



Friends of Long Marine Lab supports 16 student research projects

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By Tim Stephens

SANTA CRUZ, CA— Sea otters, sperm whales, extreme waves, and kelp forest fish are among the subjects of the 16 student research projects that will be supported this year by the Friends of Long Marine Lab Student Research and Education Awards. The awards will provide a total of \$10,515 in research funding for the student projects, which were selected by a proposal review committee.

The award recipients were recognized at a ceremony and reception at the Seymour Marine Discovery Center on Thursday, January 30. In addition, the Friends of Long Marine Lab will honor the top two student research award recipients--Christie Hegermiller, a graduate student in ocean sciences, and Christopher Law, a graduate student in ecology and evolutionary biology--with a special award to be presented at the 10th Anniversary Global Oceans Awards Gala on March 8, 2014, at Bittersweet Bistro.

The Friends of LML provides funding for public education, marine mammal programs, and student research, as well as the development and operation of the Seymour Center. The Student Research and Education Awards are made possible from annual income on six endowed funds: Jane McHenry Student Award, Lillian McPherson Rouse Award, Friends of Long Marine Lab Student Support, Mark T. MacMillan Memorial Prize, Ken Norris Marine Mammal Research Award, and William Beye Heald Scholarship Fund.

The winning student researchers and their projects are as follows:

Jennifer Broughton: "Improving Estimates of Net Primary Production in the Coastal Oceans by Including Phytoplankton Size Distributions" (Raphael Kudela, adviser)

Caroline Casey: "Decoding the Signals of Giants: Geographic Variation in the Call of the Northern Elephant Seal" (Colleen Reichmuth and Dan Costa, advisers)

Chia-Te Chien: "Temporal Variation of Atmospheric Deposition, Sources and Impact on Phytoplankton Growth of Monterey Bay" (Adina Payton, adviser)

Vanessa Delnavaz: "The Effects of Tag Development on Bowhead Whale (*Balaena mysticetus*) Stroking Patterns" (Colleen Reichmuth, adviser)

Jessica Hanaway-Moore: "Effects of El Niño Southern Oscillation on the Ecology of Sperm Whales (*Physeter macrocephalus*) from Northern Peru" (Matthew McCarthy, adviser)

Christie Hegermiller: "Projected Migration of Pacific Basin Extreme Wave Generation Regions and Future Wave Climate of the U.S. West Coast" (Patrick L. Barnard and Chris A. Edwards, advisers)

Michael Kong: "Insights into Seasonal Variations in Phosphorus Levels and Sources in Monterey Bay" (Adina Paytan, adviser)

Sarah Kienle: "The Differential Foraging Ecology and Habitat Use of Northern Elephant Seals" (Rita Mehta, adviser)

Christopher Law: "Using Functional Morphology to Elucidate Patterns of Tool-Use and Dietary Specialization in the Southern Sea Otter (*Enhydra lutris nereis*)" (Rita Mehta, adviser)

Kimberly Mayfield: "Carbon Dioxide Uptake by Silicate Weathering: Revisited" (Adina Paytan, adviser)

Elizabeth McHuron: "Mercury in a Top Marine Predator: Understanding Variation in Exposure with Geography and Foraging Behavior" (Dan Costa, adviser)

Katie Pelon: "The Effects of El Niño on Marine Mammal Strandings in Central California" (Robin Dunkin and David Casper, advisers)

Sarah McKay Strobel: "The Sensory Ecology of the Southern Sea Otter (*Enhydra lutris nereis*)" (Tim Tinker, Colleen Reichmuth, and Jim Estes, advisers)

Jennifer Teschler: "Characterizing *Vibrio cholerae* Biofilm Composition and Regulation on Chitinous Surfaces" (Fitnat Yildiz, adviser)

Sarah White: "Shifts in El Niño-Southern Oscillation over the Past 10,000 Years" (Christina Ravelo, adviser)

Rachel Zuercher: "The Effects of Year-to-Year Variation in Rates of Delivery of Young Rockfishes on Growth Rates and Population Production of Kelp Forest Fishes" (Mark Carr, adviser)

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