The Department of Molecular Biology and Microbiology provides a focus within the School of Medicine for the study of the growth and development of microorganisms at the molecular level and the host's response to infection. The Department is home to three PhD programs: Cell Biology, Molecular Biology and Microbiology, and Molecular Virology.

Faculty have nationally-funded research programs. Many faculty serve on study sections of national agencies, publish in the most prestigious journals, serve as editors of journals, and take leadership positions throughout the Case Western Reserve University School of Medicine. The department also enjoys numerous collaborations with faculty in the Departments of Biochemistry, Neuroscience, Pathology, Nutrition, Population and Quantitative Health Sciences, Pharmacology, Genetics and Genome Sciences, the Case Comprehensive Cancer Center, the Visual Sciences Research Center, the Center for AIDS Research, and the Center for RNA Science and Therapeutics at Case Western Reserve University, and the Department of Cell Biology at the Lerner Research Center at CCF, because of shared research interests. All these activities create a vibrant scientific environment.

Research areas include the study of normal cell functions, microbial systems, viruses, immunology, and infectious diseases. It is only by developing a thorough understanding of the fundamental biology of cells and pathogenic microbes, their host organisms, and how the two interact during infection that improved strategies for prevention and treatment of infectious diseases can be achieved.

Programs
- Cell Biology, PhD
- Molecular Biology and Microbiology, PhD
- Molecular Virology, PhD

Dual Degrees
- Medical Scientist Training Program (MSTP), PhD/Medicine, MD