

University of Washington

2012

Friday Harbor Laboratories

Opportunities for Research and Education



Friday Harbor Laboratories

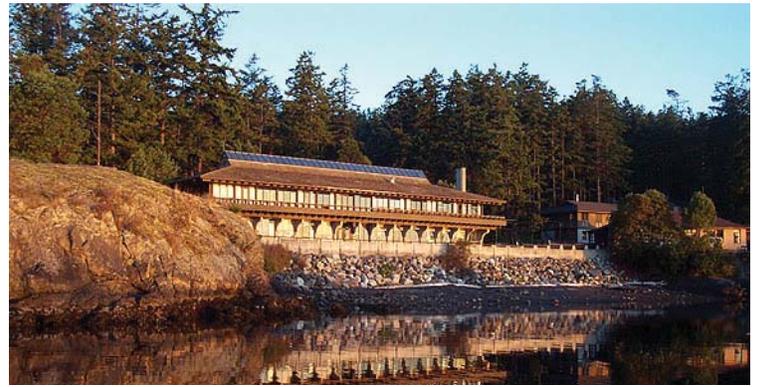
The Friday Harbor Laboratories are well-situated for research on marine biology and oceanography. The waters around San Juan Island are relatively free from pollution and although the salinity is often close to that of the open ocean, there are at times estuarine conditions of low salinity. There are swift tideways as well as quiet bays and lagoons. A tidal range of about three meters exposes diverse intertidal areas of rock, sand and mud. The flora and fauna are exceptionally rich. Representatives of nearly all major groups of marine algae and invertebrates can be collected at the shore, and depths down to 300 meters can be explored by dredging and other collecting techniques. Organisms important for research in physiology, development and ecology are available.

The islands of the San Juan Archipelago are generally rocky, forested and rimmed by precipitous shores. The islands were strongly glaciated and have valleys with lakes, swamps and bogs. The varied terrestrial and freshwater habitats offer diverse flora and fauna for classes and researchers.

The 484-acre tract of land on which the Laboratories are sited, and the marine waters of the region in general, are biological preserves. The Laboratories also manage biological preserves at False Bay and Argyle Lagoon on San Juan Island, at Point George and Cedar Rock on Shaw Island, and other areas. These preserves provide a wide range of protected terrestrial and marine environments for short-term and long-term research projects.

Research at FHL is conducted throughout the year. It is a principal function of the Friday Harbor Laboratories to provide facilities for visiting investigators from national and international institutions. FHL also has a permanent resident research program. Laboratory space and housing for visiting classes and investigators are available year-round. Investigators and students are encouraged to use the facilities outside the busy instructional period in summer. Accommodations are also available for college-level educational groups and for field trips, meetings and symposia. Individuals who wish to apply for research space and housing should do so online at http://depts.washington.edu/fhl/res_index.html. This web site also includes a list of researchers at Friday Harbor Laboratories for previous years and their publications.

FHL endorses San Juan County's Marine Stewardship Area. FHL visitors are asked to assist in protecting fish and invertebrates through rigorous efforts to minimize harvest. At the end of a visit FHL visitors are asked to return organisms to their original site or to pass them on to other scientists or students.



Fernald Laboratory at FHL (W. Calvin)

The Friday Harbor Laboratories are located on San Juan Island in Washington state, part of an archipelago that lies near the Canada-USA border. The town of Friday Harbor may be reached by scheduled airline service from Seattle and by Washington State Ferries from Anacortes about 75 miles north of Seattle.

Courses and Research Apprenticeships

FHL offers educational opportunities for students in spring, summer and autumn. Students earn credits through the University of Washington but do not need to be currently enrolled at UW to attend. Courses and apprenticeships are taught by faculty of the University of Washington as well as other universities and research institutions.

The instructional program in summer is intended primarily for graduate students with the exception of several undergraduate-level courses. Well-qualified undergraduates may be admitted to graduate-level courses with the consent of the director and the faculty of the courses. Summer courses (5 weeks) may be taken sequentially but not concurrently.

Courses in spring and autumn quarters (10 weeks) are targeted to undergraduates and post-baccalaureates. Research Apprenticeships are intense, full-time research training experiences offered to qualified undergraduates and post-baccalaureates in spring and autumn. Small groups work on focused research guided by faculty and graduate student mentors.

Student applications online at:

<http://depts.washington.edu/fhl>
(206) 543-1484 or (360) 378-2165

Scientific Facilities

Laboratories and Equipment: The teaching and research laboratories consist of twelve buildings with running sea water. Walk-in cold rooms, microtechnique room, flume and a workshop are available. Analytical equipment for general use includes centrifuges, computers, scintillation counter, HPLC, LC-Mass spectrometer, PCR thermocyclers and other equipment for molecular biology, spectrophotometers, culture chambers, fluorescence microscope, video equipment, scanning laser confocal microscopes and electrophysiological equipment. A scanning electron microscope and transmission electron microscope may be used by investigators with appropriate training. An Ocean Acidification research laboratory, analytical chemistry laboratory and in-water mesocosms are also available.

Stockroom: The FHL stockroom loans items of small research equipment, labware and photographic equipment to students and investigators and provides consumable lab provisions and reagents at cost. Persons needing unusual materials, large quantities, radioisotopes or special equipment should make arrangements in advance.

Facilities for Scuba Diving & Boating:

Scientific divers certified by the UW or another AAUS institution may use FHL's five boats and a limited number of tanks and weights for specific projects approved by the Diving Officer. Study site information as well as check-out dives are provided by the Diving Officer.

Library: The FHL Library provides a core collection of books, journals and electronic resources with a focus on the marine sciences. Areas of emphasis include developmental biology, cellular biology, oceanography, fish biology, marine botany and marine ecology. Access to the UW Libraries catalog, article indexes and electronic journals is available through the library web page.

Marine Equipment: A 58-foot steel research vessel, the R/V Centennial, equipped for dredging, trawling, net hauling and water sampling is available for classwork and research. The services of an ROV submersible, capable of working to 1000-foot depths, as well as rowboats and outboard powered boats are also available.

Synoptic Collection: A collection of preserved marine animals and plants is available as an aid to identification and location. In addition, files of collecting and study-site surveys and color transparencies of local marine life and habitats are maintained for reference.

Importation of Species: Most imports of marine species into Washington State for research are illegal without a permit from the Washington State Department of Fish and Wildlife. Permits, when granted, will require strict quarantine of non-native organisms with no contact with the FHL seawater system.

Vertebrate Research: Persons intending to work with fish at FHL must do so under a protocol approved in advance by the University of Washington Animal Welfare Office.

The Whiteley Center

The Helen Riaboff Whiteley Center provides a retreat for established scholars and artists to study, write, create and interact with collaborators in a peaceful and stimulating environment. Scholars of any discipline may work at the Center for stays of several days to three months, undisturbed by the conflicting demands of their academic and artistic careers.



Whiteley Study Center (A. Whiteley)

The Center building provides four study rooms, a meeting room and access to the internet. Seven cottages located adjacent to the Study Center provide housing for scholars. Arthur and Helen Whiteley established this Center as a place of collegial interaction, a tribute to the faculty of the UW, and a gift to scholars of all nations. For additional information visit <http://depts.washington.edu/fhl/Whiteley>.

Scholarships & Fellowships

Scholarship and fellowship support is available to qualified students in need. This funding derives from generous donations from FHL alumni and friends of the Laboratories. Financial aid is awarded on the basis of need and merit; admission decisions are not influenced by financial aid needs. Support is available to both undergraduate and graduate students. For additional information regarding scholarships and fellowships please visit <http://depts.washington.edu/fhl/studentFellowships.html>.

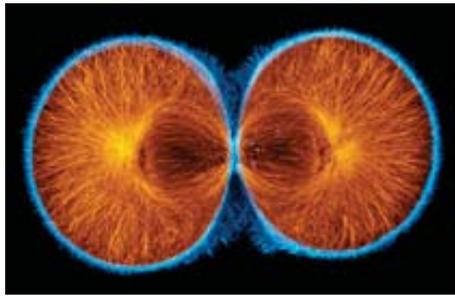
Post-Doctoral Fellowships

FHL will support a post-doctoral scientist for a two-year appointment to establish an active research program and assist the Director and Resident Associate Director in facilitating the efforts of visiting scientists and students. Applications are welcome from scientists with qualifications in any area of marine research readily supportable by FHL. For additional information regarding post-doctoral fellowships, please visit <http://depts.washington.edu/fhl/resPdocFellowInfo.html>.

Mellon Faculty Support

Mellon Foundation support is available for qualified visiting faculty and researchers who bring cultural or ethnic diversity to FHL. It is intended for independent researchers and faculty who serve as research mentors at any time of the year. Interested persons should contact the FHL Director at sebens@uw.edu.

The Center for Cell Dynamics



Green urchin zygote completing first cleavage, stained for microtubules (orange) and actin (blue) (G. von Dassow)

The Center for Cell Dynamics (CCD) conducts innovative research that combines experimental cell and developmental biology with computer modeling. Founded with an NIH-NIGMS Center of Excellence award promoting the emerging field of computational biology. The Center's mandate is to cross-train scientists in bench biology and mathematics/computational modeling techniques while working on complex problems that require both approaches. Research focuses on understanding the mechanisms of morphogenesis, cell division, cell polarization and contractility, and the function and evolution of regulatory gene networks. For additional information on opportunities for collaborative student, post-doctoral and visiting faculty research, please visit the CCD web site at www.celldynamics.org.

Blinks-NSF REU Internships

The Blinks-NSF REU Summer Internship program offers hands-on, full-immersion summer research internships to 10-12 motivated undergrads and post-baccalaureates. By linking students with marine scientists, students learn both the process and the substance of scientific research. Participants in this NSF Research Experiences for Undergraduates program will work 1:1 with a scientist on a full-time basis for eight weeks. The program is funded by the National Science Foundation and the Blinks Endowment, supplemented with generous support from the Andrew W. Mellon foundation, ASCB and FASEB. The 2012 research projects can be found at <http://depts.washington.edu/fhl/REU.html>.



Blinks student researcher (K. Ballard)

Dr. Kenneth P. Sebens, Director

"At the UW Friday Harbor Labs, we are dedicated to providing excellent facilities for research and education in a region with high biodiversity and unique habitats. We serve a broad user group including researchers and students from many institutions and from many countries. I hope you can join us at FHL this year."



Personnel

Administration & Support Staff

Director: Dr. Kenneth P. Sebens

Resident Associate Director: Dr. Adam Summers

Administrator: Scott Schwinge

Advancement: Rachel Anderson

Fiscal Specialist: Aimee Urata

Student Coordinator: Stacy Markman

Facilities Coordinator: Vikky Daucianus

Whiteley Coordinator: Kathy Cowell

Marine Supervisor: Dr. David Duggins

Diving Safety Officer: Pema Kitaeff

Boating Safety Officer: Kristy Kull

Sr. Computer Specialist & R/V Skipper: Dr. Craig Staude

Computer Specialist: Alan Cairns

K-12 Education: Jenny Roberts

Stockroom: Jeannie Meredith

Dining Hall: Laurie Spaulding



The University of Washington reaffirms its policy of equal opportunity regardless of race, color, creed, religion, national origin, sex, sexual orientation, age, marital status, disability, or status as a disabled veteran or Vietnam era veteran in accordance with University policy and applicable federal and state statutes and regulations. The University of Washington is committed to providing access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation in the application process, contact Friday Harbor Laboratories at fhlfac@uw.edu



Friday Harbor Laboratories
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Change Service Requested



Friday Harbor Laboratories (K. Ballard)
Front cover photo: Epiphytic red algae *Smithora naiadum* on eelgrass *Zostera marina* at False Bay, SJI (K. Sebens)