



The Department of Electrical Engineering has the highest rate of research in the college, as well as the largest graduate program. This department is home to world-class expertise and facilities in power electronics, electronic packaging, imaging technology and optoelectronics.

Researchers in this department are developing new electronic devices such as power modules for that are more durable and energy-efficient. They are using terahertz imaging to advance the assessment of breast tumor margins, which has the potential to significantly reduce the number of breast cancer patients who have to undergo second surgeries, cancer reoccurrence and metastasis. They are also working with brand new materials based on sapphire and silicon-germanium-tin to develop new optoelectronic structures.

Faculty in the department contribute their skills to five research centers, including a National Science Foundation Engineering Research Center and an Industry-University Cooperative Research Center. These centers connect electrical engineering researchers with colleagues from other departments, colleges and universities, as well as bringing together academic researchers and industry stakeholders. These connections make the electrical engineering department a hub of interdisciplinary research with real-world applications.

2016-2017 STUDENT STATISTICS

Undergraduate

216

Graduate

123

Female

17%

Ethnic Minority

22%

First Generation Undergraduate

36%

Placement¹

92%

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

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RESEARCH AREAS

- Communications, digital signal processing, and sensor networks
- Electronics and electronic packaging, analog and mixed signal, and integrated circuits
- Power systems, power electronics, renewable energy, and control
- RF and microwave, electromagnetics, antennas, and terahertz
- Semiconductors, nanotechnology, optoelectronics, photovoltaic, & photonics
- Biomedical imaging and non-destructive evaluation of materials

Tenured and Tenure
Track Faculty

16

CENTERS

- Center for Power Optimization of Electro-Thermal Systems
- Cybersecurity Center for Secure Evolvable Energy Delivery Systems
- Grid-Connected Advanced Power Electronic Systems
- High Density Electronics Center
- National Center for Reliable Electric Power Transmission

New Research Awards FY 2016

\$14.6M

CHAIRS AND PROFESSORSHIPS

Juan Balda

The Twenty-First Century Leadership
Chair in Engineering

Alan Mantooth

The Twenty-First Century Research
Leadership Chair

FELLOWS

- Simon Ang: City and Guilds of London Institute (UK), Electrochemical Society, Institute of Electrical and Electronics Engineers, Institute of Engineering and Technology (UK)
- Samir El-Ghazaly: Institute of Electrical and Electronics Engineers
- Omar Manasreh: Institute of Engineering and Technology (UK)
- Alan Mantooth: Institute of Electrical and Electronics Engineers
- Hameed Naseem: National Academy of Inventors
- Jim Rankin: American Institute of Aeronautics and Astronautics