UT ECE is committed to building strong industrial and alumni partnerships with a focus on technology innovation, world-class education and talent, academic excellence, and STEM and diversity initiatives. We work together for the advancement of business and economic goals, department goals, and for the advancement of the electrical and computer engineering fields.

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impact report 2013-2014
I am pleased to share this Impact Report highlighting recent activity in Electrical and Computer Engineering at the University of Texas Austin (UT ECE). Impressive awards, remarkable student achievements, highly competitive admission to our undergraduate and graduate programs, innovative start-up oriented and industry funded senior design projects and beginning of the construction of a showcase building for the department are clear signs of an elite department known for innovation that is making its mark on Texas, the nation and the world.

The department continues to lead innovation in the college by launching a popular integrated BS/MSEE degree this year. It surpassed its goal of 10 Founding Partners in its industrial affiliates program by achieving 13 industrial partners within 18 months. And hardly a week passes by without the innovation created by our students and faculty being featured in the mainstream national and international media. All in all, a very exciting year for UT ECE!

And our future is even brighter. We are launching the first ever multi-million dollar ECE endowment campaign to support the people and programs in the EERC. The University is making a large investment in the expansion of our faculty, guaranteeing us a large number of faculty positions over the next 3 to 4 years.

We are building more entrepreneurial infrastructure including a new internship program in startup companies; supporting an thinking entrepreneurial version of our senior design course; and bringing on board our first entrepreneur-in-residence. We are launching an undergraduate student recruitment and retention success program, funded entirely by industry, to increase diversity and enhance the retention and graduation rates of our underrepresented student population. We are also working with industry to explore how technology can enhance the effectiveness of our teaching.

Next time you are in Austin, I invite you to stop by UT ECE to see the future of electrical and computer engineering and teaching.

Regards,

DR. AHMED TEWFIK

From the Chair
As part of the curriculum, undergraduate seniors participate in a two-semester capstone design course. The project concepts are generated by faculty and industry collaborators, and students work together in small groups. UT ECE currently offers projects that are interdisciplinary and honors based. Plans are underway to create a junior level capstone project experience with industry collaboration and support.

Since 2011, nearly 30 industry partners have supported senior design projects by submitting project concepts, providing financial and material contributions, and offering mentorship to student teams. At the conclusion of the two-semester term, an Open House is held for the public where students demonstrate their work with posters, presentations, a working prototype, including a system design report and an executive summary.

Using the fly’s ear structure as a model, Prof. Neal Hall and his graduate students built a miniature pressure-sensitive device out of silicon that replicates the fly’s super-evolved hearing structure.

“So much of what is happening in the world takes place in a global marketplace. If one can experience what is occurring on the other side, you can begin to have a cultural sensitivity to your counterparts around the world,” said Yerraballi.

Summer 2014 marked a new chapter in interdisciplinary global engagement for UT ECE students and faculty. Dr. Ramesh Yerraballi led a group of 16 first-year students on a study abroad program to Hyderabad, India. The 10-week program combined cultural experiences, research, and industry projects for electrical and computer engineering and biomedical engineering majors.

The UT Austin students were paired in a lab course with students at the Indian Institute of Technology Hyderabad, and also completed industry projects sponsored by Broadcom, Xilinx, and start-up companies.

“Embedded Systems and Industry Experience” is the first study abroad program in India for the Cockrell School of Engineering and will run again in summer 2016.

Lab-based Approach to Online Learning

“We believe in learning by doing, and a lab-based approach is the best way to accomplish this.”

Taught by ECE faculty members Jonathan Valvano and Ramesh Yerraballi, “Embedded Systems” is UT ECE’s first massive open online course, and is based on a required course for electrical engineering students.

Students will learn, through a lab-based approach, how a variety of simple gadgets work by completing tasks on their own microcontroller kits. At the end of the course, students will program an arcade-style video game. The course includes videos, assignments and interactive learning resources. The microcontroller kits allow students to fully experience the concept of embedded systems by building and debugging these systems first-hand.

“We are hoping we will pique the interest of young kids and steer them toward engineering,” Yerraballi said, “and give a wide range of professionals and enthusiasts a foundation and resource that they can use as a launch pad to opportunities in embedded systems.”

Four UT ECE faculty were included in the Thomson Reuters list of Highly Cited Researchers for 2014

Dr. Jeffrey Andrews
Dr. Alan Bovik
Dr. Robert Heath
Dr. Sriram Vishwanath
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- Intel Corporation
- Intel Foundation
- Keste LLC
- Lockheed Martin
- Maxtena Inc
- Mentor Graphics
- Microsoft Corporation
- Minnesota Mining & Manufacturing Company
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