



One of the 1,600 visitors at HMSC's Marine Science Day, April 2019

From Hatfield Marine Science Center Director's Desk

As I watch the new Marine Studies Building taking shape here at the Hatfield Marine Science Center in Newport, I am excited about what the future holds for marine research and education at OSU. The new building reminds us all that OSU is investing in the future of our oceans through the Marine Studies Initiative. This investment includes over 70,000 square feet of new laboratory and teaching space, a new auditorium for expanded programming (including workshops and meetings). An Innovation lab will allow students and researchers to explore novel ideas and design, build, test, and market new instruments for exploring the ocean. I look forward to the broad interdisciplinary exposure we will all receive as the research and academic programs mature into fully transdisciplinary collaborations in



Robert Cowen

the classrooms and laboratories of a diverse faculty. In anticipation of the growth associated with this expansion, OSU is also planning new housing to accommodate an increase in student numbers throughout the year. The opportunity for residency at Hatfield is something that will greatly enhance the experiential underpinnings of a Newport visit. Students will have access to pristine marine habitats; a working water front and supportive coastal community; and scientists and professionals in our co-located partner federal and state marine-related agencies. This is a vibrant location and one that is launching into a new phase of greater opportunities for students and researchers interested in all things marine. We look forward to seeing you out here.



Susanne Brander,

Assistant Professor of Marine and
Aquatic Toxicology

Dr. Susanne Brander is an Assistant Professor in the Department of Environmental and Molecular Toxicology. Originally hailing from the East coast, Brander grew up in the Philadelphia, PA, area. A self-designated tree-hugger, she became deeply interested in environmental issues in middle and high school.

Susanne started out working in fundraising in the Washington D.C. area for the The Nature

Conservancy after finishing undergrad studies at Elizabethtown College, but quickly realized that she was much more interested in science than business.

After working with sea turtles and amphibians as a field research assistant on various projects for a couple years, completing an M.S. degree in Environmental Science at Johns Hopkins University, and then working in environmental consulting briefly, Susanne decided to go back for a Ph.D. in Toxicology and Pharmacology at the University of California, Davis. She quickly fell in love with research and now feels lucky to spend her days getting to be curious about how human influences on the environment affect marine organisms and ecosystems. Her research foci include effects of pesticides, micro-plastics, and climate change.

She also co-leads the Corvallis chapter of *500 Women Scientists*. When she isn't thinking about fish, Brander can be found spending time with her husband and two daughters. In a rare spare moment she also enjoys making pottery, and she will never pass up an opportunity for a good cup of coffee or three.



Upcoming Events

DA VINCI DAYS

JULY 19TH-21ST, BENTON COUNTY

FAIRGROUNDS

Da Vinci Days is all about Science, Technology, Engineering, Arts, and Mathematics (STEAM), showcasing the creativity of community members, students and staff from local schools, LBCC, and OSU. The festival includes multiple events in April and the third weekend of July. Events are FREE to the public. (Excerpt from Da Vinci Day's website). MSI will be tabling at the event. Drop by and say "Hello!"

REDFISH ROCKS ON THE DOCK COMMUNITY EVENT

JULY 20TH, PORT ORFORD

Port Orford Field Station will partner with the Redfish Rocks Community Team for this annual community outreach event, now in its 6th year. Explore, investigate, and discover more about the Redfish Rocks Marine Reserve, ocean-based research, local seafood, a seaweed farm, commercial fishing, marine debris, tide pools, ocean acidification, and more. Locals and visitors alike will learn how to get involved through stewardship and citizen science programs.

Academic Program News

By Kristen Milligan, MSI Associate Director

Over the past academic year, we have seen much progress in the challenging work to expand marine education and training opportunities for all students. The Marine Studies Office extends great appreciation to all of our partners and supporters, from OSU and beyond. We are excited to work with faculty in their efforts to develop new curricula and enhance existing academic offerings. Ongoing is the tracking of courses with content directly relating to the ocean and coasts. An inventory of OSU undergraduate courses is now available on our website (see beav.es/Zf9), and we look forward to its further development as a resource for individuals seeking to find out more about the breadth of OSU's course offerings. We have also been working with academic units to strategize about how programs at Hatfield Marine Science Center can be expanded. Popular sets of courses already attract students to the coast. With the assistance of HMSC-MSI Faculty Liaison Dr. Su Sponaugle and collaborations with units across OSU, we have been planning to further expand academic offerings year-round at HMSC and increase the number of students who access the coast through their coursework, research experiences, and internships.

Upcoming summer and fall 2019 terms offer a range of exciting learning opportunities for students interested in marine environmental sciences, conservation, education, outreach and more. To learn more about curricula offered at HMSC: <https://hmsc.oregonstate.edu/academics/courses-hmsc>



To the right: Student field work at Fogarty Creek with Marine Biology and Ecology (BI 450), a 15-credit spring course.

Student Awards

Financial support is one critical element to increase student success and access to studies about the ocean and coasts. We've been able to foster new internship opportunities—such as the collaborations that bring OSU undergraduates to Port Orford to study whales, to Bandon to study tourism, and to Newport to focus on engineering, outreach, education, and the arts. In spring term, we launched a new student award program to recognize and reward OSU undergraduates who “demonstrate outstanding scholarship and pursuits consistent with the transdisciplinary, collaborative, experiential learning and outreach vision and mission of MSI.” Also just launched is a new fellowship program through the Cooperative Institute for Marine Resources Studies at OSU for “Undergraduate Excellence in Coastal and Ocean Studies.” We are also pleased to announce the first award from the Port Orford Field Station (POFS) Science and Education Support Endowment Fund. Thanks to the generosity of POFS champion Deb McNeil and the Plumb, Level & Square Fund, we are supporting OSU graduate student Lisa Hildebrand in leading a team studying gray whale foraging behavior near Port Orford again this summer.

For more information: beav.es/Zfz

We thank the many donors who contribute to funds directly supporting student success. Please see the last page of this newsletter for more information about charitable donation opportunities.



Summer Internships

by Itchung Cheung, Academic Program
Coordinator for HMSC



Students Pursuing Their Dreams Through Internships at the Hatfield Marine Science Center:

The summer is the busiest time of year at the Hatfield Marine Science Center (HMSC) with hands-on field courses and undergraduate research opportunities. From donning on a wet-suit and a snorkeling mask to collecting environmental data in marine protected areas to sampling in some of the most beautiful Oregon estuaries, students gain hands-on experience and a better understanding of the many roles involved in the pursuit of conservation and sustainable management of our coastal environment.

Internships are a great opportunity for students to explore a new area or research field while also increasing skills and learning tools. Students are drawn to the broad range of research happening at the center by OSU faculty and co-located government agency scientists, who mentor interns. This summer will be filled with students pursuing their dreams through one of the largest National Science Foundation sponsored Ocean Sciences Research Experience for Undergraduates (REU) Program, From Estuaries to the Deep Sea. This program provides an incredible 10-week research and professional development opportunity in marine sciences that now has expanded with the support of the Marine Studies Initiative to include additional opportunities in engineering, education, policy and communication, whale research, tourism, arts, and science film making!

Internship update: OSU's Marine Studies Initiative has collaborated with Fishpeople Seafood of Portland to offer a new "FIN-ternship" focused on digital and grassroots marketing.

Ocean11 Marine Club

By Cynthia Leonard, MSI Academic Advisor



Since its creation in Fall 2018, Ocean11 has made a splash on the OSU campus. Ocean11 students have been planning, organizing and living out their love for the ocean and coasts through a multitude of activities, and MSI staff are scrambling up the sand to keep up with them!

Our student-run committees; Community Outreach, Field Trips, Learning Opportunities, Research & Professional Development, and Social have done an excellent job offering activities that reflect our transdisciplinary focus, touching different interests and appealing to a wide variety of students. They're also learning a great deal along the way, not only about the marine environment but leadership, organization, working with people, fundraising and stepping out of one's comfort zone.

The first club trip was going behind-the-scenes at the Oregon Coast Aquarium and NOAA research vessel *Rainier*. Our Community Outreach team had a great turnout for their Willamette River Clean-up, partnering with Corvallis Parks & Recreation Department. Over 30 students participated in the Beach Clean-Up with Surfrider



Ocean11 learning about Dune ecology, April 2019

Foundation. Our student leadership team enjoyed a Camping Retreat on the coast where they learned about leadership, worked on service projects together at the Girl Scout camp where we stayed and explored Oregon dune ecology with USDA Forest Service staff.

Ocean11 students are impacting the next generation. We ran a "Sands from around the World" activity at OSU Discovery Days, and have shared about the intertidal zone with local first graders and Cub Scouts. Fundraisers have been successful, including selling metal straws to decrease plastics entering our ocean. Our anthropology student leader organized a fun "Paint with Ocean11—Bob Ross-style" evening with a local high school art teacher. A board Game Night and Ice Cream Social brought new students and strengthened relationships in our growing club.

Ocean11 beach clean up in partnership with Surfrider Foundation, June 2019



Research and Innovation

by Jack Barth, MSI Executive Director

Ocean Acidification and Hypoxia: We're excited to report progress addressing challenges from ocean acidification and hypoxia, often abbreviated as "OAH", including two outcomes from work funded by Wendy and Eric Schmidt. Brian Erickson, who recently graduated with his OSU Masters in Marine Resource Management (MRM), published his work on "New Approaches to Teaching Ocean Acidification" in the January 2019 issue of "The Science Teacher." Current MRM graduate student, Michael Moses, designed and delivered a hands-on ocean acidification training program for professional marine resource managers at the Hatfield Marine Science Center in August 2018. A finalized curriculum and evaluation survey will be published through the Center for Ocean Sciences Education Excellence (COSEE) website, along with additional educational resources. At the same time, Oregon's OAH Coordinating Council, Co-Chaired by MSI Executive Director Jack Barth and Oregon Department of Fish and Wildlife Marine Resource Program Manager Caren Braby, is working to create Oregon's Action Plan on OAH based on the Council's Fall 2018 report to the legislature. Watch for more about the Action Plan this summer.

Blue Innovation: As reported in our last newsletter, a transdisciplinary group at OSU is scoping how we might best make an impact in the growing "blue economy," defined as all economic activities related to the ocean and coasts. OSU is particularly interested in the technological and educational aspects of the blue economy, areas often known as "blue innovation". With the help of OSU's Impact Studio, a team of faculty from across campus are investigating opportunities by participating in the "Blue Economy Launch Lab". One great synergism is with MSI's ongoing efforts on Food from the Sea.

Find more about Brian's OAH work at beav.es/ZfF

Learn more about OAH beav.es/Zft

Learn more about OSU's Impact Studio beav.es/Zfv

Learn more about the "Blue Economy Launch Lab" beav.es/ZYk

Learn more about Food from the Sea beav.es/ZYZ

Below: OSU Associate Professor Sarah Henkel deploys a conductivity-temperature-depth & dissolved oxygen sensor package.



What's new at HMSC?

by Mark Farley, HMSC
Strategic Initiatives Manager

Hatfield Marine Science Day: On April 13, 2019, Hatfield welcomed over 1600 visitors for Marine Science Day to view marine labs and meet our researchers. Over 50 labs participated - a new record! The exclamations and deep interest expressed by our guests were delightful to hear - and an important reminder of how invested our community is in our collective work.

Marine Studies Building: The shape of the Marine Studies building is becoming even more defined with the addition of steel framing. The large sweeping tsunami evacuation ramp to the roof is also taking form as each section is poured.

Recently, Hatfield hosted Sean Healy and Joe Thurston from Healythurston, recipients of the "1% for art" contract for the new Marine Studies Building. During their Brown Bag talk, they shared some of their previous public art projects and showed early prototypes of the work they are developing for the new Marine Studies Building.

Coast Guard Celebration: Coast Guard Station Yaquina Bay hosted "The Coast Guard 52 Round-up," a celebration featuring the four remaining vintage 52ft Motor Lifeboats; all still in service. Stations from throughout the Pacific Northwest gathered their 52s on Yaquina Bay to measure their seamanship skills against one another.

The work that happens at Hatfield puts a lot of researchers and students on the ocean. We are deeply grateful for the Coast Guard's presence here in Yaquina Bay and were happy to celebrate their rich history.

Aquaculture: Researchers from the Molluscan Broodstock Program based at Hatfield spent a week in April on a critical part of aquaculture research: artificially spawning oysters through

a fascinating process called "strip-spawning". Spawning is part of the life cycle where, in this case oysters, release egg and sperm to reproduce. Volunteers from Oregon Department of Fish and Wildlife were instrumental in processing hundreds of oysters for this cultivation program.

What's new at Port Orford?

by Tom Calvanese, Station
Manager

Coastal Ecosystems and Fish Health

Course: Led by instructor Dr. Ann Peterson from OSU-Cascades, students will participate in a field intensive course at the station from June 22-29. Students will be learning about local river, estuary and ocean ecosystems, fish biology, and field sampling methods while using the local marine reserve as a lens through which to analyze local environmental issues.

Marine Mammal Institute's GEMM Lab: The whale research team, led by Dr. Leigh Torres, will again work off Port Orford in Summer 2019. Photo from last season: Professor Dawn Goley from Humboldt State University (middle), with GEMM Lab team members (left to right) OSU undergraduate interns Hayleigh Middleton, Dylan Gregory, Haley Kent, OSU graduate student Lisa Hildebrand, and volunteer assistant.



Donor Supported Funds for the MARINE STUDIES INITIATIVE



Marine Studies Innovation Fund (Unrestricted) (Fund #270020)

The Fund for innovation provides much-needed unrestricted support for the Marine Studies Initiative (MSI). To help advance the goals of the Marine Studies Initiative, please consider a gift to our Marine Studies Innovation Fund that supports important strategic opportunities, provides research incentives, and allows flexibility for MSI to take advantage of emerging opportunities.

**To be established
with your help:**

Student Success and Academic Programs:

- Undergraduate Scholarship Fund
- Marine Studies Scholar (graduate) Fund
- Artist in Residence Fund
- Faculty Excellence in Teaching Fund



Eder Family Fund for Dungeness Crab Research (Fund #270030)

Dungeness crab is an important part of the Northwest's seafood heritage and has been commercially harvested since the 1800's. The Dungeness crab fishery is Oregon's most valuable 'single species' fishery. The Eder Family Fund for Dungeness Crab Research supports research related to Dungeness crab and/or its fishery.

To make a gift, please go to: **osufoundation.org/give**

1. Under Designations select "Other Departments and programs"
2. Scroll until you see "Marine Studies Initiative" Select "Marine Studies Innovation Fund" or the MSI Fund of your choice
3. Make a gift of your choice

Or send a check payable to 'OSU Foundation' with notation for MSI and list fund name, to Oregon State University Foundation, 850 SW 35th Street, Corvallis, OR 97330.

If you need assistance or details on other gift opportunities, call 800-354-7281 or 541-737-4218. Or, email: annual.giving@oregonstate.edu.

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