

# HANA O KE KAI

“Work of the Ocean”

NEWSLETTER OF THE OCEAN AND RESOURCES ENGINEERING DEPARTMENT, Spring 2012, Volume 13, Issue 1

## Chair’s Message

Bruce M. Howe, Chair



**W**e all know how unforgiving the ocean can be. At the surface extreme forces, fatigue and corrosion all are important. Two articles here describe projects dealing with these challenges. Dominique Roddier (MS 1994) played a major role in designing and deploying the first large scale three-legged semisubmersible floating wind turbine, winning the Excellence in Renewable Energy Award in Innovation. Then, several students discuss the work they are doing to understand effects of storm surge and tsunamis wave forces on coastal bridges, as one step to more resilient along-shore infrastructure for Hawaii and elsewhere.

tory, the well attended Oceans11 conference in Kona, the SOEST Open House and the SNAME/ASNE/MTS chapter meeting where our students presented, with the participation of the Southwest chapter over the web.

A new item. To provide improved access to the deep sea, SOEST is acquiring a 6000-m remotely operated vehicle (ROV) from DOER Marine. This should come on-line in a year and will provide new opportunities for ORE and others in the Pacific area.

A welcome to our nine new members of the ORE Ohana. Yaprak Onat is the new Department TA, and editor of this newsletter.

Other articles describe the successful installation of the ALOHA Cabled Observa-

### Inside this issue:

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## Editor’s Corner

Yaprak Onat, TA



**E** editing the ORE newsletter, *Hana O Ke Kai*, was a big task for me because I have never experienced editing something like this before. I have to admit that it was more challenging than writing a conference paper at some points for me. Therefore, please pardon any mistakes or misunderstandings that have crept in.

The departmental newsletter is an important contribution to communication among all department members. I would like give thanks to all faculty members and students their help in preparing for this issue. Please don't hesitate to provide suggestions and comments for the next issue.

I hope you’ll enjoy Hana O Ke Kai!

## Student News

- Professor Ertekin and PhD Candidate Richard Carter received in December 2011 a patent on a novel new wave energy converter. This device converts wave energy into electrical power. The provisional patent application was made in 2008. Presently, this device is undergoing both numerical and experimental testing as part of Richard’s PhD Research. Further information on this device will be available when the testing nears completion.
- Vanna Keller finished her MS Plan B thesis and defended on December 8, 2011. Her thesis topic was “Numerical Model of a Wave Energy Conversion Device”. She has been working as a project engineer in Oceanic Imaging. Congratulations!!!
- ORE Family is gathered under the social media network LinkedIn. Please find and invite ORE faculty, alumni, student, staff and friends to UH– Dept. of Ocean and Resources Engineering group. To join the group register at [www.linkedin.com](http://www.linkedin.com) , then search the group name and click to connect.

## Students' Voice

## A Drop in the Ocean

Yaprak Onat, Teaching Assistant



**T**he most real guide for success, life, civilization and everything in the world are knowledge and science.” These words belong to the father of modern-Turkey, Mustafa Kemal Ataturk, who believed the civilization over the world is built by the young generations. We have two choices at this point. Be scattered by the wind unconsciously or taking the wind behind and directing the flow. I think we are old enough to make our choices and leave the rest to destiny. Therefore, I decided I wanted to bring order to the chaos in the environment, solve the problems that people will face and create a meritocratic society which will be inspired by my products. In order words, I decided to become an engineer.

I remembered I was watching television and zapping channels and then stop at that BBC documentary about Freak Waves. I could not imagine how water can have such dramatic impacts and mysteries until I watched that show. The control over this natural force fascinates me and led me to choose to become ocean engineer. It was one of the moments that you know that will effect the rest of your life.

I started working on marine projects at the Ocean Research Center at Middle East Technical University (METU). I am super curious about the ocean. The more I learn, the more I feel a greater hunger to reveal the unknown dynamics of the sea to provide answers to water-related problems society will face. Thus, I applied to several colleges in the US in order to broaden my knowledge while striving toward my vision. I

remember the time Prof. Ertekin called me, I was in shock running in the house. I have never imagined that I would be in Hawai'i. That excitement gave me a strong force to complete my master thesis, in a short period of time. My master of science thesis from METU is “Database development for Tsunami Warning System in Mediterranean Basin by Tsunami Modeling” and I am now continuing my education for a PhD.; I am learning different perspectives of ocean engineering.

Of course my friends and professors had a hard time to accept that I would go to “the Paradise Island” to study. I would like to say hi to my friends in other fields, who were joking about becoming an ocean engineer, what can we do, if our field trips and conferences are always near the beautiful beaches? Hawai'i is completely different from what I was used to. The mountains and its colorful environment are fascinating. It is like a beautiful painting that I'm watching during hikes and walks. It is really hard to believe that you are living near the ocean. I think I will never tire of watching this beautiful view and walking on the beach. The warm weather and rainbow that I see everyday is another reason for joy.

The other side of the medallion is a different story. I knew that I would have start from near the beginning, when I decided to study abroad. I had to leave my mother, family, closest friends, colleagues, social status, job, language, house, even my stuffed animals on my bed. It is always easy to tell transition stories, but you can emphasize with the author's feelings and condition. I followed the famous

philosopher Mewlana Jalaleddin Rumi's advice “Never feel deep sorrow when your world becomes upside down, how do you know the down will not be better over?” Indeed, I settled down, became used to living alone, managing time difference for skype talks, became a student again, met new people, learned new culture, got used to my new job, and even started to talk little bit of Pidgin language. In a very short time that I haven't noticed, I have embraced my Ohana and live happily ever after. I have to admit that I missed Hawai'i and my Ohana during the winter break. Now I have two different wonderful lives that I can easily call and feel like home.

In conclusion, all of this story is for my attempt to build success and contribute to spreading civilization to young generations over the world in the future. All of us have different stories. At the end, while each of our contributions to solving the mysteries we encounter is as a drop in the ocean, together the drops add up to a full understanding and creates oceans.



## Publications & Events

### Some Recent ORE Publications

- Canals, M., and **G. Pawlak** (2011). "Three-dimensional vortex dynamics in oscillatory flow separation." *Journal of Fluid Mechanics*, Doi:10.1017/S0022112011000012.
- Fedenczuk T, **Nosal E-M** (2011). "Hawaii experimental acoustics range (HEAR) for shallow water applications." *Journal of the Marine Technology Society* 45(3), 69-76.
- Hayatdavoodi, M. (2011), "Laminar flow around sharp and curved objects : The Lattice Boltzmann Method," *Journal of Engineering for the Maritime Environment*, Vol. 225, pp. 361-374.
- Jaramillo, S. and **Pawlak, G.** (2011). "AUV-based bed-roughness mapping over a tropical reef." *Coral Reefs* Doi:10.1007/s00338-011-0731-9.
- Nihous, G.C. and M. Gauthier: Chapter 12: Ocean Thermal Energy Conversion: a historical perspective; in "Marine Renewable Energy Handbook," B. Multon ed., ISTE, John Wiley & Sons, ISBN: 9781848213326, 367-401, 2011.
- Nihous, G.C. and M. Gauthier: Chapter 2: Énergie thermique des mers : une perspective historique in "Énergie thermique, houlogénération et technologies de conversion et de transport des énergies marines renouvelables," B. Multon ed., Séries EGEM, Hermès-Science/Lavoisier Pub., ISBN 10: 2746238039, 71-109, 2011 (in French).
- Nihous, G.C., "Assessment of the evolution of water-column stratification following the hypothetical implementation of widespread controlled upwelling in the North Pacific Subtropical Gyre," *Journal of Marine Environmental Engineering*, 9(3), 175-189, 2011.
- Sanmiguel-Rojas, E., Jimenez-Gonzalez, J.,I., Bohorquez, P., **Pawlak, G.**, and Martinez-Bazan, C., (2011). "Stability effects of base cavities on the wake of slender blunt-based axisymmetric bodies." *Physics of Fluids*, Doi:10.1063/1.3658774, 23:11.
- Tomlinson, M. S., De Carlo, E.H., McManus, M.A., **Pawlak, G.**, Steward, G.F., Sansone, F.J., Nigro, O.D., Ostrander, C.E., Timmerman, R.E., Patterson, J., Jaramillo, S., (June 2011). Monitoring the Effects of Storms on Coastal Water Quality with the Hawai'i Ocean Observing System (HiOOS). *Oceanography*.

### Upcoming Meetings and Conferences

- PIANC-COPEDEC VIII. 8th International Conference on Coastal and Port Engineering in Developing Countries**, Chennai, India, Feb 20-24,2012 <http://www.pianc-copedec2012.in/>
- Ocean Sciences 2012** , Utah, Usa, Feb 20-24,2012 <http://www.sgmeet.com/osm2012/>
- 6th World Water Forum**, Marseille, France, March 13-17, 2012 [www.worldwaterforum6.org/](http://www.worldwaterforum6.org/)
- Interspill 2012: Conference and Offshore Seminar** , London, UK, March 13-15, 2012, [www.interspill2012.com/](http://www.interspill2012.com/)
- Oceanology International 2012**, London, UK, March 13-15, 2012, [www.reedexpo.com/en/Our-Events/](http://www.reedexpo.com/en/Our-Events/)
- OMC 2012: 10th Offshore Mediterranean Conference**, Ravenna, Italy, March 23-25, 2012, [www.omc.it/2012](http://www.omc.it/2012)
- Acoustics2012HK**, Acoustical Society of America, Hong Kong, 13-19 May 2012, <http://acoustics2012hk.org/>
- ICACE 2012 : International Conference on Advances in Coastal Engineering**, Venice, Italy, April 13-15,2012 <http://www.waset.org/conferences/2012/italy/icace/>
- Ocean Sensing and Monitoring IV**, Baltimore, Maryland, USA, April 23-27, 2012, <http://www.spie.org/oceans/>
- Offshore Technology Conference (OTC) 2012**, Houston, Texas, USA, April 30 - May 3, 2012, <http://www.otcnet.org/2012/>
- International Conference on the Environmental Interactions of Marine Renewable Energy Technologies**, Kirkwall, Scotland, UK, May 1-3, 2012, <http://www.eimr.org>
- International Exposition 2012**, Yeosu, Korea, May12-Augoust 12, 2012, <http://eng.expo2012.kr/main.html>
- 4th World Maritime Technology Conference (WMTc 2012)** , Lenexpo, Saint Petersburg, Russia, May 29– June 1, 2012, <http://www.wmtc2012.org/en/Conference>
- ICCE 2012 International Conference on Coastal Engineering**, Santander, Spain June 1-6, 2012' <http://www.icce2012.com/index.html>
- 11th International Marine Design Conference**, Glasgow, UK, June 11-14, 2012, <http://imdc2012.org.uk/>

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## Publications & Events

### Upcoming Meetings and Conferences Continued...

- The 22nd International Offshore (Ocean) and Polar Engineering Conference (ISOPE)**, Rhodes, Greece, June 17–22, 2012, <http://www.isopec.org>
- OMAE 2012 31st International Conference on Ocean, Offshore and Arctic Engineering**, Rio de Janeiro, Brazil, July 1-6, 2012, <http://www.asmeconferences.org/OMAE2012/>
- 4th International Conference on the Application of Physical Modeling to Port and Coastal Protection**, Ghent, Belgium, September 17-20, 2012, Deadline for abstract: March 1, 2012, <http://www.coastlab12.com/>
- Ninth International Training Workshop on Integrated Coastal Management in the Mediterranean and the Black Sea**, Dalyan-Aegean Coast-Dalyan, Turkey, September 25– October 11, 2012, <http://www.emwis.org/thematicdirs/events/2012/09/ninth-international-training-workshop-integrated-coastal-management>
- 4th International Conference on Estuaries and Coasts (ICEC)**, Hanoi Vietnam, October 8-11, 2012, <http://iccec2012.wru.edu.vn/>
- International Conferences on Marine Technology (MARTEC)**, Kuala Terengganu, Terengganu, Malaysia, October 20-22, 2012, Deadline for abstracts: May 28, 2012, <http://martec.umt.edu.my/>

## Alumni News

**D**ominique Roddier's design of a three-legged semisubmersible floating wind turbine, a first by a US company, won the Excellence in Renewable Energy Award in Innovation. Dominique is a former MS student (1994) of our department who went on to Berkeley for his Ph.D. and received it in 2000 working with Prof. Yeung.

Seattle-based Principle Power, Inc. (PPI) and their company, Marine Innovation and Technology, developed a prototype for the Portuguese power company Energias de Portugal. According to the companies, this, 2 MW WindFloat off the coast of Aguçadoura, Portugal, is the first offshore wind turbine in open Atlantic waters and the first deployment of a semi-submersible structure supporting a multi-megawatt wind turbine. The turbine system was built and launched off the coast of Portugal last summer. It has been operational since last Fall. The WindFloat design became the winner of the Renewable Energy World.com's Excellence in Renewable Energy Award in Innovation.

Thirty wind turbines are needed to generate electricity in an offshore wind farm. Each turbine will be integrated into a highly advanced floating platform and tethered by thick chains to the sea floor. Electricity will flow through a large diameter submarine cable to shore. At 200 megawatts, that floating farm of clean energy will power more than 60,000 homes.

Offshore wind farms needed sea legs. But no one knew how



**Christian Cermelli (left) and Dominique Roddier developed a technology known as WindFloat.**

to float the platforms way out at sea and keep the 300-foot wind turbines steady and upright in the roll of deep ocean water and storms. That is, until Roddier and Cermelli came along. Their WindFloat design employs 80-foot-wide horizontal plates which, when submerged at the base of the structure, counteract the ocean's forces, minimizing the vertical and angular platform motion. WindFloat also features an active ballast system and triangular design to help the structure maintain stability. The platform can easily be assembled onshore and towed out to sea, the pair say,

*Reference: Text taken from Prof. Ertekin's email (02/22/2012) and <http://innovations.coe.berkeley.edu/vol3-issue9-nov09/windfloat>*

## Inside ORE

# The ALOHA Cabled Observatory (ACO) Project Installed and Working

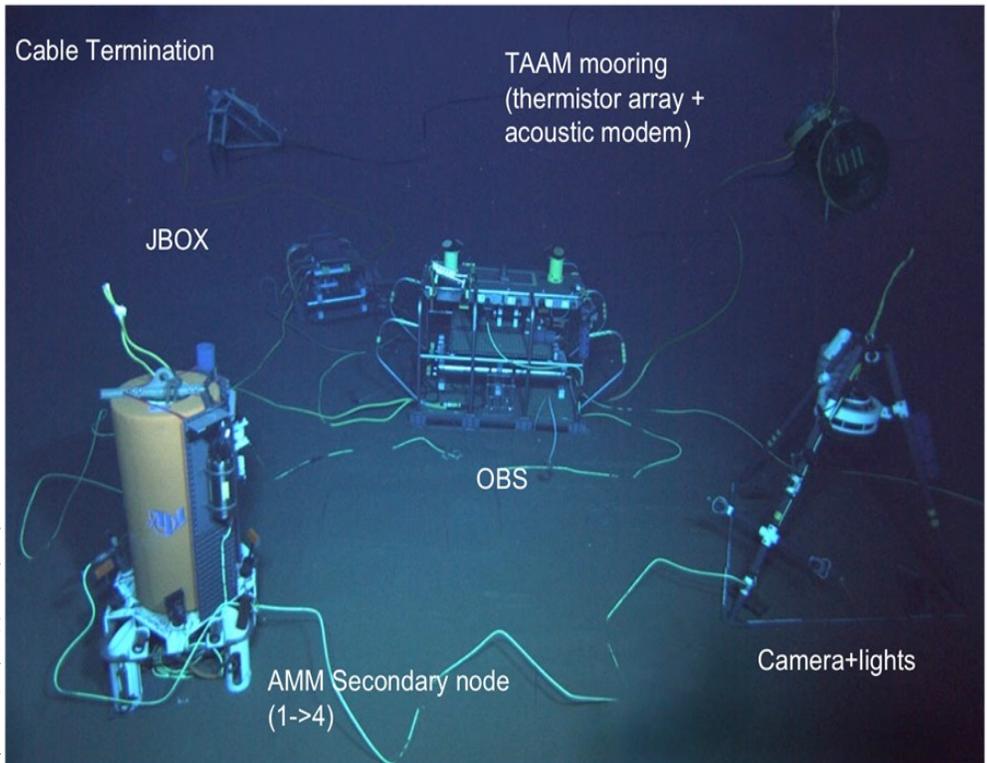
Bruce Howe, PI



Continuing the report from the last newsletter, the ALOHA Cabled Observatory (ACO) installation was successfully completed 6 June 2011, after nearly 10 years of effort. It provides a total of ~1000 W power, 100 Mbit/s communications, and sub-microsecond timing to eight user ports. The system is robust and continues to function, now eight months after deployment. At 4728 m water depth, it is the deepest operating cabled ocean observatory.

The installation cruise was long and arduous. Unexpected problems with the configuration of the sea cable repeaters stumped us for a while; it was literally just hours before we had to leave station that we got the system working. In recognition of the contributions of the captain and crew of the R/V *Kilo Moana* and the ROV *Jason* team a plaque is now on display on the *Kilo Moana*.

The comprehensive ACO web page is set up to display/provide much of the sensor data, as well as information about the infrastructure, within the context of all the activities at Station ALOHA (<http://>



The figure shows the layout of the system on the bottom (the foreground is to scale; the cable termination frame and TAAM mooring anchor in the background are farther away).

[aloha.manoa.hawaii.edu](http://aloha.manoa.hawaii.edu)).

We are looking forward to continued operation of the system (including repair of some failed sensors), and attracting other users (including stu-

dents) with diverse projects involving technologies such as moorings with moving profilers, autonomous under-sea vehicles with docking stations, and acoustic communications.

## ORE Family

MS Student Ryan Braman and his wife Kyleanne had their second child Aliana Pu`ilimekehaulani Braman during last semester Sep 11, 2011.

MS Student John Casilio and his wife Sarah Foster had their first child Evelyn Casilio on February 18, 2012.

**Welcome to the world, babies, hope to see you in ORE too ...**

## OCEANS'11 Conference

John Wiltshire



In September 2011, two of the world's largest ocean engineering professional societies jointly held their annual meeting in Hawai'i. This last happened in 2001. The Oceanic Engineering Society (OES) of IEEE and the Marine Technology Society (MTS) held Oceans 2011 at the Hilton Waikoloa Village Resort in Kona. The meeting was attended by 1500 participants and had 100 exhibits. It was an outstanding success. Oceans '11 received a record 750 abstracts. Papers were presented in 12 parallel sessions over 3 days. For Oceans, Kona was an exceptional place to have a conference. MTS and OES were fortunate in that the Hilton Waikoloa Village Resort was anxious to encourage technical conferences related to the ocean and was willing to offer massively discounted rates for a billion dollar resort – one of the top twenty in the world. The Hilton Waikoloa is about a 20 minute drive north along the west coast of the Island of Hawaii from the Kona International Airport. The hotel is a self contained resort with its own large convention center and adjacent shopping complex. The hotel complex has 1240 rooms, all of which the conference filled.

The conference focused on ocean observation and the changes global warming is bringing to the ocean. It considered the declining world oil supply, offshore disasters such the 'Deepwater Horizon' fire and new technologies the ocean offers in terms of renewable energy options such as wind, wave, tidal current and OTEC. It looked at the rise of China and the huge demand for new sources of food and minerals from the oceans and the technologies coming on line to at least provide for some of this demand. It looked at the risk of tsunamis and the devastation caused by the 2011 Japanese tsunami and its implications. The conference highlighted new sensor, AUV and ROV technologies. With over 100 sessions, the ground covered was broad under the general theme of 'Oceans of Opportunity and Partnerships across the Pacific'.

Among exceptional features of the hotel was the lagoon. The general chair of the meeting, Dr. John Wiltshire of ORE, selected the Hilton in significant part because the hotel is built around a lagoon with an ocean entrance. This lagoon was used in demonstrating ROV's and another sensors. The ability to demonstrate equipment and new sensors directly

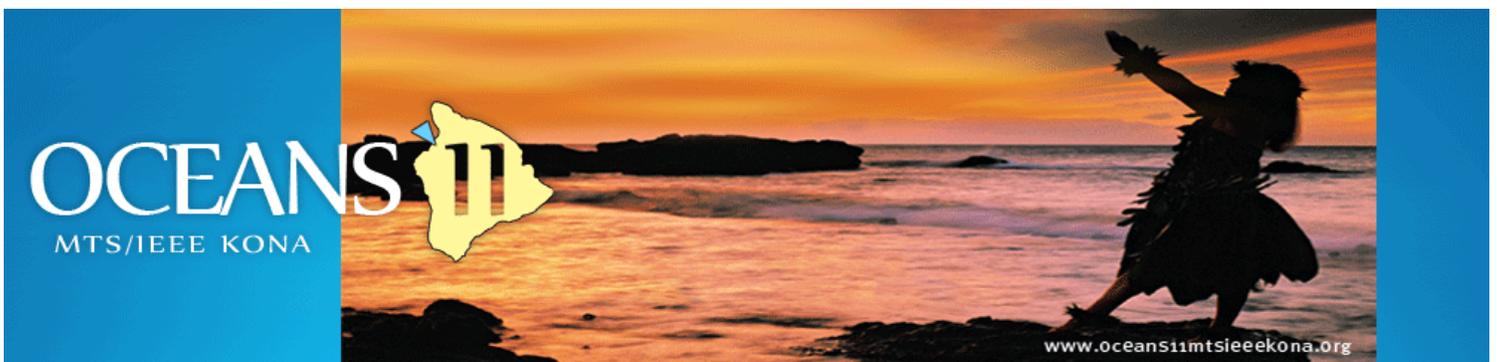
on site in the ocean was an inspiration for many exhibitors.

Dr. Eva Nosal coordinated the conference tutorials. This very important part of the conference, consisted of a series of well attended mini classes of half a day or a full day where experts cover the important topical ocean engineering material in considerable detail.

The conference gala event was the luau. This was a showcase of Hawaiian culture and cuisine. The beating Polynesian drums and the flowing hula skirts set an evening of color and pageantry. Over 1000 people gathered on the hotel lawn to feast on local Hawaiian delicacies while enjoying this masterfully staged cultural event.

The conference was also notable for the tours particularly to the Natural Energy Laboratory of Hawaii (NELHA). NELHA is a 600 acre facility with 43 companies largely involved in Oceans Industries. It is the center of marine activity on the Kona coast which is Hawaii's second area of marine concentration.

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## ORE News

### Oceans'11 Conference ...

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For Oceans conferences, students are always of particular importance. MTS provides a wealth of student scholarships and student leadership programs. Many ORE students took advantage of the free student registration for the conference and ability to interact with leading ocean engineering providers. Lauren Tuthill was a member of the Oceans conference organizing committee and masterfully developed the website along with Dr. Brian Bingham, ORE cooperating faculty member.

In the modern world, conferences have taken on a new importance. Many people now work remotely and with groups from all over the world. The best chance to meet with many people from these groups is at international conferences. It is also the best chance for many small businesses to meet new customers especially customers from foreign countries. The Oceans conference will again come back to Hawaii in 2021.

## SOEST Open House 2011

**S**oest is home to the academic departments Oceanography, Geology and Geophysics, Meteorology, and Ocean and Resources Engineering, as well as several related research institutes. SOEST's graduate programs in these sciences are highly ranked nationally and SOEST brings in close to \$70 million dollars in research funding per year.

This year the 11th biennial open house invited students and their families to learn about the coastal environment and marine ecosystems via visual and audio media as well

as interactive demonstrations during October 21-22, 2011.

In the environmental fluid dynamics laboratory, salt fingers, estuarine circulation and hydraulic exchange, the effects of tides on internal hydraulics and mixing, the Bernoulli effect, boundary mixing illustrations, water wave propagation and inundation were all demonstrated to kids and adults. This event not only strengthen the communication between real scientists and young students but also help them to understand what is going on in mother nature.

For more information,  
[www.soest.hawaii.edu/openhouse/](http://www.soest.hawaii.edu/openhouse/)



ORE students demonstrate the experiments.

## ORE News

# UH and Southwest section of SNAME hold 2<sup>nd</sup> Annual Virtual Meeting

John Casilio



**O**n the 6th of December, a joint meeting of the UH Student Section and the Southwest Section of the SNAME/ASNE/MTS took place. It was unusual in that the UH portion physically took place at a restaurant as part of the normal quarterly meeting of the local chapter of SNAME.

The meeting featured a technical presentation by the University of Hawaii students detailing the "Vulnerability of Hawaiian Coastal Bridges to Tsunami and Storm Wave Loads." This highly technical and relevant presentation was well received by the 30 members in attendance in Honolulu and the vir-

tual audience in San Diego. Both geographical locations were able to give some opening comments and closing questions to the presenters – making the virtual meeting as engaging as any section meeting!

John Malone, a Southwest Section attendee in San Diego thought, "the presenters did an excellent job -- the technical content was very good, as was the organization and presentation of the material." The University of Hawaii Students detailed an analytical, numerical model, and finite element, analysis of several characteristic bridges along the Hawaiian Island of Oahu's coastline, for various expected storm and tsunami wave loads. The research presented was a culmination of efforts

by Civil Engineering Graduate Student Daniel Lum, and Ocean and Resources Engineering doctorate students Masoud Hayatdavoodi and Betsy Seiffert, and is part of an ongoing study at the University of Hawaii, in cooperation with the Hawaii Department of Transportation.

The geographic expanse of the Southwest Section (Las Vegas to Hawaii, from north of Los Angeles to the Mexican border) makes it infeasible to have all members meet face-to-face, but the section had used the virtual meetings successfully last year. While there was some minor, sporadic technical difficulties the 2<sup>nd</sup> annual meeting was most certainly another successful implementation of a virtual section meeting.

A second technical presentation is scheduled to be offered by the southwest section, this time broadcast from San Diego and received in Hawaii, and Northern California. "Having the digitally broadcast presentation allows for an extreme amount of flexibility and is perhaps the only way these phenomenal student research presentations could reach across the distance and time-zones of the entire section", noted John Casilio, UH Student Section Chair.

Any UH student looking for more information on joining the SNAME Student section can contact John Casilio at [jcasilio@hawaii.edu](mailto:jcasilio@hawaii.edu).

The abstract of the research presented is given on the following article.

Continued on page 9



**Professor R. Cengiz Ertekin, University of Hawaii Student Section Faculty Advisor, presents a certificate of appreciation to the student presenters Betsy Seiffert, Daniel Lum and Masoud Hayatdavoodi for their excellent presentation to over 60 SNAME, ASNE, and MTS members in attendance**

## ORE News

## Vulnerability of Hawaiian Coastal Bridges to Tsunami and Storm Waves



Daniel Lum, Betsy Seiffert, Masoud Hayatdavoodi

**C**oastal communities such as those located in the Hawaiian Islands are particularly vulnerable to both storm surge and tsunami events.

This increases the likelihood of a larger number of waves and waves with greater amplitude impinging on coastal structures which are normally located above the wave crest. Coastal bridges, typically not designed for such severe loads, may partially or completely collapse as witnessed during Hurricanes Ivan (2004) and Katrina (2005), and Indian Ocean (2004) and the Tohoku (2011) tsunamis. Failure of coastal bridges is not only financially costly, but can dramatically delay emer-

gency services to victims where connecting roads are limited, such as on the Hawaiian Islands.

In this project, all the Hawaiian coastal bridges are considered for initial studies. A survey is conducted for those with higher importance and in more danger of experiencing severe wave loads. The structural analysis of the bridges involves computing the buoyant force acting on each bridge during submergence, the lateral and vertical connection capacities, and the negative bending strength of the bridges' decks and girders.

Tsunami and storm wave-induced loads are estimated with three different approaches. As an initial gauge

of vulnerability, the structural capacities are compared to wave forces calculated by use of three established empirical, wave estimation methods. In addition, a nonlinear, shallow-water wave theory, namely the Green-Naghdi theory of water waves, is applied to estimate the wave-induced loads. Finally, the problem is studied by use of a computational fluid dynamics software package, called OpenFOAM. The present results are preliminary, however, the numerical models will be verified by making comparisons with available laboratory experiments, as well as other theoretical predictions, and they will be compared with each other. Once the models are fully developed, vulnerability of the coastal bridges during

## ORE Sports

Charlie Field, Student Representative



- The ORE Ballerz had another exciting, but challenging, season of Intramural Football last Fall. Because of a low turn-out, we usually played without subs and oftentimes a man down. This led to some devastating defeats as we hobbled into the playoffs with 1 win and 3 losses. Playing through pain and minor injuries, the Ballerz held off the surging Blasts in a Glass for a 13-6 first-round victory. The second round was not as fruitful, however, as we were easily beaten by the heavily-favored Free Agentz. Overall, it was once again a great experience to play some IM sports. They are a great chance to hang out with others from the department and enjoy some friendly competition. The ORE Ballerz plan to again be out in full force this Spring for an thrilling season of IM soft-ball.



Team Rotto Konotto

- Rotto Konotto having so much fun and representing ORE spirit on soccer fields. The team will continue their matches during the spring semester too.

## New in ORE

**O**RE Family is expanding. Seven members at fall 2011 and two fellows at spring 2012 semester joined to our family. To get to know them better, we've asked them a couple of questions. They are ordered according to their last names.

### Questions:

#### Name

1. When did you enroll?
2. Level of study
3. Your academic background
4. Your research topic in the department
5. Your advisor
6. Where is your office?
7. Personal interests

### John Casilio

1. Fall 2011
2. MS
3. US Naval Academy 2006 - BS in Aeronautical Engineering
4. ROV integration
5. Dr. Greeson
6. Post 132
7. Skydiving, SCUBA diving, SNAME, Homebrewing Beer and one day starting a craft brewery



### Michael Frederick

1. Fall 2011
2. MS
3. UC San Diego - BS. in Mechanical Engineering
4. Ocean Energy
5. Assoc. Prof. Nihous
6. Post 132
7. Surfing, Hiking, Hockey



### Dustin Gaessner

1. Fall 2011
2. MS
3. UC San Diego - B.S. in Mechanical Engineering
4. ROVs, AUVs, submersibles, and ocean energy
5. Dr. Greeson
6. Post 132
7. Anything outdoors and ocean related -- surfing, paddleboarding, and kayaking!



### Jerica Nolte

1. Fall 2011
2. MS
3. Florida Atlantic University - BS in Ocean Engineering
4. I am researching and testing a free floating wave energy buoy and sea anchor to determine their combined hydrodynamic characteristics. Also I will correlate the power output of the system to the wave climate.
5. Prof. Ertekin
6. Holmes 407
7. Hiking, Running, and Volleyball



## New in ORE

**New in ORE ... Continued from page 11.**

### Yaprak Onat

1. Fall 2011
2. PhD.
3. Middle East Technical University - BS and Msc. in Civil Engineering
4. Ocean Energy and Tsunami
5. Prof. Ertekin
6. Holmes 407
7. Ocean, dancing, music



### Brendan Rideout

1. Spring 2012
2. PhD.
3. University of Victoria - MSc in Earth and Ocean Science, 2011  
University of Waterloo - BAsC in Mechatronics Engineering, 2008
4. Marine mammal call detection, classification, and localization
5. Assist. Prof. Nosal
6. Holmes 408
7. Playing Celtic fiddle music, reading, cycling, computer games



### Charla Schreiber

1. Spring 2012
2. PhD.
3. Naval Postgraduate School - MS Mechanical Engineering,  
US Naval Academy - BS in Ocean Engineering,
4. Ocean Energy
5. Assoc. Prof. Nihous
7. Canoe Paddling/ Kayaking



### Andrew Schwartz

1. Fall 2011.
2. MS
3. U. C. Santa Cruz, 2005 - BS in Applied Physics
4. Renewable Energy - modeling OTEC hydrodynamics
5. Prof. Ertekin
6. Holmes 407
7. I am passionate about the ocean and our planet. I believe increasing the production of renewable energy is a good way to care for both



### William Templeton

1. Fall 2011
2. MS
3. Portland State University- BS in Civil Engineering
4. Tsunami inundation modeling
5. Prof. Cheung
6. Holmes 408
7. I like to run, trail race, ride bikes around town, and tinker around with electronic music production.



# Final Page

## 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:**

- \$10,000    \$5,000    \$3,000
- \$1,000    \$500    \$300
- \$100    \$50    \$\_\_\_\_\_

My check is enclosed payable to:

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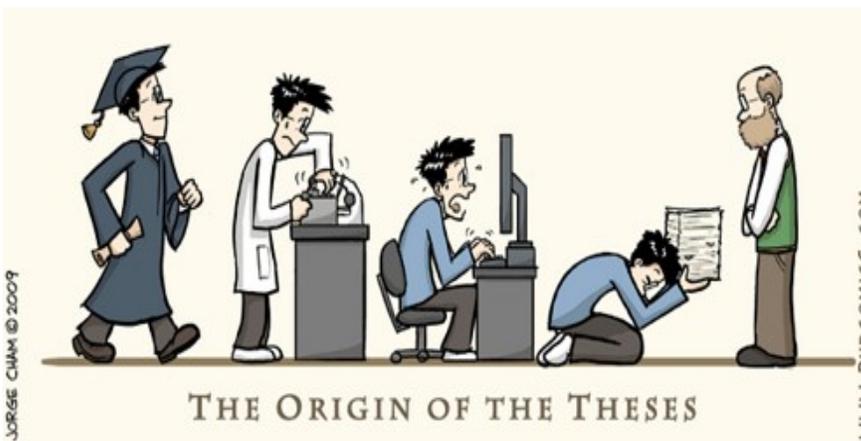
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*Calm seas  
only live in dreams,  
The sea is never  
what it seems  
Mikel Potts*



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Newsletter of the  
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