



## Chairman's Message

Welcome to the Spring 2003 issue of *Hana O Ke Kai*.

The last issue of the newsletter has reconnected alumni and friends with the Department and generated many positive responses. I would like to thank Prof. Ertekin for this marvelous job. The Department is finishing up its self-study report for the Accreditation Board for Engineering and Technology (ABET) and is getting ready for the site visit in the Fall semester. Through this process, we have developed an updated academic program based on input from advisory

panels, as well as surveys of alumni and their employers. The goal of the updated program is to serve the needs of the constituencies, and their involvement has been instrumental. On the research side, our extramural funding has increased dramatically due to a major research grant from the Office of Naval Research last year and five new grants from the Office of Naval Research, NOAA Sea Grant, and Bermuda Biological Station for Research this semester. The state funding for the education program, however, has been decreasing over the

last ten years and the trend is likely to continue. The Department is organizing a fundraising campaign (please see page 7 for more information and the donation form). I would like to ask for your generous support, which will enrich the education experience of our students. Let me thank you in advance.

*Kwok Fai Cheung*  
Chairman



## Editor's Corner

The second issue of *Hana O Ke Kai* of this academic year is full of news about the department, current research projects, ORE graduates, and Advisory Boards.



There is also a new Corner, featuring in this issue a local Ocean Engineering company, namely Makai Ocean

Engineering, Inc., that has been the subject of a recent article in ASCE's *Civil Engineering* for its outstanding design of the new HOST Park Seawater Supply Pipeline on the Big Island. Their professional engineering staff includes many of our graduates that we are proud of. The Student Activities

Corner contain exciting news too. Finally, I would like to kindly ask for your support of our educational programs through your generous gift to the ORE Enrichment Fund. I can assure you that your gift will make a difference. Thank you for your care. Mahalo!

*R. Cengiz Ertekin*

**We need your help!  
Please give  
a generous gift to the  
ORE Enrichment Fund  
(see page 7) Thank you.**

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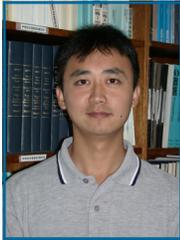
- Editor—Cengiz Ertekin
- Contributors—Reb Bellinger, Richard Carter, Kwok Fai Cheung, Cengiz Ertekin, Edith Katada, Ikaika Kincaid, Vasco Nunes, Geno Pawlak

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[HanaOKai@oe.soest.hawaii.edu](mailto:HanaOKai@oe.soest.hawaii.edu)  
or mail them to the  
ORE Department  
c/o Editor, Hana O Ke Kai.

# Currents

## News from the Department...

◆ Congratulations to Yong Wei! The Outstanding ORE Graduate Student Award for the 2002-2003 academic year goes to Yong Wei who is a PhD candidate. Yong studies under the guidance of Prof. Cheung. This year's award certificate will be presented to Yong at his seminar in early May. The award also includes a check for \$300.



◆ Prof. Hans Jurgen Krock has returned from sabbatical and is teaching ORE 202 (Ocean Technology: Man in the Sea) and a new course, ORE 642 (Marine Environmental Remediation).

◆ Prof. Cengiz Ertekin is the Technical Program Chairman of OMAE 2003, ASME, which will be held in Mexico in June. OMAE is an international conference on ocean, offshore and arctic engineering, and is held annually around the world. For more information on OMAE activities, visit [www.omae.org](http://www.omae.org)

◆ Congratulations to Prof. Geno Pawlak who has just received the prestigious Young Investigator award of the Office of Naval Research. The award is on the wave boundary-layer processes over an irregular sea floor, and is for a period of three years.

◆ Prof. Cengiz Ertekin is serving as the Secretary of International Ship and Offshore Structures (ISSC) Congress for the period 2000-2003. ISSC is an international organization established in 1961 and is made up of members from about 40 countries around the world. For more information on ISSC activities, visit: <http://www.coe.berkeley.edu/issc/>

◆ Prof. Ron Riggs, who is a cooperating graduate faculty member in the ORE department, has been elected as a Fellow of the American Society of Mechanical Engineers International (ASME). Prof. Riggs has the distinction of being only the third ASME Fellow of the Hawaii Section of ASME (the other two are Mr. Fred Kohloss and Prof. R.C. Ertekin)

◆ The Student Chapter of ASCE at UH is again participating in this year's Concrete

Canoe Competitions at Long Beach. A number of ORE students contributed to the design and construction of the concrete canoe.



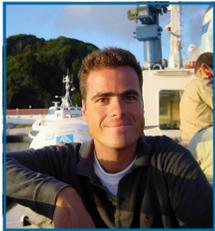
*Mold prep of the concrete canoe (Photo is courtesy of Richard Carter).*

◆ A new part-time MS Program in the department has been instituted. The program allows working individuals with an undergraduate engineering degree to obtain their MS degree in less than three years. An e-copy of this brochure can be obtained from the ORE web site.

◆ The ORE Departmental brochure describing the current Programs have been revised (you can obtain a copy of it from the ORE web site).

*Ed.—Please send ORE News to [HanaOKai@oe.soest.hawaii.edu](mailto:HanaOKai@oe.soest.hawaii.edu)*

## Students' Voice



**W**e have now almost completed another year and another chapter in our lives as students

of the Department of Ocean and Resources Engineering, which is indeed a place of knowledge and culture. Our colleagues come from a variety of technical backgrounds and from all over the globe.

The benefits of such diversity are plenty and the familial atmosphere of the department gives us the opportunity to see how people so different from us can also be so similar. This sense of camaraderie comes from our mutual interest and respect for the Oceans as well as our relentless quest for knowledge.

Our professional and dedicated faculty continues to work hard to provide us

with the best possible educational experience. The strength of our program is indicated also by our alumni employment placement rate—almost 100% in the ocean industry, with 50% employed in the mainland US, 45% in Hawai'i, and 5% in their country of origin.

We also have had the opportunity to broaden our learning with regular seminars hosted by ocean science & engineering professionals working on common research fields like climate change, ROV and ocean vessel technology, computer modeling, sediment transport, weather and wave forecast, hydro-



dynamics, ocean thermal technology, or the amazing discovery of Dr. John Wiltshire and his team members at HURL<sup>1</sup>. Last August, their research led them to an intact Japanese midget submarine<sup>2</sup> that has been lying on the ocean floor offshore of Oahu with its two occupants onboard since WWII.

Finally, please welcome our new colleagues Daniel MERRITT (USA) and Yoshiki YAMAZAKI (Japan) and wish them all the best in their academic careers.

*Vasco Nunes  
Student Representative  
[vasco@hawaii.edu](mailto:vasco@hawaii.edu)*

<sup>1</sup> For more information on HURL, see *Hana O Ke Kai*, 4(1), p. 4.

<sup>2</sup> Photo courtesy of HURL.

# Alumni News

◆ **Minglun (Alan) Wang (MS '91)** After graduation, Alan continued his PhD studies at the University of Michigan where he received his PhD degree in Naval Architecture. Currently he is in mainland China with his wife, and he is working on the Apache/PetroChina project in the Bay of Bohai, where the Halliburton company (of Texas) that he works for as a senior naval architect, is building two 10,000MT fixed platforms in a shallow-water area. Eml: [Alan.Wang@Halliburton.com](mailto:Alan.Wang@Halliburton.com)

◆ **Dominique Roddier (MS '94)** After graduation, Dominique continued his PhD studies at the University of California at Berkeley where he received his PhD degree in Naval Architecture and Offshore Engineering. Dominique is now working in the Offshore Division of ExxonMobil's Upstream Research Company. He is in the hydrodynamics group, working on various problems, ranging

from experimental Vortex Induced Vibration (VIV) to ship motions. After he received his PhD in 2000, he moved to Houston with his wife Wendy and their son, Alexander, now 3 years old. He still sails avidly and just came back from a two weeks sailing trip around the Brittany coast of France. Eml: [droddier@houston.rr.com](mailto:droddier@houston.rr.com)

◆ **Patricia Miller, P.E. (MS '98)** Patty started working with the U.S. Army Corps of Engineers, Seattle District, Navigation Section, about a year ago. It is working out very well for her. She helps maintain the Federal Navigation waterways of western Washington. The main function of her position is to dredge the federal waterways. However, she has been able to work on a project to repair a breakwater and to renourish a beach. Eml: [patricia.r.miller@usace.army.mil](mailto:patricia.r.miller@usace.army.mil)

**Did you know that you can receive ORE newsletters electronically?**

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and click "Newsletters" link.

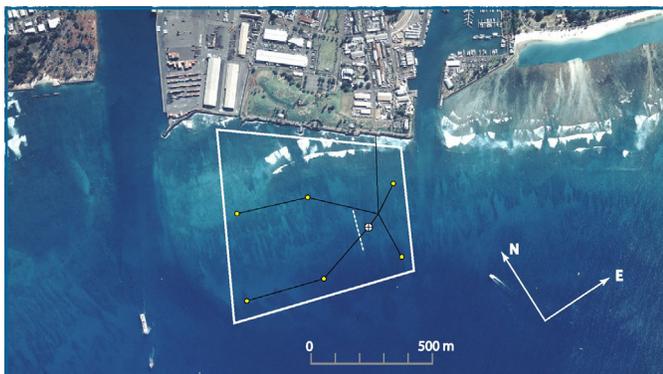
◆ **Amal Phadke (PhD '01)** Amal graduated with a Ph.D. in Ocean Engineering in August 2001 under the guidance of Prof. Kwok Fai Cheung. Since November 2001

he has been working as a Naval Architect at Sea Engineering Inc. in Houston, Texas. Sea Engineering is a small, independent, privately owned consulting engineering firm specializing in all aspects of analysis and design of TLPs and SPARs. His primary responsibility is coupled hull-tendon-riser global performance analysis of TLPs. He has worked on two Unocal TLPs for the West Seno field, Indonesia and Anadarco Marco Polo TLP for the Gulf of Mexico. Eml: [aphadke@sea-engr.com](mailto:aphadke@sea-engr.com)

(continued on page 5)

## Project News

**Wave Boundary Layer Processes over an Irregular Bottom:** Prof G. Pawlak will receive funding from the Office of Naval Research under the Young Investigator program. This project aims to examine the effect of bottom roughness on surface wave



*Study area off Kakaako, on the South Shore of Oahu with preliminary field layout. Instruments will be connected to shore via submerged cable. Depths in the study area range from 2 to 20 m. Location of the Wave Boundary Layer Profiler is shown by the white circle with a black cross. Pressure sensor locations are indicated by yellow circles. The white dotted line shows the nominal location of sediment transport survey line.*

fields, sediment transport and nearshore water properties within the context of a coral reef. The study will relate measurements of the roughness field to observations of the wave field over a broad re-

gion, with the goal of developing a relation between roughness and wave energy dissipation and shear stress. A suite of instruments will be deployed on a reef along the south shore of Oahu to examine the large scale variations in the wave field along with the small-scale boundary layer processes over a wave orbital excursion. Concurrent observations of sediment load and optical properties will pursue the connection between shear stress and sediment suspension and transport over the complex reef topology. Preliminary field work will begin in summer of 2003.

**ENDEAVOR (ENvironment for the DESIGN of Advanced Marine Vehicles and Operations Research)** is a congressional program funded via the Office of Naval Research to a team headed by the University of Hawaii in partnership with Science Applications International Corporation, Maui High Performance Computing Center, and Hawaii-based Pacific Marine/Navatek Ltd. The ENDEAVOR initiative develops the capability to rapidly assess novel and advanced marine vehicle designs and their operational implications. Professor Kwok Fai Cheung is the Principal Investigator of the team responsible for overall project management. He also leads the development of the physics-based models and simulation tools at the University of Hawaii in coordination with Professors Cengiz Ertekin, Geno Pawlak, Ron Riggs, and Jian Yu. These models cover climatology, ocean waves, tides, coastal processes and currents, wave resistance, viscous drag, turbulence, propulsion, maneuvering, motions, controls, and hydroelasticity.

(Continued on page 5)

# Advisory Boards (ABET Update)

The preparation of the Ocean and Resources Engineering program for ABET Engineering Criteria 2000 is now completed and a self-study report documenting our new curriculum and assessment processes will be submitted to ABET in June 2003. We would like to thank the following local and international advisory panel members for their input during the undertaking. Their participation has assured that our program continues to improve and meets the needs of the ocean engineering community.

## Local Professional Advisory Panel

- ◆ Karin Lynn, PE (Chair), Captain, U.S. Navy Civil Engineer Corps, Pearl Harbor Regional Requirements Officer, Pearl Harbor, HI.
- ◆ Jose Andres, PhD, PE, Vice President, Makai Engineering Inc., Waimanalo, HI.
- ◆ Roger Babcock, PhD, PE, Associate Professor, Department of Civil and Environmental Engineering, University of Hawaii, Honolulu, HI.
- ◆ Warren Bucher, PhD, Vice President, Oceanit Laboratory Inc., Honolulu, HI.
- ◆ Robert Rocheleau, PE, President, Sea Engineering Inc., Waimanalo, HI.

- ◆ Elaine Tamaye, President, Ed Noda and Associates, Honolulu, HI.
- ◆ Paul Bienfang, PhD, Senior Vice President, CEATEC U.S.A., Honolulu, HI.
- ◆ Gary Godshak, Director of Hawaii Operations, Orincon, Kailua, HI.
- ◆ Gabriel Zee, PhD, Vice President, Pacific Marine and Supply Company, Ltd., Honolulu, HI.

## International Professional Advisory Panel

- ◆ Thomas Mathai, PhD (Chair), Senior Analyst, The Glisten Associates, Inc., Seattle, Washington.
- ◆ Willem Bakker, Visiting Scientist, WL | Delft Hydraulics, Delft, The Netherlands. Formerly, Head of Research & Development Department at Flushing, Directorate General of Public Works and Water Management (Rijkswaterstaat), The Hague, The Netherlands.
- ◆ Roger Basu, PhD, Manager, Advanced Analysis Department, ABS Americas, Houston, Texas.
- ◆ Sander Calisal, PhD, PEng, Professor, Department of Mechanical Engineering, University of British Columbia, Vancouver, B.C., Canada.

- ◆ Subrata Chakrabarti, PhD, PE, President, Offshore Structure Analysis, Inc., Plainfield, Illinois; Editor, Applied Ocean Research.
- ◆ Zeki Demirbilek, PhD, PE, Research Hydraulic Engineer, Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory, Harbors and Structures Branch, Vicksburg, Mississippi; Editor, ASCE Journal of Waterway, Port, Coastal, and Ocean Engineering.
- ◆ John Halkyard, ScD, PE, Vice President, Deepwater Research & Development, CSO Aker Maritime, Inc., Houston, Texas.
- ◆ Paul Palo, PhD, PE, Mechanical Engineer, Ocean Facilities Department, Naval Facilities Engineering Service Center, Port Hueneme, California.
- ◆ Tar-Zen Su, PhD, Associate Professor, Marine Engineering Department, National Taiwan Ocean University, Taiwan, China.
- ◆ Pieter Wybro, PhD, PE, President, Sea Engineering Inc., Houston, Texas.

# Company Profile

**Makai Ocean Engineering, Inc.** was established in 1973 as a diversified ocean engineering and naval architecture company providing service in Hawaii and the Pacific. Today, Makai provides ocean engineering services world wide and is a major supplier of submarine cable installation and planning software.

Makai Ocean Engineering, Inc. is located on the end of Makai Research Pier at Makapuu Point, Oahu, Hawaii. Multiple facets of Makai's work, from engineering analysis and software development, to in-situ testing are conducted at the pier. The facilities include:

- ◆ Complete PC and UNIX computer facilities for analysis, program development, modeling, and reporting.
- ◆ Engineering design office with reference library, CAD, testing facilities, design software (AutoCAD, Orcaflex, WAMIT, FEA,



Hydraulic Modeling, Data Acquisition) and fabrication shop.

- ◆ Advanced 24/7 high-speed communications and database connections for research.
- ◆ Ready access to the PISCES IV and V manned submersibles (capable of 2000 m depth) operated by the Hawaii Undersea Research Laboratory (HURL) headquartered at Makai Pier.

Cost-effective availability for surface and underwater testing either in the harbor or offshore, where depths of 1,500' are within four miles. 18,000' depths are accessible in a few hours by moderate-sized research ships. Makai Pier can accommodate ships up to 16' draft.

Makai employs people who have the experience, education and attitudes needed for success in the demanding ocean environment. Six registered Professional Engineers (mechanical, structural or civil) are on staff. A majority of Makai's employees have post-graduate degrees. A large number of employees have degrees from the University of Hawaii (Jose Andres, Reb Bellinger, Chad Caron, Tei Fang, Pat Grandelli, Dale Jensen, Tore Leraand, David

Lipp). Many have significant at-sea experience and are Scuba qualified.

Two major areas of technical expertise are in submarine cable software and at-sea services and the engineering and design of deep ocean pipelines.

- ◆ Makai has developed a suite of software products that are the dominant software used in the submarine cable industry. The software products are MakaiPlan, MakaiPlan Pro and MakaiLay.
- ◆ Since 1979, Makai has designed numerous deep-water down-the-slope and suspended polyethylene intake pipelines up to 1600 mm and at depths down to 1000m.

For more information on Makai Ocean Engineering, visit [www.makai.com](http://www.makai.com).

*Reb Bellinger*

*Ed. — Also see the article in ASCE's Civil Engineering, March 2003, Vol. 73, No. 3, that featured Makai's outstanding achievements in the design of the HOST Park Seawater Pipeline.*

*Ed.— Please send your company's profile [HanaOKai@oe.soest.hawaii.edu](mailto:HanaOKai@oe.soest.hawaii.edu)*

## Project News (Continued from page 3)

Validation of physics-based predictions will be done through in-water tests using Pacific Marine/Navatek Ltd's rapid prototyping capability and pioneering work in design, development, and operation of advanced marine vehicles.

Real-world experiences and test data will be collected, documented, and integrated into the design environment. Science Applications International Corporation is the overall system integrator, and is responsible for system engineering, system architecture and development, and concepts of operation and mission analysis. The Maui High Performance Computing Center hosts the design environment and supports system development and parallel computing. The team has



advanced, military, and commercial marine hull forms.

### New Projects

◆ Cheung, K.F. Hindcast of Hurricane Winds, Waves, Surge, and Overwash at Landfall based on Coastal Sedimentary Records. Bermuda Biological Station for Research, Inc., Bermuda (01/01/03 – 06/30/04).

been funded for a total of \$4.4M in FY 02 and FY 03 and the funding request for FY 04 has been submitted to US Congress. The long-term goal is to develop this collaborative effort into a national center for the design, engineering, prototyping, and at-sea testing of

◆ Cheung, K.F. Inverse Algorithm for Tsunami Inundation Forecast. University of Hawaii Sea Grant College Program (03/01/03– 02/28/05).

◆ Pawlak, G. Wave Boundary Layer Processes over an Irregular Bottom, Office of Naval Research, Young Investigator Award, (5/2003 – 4/2006).

◆ Pawlak, G. Two-dimensional Acoustic Profiling of Wave Boundary Layers, University of Hawaii Sea Grant College Program, Program Development, (1/2003 - 12/2003).

◆ Pawlak, G. High Resolution Surveys of Coral Reef Roughness, University of Hawaii Sea Grant College Program, Program Development, (1/2003 - 12/2003).



## Meetings Calendar

### 2003

- May 26-30, **ISOPE 2003**, Honolulu, Hawaii. [www.isopec.org](http://www.isopec.org)
- June 8-13, **OMAE 2003, ASME**, Cancun, Mexico. [www.omaec.org](http://www.omaec.org)
- June 25-27, **Scientific Submarine Cable Workshop 2003**, Tokyo [seasat.iis.u-tokyo.ac.jp](http://seasat.iis.u-tokyo.ac.jp)
- June 30-July 4, **Waves 2003**, Jyväskylä, Finland. [www.mit.jyu.fi/waves2003](http://www.mit.jyu.fi/waves2003)
- August 11-15, **ISSC 2003**, 15th Int. Ship and Offshore Structures Congress, San Diego, CA. [www.coe.berkeley.edu/issc/](http://www.coe.berkeley.edu/issc/)
- August 21-22, **ASNE's Maritime Environmental Engineering Technical Symposium**, Arlington, VA [hwilson@vasco.com](mailto:hwilson@vasco.com)
- August 25-27, **Long Wave Symposium**, COPRI, Thessaloniki, Greece. [Michael.j.briggs@erdc.usace.army.mil](mailto:Michael.j.briggs@erdc.usace.army.mil)
- September 14-17, **3rd Int. Conf. On Hydroelasticity in Marine Technology**, Oxford, UK [r.eatocktaylor@eng.ox.ac.uk](mailto:r.eatocktaylor@eng.ox.ac.uk)
- September 22-26, **Oceans 2003 MTS/IEEE**, San Diego [www.oceans2003.org](http://www.oceans2003.org)
- October 17-23, **SNAME Annual Conference-World Maritime Technology Conference**, San Francisco [www.sname.org](http://www.sname.org)
- December 6-10, **AGU Meeting**, San Francisco [www.agu.org](http://www.agu.org)



## Alumni News (continued from page 3)

◆ **Douglas Neill (PhD '96)** After graduation, Doug stayed on at the University of Hawaii and worked for the Institute for Astronomy as the Senior Mechanical Engineer. He was involved in the design, analysis and production of the cameras/spectrographs for the Gemini, Subaru and IRTF (Infrared Telescope Facility) astronomical observatories. He was also involved in several other projects at the IRTF. After four years, he moved to Connecticut to work for Goodrich Optical and Space Systems, where he analyzes large optics and optical systems. He and his wife, Jing, have two boys, Theodore and Leopold ages 4 and 1. Eml: [dneill@hotmail.com](mailto:dneill@hotmail.com)

◆ **Suqin (Sue) Wang (MS '92, PhD '95)** After graduation, Suqin joined American Bureau of Shipping (ABS) as an engineer in New Jersey. She is now working in Advanced Analysis Department of ABS in Houston, as a senior engineer specialist, on various projects, ranging from seakeeping and mooring analyses, FE analysis, and high speed craft analysis, to the development of guidelines for mobile offshore bases. Her husband Feng and their daughter Janalyn moved to Houston in 1996 after about one-year living apart (New Jersey-Honolulu). The family has grown since then. Suqin and Feng have a son, Benson, now 5 years old and second daughter, Jackie, now 3 years old. Suqin has started a regular exercise, running and biking. Eml: [swang@eagle.org](mailto:swang@eagle.org)

◆ **Liqun Yang (MS '00)** is working as a structural engineer at Aker Kvaerner Inc. in Houston, TX. She currently works on shallow-water fixed platforms all over the world. Detailed design of steel structural components is her specialty. She and her husband Dingwu have 3 year-old and 6 month-old girls, Maya and Mia. Eml: [lqyang2000@yahoo.com](mailto:lqyang2000@yahoo.com)

*Ed.—Please send Alumni News to [HanaOKai@oe.soest.hawaii.edu](mailto:HanaOKai@oe.soest.hawaii.edu)*

# Bridging the Gap over the Pacific Ocean: Student Research Exchange Meeting

In the fall semester of 2002, the students of the Dept. of Ocean & Resources Engineering, at the University of Hawaii at Manoa, and the students from the Dept. of Environmental & Ocean Engineering, University of Tokyo, met on the Manoa Campus to exchange information on their ongoing research projects. The all-day meetings were held on Saturday, September 28, in one of the state-of-the-art lecture rooms of the POST building, next to Holmes Hall.

The students from Japan not only showed their extensive knowledge of their projects but a great enthusiasm for the Hawaiian Islands and its culture. The lunch break turned out to be a pizza party and the students also exchanged surfing experiences with each other, and the probability of an arriving North swell!

Prof. Hideomi Ohtsubo of the Univ. of Tokyo and Prof. Cengiz

Keiko Ohtsubo. Prof. Katsuyuki Suzuki, Assistant Dr. Jyunji Sawamura, and Technical Official Mr. Jiro Yoshida of the same department also participated in the student meetings.

Profs. Ohtsubo and Ertekin made introductory remarks describing the respective programs. Prof. Suzuki gave an overview of the Research Programs in his



Kumar Rajagopalan, Hongquiang Zhou, and Matthais Schneider (Student Intern) also attended the meetings.

Student presenters from Japan were:

- ◆ Shogo Nakasumi: *Overlaying mesh method*
- ◆ Atsushi Sando: *Reduction of Crack Damage of Steel Structure Using Shape Optimization Method*
- ◆ Hirotooshi Yoshida: *Analysis of Fracture of Driftic Sea Ice using Finite Cover Method*
- ◆ Toshihide Saka, Hayato Kiriyama: *Rigid Body Dynamics and Time Integration Algorithm*
- ◆ Jun Kubota: *CG Animation Based on Boxel Based Dynamics*
- ◆ Daisuke Shinmura: *Global Local Iterative Analysis Using Overlaying Mesh Method*

This was an excellent meeting that was very informative. And we learned a lot about each others research interests and at the same time made new friends. We hope that we will again meet in the near future.

*Ikaika Kincaid and Cengiz Ertekin*

**Acknowledgement:** The funding for the local organization of the UT-UH student research exchange meeting was provided by the ORE Enrichment Fund, The University of Hawaii Foundation. Thanks are also due to all participants of this all-day event, and to Prof. Katsuyuki Suzuki who provided the photographs.



Ertekin organized the event with the help of the students, in particular of Daisuke Shinmura of the Univ. of Tokyo and Yann Douyere and Ikaika Kincaid of the ORE Department. Prof. Ohtsubo is the Standing Committee member of the International Ship and Offshore Structures Congress (ISSC) representing Japan, and he is President of the Japan Society for Computational Engineering and Science, and the Society of Naval Architects of Japan. He was accompanied by his wife Ms.

Laboratory, and Dr. Jyunji Sawamura discussed the "Optimization of Line-heating Process to Bend Steel Plate".

Student presenters from Hawaii were:

- ◆ Marion Bandet: *Wave Boundary Layer over an Irregular Bottom*
- ◆ Yann Douyere: *Analysis of Harbor Oscillation with a Nonlinear Boussinesq Model*
- ◆ Greg Wong: *Calibration of a Boussinesq Coastal Processes and Runup Model: A Case Study of Waimea Bay, Hawaii*
- ◆ Jinghai Yang and Ty Dempsey: *Feasibility Study for Cyprus Peace Water Supply Project, and*
- ◆ Ikaika Kincaid, *Lagrangian Plume Study for the Sand Island Waste Water Treatment Plant*

In addition, Profs. Kwok Fai Cheung and Geno Pawlak, and ORE students Douglas Rhodes, Richard Carter,

# The ORE Enrichment Fund

Dear Friends of the Ocean & Resources Engineering Department:

Aloha! We have been experiencing another year of challenges and achievements as a department. I am writing to you to ask for your support as the alumnus and friend of ORE; your support is critically important to our success.

Despite the financial difficulties that the State is in, we have achieved a very productive and successful year. Some of the challenges and achievements can be seen in the recent issues of Hana O Ke Kai. Your generous gifts can reward academic achievements, support student research assistantships, and provide program support for students, among many other possibilities listed below.

Our mission of teaching, research and public service, all very important, depend on how well we perform and, equally importantly, how well we communicate with our alumni and friends whose support is critical to our existence as a small department. The sharp decline in the State support has seriously impacted our ability to deliver a quality education experience to our students. We are seeking your donations that will help us to:

- ◆ purchase computer software and hardware
- ◆ support students through scholarships and assistantships and research exchange visits
- ◆ bring experts for lectures
- ◆ arrange technical visits to industrial sites
- ◆ purchase much needed equipment and supplies
- ◆ cover the annual, ORE Outstanding Student Award check
- ◆ and many more.....

In a State completely surrounded by the Pacific Ocean, we are an integral part of the University of Hawaii system. However, the ORE Department must try even harder than other departments in these challenging times because we are 'small'.

I urge you to pitch in and help us by supporting the ORE Department through your generous gift to the ORE Enrichment Fund today! On behalf of the Ocean and Resources Engineering Department and its students, I thank you for your interest in our department. Please feel free to contact me for additional information you may require.

Mahalo,



R. Cengiz Ertekin  
Chairman, The ORE Enrichment Fund Committee

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## Your Gift to the ORE Enrichment Fund

**THE ORE ENRICHMENT FUND**  
**(The University of Hawaii Foundation**  
**Account # 123-7310-4)**

**Yes, I'll support**

**My gift is:**

- \$1000
- \$500
- \$250
- \$100
- \$50
- \$ \_\_\_\_\_

**Please mail your check and this form to:**

ORE Enrichment Fund  
Dept. of Ocean & Resources Eng.  
2540 Dole St., Holmes Hall 402  
Honolulu, HI 96822

My check is enclosed payable to:

**The University of Hawaii Foundation**

A matching gift program is offered through my (or my spouse's) employer, \_\_\_\_\_ (form enclosed)

The gift is in memory/honor of \_\_\_\_\_

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

Please do not include my name in the ORE Enrichment Fund Donor Report



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ADDRESS CORRECTION REQUESTED



**Engineering the Oceans since  
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## Some Recent Publications (To receive copies please contact the faculty)

- ◆ Cheung, K.F., Phadke, A.C., Wei, Y., Rojas, R., Douyere, Y.J.-M., Martino, C.D., Houston, S.H., Liu, P.L.-F., Lynett, P.J., Dodd, N., Liao, S.J., and Nakazaki, E. (2003). "Modeling of storm-induced coastal flooding for emergency management," *Ocean Engineering*, **30**(11), 1353-1386.
- ◆ Ertekin, R.C. and Riggs, H.R. (2003) "Static and Dynamic Analyses of a Moored Causeway," *Proc. Int. Symp. on Ocean Space Utilization and 4<sup>th</sup> International Workshop on Very large Floating Structures*, VLFS '03, National Maritime Research Institute, Tokyo, Japan, January 28-30, 2003, pp. 101-110.
- ◆ Ertekin, R.C. and Sundararaghavan, H. (2003) "Refraction and Diffraction of Nonlinear Waves in Coastal Waters by the Level I Green-Naghdi Equations," *Proc. 22nd Int. Conf. on Offshore Mechanics and Arctic Engineering*, OMAE '03, ASME, June 8-13, Cancun, Mexico, CD-ROM, OMAE03-37323, 10pp.
- ◆ Hong, S.Y., Kim, J.W., Ertekin, R.C. and Shin, Y.S. (2003) "An Eigenfunction-expansion Method for Hydroelastic Analysis of a Floating Runway" *Proc. 13th Int. Offshore and Polar Engineering Conference*, ISOPE '03, May 25-30, Honolulu, Hawaii, CD-ROM, ISOPE03-HSC-04, 8pp.
- ◆ Kim, J.W. and Ertekin, R.C. (2002), "Hydroelasticity of an Infinitely-Long Plate in Oblique Waves: Linear Green-Naghdi Theory," *J. Engineering for the Maritime Environment, Proc. Instn. Mech. Engrs, IMechE – Part M*, November, **216**(M2), 179-197.
- ◆ Kim, J.W., Bai, K.J., Ertekin, R.C. and Webster, W.C. (2003), "A Strongly-Nonlinear Model for Water Waves in Water of Variable Depth: the Irrational Green-Naghdi Model," *J. Offshore Mechanics and Arctic Engineering*, Trans. of ASME, February, **125**(1), 25-32.
- ◆ Kim, J.W., Kyoung, J.H., Ertekin, R.C. and Bai, K.J. (2003) "Wave Diffraction of Steep Stokes waves by Bottom-Mounted Vertical Cylinders," *Proc. 22nd Int. Conf. on Offshore Mechanics and Arctic Engineering*, OMAE '03, ASME, June 8-13, Cancun, Mexico, CD-ROM, OMAE03-37293, 8pp.
- ◆ Liao, S.J. and Cheung, K.F. (2003). "Homotopy analysis of nonlinear progressive waves in deep water," *Journal of Engineering Mathematics*, **45**(2), 105-116.
- ◆ Padmanabhan, B. and Ertekin, R.C. (2003), "On the Interaction of Waves with Intake/Discharge Flows Originating from a Freely-Floating Body," *J. Offshore Mechanics and Arctic Engineering*, Trans. of ASME, February, **125**(1), 41-47.
- ◆ Pawlak, G., P. MacCready, R. McCabe (2003), "Evolution of Flow Structure in an Ocean Boundary Process", in Near Boundary Processes and Their Parameterization, Proc. 'Aha Hulikoa Winter Workshop, Eds. P. Muller and D. Henderson, SOEST.
- ◆ Phadke, A.C., Martino, C.D., Cheung, K.F., and Houston, S.H. (2003). "Modeling of tropical cyclone winds and waves for emergency management," *Ocean Engineering*, **30**(4), 553-578.
- ◆ Wei, Y., Cheung, K.F., Curtis, G.D., and McCreery, C.S. (2003). "Inverse algorithm for tsunami forecasts," *Journal of Waterway, Port, Coastal, and Ocean Engineering*, ASCE, **129**(2), 60-69.