



PURDUE SCHOOL OF ENGINEERING AND TECHNOLOGY, IUPUI

## HOUSING

Students who wish to live on or near campus will find a number of options. The Tower is a traditional co-ed residence hall for first year students under the age of 21. Rooms include twin beds, desks, bathroom and are air-conditioned. Most rooms are doubles. The Tower also includes a fitness center, laundry room, lounge, study rooms, computer lab and a full-service dining hall. North Hall is the first traditional residence hall constructed at IUPUI since the founding of the campus in 1969. The 172,000 square-foot building, located on North Street, houses 700 students. The residence hall promotes resident interaction through the creation of welcoming common spaces, including a grand lobby and micro-lounges throughout each residential floor. Additionally, the building features a computer lab, game room, fitness area, laundry facility, a large programming area, and two classrooms. A STEM (Science, Technology, Engineering, and Math) Living Learning Community in North Hall is available for freshman in the School of Engineering and Technology and Science, as well as a Women in Science and Engineering (WISE) wing. Resources available to STEM Community participants include tutoring, career investigation, social and first year programs.

Transfer and continuing students may choose to live in Purdue House in the Campus Apartments on Riverwalk. Each apartment has either two or four individual bedrooms with full-size beds, two bathrooms, furnished living room and kitchen (including washer, dryer, and dishwasher). There is also a 24-hour computer lab on site for students.

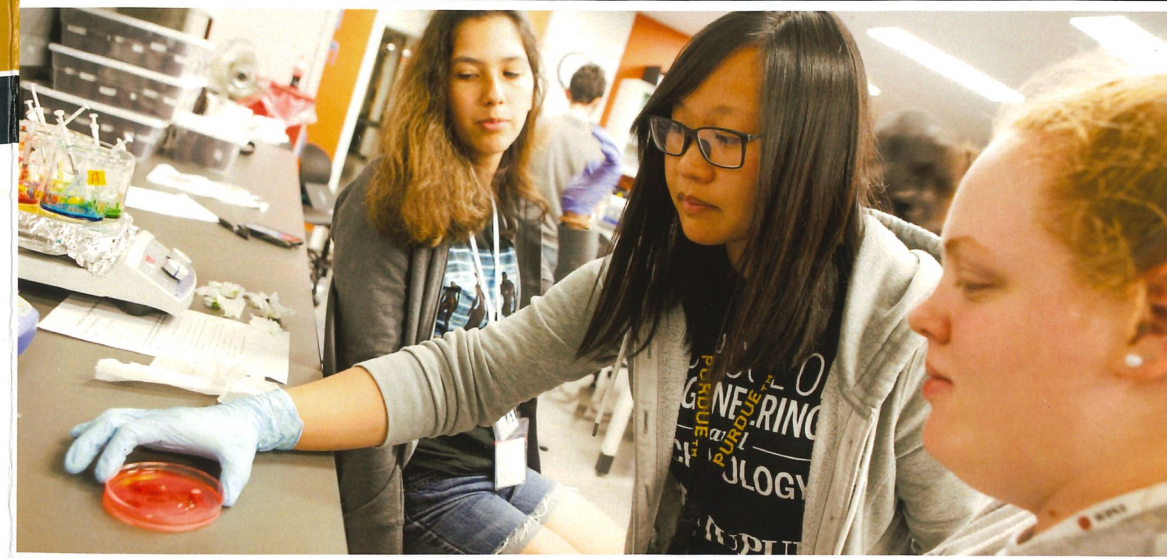
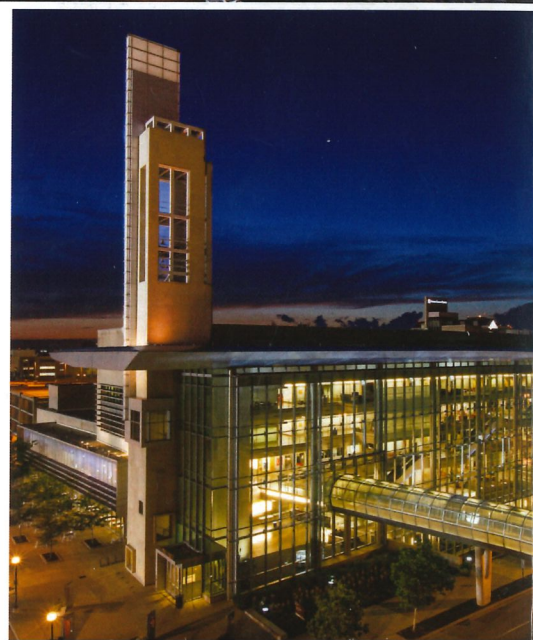


## ADMISSION REQUIREMENTS

- Earned a 4-year Bachelor's degree program in engineering accredited by ABET, the Accreditation Board for Engineering and Technology, Inc.
- GPA of 3.0 on a 4.0 scale or an overall "B" (75%) grade equivalent.
- Graduate Record Examination (GRE), and
- TOEFL or IELTS for international applicants whose first language is not English.

## APPLICATION AND PROGRAM CONTACTS

**BIOMEDICAL ENGINEERING GRADUATE PROGRAM OFFICE**  
IUPUI - School of Engineering and Technology, IUPUI  
723 West Michigan Street, SL 220 Indianapolis, IN 46202  
P: 317.278.2415 | F: 317.278.2455  
bmegrad@iupui.edu | [www.engr.iupui.edu/departments/bme](http://www.engr.iupui.edu/departments/bme)



## GRADUATE PROGRAMS: BIOMEDICAL ENGINEERING

[WWW.ENGR.IUPUI.EDU/BME](http://WWW.ENGR.IUPUI.EDU/BME)

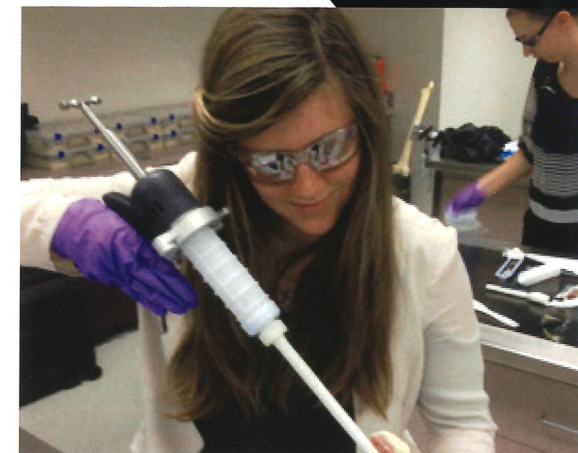
## PURDUE SCHOOL OF ENGINEERING AND TECHNOLOGY, IUPUI

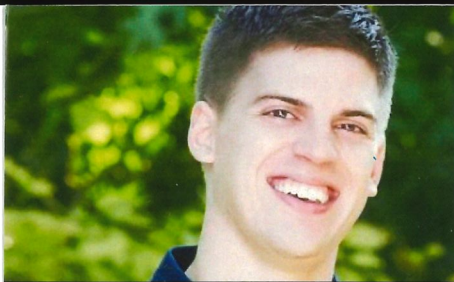
## WELCOME TO BIOMEDICAL ENGINEERING AT IUPUI!

As biomedical engineers, we apply engineering principles to solving problems in biology and medicine. Using tools of BME, we are advancing our knowledge of biomedical sciences and using engineering expertise to enhance human life and health care. BME students not only develop knowledge and skills in a multitude of engineering disciplines, they are also working at this exciting interface with living systems, from cells to tissues to animals and humans.

Biomedical engineers may be called upon to design implantable instruments and devices, to bring together knowledge from different fields to invent a new therapy, or to develop and implement novel technology in research on solutions to medical diseases. With the continuous advancement in science, medicine, and technology, this is an exciting time to be in BME!

If you are considering a Biomedical Engineering career, we offer Bachelor's, Master's, and Ph.D. programs in BME at IUPUI.





» CALEB COMOGLIO,  
CURRENT MSBME STUDENT

"During my time at IUPUI, I learned valuable skills in the classroom and gained experience through research and competitive internships. BME has prepared me for life outside of the classroom and allowed me to travel the world, all while doing what I love."

» YIZHI JIANG,  
RECENT MSBME GRADUATE

"The interdisciplinary research in BME enables me to be involved in medical research as an engineer, and there are a lot of research opportunities going on at IUPUI that help us to find our own career. The professors and staff at BME department are always helpful and willing to share ideas with students from various backgrounds."

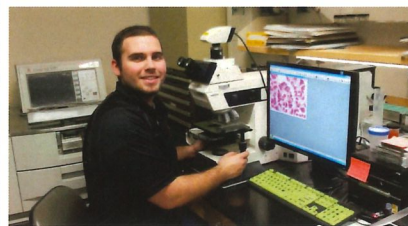


## BIOMEDICAL ENGINEERING EDUCATION AT IUPUI

Students who graduate from our program with B.S. degrees move on to industry jobs, medical school, or other graduate schools.

**MSBME:** Master of Science in Biomedical Engineering. The Master's Degree Program provides numerous opportunities for students to specialize in highly marketable areas. You do not need to have an undergraduate engineering degree to pursue this program.

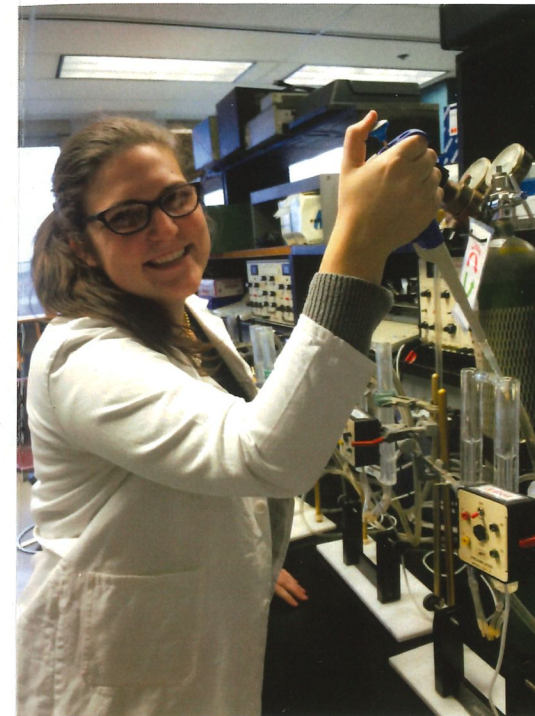
**PhD:** Doctor of Philosophy in Biomedical Engineering. The Doctoral Program is a joint campus effort with Purdue University, West Lafayette. Students apply to the West Lafayette campus and can take courses and do their research in Indianapolis. A particularly attractive program is the MD/PhD program aimed at outstanding students with full scholarship/stipend support available.



## OPPORTUNITIES IN BIOMEDICAL ENGINEERING

Biomedical engineers are employed in industry, in hospitals, in research facilities of educational and medical institutions, in teaching, and in government regulatory agencies. They may serve a coordinating or interfacing function, using their background in both the engineering and biomedical fields. In industry, they may create designs where an in-depth understanding of living systems and of technology is essential. They may be involved in performance testing of new or proposed products. Government positions often involve product testing and safety and establishing safety standards for devices. In the hospital, the biomedical engineer

may provide advice on the selection and use of medical equipment, as well as supervising its performance testing and maintenance. They may also build customized devices for special health care or research needs. In research institutions, biomedical engineers participate in or direct research activities in collaboration with other researchers with such backgrounds as medicine, physiology, and nursing. They could also supervise laboratories and equipment. Some biomedical engineers are technical advisors for marketing departments of companies and some are in management positions. Some biomedical engineers also have advanced training in other fields such as business or law. For example, many biomedical engineers also have an M.D. degree, thereby combining an understanding of engineering with direct patient care or clinical research.



## BIOMEDICAL ENGINEERING RESEARCH AT IUPUI

The **Biomechanics and Biomaterials Research Center** involves more than 30 investigators from the Schools of Medicine, Dentistry, and Engineering. The Center includes 11 Core research laboratories of which three (Orthopedic Research Lab, Musculoskeletal Research Lab, and Computational and Experimental Biology Lab) are engaged in studies specifically involving orthopedic biomechanics. Biomaterials research covers the areas of bioartificial membranes and surface properties of biomaterials.

The **Krannert Institute of Cardiology** is one the major academic programs in cardiology in the US. Many faculty participate in joint cardiology/engineering research in areas of cardiac electrophysiology, vascular biology, and tissue engineering. Numerous technologies have been developed and refined for use in clinical practice through these faculty members including cardiac pacemakers and defibrillators, ablation therapy, new catheterization devices, and the growth of bioengineered cells in the heart.

**Imaging** has several modalities and application areas throughout the campus primarily in the Department of Radiology and the School of Dentistry. These faculty utilize the entire array of clinical imaging systems including x-ray tomography, PET, MRI, and ultrasound and are widely recognized as leaders in neurological, cardiovascular, oncologic research, and tissue characterization.

The BME Program has a new focus in **biomolecular engineering**. Rapid progress in molecular biology is opening up a new arena in biomedical engineering. These research areas currently focus on bio-molecule structure and function as well as nano-technologies used in the design of biosensors. In addition there are significant research opportunities in bioinformatics, drug discovery, and health informatics.

**Neurosciences** overlap with many areas in BME ranging from the development of cochlear implants to basic electrophysiology to model ion channel dynamics using real time feedback control of in vitro membrane responsiveness. In both cases students have developed novel digital signal processor-based devices to enhance both clinical application and scientific discovery.