

# AGRICULTURAL AND BIOLOGICAL ENGINEERING

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<b>Graduate Program Head</b>	Suat Irmak
<b>Program Code</b>	ABENG
<b>Campus(es)</b>	University Park (Ph.D., M.S.)
<b>Degrees Conferred</b>	Doctor of Philosophy (Ph.D.) Master of Science (M.S.) Dual-Title Ph.D. and M.S. in Agricultural and Biological Engineering and International Agriculture and Development Dual-Title Ph.D. and M.S. in Agricultural and Biological Engineering and Operations Research
<b>The Graduate Faculty</b>	View ( <a href="https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=ABENG">https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=ABENG</a> )

Agricultural and Biological Engineering offers students the opportunity to gain expertise in areas of engineering for biological/agricultural systems corresponding to their professional interests. Graduate students select research projects (and supporting course work) from a wide range of interest areas that match faculty research expertise. Research projects are available in:

- physical properties of biological materials
- plant and animal production systems
- food engineering
- wood engineering
- agricultural structures
- agricultural safety
- food safety
- bulk solids handling and storage
- agricultural systems engineering
- agricultural by-product utilization
- forage processing and handling systems
- electronics instrumentation
- online computer control systems
- erosion and sedimentation control
- waste management
- water quality
- natural resources management and conservation

Excellent facilities, including equipment and instrumentation, are available for research in the designated areas. Among the special facilities are:

- field plot areas
- a full-scale sedimentation basin test facility
- hydraulic flumes
- sedigraph
- gas and ion chromatography units
- atomic absorption unit
- rainfall simulators

- food properties lab
- food equipment and processing lab
- microbiological engineering lab
- fermentation lab
- computer vision systems
- hydraulic and pneumatic test stands
- fabrication shop
- electronics instrumentation
- microcomputer laboratory
- controlled environment chambers
- composite characterization labs
- wood structures lab
- wood mechanics lab

Collaborative arrangements allow access to a large variety of other resources:

- Penn State Institutes of the Environment and Energy
- Huck Institutes of the Life Sciences
- Materials Research Institute
- Materials Characterization Laboratory
- Nanofabrication Facility
- Penn State Institute for CyberScience
- PA Housing Research Center
- Center for Food Manufacturing
- USDA Pasture Systems and Watershed Management Research Lab
- a mushroom research and demonstration facility
- a 1,500-acre agricultural research center for cooperative work with agronomic and horticultural production systems as well as animal production systems