



OCEANIC ENGINEERING SOCIETY

Newsletter



VOLUME XXXVI

NUMBER 1

EDITOR: FREDERICK H. MALTZ

WINTER 2001

(USPS 420-910) ISSN 0746-7834

A photograph of a rocky coastline with waves crashing against the shore, overlaid with a semi-transparent blue filter. The text is centered over the image.

**Revised Constitution
and By-laws**

In This Issue *see page 12*



President
THOMAS F. WIENER
2403 Lisbon Lane
Alexandria, VA 22306-2516
+1 703 516 7363
+1 703 516 7360 (FAX)
twiener@darpa.mil

Newsletter Editor
FREDERICK H. MALTZ
1760 Larkellen Lane
Los Altos, CA 94024
+1 650 967 5092
+1 650 969 9390 (FAX)
f.maltz@ieee.org

**Vice President
Technical Activities**
JOSEPH R. VADUS
8500 Timber Hill
Global Ocean Inc.
Potomac, Maryland 20854
+1 301 299 5477
+1 301 983 4825 (FAX)
jvadus@erols.com

IEEE Newsletter Coordinator
ANDREA WATSON
445 Hoes Lane
Piscataway, NJ 08855-1331
+1 732 562 6345
+1 732 981 1855 (FAX)
a.watson@ieee.org

**Vice President,
Professional Activities**
NORMAN D. MILLER, P.E.
2644 NW Esplanade Drive
Seattle, WA 98117-2527
+1 206 784 7154
+1 206 784 0478 (FAX)
colmiller@home.com

**Journal of Oceanic
Engineering Editor**
JAMES F. LYNCH
Oceans Physics and
Engineering
203 Bigelow Building
Woods Hole Oceanographic
Institution
Woods Hole, MA 02543
+1 508 457 2000 x2230
jlynch@whoi.edu

**Vice President,
International Activities**
VACANT

Secretary
STEPHEN M. HOLT
11950 Grey Squirrel Lane
Reston, VA 20194
+1 703 610 2000
sholt@mitretek.org

Treasurer
JAMES T. BARBERA
13513 Crispin Way
Rockville, MD 20853
+1 301 360-4347
+1 301 871 3907 (FAX)
j.barbera@ieee.org

Web Master
ERIC NELSON
Celion Networks, Inc.
3101 E. Pres. George Bush
Freeway, Suite 250
Richardson, TX 75082-3538
+1 972 907 2283
eric.nelson@celion.com

OES Journal Associate Editors

ARTHUR B. BAGGEROER
Dept. Ocean Eng.-Rm. 5-204
Mass. Inst. Technol.
Cambridge, MA 02139
+1 617 253 4336
abb@arctic.mit.edu

D. RICHARD BLIDBERG
Autonomous Undersea
Systems Institute
86 Old Concord Turnpike
Lee, NH 03924
+1 603 868 3221
Fax: +1 603 868 3283
blidberg@ausi.org

PETER H. DAHL
Applied Physics Lab,
Univ. of Washington
1013 N.E. 40th Street
Seattle, WA 98105
+1 206 543 2667
dahlt@apl.washington.edu

WILLIAM M. CAREY
The Kerry Group LLC
79 Whippoorwill Rd.,
Old Lyme, CT 06371
+1 860 434 6394
kerrygtp@ctol.net

CHRISTIAN DE MOUSTIER
Marine Physical Lab,
Scripps Inst. of Oceanography
La Jolla, CA 92093
+1 619 534 6322
cpm@mpl.ucsd.edu

GEOFF EDELSON
Sanders
Advanced Systems Directorate
MAN6-2000
P. O. Box 868
Nashua, NH 03061-0868
+1 603 645 5735
Fax: +1 603 645 5731
edelson@sanders.com

JOHN E. EHRENBERG
Boeing Defense and Space Group
P. O. Box 3999
MS 84-41
Seattle, WA 98124-2499
+1 206 773 1442
ehrejexoo@cmail.boeing.com

DAVID M. FARMER
Institute of Ocean Sciences
P. O. Box 6000, 9860 West Saanich Rd.
Sidney, BC V81 4B2 Canada
+1 250 363 6591
Fax: +1 250 363 6798
dmf@ios.bc.ca

RENE GARELLO
Telecom Bretagne
Dpt. ITI BP 832
29285 Brest Cedex France
33 2 98 00 13 71
Fax: 33 2 98 00 10 98
rene.garello@enst-bretagne.fr

MALCOLM L. HERON
Physics Dept.
Jams Cook Univ.
Townsville, Queensland 4811
Australia
61 77 81 4127

DAVID P. KNOBLES
EVG
Applied Research Labs.
Univ. of Texas at Austin
P.O. Box 8029
Austin, TX 78713-8029
+1 512 835 3687
knobles@arlut.utexas.edu

JOHN J. LEONARD
Ocean Engineering Department
Room 5-422
Mass. Inst. Technol.
77 Massachusetts Ave.
Cambridge, MA 02139
+1 617 253 5305
Fax: +1 617 253 8125
jleonard@mit.edu

HISAAKI MAEDA
Institute of Industrial Science
University of Tokyo
7-22-1, Roppongi, Minatoku
Tokyo 106, Japan
81 3 3402 6231 X2255
Fax: 81 3 3402 5349
maedah@iis.u-tokyo.ac.jp

ARYE NEHORAI
Dept. Elect. Eng. and Computer Sci.
Univ. of Illinois at Chicago
851 S. Morgan St.,
Rm. 1120 SEO
Chicago, IL 60607-7053
+1 312 996 2778
Fax: +1 312 413 0024
nehorai@eecs.uic.edu

JOHN D. PENROSE
Centre for Marine Science and
Technology
Curtin Univ. Kent SL Bentley,
Western Australia 6102
Australia 61 9351 7380
tpenrosej@cc.curtin.edu.au

JOHN POTTER
Head, Acoustic Research Laboratory
TMSI and Elect. Eng. Dept.
National Univ. of Singapore
10 Kent Ridge Crescent
Singapore 117596
Fax: 65 874 2129
Fax: 65 874 8325
johnp@arl.nus.edu.sg

ROBERT C. SPINDEL
Applied Physics Lab.
Univ. of Washington
1013 N.E. 40th St.
Seattle, WA 98105
+1 206 543 1310
spindel@apl.washington.edu

RICHARD STERN
Applied Research Lab.
Penn State Univ.
P. O. Box 30
State College, PA 16804
+1 814 865 6344
rs@arl.vax.arl.psu.edu

ARTHUR B. BAGGEROER
Arctic/Antarctic Oceanic
Engineering, Information and Processing
of Acoustic and Electromagnetic
Phenomena

D. RICHARD BLIDBERG
JOHN J. LEONARD
AUV's, ROV's, Autonomous Systems,
Unmanned Vehicles, Intelligent Systems,
and High Level Control

WILLIAM H. CAREY, *Editor Emeritus*
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Signal Processing

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surement Techniques

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IEEE Oceanic Engineering Society Newsletter is published quarterly by the Oceanic Engineering Society of the Institute of Electrical and Electronics Engineers, Inc. Headquarters: 3 Park Avenue, 17th Floor, NY 10017-2394. \$1.00 per member per year (included in Society fee) for each member of the Oceanic Engineering Society. Printed in U.S.A. Periodicals postage paid at New York, NY and at additional mailing offices. Postmaster: Send address changes to IEEE OCEANIC ENGINEERING SOCIETY NEWSLETTER, IEEE, 445 Hoes Lane, Piscataway, NJ 08854

Outgoing President's Message

It has been my privilege to serve as the President of the IEEE Oceanic Engineering Society for six years (1990-1993, 1999-2000). It has been quite a spin, a significant highlight of my career, and I sincerely appreciate the support I've had from the OES membership and the AdCom.

On a more informative note, eleven IEEE Millennium Medals were presented at OCEANS 00 MTS/IEEE in Providence, RI to past stalwarts of the OES. These Medals were given in recognition of the individuals' contributions to the society, which have been significant. OES awarded medals went to: Claude Brancart, Bill Carey, Stan Chamberlain, Joe Czika, Ed Early, Fred Fisher, Lloyd Maudlin, Norm Miller, Joe Vadus, Art Westneat and Glen Williams.

The OCEANS Conference series is in great shape, with a rousing success at OCEANS 00, OCEANS 01 in Honolulu, Hawaii and OCEANS 02 in Biloxi, Mississippi. Currently there are two OCEANS events planned for 2003: OCEANS 03 MTS/IEEE in San Diego, California and OCEANS 03 EUROPE in Bergen, Norway. OCEANS 04 MTS/IEEE will be combined with Techno-Ocean 04 in Kobe, Japan, and I expect that there will also be an OCEANS Conference in the US on the east coast. And, for the record, our relationship with the Marine Technology Society has never been stronger, particularly in our co-sponsorship of the annual OCEANS Conferences. The two societies are leveraging each others strengths to create a whole, definitely greater than the sum of the parts.



Glen N. Williams

The OES Digital Archive project is proceeding smoothly, with the final product to be available around April 1, 2001. The Archive will consist of 1, 2 or 12 CDs, depending on the data compression technology used. (Obviously 1 or 2 CDs is better, but ..)

This Archive will include:

- OES Journal (1974-2000)
- OCEANS Conference Proceedings (1970-2000)
- Autonomous Underwater Vehicle Symposium (AUV 1990, 92, 94, 96, 98)
- Underwater Technology Symposium (UTS 1998,2000)
- Current Measurement Technology (CMT 1978,82,86,90,95,99)
- Unmanned Undersea Systems Technology Conference (UUST 1980, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99)

The final pricing for this Digital Archive will be as follows:

- Oceanic Engineering Society Members . . . \$50
- IEEE Members/Non-OES Members . . . \$100
- Marine Technology Society Members . . . \$150
- Non Members . . . \$500

I want to take this opportunity to welcome the new OES President, Dr Tom Wiener of DARPA. Tom has been the OES Treasurer for the past several years and I'm confident that he will bring the OES to the next level. Welcome, Tom!

Glen N. Williams

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Incoming President's Message

I am honored and pleased to assume the duties of President of the IEEE Oceanic Engineering Society. I thank President Glen for the hard work he has done, especially over the past two years. I hope to make good use of the wisdom and experience he represents.

We in the OES have a lot going for us: an outstanding Journal, an outstanding conference program headlined by the OCEANS Conferences, which we cosponsor with the Marine Technology Society, and a healthy bank account. This gives the foundation to move forward in improving services to our members and our community at large.

In my view, the most important step we can take is the revitalization of the Administrative Committee, the appointment of task-oriented committees, and the wider involvement of the membership in the activities of the Society. My list of areas to undertake includes:

- Conference Management
- Membership
- Journal
- Newsletter
- Student Chapters
- Distinguished Lecturers
- Outreach to other Societies
- Sponsored Award(s)
- Outreach to Industry
- Outreach to Youth

I will discuss some of these items here and some in later Newsletters. As I have said during my four years as your Treasurer, there are opportunities for improving the management of our affairs. We need to establish long



Thomas F. Wiener

range and short-range goals for the Society with objective measures of success. We need to have our Vice Presidents and Committee Chairs take ownership of these goals and measures and act to achieve them. And we need for our budgeting and execution processes to be based on these goals and objectives.

Conference Management is perhaps the most important of these. Conference income is the major component of the Society's income. I intend to develop management policies and procedures that will assure the integrity of the income stream and the continued success of our conferences. (I will share my view of what a successful conference looks like in a future article.) The Oceanic Engineering Society is the smallest of the 36 IEEE Technical Societies. In part, I think, this is because our Field of Interest Statement overlaps with those of many other Societies. On the other hand, the marine environment that is our home is also the home of many of the activities of other Societies. I think

by working with the "overlapping societies" we can form a mutually profitable relationship that will increase the membership of both Societies while increasing the service to the members of both Societies.

Because most of the activities mentioned in the Field of Interest statements of other TAB societies frequently take place in marine environments, I think there is an opportunity to invite members of other Societies to involve themselves in our activities.

About a year ago, in response to the outgoing Editor of the Journal of Oceanic Engineering, Dr. William Carey, we established an Editorial Board for the Journal. Working with the present Editor, Dr. James Lynch, we will energize the Editorial Board. Two of the important tasks these people will take on are finding ways to make the burden of delivering papers in the required style less onerous, and to review the business operations of the Journal to make them more efficient and less expensive. As part of their first meeting, they will formulate their goals and quantify their objectives.

An exciting new effort falls under the heading "Outreach To Youth". We are forming a committee to develop a web-based educational resource or curriculum designed for kindergarten through grade 12. The genesis for this effort was our response to a Request For Proposals published last year to develop such web pages. You will hear more about this effort in the future. I will report to you on the remainder of the items on progress toward our objectives in future newsletters.

Thomas F. Wiener

Soundings

Welcome to a new feature in the OES newsletter – “Soundings”

Soundings is a column which reports on Ocean Engineering news as it appears in the mainstream media. The purpose of this column is to inform the ocean engineering community of our impact in the media while giving us insight into how our industry is perceived by the general public.

Most of us in the ocean engineering world are consumed with our day-to-day tasks. Regardless of whether we are from the commercial or academic sectors, we seldom have time to think about how our efforts appear to the average layperson. By referencing news items which highlight the use of ocean engineering science and technology, this will inspire all of us to give more thought to the ways we can promote our field and educate the non-specialist about the contributions and benefits that ocean engineering brings to the world.

As technologists we seldom think about “promotion.” It tends to make us think about that terrible word... “marketing!” However, without promotion, our research grants would dwindle, our contract awards would fade away, and whether academician or engineer, we would all be affected.

The format of news items in the soundings column will be a brief paragraph discussing the topic, the news source, and any related web or email links. For example:

Gone Fishin’—With High Tech. The July 26 issue of Business Week reports on the convergence of underwater video and the sport fisherman. Yes, a real time video feed from your lure is now available. (Depth rating: 50 feet.) Web link: http://www.businessweek.com/1999/99_30/b3639183.htm

Reader contributions are highly encouraged!

If you see an article (whether in print or in electronic form) that you



John Irza

would like to see mentioned in this column, please let me know by email, fax, phone, or regular mail. Email contributions can be sent to a special address: Soundings@Sygnus.Com. Information for phone, fax, and regular correspondence can be found in the back of newsletter where I am listed in the AdCom section.

John Irza

IEEE Foundation Camera-ready art 1/2 horiz. ad

Techno Ocean 2000 – A Big Success



Joe Vadus

Techno Ocean is Japan's premiere international ocean conference, similar to our Oceans XX MTS / IEEE. This was the 8th conference in this series beginning in 1986.

Techno Ocean is a biennial international conference held in the Kobe International Exhibition Hall Complex on Port Island, Kobe, a man-made island about 800 acres in size that is linked to Kobe by a bridge for normal traffic and a mono rail. International travelers typically arrive at Kansai Airport, another man-made island in Osaka Bay, and take a high speed hydrofoil jet to Port Island. Overall, it's a very impressive venue.

Dr. Hiroshi Ohba, Chairman of JAMSTEC, chaired the Techno Ocean Organizing Committee. Techno Ocean Co-Organizers were Japan Marine Science and Technology Center (JAMSTEC); Kobe Convention & Visitors Association and the Japan International Marine Science & Technology Federation. Special support was provided by The Japan Ports & Harbors Association, Nippon Foundation and The City of

Kobe. Over 70 other organizations and associations of government, industry and academia were noted as cooperative organizations.

The Techno Ocean Program and events are structured similar to the Oceans conference. There were 463 registrants, 174 booths from about 90 organizations and about 180 papers, with topics of interest to OES and MTS. Simultaneous translation was provided with choice of Japanese or English. The exhibit is well attended. JAMSTEC exhibited a full scale model of their Shinkai 6500, a model of their new Integrated Deep Ocean Drilling Ship, and some of their latest equipment. Kawasaki had a large exhibit, including a new AUV. The public had an opportunity to view the exhibits and about 16,000 attended. Oceans 2001 MTS/ IEEE had a booth to distribute information on Oceans 2001: An Ocean Odyssey, including the Call for Papers. Next to 2001, was the MTS booth offering information on MTS membership and activities. Techno Ocean opening ceremonies and receptions are very impressive with national and international ocean leaders participating to give their support and stature to the conference.

Eleven smaller conferences and seminars were held by other related organizations and co-located with Techno Ocean for the convenience of the attendees. These included: The Japan Society of Civil Engineering, Metal Mining Agency of Japan, and the Ministry of Transport's Ship Research Institute and Port and Harbor Research Institute. There was a major seminar workshop organized by the Japan Association of Deep Ocean Water Applications (JADOWA).

This is a topic that has been developing high interest in Japan. It pertains to using deep, cold, nutrient rich and pathogen-free water to produce a number of consumer products and applications. There were about 350 attending this workshop focused on plans to develop about 12 sites at selected coastal areas around Japan.

In order to more effectively organize and manage future Techno Ocean conferences, Techno Ocean Network (TON) was established as a professional society for marine science and technology. Dr. Hiroshi Ohba was elected Chairman of TON and Dr. Toshitsugu Sakou, Tokai University was elected President.

The next conference, Techno Ocean 2002, will be held jointly with PACON. In 2004, the plan is to bring the Oceans conference as sponsored by the Marine Technology Society and IEEE Oceanic Engineering Society to Kobe to Join Techno Ocean and conduct Oceans-Techno Ocean 2004 in Kobe. A 2004 Kickoff meeting was held to briefly discuss the proposed plans for 2004. It was attended by representatives from IEEE/OES and MTS, and included: Toshitsugu Sakou, Chair, MTS section; Hiroyuki Nakahara, MTS and RIOE; Tamaki Ura, Past Chair OES Chapter; Joseph Vadus, Vice President, OES; Dr. Buichiro Murata, Nara University, Ryusuke Hosoda, Osaka Prefecture University & Takeo Kondo, Nihon University, both with the Techno Ocean 2000 Secretariat; Rikako Nakanishi, Kobe Convention and Visitors Association; and others.

Joseph R. Vadus
Vice-President, Technical
Activities

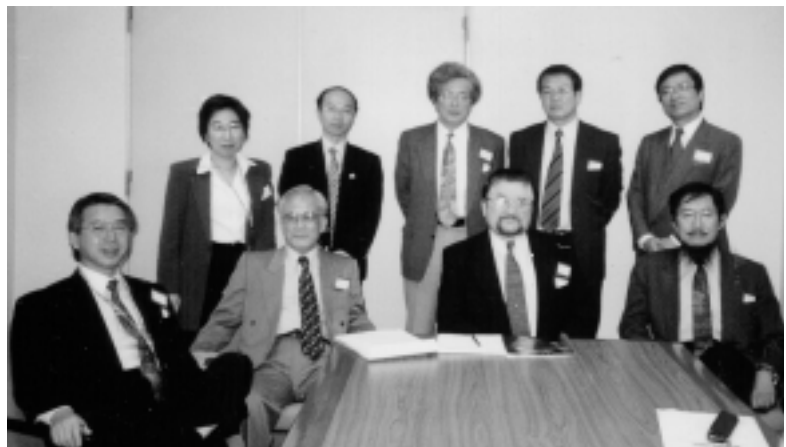


Techno Ocean 2000 Ribbon Cutting Ceremony

From left to right: Mr. Dick De Ruyver (not shown completely), Business Development Director of Flanders' Foreign Investment Office, Government of Flanders; Mr. Kiyoshi Sato, Director-General of The Third District Port Construction Bureau, Ministry of Transport; Mr. Isao Muraoka, Chairman of Kobe City Assembly; Mr. Riichi Kobayashi, Director Manager of Japan International Marine Science and Technology Federation; Mr. Kazutoshi Sasayama, Chairman of Kobe Convention & Visitors Association Mayor of Kobe City; Dr. Hiroshi Ohba, Chairman of Techno Ocean 2000 Organizing Committee; Mr. Takuya Hirano, President of Japan Marine Science & Technology Center; Mr. Shingo Fujino, President of The Japan Ports & Harbours Association; Mr. Sadao Saito, Director-General of Kobe District Maritime Bureau, Ministry of Transport; Dr. Joseph R. Vadus, A member of International Advisory Committee of Techno Ocean 2000, Vice President of IEEE/OES; and Prof. George H. Philander (not shown completely), A speaker of key note lectures of Techno Ocean 2000 International Symposium, Professor of Princeton University.



(left to right) J. Vadus IEEE/OES, T. Ura, OES Japan Chapter at Oceans 2001 MTS/IEEE booth at Techno Ocean 2000



First Oceans - Techno Ocean 2004 Conference Planning Meeting in Kobe, Japan. (left to right) front row: T. Kondo, Prof., NIHON University; T. Sakou, Chair, MTS Section; J. Vadus, IEEE/OES; T. Ura, OES Japan Chapter.



Techno Ocean 2000 Exhibit Area Reception. (Left to right) J. Vadus, IEEE/OES; H. Ohba, Chair, Techno Ocean; T. Sakou, Chair, MTS Section; R. Hosoda, Prof. Osaka Prefecture University; H. Nakahara, RIOE.



A meeting in the Hilton Hawaiian Village, October 31, 2000, the site of the Oceans 2001 MTS/IEEE and Undersea Defense Technology (UDT) Conference – both only a weekend apart in November 2001. Exploring Areas of Cooperation (l to r) front row: Glen Williams, President, OES; Liz Corbin, Exec. Co-Chair Oceans 2001; John Sirmalis, NUIC, Chair of UDT and recent past chair of Oceans 2000; Jean Luc Lambla, UDT Organizer and Vice President, Thompson. Second row: Representatives of Nexus, UDT's support contractor, (l to r) Warren Edge; Jackie Baron.

Who's Who in the OES

Archie Todd Morrison III graduated from Harvard University in 1981 with a bachelor's degree in Engineering and Applied Science. From 1981 until 1986, he was employed as a Senior Field Engineer by Raytheon, servicing missile fire control radars operated by the United States and foreign navies. After leaving Raytheon, Todd studied mathematics as a special student at Yale University. He also completed a Cornell University field course in underwater archaeology at the Isles of Shoals Marine Laboratory.

Todd married Hilary Gonzalez in 1987. They moved almost immediately to Atlanta, Georgia, where Hilary had accepted a postdoctoral fellowship in the Special Pathogens Branch of the Centers for Disease Control. Todd spent the next two years operating a soup kitchen and maintaining a secure mailing address for 3500 homeless residents of Atlanta. In 1989, they returned to New England where Todd began graduate work in the MIT/WHOI Joint Program in Oceanographic Engineering.

Todd earned Master of Science and Ocean Engineer degrees in 1994 for a thesis titled "System Identification and State Reconstruction for Autonomous Navigation of an Underwater Vehicle in an Acoustic Net". From underwater vehicles and control theory,



Todd Morrison III

he then turned his focus to the development of instrumentation for the study of the continental shelf wave bottom boundary layer. In 1997, he received a doctorate in oceanographic engineering, presenting a dissertation titled, "Development of the BASS Rake Acoustic Current Sensor: Measuring Velocity in the Continental Shelf Wave Bottom Boundary Layer".

Graduation was followed by a one year appointment as a Guest Investigator at WHOI to continue work on the BASS Rake. At the beginning of 1998,

he accepted a position as the Senior Engineer for Electronic Systems and Software at the McLane Research Laboratories, a designer and manufacturer of biogeochemical and physical oceanographic sampling instruments. Currently, he divides most of his professional time between McLane Research and Nobska Development, Inc. Nobska develops and manufactures MAVS acoustic current meters. He continues to be a Visiting Investigator and diver at WHOI.

Todd has participated in the annual OES OCEANS Conference since 1992, been a member of the IEEE/OES since 1995, and been involved in the Current Measurement Technology Conference of the OES since 1995. He is currently a member of the OES AdCom and is also the financial officer of the CMTC. Outside of work, Todd takes an active role in educating the public about ocean science, giving frequent talks and demonstrations, particularly to primary and secondary school students. Last spring, he was named the Massachusetts Informal Teacher of the Year for 2000 by the Massachusetts Marine Educators. Todd and Hilary live in Falmouth, Massachusetts, near Woods Hole. Hilary is a scientist at the Marine Biological Laboratories. They have two lively and wonderful children.

UPCOMING CONFERENCES

Underwater Intervention 2001

January 15-17, 2001

Tampa, Florida
www.diveweb.com/ui

Oceanology International 2001

Americas April 3-5, 2001

Miami, Florida
<http://www.oiamericas.com>

OTC 2001

April 30-May 3, 2001

Houston, Texas
<http://otcnet.org>

Pacific Asian Conference

May 21-23, 2001

Hainan, China
(808) 956-6163

4th International Conference on Marine Technology

May 23-25, 2001

Sczeczecin, Poland
<http://www.wessex.ac.uk>

Coastal Zone 2001

July 17-19, 2001

Cleveland, Ohio
<http://www.csc.noaa.gov/cz2001>

Waves 2001,

The Fourth International Symposium on Ocean Wave Measurement and Analysis

September 3-5, 2001

San Francisco, CA
<http://edge.tamu.edu/waves01>

MTS/IEEE Oceans 2001

November 5-8 2001

Honolulu, Hawaii
<http://www.mtsociety.org>

News Items

The following are some news items from recent issues of "The FREE online marine science & ocean technology newsletter", David M. Graham, Editor [dgraham@pgi.com]

1. COASTAL RESEARCH & MONITORING STRATEGY RELEASED *Washington, D.C., USA* — The National Oceanic & Atmospheric Administration, the U.S. Geological Survey, the Department of Agriculture, and the Environmental Protection Agency released the first comprehensive strategy for research and monitoring in the nation's coastal waters last week. The U.S. coastline stretches 95,000 miles along oceans, estuaries, the Great Lakes. The Coastal Research and Monitoring Strategy represents the first effort to integrate coastal monitoring and research activities on a national scale to provide thorough, cross-cutting assessments of the health of the nation's coastal resources, according to Dr. James Baker, undersecretary of commerce for oceans & atmosphere. "Because coastal resources are so vital to our economy and our environment, it is very important to know more about them and what condition they are in so we will know how to protect them better," he. "Millions of Americans visit the nation's coasts each year," added Charles Fox, EPA assistant administrator for water. "Polluted beaches can threaten public health and lead to lost revenues for businesses. This strategy shows that we must all work together to restore and protect our coastal treasures."

The strategy recommends: (1) enhancing and adapting existing monitoring programs to support an integrated national program; (2) integrating interagency research efforts to fill data gaps; (3) conducting periodic national and regional coastal assessments; (4) improving data management; (5) establishing mechanisms to assess and adjust monitoring and research with changing national coastal priorities; and (6) developing an implementation plan for further action.

The Coastal Research & Monitoring Strategy is a product of the Coastal Research & Monitoring Strategy Workgroup, which was formed in 1999 with representatives from federal agencies, tribes, state and local agencies, and non-governmental organizations. The workgroup is co-chaired by NOAA, USGS, USDA, and EPA. The strategy can be found on the Clean Water Action Plan Web site at <http://www.cleanwater.gov>.

2. ...AND COMING UP WITH MORE ANSWERS *Boulder, Colorado, USA* — Removing the masking effects of volcanic eruptions and El Niño events from the global mean temperature record has revealed a more gradual and yet stronger global warming trend over the last century, according to a new analysis by Tom Wigley, a climate expert at the National Center for Atmospheric Research (NCAR). The analysis supports scientists' claim that human activity is influencing the earth's climate. The findings are published in the December 15 issue of *Geophysical Research Letters*. NCAR's primary sponsor is the U.S. National Science Foundation. "Once the

volcanic and El Niño influences have been removed," says Wigley, "the overall record is more consistent with our current knowledge, which suggests that both natural and anthropogenic influences on climate are important and that anthropogenic influences have become more substantial in recent decades."

Volcanic emissions cool the planet by blocking sunlight, while El Niño events raise global temperatures through warmer ocean waters. Sometimes the two occur simultaneously, muddying evidence of any underlying warming trend. During the past two decades, two massive volcanic eruptions — El Chichón in April 1982 and Mt. Pinatubo in June 1991 — coincided with significant El Niño, making trend detection more difficult. Wigley quantified the effects of these major eruptions and El Niño episodes on global mean temperatures. Overall, he found the cooling effect from sun-blocking volcanic emissions was slightly stronger than the warming effect of the coincident El Niños. He then removed both from the temperature record to reveal an intensified, step-like warming trend over the past century.

In the raw temperature record—not adjusted for the influence of volcanic eruptions and El Niño events—the warming trend during the past two decades is similar in intensity to an earlier warming (1910 to 1940). Several decades of slight cooling separate the two warm periods. However, "When El Niño Southern Oscillation (ENSO) and volcanic effects are removed," writes Wigley, "the recent warming trend increases to 0.25° C [from 0.18° C] per decade and becomes highly significant compared to the earlier period." The overall result is a long-term warming trend that intensifies by century's end, in synch with increasing emissions of greenhouse gases. Using the raw data, greenhouse skeptics have claimed that the earlier warming's similarity to the later one suggests that both were due to natural variations rather than human activity.

Wigley also quantified and removed the warming influence of the 1997-98 El Niño from the temperature record of the past decade. He found that of the 16 months in 1997-98 announced by the National Climatic Data Center as record breakers, at least six can be attributed to El Niño rather than to a longer-term global warming. "The sequence is still unusual, but no more unusual than 1990-91, when an equal number of records occurred in the ENSO-adjusted data," writes Wigley. Nevertheless, the past decade's warmth is striking in the overall record. More at <http://www.ucar.edu/>.

3. NEW HYDROTHERMAL VENT SYSTEM DUBBED 'LOST CITY' *Mid-Atlantic Ridge, 30° N* — A new hydrothermal vent field that scientists have dubbed "The Lost City," was discovered December 5 on an undersea mountain in the Atlantic Ocean.

The unexpected discovery occurred at 30° north on the Mid-Atlantic Ridge during an oceanographic cruise aboard the research vessel *Atlantis*. A team of scientists from the Scripps Institution of Oceanography, Duke University, the

University of Washington, and other institutions conducted the National Science Foundation-supported expedition. "We thought that we had seen the entire spectrum of hydrothermal activity on the seafloor, but this major discovery reminds us that the ocean still has much to reveal," says Dr. Margaret Leinen, NSF assistant director for geosciences.

"These structures, which tower 180 feet above the seafloor, are the largest hydrothermal chimneys of their kind ever observed," said Deborah Kelley, a University of Washington geologist and co-principal investigator on the cruise. "If this vent field was on land, it would be a national park," added Duke University structural geologist Jeff Karson, a second co-principal investigator who, along with Kelly, dove in the submersible Alvin to the site. Perhaps most surprising is that the venting structures are composed of carbonate minerals and silica, in contrast to most other mid-ocean ridge hot spring deposits that are formed by iron and sulfur-based minerals. The low-temperature hydrothermal fluids may have unusual chemistries because they emanate from mantle rocks. Nothing like this submarine hydrothermal field has ever been previously observed, say the scientists. These events are unique, they believe, because they rest on one-million-year-old ocean crust formed tens of kilometers beneath the seafloor and because of their incredible size. Dense macrofaunal communities such as clams, shrimps, mussels, and tube worms, which typify most other mid-ocean ridge hydrothermal environments, appear to be absent in this field.

The Lost City Field was discovered unexpectedly while studying geological and hydrothermal processes that built an unusually tall, 12,000-foot-mountain at this site. In this area, deep mantle rocks called serpentized peridotites, and rocks crystallized in subseafloor magma chambers, have been uplifted several miles from beneath the seafloor along large faults that expose them at the surface of the mountain. More at <http://earthguide.ucsd.edu/mar>.

4. SEA STATE MEASUREMENTS VIA SATELLITE

Godalming, U.K. — Under an EC Framework program, "COMKISS," Satellite Observing Systems Ltd. recently carried out highly successful operational trials of its "Sea State Alarm" service. Here, near real-time satellite observations of sea state are provided alongside wave forecasts, courtesy of the U.S. National Oceanic & Atmospheric Administration's (NOAA) WaveWatch III global model. These trials, aboard a dockwise cable layer and two STASCO bulk tankers, confirmed that day-to-day operational planning was greatly assisted by direct provision of actual sea state conditions together with the wave model forecast. Accurate forecasts of severe conditions could be confirmed and inaccurate forecasts identified. For more details, go to Satellite Observing Systems' website at <http://www.satobsys.co.uk/WWWaves>. Follow the link to Sea State Alarm or visit <http://www.ifremer.fr/metocean/shipping/alarm.htm> for more information on the trials.

Following on from this success, Satellite Observing Systems now offers free access to the latest satellite sea state mea-

surements and model forecasts covering all ocean regions (at <http://www.satobsys.co.uk/WWWaves/daily.html>, registration required). A feature page monitors the progress of the leading yachts in the Vendee Globe single-handed round the world race. Satellite Observing Systems is now looking to carry out a wider range of operational trials of Sea State Alarm and invites approaches from anybody involved in offshore operations. Contact Dr. David Cotton, project manager, at e-mail d.cotton@satobsys.co.uk.

5. NEW MILLENNIUM SATELLITE WILL MONITOR CROPS, CORAL REEFS

Vandenberg Air Force Base, California, USA — The condition of Australia's crops, rainforests, mangroves, coral reefs, arid zone, and eucalypt woodlands is to come under unprecedented scrutiny from space with the launch of an ultra-powerful new satellite. Actually, a lot more than Australia's resources will be scrutinized. Scientists from Australia's CSIRO (Canberra) however have been chosen as part of a team of ten international scientific institutions to evaluate information gathered by the first Earth Science New Millennium Satellite.

The satellite will be launched from this California launch facility today by the U.S. National Aeronautics & Space Administration (NASA) as part of the Earth Observing-1 (EO-1) mission. It is designed to showcase the potential of new sensor technologies for mapping and monitoring a number of features of the Earth's land and water surfaces. On board EO-1 is a sensor called "Hyperion," developed by NASA and the U.S. aerospace industry to highlight future potential for this technology. CSIRO Land & Water researchers will work with data from Hyperion to gain a new level of precision in environmental mapping, leading to a better understanding of how to manage land and water resources.

Hyperion is an imaging spectrometer that takes snapshots of the Earth below in hundreds of different spectral bands. Imaging spectrometers can be used to detect and measure the quantity of specific chemicals, minerals, or sediments in water or color in plants. If this is done in two dimensions in the form of an image, the chemical nature and location of materials on the ground can be accurately identified. This type of detailed analysis has not been possible till now with existing earth observing satellites, which only view the globe in up to seven wavelength regions.

"This is very exciting, because it is the first time that such a sensor will be in space and capable of producing repetitive images at a global scale," says Dr. Alex Held, a CSIRO remote sensing specialist. "In particular, we will be using the data to evaluate its utility in mapping rainforests, mangroves, and coral reefs in tropical Queensland; forest conditions in southeastern Australia; arid and woodland vegetation in the Northern Territory; and optical water quality in Moreton Bay, Queensland." More at <http://www.csiro.au/>. Watch the launch today (November 21) at 1:25 p.m. EST at <http://eo1.gsfc.nasa.gov/Technology/Hyperion.html>.

CONSTITUTION AND BYLAWS OCEANIC ENGINEERING SOCIETY (OES-22)

ARTICLE I

Name and Objectives

Section 1. This organization shall be known as the Oceanic Engineering Society (OES) of the Institute of Electrical and Electronics Engineers, Inc. (IEEE).

Section 2. Its objectives shall be scientific, literary, and educational in character. The Society shall strive for the advancement of the theory and practice of electrotechnology applied to the ocean environment, allied branches of engineering and of the related arts and sciences, and the maintenance of a high professional standards among its members and affiliates.

Section 3. The Society shall promote close cooperation and exchange of technical information among its members and others and to this end shall hold meetings for the presentation of papers and their discussion, and through its committees shall study and provide for the needs of its members.

Section 4. All provisions of the Society shall be in consonance with the Constitution and Bylaws of the IEEE.

Section 5. The Oceanic Engineering Society supersedes the IEEE Council on Oceanic Engineering, and all the appropriate assets, privileges, practices, memberships, and offices of the latter shall be assumed by the former.

ARTICLE II

Field of Interest

Section 1. The field of interest of the Society shall include all applications of electrical and electronic engineering pertaining to all bodies of water. Included are design, testing and application of water-oriented systems, subsystems, and components. This shall include scientific, technical and industrial applications, or other activities that contribute to the field, or utilize the techniques or products of the field, subject to modifications directed or approved by the IEEE Technical Activities Board as the art develops.

Section 2. The Society shall aid in promoting close cooperation with other IEEE Groups and Societies in the form of joint publications, sponsorship of meetings and other forms of information exchange. Appropriate cooperative efforts can also be undertaken with non-IEEE Societies.

Section 3. The field of interest of the Society may be changed or moderately shifted as needed, with the provision that such revisions shall meet with the approval of the IEEE Technical Activities Board and be published in one of the Society's publications. Any substantial revisions shall be processed as an amendment to this Constitution.

ARTICLE III

Membership

Section 1. IEEE Members in any grade will become Members of the Society, including students, having a professional interest in any phase of the field of interest of the Society and upon application and payment of fee as prescribed in the Bylaws.

Section 2. Affiliates may participate in Society activities, as provided by the IEEE Bylaws and subject to pertinent IEEE rules and regulations and any additional limitations imposed by the Society Constitution and Bylaws.

Section 3. There may be special categories of membership, with appropriate fees, as specified in the IEEE Bylaws.

ARTICLE IV

Financial Support

Section 1. The Society shall collect from its members an annual assessment or fee, in accordance with the IEEE Bylaws and applicable rules and regulations.

Section 2. The Society may make registration charges at its meetings, symposia, conferences, conventions, etc. The registration fee for non-IEEE members may be higher than for IEEE Members and Society Affiliates.

Section 3. The Society may raise revenues by other means, such as advertising, exhibits, requests for contributions, provided prior approval is given by the IEEE General Manager for those means not explicitly permitted by current IEEE rules and regulations.

Section 4. The Society may, but only after approval of the IEEE Executive Committee, make a charge for sending out notices to non-members of the Society to cover the extra expense thereby involved.

ARTICLE V

Administration

Section 1. The Society shall be managed by an Administrative Committee (AdCom) of no less than ten nor more than thirty Members at Large, who shall have voting rights and who shall be elected by vote of the members of the Society, plus an appointed Journal Editor and additional ex-officio members as provided in the Bylaws. "Ex-officio members with vote" are entitled to participate in all administrative matters except with respect to changes in the Bylaws. Elected Administrative Committee members shall be at least Member grade.

Section 2. The Officers of the Society shall be the President, the Vice President - Technical Activities, the Vice President - Professional Activities, and the Vice President - International Activities, the Secretary, and the Treasurer. The offices of Secretary and Treasurer may be combined and held by one individual as Secretary-Treasurer. The senior and junior Past-Presidents shall be ex-officio members of the AdCom. The terms of office of the members of the Administrative Committee shall be three years, one-third of the members being elected each year. Only two consecutive full terms are permitted, but eligibility is restored after a lapse of one year. The Journal Editor and ex-officio members are limited to the same membership time limitations.

Section 3. The Administrative Committee shall elect every two years one of the elected members as President. One Vice President shall be elected each year. These officers shall be of at least IEEE Member rank. The President shall appoint a Secretary (not necessarily a member of AdCom) for a two year term. The President shall appoint a member of AdCom as Treasurer for a two year term. The President may not serve for more than two consecutive terms. Should the President's term as an elected member of the Administrative Committee expire prior to the end of his term in office and should he not be eligible for re-election, then he may complete his term of office as an "ex-officio member with vote" of the Administrative Committee.

Section 4. The newly elected President, Vice Presidents, and appointed Secretary and Treasurer of the Administrative Committee shall assume office on the first of January. The President, under direction of the Administrative Committee, shall have a general supervision of the affairs of the Society. He shall preside at meetings of the Society, and at the "Annual Meeting of the Society", and have such other powers and perform such other duties as may be provided in the Society Bylaws, or as may be delegated to him by vote of the Society Administrative Committee. In the absence or incapacity of the President, the duties shall be performed by the senior or ranking Vice President in descending order.

Section 5. The Administrative Committee may utilize the services of Headquarters as bursar, for all or part of the Society funds, as provided by the IEEE Bylaws and Rules and Regulations. If any part of the Society funds are received and deposited separately, the terms and conditions shall be in accordance with IEEE policies and subject to the provisions of the Society Bylaws and to any special limitations imposed by the Administrative Committee.

Section 6. The Secretary-Treasurer, or the Secretary, shall be responsible for sending out notices according to plans delineated by the Administrative Committee or laid down in the Society Bylaws; he shall prepare the agenda for and record the minutes of all meetings of the Administrative Committee and general meetings of the Society and he shall make such reports of his activities as may be required by the Administrative Committee, Technical Activities Board, or the IEEE Bylaws.

Section 7. The President, as soon as expedient after election and installation, shall appoint the standing committees provided by the Bylaws. Other committees may be authorized by vote of the Administrative Committee and shall be appointed by the President. The President shall be an ex-officio member of all committees of the Society. As a member of the IEEE Technical Activities Board, the President shall represent the Society at such meetings or appoint an alternate for this purpose. If an alternate cannot be appointed, the President shall present the views of the Society by a letter of proxy.

Section 8. The President, as an ex-officio member of the Technical Activities Board, when notified of a meeting or said Committee, is responsible for representation of the Society at such meetings by himself, by his delegate, or by letter.

Section 9. The Administrative Committee may establish standing and technical committees needed to cover specific functions and areas of the field of interest, as prescribed in the Bylaws. All appointments or reappointments to committees and similar posts will be for a term of two years or until their successors are appointed or the committees dissolved except where other specifically designated terms of office are established by the Administrative Committee. Standing and Technical Committee chairpersons shall be appointed by the Society President with the approval of the Administrative Committee. They shall be "ex-officio members with vote". The Society President, with the approval of the Administrative Committee, may establish ad hoc committees to fulfill specific needs of finite duration. Ad hoc committee chairpersons shall be "ex-officio members without vote". Subgroups may be formed as provided in the IEEE Rules and Regulations, and the supervision of subgroup affairs shall be prescribed in the Bylaws.

Section 10. Each Officer and Member at Large must be a member of the Society during his term of office.

Section 11. Neither the Oceanic Engineering Society nor any officer or representative thereof shall have any authority to contract debts for, pledge the credit of, or in any way bind the IEEE, except within prior approved Society budgets or plans. Approval for the disbursement of previously budgeted funds shall be as prescribed in the Bylaws.

Section 12. Society Members may be appointed by the President with the advice and consent of the AdCom, to perform special ad hoc functions for the AdCom. The number of such appointments shall be kept to a minimum.

Section 13. The duties and responsibilities of the Officers shall be as defined hereunder and in the Bylaws and as delineated by the AdCom.

Section 14. The AdCom may establish standing or ad hoc committees as prescribed in the Bylaws, including both functional committees (e.g., Awards, Chapters, Membership, Nominations) and technical committees. Technical committees within the Society may be established as needed to develop specific areas of the field of interest. All appointments to committee and similar posts will be for a term not to exceed ten years. Committee reappointment can be made without limit. In the event that reappointments are not made, and the affected committees and/or similar posts are not formally dissolved, past appointments shall continue until successors are appointed and take office or until the committees and/or similar posts are dissolved.

ARTICLE VI

Nomination and Election of Administrative Committee

Section 1. The nomination procedure shall include provision for petition by Society member to place names on the ballot as specified in the Bylaws.

Section 2. Election of the Members at Large of the AdCom shall be prescribed in the Bylaws.

Section 3. Within-term vacancies on the Administrative Committee shall be filled by appointments, until the next election, by the President with the consent of the Administrative Committee.

ARTICLE VII

Chapters

Section 1. A subgroup may be formed and operated on any plan consistent with the powers of the Administrative Committee of this Society. A subgroup formed in a Section or Sections shall be known as a Chapter. A Chapter may assist the Administrative Committee of this Society in the management of the Society's Symposia

held in the Section(s) in which the Chapter is located. The Chapter shall be responsible for coordination with the Section(s) on such major meetings or symposia. A Chapter may promote meetings of the Section(s) in the field of interest of this Society under the control and supervision of the Officers of the Section in which the Chapter is located.

ARTICLE VIII

Meetings

Section 1. The Society may hold meetings, conferences, symposia, or conventions either alone or in cooperation with Sectional, Regional, or other conventional Committees of the IEEE, or other technical organizations, subject to IEEE rules and regulations. The Society shall sponsor at least one technical conference each year, which may be held in conjunction with some other IEEE meeting, or as a separate conference. The Society may hold research conferences for those actively engaged in research and development in the particular field or area to be covered by the conference.

Section 2. Meetings, conferences, or conventions of the Society shall be open on an equal basis to all members of the IEEE. The Society may not sponsor or co-sponsor a meeting where attendance is subject to security clearance.

Section 3. The Society shall not sponsor classified meetings. However, a classified meeting, sponsored by another organization, may be held in conjunction with a Society technical meeting, and publicity on such a meeting may be included in Society mailings provided it is made perfectly clear that the classified meeting is not sponsored by the IEEE or the Society.

Section 4. The Administrative Committee or its Executive Committee shall hold at least two meetings each calendar year. One of these meetings may be delegated to the Executive Committee. Other meetings of the Administrative Committee shall be held at such times as are found necessary and convenient. Special meetings of the Administrative Committee may be called at the discretion of the President or upon request of three other members of the Administrative Committee, with at least 15 days notice to all Administrative Committee members.

Section 5. A majority of the elected members of the Administrative Committee shall constitute a quorum. All members shall have an equal vote. Ex-officio members will not have a vote except as provided herein. A majority vote of those elected and "ex-officio with vote" members of the Administrative Committee attending a meeting shall be necessary for the approval of actions except as otherwise provided in this Constitution.

Section 6. Business of the Administrative Committee may be handled by correspondence, telephone, or telegraph where, in the opinion of the President, matters requiring action can be adequately handled in that manner. A majority vote of the voting members of the Committee is necessary for approval of actions handled in this manner, except as otherwise provided herein.

ARTICLE IX

Publications

Section 1. Publications undertaken by the Society shall conform to IEEE policies and to any further guidance or controls prescribed by the Administrative Committee or its duly appointed committees. The Society shall be responsible for the financial aspects of its publication program.

Section 2. The President, with the advice and consent of the Administrative Committee, shall appoint the Journal Editor and such Associate Editors as may be required to implement the publication program. The duties of the Journal Editor and any funds allocated thereto for carrying out this office shall be as prescribed by the Bylaws.

ARTICLE X

Amendments

Section 1. Amendments to this Constitution may be initiated by the Administrative Committee or by petition submitted to the Administrative Committee by five percent or more of the voting members of the Society. In either case, the proposed amendment shall be submitted to the IEEE Technical Activities Board for approval. After such approval, the proposed amendment shall be publicized in one of the Society's publications or by direct mailing to the membership. The proposed amendment shall be submitted by a mail ballot to all members of the Society. Ballots shall be mailed to Society members at least 30 days before the date appointed for the return of the ballots, and the ballots shall carry a statement of the time limit for their return to the IEEE office. When a mail vote of the entire membership is made necessary, approval of the amendment by at least two-thirds of the ballot returned shall be necessary for its enactment.

Section 2. Suitable Bylaws, and amendments thereto, may be adopted by a two-thirds vote of the elected members of the Administrative Committee present in an assembled meeting provided that there are present and voting on such Bylaw or amendment no fewer than a majority such members and provided that notice of the proposed Bylaw or amendment has been sent to each member of the Administrative Committee at least two weeks prior to such meeting; or a Bylaw or amendment may be adopted as a result of a mail vote, with 30 days notice, upon approval by two-thirds of the elected members of the Administrative Committee. No Bylaw, or amendment, shall take effect until it has been

published in one of the Society's publications or otherwise publicized by direct mailing to the membership and has been approved by the Chairman of the IEEE Technical Activities Board.

Section 3. All amendments to the Constitution or Bylaws shall become effective 30 days after all necessary approvals and notification, unless a later date has been specified at the time the vote is taken.

OCEANIC ENGINEERING SOCIETY BYLAWS

These Bylaws provide for the supervision and management of the Society affairs, in accordance with the Society Constitution. Amendments shall be made as prescribed in the Constitution, Article X, Sections 1 and 2.

1. **Bylaws** - These Bylaws provide detailed guidance for the supervision and management of the affairs of the IEEE Oceanic Engineering Society (OES) in accordance with the Society Constitution. Amendments may be made by means of the procedures described in Article X, Sections 1 and 2, of the constitution.

2. **Membership** - There shall be only one grade of Society membership available to all IEEE members, based on the payment of an annual fee.

2.2 **Affiliates** - The qualification criteria of affiliates and the limits in rights and privileges are established by the IEEE Executive Committee.

A Society Affiliate cannot serve in any elective office in the Society or in a Chapter. An affiliate can serve on a Society Committee in any appointive office in the Society or a Chapter of the Society. A Society Affiliate is entitled to receive notices of all meetings sent to Society members, to receive copies of publications of the Society, to attend and to participate in any function of the Society by payment of IEEE member charges.

2.3 **Special Provisions** - Reduction of the annual fee shall be made for Students, Life Members, unemployed members, retired members, and such other special categories as may be provided in IEEE rules and regulations.

3. **Administrative Committee** - Article V, Section 1 of the Constitution provides that the AdCom shall consist of up to 18 members-at-large plus the appointed journal Editor and ex-officio members. A quorum shall be a majority of elected members. Adoption of a Bylaw or amendment to a Bylaw, shall be governed by the provisions of Article X, Sections 1 and 2 of the Constitution.

3.1 **The Executive Committee of the AdCom** consists of the President, Vice President-Technical Activities, Vice

President-Professional Activities, Vice President-International Activities, Treasurer, Secretary and the Junior and Senior Past Presidents.

3.2 Unless otherwise provided, a majority vote of the members attending AdCom meeting at which a quorum is present shall be sufficient for the conduct of its business.

3.3 The appointed journal Editor shall have the voting rights of an elected member of AdCom including those that arise for adoption of a Bylaw or amendment to a Bylaw.

3.4.1 Ex-officio Members shall serve on the Administrative Committee. An Ex-officio Member "with vote" of AdCom has all discussion and voting privileges on all matters before the AdCom except that he may not vote on Bylaws, amendments, or to elect the President and a Vice President or be eligible to election or appointment as President or a Vice President.

3.4.2 Ex-officio Members "with vote" include: all Chapter Chairpersons, Overseas Representatives, Standing, Technical, Steering, and Standards Committee Chairpersons. The Chairman of the Standards Committee shall be the one and only ex-officio member of AdCom for all the standard committees.

3.5.1 Honorary Life Members, Journal Associate Editors, AdHoc Committee Chairmen, the General Chairmen of all conferences and Technical Program Chairmen shall serve as ex-officio members of AdCom "without vote" except when the above mentioned are otherwise members of AdCom.

3.5.2 The Society President, with the advice and consent of the AdCom, may appoint additional ex-officio members "without vote". The rights and privileges of regular and ex-officio members shall be identical except that no ex-officio member may vote in AdCom meetings or be eligible to election or appointment as President or Vice President.

3.6 In order to ensure a continuously active AdCom, elected members and ex-officio members "with vote" who miss two consecutive meetings shall be dropped from membership and shall not be eligible for re-election until one year after the year in which they were dropped. Vacancies thus or otherwise created shall be filled by the appointments for the unexpired terms by the President with the consent of the AdCom.

3.7 Robert's Rule of Order (Revised) shall govern the conduct of AdCom meetings on all matters not otherwise specified in these Bylaws or the Constitution.

4. Nomination for AdCom - The Nominating Committee shall be reconstituted by the Society President each

year. The membership of the Committee shall consist of the three most junior past Presidents of AdCom or Council. The junior past Presidents shall be the Chairman of the Nominating Committee.

4.1 On or before July 1 of each calendar year, the Nominating Committee shall prepare a slate of nominees for elected member vacancies of the AdCom. Prior to June 1 of each year, the Chairman of the Nominating Committee shall solicit by letter recommendations for elected member nominations for AdCom vacancies. Recommendations will be solicited from AdCom members, chapter chairmen, and chairmen of all subgroups and standing committees. Such solicitation should be published in a spring issue of the Society Newsletter.

4.2 In the preparation of the slate of nominees and in the election, consideration shall be given to both geographical representation and technical interests. A list of all suggested AdCom candidates, including any qualified members nominated by petition shall be submitted to the AdCom members prior to August 1 by mail or at an AdCom meeting.

4.2.1 For a member to be nominated by petition for an AdCom vacancy, one percent signatures of the Oceanic Engineering Society members other than Students and Affiliates, will be required. Completed petitions, one nomination only per petition, should be forwarded to the Chairman of the Nominating Committee on or before July 1 of the year of the election. AdCom candidates nominated by petition will be so designated on the ballot.

4.3 Election of AdCom Members - The election of AdCom members shall be by mail vote of the Society membership other than students and Affiliates. IEEE Headquarters shall allow at least two months for this balloting. IEEE Headquarters shall compile the election results and report to the Society President prior to November 1.

4.4 Honorary Life Members - Nomination for Honorary Life Member may be made by any member of the AdCom, or by a petition signed by at least 50 members of the Society. A two-thirds affirmative vote of all the elected members of the AdCom, excluding abstentions, will be required to elect an Honorary Life Member. In the absence of a sufficient number of elected members of the AdCom at a regular meeting, the election of the Honorary Life Member may be conducted by a mail ballot.

4.5 The position of Honorary Life Member may be bestowed upon an outstanding member of the profession who fulfills the following minimum requirements:

a. He shall have made significant technical contributions in the field of interest of the Society.

- b. He shall have performed outstanding services to the profession and to the IEEE.
 - c. He shall have been a member of the Society or Council for at least five years.
 - d. He shall have been an elected member of the AdCom or a member of the OE Council.
- 4.6 Society fees for Honorary Life Members shall be paid from the Society treasury. The Treasurer shall arrange for this with IEEE Headquarters.
- 4.7 Other Nominations - The President, with the consent of AdCom, may appoint overseas members of the Society to represent the membership of designated geographic areas outside the region 1 through 7. Such appointed members shall serve as “ex-officio members with vote” of AdCom. An overseas member of AdCom who cannot attend a particular AdCom meeting may designate an alternate who, for purpose of the designated meeting only, shall serve as “ex-officio member without vote”.
- 4.8 Every two years, for purposes of election of office commencing on even numbered years, the Nominations Subcommittee shall select a slate of at least one Senior Member or Fellow from the Society as a candidate for Divisional Director; shall ascertain that they accept the nomination; and shall transmit the names of the accepting nominees to the President of the Administrative Committee.
- 4.9 The Nominations Committee shall recommend to the President of the Administrative Committee nominations required to fill certain IEEE positions for which the Society can nominate.
5. Officers - At the final AdCom meeting of every other calendar year, the Administrative Committee shall conduct an election to fill the offices of President and at least one Vice President for the succeeding terms. In the alternate year at least one Vice President shall be elected for the succeeding term. Eligible candidates for these offices are current and incoming elective Administrative Committee members. A majority of votes at the above election meeting shall determine the election.
- 5.1 The term of elected officers shall be two years, commencing on January 1. The President may be re-elected to a second term, but shall not again be eligible for election to the President until a lapse of one year. Similarly, a President who is not immediately reelected to a consecutive second term shall not be eligible for election to the President until a lapse of one year. The Vice President may hold office for not more than two consecutive terms. Eligibility for election as a Vice President is restored after a lapse of one year.
- 5.2 Section 5.1 notwithstanding, all officers shall continue to serve until their successors take office.
- 5.3 The President shall supervise the affairs of the Society and shall speak for the Society on all matters not specifically delegated to others.
- 5.4 The senior or junior Vice President shall be designated by the President to fulfill the duties of the President in the absence or incapacity of the latter and from time to time shall fulfill such other functions as the President of the AdCom shall direct.
- 5.5 The Secretary and Treasurer shall be responsible for keeping records of the AdCom in the areas commonly ascribable to their functions. They shall prepare and distribute reports, notices, or such documents as may be required by the President and the AdCom.
- 5.5.1 The President-Elect, upon receiving notice of his election as President, shall submit to the Administrative Committee the name of a proposed Secretary who shall be a member of the Society but need not be a member of the Administrative Committee for appointment. If a majority of the members of AdCom do not object within thirty days of oral or written announcement, the appointment shall become final. The Secretary, if he is not an elected member or an ex-officio member of the Administrative Committee, shall be a non-voting member of the AdCom during his tenure of office.
- 5.5.2 The President-Elect, upon receiving notice of his election as President, shall submit to AdCom the names of a proposed Treasurer who shall be an elected member of AdCom. If a majority of the AdCom members do not object within 30 days of oral or written announcement, the appointment shall be final.
- 5.6 Vice President Responsibilities - Vice Presidential duties and responsibilities shall be as defined below:
- 5.6.1 Vice President-Technical Activities shall exercise general oversight of and provide liaison between the committees and the AdCom for:
- a. Technology Committees
 - b. Standards Committee
 - c. Steering Committee
 - d. Meetings Committee
 - e. Publications Committee
 - f. Publicity Committee
- 5.6.2 Vice President-Professional Activities shall exercise general oversight of and provide liaison between the committees and the AdCom for:
- a. Chapters Committee
 - b. Membership Services
 - c. Awards and Fellows
 - d. Distinguished Service and Distinguished Technical Contributions Committee

e. Student Affairs Committee

PACE Coordinator

Constitution and Bylaws Committee

5.6.3 Vice President-International Activities shall be responsible for the activities of the Society around the world exclusive of the North American continent:

- a. Assist the Oceanic Community outside North America in establishing chapters.
- b. Act as liaison between International groups involved in oceans related work and the OES AdCom to facilitate and sustain chapter activities.
- c. Initiate International programs and activities such as Oceans' Conferences and specialized workshops designed to foster cooperation and give a higher visibility to the OES outside of North America.
- d. Form, when necessary, adhoc committees to oversee specific activities at certain sites in connection with activities related to conferences and workshops.

5.6.4 The Vice Presidents shall be ex-officio members of all committees under their purview and shall regularly report to the AdCom regarding the committee activities.

5.6.5 Vacancy in Office - In the absence, incapacity, or resignation from office of a Vice President, the President may appoint a successor to complete the unexpired term of office subject to the vote of the Administrative Committee. The member appointed to fill the vacancy must be selected from the elected members of the Administrative Committee.

6. Subgroups - Subgroups are voluntary associations of a significant portion of the total Society membership, and, hence, are not equivalent to the committees which are appointive.

6.1 Chapters - Chapters are subgroups organized on a geographical basis. This subject is fully treated in the IEEE Bylaws and the Groups/Societies and Sections Manuals. Chapter Chairpersons shall be "ex-officio members with vote" of AdCom.

6.2 Technical Subgroups - A technical subgroup may be organized to cover a specified portion of the field of interest of the Society. Each technical subgroup shall be governed by a Technical Committee. With the approval of the AdCom, subgroups may organize sessions at a Society Symposium or Technical Conference and may also organize separate, specialized symposia. Subgroups may also, with the approval of the journal Editor, organize special issues of the Journal or a special section in an issue. Any service for subgroup members, beyond those provided all Society members, must be paid for by the subgroup members. If this takes the form of a

special subgroup assessment, its form and amount must be endorsed by the AdCom.

7. Publications - The Society shall sponsor such publications as are recommended by the AdCom. The President, with the advice and consent of the AdCom, shall appoint the Editor for each publication.

7.1 The Editor shall be responsible for implementing the publication program defined by the AdCom. In accordance with the guidance of this committee and general IEEE rules and regulations, he shall designate Associate Editors, special Guest Editors, and manuscript reviewers.

7.2 The journal Editor shall serve for a three-year term and may be reappointed for a second three-year term. The journal Editor, if not an elected member of the AdCom, shall be an ex-officio member of the AdCom after tenure in that office and for a period not less than one year and not more than two years after the termination of his editorship. The honorarium, if any, of an Editor may be set by the President with the advice and consent of the Executive Committee of the AdCom and the Chairman of the Publications Committee, if any.

7.2.1 The journal Editor shall appoint Associate Editors as required with the advice and consent of AdCom, to serve for a three-year term. The terms of the Associate Editors shall be staggered to provide continuity.

7.3 Editorial expenses shall be subject to review and approval of the AdCom with the Editor being explicitly responsible for adherence to the annual publication budget and for preparing an annual journal (transactions) publications budget.

8. Society funds - The Society may raise funds as specified in the Constitution and the IEEE Bylaws and rules and regulations.

8.1 The annual Society fee shall be set annually by the AdCom, before June for the following year.

8.2 IEEE Headquarters shall act as bursar for all Society funds except as specified hereunder. Billings and receipt of the annual fee shall be via the IEEE Membership and Fiscal Departments. All other fiscal affairs shall be handled through the office of the IEEE Technical Activities Board.

8.3 The general committee for a symposium or technical conference may, with the approval of the President of the AdCom, authorize the symposium treasurer or fiscal officer to open an account to be used for the deposit and disbursement of funds related to the symposium. In each case, the Treasurer of AdCom shall be informed concerning the financial planning and fiscal summary.

Symposia jointly sponsored with other technical societies are only permitted when a charter of operations with those societies is approved by the AdCom.

- 8.4 For other special circumstances, such as co-sponsorship of a symposium, the AdCom shall make prudent arrangements to safeguard the Society funds that may be involved.
- 8.5 A page charge set annually by IEEE shall be assessed against authors of papers accepted by the journal. Such page charges shall be on voluntary basis, and the AdCom shall make such arrangements as to ensure that their payment or nonpayment will in no way influence the editorial practices of the Society.
- 8.6 Disbursement of funds against previously budgeted accounts may be made by the Treasurer without further approval by the IEEE, but subject to AdCom approval as noted below, provided that the total approved expenditures budgeted in any major category, i.e., meetings, publications, are not exceeded thereby. Individual disbursements up to \$500 may be made by the Treasurer in the proper conduct of Society business without additional approval. Disbursements in excess of those budgeted of \$500 but not more than \$2000 require the approval of the President; disbursements beyond those budgeted of more than \$2000 require approval by AdCom.
9. Society Business - The President and officers shall conduct the Society affairs subject to the advice and consent of the AdCom, except where other authorization is specified.
 - 9.1 No AdCom meetings shall be held for the purpose of transacting business unless each AdCom member shall have been notified of the time and place of such meeting at least 15 days prior to the scheduled date of the meeting. If less than a quorum attend a duly called meeting, tentative actions may be taken which will become effective upon subsequent ratification, at the next AdCom meeting at which a quorum is present or by mail. Alternatively, minutes of such meetings which lack a quorum may be mailed by the Secretary to each AdCom member with a request for a "mail vote". Any disapproval of actions taken at such meetings must be registered by each AdCom member within 10 days after receiving said minutes. The minutes shall be deemed to have been ratified unless a majority of the voting membership of AdCom shall register disapproval as provided above.
10. Technology Committees - A technology committee, which may organize a subgroup if desired, function in a specific technical area with a scope to be approved by the AdCom.

10.1 Appointment - Chairpersons of technology committees shall be appointed for a term of one year with the approval of the AdCom and shall be ex-officio members of the AdCom "with vote" in accordance with the provisions and limitations of Article V of the Constitution, if not already elected as members of the AdCom. Members of technology committees shall be appointed for one year terms by the technology committee Chairpersons. Technology committee members other than chairpersons are eligible for reappointment without limitation regarding length of service. Technology committee chairpersons may not serve in that capacity for more than three consecutive years. Eligibility for appointment as Chairperson is restored after two years have elapsed. Chairpersons of technology committees will normally be selected from among the elected members of the AdCom unless the technical requirements of the assignment, in the judgement of the AdCom, make it desirable to do otherwise.

10.2 Functions - Each technology committee shall promote activities in its field under the overall supervision and administration of the AdCom and the Technology Committee Coordinator and shall provide expert knowledge and assistance to:

- a. Organize and operate sessions at meetings of IEEE at all levels and at meetings of other organizations with which the OE Society is desirous of cooperating. They may organize technical symposia and conferences in the area of their technical coverage.
- b. Arrange through the Publication Committee and appropriate editors for publishing pertinent papers in IEEE publications.
- c. Encourage, generate, and review papers within their scope in cooperation with the journal Editor.

10.3 Operations - The operations of each technology committee shall be in accordance with procedures prescribed in IEEE manuals or as approved by the AdCom.

10.4 Technical Committee on Standards shall be responsible for carrying forward standards work in oceanic engineering and related fields. The Chairperson and Vice Chairperson of this Standards Committee shall be appointed for a term of one year by the President with the advice and consent of the AdCom. The Standards Committee shall designate a liaison representative to the IEEE Standards Board. The Chairperson of the Standards Committee shall be an ex-officio member of the AdCom "with vote", if not already an elected member.

10.4.1 The members of the Technical Committee on Standards shall be appointed by the Committee Chairperson; however, such appointment shall not take effect until approved by AdCom.

10.4.2 The Technical Committee on Standards may form subcommittees as are deemed necessary and desirable to accomplish its work; the creation and termination of subcommittees are the responsibility of the Standards Committee subject to approval by AdCom.

10.4.3 Coordination of the standards work and processing of draft standards from subcommittees to the IEEE Standards Committee shall be the responsibility of the Technical Committee on Standards, reporting on its progress to the AdCom at least once each year.

10.4.4 Any AdCom approved Standards Committee and subcommittees are empowered to make studies, conduct hearings, organize special workshops, symposia, research conferences, and such other activities as may be needed for the effective conduct of their work. In the event any of these activities involve a significant commitment of Society resources, the plans for such activities shall be reviewed by the AdCom in accordance with prescribed rules and procedures.

10.5 Technology Committee Coordinator - The AdCom shall appoint a Technology Committee Coordinator to exercise supervision and administration of technology committees established by the AdCom. The Technology Committee Coordinator will normally be selected from among the elected members of the AdCom unless the technical requirements of the assignment, in the judgement of the AdCom, make it desirable to do otherwise. The Technology Committee Coordinator shall be an ex-officio member of each Technology Committee and if not an elected member of AdCom shall be an ex-officio member "with vote". The Technology Coordinator shall be appointed for a three year term. Only two consecutive terms are permitted, but eligibility is restored after a lapse of one year. The Technology Program Committee Coordinator shall be an ex-officio member of the Technical Program Committee for each OCEANS Conference.

11. Standing Committees - Standing Committees shall be appointed by the Society President with the advice and consent of the AdCom. It will be discretionary with the Society President to appoint any part or all of any Standing Committee, or to appoint only the Chairperson of a committee and request the latter to appoint additional committee members. Chairpersons of Standing Committees shall be ex-officio members of the AdCom "with vote", if not already elected as members. The terms of office of Standing Committee Chairpersons and members shall be for one year or until successors are appointed. Chairpersons whose terms have expired prior to their successors taking office shall continue in office as AdCom members ex-officio without vote until their successors are appointed.

11.1 Publicity Committee - The functions of the Publicity Committee will be to:

- a. Make contacts with the various sources of publicity, such as trade and technical journals, newspapers, radio and TV, etc.
- b. Use contacts to the best advantage in promoting the interests of the OE Society concerning its publications, meetings and other activities.
- c. Supply counsel and assistance to the other committees of the Society, particularly those concerned with meetings and symposia.

11.2 Publications Committee - The functions of the Publications Committee will be to:

- a. Assess and maintain guidance over the Society's publications and recommend to the Editors and the AdCom actions, appropriate to the maintenance of high quality, timeliness and coverage of the field of interest of the Society.
- b. Assist the AdCom President in the selection and recruitment of editorial personnel.
- c. Review the need for new publications or the discontinuance of old.

11.3 OCEANS Coordinating Committee - The annual OCEANS Conferences is the major activity of the Society and as such shall be supervised by an OCEANS Coordinating Committee. The OCEANS Coordinating Committee shall have appropriate representation from other professional societies having shared financial responsibilities, or are designated as participating organizations. The President of AdCom shall appoint members to the Coordinating Committee with the advice and consent of AdCom, with designated terms of tenure to assure continuity. OCEANS Coordinating Committeemen representing OES shall be IEEE members and shall be ex-officio members of AdCom "with vote", if not already elected members, on all matters that relate to the OCEANS Conference. The functions of the OCEANS Coordinating Committee shall be:

- a. Seek out and find locations and host organizations for the OCEANS Conference for a minimum of four years in advance.
- b. Provide liaison between the AdCom and the Conference Organizing of Managing Committees assuring that the operations are in the best interest of the Society.
- c. Appoint or approve the Conference Chairman, Program Chairman and Treasurer.

Assure that the conference's policies are fiscally responsible.

11.4 Workshops Committee - A Workshops Committee shall be appointed to oversee, encourage, and support speciality meetings and workshops outside of the annual OCEANS Conference. Membership on the Workshops Committee may include members of the OCEANS Coordinating Committee and other members appointed by the President in the manner defined in paragraph 11.3 OCEANS Coordinating Committee. The functions of the Workshops Committee will be:

- a. Review all meetings and workshops that the Society has participated in with the objective of recommending to the AdCom changes, discontinuance, relocation, scheduling, or reorganization of meetings/workshop.
- b. Recommend to the AdCom initiation of new workshops where such action would be in the best interest of members of the Society.

Actively recruit hosts and sponsors for speciality workshop and locations for the same.

Provide liaison between the AdCom and the Workshop Organizing Committee assuring that the operations are in the best interest of the Society.

11.5 Chapters Committee - The functions of the Chapters Committee will be to:

- a. Compile information pertaining to the organization of Society chapters in the Sections.
- b. Disseminate this information to the Sections and to the Membership Committee.
- c. Create and promote interest in the Sections for the formation of Chapters of Oceanic Engineering Society.
- d. Work with Chapters and Sections to provide plans and methods for promoting successful Chapter meetings.
- e. Assist in providing topics, media or speakers for Chapter meetings.

A Chapter Coordinator shall be appointed to chair the Chapters Committee and to monitor the activity and status of existing chapters.

11.5.1 The Chapter Coordinator shall be appointed by the President with the concurrence of the AdCom. The duties of the Chapter Coordinator shall be:

Maintain liaison with existing chapters and obtain annual reports from each chapter summarizing the activities of the chapter for the preceding year.

Establish an annual budget to provide support to the chapters for special programs and needs.

Recommend possible locations for additional chapters and work with the local Section and IEEE/OES members living in the area to develop a chapter.

Work with the Membership Services Committee in the development of membership for new chapters.

11.6 Membership Development Committee - A Membership Development Committee shall be organized to promote and expand membership in the Society. The Committee shall be headed by a Membership Coordinator, appointed by the President with the consent of the AdCom. In addition, the Chapter Coordinator and the Newsletter Editor shall be members of the committee along with other's appointed by the President. The Membership Development Committee shall meet at the last AdCom meeting of the year and formulate a membership program/campaign for the forthcoming year. The Membership Development Committee shall promote membership at the Offshore Technology Conference and the annual OCEANS Conference each year as a minimum. The Membership Development Committee shall prepare a budget request for inclusion in the Society budget each year. The Membership Development Committee shall make use of the OES Newsletter to promote membership.

11.6.1 Society Newsletter - The Society shall publish an information bulletin called "Newsletter" for the purpose of providing news of timely interest to the membership. The President shall appoint a Society Newsletter Editor with the advice and consent of the AdCom. The Society Newsletter Editor shall be a member of the Membership Development Committee. The Newsletter Editor shall prepare an annual budget for the Newsletter and present it at the last AdCom meeting of each year.

11.7 Nominating Committee - Duties of the Nominating Committee are detailed in Section 4 of the Bylaws.

11.8 Awards and Fellows Committee - Members of the Awards and Fellows Committee shall be elected members of AdCom or Fellows of the IEEE. The functions of the Awards and Fellows Committee will be to:

- a. Nominate candidates for all awards and prizes in accordance with requirements, requests, and rules and regulations of IEEE Headquarters, both for general IEEE awards and Society awards.
- b. At the request of the IEEE Fellows Committee, review nominations for the IEEE Fellow awards in the technical field of interest of the Society in accordance with IEEE rules and regulations.
- c. Recommend awards, type and honorarium, criteria to be employed and nominate qualified candidates.

11.8.1 Distinguished Service Award and Distinguished Technical Achievement Award - The Society shall present awards known as the Distinguished Service Award and Distinguished Technical Achievement Award annually at a major conference sponsored by the Society within the United States. The Distinguished Service Award is given to honor an individual IEEE member for outstanding contributions towards furthering the objectives of this Society. The award shall consist of an appropriately worded certificate. The Awards Committee shall nominate candidates for these awards who shall be approved by a majority of the elected members of the AdCom.

The Distinguished Technical Achievement Award is given to honor an outstanding technical contribution to oceanic engineering in either the fundamental or applied areas. The recipient need not be restricted to a Society or IEEE member. The award shall be for either a single major invention or scientific contribution or for a distinguished series of contributions over a long period of time.

11.9 Student Affairs Committee - A standing committee on Student Affairs shall be appointed. The Committee shall promote student participation at OCEANS' conferences and workshops. The Student Affairs Committee shall make use of IEEE Potentials to promote OES activities and provide articles of interest to the IEEE student members. The Student Affairs Committee shall encourage student branch chapters and work with IEEE Student Branch coordinators to promote the interests of the OES.

11.9.1 Student Affairs Coordinator - The AdCom shall appoint a Student Affairs Coordinator to exercise supervision and administration of the Student Affairs Committee. The Student Affairs Coordinator will normally be selected from among the elected members of the AdCom unless the selection for the assignment, in the judgement of the AdCom, make it desirable to do otherwise. The Student Affairs Coordinator shall be an ex-officio member of the Student Affairs Committee and if not an elected member of the AdCom shall be an ex-officio member "with vote". The Student Affairs Coordinator shall be appointed for a three year term. Only two consecutive terms are permitted, but eligibility shall be restored after a lapse of one year. The Student Affairs Coordinator shall be an ex-officio

member of the Technical Program Committee for each OCEANS Conference. The Student Affairs Coordinator shall serve as a representative to the IEEE Educational Activities Board.

11.10 PACE - The President shall appoint a PACE Coordinator to promote professional activities at the chapter, national or international level. The Coordinator shall be the Society's liaison to IEEE-USA-PACE (Professional Activities Committee for Engineers).

11.11 Constitution and Bylaws Committee - The Vice President of Professional Activities shall chair the Bylaws Committee and shall be responsible to see that the bylaws remain current and shall initiate corrective action when required to revise and update the Society Bylaws and Constitution.

12. Ad Hoc Committees - Special or ad hoc committees may be created by the AdCom. For each such case, the AdCom shall specify the number of members the committee shall have, how the members are to be selected, and the terms of the members if other than for the life of the committee. Special or ad hoc committees shall be dissolved automatically after two years unless the AdCom sets an expiration date. Chairpersons of such ad hoc committees shall be ex-officio members "without vote" of the AdCom.

13. Councils - Where it will further the interests of members, the Society may join with other IEEE groups, societies, or entities to form a council or a similar entity for the purpose of administering conferences and/or publications.

13.1 When such action is contemplated, a specific description of the proposed council and its bylaws shall be circulated to all AdCom members at least 30 days prior to the AdCom meeting at which the proposal will come up for approval. In all cases, the financial and appointive responsibility of the OES shall be completely delineated in the bylaws of the council.

13.2 The participation of the Society in a council shall be treated as a change in the Bylaws.

13.3 The chairpersons of such councils shall be ex-officio members "without vote" of the AdCom.

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ELECTED ADMINISTRATIVE COMMITTEE

JAMES BARBERA
(see Chapter Chair)
HISAAKI MAEDA
Institute of Industrial Science,
University of Tokyo
7-22-1 Roppongi, Minatoku,
Tokyo 106, Japan
+81-3-3402-6231 ext. 2255
+81-3-3402-5349 (Fax)

DANIEL L. ALSPACH
ORINCON Corp.
9363 Towne Center Drive
San Diego, CA 92121
+1 619 455 5530
+1 619 452 4258 (Fax)
alspach@snap.org

NORMAN D. MILLER
(see Vice President)
JOSEPH R. VADUS
(see Vice President, Technical Activities)

MICHAEL INGRAM
14 Monument Street, #3
Charlestown, MA 02129
617 258 3279 (Phone)
617 258 3858 (Fax)
ingram@ieee.org

JOHN W. IRZA
Sygnus Technology, Inc.
Arlington, MA USA
+1 781 648 2144
+1 781 641 9974 (Fax)
jirza@sygnus.com
ARCHIE TODD MORRISON III
McLane Research Laboratories, Inc.
Falmouth Technology Park
121 Bernard E. St. Jean Drive
East Falmouth, MA 02536
508-495-4000 (Phone)
508-495-3333 (Fax)
atmorrison@mclanelabs.com

ROBERT C. SPINDEL
(see Associate Editors)

STANLEY G. CHAMBERLAIN
Raytheon Electronic Systems
MS T3TN46, 50 Apple Hill Dr.
Tewksbury, MA 01876
508 858 5012;
508 585 1955 (Fax)
s.chamberlain@ieee.org

ALBERT J. WILLIAMS 3RD
(SANDY)
Applied Ocean Physics and
Engineering, MS#12
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
508-289-2725
awilliams@whoi.edu

PAUL A. ROSENSTRACH
The Charles Stark Draper Laboratory
555 Technology Square
Cambridge, MA 02139
617-258-1610
617-258-3007 (fax)
prosenstrach@draper.com

CHARLES RANDELL
C-CORE
Memorial University of Newfoundland
St. John's, Newfoundland
Canada A1B 3X5
+1 709 737 4011
crandell@morgan.ucs.mun.ca

SHERI L. REES
Engenuity Development Network
116 NW 130th Street
Seattle WA 98177
206-440-1455
s.l.rees@ieee.org

RENE GARELLO
Telecom Bretagne
Dpt. ITI BP 832
29285 Brest Cedex France
33 2 98 00 13 71
33 2 98 00 10 98 (Fax)
rene.garello@enst-bretagne.fr

ROBERT T. BANNON, President
Bannon International Consulting
301 Willow Run
East Stroudsburg, PA 18301-8591
rtbannon@csrlink.net
570-619-5430
570-619-5107 (Fax)

CLAUDE P. BRANCART
(see Ex-Officio)

JOSEPH CZIKA, JR.
T.A.S.C., Inc.
12110 Sunset Hills Road
Reston, VA 22090-3221
j.czika@ieee.org
703-834-5000 Ext. 7122
703-318-7900 (Fax)

STEPHEN M. HOLT (see Secretary)

PAMELA J. HURST

FREDERICK H. MALTZ
(see Newsletter Editor)

EX-OFFICIO

Jr. Past President
GLEN N. WILLIAMS
Engineering Program Office
Texas A&M University
College Station, TX
77843-3112
409-845-5484
g.williams@ieee.org

Sr. Past President
CLAUDE P. BRANCART
18 Juniper Road
Brunswick, ME 04011-3414
207-729-7873
monkfish@blazenetme.net
c.brancart@ieee.org

Membership Development
JAMES S. COLLINS
Dept. of Elec. & Comp. Engineering
University of Victoria
P.O. Box 3055
Victoria, B.C. CANADA V8W 3P6
+1 250 595 6928;
+1 250 595 6908 (Fax)
j.s.collins@ieee.org

Nominations
CLAUDE P. BRANCART

Chapters
NORMAN MILLER

Journal Editor
JAMES F. LYNCH

Awards and Fellows
DAVID WEISSMAN
Dept. of Engineering
104 Weed Hall
Hofstra University
Hempstead, N.Y. 11549
516-463-5546
516-463-4939 (Fax)
egggedew@hofstra.edu

Publications Review Board
GLEN N. WILLIAMS

Newsletter Editor
FREDERICK H. MALTZ

Pace
NORMAN D. MILLER

**TAB Engineering Research and
Development Policy Committee**
JOSEPH R. VADUS

CHAPTER CHAIRMEN

Canadian Atlantic
FERIAL EL-HAWARY
61 Bay View Road
Halifax Nova Scotia
Canada B3M 1N8
(902) 443-2400
(902) 445-5110 (FAX)

France
RENE M. GARELLO
Telecom Bretagne
Dept. Image Et Traitement de l'Information
Technopole Brest Cedex
29285 Brest Cedex
France
(33) 98 00 13 71
(33) 98 00 10 98 (FAX)
r.garello@ieee.org

Houston/Galveston Bay
AL WILLIAMS
FSSL Inc.
525 Julie Drive
Sugar Land, TX 77478
(713) 240-1122 ext 214
(713) 240-0951 (FAX)

Hawaii
BOBBIN TALBALNO
94-792 Nolupe Street
Waithu, HI 96797
(808) 608-3200
(808) 668-3780 (FAX)

Norway
DR. THOR I. FOSSEN
Professor of Guidance and Control
Dept. of Engineering Cybernetics
University of Trondheim, N-8034
Trondheim, Norway
47-73594361
47-73594399 FAX

San Diego
BRETT CASTILE
Orincon Corporation
9363 Towne Center Drive
San Diego, CA 92121
(619) 455-5530 X212
(619) 453-9297 (FAX)

Seattle
SHERI L. REES
Engenuity Development Networks, Inc.
116 NW 130th
Seattle, WA 98177
(206) 440-1455
(206) 440-1438 (FAX)
s.l.rees@ieee.org

Tokyo
DR. TERUO FUJII
Chemical Engineering Laboratory
RIKEN (Institute of Physical and
Chemical Research)
2-1 Hirosawa Wako-shi, Saitama,
351-01, Japn
81-48-462-1111
81-48-462-4658 (FAX)

Victoria
James S. Collins
(See Elected Administrative Committee)

Washington D.C./No. Virginia
JAMES BARBERA
13513 Crispin Way
Rockville, MD 20853
(301) 460-4347
(301) 871-3907 (FAX)

IEEE OCEANIC ENGINEERING SOCIETY TECHNOLOGY COMMITTEE CHAIRS

Modeling, Simulation & Visualization, ED GOUGH

Marine Communication Navigation & Positioning, JOHN D. ILLGEN

Oceanographic Instrumentation, MR. KENNETH FERER

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Non-Acoustic Image Processing, DR. FRANK M. CAIMI

Neural Networks and Information Processing, V. WILLIAM (BILL) PORTO

Environmental Technology, JAMES T. BARBERA, SR.

Technology Committees Coordinator, DR. STANLEY G. CHAMBERLAIN