THE UNIVERSITY of TENNESSEE UT KNOXVILLE
COLLEGE of ENGINEERING

# EECS NEWS

The Newsletter of the University of Tennessee's Department of Electrical Engineering and Computer Science

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Department head's message:

## EECS gets new home, continues to grow

It was a busy fall semester for the Department of Electrical Engineering and Computer Science with the recent ABET accreditation visit and readying for the move into the new Min H. Kao Building.

Dr. Kevin Tomsovic

This move has been more than four years in the making, but we'll finally be transitioning to the new building over the next few weeks. The faculty, staff and, most importantly, the students are all extremely excited.

Plans for the ribbon cutting ceremony on March 13-14 are well under way. We will have a number of stimulating activities during the grand opening celebration and hope to see everyone there.

The department continues to experience substantial growth. While we have partly followed the national trend of recovering enrollments, we are well ahead of the national pace. Undergraduate enrollment is approaching 500 students — an increase of roughly 30 percent from 2007. Research expenditures have also grown more than 45 percent during that time. This has allowed the graduate program to grow as well with Ph.D. enrollment now at 160 students — an all-time high for the department.

The faculty of EECS continued to successfully compete for the most prestigious awards. This fall we were awarded an NSF/DOE Engineering Research Center (ERC). The center with initial funding of $18.5 million for five years will focus on wide area power system controls. This is the first such ERC in electric power transmission and places EECS squarely as a leader of Smart Grid research.

I hope you enjoy reading about recent developments in EECS in this newsletter, and please do follow us on our new Facebook and Twitter pages.

# Min H. Kao Building ready for occupants

After four and a half years of construction, the Min H. Kao Electrical Engineering and Computer Science Building is ready for occupants.

The Min H. Kao Building as seen from the corner of Cumberland Avenue and Estabrook Road.

Located on the corner of Cumberland Avenue and Estabrook Road, the impressive $37.5 million structure boasts 150,000 square feet of offices, classrooms, laboratories, conference rooms and a 128-seat auditorium, not to mention a sixth-floor terrace with stunning views of downtown Knoxville.

The Department of Electrical Engineering and Computer Science's business office was the first to move into the new building on Dec. 19. Other EECS staff and faculty offices in Ferris Hall and the Claxton Complex continued to move into the building during winter break.

The building will welcome its first students when classes resume for the spring semester on Jan. 11.

EECS' move into the Min H. Kao Building signifies the physical merger of the department, which was formed from the computer science and electrical and computer engineering departments in 2007. Until now, the offices and classrooms for EECS have been split between Ferris Hall and the Claxton Complex.

Distinguished alumnus and donor Dr. Min Kao and his family will be in Knoxville on March 13-14 to mark the building's grand opening.

View of downtown Knoxville from sixth-floor terrace of the Min H. Kao Building.

The two-day celebration will include a cocktail reception on the terrace and a ribbon cutting in the building's six-story atrium.

The ribbon cutting will be open to the public. Approximately 300 to 400 people are expected to attend the event.

For more information on the building, visit www.eecs.utk.edu/minkao.

# ACM programming team places 2nd in competition

The University of Tennessee placed second at the Association for Computing Machinery's 2011 Mid-Central USA Programming Contest held at Middle Tennessee State University on Nov. 5.

This is the highest ranking the university has received in this contest since it started competing more than a decade ago.

UT had two teams of three competing in the contest. Each team was given five hours to solve eight computer programming problems.

Computer science majors Chad Armstrong, Alexander Saites and Shawn Cox were part of the second-place team that was able to solve five problems in the allotted time. Vanderbilt University, the first-place team, solved only five problems as well, but beat UT on time.

Some of the problems from this year's challenge were Grade School Multiplication, Pizza Pricing, Laser Tag and Refrigerator Magnets. However, don't be fooled by the simple-sounding names — these problems range in difficulty from easy to nearly impossible.

"It's like beating your head against the wall trying to figure out the solution to a problem, and all the sudden it just clicks into place in your mind and it works," Cox said.

"That sense of accomplishment when it works is really rewarding."

Computer science professor Dr. James Plank served as the team's faculty adviser.

"This year's performance was far and away the best since I have been here, and I'm happy to see them getting acknowledged for it," Plank said. "I'm hoping that the knowledge and experience that they have gotten from our programming courses were factors in their success, but that may just be selfish on my part."

Plank said he was impressed with team captain Armstrong's enthusiasm and dedication to prepping the team for success.

"He has organized practices, selected challenging practice problems, written practice problems, and kept the momentum of the team going as they went into the tournament," Plank said.

Alexander Saites, Chad Armstrong and Shawn Cox placed second in the ACM's 2011 Mid-Central USA Programming Contest on Nov. 5.

UT's second team, composed of Michael Adams, Evan Downing and Daniel Baldwin, also computer science majors, placed 13th at the competition out of 23 teams.

Adams said he enjoys competing in the programming challenges because of the team work.

"When you put your ideas together you can create something completely new," he said.

# Crilly takes leave to teach at Coast Guard Academy

After 22 years at the University of Tennessee, Dr. Paul Crilly is taking a one-year leave of absence to teach at the U.S. Coast Guard Academy in New London, Conn.

Crilly, who earned his Ph.D. in electrical engineering from New Mexico State University in 1987, joined UT in 1989 as an assistant professor of electrical engineering.

In 1992, he received tenure and promotion to associate professor at UT. In 2002, he was given the task of serving as associate head of the former Department of Electrical and Computer Engineering. He served in that post until 2007, when the department was merged with computer science to form the Department of Electrical Engineering and Computer Science, or EECS.

Dr. Paul Crilly and wife Alice at the EECS annual Awards Banquet on Dec. 8.

Crilly has been a vital part of EECS. He not only has taught courses and conducted research in the areas of communications, digital signal processing and computer engineering, he also has handled undergraduate advising, helped manage the ABET accreditation process and has acquired funding for teaching and laboratories.

"I enjoyed teaching at UT, but I also enjoyed the many things that UT had to offer such as a diversity of academic and cultural programs," Crilly said. "For example, I always enjoyed going to the MARCO series that described the various topics of the Middle Ages."

In his new role, Crilly said he will be devoting his full attention to teaching and mentoring engineers. He's also excited to have the opportunity to teach a wide range of courses.

Crilly, a Connecticut native, is looking forward to going back to his home state, but will miss the students at UT.

"I will miss the students, especially the diversity of them. They come from all kinds of abilities and backgrounds," he said.

Crilly began his work at the Coast Guard Academy on Jan. 3. He will return to UT next December.

# First dual MSCS/MBA student graduates

On Dec. 8, Jeremy Cowan proudly walked across the commencement stage at Thompson-Boling Arena — twice. Once to receive his MBA degree, and again to receive his master's in computer science.

Cowan is the first graduate of the dual MSCS/MBA offered through the University of Tennessee's Department of Electrical Engineering and Computer Science.


Jeremy Cowan

When Cowan began looking for graduate programs to accommodate his interests in business and technology, UT stood out because of the unique pairing of these two degrees.

"I looked everywhere in the nation (at other schools), and no one else had this combination clearly defined," Cowan said.

Prior to attending graduate school, Cowan, who holds a bachelor's degree in computer science from Texas Tech University, worked for a grocery retailer in Lubbock, Texas, for 17 years. During his time with the retailer, Cowan worked in both management and the IT department.

"When I finished my undergrad degree I realized I enjoyed management and technology and wanted to manage technology," Cowan said. "At that point in time I was like, 'I need an MBA if I want to be a CIO to compete with others, because that's what they're going to have.' "

During his time in UT's computer science master's program, Cowan focused his study on applications and databases. He worked closely with Dr. Michael Berry, EECS professor and associate department head.

"Jeremy was instrumental in helping me with the data mining class last spring, which had grad students from EECS and students from the College of Business Administration's new M.S. program in business analytics," Berry said. "He did a superb job assisting with the course projects involving Capital One and Link Analytics."

Cowan said the computer science professors strike a good balance between teaching the theory behind computer science and its real-world applications.

"They give the students real-world understanding; it's not just academic and something you're going to throw out after graduation," Cowan said.

Cowan said his computer science background was advantageous to his MBA coursework.

"On the MBA side, having a technologist and an engineering perspective is a great asset to help learn in the program and to learn from people who think differently than you do," Cowan said.

Most students in a dual master's-MBA program earn a general MBA degree, but Cowan completed additional course hours to earn a concentration in logistics and operations. In total, he took two and a half years to complete his degrees.

Cowan said that at times the coursework could be daunting, especially while he was working 20 to 30 hours a week. However, he said the end reward kept him going.

"It's a long haul, but it's worth it in the end," Cowan said. "And if someone wants to manage technology and has a computer science background, this is a fantastic road to go."

With his MSCS and MBA degrees in tow, Cowan has already received multiple job offers — two from Microsoft and several from local businesses.

"Jeremy will be our model graduate student for the MSCS/MBA degree for years to come," Berry said. "His motivation and diligence in pursuit of the combined degree was truly amazing."


Jeremy Cowan with fiancee Frances Slatery, mother Judy Cowan and father Jeff Cowan at commencement on Dec. 8.

# Award recipients from the 2011 EECS annual Awards Banquet

**Gonzalez Family Faculty Award for Research**
Dr. Michael A. Langston

**Gonzalez Family Staff Award**
Dana L. Bryson

**EECS Departmental Awards**

Electrical Engineering

Outstanding Senior
Stephen Holland

Outstanding Junior
Aaron Pinto

Outstanding Sophomore
David Basford

Computer Engineering

Outstanding Senior
Taylor Morris
Michael Jugan

Outstanding Junior
Thomas Sydney Swearingen

Outstanding Sophomore
Karsten Solies

Computer Science

Outstanding Senior
David Prenshaw

Outstanding Junior
Chad Armstrong

Outstanding Sophomore
Reese Butler

Outstanding
Graduate Teaching Assistant

Katie Schuman
Melika Roknsharifi

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## Faculty

**Mongi A. Abidi** - *Professor*
**Itamar Arel** - *Associate professor*
**David Banks** - *Associate professor*
**Micah Beck** - *Associate professor*
**Michael Berry** - *Assoc. dept. head & professor*
**J. Douglas Birdwell** - *Professor*
**Benjamin J. Blalock** - *Associate professor*
**Qing "Charles" Cao** - *Assistant professor*
**Paul B. Crilly** - *Associate professor*
**Judy Day** - *Assistant professor*
**Seddik M. Djouadi** - *Associate professor*
**Jack Dongarra** - *Univ. distinguished professor*
**Aly Fathy** - *Professor*
**Jens Gregor** - *Professor*
**Jeremy Holleman** - *Assistant professor*
**Jian Huang** - *Associate professor*
**Syed Islam** - *Professor*
**Michael A. Langston** - *Professor*
**Fangxing "Fran" Li** - *Associate professor*
**Husheng Li** - *Assistant professor*
**Yilu Liu** - *Governor's chair professor*
**Bruce MacLennan** - *Associate professor*
**Nicole McFarlane** - Assistant professor
**J. Wallace Mayo** - *Instructor*
**Lynne Parker** - *Assoc. dept. head & professor*
**Gregory Peterson** - *Associate professor*
**James Plank** - *Professor*
**Jesse Poore** - *Harlan D. Mills professor & director of UT/ORNL Science Alliance*
**Hairong Qi** - *Professor*
**Michael J. Roberts** - *Professor*
**Jinyuan "Stella" Sun** - *Assistant professor*
**Michael G. Thomason** - *Professor*
**Leon Tolbert** - *Min H. Kao professor*
**Kevin Tomsovic** - *Dept. head & CTI professor*
**Bradley Vander Zanden** - *Professor*
**Fei "Fred" Wang** - *Condra chair professor*
**Dr. Jayne Wu** - *Assistant professor*

## Staff

**Randy Bond**, *Lead IT administrator*
**Dana Bryson**, *Administrative support assistant*
**Bryan Burke**, *IT administrator*
**Jon Eakes**, *Administrative specialist*
**Julia Elkins**, *Administrative specialist*
**Kimberlee Cate**, *Administrative specialist*
**Justin Forbes**, *Senior IT technologist*
**Tiffany Harmon-Monger**, *Accounting specialist*
**Jackie Hurst**, *Business manager*
**William Rhodes**, *IT administrator*
**David Stansberry**, *Accounting specialist II*
**Markus Iturriaga Woelfel**, *IT administrator*
**Jenny Woodbery**, *Communications specialist III*

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