



Biomedical engineers apply the principles of engineering to the field of human healthcare. The University of Arkansas Department of Biomedical Engineering, which was established in 2012, has already made an impact on this relatively new field. Biomedical engineering researchers possess technical expertise in biomechanics and mechanobiology, biomaterials, biomedical optics and imaging, cell and tissue engineering and molecular engineering. Their recent research and development efforts are significantly impacting therapeutics and diagnostics in cancer, neuroengineering, cardiovascular engineering, regenerative medicine and orthopedics.

Faculty in this department have received national and international recognition through National Science Foundation CAREER awards, as well as funding from the National Institutes of Health, the National Science Foundation and the Department of Defense. Several faculty members in this department hold medical degrees in addition to doctorates, making them ideally suited to translate academic research and training into clinical treatments. Faculty in this department actively participate in multidisciplinary projects, teaming up with researchers in biology, biochemistry, chemistry, electrical engineering and chemical engineering.

Through research and capstone design experiences, students in biomedical engineering are gaining hands-on experience in healthcare and learning to solve problems at the interface of engineering and medicine.

2016-2017 STUDENT STATISTICS

Undergraduate

184

Graduate

33

Female

50%

Ethnic Minority

25%

First Generation Undergraduate

20%

Placement¹

86%

¹Self reported percentage of students graduating in the past two years who were employed as engineers or attending graduate school within three months of graduating.





DEPARTMENT HEAD

RAJ RAO

biomedical-engineering.uark.edu

Last Updated 5/8/2017

RESEARCH AREAS

BIOMECHANICS AND MECHANOBIOLOGY

The study, both experimental and computational, of the structure and function of biological systems as it relates to principles grounded in mechanics. Research in this area also involves the understanding of how mechanics alters and modulates the structure and biology of cells and tissues.

BIOMATERIALS

Developing novel materials that are engineered to interact with biological systems. Study in this area focuses on both the mechanical and physicochemical integration of these biomaterials as well as biological interactions at the surface of these materials.

BIOMEDICAL OPTICS AND IMAGING

Development of novel optical tools and methods for improving health care, medicine and biomedical research, by creating visual representations of the structure, function and biology of organs, tissues and cells.

CELL AND TISSUE ENGINEERING

Development of bioprocesses for the manufacture, synthesis, modification and regeneration of genes, cells, tissue and organs.

MOLECULAR ENGINEERING

A field that studies the nano- and sub-nanoscale molecular properties, behavior and interactions that will inform biological, chemical and physical material and systems design at larger length-scales.

Tenured and Tenure
Track Faculty

9

New Research Awards FY 2016

\$1.9M

CHAIRS AND PROFESSORSHIPS

Raj Rao

George M. and Boyce W. Billingsley
Endowed Chair in Engineering