The Department of Molecular Microbiology and Immunology (MMI) at OHSU (www.ohsu.edu/microbiology) is a vibrant research community with faculty members engaged in a wide spectrum of cutting edge research on microorganisms and their interaction with their mammalian hosts, including the immune system. Four general areas of research include bacterial pathogenesis, virology, immunology, and molecular parasitology.

Microbiology and immunology are key to our understanding of basic life processes and to our quest to improve human health. One has only to consider some of the most important public health problems to realize the relevance of these two fields to modern medicine: there is no cure for many of the major diseases such as AIDS and cancer; as many as one in five young adults in this country may be infected with a sexually transmitted virus; and infection by multiple-drug resistant Mycobacterium tuberculosis has raised grave concerns in our nation’s hospitals.

Because we live in a nation with excellent sanitary conditions and have access to high quality health care, many of us are unaware that, worldwide, more people die of infectious diseases than of cancer or heart disease. At a different level, we have yet to understand the intricacies of the immune response, how its components are regulated and how they interact with each other. We have only begun to understand how viruses, bacteria and parasites subvert normal host cellular pathways for their own benefit.

Our graduates obtain postdoctoral fellowships in prestigious labs across the country; our former postdoctoral fellows hold faculty positions at numerous universities and institutes with high research visibility. Some hold high level positions in companies. Our training environment is excellent. Several seminar series on campus expose students to additional research approaches and philosophies and provide opportunities for students to meet researchers at the forefront of their fields. From the beginning of graduate school, each student is assigned a faculty committee that monitors the student’s research progress and provides counsel to the student until completion of his or her thesis project. Students rotate in three research labs in the first three quarters of graduate school. This allows students to experience a variety of research opportunities and to help them choose a mentor for their graduate thesis work. In addition to didactic coursework, which takes approximately 1.5 years to complete, students participate in journal clubs and present their research results in a formal seminar setting every year. They are taught to think critically and independently and to write manuscripts and proposals in the NIH style. All MMI students are fully supported by stipends from NIH training grants or from grants held by their mentors. Students often take less than five years to obtain their Ph.D. degree (a little less for M.D./Ph.D. students).
Curriculum and Facilities

The department is deeply committed to high quality graduate education leading to the Ph.D. degree and is a recipient of a National Institutes of Health Training Grant focused on host-pathogen interactions. Applications of minority candidates to train in the department and for training grant support are strongly encouraged.

Students apply to and enter through the interdepartmental Program in Molecular and Cellular Biology graduate program (www.ohsu.edu/pmcb/) and choose a home department within their first year. The initial year is typically devoted to basic and advanced course work and to several research rotations through the laboratories of faculty members. During the first year, each student begins a program of thesis research under the mentorship of a faculty member and a thesis advisory committee.

Part of the second year is also spent taking more advanced courses and the qualifying examination for Ph.D. candidacy. Subsequently, students devote full time to thesis research but also participate in specialty journal clubs and present an annual seminar on their thesis projects.

Modern laboratories are located both on the Marquam Hill campus basic science quadrangle and on the West Campus at the Vaccine and Gene Therapy Institute (VGTI). In addition to individual laboratories led by faculty members, the department and VGTI operate a number of core facilities that provide access to the latest scientific technologies. These include the department microscopy facility with a high-resolution deconvolution microscope, the microchemistry facility for fully automated DNA sequencing and oligonucleotide synthesis, and core laboratories for analysis of microarrays and for mass spectrometry-based proteomics.

MMI Faculty

Core Faculty

Mary Stenzel-Poore, Ph.D., chair
Eric Barklis, Ph.D.
Eric Cambronne, Ph.D.
Jorge Crosa, Ph.D.
Fred Heffron, Ph.D.
Ann Hill, Ph.D.
David Johnson, Ph.D.
Scott Landfear, Ph.D.
David Parker, Ph.D.
Georgiana Purdy, Ph.D.

VGTI Faculty

Jay Nelson, Ph.D., director
Klaus Früh, Ph.D.
Ashlee Moses, Ph.D.
Janko Nikolich-Zugich, M.D., Ph.D.
Louis Picker, M.D.
Mark Slifka, Ph.D.
Scott Wong, Ph.D.

Want to Know More?

www.ohsu.edu/microbiology
E-mail: mmi@ohsu.edu
phone: 503 494-7768

Program in Molecular and Cellular Biosciences
Mail Code L102
Oregon Health & Science University
3181 S.W. Sam Jackson Park Road
Portland, OR 97239

Mary Stenzel-Poore, Ph.D., Chair, Department of Molecular Microbiology and Immunology

Georgiana Purdy, Ph.D., working with an MMI student in the lab