Education at URMC – Program Features

Program: Biochemistry & Molecular Biology

Program Co-Chairs: Jeffrey Hayes and Eric Phizicky

Program Coordinator: Rose Burgholzer

Current Faculty Members: 35

Degree offered: Ph.D. in Biochemistry

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About the Program

The Biochemistry & Molecular Biology (BMB) Program is designed for students interested in obtaining a Ph.D. in Biochemistry. As such, the program represents a group of about 35 faculty pursuing cutting-edge research in a wide range of areas that are qualified to mentor a student pursuing thesis research toward the Biochemistry Ph.D. Interested students should apply to the BMB Program for admission to graduate studies at the University of Rochester Medical Center. For more information, please see our website: [http://www.urmc.rochester.edu/education/graduate/phd/biochemistry/](http://www.urmc.rochester.edu/education/graduate/phd/biochemistry/)

Research

Our program offers thesis research opportunities in the areas of DNA Replication, Repair & Recombination, Gene Regulation, Molecular Mechanisms in Cell Function and Disease, Protein Structure & Function, RNA Structure & Processing, and Signal Transduction.
Facilities
BMB faculty occupy more than 80,000 square feet of research and office space at the University of Rochester Medical Center and the adjacent College of Arts and Sciences. Our facilities house all major equipment required for modern biomedical research including a state-of-the-art macromolecular X-ray crystallography facility; nuclear magnetic resonance, CD and fluorescence spectrometers; confocal microscopes and modern imaging and data analysis facilities. In addition, all modern core facilities are available including those for mass spectrometry and transgenic animal studies. Two libraries serve the biomedical research community: the Miner Library in the Medical Center complex; and the Carlson Science Library in the College of Arts and Sciences. The libraries include online access to all research resources.

Equipment
Our Program has access to The Structural Biology & Biophysics Facility, which offers support services and access to state-of-the-art instruments to determine macromolecular X-ray crystal structures, and to investigate protein-protein, protein-nucleic acid, or protein-small molecule interactions. In addition, the High Resolution NMR Facility houses a state-of-the-art NMR including a Varian Unity INOVA 600 NMR spectrometer equipped with four RF channels, pulsed field gradient accessory and triple resonance probes. Our laboratories also house or have access to several large-scale fermentation reactors, Beckman FX liquid handling robots, MicroCal isothermal titration calorimeters, cell sorting and FACS facilities, a Computational Computing Cluster, steady-state and time-resolved fluorescence spectrophotometers, confocal microscopes, phosphoimagers and several other spectrophotometric devices. Finally, our institution houses a broad range of core facilities: http://www.urmc.rochester.edu/research/overview/core-facilities/

What makes us Unique?
Our program encompasses faculty from the departments of Biochemistry & Biophysics, Chemistry, Biology, Pharmacology & Physiology, and Biomedical Genetics, among others. Other unique aspects of our program include individualized training, a truly collaborative environment, emphasis on training in scientific communication skills and coursework framed by the most current discoveries. In addition, our program includes a minimum of 3 two-month research rotations to aid students in identifying the best match for a Ph.D. research advisor and laboratory. Several scholarships and fellowships are also available to top-performing students.