



The graduate program in **Molecular Microbiology & Microbial Pathogenesis** focuses on cutting-edge approaches to understanding the basic biology of microbes, their interaction with the environment, and in the case of pathogens, the disease they cause.

Major areas of research include microbial physiology, environmental microbiology and microbial pathogenesis with an emphasis on mechanisms on virulence and host-pathogen interactions. Washington University in St. Louis is ideally suited for training and research in molecular microbiology by virtue of its interdisciplinary graduate program and highly interactive collaborative environment.

Research Environment

Students in the graduate program in Molecular Microbiology & Microbial Pathogenesis conduct research in diverse areas.

research areas include:

- microbial physiology
- molecular genetics
- genomics
- structural biology
- environmental microbiology
- microbial bioenergy
- bacteriology
- mycology
- parasitology
- virology
- host defense, allergy and inflammation
- cell biology of host pathogen interactions
- imaging technologies for cells and whole animals
- immune responses to pathogens

Molecular Microbiology & Microbial Pathogenesis



Required Courses

- Fundamentals of Molecular Cell Biology
- Nucleic Acids & Protein Biosynthesis
- Molecular Microbiology & Pathogenesis
- Graduate Research Fundamentals
- Ethics & Research Science
- Special Topics in Microbial Pathogenesis
- Special Topics Courses and Journal Clubs

Advanced Electives

- Biotech Industry Innovators
- Immunobiology I
- Immunobiology II
- Principles and Applications of Biological Imaging
- Molecular, Cell and Organ Systems
- Macromolecular Interactions
- Molecular Foundations of Medicine
- Developmental Biology
- Chemistry and Physics of Biological Molecules
- Modeling Biomolecular Systems I & II
- Genomics
- Advanced Genetics
- Computational Molecular Biology
- Fundamentals of Computer Science

APPLICATION
DEADLINE

DECEMBER

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EXPLORE & APPLY:
tinyurl.com/dbbstour

For more information about the **MOLECULAR MICROBIOLOGY & MICROBIAL PATHOGENESIS** program and faculty research:

tinyurl.com/dbbs-mmmpfaculty



dbbs-info@email.wustl.edu



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Program Benefits & Support

- Full tuition funding and benefits*, including:
generous stipend | travel funds for scientific meetings | health, life, and disability insurance coverage
- Opportunities to obtain nationally competitive fellowships, awards, and grants
- Free Metro U-Pass to travel in and around the St. Louis area
- Access to all university educational, entertainment, and recreational resources

**guaranteed, provided that satisfactory progress towards completion of degree requirements is met*