

Botany & Plant Pathology

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OSU
Oregon State
UNIVERSITY

OSU is one of a small number of Universities that maintain a formal link between botany and plant pathology.

Opportunities for undergraduates include options in plant ecology & systematics, plant molecular genetics & biotechnology, fungal biology, botanical research, or pre-professional teaching.

Opportunities for graduates include specialization in ecology, genetics, molecular & cellular biology, mycology, plant pathology, or structural botany & systematics.

Producing food, fiber, and medicine for an increasing population. Botany and plant pathology are concerned with the study of plants at all levels of biological organization, from molecular and cellular processes to the global ecosystem. In addition to examining fundamental questions in plant biology, plant scientists in the 21st century are being asked to provide information that increases our understanding of the diversity of plant and ecological systems worldwide and their interactions with humans.

Research

Faculty members in the department have diverse research interests, expertise, perspectives, and approaches. Our programs range from genomic to ecosystem levels of organization and include research in such areas as gene regulation, plant metabolism, pathogenic processes, evolution of plant species, and mathematical modeling of ecosystems and plant disease development.

Interactions between plants and microorganisms, a major focus in our interdisciplinary research, link the department's basic and applied research interests and create a stimulating atmosphere for education and research.

Our faculty teach and advise students enrolled in the undergraduate biology, environmental sciences, and bioresource research programs and in the graduate programs of molecular and cellular biology, environmental sciences, and genetics.

Faculty research focuses on four main themes:

- Fundamental problems in plant biology at the genomic, cellular, organismal, population, community, and larger levels or biological organization.
- Basic and applied problems directly related to plant biology in the natural ecosystems of the Pacific Northwest.
- Fundamental problems related to plant disease processes and the mechanisms of host-pathogen interactions.
- The identification and control of plant diseases directly affecting agriculture and forestry in the state of Oregon.

OSU's undergraduate degree in botany is the only one offered in Oregon. Our departmental structure facilitates interdisciplinary research and training opportunities for faculty and students; this makes it possible for them to address fundamental questions in plant biology as well as applying this knowledge to practical problems related to natural or commercial plant resources.



The research, education, and outreach activities of the department benefit society. OSU botanists, plant pathologists, and their students thrive within an interdisciplinary tradition that explores basic research questions, discovers innovative solutions, and achieves results that connect new knowledge about the world of plants to the people of Oregon.

Botany & Plant Pathology

The Howard Hughes Medical Institute's funded summer experiences for undergraduates bring students to campus for 10 weeks each summer to work on research projects under the guidance of department faculty.

Students receive stipends for this research effort and present papers on their work to a public forum at the end of the summer.

Education

The undergraduate program in the Department of Botany and Plant Pathology is designed for students who wish to receive a B.S. degree in botany and for students pursuing degrees in other fields that require knowledge of plant biology.

The department offers a graduate program leading to the M.A., M.S., and Ph.D. degrees in botany and plant pathology.

A Professional Masters' degree in botany and plant pathology with a concentration in applied systematics is also offered; details on this program can be found at <http://professionalmasters.science.orst.edu/academicprograms/AS/index.htm>.

Outreach

Providing Oregon with extension education in plant pathology is a major service mission. Faculty members are stationed on campus and at research stations located throughout the state.

The OSU Plant Clinic, a designated National Plant Diagnostic Network laboratory, provides service to growers and the general public of Oregon and the western United States.

The OSU Herbarium is the largest and most active in Oregon, with worldwide collections of vascular plants, bryophytes, algae and fungi, provides public service through its identification and inquiry program.

Since 1994, the Oregon Flora Project has been creating a comprehensive resource on 4,516 species, subspecies, and varieties of ferns, trees, grasses, and flowering plants that inhabit, without cultivation, Oregon's diverse landscapes.

The OSU Electron Microscope Facility operates as a service laboratory, offering technical assistance, specimen preparation, and analytical procedures to help visually analyze biological and physical specimens.

Natural History Discovery Days brings about 2000 elementary and middle school students from across western Oregon to OSU twice each year for a fun, field-trip science experience. Faculty and students from BPP join other OSU departments to produce and staff displays.

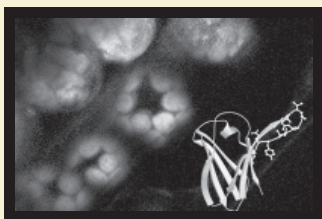
Faculty and students make Science Connections, between working scientists and students in a partnership between OSU and Portland Schools.

Science Education Partnerships in Science, a K-12 program funded by the Howard Hughes Medical Institute and an Eisenhower grant provides faculty expertise and portable labs in science classrooms around Oregon.

Faculty

The Department of Botany and Plant Pathology has 55 faculty members, with honors including:

- 2 Fellows of American Association for the Advancement of Science (AAAS)
- 3 Fellows of the American Phytopathological Society (APS)
- 1 Fellow of Mycological Society of America (MSA)
- 3 APS Novartis/Ciba-Geigy Awards
- 2 APS Lee Hutchins Awards
- 1 APS International Service Award
- 1 APS Excellence in Extension Award
- 1 MSA Alexopoulos Award
- 1 New York Botanical Garden Rubert Barneby Award for Legume Systematics
- 1 OSU Distinguished Professor
- 2 OSU Elizabeth Ritchie Distinguished Professors
- 1 OSU Dar Reese Excellence in Advising Award
- 1 OSU Faculty Teaching Excellence Award
- 1 OSU Extended Education Achievement Award



for more information, please contact:

Department of Botany
& Plant Pathology
Oregon State University
2082 Cordley Hall
Corvallis, Oregon 97331-2902
phone: 541 737-3451
fax: 541 737-3573

email: arpd@science.oregonstate.edu
<http://www.science.oregonstate.edu/bpp>

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