, Av. Rovisco Pais 1049-001 Lisboa, Portugal, Tel.: 351-1-841-7957 Fax: 351-1-847-4015, E-mail: guedess@mar.ist.utl.pt

Secretariat:

Fátima Pina, E-mail: fatima@mar.ist.utl.pt

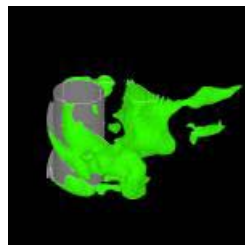
NEWS...

A New Symposium: CFD & VIV Symposium

Background

Exploration and production in water depths of 3,000 meters and beyond have brought the topic of vortex induced vibrations (VIV) into sharp relief. The design of many floating structures, risers and flowlines are governed by VIV issues. The complexity of the flow is such that current empirical design methods can not predict VIV amplitudes and the associated fatigue lives with confidence. The topic is currently under active research and development, both experimentally and analytically, with new information emerging at a high rate. This symposium attempts to report on the latest developments related to VIV physics and modeling for offshore applications. There is also an opportunity to capitalize on the explosive growth in computing power to address VIV and many other hydrodynamic issues. Computa-

tional Fluid Dynamics (CFD) has become an integral part of the design processes in many areas, including the aerospace, automotive and chemical industries, but it has not yet been as widely embraced for use in the marine industry. This is especially true in the offshore sector that must contend with such things as massively separated flows, extremely high Reynolds numbers and wave breaking phenomena. CFD can bring extraordinary insight into such complex, viscous flows



that can not be seen or modeled in the laboratory. CFD does introduce new challenges that must be resolved if we are to make its power truly accessible to the offshore engineer. The symposium therefore focuses on the application of CFD to offshore problems, including VIV and the modeling of all manner of free surface problems.

For more information,



please visit <http://www.oaie.org/omaesymposia/cfdvivosymposium.htm>

Symposium Coordinator:



Dr. Owen H. Oakley, Jr.,
Chevron Energy Technology Co., 6001 Bollinger Canyon Rd., San Ramon, CA 94583-2324, U.S.A., Tel/Fax: +1 (925) 842-4953/842-8626, Eml: ohoakley@chevron.com

OOAED BYLAWS REVISION

The Bylaws of the OOAED Division are being revised under the leadership of Ron Riggs who is a member of the Executive Committee. The current Bylaws are posted on the web: <http://www.oaie.org/bylaws/bylaws.html> If you have comments or suggestions for the new version of the Bylaws, please contact Ron Riggs at: riggs@hawaii.edu

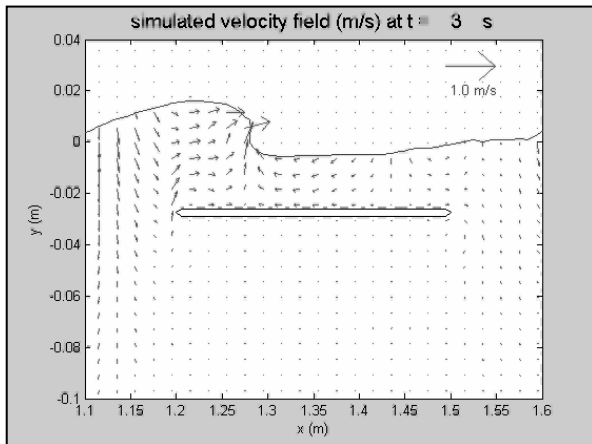




The Symposia Highlights

Safety and Reliability (Symposium Coordinator: Carlos Guedes Soares): This Symposium addresses the probabilistic methods that allow the description of loading and strength variables, which constitute the basic information necessary for the assessment of safety and reliability of marine structures. This year this symposium will have about 60 papers spread in 5 major areas of spectral and probabilistic models of waves, probabilistic models of motions and loads, reliability of offshore structures, fatigue and corrosion inspection planning and risk analysis. Furthermore in this Symposium there will be an invited lecture which this year will be given by Prof. Paolo Boccotti on "Quasi-Determinism Theory of Sea Waves", which will discuss the occurrence of exceptionally large waves in the ocean.

Ocean Space Utilization (Symposium Coordinator: Takeshi Kinoshita): In the Ocean Space Utilization symposium several topics are discussed. Earth warming is a big issue, but we have not yet found conclusive solutions. CO₂ ocean sequestration may be one of them. Very large floating structures and near future floating structures will provide new transportation base, energy base etc. Fishing gear, marine recreation, marine environment education and coastal management are also discussed.



Ocean Engineering (Symposium Coordinator: R. Cengiz Ertekin): The first Ocean Engineering Symposium was organized in OMAE 2002, so this is the fifth year for the Ocean Engineering Symposium. With this symposium we celebrate to be a primary part of the annual OMAE International Conference series by expanding the scope to include the ocean engineering interests of ASME International with interests in offshore mechanics and arctic engineering. There are 80 peer-reviewed papers and technical presentations in sessions on wave mechanics, underwater technology, marine vehicles and structures, towed and undersea cables and pipes, mooring and buoy technology, coastal hydrodynamics, geotechnical engineering, computational mechanics, renewable energy, aquaculture, marine environmental engineering, model tests and instrumentation.

Douglas Faulkner Symposium on Reliability and Ultimate Strength of Marine Structures (Symposium Coordinator: Carlos Guedes Soares): This is a special Symposium held only this year to recognize Douglas Faulkner's work on reliability and ultimate strength of marine structures. It will include about 25 papers in sessions on structural reliability, ultimate strength and design for abnormal waves.

Workshop on the Pendulous Installation Method (PIM) for Deployment of Heavy Subsea Hardware in Ultra Deepwater (Sponsored by PETROBRAS, FMC and COPPE/UFRJ and coordinated by the Chairpersons: Maxwell Brandão Cerqueira, PETROBRAS, Milton Vilas Boas Segura, FMC CBV SUBSEA, and Antonio Carlos Fernandes, COPPE/UFRJ). The workshop will cover the development towards the feasibility of the PIM (the Pendulous Installation Method), covering aspects such as the conceptual design, the model testing design and realization, the numerical modeling, the risk analysis, the full scale dummy deployment, the installation simulation and the construction aspects of a large deepwater manifold installation.

OMAE 2006 to Explore Offshore LNG & Deploying Heavy Hardware in Ultra Deepwater

OMAE 2006 features two special symposia sure to peak interest. On the second day of the conference a full day Symposium will be devoted to **Offshore LNG**. Topics covered during the Offshore LNG Symposium include:

- What are the key drivers in the industry from a contracting and operator perspective?
- Which terminal concepts are likely to survive & thrive?
- Will the industry successfully adapt to transportation challenges in harsh, arctic environments as well as the demands for a huge jump in the size of modern LNG carriers?
- How will developments co-exist in environmentally sensitive offshore & coastal regions?
- When will the promise of more robust transfer technology make an impact?

Also, Petrobras will hold a workshop on **"The Pendulous Installation Method for Deployment of Heavy Subsea Hardware in Ultra Deepwater"**. The workshop will review the development towards the feasibility of the Pendulous Installation Method including aspects such as conceptual design, model testing design and realization, numerical modeling, risk analysis, full scale dummy deployment, installation simulation and the con-

struction aspects of a large deepwater manifold installation.

Other program highlights include a special symposium in recognition of **Douglas Faulkner's** work on Reliability and Ultimate Strength of Marine Structures and a Keynote Address by **Professor Turgut Sarpkaya**, Distinguished Professor of Mechanical Engineering at the Naval Postgraduate School, on "Hydrodynamic Damping: Theoretical, Numerical, and Experimental Facts".

The education program will feature over 400 technical papers broken into the following symposia, full details can be found on the conference web site at www.OMAE2006.com.

- **Offshore Technology**
- **Safety and Reliability**
- **Materials Technology**
- **Pipeline Technology**
- **Ocean Space Utilization**
- **Ocean Engineering**
- **Polar and Arctic Sciences and Technology**
- **CFD and VIV Symposium**
- **Offshore Wind Energy**
- **Ocean Research Technology**
- **Douglas Faulkner Special Symposium**
- **Workshop on The Pen-**

dulous Installation Method (PIM) for Deployment of Heavy Subsea Hardware in Ultra Deepwater

• **LNG Specialty Symposium**

The conference destination, Hamburg, Germany, is culturally and commercially the center of Northern Germany. Hamburg owes its existence to the harbor which occupies 40 square acres on the Elbe River - a scant 60 miles from the North Sea. The second largest port in Europe, Hamburg's non-stop maritime hustle-and-bustle provides a fascinating sight from the harbor's landing, Landungsbruecken. The harbor is also the location for the Final Banquet on our private charter yacht! You'll have unparalleled views of the city skyline as we explore the harbor's many basins and channels; it's like dining in all of Hamburg's finest waterfront restaurants in one evening! A day trip to nearby Berlin is planned for the Friday following the conference with a guided tour by coach and on foot. Those of you who follow soccer (or football outside of North America) know the FIFA World Cup starts the day after the conference with the first game in Hamburg on Saturday, June 10th (two days after the conference) in a match featuring Argentina vs. Côte d'Ivoire.

For more information on the conference please visit www.OMAE2006.com

This year, over 80 papers will be presented within the Offshore Technology Symposium. The increased deep-water offshore activities are again well represented in this year's papers, particularly in the area of floating systems and deepwater risers. Structures of interest in deep water application, such as, Floating Production and Offloading Systems (FPSO), SPAR, Tension Leg Platform (TLP), Semisubmersibles, Spread Mooring Systems (SPM) are covered in several technical sessions. However, the overall subject matter of the Offshore Technology Symposium is quite varied. It covers many areas of offshore structural mechanics and structural developments including environmental forces, hydrodynamics, fixed structures, floating body dynamics, and structural and foundation design. Both theoretical and practical aspects of the subjects are equally covered. Moreover, there is a good balance between the research and application oriented papers. The symposium will include papers that are of equal interest to the researchers and the practicing engineers. In addition, a workshop related to the Offshore Technology, "The Pendulous Installation Method (PIM) for Deployment of Heavy Subsea Hardware in Ultra Deepwater" is planned. The workshop will cover the development towards the feasibility of the PIM, covering aspects such as the conceptual design, the model testing design and realization, the numerical modeling, the risk analysis, the full scale dummy deployment, the installation simulation and the construction aspects of a large deepwater manifold installation.

Subrata Chakrabarti, Symposium Coordinator

OMAE Twenty-fifth Anniversary

This is the year we celebrate 25 years of successful Offshore Mechanics and Arctic Engineering Conference. I was one of the fortunate ones to attend each and every one of them. The first conference was held in 1982 at New Orleans, LA as part of the Energy Technology Conference and Exposition (ETCE). The attendance at the first OMAE symposium was about 200. However, the very first conference was indeed broadly international co-sponsored by a variety of international societies and attended by delegates from so many countries. The conference grew in size rapidly within a few years. The conference consisted of only two symposia for the first several years under the ETCE conference, namely, Off-



shore Technology Symposium and Arctic Engineering Symposium. The original plan was to rotate the venue between the US and outside every other year.

However, due to tremendous interest from outside the country, this informal rule was seldom followed. The first stand-alone OMAE conference was held in 1986 in Tokyo when the individual symposium within OMAE grew in numbers. This was also one of the most successful OMAE conferences with about 600 attendees. There were many remarkable past OMAE conferences both in the quality of technical papers and other activities. In terms of social functions, probably the most memorable one was the one at Florence, Italy in 1996. The inclusion of the Ocean Engineering Division in 2000 within the now named OMAE division brought in the Ocean Engineering Symposium and strengthened the activities of the OMAE conference.

It also generated several extremely successful specialty symposia honoring the likes of late Prof. John Wehausen and Prof. Ted Wu. We are confident that the future OMAE conferences will flourish even further with the help of so many volunteers.

Subrata Chakrabarti, April 9, 2006

