The Min H. Kao Building: New Facility Begins Exciting Future for the College of Engineering
Dean's Message

Numbers, numbers, numbers. Our engineering minds are filled with numbers, some that become so embedded that we never seem to forget them. As I write my greeting, I am reminded that today is π-day or 3.14, or as we often recall it, 3.1417, to four significant figures. Today is also the day of the ribbon-cutting ceremony for our new Min H. Kao Electrical Engineering and Computer Science Building, located at N35 57.542' and W083 55.451' at the corner of Estabrook Drive and Cumberland Avenue. Photographs of this celebratory event are included with the cover story of this issue of The Tennessee Engineer.

This building would not be a reality without Dr. Kao’s vision or without the responses of the State of Tennessee, our alumni and our friends to Dr. Kao’s challenge gift. As I look back over the building’s five-year progression from architectural drawings to completion, other numbers come to mind. During that time, the college’s undergraduate (UG) and graduate (G) enrollment increased by 23 percent and 45 percent respectively, resulting in an increase in generated engineering student credit hours of 45 percent. Research funding, as measured by external grant expenditures within the college, increased by 84 percent and by 23 percent just this past year. We have been successful in hiring seven Governor’s Chair Professors in the past three years. One of the Governor’s Chair Professors, along with the department head and a faculty group in electrical engineering and computer science, have been awarded the college’s first joint NSF/DOE funded Engineering Research Center: The Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT). (See the article on pages 12-13). This center will also include a large number of industrial/commercial partners.

Other significant events of the past five years included the groundbreaking ceremony for the new John Tickle Engineering Building (to house the Department of Civil and Environmental Engineering and the Department of Industrial and Information Engineering), which is slated for completion in late spring 2013, and the initiation of the new multidisciplinary Ph.D. program in energy science and engineering with joint faculty from UT and ORNL. Recently, we received notification from US News & World Report that our college’s overall 2013 ranking among all colleges of engineering in the US increased from 70th to 67th, and our ranking among public colleges of engineering increased from 41st to 40th. Our UG program is ranked 32nd. While these rankings place us in the upper 20th percentile of the colleges of engineering in the nation, we aspire to be a 25th ranked college in support of the university’s goal of becoming a Top 25 university. But in the end, it’s not about numbers—it’s about the quality of our faculty, the quality of our students, and the impact that they, our alumni, and the engineering profession are making in the state, in the nation, and in the world. We are even making an impact outside of this world! Stay tuned for upcoming news about how our faculty and students were involved in the design of microchips on the Mars Rover that should land on Mars in August!

While the last five years have been years of outstanding progress, we continue to look forward to opportunities just over the horizon. Already in view on that horizon, more specifically the year 2013, is the 175th anniversary of the founding of the College of Engineering at the University of Tennessee, Knoxville. We look forward to the opportunity to celebrate this milestone with you. Please let us know your thoughts about creative ways to celebrate!

Wayne T. Davis
Dean, College of Engineering

Homecoming

Visit the College of Engineering web site at www.engr.utk.edu
On Wednesday, March 14, 2012, in a gala ceremony at 11:00 a.m., University of Tennessee, Knoxville, alumnus and Garmin International, Inc. founder Min H. Kao helped dedicate the new $37.5 million engineering building named in his honor—an iconic addition to the Hill and welcome new space to one of UT’s fastest growing colleges.

Min Kao and his wife, Fan Kao, joined Governor Bill Haslam, Chancellor Jimmy G. Cheek, UT President Joe DiPietro, College of Engineering Dean Wayne T. Davis, and EECS Department head Kevin Tomsovic along with state and local officials and university faculty, staff, and students to dedicate the Min H. Kao Electrical Engineering and Computer Science Building.

The Kaoes committed $12.5 million with the stipulation that the State of Tennessee would match the gift. The match was approved by then-Governor Phil Bredesen and the Tennessee State Legislature, creating a total funding of $37.5 million for the project and establishing one of the first such matching arrangements for a new academic building in the state.

In his remarks, Kao recalled his first visit to Ferris Hall, the former home of the electrical engineering department. “When I first came to UT and walked up to Ferris Hall I thought, ‘This is what a university building should look like.’ I still think Ferris is one of the most beautiful buildings on the campus and it inspired me during the years of my education at UT. I hope that someday other young people will look at this beautiful new electrical engineering and computer science building with the same feeling I still have for Ferris.”

The Kaoes also donated $5 million to create the Min H. Kao Scholars and Fellows endowments and Min Kao Professorship. This gift was the foundation of a challenge campaign encouraging other alumni and friends to establish their own funds to support the department. An additional $5 million was raised, providing tremendous new support for students and faculty.

The Min Kao building streamlines six buildings that formerly housed the Department of Electrical Engineering and Computer Science (EECS) into one one-hundred fifty-thousand square-foot engineering building. The centralization allows for more collaborative research between students. The building houses nineteen research laboratories, thirteen teaching laboratories, nine classrooms and faculty offices; a two-thousand five-hundred-square-foot, one hundred forty-seven-seat auditorium; and an educational wing with smaller lecture classrooms that are available to other departments.

“The Min Kao building enhances students’ learning experience by offering them better classrooms, student offices, and laboratories for research,” said College of Engineering Dean Wayne Davis. “The building is also designed to accommodate the technological demands of these students’ work by having special power requirements for computations and network development. These technological learning spaces enhance their education and also help us stay competitive in our journey to the Top 25.”

The building also houses the Center for Ultra-wide-area Resilient Electric Energy Transmission Networks, a one-of-a-kind center funded by the National Science Foundation and the Department of Energy, which seeks to develop smart grid technologies to overhaul our nation’s chronically overstretched electric power grid. Construction began on the building in May 2007 and it opened January 2012. The building is built for LEED certification, which requires using environmentally sound materials, positioning the building to make the best use of natural lighting and using indoor lighting that is both cost- and energy-efficient.

The Kaoes were feted with a private tour of the building and an invitation-only reception for the dedication ceremony. Additional events included a breakfast on Wednesday morning with the Min H. Kao Scholars and Fellows and Dr. Leon Tolbert, the Min H. Kao Professor, and a luncheon with EECS faculty after the dedication ceremony.
Balloons drop from the ceiling of the Min H. Kao Electrical Engineering and Computer Science Building after the dedication ceremony.

Dr. Min H. Kao talks with the Min H. Kao Scholars and Fellows at a breakfast prior to the dedication ceremony.

Guests enjoy the luncheon held after the dedication ceremony for the Min H. Kao Electrical Engineering and Computer Science Building.

The beautiful weather allowed guests to mingle on the terrace during the reception after the building dedication ceremony.

Dr. Min H. Kao (left) enjoys the evening reception with UT President Joe DiPietro (center) and Mr. John Tickle, the donor who provided funding for the John D. Tickle Engineering Building, which is currently under construction on Neyland Drive.

Tennessee Governor Bill Haslam speaks at the dedication ceremony on March 14.
MABE Assistant Professor Receives CAREER Award
Dr. Kovacevic Eksić, an assistant professor in the Department of Mechanical, Aerospace and Biomedical Engineering, has received a CAREER Award from the National Science Foundation (NSF) for his proposal “A Multidisciplinary Framework for Innovative Design of Wind Turbines.” The funded project will investigate unsteady aerodynamic modeling and rapid design of wind turbines by developing and applying two very efficient computational methods—a “multi-frequency” harmonic balance method and an adjoint method—which will be used in an optimization algorithm to design innovative turbines with improved aerodynamic, aeroelastic, and aeroacoustic characteristics.

Education and outreach plans for the program include development of a wind engineering course and a wind turbine aerodynamics and aeroelasticity course as well as involving undergraduate students in cutting-edge research and setting up summer outreach programs that target high school teachers and K-12 students.

The CAREER program is a foundation-wide activity that offers the NSF’s most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education, and the integration of education and research within the context of the mission of their organizations.

Bredesen Center Leaders Elected AAAS Fellows
Dr. Lee Riedinger and Dr. Michael Simpson, joint faculty members of the University of Tennessee, Knoxville, and the U.S. Department of Energy’s Oak Ridge National Laboratory (ORNL), have been elected fellows of the American Association for the Advancement of Science (AAAS).

Riedinger and Simpson are leaders of the UT-ORNL Bredesen Center for Interdisciplinary Research and Graduate Education (CIRE). Riedinger is the center’s director and Simpson is the assistant director. The Bredesen Center offers a unique doctoral degree in engineering and energy sciences and a very competitive distinguished graduate fellowship.

Riedinger is also currently serving as the UT Interim Vice Chancellor for Research and Simpson is a joint UT-ORNL faculty member in the Department of Materials Science and Engineering.

Clarke Appointed Chair of T&DI
Dr. David Clarke, director of the Center for Transportation Research, has been appointed chair of the Rail Transportation Committee of the Transportation & Development Institute (T&D) of the American Society of Civil Engineers. The T&D provides leadership within the society to promote integrated transportation planning and development that is safe, secure, and sustainable.

Hazen Appointed Governor’s Chair
Dr. Terry C. Hazen has been named as a UT-Knoxville National Laboratory (ORNL) Governor’s Chair, tenured in the College of Engineering’s Department of Civil and Environmental Engineering at full professor rank. Hazen also holds courtesy joint appointments with Departments of Microbiology and Earth and Planetary Sciences in the College of Arts and Sciences. He will be interacting with both the Center for Environmental Biotechnology and the Joint Institute for Biological Sciences. Hazen’s joint appointment at ORNL is within the Biosciences Division.

Hazen received his B.S. and M.S. degrees in Interdepartmental Biology from Michigan State University. His Ph.D. is from Wake Forest University in Microbial Ecology.

Prior to coming to UT, Hazen was serving as the Head of the Ecology Department and Center for Environmental Biotechnology at Lawrence Berkeley National Laboratory (LBNL). He was also serving as the Director of Microbial Communities Division within the Joint Bio-Energy Institute at LBNL.

Hazen recently led groundbreaking research about how the giant clouds of oil from the Deepwater Gulf spill seemed to disappear. His team identified the oil-eating bacteria that proliferated below the ocean surface and helped to break down and clean up the oil plumes.

Hazen has received numerous awards, including the Pacific Northwest National Laboratory Outstanding Lecturer Award in 2011 and the DOE BER Distinguished Scientist Award in 2005 (one of only four ever given). Hazen’s primary area of specialty is environmental microbiology, especially as it relates to bioremediation, water quality, and bioenergy.

Laerdal’s suite of mannequins simulation offerings. Laerdal is the top distributor of simulated mannequins for healthcare education.

Li is also the co-director, with Dr. Tami Wyatt from the College of Nursing, of the Health Information Technology and Simulation Laboratory (HITS Lab), an organized research unit at UTK. This interdisciplinary initiative brings together the expertise of engineers and nurses to test technology and human computer interaction and to facilitate knowledge in health information technology. Drs. Li and Wyatt have a long-term goal to develop eventual federal funding for the center.

Li and Wyatt recently developed and patented an electronic health record (EHR) for academic use called DocuCare (http://theptoin. lww.com/lwwdocucare). DocuCare was sold to Wolters Kluwer/ Lippincott last year, and the system will now be integrated into

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An excited crowd of close to one thousand high school students from forty-two high schools descended on the University of Tennessee, Knoxville, campus for Engineers Day on October 27, 2011.

The annual event, which has been held by the UTK College of Engineering since 1912, allows university students and faculty to spend time interacting with hundreds of potential engineering students from high schools across the region.

Activities during Engineers Day include exhibits, contests such as the Balsa Wood Bridge Competition, the Egg Drop Competition, and the Quiz Bowl, one of the most popular segments of the event. During the Quiz Bowl, each team, consisting of four students, is given thirty minutes to answer sixty to seventy written, multiple-choice engineering-based questions. The winners advance to the Championship Round to determine who will take first place.

The Food Battery Competition, a new activity added for Engineers Day 2011, was a big hit and provided a lot of entertainment for students.

The keynote speaker for Engineers Day 2011 was Ralph D. Heath (BS/EE ’70, MBA ’75), Executive Vice President–Aeronautics for Lockheed Martin Corporation. Heath leads the corporation’s military aircraft business, which employs more than twenty-six thousand people at nine locations across the country.

Lockheed Martin provided generous support for the event, which is sponsored by Tau Beta Pi, the national engineering honor society that is headquartered on the UTK campus in the Dougherty Engineering Building.

Engineers Day 2012 will be held on October 25. The College of Engineering is planning a special recognition for the event’s 100th anniversary. For more information, visit http://www.engr.utk.edu/ed/ or contact the College of Engineering’s Office of Academic and Student Affairs at (865) 974-2454.

Show your pride in the University of Tennessee, Knoxville College of Engineering with top-quality apparel and gifts.

You can choose from a great selection of shirts, mugs, caps, banners and much more! The profit that is generated from the sale of these items contributes to the College of Engineering’s scholarship funding.

Visit http://www.shgstores.com/utkce/
The COE Pre-College Programs

The General Pre-College Engineering Program at UT is a very large program. It is a pre-college summer program for incoming high school juniors or seniors interested in pursuing a career in engineering. The goal is to attract and retain students, especially from underrepresented groups, and to prepare them for their future at the university.

The program is divided into two sections: the Early Discovery Program (EDP) and the Minority Engineering Program (MEP). The EDP is designed for students who are interested in engineering but do not have a specific interest in a particular discipline. The MEP is designed for students who are interested in pursuing a career in engineering but do not have the financial resources to attend a university.

The program is administered by the Office of Engineering Diversity Programs (EDP), which is located in the Department of Engineering Education. The director of the program is Fred Brown, a retired professor from the University of Tennessee.

The program is funded by a variety of sources, including federal and state grants, private foundations, and corporate donations.

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The University of Tennessee, Knoxville, College of Engineering (COE) has received a five-year, $18 million award from the National Science Foundation (NSF) and the U.S. Department of Energy (DOE) to establish an NSF Engineering Research Center (ERC) focused on research, education, and technology for sustainable energy systems with an emphasis on power transmission systems.

The NSF ERC is historically the most prestigious award given to a university-industry team, and this is the first time the university has been designated to lead an ERC and also the first time an ERC will address power transmission systems.

The new Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT), involves a consortium of academia, industry, and national laboratories. CURENT will play a central role in President Barack Obama’s goal to overhaul the nation’s power grid. The president outlined a framework to take America’s twentieth century power system into the twenty-first century through cutting-edge research. Through the partnership of NSF and DOE, CURENT will play a leading role in addressing the nation’s critical need to develop a smart grid. CURENT is housed in the COE’s new Min H. Kao Electrical Engineering and Computer Science Building.

Kevin Tomsovic, head of UT’s Department of Electrical Engineering and Computer Science, will direct CURENT, and Yilu Liu, Governor’s Chair for Power Electronics, will serve as co-director.

Since 1982, an increase in peak demand for electricity has exceeded transmission growth by almost twenty-five percent, according to the DOE, resulting in costly and inconvenient blackouts. This overload is expected to worsen as the population continues to increase. CURENT seeks to solve this problem by focusing its technologies and methods to operate the power grid efficiently and reliably over long distances.

“Using wide-area synchronized measurements, large-scale computer simulations, and hardware test beds to represent the major United States power grids, we seek the fundamental breakthroughs needed for the transmission system to accommodate high levels of alternative energy,” Tomsovic said.

Liu has been monitoring power grid operations with frequency disturbance recorders installed in various parts of the nation’s grids.

“Before you take any action, you need to see what is going on,” Liu said. “Monitoring is an essential first step, then this will lead to better information, knowledge and eventually control.”

CURENT engineers’ contributions will have a positive environmental impact. The center’s innovations will enable a global shift away from fossil fuels by facilitating higher levels of renewable energy resources within electric grids. This will mean green, sustainable, and reliable power to consumers.

CURENT is also focusing on the future work force by educating a new generation of energy leaders from diverse backgrounds with a global perspective. The educational mission concentrates on developing a broad interdisciplinary program that benefits graduate, undergraduate, and pre-college students.

Partner academic institutions for CURENT include Northeastern University, Rensselaer Polytechnic Institute, Tuskegee University, Tsinghua (China) University, the University of Waterloo (Canada), and the National Technical University of Athens (Greece). More than forty companies support CURENT, including electric power utilities, manufacturers, consulting firms, and national laboratories, such as Oak Ridge National Laboratory (ORNL).

CURENT has the potential for continued NSF–DOE funding of $4-5 million per year over the next ten years.

For more information about CURENT, visit http://curent.utk.edu/.

The CURENT team: Dr. Leon Tolbert, Dr. Kevin Tomsovic, Dr Fred Wang, Dr. Yilu Liu, and Dr. Fangxing Li.
Shek Hong with a Black Hawk helicopter model showing rotor.

Greg Carpenter’s company specializes in lighting fixtures.

Keep Manufacturing Alive

Engineering Alumni

Greg Carpenter’s company designs and manufactures lighting fixtures. His company’s products are used in residential and office buildings around the world. Carpenter cites multiple influences of his COE experience.

“The master’s degree education I received at UT provided me with the solid academic foundation for future research into polymer synthesis, characterization, and processing,” explained Hong. “This led me into inventions in polymer processing, dental products, printing plates, and finally, rain- and sand-erosion-resistant coatings for use on helicopter rotor blades.”

The savings of not having to replace these parts is tremendous, with blades costing hundreds of thousands of dollars each. “As a result of the high performance and huge cost-saving potential, our HCSXPF blade coating system has been requested to be put on the aircraft for America’s allies,” said Hong. “This will also increase the job opportunities here in America.”

In the future, Hong sees his blade-coating system also used for windmills.

In the field of industrial engineering, alumnus John C. Williams (BS/IE ’77) established Convairian, Inc., in the Memphis, Tenn., area. The company designs, builds, and installs conveyor systems and other equipment used for improving processes in material handling. Williams also found direct ways to apply his UT experiences to the creation of his company.

“Problem solving in class developed analytical thinking that applies to many business issues,” Williams said.

While a lot of people might not think of the impact that conveyor-belt systems have on everyday life, Williams has one client that is almost ubiquitous. “Every overnight letter or document sent by FedEx touches one of our products at some point worldwide,” said Williams.

Greg D. Carpenter (BS/IE ’88) owns Specialty Lighting LLC in Fallston, N.C. His company designs and manufactures lighting fixtures and related controls found in residential and office furniture and hospitality, institutional, and retail environments. This includes lighting for china hutches, display cabinets, kitchen cabinets, casinos, restaurants, retail displays, and store fixtures.

Carpenter cites multiple influences of his COE experience.

“My UT education equipped me with the necessary skills to ‘drill through the layers’ as related to problem resolution. Secondly, and perhaps most important, my education prepared me for the real world by instilling the value of collaboration-teamwork,” Carpenter said.

Specialty Lighting has seen growth, even in the face of recent economic challenges.

“During a time that many businesses were reducing headcounts or closing their doors, we managed to add employees to our roster,” added Carpenter. “Our workforce has become more productive and our work processes have been simplified. We believe these factors will translate to future job growth and business development in North America.”

Other notable alumni manufacturing business owners include:

Kenneth Hardin (BS/Chem., ’78): Climashield, Clinton, Tenn.
Dr. J. Donald Brock (BS/ME, ’68): Aste Industries, Chattanooga, Tenn.
Gin Imman (BS/ME, ’85): Republic Plastics, Knoxville, Tenn.
Ganeby B. Scott (BS/IE, ’82), Executive CEO, and Ganeby B. Scott III (BSIE, ’89), President, Scaptco, Inc., Waverly, Tenn.

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Bennett M. Croswell (BS/ME’79) may have left East Tennessee for other opportunities, but he still loves Big Orange country.

“Between work and family, I don’t have a lot of time to spare, but when I do, I spend it in front of the television watching Tennessee football, basketball, and other sports,” Croswell said.

“I really enjoy watching the Vols, and I certainly enjoy watching them when they win.”

Bennett Croswell is president of Pratt & Whitney’s Military Engines business, where he oversees development, production, and support of the company’s military offerings, including the fifth generation F135 and F119 engines for the F-22 and F-35 fighters, the F100 for the F-15/F-16, the F117 for the C-17, as well as the Small Military Engine and Advanced Engine Program sectors.

Croswell was born in Lynchburg, Va. His father was in the textile business, so the family moved around the south quite a bit, including stints in North Carolina and Huntsville, Ala. where Croswell attended high school.

When it came time to make a career decision after graduating from high school, Croswell decided to follow in his father’s footsteps and become a mechanical engineer.

“When I looked at engineering schools, Tennessee was a really good fit for me,” Croswell said. “My mother was born and raised in Bristol, and although I had never lived in the state before, we visited my grandmother frequently and I became attached to the area. It was really exciting for me to attend UT.”

Croswell enjoyed his years at the university, studying hard, following sports, and making friends. He eventually met his wife, Stephanie, while both were UT students.

Croswell has always had an interest in military history, so when he was interviewing for his initial job, the fact that Pratt & Whitney designed and supported engines for the military made the company a good fit. Plus, the fact the company was located in West Palm Beach, Fla., didn’t hurt either. He applied to the company and was hired initially as a performance engineer.

After working his way up to technology manager and spending several years as a Field representative, working with Lockheed Martin, Northrop Grumman, and Boeing, Croswell relocated with the military engines team to Connecticut in 2001.

In May of 2010, Croswell was named president of Pratt & Whitney Military Engines.

“I couldn’t be more thrilled or feel more fortunate to be in my current position,” Croswell commented. “I hope I can do the best job possible for the warfighters who we support, the shareholders of United Technologies Corporation, and the one thousand five hundred employees in Pratt & Whitney Military Engines, as well as the extended team that make up the engineering manufacturing and organizations that support the military engines business.”

Croswell sees his time at UT as an important part of the foundation for his career success.

“It’s not only the technical skill you bring to a project, it’s also how you communicate your ideas, how you present them to people, and how you handle yourself in difficult situations. I remember taking a course at UT where you had to stand up in front of class and give a formal presentation. And it really gave me a lot of experience in how to collect my ideas and present them in a clear and succinct way,” Croswell said.

Croswell’s wife, Stephanie, also a UT graduate, has a degree in education. They have three children: Caitlin, twenty-five years old, and a graduate of the University of Connecticut; Jonathan, eighteen years old, a freshman at UT; and Michael, a junior in high school.

“The friends that I met at the university are still friends of mine today, and UT brings us back together,” Croswell said. “I have a lot of great memories from the University of Tennessee.”

“Engineering Alumni

Keep Manufacturing Alive in the United States

Alumni Profile: Bennett Croswell
Dean’s Circle Supports COE
Education, Research Initiatives

The Dean’s Circle is a representation of the power of the college, our alumni, and friends coming together to create philanthropic momentum.

“The Dean’s Circle is a great vehicle for participating collectively with other donors to provide resources and opportunities within the College of Engineering,” said Mark Frye, (BS/CE ’87), “If one student gets an opportunity or is exposed to new/emerging disciplines, success has been achieved. As the first person in my family to graduate from college, there is no question, the Department of Civil Engineering provided the map for my ‘life path’ and I am humbly grateful.”

The impact of each gift is seen every day in the growth of programs like the Jerry E. Stoneking Engage Engineering Fundamentals Program, as well as the establishment of the NSF grant awarded to the CURENT lab, to name a few. The Dean’s Circle members are committed to keeping this momentum moving forward.

“The education I got from the University of Tennessee allowed me to become successful in the engineering field,” said Matt DoFlsy, (BS/CE ’06). “I feel that contributing annually to the college is a way of giving back to those who helped me get to where I am. Thanks to the college of engineering, I am in a position to donate.”

The College of Engineering is challenging alumni to help grow the Dean’s Circle and become a 2012 member. Join Dean Davis in giving one thousand dollars or more to the College Fund for Engineering or one of the seven department funds. With your membership, you will begin to collect the annual Dean’s Circle medalion that features one of our engineering facilities. The 2012 medalion has been cast and will showcase Ferris Hall. Be among the first alumni to receive this commemorative medalion and join the philanthropic momentum that is helping the college move forward.

“The Dean’s Circle is a representation of the power of the college, our alumni, and friends coming together to create philanthropic momentum.”

Campagne for Tennessee is a Huge Success!

Sometimes the best thing we can do is to simply say thank you. As the University of Tennessee celebrates the end of a tremendously successful campaign we want to say a BIG thank you to each individual, family, company, foundation, or group who gave to the College of Engineering.

If you gave a scholarship you sent a message to a student “you can do it!”
If you gave to the College Fund for Engineering you gave the dean the flexibility to fund priorities
If you created a professorship you invested in a professional who will make a difference
If you supported the Jerry E. Stoneking Engage program you helped freshmen understand engineering
If you supported a capstone design project you gave engineering experience to a senior
If you put engineering in your estate plans you are investing in the future
If you invested in one of our new buildings you are transforming our campus
If you gave a fellowship you helped us recruit a great new graduate student to engineering

You gave. And the University of Tennessee, Knoxville, College of Engineering is better because of you. THANK YOU.

College of Engineering Campaign Goal
$75,000,000

Total Campaign Commitments
$93,214,421
The University of Tennessee, Knoxville, College of Engineering’s influence is truly international! We have 697 alumni in almost every country across the planet, along with 23,269 alumni in the United States. While many of our graduates—1,885 currently—choose to remain in the state of Tennessee, many others find their career paths in other parts of the world. This map spotlights the number of UT College of Engineering graduates across the globe.
The University of Tennessee, Knoxville, Alumni Board of Directors recognizes outstanding UT alumni at an annual awards dinner. This year’s event took place on Sept. 9, 2011, and three College of Engineering (COE) alumni were presented awards for their achievements.

The Alumni Promise Award was given to Amy Akard Millslagle (BS/Chem Engr ’00). This award recognizes alumni forty years of age or younger who have demonstrated distinctive achievement in their career, civic involvement, or both. Millslagle is the current marketing director for the world’s largest biofuels company, Amyris, Inc., headquartered in Berkeley, Calif. According to the UT Alumni Board of Directors, she was selected for the award because she has achieved excellence in her career and has contributed to her community through her involvement in several organizations.

The Distinguished Achievement Award, which recognizes alumni who have attained a high level of success in their chosen field of endeavor, went to Joe Cook (BS/IE ’65) and Ralph Heath (BS/EE ’70, MBA ’75). Both recipients contributed to the growth and success of business in the community, and they have demonstrated distinctive achievement in their careers.

Joe Cook received the Distinguished Achievement Award while Ralph Heath received the Distinguished Professional Award. Cook is the founding chairman and chief executive officer of the Cincinnati-based company, Goodrich. He was a member of the University of Tennessee College of Engineering’s most prestigious honor, the Nathan W. Dougherty Award from the COE for his numerous contributions to the college, and the University of Tennessee.

Ralph Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide. Heath directs the company’s military aircraft division, which employs more than twenty-six thousand people in nine locations. He oversees aircraft production programs such as the F-22 Raptor, F-16 Fighting Falcon, and worldwide.

Memorials

Eunice Hinkle, who spent thirty-five years in the College of Engineering assisting students, faculty and staff, died on December 22, 2011. Mrs. Hinkle’s dedication and caring touched thousands of students during her career. The Eunice Hinkle Biomedical Engineering Scholarship was established in her honor and it has provided support for numerous aspiring engineers for many years.

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Retirement Reception Honors Lee Dodds

Dr. H.L. “Lee” Dodds, who was head of the Department of Nuclear Engineering (NE) for over fifteen years, was recognized in his honor at the University Club on Monday, Feb. 20. The event was attended by almost one hundred people, including Dodds: University of Tennessee colleagues as well as guests from ORNL, Y-12, TVA, and area nuclear engineering companies. COE Dean Wayne Davis, current NE department head Dr. Wesley Hines, and one of Dodds’ former students, Jeff Johnson, all lauded Dodds for his achievements and gave several amusing anecdotes. Hines presented Dodds with a framed photo of the interior of Thompson-Boling Arena.

Events & Awards

ME Student Wins Woman of Color in STEM Community Awards

Shaunte Hunter, a junior majoring in mechanical engineering, was selected as a student recipient of the Women of Color in Science, Technology, Engineering and Mathematics (STEM) Community Award. Hunter was recognized for her outstanding work in and out of the classroom. Hunter works with the Minority Enhancement for UT (ME-UT) to inform high school juniors and seniors about STEM majors as part of an effort to recruit potential engineering students. Hunter’s award was featured in SWE, the magazine of the Society of Engineers, in the winter 2012 edition.

NE Students Win Coryell Award for Undergraduate Research

Nuclear engineering students Ben Farr and Jeremy Townsend received the Charles D. Coryell Award in Nuclear Chemistry on Aug. 29, 2011. The award is presented annually by the American Chemical Society’s Division of Nuclear Chemistry and Technology (ACS-DNCT) to recognize undergraduate excellence in nuclear chemistry research. Farr and Townsend received the award and a five hundred dollar prize check at the national recognition of the American Chemical Society in Denver. Farr and Townsend’s research supports the acquisition, installation, and testing of a hybrid K-edge densitometer/X ray fluorescence (HKED) system that is being installed in the Radiochemical Engineering Development Laboratory at Oak Ridge National Laboratory (ORNL) for training purposes and algorithm development. HKED systems are used for verification measurements at nuclear fuel reprocessing plants throughout the world. Farr and Townsend received their Bachelor of Science degrees in nuclear engineering in 2011 and are continuing as graduate students with Dr. Howard Hall’s research group in the Department of Nuclear Engineering.

MSE Professor and JIAM Director is Named Fellow of MRS

On Feb. 9, 2012, the Materials Research Society (MRS) Fellow Subcommittee of 2011-12 announced the selection of George M. Pharr for recognition as MRS Fellow in the 2012 class. The new Fellows will be formally recognized at the forthcoming spring meeting in San Francisco, and in announcement literature and displays at that meeting. Recognition will also appear in the MRS Bulletin and be presented on the MRS website.

Laboratory in Tickle Building Named for Esteemed CEE Faculty Member

When civil engineering alumni reflect on the quality of their engineering education, many credit Dr. Burdette for conveying unparalleled academic and professional lessons. His former structural engineering students often comment that he was the best teacher they ever had, at any level. Additionally, Dr. Burdette often receives praise for being an individual who enters the lives of his students and fundamentally changes them for the better. When an opportunity came up recently to honor Dr. Burdette with a recognized space within the John Tickle Engineering Building, many alumni and friends wanted to participate.

On Sept. 9, 2011, one day after Ed Burdette’s seventy-seventh birthday, the college hosted a surprise celebration to announce the naming of the Ed Burdette Hardened Concrete Laboratory within the John Tickle Engineering Building, a $2.3 million, one hundred thousand square-foot facility scheduled for completion in 2013. Ed’s wife, Patsy, their five adult children, and three of their grandchildren were in attendance, as were many of the alumni and friends whose philanthropy resulted in the honorary recognition. Charitable gifts for recognition opportunities within the Tickle Building are allocated to benefit department specific endowments, not the building project itself. The Civil and Environmental Engineering Excellence Endowment ensures the department head will have resources in perpetuity to address the ongoing and evolving challenges that face students and faculty that cannot be addressed by facilities or state-funds alone, such as purchasing technology and retaining excellent faculty who are quality instructors and productive researchers or addressing priorities such as student enrichment and support.

The Ed Burdette Hardened Concrete Laboratory will soon provide faculty with new space to teach undergraduates and conduct research with the assistance of graduate students while strengthening the Civil and Environmental Engineering Excellence Endowment and honoring Dr. Burdette’s legacy. Other similar philanthropic gifts from the following alumni and friends are supporting the Department of Civil and Environmental Engineering in honor of Dr. Ed Burdette: the Arico Family, including Mabel Arico, Gina (Arico) Inklebarger, Randy Inklebarger, and Laura Arico Presley; Jim and Rhonda Copley; Sharon Habbib; Bill and Sandy Hamilton; Earl and Christa Ingram; Raja Jubran; Lee and Nancy Marsh; Ed and Carla McDougle; Dayakar and Mana Penumadu; Terry Scholz; and Bob and Denise Walker.

Philanthropic gifts from the following alumni and friends are supporting the Department of Civil and Environmental Engineering in honor of Dr. Ed Burdette: the Arico Family, including Mabel Arico, Gina (Arico) Inklebarger, and Travis and Laura Arico Presley; Jim and Rhonda Copley; Sharon Habbib; Bill and Sandy Hamilton; Earl and Christa Ingram; Raja Jubran; Lee and Nancy Marsh; Ed and Carla McDougle; Dayakar and Mana Penumadu; Terry Scholz; and Bob and Denise Walker.
The Annual Alumni Homecoming BBQ on the Hill

Nov. 5, 2011.

The College of Engineering hosted the Annual Alumni Barbeque on the Hill Nov. 5, 2011. The BBQ commenced three hours prior to the kickoff of the Homecoming football game in which the University of Tennessee took on Middle Tennessee State University.

The highlight of the event was a series of tours of the new Min Kao Electrical Engineering and Computer Science building, which took place throughout the day. Tours were led by the College of Engineering Student Ambassadors and were a great success. Alumni and children enjoyed playing various games and getting their faces painted.

Attendees line up at the barbecue buffet during the COE Homecoming 2011.

The University of Tennessee, Knoxville, College of Engineering is gratified by the many generous contributions made to the college's annual fund this year. Your support allows our engineering students to take on new challenges and advance their academic careers. COE Dean Wayne T. Davis is proud to use proceeds from this fund to exclusively support student programs and initiatives that directly impact engineering students. Here are a few examples of the varied ways that your support has made a difference in the lives of these students:

“Due to the resources provided through the Engineering Annual Fund, I’ve been able to direct my focus to the pursuit of internships and co-ops instead of having to search extensively for external scholarships and research funds. These experiences that I’ve gained with these companies have significantly enriched my academic and professional experiences both in the College of Engineering and overall at the University of Tennessee!”

Aeron Glover

“I am a senior in chemical and biomolecular engineering. Growing up in a single parent household with two other college-aged siblings, college would not have been a reality for me without scholarships. University scholarships, as well as outside scholarships, have made a college education possible for me.

Throughout my college career, I have participated in various student organizations and programs. The Tennessee Louis Stokes Alliance for Minority Participation (TLSAMP) was the first organization I joined here at the University of Tennessee. Through their engineering summer bridge program, I was able to come to campus two weeks before my freshman year to get a jump-start on engineering courses, calculus, and chemistry classes. I am also actively involved in The National Society of Black Engineers (NSBE), where I hold two executive board positions; publications chair and programs chair. I am also a member of The National Society of Women Engineers (SWE) and The American Institute of Chemical Engineers (AICHE). I have had the opportunity to help my community by being a part of Clinic Vols, and develop my leadership skills as an Engineering Co-op Ambassador.

Because of scholarships, I am proud to say I am graduating this spring 2012.”

Tia Tabors

“Being a part of student organizations has provided me many opportunities to broaden my horizons and to learn about things that cannot be taught in classrooms. Thanks to the Engineering Annual Fund, students in SWE (The Society of Women Engineers) and WiN (Women in Nuclear) have been given the opportunity to attend conferences, have successful engineers from different prestigious programs as guest speakers, participate in projects to serve the community, and take part in holding events to inspire future engineers from local high schools.”

Support the UT College of Engineering Annual Fund and continue to enhance the college experience for students like Aeron, Tia, and Tiffany. Visit http://www.engr.utk.edu to make your gift today, and join the COE Facebook Group at http://www.facebook.com/coe.utk!
Calendar

Fall 2012
Classes Begin ........................................... Jan 11
MLK Holiday .............................................. Jan 16
1st Session Ends ........................................ Feb 29
2nd Session Begins .................................... Mar 1
Spring Break ............................................. Mar 19-23
Spring Recess .......................................... April 6
Classes End ............................................. April 27
Exams ................................................... May 1-4, 7-8
Commencement ....................................... May 9-11

Summer 2012
Classes Begin ........................................... May 9
Memorial Day ............................................. May 28
Full & 1st Session Begin ...................... May 31
1st Session Ends ....................................... July 3
Independence Day Holiday ................ July 4
2nd Session Begins ................................ July 5
Full & 2nd Sessions End ................. August 7
*Official Graduation Date .......... August 15

*There is no commencement in the summer. This is the official graduation date that will appear on the transcript.

Contact Information

Senior Administration
Dr. Wayne Davis,
Dean of Engineering
Dr. Bill Dunne,
Associate Dean for Research & Technology
Dr. Masood Parang,
Associate Dean for Academic & Student Affairs

Departments
Chemical & Biomolecular ......................... 974-2421
Civil & Environmental ............................. 974-2503
Electrical & Computer Science ............... 974-3461
Industrial & Information ......................... 974-3333
Materials Science .................................... 974-5336
Mechanical, Aerospace & Biomedical ........ 974-2093
Nuclear ................................................ 974-2525
Administration & Programs
Communications .................................... 974-0533
Dean’s Office ......................................... 974-5321
Development .......................................... 974-2779
Engineering Advising Services ................ 974-4008
Engineering Diversity Programs .......... 974-1931
Engineering Fundamentals ...................... 974-9810
Engineering Professional Practice .......... 974-5323
Engineering Research .............................. 974-8360
Engineering Student Affairs ................... 974-2454
Finance & Admin. Affairs ....................... 974-5279

Research Centers
Materials Processing ............................... 974-0816
Maintenance & Reliability ........................ 974-9625
Scintillation Materials ............................. 974-0267
Transportation Research ............................ 974-5255
Intelligent Systems and Machine Learning .... 974-5803
CURENT ................................................. 974-9720
Innovative Computing Laboratory ............. 974-8295

The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services. All qualified applicants will receive equal consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability or covered veteran status.

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