



PROGRAM IN BIOPHYSICS

With student participation in research as its hallmark

Biophysics applies the principles of physics and chemistry and the methods of mathematical analysis and computer modeling to biological systems, with the goal of understanding at a fundamental level the structure, dynamics, interactions, and ultimately the function of biological systems. It seeks to establish a quantitative understanding of biological function from the details of specific molecules to cells and whole systems. Biophysics at Michigan started in the Department of Physics in the 1930s and became an independent program in 2007. Today, we are discovering the underlying physical and physicochemical principles that make biology, medicine, and ultimately, life possible. Cutting-edge experimental techniques like super resolution microscopy and high-performance computer modeling are employed to achieve a quantitative understanding of biological processes and provide the basis for future biomedical breakthroughs like rational drug design or nanomedicine.

Many biophysicists at Michigan direct their investigations towards biomolecules that play a key role in such diseases as ALS (“Lou Gehrig’s disease”), Alzheimer’s disease, HIV, diabetes, breast cancer, and multiple sclerosis. Our nationally unique undergraduate program trains students through a curriculum of dedicated biophysics courses and opportunities to participate in research that enhances their learning and establishes experience in the kind of research necessary for their success in being admitted into top graduate programs and medical schools. Our graduate students go on to postdoctoral positions in first-rate laboratories at Stanford, CalTech, Harvard, the University of Illinois - Urbana Champaign, the Weizmann Institute, Northwestern, and UC Davis. Others get experience in industrial laboratories such as Pfizer or at biotechnology start-ups.

Gifts to continue training these future leaders in biophysics will fund student research experiences, help maintain and upgrade our laboratory equipment, and support graduate students with fellowships that enable us to recruit the very top scholars to LSA. These priorities will help us maintain our status as one of the nation’s most respected programs in biophysics.

STRATEGIC FUND

Gifts to the Biophysics Strategic Fund play a vital role in empowering our program at the University of Michigan to uphold and advance our esteemed position nationally. Expendable, undesignated gifts of any amount are instrumental in providing a flexible response to emerging opportunities and pivotal needs that ensure our program's stability and growth. These funds can allocate resources to seed new faculty research, develop innovative curricula, purchase or repair essential research and teaching lab instruments, and support enriching student activities and clubs. Through these efforts, we are equipping the brightest minds to excel in a liberal arts education, confront contemporary challenges, and drive ideas and breakthroughs that resonate not just in Michigan but across the globe.

GRADUATE FELLOWSHIPS AND RESEARCH FUND

To attract top-tier graduate talent and foster a diverse academic community, it is crucial to present a compelling support package. An endowed gift of \$1M or an annual contribution of \$50,000 to our fund helps provide incoming graduate students in Biophysics with a robust foundation for success. This support allows them to immerse in intensive research and integrative activities within the department's culture before joining specific lab groups. It also backs their cutting-edge independent research, offering additional support for presenting at conferences, publishing results, and contributing to the vital goal of expanding the diversity among our graduate cohorts. By investing in our program, donors can enhance our commitment to excellence through a more inclusive and innovative research environment.

UNDERGRADUATE STUDENT RESEARCH EXPERIENCE FUND

Gifts will allow Biophysics undergraduate majors to take part in summer research experiences, which are essential for students seeking admission into top graduate programs or related employment positions. These experiences, which often lead to participation in scientific meetings and publications, not only enhance educational outcomes but also prepare students for the next steps in their academic and professional journeys. Contributions to this fund, especially in the range of \$10,000 - \$50,000 annually, are invaluable, as they provide the financial backbone for these opportunities.



“Thanks to the biophysics fellowship, I was able to explore three different laboratories, carry out research in nicotine addiction [and more]. This enriching experience not only expanded my scientific horizons and helped me establish valuable connections, but also empowered me to select the ideal laboratory where I will dedicate my efforts for the next four years.”

–Lina Peña, Graduate Student



COMMON EQUIPMENT FUND

The Program in Biophysics operates and maintains multiple state-of-the-art pieces of instrumentation and equipment that are necessary to conduct biophysical research. Collectively these instruments and equipment make up the Biophysics Common Equipment collection, which plays a key role in the department's educational and research mission. Furthermore, cross-department use of the Biophysics Common Equipment is an important part of the collaborative and interdisciplinary values of University of Michigan and STEM fields. Maintaining a laboratory with this type of equipment as well as continuing to provide access to faculty from different departments requires ongoing funds for equipment maintenance and repair, supplies, and technical support for the equipment. Gifts of \$100,000 annually or an endowed gift of \$2M would help ensure our equipment remains some of the best in the nation.

INTERNATIONAL STUDENT EXPERIENCE FUND

Contributions of \$10,000 - \$50,000 annually would support summer research experiences for international undergraduate and graduate students, fellowships for outstanding international students who could not otherwise be recruited to our graduate program, hiring of the highest caliber post-doctoral fellows, and bringing visiting scholars to teach and interact with our faculty and students, enhancing the diversity of researchers at the undergraduate, graduate, and post-doctoral fellows levels.

WAYS TO FUND YOUR GIFT

Your gifts of cash, pledges, or appreciated securities change lives. Wills, estate, and planned gifts allow you to create a lasting legacy that will enable the best and brightest minds to experience a liberal arts education, solve problems in a changing world, and yield ideas and innovations that will make a difference in Michigan and around the globe.

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