



# HMSC Currents

Summer 2009

Newsletter of the Hatfield Marine Science Center Community - Newport OR

## Summer comes alive with interns at HMSC

More reliable than the weather, the influx of interns at HMSC is a sure sign that summer has arrived in Newport. There are at least 23 undergraduate students with internships at Hatfield this summer, including six OSU students (three in the Visitor Center, two COSEE Pacific Partnership interns, and one through the PROMISE program), plus another 16 students from all over the country who made their way here to get some hands-on research experience.

This summer marks our sixth year of hosting OSU's Research Experience for Undergraduates (REU) program focused on marine science. Funded by the National Science Foundation, the joint program between HMSC and the College of Oceanic and Atmospheric Sciences (COAS) pairs students with faculty mentors (half in Newport and the other half in Corvallis) to work on research projects over a 10-week period.

"We had an overwhelming number of applicants for this year's REU program -- over 225 applications," said HMSC's Academic Program Coordinator Itchung Cheung, noting that represented an increase of 35% over 2008.

### Oregon State OSU Hatfield Marine Science Center Summer Interns 2009

**COAS Research Experience for Undergraduates**

- Amanda Stewart, Univ. of Oregon
- Ashley Van Brink, Elmira College
- Camilo Vanegas, Univ. of Maryland
- Emily Whitney, Whitworth Univ.
- Jasmin Segura, Humboldt State
- Kate Lavelle, SUNY Stony Brook
- Kendra Hoekzema, Calvin College
- Kevin Wakeman, Humboldt State
- Maryann Tekverk, Haverford College
- Natalie Ehrlich, Portland C.C.
- Patrick Donovan, Western Michigan U.
- Sarah Dewey, Yale Univ.
- Jenny Green, Oregon State Univ.

**COSEE Pacific Partnership**

- Melissa Blamires, Oregon State Univ.
- Sea-oh McCorville, Oregon State Univ.

**PROMISE**

- Erin Cathcart, Oregon State Univ.
- Katie Borgen, Oregon State Univ.
- Zach Kelleher, Oregon State Univ.

**NOAA**

- Cody Doolan, Dartmouth College (Reimers Lab)
- Shannon Hankin, North Central College (in EPA lab)
- Matthew McCary, North Central College (in EPA lab)

**Visiting Summer Undergraduate Researchers**

- Alexis Hoffman, Washington Univ. (MO)
- AnnaRose Adams, Oregon State Univ.
- Brandon Reich, Kutztown Univ.
- Emily Batt, Northeastern U.
- Erica Pitcavage, Whitman College
- Hillary Browning, Eckerd College
- Joni Lum, CUNY - Hunter College
- Maryann Tekverk, Haverford College
- Natalie Ehrlich, Portland C.C.
- Patrick Donovan, Western Michigan U.
- Sarah Dewey, Yale Univ.
- Jenny Green, Oregon State Univ.

In addition to the REU interns, there are three students working for NOAA through the Ernest Hollings Scholarship program, and at least three others who arranged independent *continued on pg. 2*

## Newport selected for NOAA's Pacific fleet operations center

News of NOAA's decision to move its Marine Operations Center - Pacific to Newport spread quickly after the agency's announcement was released on August 4th, generating a wave of excitement throughout the community.

Worries that Washington state elected officials might be able to halt the move were laid to rest within a week, once the lease was officially signed by Port of Newport and NOAA officials. The lease is set to begin in July 2011.

The move is expected bring to Newport approximately 175 NOAA employees, in- *continued on pg. 10*

## Community forums on wave energy Aug. 24, 25, 26

The HMSC will host a public forum on wave energy on Aug. 26, starting at 6 p.m. in the Hennings Auditorium of the Visitor Center. Sponsored by the Lincoln County Board of Commissioners, in conjunction with OSU Extension Sea Grant and the Northwest National Marine Renewable Energy Center, *continued on pg. 2*

## Hatfield team participates in American Cancer Society fundraiser

This year's Lincoln County Relay for Life event, held on July 31-August 1 at the Newport High School stadium, included a lively team from HMSC. Led once again by Nikki Atkins of NOAA's Northwest Fisheries Science Center, the HMSC team raised \$1,436 in the fight against cancer. Other team members sharing the responsibility of raising money and keeping a body walking or running the track for the entire 18-hour event were: Andrew Claxton, Amanda Claxton, Leah Feinberg, Jay Peterson, MaryBeth Rew, Rebecca Baldwin, Alana Alexander, Lynn Mattes, and Justin Atkins. Nikki walked 5 hours and estimates that she covered 12.25 miles.



Nikki Atkins and MaryBeth Rew help keep the Newport High School track warm during the 2009 Relay for Life

Fundraising (and fun-raising) started in July, with a weekly soup kitchen netting \$470 from the sale of home-made soups and baked goods brought in by volunteer chefs at HMSC. Nikki also came up with a creative competition for collecting spare change in each building, raising another \$280 and earning the folks in the ODFW building some tasty cheesecake, pie, and cookies for contributing the largest amount.

Congratulations to top team fundraiser Leah Feinberg, who raised \$400 in individual donations, with Jay Peterson bringing in another \$150. All of the money generated by the HMSC team went towards the grand total of \$89,800 (as of this writing) raised by the Newport Relay for Life event. Thank you to all who participated and contributed to this worthy event.

## Interns *continued from pg. 1*

internships with individual researchers.

Since their arrival in June, the student interns have been made a part of the research and education community at HMSC, attending the Markham Marine Science Research Symposium and weekly seminars, participating in SeaFest, and taking part in other activities throughout their 10-week stay. They also attended Da Vinci Days and toured the H.S. Hinsdale Wave Research Lab in Corvallis, and have taken overnight camping field trips to Crater Lake, Bend, and the H.J. Andrews Experimental Forest.

The REU interns will present the results of their summer research projects at a symposium on August 20th, from 8:30 a.m. to noon. The symposium will take place in the Hennings Auditorium of the HMSC Visitor Center.



REU intern Kate Lavelle shows fellow interns how fish behavior experiments are set up in the NOAA Alaska Fisheries Science Center lab where she is working under the guidance of faculty mentor Tom Hurst.

## Wave energy forums

*continued from pg. 1*

the forum is one of three being held around the County at the end of August for the purposes of informing, listening to and engaging citizens in the planning and development of wave energy generation.

The format will include brief presentations followed by facilitated conversations and other ways for people to provide input on:

- Permitting activities in Lincoln County and proposed projects along the Oregon Coast;
  - State and National activities relating to wave energy siting;
  - Northwest National Marine Renewable Energy Center Environmental Studies;
  - Future steps and communication in regards to this topic
- The other community forums will be held in Yachats on Aug. 24 and in Lincoln City on Aug. 25. All forums begin at 6 p.m.

For more information, please contact Kaety Hildenbrand at 541-574-6537 ext. 27

## 2009 HMSC REU Summer Intern Marine Research Symposium

Thursday, August 20th 9:00am – 12:30 pm

Hennings Auditorium in the HMSC Visitor Center

9:00 a.m. Welcome

9:15 Kate Lavelle, SUNY Stony Brook (Mentor: Tom Hurst)

Title: Thermal Tolerance and the Effect of Temperature on Morphological Plasticity of Pacific Cod

9:30 Camilo Vanegas, Univ. of Maryland, College Park (Mentors: Michael Banks & Ric Brodeur)

Title: Genetic Identification of Larval/Juvenile Sebastes Samples for Stock Assessment

9:45 Amanda Stewart, University of Oregon (Mentor: Rob Suryan)

Title: Factors Affecting Intra-Colony Variation in Reproduction of Common Murres, *Uria aalge*

10:00 Kevin Wakeman, Humboldt State University (Mentors: Ted DeWitt & Dave Young)

Title: Upper Intertidal Habitat Use by Juvenile Dungeness Crabs (*Cancer magister*) in Yaquina Estuary

10:15 Roin Van Dyke, College of the Atlantic (Mentor: Kym Jacobson)

Title: Parasites of Introduced Eastern Banded Killifish, *Fundulus diaphanus diaphanus*, and Native Threespine Stickleback, *Gasterosteus aculeatus*, in the Columbia River

10:30 Break in Staff Lounge

11:00 Jasmin Segura, Humboldt State University (Mentors: Linda O'Higgins and Bill Peterson)

Title: Temporal and Spatial Variations in Species Composition and Toxicity of *Pseudo-nitzschia* Blooms off the Central Oregon Coast

11:15 Ashley Van Brink, Elmira College (Mentors: Mary Arkoosh and Deborah Boylen)

Title: Determining Phagocytic Activity in Chinook Salmon (*Oncorhynchus tshawytscha*): Effects of the Persistent Organic Pollutant Polybrominated Diphenyl Ether (PBDE) on Phagocytic Function

11:30 Xerónimo Castañeda, CSU Monterey Bay (Mentors: Brett Dumbauld & John Chapman)

Title: Use of Lipofuscin to Determine Age Structure of Threatened Mud Shrimp, *Upogebia pugettensis*, in Yaquina Bay, Oregon

11:45 Emily Whitney, Whitworth University (Mentor: Bryan Black)

Title: Sea Surface Temperature Variability in the Northeast Pacific

12:00 pm Kendra Hoekzema, Calvin College (Mentor: Scott Baker)

Title: Mitochondrial DNA Identity of Stranded New Zealand Sperm Whales in Relationship to Global Diversity

12:15 Closing Remarks

## Workshops offered on topic of Marine Protected Areas

Student examining public understanding of marine resource management issues

On July 29th Oregon Sea Grant and Oregon State University hosted a workshop about Oregon's marine protected areas and marine reserves. Volunteers and educators from Hatfield Marine Science Center, Oregon Coast Aquarium, the Depoe Bay Whale Center, Oregon Coast Community College, Audubon Society, Our Ocean, and Lincoln Soil and Water Conservation District attended the two-hour workshop led by Selina Heppell, associate professor in Fisheries and Wildlife at OSU.

Topics covered included major goals for marine reserves (MR) and marine protected areas (MPA), general issues of MPAs and MRs, the role of science in MPAs and MRs, the MPA and MR process in Oregon, and the OPAC process.



OSU Fisheries and Wildlife Professor Selina Heppell explains some of the scientific questions that researchers are interested in studying as Oregon begins to implement a limited system of marine reserves in nearshore waters.

The workshop was designed and delivered as part of a Master's project of OSU student Michelle Mileham. Michelle plans on offering one or two more workshops focusing on Oregon's MPAs and MRs in upcoming months. For more information and to reserve a spot, please contact Michelle at [milehamm@onid.orst.edu](mailto:milehamm@onid.orst.edu).

**HMSC Currents**

# Academic Programs News

## CERM course welcomes project ideas and advisors to work with students

OSU Fisheries and Wildlife Professor Chris Langdon is coordinating the fall term course on Coastal Ecology and Resource Management (CERM) that runs from Sept 28 to Dec 9 at the HMSC. Part of CERM's course

work consists of groups of students working on projects with advisors. Ideally, projects are short and concise so that students can complete data collection in 4 to 6 weeks, working about 6 hours per week. The CERM TA and Instructor assist the advisor and help students in data analyses and preparation of end-of-term posters.

Last year, six groups of students worked on a range of topics including

social behavior of rockfish, evaluation of location detectors for fish, economic analysis of development on Newport's bayfront, distribution of freshwater mussels, and effects of light on crab behavior. Posters presented at the end of term were well received by all.

Please contact Chris if you have a possible project for CERM students this fall and/or if you would be willing to act as an advisor.

# Research News

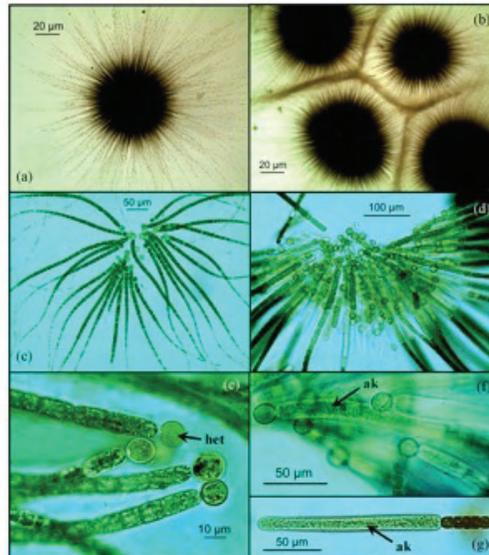
## Cyanobacterial Blooms in Devils Lake, Oregon

By Gayle I. Hansen, Newport -- July 31, 2009

This summer, the cyanobacterial blooms in Devils Lake have been unusually intense causing the Devils Lake Water Improvement District (DLWID) to post a YELLOW or cautionary health advisory for several sites around the lake – and with good reason! In high numbers, some species of cyanobacteria can produce liver and nerve toxins that are deadly when ingested. Fortunately, the species currently blooming in the lake is only mildly toxigenic, and the major concern is that it can cause skin irritations and gastroenteritis in swimmers. However, the yellow advisory still recommends that children and pets stay away from the scummy water and that it is not used for drinking or cooking.

The current (July) Devils Lake bloom consists almost entirely of *Gloeotrichia echinulata*, a planktonic colonial cyanobacterium that is deep olive to yellow-green in color, spherical in shape, and up to 2 mm in diameter (figs. a-b). To the naked eye, heavy blooms of the species look a bit like tapioca pudding. Microscopically, each colony consists of radially-arranged unbranched filaments (8-10  $\mu\text{m}$  in diameter) that attach centrally via a nitrogen-fixing heterocyst (het) and terminate peripherally in long hairs (figs. c & e). Each filament is tapered and encased basally in a gelatinous sheath from which the colorless hairs extend, giving the colonies a fuzzy appearance. As in many cyanobacteria, the vegetative cells are filled with gas vacuoles or aerotopes which darken the cells and cause the colonies to float and form scums in quiet water. Vegetative propagation by fragmentation is common.

When the colonies mature and begin to senesce, another process occurs. The center of the colony turns lighter in color (fig. d)



*Gloeotrichia echinulata* (Smith) Richter in Devils Lake, Oregon — June and July, 2009. (a-b) Colonies showing hairs and mucilage, (c-g) Squash preparations revealing tapering filaments, heterocysts (het), and developing and mature akinetes (ak).

and akinetes (ak) or thick-walled resting spores develop (figs f & g). Forming just above the heterocysts, up to 500 akinetes can be produced and released into the water column from a single colony. These negatively buoyant structures settle on the bottom and overwinter, forming the seed bank from which new *Gloeotrichia* colonies germinate the following spring -- or even years later.

Recent studies of akinetes in sediment cores of Devils Lake have shown that *Gloeotrichia* has been present in the lake for more than 50 years. The species became more abundant in 1995 after introduced grass carp eliminated the aquatic macrophytes causing an increase in available light and nutrients for the phytoplankton. The most recent population explosions are thought to be due to increased phosphates in the lake, and the costs and benefits of different methods to control the blooms are being evaluated.

Although *Gloeotrichia echinulata* is only weakly toxigenic, it typically occurs in lakes that also support more deadly species like *Microcystis aeruginosa* and *Anabaena circinalis*. When these species bloom, the

toxin levels can increase dramatically. Fortunately DLWID's CyanoWatch program carefully monitors the cyanobacterial blooms and microcystin toxins in the lake. The microcystin levels for health advisories are set by Oregon DHS and are statewide. When the toxin reaches 8 ppb or greater, a RED or high-risk health alert is posted warning people not to have contact with the water. Red advisories were in effect for 3 months last year in Devils Lake, and it is likely that they will occur again this year. Please check out the DLWID website (<http://www.dlwid.org>) where up-to-date health advisories are posted along with the current results of their monitoring programs.

UPDATE: On August 5, 2009, the DLWID posted a RED or high-risk health advisory for 4 sites in Devils Lake. Of the 12 sites tested, 4 contained >8 ppb microcystin, the recreational limit for this toxin set by the State of Oregon. One mid-lake site measured >50 ppb. The warm temperatures at the beginning of August appear to have caused a shift in the dominant blooming cyanobacterium from *Gloeotrichia* to *Microcystis aeruginosa*, the more deadly species. An illustrated article on Microcystin is planned for the upcoming issue of *Upwelling*.

**HEALTH ADVISORY**

Toxins from Cyanobacteria (aka Blue-Green Algae) have recently been found in this section of Devils Lake.

**WATER CONTACT NOT ADVISED**

- Keep Children and Pets away from water.
- Do not use this water for drinking or cooking.

Posting Date: \_\_\_\_\_

Devils Lake Water Improvement District  
(541) 594-5330  
[www.dlwid.org](http://www.dlwid.org)

DHS Environmental Health  
(971) 673-0440  
[www.oregon.gov/DHS/eh/amttox/madvisories](http://www.oregon.gov/DHS/eh/amttox/madvisories)

**CYANO-WATCH**

## EndNote workshop offered on Aug. 18

Uta Hussong from the Valley Library will be at HMSC on August 18th to give an EndNote Basics workshop, offering instruction on the popular software that allows researchers to search online bibliographic databases, organize their references, images and PDFs in any language, and create bibliographies and figure lists.

The workshop takes place in the Guin Library seminar room, with the basics covered from 9-11 a.m., followed by an opportunity for advanced consultation from 11 a.m. to 12 p.m.

The library will provide laptops there for those who do not have EndNote loaded

on their own laptop. If you are a student, staff or faculty, you can purchase EndNote through OSU at:  
<http://tss.oregonstate.edu/softdist/>



## Recent HMSC articles in Web of Science

Muscle Senescence in Short-Lived Wild Mammals, the Soricine Shrews *Blarina brevicauda* and *Sorex palustris*

Hindle, Allyson G.; Lawler, John M.; Campbell, Kevin L.; Horning, Markus

JOURNAL OF EXPERIMENTAL ZOOLOGY PART A-ECOLOGICAL GENETICS AND PHYSIOLOGY  
311A (5): 358-367 JUN 1 2009

Hydrothermal systems of intraoceanic arcs

de Ronde, C.; Baker, E.; Embley, R.; Lupton, J.; Butterfield, D.; Faure, K.; Leybourne, M.; Chadwick, W.; Ishibashi, J.; Resing, J.; Walker, S.; Merle, S.; Greene, R.

GEOCHIMICA ET COSMOCHIMICA ACTA  
73 (13): A282-A282 Suppl. S JUN 2009

Volatiles in the Loki's Castle and Jan Mayen vent fields of the ultra-slow spreading Knipovich and Mohns Ridges

Lilley, M. D.; Pedersen, R. B.; Thorseth, I. H.; Lupton, J. E.; Olson, E. J.; Frueh-Green, G. L.; Baumberger, T.

GEOCHIMICA ET COSMOCHIMICA ACTA  
73 (13): A763-A763 Suppl. S JUN 2009

Hydrothermal systems and recent eruptive activity in the northern Lau Basin, South Pacific Ocean

Lupton, J.; Resing, J.; Arculus, R.; Lilley, M.; Embley, R.; Baker, E.; Butterfield, D.; Nakamura, K.; Crowhurst, P.; Greene, R.

GEOCHIMICA ET COSMOCHIMICA ACTA  
73 (13): A804-A804 Suppl. S JUN 2009

Helium isotopes: From mantle degassing to ocean circulation

Lupton, John E.

GEOCHIMICA ET COSMOCHIMICA ACTA  
73 (13): A803-A803 Suppl. S JUN 2009

Multi-proxy reconstructions of northeastern Pacific sea surface temperature data from trees and Pacific geoduck

Black, Bryan A.; Copenheaver, Carolyn A.; Frank, David C.; Stuckey, Matthew J.; Kormanyos, Rose E.

PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY 278 (1-4): 40-47  
JUL 15 2009

Our changing oceans: conclusions of the first International Symposium on the Effects of climate change on the world's oceans

Valdes, Luis; Peterson, William; Church, John; Brander, Keith; Marcos, Marta

ICES JOURNAL OF MARINE SCIENCE 66 (7): 1435-1438 AUG 2009

Hypoxia-induced growth limitation of juvenile fishes in an estuarine nursery: assessment of small-scale temporal dynamics using RNA:DNA

Stierhoff, Kevin L.; Targett, Timothy E.; Power, James H.

CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCES 66 (7): 1033-1047 JUL 2009

A Haptic Soundscape Map of the University of Oregon

Lawrence, Megan M.; Martinelli, Nicholas; Nehmer, Rachel

January 2006 seafloor-spreading event at 9 degrees 50 ' N, East Pacific Rise: Ridge dike intrusion and transform fault interactions from regional hydroacoustic

Dziak, Robert P.; Bohnenstiehl, Delwayne R.; Matsumoto, Haruyoshi; Fowler, Matthew J.; Haxel, Joseph H.; Tolstoy, Maya; Waldhauser, Felix

GEOCHEMISTRY GEOPHYSICS GEOSYSTEMS 10: Art. No. Q06T06 JUN 18 2009

Recolonization of intertidal *Zostera marina* L. (eelgrass) following experimental shoot removal

Boese, Bruce L.; Kaldy, James E.; Clinton, Patrick J.; Eldridge, Peter M.; Folger, Christina L.

JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY 374 (1): 69-77  
JUN 15 2009

Physical model of the development of external signs of barotrauma in Pacific rockfish

Hannah, Robert W.; Rankin, Polly S.; Penny, Alexandra N.; Parker, Steven J.

AQUATIC BIOLOGY 3 (3): 291-296 2008

Survival of mussels in extremely acidic waters on a submarine volcano

Tunncliffe, Verena; Davies, Kimberley T. A.; Butterfield, David A.; Embley, Robert W.; Rose, Jonathan M.; Chadwick, William W., Jr.

NATURE GEOSCIENCE 2 (5): 344-348 MAY 2009



Quantitative population dynamics of microbial communities in plankton-fed microbial fuel cells

White, Helen K.; Reimers, Clare E.; Cordes, Erik E.; Dilly, Geoffrey F.; Girguis, Peter R.

ISME JOURNAL 3 (6): 635-646 JUN 2009

Vertical Zoning in Marine Protected Areas: Ecological Considerations for Balancing Pelagic Fishing with Conservation of Benthic Communities

Grober-Dunsmore, Rikki; Wooninck, Lisa; Field, John; Ainsworth, Cameron; Beets, Jim;

Berkeley, Steve; Bohnsack, Jim; Boulon, Rafe; Brodeur, Richard; Brodziak, John; Crowder, Larry; Gleason, Danny; Hixon, Mark; Kaufman, Les; Lindberg, Bill; Miller, Marc; Morgan, Lance; Wahle, Charles

FISHERIES 33 (12): 598-610 DEC 2008

The ecological role of bivalve shellfish aquaculture in the estuarine environment: A review with application to oyster and clam culture in West Coast (USA) estuaries

Dumbauld, Brett R.; Ruesink, Jennifer L.; Rumrill, Steven S.

AQUACULTURE 290 (3-4): 196-223 MAY 19 2009

Identifying dendroecological growth releases in American beech, jack pine, and white oak: Within-tree sampling strategy

Copenheaver, Carolyn A.; Black, Bryan A.; Stine, Melanie B.; McManamay, Rachel H.; Bartens, Julia

FOREST ECOLOGY AND MANAGEMENT 257 (11): 2235-2240 MAY 10 2009

Confirmation of the presence and use of sandy beach surf-zones by juvenile Chinook salmon

Jarrin, Jose R. Marin; Shanks, Alan L.; Banks, Michael A.

Source: ENVIRONMENTAL BIOLOGY OF FISHES 85 (2): 119-125 JUN 2009

## New Books at Guin Library

The latest (July 27) list of new books at the Guin / HMSC Library has been posted to the Guin Library website at: <http://osulibrary.oregonstate.edu/guin/new-books> and is available for you to browse. If you click on the call numbers, you can move into the library catalog and put holds on any desired material. When the books come off of the New Books Shelf in approximately three weeks, any requested items will be sent to you.

TITLE Ocean yearbook.  
AUTHOR Borgese, Elisabeth Mann and Ginsburg, Norton Sydney.  
CALL # GC1 .O26 v.23

TITLE Oceanography and marine biology.  
AUTHOR Barnes, Harold, 1908- ed.  
CALL # GC1 .O375 v.47

TITLE Politics of sand [videorecording].  
AUTHOR Olsen, Tom and Straton, Kathryn A.  
CALL # KFO2851.8 .P66 2009 DVD

TITLE Common ground. Part 3, Oregon's network of marine reserves and marine protected areas [videorecording].  
AUTHOR Green Fire Productions.  
CALL # QH91.75.U6 C66 2009 DVD

TITLE Marine habitat mapping technology for Alaska [electronic resource].  
AUTHOR Reynolds, Jennifer R. and Greene, H. G.  
CALL # QH91.8.B4 M37 2007 CD

TITLE Centipedes : keys and notes for the identification of the species.  
AUTHOR Barber, A. D.  
CALL # QL255 .L51 n.s. no.58

TITLE The invertebrate fauna of Plummers Island, Maryland.  
AUTHOR Brown, John W.  
CALL # QL365.4.U6 I58 2008

TITLE Annual report - Western Society of Malacologists.  
AUTHOR Western Society of Malacologists.  
CALL # QL401 .W46 v.36/37 (2003-2004) & v.40 (2007)

TITLE Monograph of Unionoida in Japan (Mollusca: Bivalvia).  
AUTHOR Kondo, Takaki.  
CALL # QL430.7.U6 K66 2008

TITLE Big fish.  
AUTHOR Ellis, Richard.  
CALL # QL620 .E45 2009

TITLE The journal of cetacean research and management.  
AUTHOR International Whaling Commission.  
CALL # QL737.C4 J681 v.11 sup.

TITLE Fresh fish sales as a function of promotion in a Portland, Oregon grocery chain.  
AUTHOR Batie, Sandra S. and Smith, Frederick J.  
CALL # S105 .E55 no.372

TITLE Results of the echo integration-trawl survey of walleye pollock (Theragra chalcogramma) on the U.S. and Russian Bering Sea shelf in June and July 2008.  
AUTHOR Honkalehto, Taina.  
CALL # SH11 .A541431 no.194

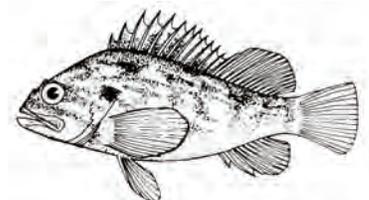
TITLE Aquaculture development, 3. Genetic resource management.  
AUTHOR Food and Agriculture Organization of the United Nations.  
CALL # SH328 .A693 2008

TITLE A comparative assessment of biodiversity, fisheries and aquaculture in 53 countries' exclusive economic zones

AUTHOR Alder, Jackie and Pauly, Daniel.  
CALL # SH328 .F5741 v.16 no.7

TITLE Monitoring MPAs in deep water off Central California : 2007 IMPACT submersible baseline survey  
AUTHOR Starr, Richard M. and Yoklavich, Mary.  
CALL # SH329.M35 M66 2008

TITLE Ecological effects of wave energy development in the Pacific Northwest : a scientific workshop, October 11-12, 2007.  
AUTHOR Boehlert, George W; McMurray, Gregory R. and Tortorici, Cathryn E.  
CALL # TK1423.7 .E26 2008



# Personnel News and Notes

## New and familiar faces around HMSC

**Dan Erickson** became the ODFW-Groundfish Management Team representative (commercial groundfish) during March 2009. In this position, Dan helps with analysis and development of commercial fisheries management regulations at both the Federal and State levels.

Dan arrived at ODFW with a strong research background in commercial-fisheries bycatch, life history of marine fishes, and behavior and movements of sturgeons. He has conducted large-scale research projects in the Bering Sea, Gulf of Alaska, Pacific and Atlantic oceans, the Caspian Sea, Tokyo Bay, and rivers in Oregon, New York, Georgia, Kazakhstan, and Russia.

He was employed by Oregon State University, University of Washington, Wildlife Conservation Society, and University of Miami. Dan conducted bycatch research for both trawl and longline fisheries (estimation of bycatch levels and bycatch mortality; develop measures to reduce bycatch mortality). His sturgeon research included use of telemetry and satellite pop-up archival tagging to understand movements, habitat use, and threats for four species of sturgeons on two continents.

Dan received his bachelors degree at Oregon State University and Masters degree at the University of Georgia. He was raised in Oregon and wrestled for Oregon State University. He is a high school wrestling coach and was fortunate to be able coach both of his sons (who are now in college). Dan and his wife plan to spend most of their holidays during the next 4 years watching their youngest son wrestle for Cal State Fullerton. When not coaching/watching wrestling or working, Dan enjoys being on rivers in his drift boat, SCUBA (until his equipment was stolen), and drinking wine and traveling the world with his wife.

**Sarah Henkel** is the new benthic ecologist joining Hatfield through the Northwest National Marine Renewable Energy Center. Sarah will be conducting research to investigate the ecological effects of wave energy development off Oregon's coast. Originally from Virginia, Sarah received her B.S. from The College of William and Mary in Biology. She moved to the west coast in 2000 to pursue her master's degree at California State University, Fullerton.



She then moved to UC Santa Barbara where she obtained her Ph.D. through the Interdepartmental Graduate Program in Marine Science studying the effects of abiotic stressors on native and invasive seaweed species. After finishing at UCSB and before coming to HMSC, Sarah worked as a Sea Grant Fellow at the California Ocean Science Trust. There she engaged in communicating science to state agencies and decision-makers as well as participated in the Marine Protected Area siting and monitoring processes, all of which will serve her well in activities through NNMREC.

Sarah and her husband, Wil, live in Toledo where they can get a few extra hours of sunshine each day. There she is enjoying gardening and going to Olalla Lake and the Siletz River, although she misses being able to ride her bike to work as she did in California. Sarah loves cooking and entertaining and, when time allows, prefers to go on camping and mountain biking trips.

Arriving in Newport this July, **Yanming Gong** was born



and raised in Yining City, Xinjiang Province, China. He earned his undergraduate degree in Chemical Engineering at Wuhan Institute of Technology, China, in 1994. His PhD, in Energy & Mineral Engineering, was conferred 2008 by Pennsylvania State University. Yanming joins HMSC as a post-doc in Clare Reimer's

research group. Here he will help with the development and optimization of bethic microbial fuel cells as power sources for distributed sensor systems. Prior to leaving Penn State, Yanming worked for a year as a postdoctoral researcher in the area of exploring new technology for clean energy production. His main duty was developing the advanced technique of hydrogen production from Cu-Cl thermochemical cycles by employing PEM electrolyzer.

So far, Newport impresses him as being a beautiful, windy, quiet, small city. Also making an impression this summer is the cool weather and large number of tourists! Married to Fengling, the couple has one son, Minghao. They like spending time together exploring what the area has to offer. Away from the job, Yanming enjoys crabbing, fishing, jogging, table tennis, bridge (the card game), and reading.

**Romain Le Borgne** is a student from France who is currently at HMSC for a summer internship. Having just completed a Bachelor's degree at the University of Poitiers in Biology and Computer Science, Romain will enter a Master's program



## Personnel News and Notes - continued

specializing in Human Physiology and Computer Science in September. His goal is to work in the fields of drug research and clinical trials.

Romain was offered an internship by Chris Langdon in the Molluscan Broodstock Program to work on two projects: improve and update the MBP website and to develop a program that efficiently counts and measures oyster larvae. There was no hesitation in accepting the offer since he found the project very interesting and also wanted to see the U.S. and improve his English skills.

Roman comes from a small town, Le Haut-Corlay, (population 730) in Brittany on the west coast of France. His parents own a farm and Roman likes helping them with the work, playing football, going out with friends, and spending time with his girlfriend, Karen. He has a dog named Pepsi.

The MBP staff is very pleasant to work with, says Roman. He thinks Newport's location, with beach and sea on one side and the forest and mountains on the other, is very special. His only regrets are that the sea is not warm enough to swim in and he misses his grandmother's cooking (especially her crepes)!

*And from the "old news is still good news" vault...*

**Vladlena Gertseva** is the stock assessment fishery biologist for the Fishery Resource Analysis and Monitoring (FRAM) Division at the Northwest Fisheries Science Center. Vlada replaced Michael Schirripa, who took a position at the Southeast Fisheries Science Center earlier this year.

It was a really smooth transition for Vlada who, as a former staff of the OSU/NOAA Cooperative Institute for Marine Resource Studies (CIMRS), served a dual role--part-time stock assessor for FRAM and assistant professor at Oregon State University. As an assistant professor, Vlada taught the courses "Fisheries Stock Assessment" and "Population Dynamics," which were offered on campus and online by OSU's Fisheries and Wildlife Department. Having taught the online course since 2006, Vlada has come to firmly believe that online learning is key to expanding opportunities for non-traditional



Aside from being outdoors, Vlada is an eclectic lover of music and a fan of detective stories.

students.

Vlada's interest in science and education was "inherited." She was born and raised in Russia to parents who were devoted scientists. Graduating from Yaroslavl State University, Russia, with a joint B.S. and M.S. degree in Biology and Science Education

in 1997, she pursued her M.S. in Environmental Science and Policy two years later at Central European University in Budapest, Hungary. In 2000, she came to the States for her Ph.D. at Clemson University in Forest Resources with a focus on modeling the dynamics of stream biota. Vlada landed in Newport in 2003 to begin her postdoc work on salmon ecology at HMSC. Vlada's husband, Sean Matson, also an HMSC scientist, is researching the genetics and breeding of oysters for his Ph.D. in Animal Sciences.

## Lean and Green

### Sustainability group invites new members, ideas

The HMSC sustainability committee promotes awareness and action at various levels (from the institutions down to the individual) to reduce waste and increase efficiency in the use of resources. We look at energy, water, waste streams, and our "carbon footprint".

Among the initiatives currently being considered are the installation of solar panels on some of HMSC's south-facing roofs, a cooperative venture with the Oregon Coast Aquarium to operate a shared composting machine (EarthTub), and a system for facilitating carpool and rideshare opportunities.

The committee welcomes new members and ideas for projects or improvements that anyone would like to offer. We meet on a monthly basis (usually the first Tuesday at 10:30 a.m. in the Guin Library) and also sponsors occasional brown bag lunch speakers on relevant topics. For more information, contact HMSC Program Manager Ken Hall by email: [ken.hall@oregonstate.edu](mailto:ken.hall@oregonstate.edu)

# Drive Me!



**Did you know that HMSC has a Prius available for authorized drivers on state / OSU business?**

*Help reduce our carbon footprint by using this vehicle when possible.*

See Candace in the Director's Office for instructions on reserving and using vehicle.  
**Questions? Call 541-867-0212 or email: [candace.rogers@oregonstate.edu](mailto:candace.rogers@oregonstate.edu)**

## Home energy efficiency assistance available

Information on reducing your residential energy use through conservation and heating system improvements is available from many sources, including Central Lincoln PUD. If you are a Northwest Natural Gas or Pacific Power customer, you can sign up for a free home energy review by

calling 1-866-368-7878 or go to [www.energytrust.org/residential/existinghomes/review.php](http://www.energytrust.org/residential/existinghomes/review.php)

On Aug. 25, Tom Beverly with Energy Trust of Oregon will be at the Lincoln City Community Center from 6-8pm to provide information and answer questions about Home Energy Solutions, incentives, tax credits, solar energy, and some low/no-cost tips for energy savings.

# HMSC Happenings

## Once again, SeaFest draws a record crowd

SeaFest 2009 took place on Saturday, June 27th and was a great success. Based on vehicle counts and tallies at various spots around the HMSC, attendance was estimated at 5,000 visitors, topping previous years' records and solidifying the event's reputation as a family favorite event and a draw for visitors to Newport.

A big *thank you* goes out to all who participated and supported this year's event, including our major community sponsors, the Confederated Tribes of Siletz Indians, City of Newport, Georgia-Pacific of Toledo, and Landwaves, Inc. Thanks also go to the planning committee, led by event coordinator Jeff Lichtman (serving through the AmeriCorps LINKS program), to the scientists who put together exhibits and activities and engaged the public in learning about our research, to Ship Ops staff for their support of activities at the dock, to HMSC facilities crew and other helping hands who set up tents, tables, electricity hook-ups, and other logistical support.

And of course the HMSC is grateful to all those who contributed their time and talents as volunteers, including the Oregon Coast Aquarium, HMSC Visitor Center volunteers, Newport Police Volunteers, RSVP of Lincoln County, and the many individual citizens who provided key logistical support and helped visitors make the most of their experience at SeaFest.



# News from Oregon Sea Grant

## Ebbesmeyer discusses fascination with “Flotsametrics” at book signing on Aug. 22

Curtis Ebbesmeyer was once the chief oceanographer for Mobil / Standard Oil, studying ocean currents and the impact of sea conditions on oil rigs. But ever since a 1990 storm in the Pacific knocked five containers of athletic shoes off a cargo vessel and the shoes started washing up on U.S. West Coast beaches, his fascination has been the wide variety

of flotsam that rides ocean currents all over the world.

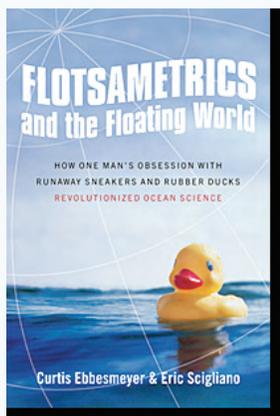
Ebbesmeyer presented a lecture at HMSC several years ago and is back for a return visit on Saturday, Aug. 22nd. He will be giving a public presentation and sign copies of his recently published book, “Flotsametrics and the Floating World: How One Man’s Obsession with

Runaway Sneakers and Rubber Ducks Revolutionized Ocean Science.”

For more information about this event or the book, please contact Lynne Wright in the HMSC Bookstore.

# Book Signing

Saturday, August 22<sup>nd</sup>, 1:30 p.m.



Presentation: 1:30 PM in Hennings Auditorium

Book Signing following

Books available for purchase in HMSC Bookstore

## New Oregon Coast Quests book released

For several years now, HMSC Youth and Family Marine Educator Cait Goodwin has been introducing people to “Quests”, a series of customized learning activities designed to showcase what’s uniquely special about a particular place. Their popularity is growing, and Goodwin has been busy designing and assembling them into “The Oregon Coast Quests Book”. The latest edition has just been released with eight new Quests, including one available in Spanish. This brings the number of these place-based, clue-directed outdoor exploration sites in Lincoln County to 23.

Participants can choose a Quest by location or focus. There are habitats and ecosystems to explore, community and state parks, school grounds and city buildings to see through new eyes, forest ecology, cultural history, and fish hatchery research to learn about and issues like invasive species or sustainability to spotlight. Participants can follow the clues provided in the book or can choose just to enjoy the walk and the location. They pick the pace and the time of day or year.

The average Quest takes just 45-60 minutes. Guided by maps and directions, clues and puzzles, participants will eventually wend their way to a Quest Box, a log book to sign, and a unique rubber stamp to apply to the back of their book, creating a

*continued on next page*

## HMSC and Aquarium host Oregon Fisheries Day

The HMSC joined forces with the Oregon Coast Aquarium in hosting Fisheries Day on Sunday, August 16, offering the public a wealth of information about crab, shrimp, albacore tuna, salmon and sablefish fisheries off the coast of Oregon.

Oregon Sea Grant Fisheries Extension specialists, marine educators, and representatives from the seafood commodity commissions were on hand at both the Aquarium and HMSC, demonstrating gear, providing information about various commercially harvested fish and shellfish species.

Oregon Fisheries Day took place just as this newsletter was going into production, so more details and photos from this event will be published in the September issue of Upwelling, the Friends of HMSC Newsletter.



Sea Grant Fisheries Extension agent Jeff Feldner (left) demonstrates the PacificFishTrax system to explain the concept of traceability in seafood marketing. Dann Cutter, Bill Han-shumaker, and Tom Matteson kept the grills going with marinated albacore tuna loins, offering samples to visitors in front of the VC. Inside, Tracy Crews and other marine educators helped kids with fish printing. All were part of the Oregon Fisheries Day attractions at HMSC.



## Oregon Coast Quests *continued from previous page*

passport that documents each completed Quest.

But the box at the end of each Quest is not a treasure chest, says program coordinator Cait Goodwin, or “the Quest Lady,” as she’s now known. The real value to be found is in the experience itself.

“My interest is in getting people outside and connecting with community,” says Goodwin. “Whether it’s the people doing the Quests or those who get together to actually create the Quests.”

For instance, one of the newer Quests this year was created by a group of first- to fourth-grade students attending “School’s Out!” an after-school program at the Newport Recreation Center. To create the “Newport City Buildings Quest,” the students first had to research and survey the buildings and the area, learn about the services available, and interview the experts. They spoke to police officers and the mayor, learned where voter ballots are dropped, and visited the Senior Center, discovering not only a gift shop there, filled with crafts made by local seniors, but a “Wii” in the basement -- who knew?

Together the students worked with their new knowledge and experience to create a fun, clever outdoor Quest, contributing text, photos, and even a drawing of the mayor.

According to Goodwin, who’ll offer another Quest-building workshop this winter, any individual or group can identify a place that’s special, learn enough about what makes that place important to share with other people and create their own Quest.

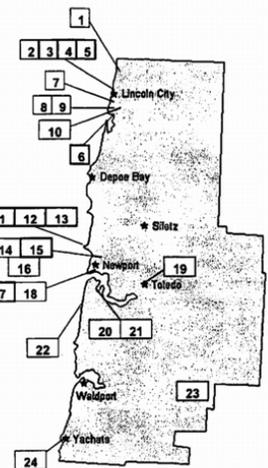
“They’re the experts,” says Goodwin. And that’s exactly how the number of Quests has grown from an original eight in 2007 to 15 in 2008, and now 23 in 2009. New Quests for the 2010 edition are already underway, including a Quest focusing on the bay front area that has just been completed and tested.

The Oregon Coast Quests Program, originally funded through Oregon Sea Grant, is now supported through grants, donations, and the sale of the books. This year’s Oregon Coast Quest book was made possible through a \$2080 grant from the Siletz Tribal Charitable Contribution Fund and all proceeds from the sale of the \$6 book go back into



### Overview Map 2009/10

1. Crowley Creek Quest
2. Kirtsis Park Quest
3. Friends of Wildwoods and Trails Quest
4. Regatta Grounds Quest
5. Spring Lake Quest
6. Cutler City Wetlands Quest
7. D River Invasive Species Quest
8. Head Start Forest Management Quest
9. Head Start Farm Quest
10. Taft Quest
11. Yaquina Head ONA History Quest
12. Yaquina Head ONA Hills Quest
13. Yaquina Head ONA Stewardship Quest
14. Big Creek Park Quest
15. Español Big Creek Park Quest
16. Water, Water Everywhere Quest
17. Newport City Buildings Quest
18. City Center History Quest
19. Toledo Arcadia Quest
20. HMSC Yaquina Estuary Quest
21. HMSC Sustainability Quest
22. South Beach State Park Quest
23. Oregon Hatchery Research Center Quest
24. YYPFAP Habitats of Diversity Quest



The Oregon Coast QUESTS Book, 2009–10 Edition 5  
Check Web site for updates: [seagrant.oregonstate.edu/freechoice/OregonCoastQuests.html](http://seagrant.oregonstate.edu/freechoice/OregonCoastQuests.html)

the program for the continued creation of new Quests and new books each year.

For a list of locations where the 2009-10 Oregon Coast Quest book is available for purchase, visit <http://seagrant.oregonstate.edu/freechoice/quest/OregonCoastQuests.html>

## News you can use

### Be skeptical of emails requesting account info

From Dann Cutter, HMSC Computing Services:

We are seeing a barrage of spam email soliciting your account information yet again. They send messages attempting to look like official email coming from OSU asking you to verify, authenticate or preserve your account by sending in your password, etc.

Remember, OSU will **never** ask for your account name, password, or any other information which is protected via email. Once a year we will tell you to go change your password, that is about it - and we won't ask for it via email. Please, do not send via email personal account information for any reason.

*HMSC Currents is published 4-5 times/yr. Your submissions to this newsletter are welcomed!*  
Please send to: [candace.rogers@oregonstate.edu](mailto:candace.rogers@oregonstate.edu)  
Deadline for next issue is Nov. 8th

### New child care facility opening in Toledo

*Betty Kamikawa, who works for NOAA at HMSC, shares this news about a new option for child care in the community:*

After 10 years of work we have a child care center in the community. It is very exciting. Central Coast Child Development Center (in Toledo) is the only state certified center in the area for infants and toddlers of all income levels.

The CCCDC takes children from 6 weeks to 6 years, and operators are expecting the infant and toddler slots to fill up fast. They would also like to hear from parents that are looking for after school and out of school care for older children to determine if there is a need.

For more information, please call 541-336-2477 or send an email to: [strongcommunity@cccdc.net](mailto:strongcommunity@cccdc.net)

### Warm weather prompts reminder about pets in vehicles

According to the US Humane Society (see below), dogs can overheat very quickly in cars - even on the coast where it's cooler than the valley. Please leave your dogs at home while it's hot out.... (from an empathetic dog-owner and lover!)

“Dogs and cats can't perspire and can only dispel heat by panting and through the pads of their feet. Pets who are left in hot cars even briefly can suffer from heat exhaustion, heat stroke, brain damage, and can even die. Don't think that just because you'll be gone “just a minute” that your pet will be safe while you're gone; even an air-conditioned car with the motor off isn't healthy for your pet.

To avoid any chance that your pet will succumb to the heat of a car this summer, be sure to play it safe by leaving your pet cool and refreshed at home while you're on the road....”

## White House Ocean Policy Task Force soliciting comments

On June 12, 2009, President Obama sent a memorandum to the heads of executive departments and federal agencies establishing an Interagency Ocean Policy Task Force, led by the White House Council on Environmental Quality. The Task Force is charged with developing a recommendation for a national policy that ensures protection, maintenance, and restoration of oceans, our coasts and the Great Lakes. It will also recommend a framework for improved stewardship, and effective coastal and marine spatial planning.

The Task Force is now seeking input on its work from interested communities, governments, tribes, businesses, associations, non-governmental organizations and the general public. If you are interested in providing your feedback please visit the CEQ Ocean Policy Task Force website:

[www.whitehouse.gov/administration/eop/ceq/initiatives/oceans](http://www.whitehouse.gov/administration/eop/ceq/initiatives/oceans)

## SeaWeb announces *Ocean in Focus* Conservation Photography Contest



Have any photos of marine life or ocean habitat that really make an impression? Consider submitting one to the 2nd Annual Ocean in Focus Conservation Photography Contest sponsored by SeaWeb's Marine Photobank and Project AWARE Foundation.

Breathtakingly beautiful or disturbing, photographs can be an effective tool for increasing public awareness of issues related to the ocean environment. And that is one of the key objectives of this contest.

From their website...

*We challenge ocean lovers worldwide to submit their most compelling marine conservation images to this one-of-a-kind photo contest.*

*Conservation photographers worldwide are taking this opportunity to illuminate ocean pressures and challenges as well as solutions. Contest entries may depict environmental issues including, but not limited to: unsustainable fishing practices, pollution and debris, ocean dumping, oil spills, global warm-*

*ing, the effects of sea level rise, coastal development and endangered and threatened marine animals and ecosystems.*

*Images illustrating the human conservation efforts implemented in local communities to combat ocean degradation are also strongly encouraged. These may include beach and oil spill cleanups, educational community events, creative recycling, removal of derelict fishing gear, marine species rehabilitation and more.*

*Contest ends August 27, 2009. See the website for complete rules and submission guidelines: [www.marinephotobank.org](http://www.marinephotobank.org)*



Sea Turtle entangled in fishing gear. This photo by Marco Carè of Greenpeace, taken in the Mediterranean Sea north of Libya, was 2nd prize in last year's photography contest.

## Newport selected as new base for NOAA vessels

*continued from pg. 1*

cluding more than 110 officers and crew assigned to the NOAA ships McArthur II, Miller Freeman, Rainier and Bell M. Shimada, a new fisheries survey vessel expected to join the research fleet in 2010.

NOAA selected the site following a rigorous process involving an extensive review of proposals submitted by sites in Washington and Oregon, according to the agency's press release. It went on to explain the criteria considered in selecting the site, which included NOAA's infrastructure needs, proximity to maritime industry resources and NOAA labs, quality of life for civilian employees, officers and crew, the ability to meet the desired occupancy date of July 2011 in addition to lease cost.

"We look forward to reuniting NOAA's West Coast research ships and support personnel at one facility and being an active part



Artist's rendering of the site west of OSU Ship Operations where new NOAA Pacific fleet operations center will be constructed for July 2011 occupancy.

of the community," said Rear Adm. Jonathan W. Bailey, director of the NOAA Office of Marine and Aviation Operations and the NOAA Corps.

The agency's requirements for the new site include office and warehouse space, berthing for the four NOAA ships homeported at

the NOAA Marine Operations Center-Pacific and up to two visiting ships, and LEED-certified, environmentally sustainable main buildings. The Leadership in Energy and Environmental Design (LEED) green building rating system, developed by the U.S. Green Building Council, provides a suite of standards for environmentally sustainable construction.

NOAA fleet vessels are used to conduct research and gather data about the world's oceans and atmosphere. Newport and OSU's Hatfield Marine Science Center are already home to two NOAA Fisheries labs and the Pacific Marine Environmental Lab's VENTS program, which conducts research on the impacts and consequences of submarine volcanoes and hydrothermal venting on the global ocean.

# The Back Page

## HsO provides opportunities for outdoor recreational fun

It just wouldn't be summer at HMSC without at least a few opportunities to get goofy and enjoy some friendly competition outdoors while we have the great weather. The Hatfield Students Organization has done a great job in organizing recreational opportunities this summer, including the "Platypus Games" during the OIMB-HMSC scholars exchange in June and the "World Championship Games" in August. Thanks to all who participated!

And for a little less intense competition, don't forget the friendly pick-up soccer games on Wednesdays at noon in the grassy lot behind the Guin Library.

## Ducks trump Beavers in 2009 Platypus Games



The Ducks from OIMB surprised the Beavers from HMSC at this year's Platypus Games, winning the survival suit race and the overall competition. Watch out next year, Ducks!



## Highlights from HsO - sponsored "World Championship Games"



Pictured above, competing in the wheelbarrow race were (from left to right) Mattias Johansson and Alana Alexander, Camilo Vanegas and Kendra Hoekzema, and Mara Spencer and Sean Hayes.

Below, graduate student Jose Marin Jarrin shows graceful form in clearing the hurdles in the chest-wader steeplechase.



Below, team members Itchung Cheung and Renee Bellinger from the aptly named team, "Really Not Above Cheating", display the triple threat combination of athleticism, coordination, and comedic talent in the three legged barrel race.



First place went to the "Really Not Above Cheating" team, but a cloud of suspicion hangs over alleged doping by some competitors and the controversial decision to allow urinalysis tests to be conducted by Bellinger's lab.