Biomedical Sciences Graduate Program (BSGP)
“The Biology of Human Disease”

medicine.osu.edu/bsgp
Welcome from BSGP Leadership

Thank you for your interest in the Biomedical Sciences Graduate Program at The Ohio State University Wexner Medical Center.

Our goal is to train talented, predoctoral students in interdisciplinary approaches to biomedical research to think critically and acquire the proficiencies needed for future success in the rapidly evolving fields within biomedical sciences. Designed to allow graduate students to build a solid foundation for their professional lives as biomedical researchers, the BSGP curriculum maintains high standards of intellectual rigor, fosters creativity and passion for research and provides research opportunities, with selected faculty, that cross traditional disciplinary boundaries.

The BSGP is an umbrella program that includes faculty from multiple departments, and the required courses are the same for all students. We seek to train our students to become part of the biomedical scientist workforce, and to make meaningful scientific discoveries in academia, industry, and government. We welcome students of diverse scientific backgrounds who have the ambition to excel in biomedical research, in both basic research and in science that translates basic research into the medical clinic.

About the Program

The central theme of the Biomedical Sciences Graduate Program is "The Biology of Human Disease." The mission of the program is to improve health care through innovation in research based on an understanding of how multiple organ systems and physiological processes function.

We offer predoctoral trainees a curriculum that maintains high standards for intellectual rigor and creativity, with access to research opportunities that cross traditional disciplinary barriers. The program is supported by a training award from the National Institute of General Medical Sciences at the National Institutes of Health in Systems and Integrative Biology.

Program Highlights

- Broad-based, interdisciplinary curriculum
- Integrative, disease-based approach in basic sciences and translational research
- Early lab experience working alongside Ohio State research scientists
- Ten Areas of Research Emphasis
- Top-ranked medical school in a nationally-recognized academic medical center
- iPad facilitated curriculum
- Annual student retreat with travel award competition
- Analytics training
- Emphasis on science writing and communication
- Grant proposal-based admission to candidacy examination
- Annual Individual Development Plan (IDP)

Joanna Groden, PhD
Vice Dean for Research; Professor, and Vice Chair, Department of Cancer Biology and Genetics; and Co-Director, Biomedical Sciences Graduate Program

Jeffrey Parvin, MD, PhD
Associate Dean for Graduate Studies; holder of the Louis Levy Professorship for Cancer, Department of Biomedical Informatics; and Co-Director, Biomedical Sciences Graduate Program

Amy Lahmers
Director, Biomedical Sciences Graduate Program

The Ohio State University College of Medicine

Biomedical Sciences Graduate Program

Program Statistics

Students admitted annually: 20-30
Average GPA: 3.62
Average GRE: 75th percentile
Total enrollment: 131
Female: 55
Male: 76
Underrepresented: 24
Fellowship awards: 46
Student peer-reviewed publications/year: 99
The Curriculum

The Biomedical Sciences Graduate Program curriculum is efficient, rigorous and balanced, and designed to provide both breadth and depth of high quality training to prepare graduates for successful careers in biomedical research. In addition to the core courses provided in the first and second years, and in agreement with their chosen advisor, students also complete coursework associated with a specific area of research emphasis that enhances their depth of understanding that research area.

Areas of Research Emphasis

Although the Biomedical Sciences Graduate Program is an interdisciplinary program and promotes collaborative interactions, each student will develop a strong core of expertise, which could be within an established area of research. Most students focus their studies on one or more of several established "Areas of Research Emphasis" in which the student completes specific curricular requirements in order to request transcript designation.

The ten areas of research emphasis are:
- Biological Chemistry
- Cancer Biology
- Cellular and Molecular Physiology
- Computational Biology and Bioinformatics
- Experimental Therapeutics
- Genetics and Genomics
- Immunology
- Microbial Pathogenesis
- Neuroscience and Neuromuscular Diseases
- Translational Research

Curriculum

Year One

Laboratory research training begins during the first semester. Students will begin laboratory rotations in one or more research areas of their choosing, and take courses in biomedical sciences concepts, professional and ethical issues in biomedical science, research techniques and resources, research problem solving, and professional development. Students choose their dissertation advisor during the spring of their first year.

Year Two

Students may choose an area of research emphasis. Students will begin coursework in their areas of emphasis, for which they will receive transcript designation, and courses in biomedical informatics and the essential aspects of grant writing and professional development.

Year Three and Subsequent Years

After successful completion of the candidacy examination, students will work primarily on their research projects, take elective courses in their area of research emphasis and attend research seminars, research-in-progress seminars, laboratory meetings and professional development meetings.

The following opportunities are available to afford our students, as participants in the Biomedical Sciences Graduate Program, with exposure to topics related to human health, physiology, disease and research:

- A core concepts course that covers topics relevant to the mechanisms of human disease and emphasizes a systems-integrated perspective on human disease and biomedical research.
- A research problem-solving course that allows trainees to dissect, discuss and critique journal papers relevant to the core course topics.
- A formal course in the responsible and ethical conduct of research.
- A course in the essential aspects of grant writing, using the student’s thesis proposal.
Where Research Meets Practice

Ohio State University research scientists are at the forefront of translating basic science into clinical applications. The hallmark of scientific and discovery-based biomedical research at The Ohio State University Wexner Medical Center is the integration of diverse disciplines to solve our most challenging biological questions and healthcare problems.

Ranked among the best hospitals in the nation, Ohio State’s Wexner Medical Center is a comprehensive medical facility with a three-part mission of research, teaching and patient care. Its facilities include Ohio State’s College of Medicine, six hospitals, two free-standing research institutes and a network of more than a dozen community-based primary and specialty care facilities throughout central Ohio.

The Ohio State University Wexner Medical Center offers more than 20 research centers and institutes and 25 core research laboratories for shared use by health sciences investigators. Clinical research faculty, basic scientists and students all benefit from the shared cost of these resources, and the research environment at Ohio State benefits from the economies of scale that enable timely acquisition of new instrumentation and technologies.

Research Excellence

- One of only 64 members of a National Institutes of Health consortium that speeds the translation of scientific discovery into better patient care
- One of only 45 National Cancer Institute-designated comprehensive cancer center (CCCs) in the United States; the NCI named our CCC “exceptional”—its highest ranking
- Six faculty members currently elected to the Institute of Medicine and two to the National Academy of Sciences
- More than 1,000 active research studies in virtually every medical specialty

Learn more about research opportunities at The Ohio State University Wexner Medical Center: medicalcenter.osu.edu/research