

BIOLOGICAL SCIENCES IN PUBLIC HEALTH (BPH) PROGRAM

The Program in Biological Sciences in Public Health (BPH), established in 1993, trains students in individual fields of biological research with a focus on prevention and better treatment of diseases affecting large populations. Students in the BPH program obtain a broad interdisciplinary knowledge of both mechanistic and quantitative approaches to biomedical research. The program trains research scientists in the following areas: molecular and integrative physiology; nutritional biochemistry; cellular and organismal metabolism; cancer cell biology; gene regulation in human disease; gene-environment and cell-environment interactions; inflammation and stress response; immunology; infectious diseases involving protozoa, helminths, viruses and bacteria. All of these areas are studied with an emphasis on cellular and molecular biology and genetic approaches to disease mechanisms.

To qualify for admission, applicants must demonstrate strong enthusiasm and ability for the vigorous pursuit of scientific knowledge for optimal human health. Minimal requirements include a bachelor's degree and undergraduate preparation in calculus, physics, biology, and chemistry, both physical and organic.

To apply to the PhD Program in Biological Sciences in Public Health (program #8500), Graduate School of Arts and Sciences online admissions forms must be used. Completed applications and supporting documentation must be submitted online directly to the Graduate School of Arts and Sciences by the December deadline. See www.gsas.harvard.edu.

Students are required to submit their application online via the online GSAS Harvard Integrated Life Sciences (HILS) admissions application. Please make it clear that you're interested in the Biological Sciences in Public Health (BPH) Program (admission code #8500); see GSAS Application Instructions and Information for more details, or contact:

HARVARD GRADUATE SCHOOL OF ARTS & SCIENCES

OFFICE OF ADMISSIONS:

1350 Massachusetts Avenue
Holyoke Center 350
Cambridge, MA 02138-3654
telephone: 617-495-5315, 617-495-5396
e-mail: admiss@fas.harvard.edu
website: www.gsas.harvard.edu

FINANCIAL AID AND COST OF STUDY

All admitted students to the BPH PhD Program, including international students, are guaranteed full funding, which includes a stipend, as well as tuition and health insurance.

PHD PROGRAM IN BIOLOGICAL SCIENCES IN PUBLIC HEALTH PROGRAM OFFICE

Harvard School of Public Health
655 Huntington Avenue, Building 2-111
Boston, MA 02115-6096
e-mail: bph@hsph.harvard.edu
website: <http://bph.hsph.harvard.edu>

FEATURED FACULTY

Barbara Burleigh, PhD

Associate Professor of Immunology and Infectious Diseases
Molecular basis of host cell invasion, signaling and differentiation by the human pathogen, *Trypanosoma cruzi*.

Flaminia Catteruccia, PhD

Associate Professor of Immunology and Infectious Diseases
Reproductive biology of malaria vector, *Anopheles gambiae*; development of new targets for vector control.

Manoj Duraisingh, PhD

Associate Professor of Immunology and Infectious Diseases
Molecular mechanisms underlying the pathogenesis of human malaria.

Robert Farese, Jr., MD

Professor of Genetics and Complex Diseases
Cellular energy metabolism, Lipids, the Plasma Membrane and Neurodegeneration and Systems Biology and Proteomics.

Sarah Fortune, MD

Melvin J. & Geraldine L. Glimcher Assoc. Professor of Biological Sciences
Secretion and pathogenesis in *M. tuberculosis*.

Jeffrey Fredberg, PhD

Professor of Bioengineering and Physiology
Identification of the mechanical basis of airway and lung parenchymal function at the levels of organ, tissue, cell, and protein.

Wendy Garrett, MD, PhD

Assistant Professor of Immunology and Infectious Diseases
Interplay between the innate immune system and intestinal microbial communities.

Tiffany Horng, PhD

Assistant Professor of Genetics and Complex Diseases
Focus is on the transcriptional mechanisms that regulate inflammatory gene expression.

Gökhan Hotamisligil, MD, PhD

Chair, Department of Genetics and Complex Diseases, James Stevens Simmons Professor of Genetics and Metabolism
Regulatory pathways which control energy metabolism

Curtis Huttenhower, PhD

Associate Professor of Computational Biology and Bioinformatics
Computational methods for systems biology using data mining in large genomic data collections.

Lester Kobzik, MD

Professor of Pathology, Department of Environmental Health
Lung macrophage differentiation and function; flow cytometry applications for respiratory cell biology.

Chih-Hao Lee, PhD

Associate Professor of Genetics and Complex Diseases
Nuclear lipid receptors as therapeutic targets of metabolic diseases.

Bernardo Lemos, PhD

Assistant Professor of Environmental Epigenetics
Development of a functional and populational understanding of the mapping between genotypes, phenotypes, and environments.

Quan Lu, PhD

Mark and Catherine Winkler Assistant Professor of Lung Biology
Developing and applying genomewide RNAi tools to study receptor signaling and gene environment interactions.

William Mair, PhD

Assistant Professor of Genetics and Complex Diseases
Molecular pathways underpinning the aging process

Brendan Manning, PhD

Professor of Genetics and Complex Diseases
Signaling pathways underlying tumorigenesis and metabolic diseases.

Matthias Marti, PhD

Assistant Professor in Immunology and Infectious Diseases
Host-pathogen interactions in malaria parasites.

James Mitchell, PhD

Assistant Professor of Genetics & Complex Diseases
Molecular mechanisms of lifespan extension by nutritional intervention.

Eric Rubin, MD, PhD

Professor of Immunology and Infectious Diseases
Virulence factors of mycobacteria; acquisition of virulence determinants of *Vibrio cholerae*; generalized transposon mutagenesis systems for bacteria.

Frank Sacks, MD

Professor of Cardiovascular Disease Prevention
Human lipoprotein metabolism, biochemical epidemiology involving lipoproteins and fatty acids and clinical trials in cardiovascular disease.

Joseph Sodroski, MD

Professor of Pathology, Dept. of Immunology & Infectious Diseases,
Human immunodeficiency virus envelope glycoproteins; HIV-1 vaccine development.

Marianne Wessling-Resnick, PhD

Professor of Nutritional Biochemistry
Regulation of the cellular uptake of transferrin; membrane transport of iron.

Vishal Vaidya, PhD

Assistant Professor of Medicine & Environmental Health
Cellular and molecular mechanisms of kidney exposure biology with a special emphasis on biomarkers, biosensors and tissue regeneration.

Tobias Walther, PhD

Professor of Genetics and Complex Diseases
Cellular energy metabolism, Lipids, the Plasma Membrane and Neurodegeneration and Systems Biology and Proteomics.

Dyann Wirth, PhD

Richard Pearson Strong Professor of Infectious Disease
Molecular genetic analysis of gene expression, malaria parasites.

Zhi-Min Yuan, MD, PhD

Professor of Radiobiology, Director of the John B. Little Center for Radiation Sciences and Environmental Health
Elucidation of signaling mechanisms that regulate cellular stress responses; examining how stress signals affect cell behaviors in the context of cancer.