University of Pennsylvania Department of Biology PhD Program

Tremendous global changes in technology, our economy, and our environment characterize the 21st century. Biology is fundamental to global change, impacting every aspect of living systems and human activity. Biological studies enable us to view global changes in the scientific context of living systems and help place human activity within the universal framework of the natural world.

Penn Biology's Vision is to integrate across scales, from molecules to social assemblies, across technologies, from nano-engineering to robotic vision, and across approaches, from laboratory experiments to data modeling, to transcend the traditional boundaries of biological studies, investigating mechanisms, distributions, and abundances of Life in the Context of the Changing Natural World.

Program features:

- Three laboratory rotations in the first year
- Fully engaged in thesis research by the end of the first year
- Teaching experience is part of graduate training to prepare students for an academic career
- Full tuition and competitive stipend for a minimum of five years
- Paid medical insurance
- Close proximity to other Penn Schools (Medicine, Veterinary Medicine, Engineering and Applied Sciences)
- Urban campus in the City of Philadelphia

For more information, visit http://www.bio.upenn.edu/graduate/application-information or e-mail bio-graduate@sas.upenn.edu

Faculty of the Department of Biology, University of Pennsylvania



Katie Barott, Assistant Professor

Nicholas Betley, Assistant Professor

Dustin Brisson, Associate Professor

Bacterial regulatory circuits and adaptation

Ismail Abdus-Saboor, Mitchell J. and Margo K. Blutt Presidential Assistant Professor Mechanisms of somatosensory encoding with a focus on pain

Impact of environmental stressors on reef-building corals and their microbial symbionts

Ecology and evolution of disease-causing organisms and their natural host populations

Mark Goulian, Charles and William L. Day Distinguished Professor in the Natural Sciences

Decoding the neural basis of feeding and drinking and the circuitry that prioritizes signals of need

Erol Akçay, Assistant Professor Evolution of cooperation and social organization

Nancy Bonini, Florence R.C. Murray Professor

Kimberly Gallagher, Associate Professor

Brian D. Gregory, Associate Professor

Mechanisms of human degenerate disease using Drosophila

Transcription factors as signaling molecules to coordinate plant root development

















Global scale analysis of RNA secondary structure and RNA-protein interactions Wei Guo, Professor Role of exocyst in exocytosis and how cancer cell-derived exosomes influence cancer metastasis and immunosuppression





Junhyong Kim, Patricia M. Williams Term Professor and Department Chair Exploring fundamental mechanisms governing single cell processes and the evolution of these processes

> Michael Lampson, Associate Professor and Graduate Chair Evolutionary cell biology of centromeres and female meiotic drive



Timothy Linksvayer, Associate Professor Genetic and behavioral basis for complex social systems using social insects as a model system

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Joshua B. Plotkin, Professor





Mecky Pohlschröder, Professor and Undergraduate Chair Bacterial and Archaeal cell surface biogenesis and function

Dejian Ren, Professor Regulation of neuronal excitability by ion channel proteins



Lawrence Rome, Professor Design and function of muscular systems for locomotion and sound production

> David S. Roos, E. Otis Kendall Professor Host-pathogen interactions and evolution of the protozoan parasites Plasmodium and Toxoplasma



Marc Schmidt, Professor Computational neuroethology of social behavior in songbirds





Tatyana Svitkina, Professor Structural organization of the molecular hardware of cell motility

> Sarah Tishkoff, David and Lyn Silfen University Professor Human evolution and genetic architecture of traits related to adaptation and disease risk in Africa



Doris Wagner, Robert I. Williams Term Professor (Re)programming of cell identity and function by developmental and environmental cues in the context of chromatin















