ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Fact Sheet

EECS.UTK.EDU

LEADERSHIP

Gregory D. Peterson, Department Head

ABOUT

The Min H. Kao Department of Electrical Engineering and Computer Science (EECS) is a growing department with a rich history of excellence dating back more than 120 years. EECS is located in a spacious, high-tech building that opened in 2012. Students at all levels use state-of-the-art instructional facilities and equipment spanning several areas of research. Notable alumni include computing pioneer Mark Dean and Garmin co-founder Min H. Kao, among many others.

OUTSTANDING FACULTY

EECS is proud to have two National Academy of Engineering members, seven NSF Career Award winners, and nine IEEE fellows. Twenty-eight UT faculty members hold joint appointments at ORNL. EECS faculty are respected, world-class leaders in their fields and are dedicated to teaching students and aiding them in developing the technical and communication skills necessary to have successful careers.

Professors (T/TT)	47
Joint Faculty with ORNL	28

TOTAL ENROLLMENT

Full-Time Academic Year 2019–20

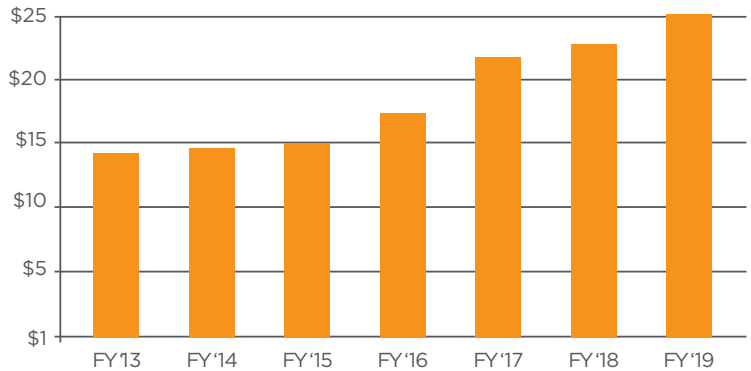
BS	832
Computer Science	453
Computer Engineering	163
Electrical Engineering	216
MS	85
PhD	174
Total	**1091**

DEGREES GRANTED IN 2019

Undergraduate	141
MS	57
PhD	33
Total	**231**

FINANCIALS

EECS RESEARCH EXPENDITURES (in Millions)



EECS Research Expenditures for Fiscal Year 2019: **$25M+**
EECS Research Expenditures per T/TT Faculty for Fiscal Year 2019: **$434K+**

ASEE Survey Data for 2019
11th nationally among public EECS programs in research expenditures per tenure-line faculty member. **19th nationally** among public EECS programs in PhD enrollment per tenure-line faculty member.

DEGREES, MINORS & CERTIFICATES OFFERED

BS, MS, and PhD in Electrical Engineering, Computer Engineering, and Computer Science.

Minors & Certificates

- Computer Science Minor
- Cybersecurity Minor
- Datacenter Technology and Management Minor
- Power and Energy Systems Graduate Certificate
- Fire Protection Engineering Graduate Certificate
- Wide Bandgap Power Electronics Certificate

Five-Year BS/MS Program

Allows qualifying undergraduates to take up to 6 credit hours of approved graduate courses for their senior electives and have them count toward both their BS and MS degrees.

RESEARCH CENTERS

Center for Ultra-wide-area Resilient Electric Energy Transmission Networks

A collaborative Engineering Research Center funded mostly by the National Science Foundation and DoE, CURENT works closely with industry to improve the power grid through breakthrough monitoring, response techniques, and devices. **curent.utk.edu**

Innovative Computing Laboratory

A world leader in enabling technologies and software for high performance computing, ICL provides state-of-the-art tools to tackle challenging problems and develop scientific computing standards. The lab was founded by Distinguished Professor Jack Dongarra in 1989. **icl.utk.edu**

TENNLab: Neuromorphic Architectures, Learning & Applications

Inspired by the human brain, TennLab is focused on creating a new paradigm of computing. Research encompasses current and emergent hardware implementations, theoretical models, programming techniques, and applications. **neuromorphic.eecs.utk.edu**

PARTNERSHIP WITH OAK RIDGE NATIONAL LABORATORY

The decades-long UT-ORNL partnership links complementary expertise and resources to provide unparalleled research and education opportunities through shared faculty and facilities and direct research funding. The relationship was strengthened in 2000 when UT-Battelle LLC assumed management of ORNL.

Collaborative efforts include Governor's Chair, Distinguished Scientist, and Joint Faculty programs as well as the Bredesen Center for Interdisciplinary Research and Graduate Education. Facilities available to EECS include the Spallation Neutron Source, High Flux Isotope Reactor, and Manufacturing Demonstration Facility. For both the college and ORNL personnel working at UT, research is supported by more than $12M in annual ORNL funding.

Joint Institute for Computational Sciences

JICS develops and deploys advanced leadership computing facilities including ORNL's exascale computer, Summit, that was officially sanctioned as the world's fastest supercomputer in June 2018. **jics.utk.edu**

RESEARCH AREAS

Intelligent Systems, Data Analytics, and Machine Learning
Artificial and Distributed Intelligence
Bioinformatics
Computational and Systems Biology
Data Analytics
Deep Machine Learning
Emergent Computation
Graph-Theoretical Algorithms
Neuromorphic Computing
Robotics

Microelectronics, Microwaves, and MEMS
Analog and Mixed-Signal Circuits
Antennas and Microwaves
Bio-Electronics and Sensors
Bio-Medical Devices
Biotechnology and Bio-Sensor Design
Integrated Circuits

Networked and Embedded Systems Compilers
Compilers
Cybersecurity
Mobile Cloud Computing
Mobile Operating Systems
Network Privacy and Security
Power Control in Wireless Networks
Real-Time Embedded Systems
Sensor Networks

Power Systems, Power Electronics, and Renewable Energy
Electric Vehicles (EVs)
Power Electronics for Renewable Energy
Power System Monitoring and Control
Power Grid Modeling and Economics
Wide Bandgap Power Electronics

Signal and Image Processing Communications and Controls
Automatic Control
Communications
Computational Imaging
Computer Vision
Graphical Programming Environments
Information Theory
Pattern Recognition
Statistical Signal Processing

Software and Systems and High-Performance Computing
Biomedical and Scientific Data Visualization
Data Storage
Distributed Computing
Mathematical Software
Parallel Processing
Scalable Big Data Computation
3D Rendering

SCHOLARSHIPS & FELLOWSHIPS

EECS is fortunate to have a number of scholarships to award each year to qualified students who are accepted to UT, the Tickle College of Engineering, and EECS. Students must apply through **onestop.utk.edu** to be considered by the Scholarship Committee to be matched with available awards.

In addition to graduate teaching and research assistantships, EECS also has several competitive fellowships for graduate students that faculty advisors can nominate students to receive.

STUDENT ORGANIZATIONS AND CHAPTERS

Association for Computing Machinery
Provides information about job opportunities, the computer science fields, and a location on campus for members to share their knowledge and experience in the world.

Eta Kappa Nu, the International Electrical Engineering Honor Society
To be eligible for induction, a student's scholastic standing must be in the upper quarter of the junior class or the upper third of the senior class in electrical or computer engineering. The organization has more than 100,000 members and 194 chapters in the United States, Canada, and Europe.

HackUTK
Promotes student interest in the fields of computer and network security through participation in and sponsorship of Capture the Flag competitions and related activities that inspire, develop, and empower future generations of computer scientists.

Institute for Electrical and Electronics Engineers
Connects electrical and computer engineering students with opportunities offered by IEEE, the department, and the college. Also competes anually in the IEEE SoutheastCon Hardware Competition.

Machine Learning Student Organization (UTKML)
With a focus on interdisciplinary collaboration, UTKML brings together students from many backgrounds and levels of expertise to work on problems where data is readily available.

Systers: Women in EECS @ UTK
Recruits, mentors, and works to retain women in the fields of electrical engineering, computer engineering, and computer science.

Tau Beta Pi, the Engineering Honor Society
UT houses the national headquarters for Tau Beta Pi. Membership is offered to students who have distinguished themselves with outstanding scholarship and character and who have conferred honor upon UT through exemplary character as undergraduates in engineering.

University of Tennessee Amateur Radio Club
Founded in 1947, UTARC is for anyone with an interest in amateur radio: students, faculty, staff, and the general public.

VolHacks
UT's premier student hackathon that brings students together from near and far for an action-packed 36 hours of hacking. Attendees are encouraged to develop any software or hardware project their minds can dream up.