

COLLEGE OF ENGINEERING GRADUATE SCHOOL



# **EXPLORE ECE at UAHuntsville**

Opportunities in research and graduate education that build on a solid science and engineering foundation and expand one's knowledge to conquer the grand challenges of society are abundant in the Electrical and Computer Department. We offer a unique multidisciplinary research environment with focus on:

#### **Discovery**

Whether it's hands-on testing of the next generation space telescope or developing tight binding models to unveil the mysteries of nanoelectronics, faculty and students at UAHuntsville are supplying the tools for future discovery.

#### Sustainability

The knowledge gained provides not only the means for a sustainable future as an educator, entrepreneur, engineer or scientist, but also in area of critical need and future growth such as health systems, energy, space exploration, defense, and cyber-infrastructure.

#### Leadership

Our students are the leaders of tomorrow. We take students beyond the traditional research experience to ensure that they understand the true meaning of being an engineering professional. We instill quality and integrity in our students.

The ECE department strives to provide an engaging environment that will result in a passion for life-long learning. We want our students to grow intellectually and professionally and enjoy their graduate school experience.

# Electrical & Computer Engineering

### **Degree Programs:**

Master of Science in Engineering

- Computer Engineering
- Electrical Engineering
- Optics and Photonics

Master of Science in Software EngineeringMaster of Science in Information Assurance and Security

**D**octorate of Philosophy

- Computer Engineering
- Electrical Engineering
- Optical Science and Engineering

#### **Research Labs and Centers:**

- High Performance Computing Lab
- Information Assurance Lab
- Nano and Micro Devices Center
- Center for Applied Optics
- Laser Science and Engineering
- Laboratory for Advanced Computer Architectures and Systems
- Real-time Physiological Monitoring Laboratory

# **High Tech Community:**

Anchoring the 2<sup>nd</sup> largest research park in the US and home to Redstone Arsenal and NASA Marshall Space Flight Center, UAHuntsville offers a unique and energetic environment to our students. Huntsville is #1 in the nation for concentration of electrical engineering jobs.

UAHuntsville ECE Department Dr. Robert G. Lindquist Professor and Chair

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# ECE Department Research Thrusts

# **Computer Engineering Thrust Areas:**

- Advanced Computer Architectures and Systems
- · Distributed Computing
- Fault Tolerant Computing and Verification
- High Performance Computing
- Informational Assurance
- Network Computing and Security
- Parallel Processing
- Safety Critical Systems
- · Real-time Physiological Monitoring
- · Software Engineering

# **Electrical Engineering Thrust Areas:**

- Biometrics
- Computational Electro-Magnetics
- · Controls and Dynamic Systems
- Digital Signal and Image Processing
- Radar Systems
- Nano-electronics
- Micro Electro-Mechanical (MEMs) Systems
- Wireless and Ultra-Wideband Communications
- Nanofabrication

# **Optical Engineering Thrust Areas:**

- Advanced Optical Fabrication Technology
- Bio-photonics
- Computational Imaging
- Nano-photonics and Plasmonics
- Nonlinear Optics
- · Optical Testing
- Liquid Crystal Technology
- Space-based Laser Systems
- Ultra-fast Optic Systems



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