

LEADERSHIP

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MISSION

We are the Min H. Kao Department of Electrical Engineering and Computer Science at the University of Tennessee, the largest department in the College of Engineering. We have 45 faculty members, who 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. Our rigorous curriculum prepares students to be successful in their future profession and offers the flexibility for students to choose courses that match their interest areas.

ACADEMICS

Enrollment Figures

Enrollment (Full-Time) Academic Year 2018-2019

Undergraduate	834
MS Enrollment	71
Ph.D. Enrollment	174
Total	1079

Fall 2018 Freshman Enrollment

Computer Science	120
Computer Engineering	75
Electrical Engineering	60
Total EECS Freshmen	255

Degrees Granted 2017-2018

Undergraduate	149
M.S.	60
Ph.D.	27
Total	236

Faculty 2018-2019

Professors	24
Associate Professors	11
Assistant Professors	10
Professors of Practice	1
Adjunct	14
Joint Faculty from ORNL	29
Total	89

FACULTY HONORS

National Academy of Engineering (NAE)
Members: 4

NSF Career Award Winners: 11

IEEE Fellows: 17

UT Faculty Members with an ORNL Appointment: 20

OAK RIDGE NATIONAL LABORATORY

Oak Ridge National Laboratory is the largest US Department of Energy science and energy laboratory, conducting basic and applied research to deliver transformative solutions to compelling problems in energy and security. ORNL's diverse capabilities span a broad range of scientific and engineering disciplines, enabling the Laboratory to explore fundamental science challenges and to carry out the research needed to accelerate the delivery of solutions to the marketplace. ORNL is located near the University of Tennessee in the town of Oak Ridge, and several EECS Faculty members have joint ORNL appointments there and even more have joint collaborations.

RESEARCH CENTERS

Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT)

curent.utk.edu CURENT was founded by the National Science Foundation (NSF) under the prestigious Engineering Research Center (ERC) program. Base funding provided by the NSF and the US Department of Energy is at \$4 million per year. CURENT is the first and only ERC at UT and works closely with its industrial partners with a focus on improving the nation's electric power transmission system and accommodating a high level of renewable energy penetration.

Innovative Computing Laboratory (ICL)

icl.utk.edu The Innovative Computing Laboratory (ICL) is a large computer science research and development group specializing in advanced scientific and high performance computing. ICL's founder, Dr. Jack Dongarra, established the lab in 1989. Dr. Dongarra is the creator of the LINPACK Benchmarks, linear algebra tests that measure the mathematical capabilities of computers. The latest version of these benchmarks is used to build the TOP500 list, ranking the world's most powerful supercomputers.

Initiative for Point of Need/Point of Care Nanobiosensing (IPN)

nanobio.eecs.utk.edu Joint with MABE, Nutrition and Public Health. This collaborative initiative aims to use nanobiosensing technology to design, test, and validate rapid tests at point of need (PON) and/or point of care (POC) to facilitate clinical disease diagnosis and monitoring of environmental, food or water safety.

DEGREES, MINORS & CERTIFICATES OFFERED

Degrees

Bachelor of Science

Electrical Engineering
Computer Engineering
Computer Science

(All B.S. degrees ABET accredited)

Master of Science

Electrical Engineering
Computer Engineering
Computer Science

Doctor of Science

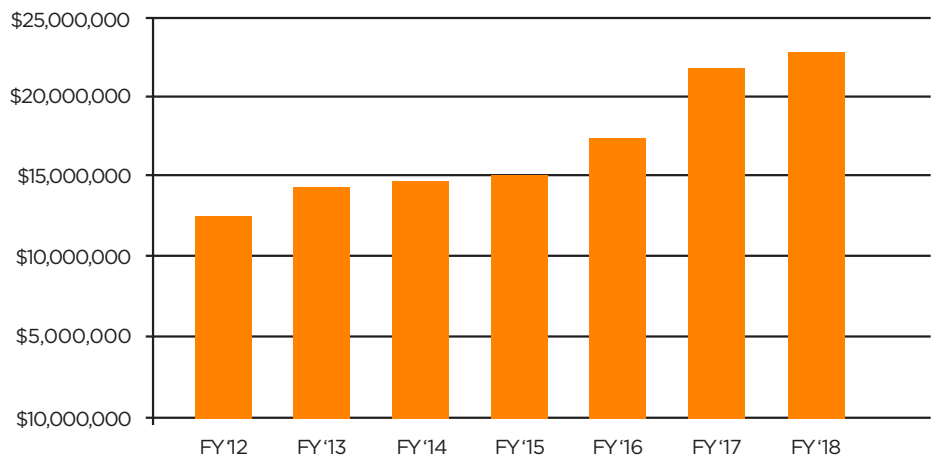
Electrical Engineering
Computer Engineering
Computer Science

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**

FINANCIALS

EECS RESEARCH EXPENDITURES



EECS Research Expenditures for Fiscal Year 2018: **\$22,873,167**

EECS Research Expenditures per T/TT Faculty for Fiscal Year 2018: **\$508,292**

ASEE Survey Data for 2017

- 13th nationally among public EECS programs in research expenditures per tenure-line faculty member.
- 5th nationally among public EECS programs in Ph.D. enrollment per tenure-line faculty member.

RESEARCH AREAS

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

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

Signal and Image Processing, Communications and Controls

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

Networked and Embedded Systems

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

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

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

FIVE-YEAR
BS/MS PROGRAM

The **Five-Year BS/MS Program** allows qualifying undergraduate students to take up to 6 hours of approved graduate courses for their senior electives and have them count toward both their BS and MS degrees at the University of Tennessee thereby reducing the amount of time it takes to earn the latter.



Systems: Women in EECS @ UTK

SCHOLARSHIPS
& FELLOWSHIPS

Scholarships

Carol and Malcolm Bayless
Dr. M.E. and Mrs. J.N. Casey
Grace O. Davis
Department of Electrical Engineering & Computer Science
Christopher J. and Michelle R. Gentry
S.T. Harris
Urban and Susan Hilger
Beta-Phi Chapter, Eta Kappa Nu
Dr. E.J. and Mrs. L.H. Kennedy
Alliene Lay
W.O. Leffell
Edgar Wyman McCall
Harlan D. and Luella C. Mills
Billy J. and Sylvia F. Moore
L.B. Murray, Jr. & Leonard B. Murray, Sr.
Erby Roy and Jean Bush Nankivell
David O. and Joan G. Patterson
Richard and Mary Ann Peugeot
Leonard and Betty Shealy
Charles and Martha Sprankle
David W. Straight
Fred Smith Vreeland
Charles Weaver Memorial
Arthur F. Woods
Min H. Kao Scholars

Fellowships

Bodenheimer Fellowships
T. Vaughn Blalock Memorial Graduate Award
Chancellor's Honors Awards
Min. H. Kao Fellowships
Pierce Graduate Award
Ron Nutt Fellowships
Department Excellence Awards

STUDENT ORGANIZATIONS

ACM- The student chapter of the Association for Computing Machinery at the University of Tennessee is dedicated to serving its members by providing information about job opportunities, the computer science fields, and a location for our local members to share their knowledge and experience in the world.

Eta Kappa Nu- Eta Kappa Nu is the International Electrical Engineering Honor Society, with more than 100,000 members and 194 chapters in the United States, Canada and Europe.

HackUTK- The mission of HackUTK is to promote 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 the future generation of computer scientists.

IEEE- The Student Chapter of the Institute for Electrical and Electronics Engineers (IEEE, "eye-triple-E") is a professional society seeking to involve students enrolled in the study of electrical and computer engineering at the University of Tennessee, Knoxville

Systems- The mission of Systems: Women in EECS @UTK is to recruit, mentor, and retain women in Electrical Engineering and Computer Science at the University of Tennessee.

Tau Beta Pi- Tau Beta Pi's collegiate chapters elect members who have distinguished themselves with outstanding scholarship and character, and who have conferred honor upon their alma mater by distinguished scholarship and exemplary character as undergraduates in engineering.

The 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.

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

VolHacks- VolHacks is The University of Tennessee's premier student hackathon that brings students from near and far together for an action packed 36 hours of hacking. Students who attend the hackathon are able to develop any software or hardware project their minds can dream up.