Electrical & Computer Engineering

Mission Statement

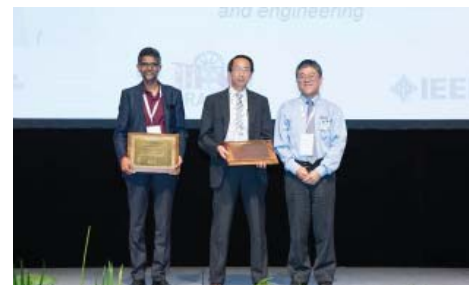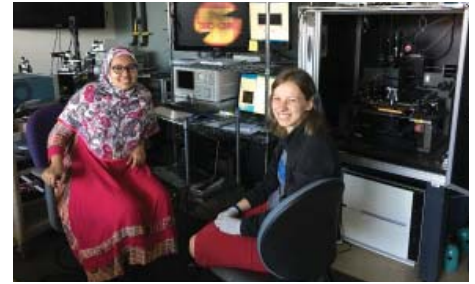The mission of the Electrical & Computer Engineering (ECE) Department is fourfold:

- To provide educational programs in Electrical and Computer Engineering and related fields at the bachelor's, master's and doctoral levels of high quality and sufficient breadth and depth to serve industry, government and academic institutions of our State and Nation.
- To conduct research and pursue scholarship to advance knowledge and apply that knowledge in areas relevant to our State and Nation in order to meet the demands of the coming information age and global competition.
- To serve the State and Nation by making available the accumulated expertise, knowledge and experience of the faculty to industry and government.
- To recruit and provide educational opportunities to underrepresented minorities, women and physically disabled students.

National Ranking

In the most recent (2010) National Research Council (NRC) assessment of graduate programs, the Electrical Engineering (EE) doctoral program was ranked (quality survey) in the top quartile of all 136 programs evaluated nationwide. In the 2015 Academic Analytics report, the ECE department ranked 32nd out of 178 EE programs.

Internal Ranking

In the 2009 report of the Provost's Committee for Excellence in Graduate and Professional Programs (CEGaPP), the Electrical Engineering Program was found to be among the handful of UConn Programs of National Distinction.

Faculty

The ECE Department is home to 27 tenured/tenure-track faculty members comprising 12 professors (eight with 30+ years of service to UConn), 12 associate professors, and 3 assistant professors. The faculty includes four Board of Trustees Distinguished Professors. During 2017-18, the faculty

- Published 137 journal papers and 190 conference papers.
- Received 3 new patents.
- Had research expenditures in excess of $6M.

Recent external faculty honors include:

- In recognition of Yaakov Bar-Shalom's long-term contributions to the field, FUSION 2017 (China) ran a special tribute workshop "International Workshop on Fusion, Tracking and Estimation—A tribute to Professor Yaakov Bar-Shalom."
- Ali Bazzi received an NSF CAREER Award.
- Bahram Javidi was awarded the Joseph Fraunhofer Award/Robert M. Burley Prize from the Optical Society.
- Peter Luh received the 2017 IEEE RAS George Saridis Leadership Award in Robotics and Automation from the IEEE Robotics and Automation Society (RAS).
- Marten van Dijk received the Most Frequently Cited Paper Award (2000-2009) at the Symposium on VLSI Circuits, 2017.
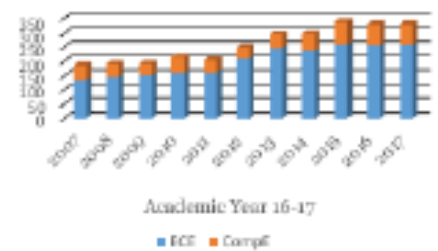
Undergraduate Education

The department offers undergraduate degrees in Electrical Engineering (EE), Computer Engineering (CompE, offered jointly with the Computer Science & Engineering Department), and Engineering Physics (EGPHY, offered jointly with the College of Liberal Arts and Sciences). The undergraduate enrollment has been growing (see the graph below). Fall 2017 undergraduate enrollments were: 262 students in the EE program, 74 students in the CompE program, and 6 students in the EGPHY program. During the academic year 2017-2018, we awarded 64 B.S.E. degrees in EE, 16 in CompE, and two in EGPHY. Highlights of the undergraduate program include:
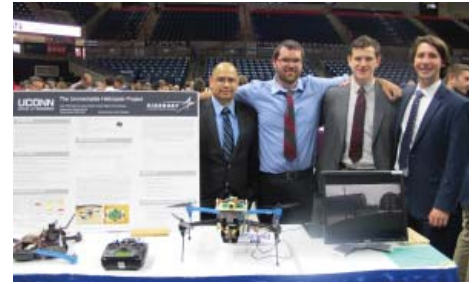
- A new W course on the societal implications of engineering
- A new laboratory course on Software Defined Radio.
- The UConn student honor society Eta Kappa Nu (HKN) received the 2016-2017 IEEE-HKN Outstanding Chapter Award from the national organization.
- ECE seniors participated in 29 projects (including 23 sponsored by companies) and one of the teams won a national design competition.
- 4 undergraduates (Ethan Freund, Kelly Higinbotham, Marissa Simonelli, and Zachary Sola) received a 2017-18 IEEE Power and Energy Society Scholarship
- Undergraduate laboratories underwent a $900K renovation with new equipment, furniture, and computers.
- Prof. Ashwin Dani received the 2018 AAUP Excellence Award for Teaching Innovation for the use of new educational technologies in updating some of our undergraduate courses.

Undergraduate Enrollment

Academic Year 16-17

■ ECE ■ CompE

Graduate Education

- During 2017-18, 26 PhDs were awarded to graduate students advised by ECE faculty.
- A paper co-authored by Fatemeh Tehranipoor, Wei Yan, and John A. Chandy, "A Study of Power Supply Variation as a Source of Random Noise," won the Best Paper Award at the 2017 International Conference on VLSI Design held in Hyderabad, India in January 2017.
- Nima Karimian, a fourth year Ph.D. student, received the IAPR TC4 Best Student Paper Award from the International Joint Conference on Biometrics held in Denver, Colorado in October 2017.

Alumni Success

- Zhaohui Wang (Ph.D. Electrical Engineering '13) recently received an NSF CAREER Award. Dr. Wang is an assistant professor at Michigan Technological University.
- Xaiohong Guan (Ph.D. Electrical Engineering '93) was elected to the Chinese Academy of Sciences. Prof. Guan is the Dean of the School of Electronics and Information Engineering at Xi'an Jiaotong University.
- Hemchandra Shertukde (Ph.D. Electrical Engineering '89), a professor at the University of Hartford, was awarded the 2017 IEEE Educational Activities Board (EAB)/Standard Association (SA) Standards Award "for effectively integrating power systems and transformer standards into academic and professional development programs, and for his active encouragement of IEEE student membership." Dr. Shertukde also received the 2017 IEEE CT Chapter Outstanding Engineer Award.
- Dipayan Ghosh (B.S. Electrical Engineering '10) was appointed as a fellow at the Shorenstein Center on Media, Politics, and Public Policy at Harvard University.

Outreach and Development

- Prepared and distributed a newsletter highlighting ECE achievements during the previous year.
- A generous donation by alumnus Vijaya Raghavan was used to set up a new endowed graduate fellowship.
- Praxair made an equipment gift of the Ultratech Fiji 200 G2 Plasma Enhanced ALD System worth $341k.

Education

| | Fall 2017 Enrollment | | | | | 2017 | |
	Head-count	Male	Female	U.S. Minority	Int.	Degrees Awarded	
Undergraduate							
First-time Freshmen	29	25	4	11	2	B.S.	73
Other First Year	3	3	0	2	0	Minors	0
Sophomores	51	43	8	19	3		
Juniors	88	79	9	31	4		
Seniors	96	85	11	32	9		
Total	267	235	32	95	18		
Graduate							
M.S.	31	26	5	9	2	M.S.	13
Ph.D.	81	66	15	10	54	Ph.D.	17

AY 2017-2018 Senior Design Information

# Projects/ Teams	29
# Students Participating	96
# Company Sponsors	23
$ Revenue from Sponsors	$80,000

Research

AY 2017-2018 Research Development Data

Thru May 2018 from Kerrie	Expenditures	Proposals Submitted Thru 3rd Qtr		New Awards SPS Report	
		Number	Value $	Number	Value$
Industry	959,225	19	2,643,831	11	1,020,619
Federal	4,760,809	41	23,829,934	14	3,378,610
State					
Other	313,638	2	254,165	2	216,719
Total	6,033,672	62	26,727,930	27	4,615,948

AY 2017-2018 Research Products Data

	Number
# Patents Awarded	3
# Journal Papers	137
# Conference Papers	190

Electrical & Computer Engineering, *cont'd.*

UCONN
SCHOOL OF ENGINEERING
ELECTRICAL & COMPUTER
ENGINEERING

Personnel

	FT	PT	Total
Faculty			
Tenured/ Tenure Track	27		
Research Faculty		3	
Post-Docs	6		
Teaching (In-Residence, Visiting, etc.)			
Adjunct	1		
Total			
Staff			
Administrative	3.5		
Lab/ Technical	1		
Other			