



HMSC welcomes interns to summer of learning on the coast

This summer marks the fourth year of the Research Experience for Undergraduates (REU) program at HMSC, and a significant expansion of the program. Funded by the National Science Foundation, the REU program is now operated jointly between HMSC and the College of Oceanic and Atmospheric Sciences (COAS), offering mentored research internships for a total of 20 students -- half based in Corvallis and the other half in Newport.

“We had an overwhelming number of applicants for the REU program, and are very pleased with caliber of the students selected,” said HMSC Academic Program Coordinator Itchung Cheung, who manages the REU program.

In addition to pursuing individual research projects, the students have attended the Markham Marine Science Research Symposium and other seminars, participated in SeaFest, toured the H.S. Hinsdale Wave Research Lab, and spent a weekend at the H.J. Andrews Experimental Forest to learn about the research that REU interns there are doing in Forestry and Bioinformatics.



Their first weekend after arriving at HMSC, the REU interns (and NOAA Alaska Fisheries Science Center Intern Erin Seale) visited Seal Rock to explore the tidepools.

The REU interns in Newport are living in HMSC housing and interacting with other students who are in residence for summer courses or other internships. Take a moment to introduce yourself and learn more about what these students are working on this summer. You’ll be glad you did!

Public turns out for return of SeaFest

They arrived by land and by sea. Undeterred by morning drizzle and a vehicle accident that stopped traffic across the Yaquina Bay Bridge for nearly an hour, an estimated 3,700 people made their way to the HMSC on Saturday, June 23rd to attend SeaFest.

Hundreds took advantage of a water taxi service operated by Marine Discovery Tours by special arrangement with OSU’s Ship Operations, allowing the public a first-ever direct connection between Newport’s bayfront and the OSU dock.

In addition to the ever-popular touch tanks, aquaria, and permanent exhibits in the HMSC Visitor Center, there were dozens of exhibits created especially for SeaFest,



Visitors line up for tours aboard the R/V Elakha and rides across the bay on the Oregon Rocket, operated by Marine Discovery Tours.

where scientists engaged visitors with hands-on activities and demonstrations. White lab coats were hard to find, but researchers wearing jeans and t-shirts and “Ask me about my science” buttons were plentiful, inviting visitors to peer through microscopes, examine live specimens, and handle instruments used in the lab and field.

Responding to public interest on the subject of global warming, SeaFest organizers lined up several speakers to address the question of how the oceans are impacted by climate change.

Gail Achterman, Director of the Institute for Natural Resources at OSU, and Stephen Hammond, Director of NOAA’s Pacific Marine Environmental Laboratory at HMSC, spoke at the SeaFest opening lecture on Friday evening. Hammond, who is also Acting Director of NOAA’s Ocean Exploration Program, noted that coral reefs and other

*The HMSC Currents newsletter is published 5 times a year.
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Public welcomes return of SeaFest

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calcifying marine organisms may be the first victims of large scale changes in ocean chemistry driven by oceanic uptake of carbon dioxide.



Saturday afternoon featured a trio of experts explaining how climate is related to the dramatic variability in ocean conditions and productivity of plankton, salmon, and other fish stocks seen over the past decade and a half. Jack Barth and Michael Harte of OSU's College of Oceanic and Atmospheric Sciences and Bill Peterson of NOAA's Northwest Fisheries Science Center offered some predictions of how rising

ocean temperatures and sea level could significantly affect fisheries and marine habitats.

Oregon Secretary of State Bill Bradbury delivered a presentation highlighting action being taken at the state level to reduce greenhouse gas emissions and transition to renewable energy sources. Many exhibitors also addressed sustainability themes in their displays, educating the public about ways that individuals and households can reduce their "carbon footprint".

As usual, a large segment of the attendance at SeaFest was families with children. "Knowing that a big part of our audience at SeaFest is school aged children, we design exhibits and activities to make the science fun and accessible," says Ken Hall, program manager at the Hatfield Center. "Of course, those kids are coming to SeaFest with their parents or grandparents, and it is equally important that the adult audience walk away feeling they have learned something about our research and why it is important."

So, in addition to "Whale Tales" storytelling, fish printing, and photo ops with the giant blue goose and Junior



Ranger Beaver roaming the festival grounds, there were plenty of activities for older guests as well. Tours of the HMSC seawater system, oyster aquaculture lab, and aquatic animal husbandry area were offered throughout the day, and there were dozens of exhibits featuring cool gadgets and high-tech instruments being demonstrated and explained by the people

who use them for research.

Out on the dock, visitors were able to board the OSU research vessel Elakha to learn how undersea gliders are used in oceanographic

research. The R/V Pacific Storm, a converted fishing vessel now utilized by the OSU Marine Mammal Institute to track whales, was also on public display.

Organizers say the participation of local volunteers, exhibitors, food vendors, artists, and musicians at SeaFest contributes to the festival atmosphere and helps make it a true community event. Nearly 100 volunteers were in action on the day of the event, serving as greeters, information guides, parking attendants, and assistants for exhibitors and Kids Zone activities.

"We were also very fortunate to have community partners like the Confederated Tribes of Siletz Indians, Georgia Pacific, and Starbucks supporting SeaFest as co-sponsors," said George Boehlert, Director of the HMSC. "Their financial contributions enabled us to provide space for community exhibitors at no charge and to maintain SeaFest as a free event to the public."

The educational focus of SeaFest draws an audience that is naturally curious and interested in learning, which is one reason many community exhibitors say they enjoy participating in the event.

Every year, the U.S. Coast Guard and Coast Guard Auxiliary use SeaFest as an opportunity to teach and demonstrate boating safety.

Some visitors to this year's SeaFest got a better than usual view of the Coast Guard helicopter search and rescue demonstration on Yaquina Bay. Those who were being



shuttled across the bay aboard Marine Discovery Tours' 27-foot rigid hull inflatable during the mid-afternoon exercise got a front row view of the action.



Rides on the "Oregon Rocket", offered for the price of a non-perishable food item or cash donation to benefit Lincoln County Food Share, were a highlight of this year's SeaFest. The fundraiser netted over 235 pounds of food and \$550 in cash donations to the local food bank.

Hosting and primary sponsorship of SeaFest 2007 was provided by the following entities:

Oregon State University

- Coastal Oregon Marine Experiment Station
- Cooperative Institute for Marine Resources Studies
- Hatfield Marine Science Center Director's Office
- Marine Mammal Institute
- Oregon Sea Grant

Cooperating State and Federal Agencies

- NOAA Alaska Fisheries Science Center
- NOAA Northwest Fisheries Science Center
- NOAA Pacific Marine Environmental Laboratory
- Oregon Department of Fish and Wildlife
- USDA Agricultural Research Service
- US Environmental Protection Agency
- US Fish and Wildlife Service



Sea Grant and Marine Education News

HMSC's marine educators earn recognition at Northwest conference

Congratulations to our marine educators - Fawn Custer and Athena Crichton - for receiving the President's Award and Free-Choice Educator Award (respectively) from the Northwest Association of Marine Educators (NAME). Many of us had the opportunity to attend NAME's annual conference this past week where the awards were announced.

The conference itself was pulled together by a committee of dedicated professionals, including our own Fawn, Maureen and Bill - great job! Their hard work definitely paid off for a very successful conference. Our colleagues at the SeaFood Center were also very actively involved and many of the individual sessions were conducted by OSU colleagues. We were also able to bring two of our newer educators - Cait Goodwin and Noreene Ignelzi - through scholarships that Fawn helped to arrange.



Recent publications

Listed below are some recent publications from HMSC and Astoria Seafood Lab authors. -Janet

Title: Characterization of the physiological stress response in lingcod
Authors: Milston, Ruth H.; Davis, Michael W.; Parker, Steven J.; Olla, Bori L.; Clements, Shaun; Schreck, Carl B.
Source: TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY 135 (5): 1165-1174 SEP 2006

Title: Buoyancy regulation and barotrauma in two species of nearshore rockfish
Authors: Parker, Steven J.; McElderry, Howard I.; Rankin, Polly S.; Hannah, Robert W.
Source: TRANSACTIONS OF THE AMERICAN FISHERIES SOCIETY 135 (5): 1213-1223 SEP 2006

Title: The use of Passive Integrated Transponder (PIT) tags to trace cobble transport in a mixed sand-and-gravel beach on the high-energy Oregon coast, USA
Authors: Allan, JC; Hart, R; Tranquili, JV
Source: MARINE GEOLOGY 232 (1-2): 63-86 OCT 18 2006

Title: Copepod biodiversity as an indicator of changes in ocean and climate conditions of the northern California current ecosystem
Authors: Hooff, Rian C.; Peterson, William T.
Source: LIMNOLOGY AND OCEANOGRAPHY 51 (6): 2607-2620 NOV 2006

Title: Variability in brood size and female length of *Euphausia pacifica* among three populations in the North Pacific
Authors: Gomez-Gutierrez, Jaime; Feinberg, Leah R.; Shaw, Tracy; Peterson, William T.
Source: MARINE ECOLOGY-PROGRESS SERIES 323: 185-194 2006

Title: Zooplankton anomalies in the California Current system before and during the warm ocean conditions of 2005
Authors: Mackas, D. L.; Peterson, W. T.; Ohman, M. D.; Lavaniegos, B. E.
Source: GEOPHYSICAL RESEARCH LETTERS 33 (22): Art. No. L22S07 NOV 18 2006

Title: Effects of genotype x environment interactions on the selection of broadly adapted Pacific oysters (*Crassostrea gigas*)
Authors: Evans, Sanford; Langdon, Chris
Source: AQUACULTURE 261 (2): 522-534 NOV 24 2006

Title: Direct and indirect responses to selection on individual body weight in the Pacific oyster (*Crassostrea gigas*)
Authors: Evans, Sanford; Langdon, Chris
Source: AQUACULTURE 261 (2): 546-555 NOV 24 2006

Title: Temperature affects activity and feeding motivation in Pacific halibut: Implications for bait-dependent fishing
Authors: Stoner, AW; Ottmar, ML; Hurst, TP
Source: FISHERIES RESEARCH 81 (2-3): 202-209 NOV 2006

Title: Influence of illumination and temperature upon flatfish reactivity and herding behavior: Potential implications for trawl capture efficiency
Authors: Ryer, CH; Barnett, LAK
Source: FISHERIES RESEARCH 81 (2-3): 242-250 NOV 2006

Title: Incomplete reporting of whale, dolphin and porpoise 'bycatch' revealed by molecular monitoring of Korean markets
Authors: Baker, CS; Lukoschek, V; Lavery, S; Dalebout, ML; Yong-Un, M; Endo, T; Funahashi, N
Source: ANIMAL CONSERVATION 9 (4): 474-482 NOV 2006

Title: Hydrothermal exploration of the Fonualei Rift and Spreading Center and the Northeast Lau Spreading Center
Authors: German, C. R.; Baker, E. T.; Connelly, D. P.; Lupton, J. E.; Resing, J.; Prien, R. D.; Walker, S. L.; Edmonds, H. N.; Langmuir, C. H.
Source: GEOCHEMISTRY GEOPHYSICS GEOSYSTEMS 7: Art. No. Q11022 NOV 29 2006

Title: An integrated pest management program for burrowing shrimp control in oyster aquaculture
Authors: Dumbauld, Brett R.; Booth, Steven; Cheney, Daniel; Suhrbier, Andrew; Beltran, Hector
Source: AQUACULTURE 261 (3): 976-992 DEC 1 2006

Title: Modeling and spatial prediction of pre-settlement patterns of forest distribution using witness tree data
Authors: Rathbun, Stephen L.; Black, Bryan
Source: ENVIRONMENTAL AND ECOLOGICAL STATISTICS 13 (4): 427-448 DEC 2006

Title: Resource sharing within an international library network: using technology and professional cooperation to bridge the waters
Authors: Butler, Barbara; Webster, Janet; Watkins, Steven; Markham, James
SOURCE: IFLA JOURNAL 32 (3): 189-199 2006

Title: Efficacy of electrolysed oxidizing water in inactivating *Vibrio parahaemolyticus* on kitchen cutting boards and food contact surfaces
Authors: Chiu, T. -H.; Duan, J.; Liu, C.; Su, Y. -C.
Source: LETTERS IN APPLIED MICROBIOLOGY 43 (6): 666-672 DEC 2006

Title: A submarine volcano is caught in the act
Authors: Chadwick, William W., Jr.
Source: SCIENCE 314 (5807): 1887-1888 DEC 22 2006

Title: A volcano bursting at the seams: Inflation, faulting, and eruption at Sierra Negra volcano, Galapagos
Authors: Chadwick, William W., Jr.; Geist, Dennis J.; Jonsson, Sigurjon; Poland, Michael; Johnson, Daniel J.; Meertens, Charles M.
Source: GEOLOGY 34 (12): 1025-1028 DEC 2006

Recent publications *(continued)*

Title: Wounding and reflex impairment may be predictors for mortality in discarded or escaped fish
 Authors: Davis, MW; Ottmar, ML
 Source: FISHERIES RESEARCH 82 (1-3): 1-6 DEC 2006

Title: Distribution and community structure of ichthyoplankton off the coast of Oregon, USA, in 2000 and 2002
 Authors: Auth, TD; Brodeur, RD
 Source: MARINE ECOLOGY-PROGRESS SERIES 319: 199-213 2006

Title: Effects of canning on total mercury, protein, lipid, and moisture content in troll-caught albacore tuna (*Thunnus alalunga*)
 Authors: Rasmussen, RS; Morrissey, MT
 Source: FOOD CHEMISTRY 101 (3): 1130-1135 2007

Personnel News and Notes

Dennis Glaze named Curator of Animal Husbandry

As announced by Sea Grant Director of Education Nancee Hunter earlier this year, Dennis Glaze is the new Curator of Animal Husbandry for the HMSC Visitor Center...

Dennis has already been problem solving and frequently assisting with visitor center animal husbandry. His leadership and management skills, animal/aquaria knowledge and outreach experience combined with his desire and vision give unique opportunity for this change. Dennis' track record is outstanding and I am thrilled to have him as part of the VC team.

This change represents a significant increase in supervisory duties and responsibilities, including the supervision of our two student aquarists and our volunteer aquarist aides. In addition, he may have the opportunity to manage practicum students husbandry interns.

Dennis will be in charge of husbandry staff scheduling; husbandry staff training; responsibility for the Visitor Center husbandry budget; responsibility for the Visitor Center and Education Wing animal collections in addition to the West Wing animal collections; day to day husbandry, annual collection plans; life support system maintenance; maintenance and ordering of support supplies; state, federal and international permitting; daily health management of the collections under the guidance of the clinical veterinarian; facilitation of proper design of new live animal exhibits in the Visitor Center and ensures that all university animal care and use guidelines are followed and that all required animal care and use protocols are submitted, approved and protocol numbers are posted.

Whew! That's a lot. But, please keep in mind that Dennis is only working in this role 10 hours a week. During the rest of his work week, he will continue to work with Dr. Tim Miller-Morgan on other projects.

Congratulations, Dennis. We look forward to working with you in this new capacity!

