

# Department of Microbiology and Cell Biology

## Microbiology and Cell Biology office:

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The Department of Microbiology and Cell Biology (MCB) conducts one of the premier infectious disease research programs in the Northwest, as demonstrated by the success of our faculty in competing nationally for extramural grant funding and publishing high-impact papers. Research funding comes from various sources, such as the National Institutes of Health, the US Department of Agriculture, the National Science Foundation, and the Montana Agricultural Experimental Station. Over the past five years, MCB averaged over \$6 million for annual research expenditures. MCB is also home to an NIH Center of Biomedical Research Excellence in Zoonotic and Emerging Infectious Diseases, which provides substantial core facilities and training opportunities for junior investigators. MBI is housed in a state-of-the-art facility with core laboratories for flow cytometry, cell biology, molecular sciences, and pathogen containment facilities for small (BSL-3) and large animal research (ABSL-2). Instrumentation suites house equipment for DNA sequencing, genomic analysis, flow cytometry and cell sorting, and confocal microscopy.

We are truly unique in our close proximity to Yellowstone National Park.

On our doorstep is one of North America's most exciting microbial ecosystems, ripe with opportunities to discover new microbial life forms and contribute to significant biotechnological advances. Many of our undergraduate and graduate students conduct research in the Park under the mentoring of our distinguished faculty.

The department offers weekly seminars, and the Frank N. Nelson Distinguished Lecture Series brings many accomplished scientists to Montana State University.

## Admission

For detailed information, refer to the department pages' Admission Policies and Application Requirements sections: <https://www.montana.edu/mbi/graduates/GradSchoolAppInfo.html>. The Graduate Core Committee, MCB faculty, and the MCB head will decide on the acceptability of all applicants. The Graduate Core Committee will serve as the "adviser" for all students accepted into the program during their first year of study.

## Research

The research problem will be chosen in consultation with the student's thesis or dissertation advisor. Research areas include microbiology, molecular biology and immunology, bacteriology, cell biology, mycology, parasitology, protozoology, phycology, genetics, biochemistry, ultrastructural cytology, virology, immunopathology, and a strong focus on biomedical research. Specialized equipment and facilities include large and small animal isolation units, a flow cytometry core facility, automated DNA sequencers, proteomics and genomics instrumentation, a microscopy core, numerous analytical equipment, and multiple tissue-culture and histopathology laboratories.

## Financial Assistance

Typically, all students accepted into the MCB graduate program are offered graduate stipends funded by State sources and research grants obtained by

MCB faculty. Teaching assistantships are usually available for partial support after a student is enrolled. Appointments are made on a 12-month basis. See the Graduate Assistantship sections on the department website for detailed information on appointment criteria.

## Graduate Programs

- Cell Biology and Neuroscience (<http://catalog.montana.edu/graduate/agriculture/cell-biology-neuroscience/>)