



Undergraduate Research Opportunities

in

Biomedical Engineering Research

The *systematic bioengineering laboratory* (SBL) at the Department of Aerospace and Mechanical Engineering has several openings for undergraduate researchers. Our lab focuses on micro and nano technology for biological applications, such as molecular/cellular biomechanics, point-of-care diagnostic, and systems biology.

Current available projects include:

- i) Electronic interfaces for single cell manipulations
- ii) Miniaturized peristaltic pumps for point-of-care diagnostic systems
- iii) Particle tracking velocimetry using molecular and nanoscale probes
- iv) Systematic modeling of biological networks

Skills could be acquired during the course of the research:

- Basic biochemistry and biomedical engineering
- Engineering design and testing
- LabView and data acquisition
- Micro/nano fabrication using soft lithography
- Epi-fluorescence microscopy
- Matlab and/or SBML (Systems biology markup language)
- Digital image processing

These projects are available on a semester or year basis during which the students will be fully integrated to the laboratory. The study could lead to credits in independent study, which will be valuable experience for medical school, graduate school, and job applications. Further information about SBL can be found at: <http://www.ame.arizona.edu/research/sbl/>

To apply, please send your name, major, and resume to:

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<http://www.ame.arizona.edu/research/sbl>