# Biomedical Engineering

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| Phone: | 314-935-7208 |
| Website: | https://bme.wustl.edu/academics/undergraduate-programs/index.html |

## Faculty

### Chair

**Lori A. Setton**
Lucy and Stanley Lopata Distinguished Professor of Biomedical Engineering
PhD, Columbia University
Biomaterials for local drug delivery; tissue regenerations specific to the knee joints and spine

### Endowed Professor

**Rohit V. Pappu**
Gene K. Beare Distinguished Professor of Biomedical Engineering
PhD, Tufts University
Macromolecular self assembly and function; computational biophysics

### Professors

**Dennis L. Barbour**
MD, PhD, Johns Hopkins University
Application of novel machine learning tools to diagnose and treat disorders of perception and cognition

**Cory Berkland**
PhD, University of Illinois
Developing new therapeutics and biomaterials for improving human health

**Hong Chen**
PhD, University of Washington
Physical acoustics; therapeutic ultrasound and ultrasound imaging

**Jianmin Cui**
PhD, State University of New York–Stony Brook
Ion channels; channel structure-function relationship; biophysics

**Song Hu**
PhD, Washington University in St. Louis
Optical and photoacoustic technologies for high-resolution structural, functional, metabolic and molecular imaging in vivo

**Daniel Moran**
PhD, Arizona State University
Motor control; neural engineering; neuroprosthetics; movement biomechanics

**Baranidharan Raman**
PhD, Texas A&M University
Computational and systems neuroscience; neuromorphic engineering; pattern recognition; sensor-based machine olfaction

**Jin-Yu Shao**
PhD, Duke University
Cell mechanics; receptor and ligand interactions; molecular biomechanics

**Jon Silva**
PhD, Washington University
Ion channel biophysics

**Yan Yu**
Art Krieg Professor of Chemistry and of Biomedical Engineering
PhD, University of Illinois, Urbana-Champaign
Integrate nanotechnology and imaging techniques to study, detect, and manipulate the immune system and diseases

**Chao Zhou**
PhD, University of Pennsylvania
Optical coherence tomography

**Quing Zhu**
Edwin H. Murty Professor of Engineering
PhD, University of Pennsylvania
Biophotonics and multimodality ultrasound and optical imaging

### Associate Professors

**Abhinav Kumar Jha**
PhD, University of Arizona
Development of computational-imaging solutions for diagnosing and treating diseases

**Jai S. Rudra**
PhD, Louisiana Tech University
Peptide-based biomaterials; immunoengineering; immunology of nanoscale aggregates; development of vaccines and immunotherapies

**Kurt A. Thoroughman**
PhD, Johns Hopkins University
Human motor control and motor learning; neural computation

**Michael D. Vahey**
PhD, Massachusetts Institute of Technology
Biophysical mechanisms of infectious disease; fluorescence microscopy; microfluidics

### Assistant Professors

**Yifan Dai**
PhD, Case Western Reserve University
Decodes and encodes the physical chemistry of biological soft matter to understand biology and engineering precision medicine

**Nate Huebsch**
PhD, Harvard University
Cell-material Interactions, iPSC-based tissue modeling to study cardiac development and disease

**Christine M. O'Brien**
PhD, Vanderbilt University
Developing optical spectroscopy and imaging tools to solve global problems in maternal-fetal health and reproductive diseases

**Alexandra Rutz**
PhD, Northwestern University
Engineering of electronic tissues using materials design and fabrication-based approaches

**Ismael Seáñez**
PhD, California Institute of Technology
Neuro-rehabilitation tools and programs that promote active use of residual mobility and maximize recovery through the use of body-machine interfaces

## Teaching Professor

**Patricia Widder**
MS, Washington University

## Senior Lecturer

**Katherine Schreiber**
PhD, Saint Louis University

## Professor of Practice

**Joseph Klaesner**
PhD, Vanderbilt University

## Senior Professor

**Larry Taber**
PhD, Stanford University
Mechanics of growth and development; cardiac mechanics

## Senior Emeritus Professors

**Yoram Rudy**
Fred Saigh Distinguished Professor of Engineering
PhD, Case Western Reserve University
Cardiac electrophysiology; modeling of the cardiac system

**Frank Yin**
MD, PhD, University of California, San Diego