The Department of Biomedical Engineering administers the undergraduate major and minor in biomedical engineering. The department's graduate program is a part of the University-wide Intercollege Graduate Degree Program, offering both M.S. and Ph.D. degrees in bioengineering. Our research and education missions focus on applications of engineering principles and technologies to medical and life sciences for the betterment of human health and society.

Minors and Degrees Offered

Bachelor of Science (B.S.)
- Biomedical Engineering with 4 specialized degree options (biochemical, biomaterials, medical imaging and devices, and biomechanics)

Master of Science (M.S.)
- Biomedical Engineering: one-year, non-thesis resident path
- Bioengineering

Doctor of Philosophy (Ph.D.)
- Bioengineering

Doctor of Philosophy (Ph.D.)/Doctor of Medicine (M.D.)
- Dual Degree Bioengineering and Medicine

Our Students are Engaged:

APPROXIMATELY 75% Penn State BME students who participate in experiential learning: Co-ops, internships, undergraduate research opportunities, study abroad opportunities, and global capstone projects

Degrees Awarded (2016-17)

- 4 One-Year Master’s
- 9 Ph.D.
- 10 Master’s
- 78 Undergraduate
- 101 Total Degrees in BME

Faculty (2015-16)

- 6 Professors
- 4 Associate Professors
- 2 Assistant Professors
- NEW HIRES 2016 – 2018

Cheng Dong
Department Head
Research Labs and Facilities:
- Active Biomaterials Lab
- Artificial Heart Lab and Cardiovascular Fluid Dynamics Lab
- Biophotonics and Ultrasonics Imaging Lab
- Cellular Biomechanics Lab
- Human Stem Cell Engineering Lab
- Mechanobiology Lab
- Minibio Micro and Nano Integrated Biosystem Lab
- Molecular Biomechanics Lab
- Multimodal and Computational Neuroimaging Lab
- Musculoskeletal Regenerative Engineering Lab
- Nanotherapeutics and Regenerative Biomaterials Lab
- Pluripotent Stem Cell Engineering Lab
- Precision Therapeutics and Bioresponsive Materials Lab
- Systematic Bioengineering Lab
- Transformative Biomaterials and Biotechnology Lab
- Translational Neuroimaging and Systems Neuroscience Lab

University-wide Research Centers and Institutes:
- Clinical Translational Science Institute (CTSI)
- Heart and Vascular Institute
- Huck Institutes of the Life Sciences
- Institute for Cyber Science
- Materials Research Institute
- Penn State Cancer Institute
- Penn State Hershey Medical Center
- Social, Life, and Engineering Sciences Imaging Center (SLEIC)

Research Areas:
- Artificial Organs
- Biological Liquid Crystals
- Biomaterials
- Biomechanics
- BioMEMS and Nanotechnology
- BioPhotonics and Ultrasonics Imaging
- Cardiac Regenerative Medicine
- Cardiovascular Engineering
- Cell and Molecular Bioengineering
- Cell Signaling and Cancer
- Diagnostic Tools
- Genome Editing
- Human Pluripotent Stem Cells Transformation
- Interfaces and Surfaces
- Mathematical Modeling of Cell Motility
- Mechanobiology
- Multimodal and Computational Neuroimaging
- Nanomedicine and Drug Delivery
- Neuroimaging
- Novel Optical, Ultrasound, and Photoacoustic Imaging/Sensing Technologies
- Novel Stimuli-Responsive Biomaterials for Precision Medicine
- Systems Biology
- Targeted Immunotherapy and Microbiome Engineering
- Tissue Engineering and Regenerative Medicine

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