



The graduate program in **Molecular Cell Biology** provides students with the best possible training for careers as researchers in the life sciences. Students and faculty in the program study a wide array of fundamental processes with the goal of understanding how macromolecules orchestrate cellular activities.

A key strength of the program is the diversity of research questions that can be explored in animal, plant, and bacterial cells. Molecular and cellular approaches are essential for revealing the functions of genes identified from sequencing the genomes of humans, mice, and model organisms. A common theme is the desire to understand how a gene and its product function at the cellular level, and how this is integrated into the physiology of a tissue, organ, and organism. Students participate in pioneering, multidisciplinary research with implications for human health and disease.

Research Environment

The program conducts research in diverse areas.

research areas include:

- apoptosis
- cancer cell biology
- chromosome biology and genome maintenance
- cytoskeleton assembly, cell motility and chemotaxis
- DNA repair, replication, and recombination
- extracellular matrix and tissue mechanics
- mechanisms of enzyme catalysis and inhibition
- mechanisms of transcription and tissue-specific transcription regulation
- membrane excitability
- metabolism
- new imaging technologies for cells and whole animals
- organelle biogenesis
- prion diseases and neural degeneration
- protein trafficking
- receptor-ligand interactions in regulation of cell growth and cell phenotype
- regulation of gene expression and translational control
- signal transduction molecules and pathways
- vascular biology and coagulation

Molecular Cell Biology



Required Courses

- Fundamentals of Molecular Cell Biology
- Nucleic Acids & Protein Biosynthesis
- Graduate Research Fundamentals
- Ethics & Research Science
- Journal Clubs (2 units)

AND *select at least ONE (1) additional course:*

- Advanced Genetics
- Developmental Biology
- Molecular, Cell and Organ Systems
- Molecular Microbiology & Pathogenesis

APPLICATION
DEADLINE

DECEMBER

1

EXPLORE & APPLY:
tinyurl.com/dbbstour

For more information about the **MOLECULAR CELL BIOLOGY** program and faculty research:

tinyurl.com/dbbs-mcbfaculty



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*

DBBS celebrates diversity in all of its forms.

We invite all students to apply, especially those from backgrounds historically underrepresented in the sciences, such as African, Latin, and Native Americans, those with disabilities, and individuals from low-income backgrounds.

To learn more about DBBS' diversity initiatives, visit: <https://tinyurl.com/dbbsdiversity>