

Electrical & Computer Engineering

**Departmental Focus Areas:**

The Department of Electrical & Computer Engineering (EECE) has three research focus areas: i) Electrical Systems, ii) Biomedical Systems, and iii) Intelligent Information Systems. The Department received \$ 2,209,000 in external research awards in calendar year 2005 and \$ 2,835,433 in calendar year 2006.

**Connections to University Focus Areas:**

Several research endeavors as part of the Electrical Systems area support the University's hazard mitigation focus via homeland security and related defense applications. The Biomedical Systems area directly complements the University's focus on biotechnologies and healthcare. Much of the work in Intelligent Information Systems has application to the University's focus on learning technologies, as well as biotechnologies and health care. Thrust areas within each of the Department's foci are as follows:

***I. Electrical Systems***

- 1) Imaging sensors and electronic devices
- 2) Sensor networks

Current research sponsors: U.S. Army Night Vision and Electronic Sensors Directorate (NVL), Redstone Technical Test Center (RTTC), U.S. Army Research Lab (ARL), Office of Naval Research (ONR), EOIR Inc., and ERC Inc.

Faculty: Griffin, Halford, Jacobs, Preza, Robinson, Russomanno

***II. Biomedical Systems***

- 1) Intracranial pressure monitoring
- 2) Medical image processing and data visualization
- 3) Bioinformatics
- 4) Computational imaging for microscopy and spectroscopy

Current research sponsors: American Heart Association, National Science Foundation (NSF), and National Institutes of Health (NIH)

Faculty: Daley, Iftexharuddin, Preza, Russomanno, Yeasin

***III. Intelligent Information Systems***

- 1) Computer learning technologies
- 2) Scientific and engineering data visualization
- 3) Image and multi-media processing
- 4) Knowledge Engineering/Semantic Web

Current research sponsors: NSF, ARL, U.S. Naval Air Warfare Center Training Systems Division, Carnegie Mellon University, and University of Southern Queensland

Faculty: Iftexharuddin, Rehak, Russomanno, Yeasin