Friday Harbor Laboratories

University of Washington, College of the Environment
Opportunities for Research and Education

2018
The Friday Harbor Laboratories are world renowned for research on marine biology, oceanography and fisheries. The waters around San Juan Island are relatively free from pollution with 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, invertebrates and fish can be collected at the shore and depths down to 300 meters can be explored by dredging and other collecting techniques.

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 490-acre tract of land on which the Laboratories are located, and the marine waters of the region 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. FHL has a permanent staff of faculty and researchers, and also provides facilities for many visiting investigators from national and international institutions. Laboratory space and housing for visiting classes and investigators are available year-round. Investigators and students are encouraged to use the facilities outside of 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](http://depts.washington.edu/fhl/res_index.html). Information on researchers and their publications from previous years at Friday Harbor Laboratories is also available on our website.

FHL endorses San Juan County’s Marine Stewardship Areas. Visitors are asked to assist in protecting fish and invertebrates through rigorous efforts to minimize harvest. See the FHL website for procedures and policies on collecting organisms for research.


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 apply. Courses and apprenticeships are taught by UW faculty as well as faculty from other universities and research institutions world-wide.

The instructional program in summer is intended for graduate students and advanced undergraduates. 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 undergraduate 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. Students report that these experiences make them more likely to choose scientific research as a career option.

Scientific Facilities

**Laboratories and Equipment:** The teaching and research laboratories consist of thirteen buildings with running sea water. Walk-in cold rooms, a microtechnique room, a large flume and a workshop are available. Analytical equipment for general use includes centrifuges, computers, scintillation counter, HPLC, LC-Mass spectrometer, GEMS, 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, transmission electron microscope and CT scanner may be used by investigators with appropriate training. An Ocean Acidification Environmental Laboratory, analytical chemistry laboratory and in-water mesocosms are also available.

**Stockroom:** The FHL stockroom loans 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:**

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**Marine Equipment:** A 58-foot steel research vessel, the RV Centennial, equipped for dredging, trawling, net hauling and water sampling is available for classwork and research. We also offer the services of an ROV submersible, capable of working to 1000-foot depths. 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, 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.

Student applications online at: [http://depts.washington.edu/fhl](http://depts.washington.edu/fhl) (206) 616-0753 or (360) 378-2165 x12

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.

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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.

Arthur and Helen Riaboff Whiteley Memorial (K.Ballard)

The Whiteley Study Center provides four study rooms, a meeting room and access to 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 https://fhl.uw.edu/facilities-resources/whiteley-center/.

Whiteley Study Center (K.Ballard)

Scholarships & Fellowships

Scholarship and fellowship support is available to qualified students in need. This funding is 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 https://fhl.uw.edu/?s=financial+aid

Post-Doctoral Fellowships

FHL supports a post-doctoral scientist for a two-year appointment to establish an active research program and assist the 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 https://fhl.uw.edu/research/postdoctoral-research-fellowship/

Blinks/NSF REU/BEACON Internship Program

The Blinks/NSF REU/BEACON Summer Internship program offers hands-on, full-immersion summer research internships to 12-15 motivated undergrads and post-baccalaureates. By linking students with marine scientists, students learn both the process and the substance of scientific research. Participants in the internship 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, the Blinks Endowment and BEACON. The Andrew W. Mellon foundation, ASCB and FASEB also contribute. The 2016 research projects can be found at https://fhl.uw.edu/research/student-financial-aid-for-research/

Blinks/NSF REU/BEACON student researcher (K.Ballard)

Ocean Acidification Environmental Laboratory

FHL’s Ocean Acidification Environmental Laboratory consists of two major components; indoor mesocosms with temperature and pH control and an analytical chemistry laboratory. The lab is capable of hosting a wide range of projects and serves the needs of FHL and visiting scientists. For additional information visit https://fhl.uw.edu/facilities-resources/ocean-acidification-environmental-laboratory/

Karl F. Liem Bioimaging Center

FHL has a Bruker Skyscan 1173 CT scanner that can image specimens up to 140mm in diameter and 200mm in length with a resolution of 7 µm. This tool will allow visualization of morphology at an unprecedented fine scale level for research.

Dr. Billie J. Swalla, Director

Friday Harbor Laboratories is a premier marine lab with the primary goals of marine research, education and outreach to the community. We strive for the highest quality and serve students and faculty from UW, across the USA and internationally. We hope to see you at FHL this year!

Personnel

Administration & Support Staff

Director: Dr. Billie J. Swalla
Associate Director: Dr. Megan Dethier
Administrator: Jeff Bronstein
Fiscal Specialists: Aimee Urata & Alisa Schoultz
Student Coordinators: Stacy Markman & Dr. Bernadette Holthuis
Facilities Coordinator: Alisa Schoultz
Facilities Group Coordinator: Dr. Bernadette Holthuis
Whiteley Coordinator: Kathleen Cowell
OAEL Manager: Dr. Rebecca Guenther
Manager of Marine Operations: Meegan Corcoran
Dive Safety Officer: Pema Kitaef
Boat Safety Officer: Kristy Kull
Computer Specialists: Alan Cairns & Dylan Crosby
Maintenance Supervisor: Fred Ellis
Dining Hall: Laurie Spaulding & Megan Connelly
Stockroom: Jeannie Meredith & Michelle Herko
K-12 Education: Jenny Roberts

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.

The University of Washington
Front cover: Steller Sea Lion (*Eumetopias jubatus*) (K. Ballard)