College of Engineering Moves Forward with New Building Projects

Progress on the college’s building construction and renovation projects is going well with most on schedule, according to Dr. Bill Dunne, COE dean for research and technology.

The Min H. Kao Electrical Engineering and Computer Science Building, on the corner of Estabrook Drive and Cumberland Avenue, is expected to be substantially finished in August 2011. The contractors will conclude final work in September of that year and then officially hand the building over to the university and the College of Engineering.

“The exterior is nearly completed on the west and north sides,” Dunne said. “Work on the interior of the building is ongoing. In some areas, including the classroom annex, the inside projects have made substantial progress, but in others we are on schedule but at the stage of precursor mechanical and electrical work.”

Dunne expects the exterior work on the north and west side of the building will be completed close to the beginning of the fall semester so that Middle Way Drive can be reopened for traffic.

The college’s other new facility, the John Tickle Building, is on track for construction to begin in December of this year. The entire building design was submitted to the State Fire Marshal for review Aug. 30, so construction plans are being finalized.

“We’re hoping that the building will be completed in Aug. of 2012,” Dunne commented. “I know that sounds like a short period of time, but we’ve been assured that it can happen.”

As for the Joint Institute for Advanced Materials (JIAM) facility on the university's new Cherokee Campus, site preparation is in progress and Dunne anticipates that construction will begin in late 2010 or very early 2011.

“The JIAM building is a more complicated project,” Dunne said. “The mechanical and construction documents are going forward, and this project is likely going to be completed in late 2012 as well.”

As I reflect on the college’s accomplishments during the last year and look forward, I can’t help but be excited about the future of engineering. Our college has grown substantially over the last several years in both size and quality. The preliminary information available as I write this message is that the number of freshmen entering directly into our Freshman Engage program is approximately 413 students for this semester. This is 30% larger than last year’s Engage enrollment and clearly a high for the last ten years. The average math ACT of these students is 30.0 and 30% of our new students are in the Chancellor's Honors program. Our freshman to sophomore retention rate of the students who enter directly into our Engage program is also at an all time high of 82% overall and 89.5% for the honors students. All of our honors students and many of the other students are committed to an international experience during their degree program at UTK, and we are working closely with our faculty, universities across the globe and our corporate partners to help facilitate these experiences.

Our graduates are also making a difference within the state, the nation and around the world. One indication of this impact...
Dean’s Desk continued from page 1

The university has also named Dr. Brian Wirth, an authority in the ways materials behave in extreme environments, as the ninth University of Tennessee-Oak Ridge National Laboratory Governor’s Chair. Wirth works nearly an associate professor at the University of California, Berkeley, where he joined in 2002 following several years as a materials scientist at the University of Tennessee—Oak Ridge National Laboratory.

Wirth recently joined the UT-ORNL Governor’s Chair program in order to include nuclear power as a part of the multiyear University of Tennessee-Oak Ridge National Laboratory Governor’s Chair program is designed to attract exceptionally accomplished researchers from around the world to boost joint research efforts that position the partnership as a leader in the field of biological science, computational science, advanced materials and neutron science.

Funded by the state of Tennessee and ORNL, the program attracts top scientists to broaden and enhance the unique research partnership that exists between the state’s flagship university and the nation’s largest multi-program laboratory. Other UT-ORNL Governor’s Chairs include: Jeremy Smith, Governor’s Chair in Computational Biology, appointed in 2006; Howard Hall, Governor’s Chair in Global Nuclear Security, appointed in 2009; Frank Loeffler, Governor’s Chair in Nuclear Security, appointed in 2009.

Wirth’s preeminent research has been published in more than 50 peer-reviewed papers in archival journals and conference proceedings, which have been cited more than 1,400 times. Wirth’s research has been recognized with several awards and honors, including a 2006 Presidential Early Career Award for Scientists and Engineers, a 2007 Presidential Early Career Award for Scientists and Engineers, a 2007 National Academy of Sciences Early Career Award, and a 2007 National Academy of Sciences Early Career Award.

Wirth has spent his entire career with ORNL, where he has served as director of the ORNL Nuclear Science and Technology Division since 2009. Wirth received his bachelor’s degree in physics from the University of Wisconsin—Madison, and his master’s degree and doctorate, both in nuclear engineering, from the University of Wisconsin—Madison.

Wirth’s research is focused on materials science and technology, with a particular emphasis on the development of new materials for advanced nuclear applications, including nuclear energy, fusion and fission.

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COE Welcomes Eight New Faculty Members

These professors have joined the college this fall:

Dr. Cong Trinh is an assistant professor in the Department of Chemical and Biomolecular Engineering. Trinh’s research areas include inverse metabolic engineering and systems biology, metabolic flux quantification, cell physiology and advanced fermentation, and biomedicinal. He received his Ph.D. from the University of Minnesota. Trinh will join the CBE faculty in January 2011.

The Department of Electrical Engineering and Computer Science has added four new faculty members. Dr. Judy Day, an assistant professor, received her Ph.D. from the University of Pittsburgh. Day’s research area includes mathematical models of the immune response to various infectious diseases and application of engineering control algorithms to ODE models of the inflammatory response to test potential therapies to correct immune response dysfunction. Dr. Gong Gu, also an assistant professor, has 13 U.S. patents on organic semiconductor devices, display technologies and circuit design. He received his Ph.D. from Princeton University. Dr. Nicole Nelson’s research area is cross mixed-signal VLSI circuit design particularly applied to bio-sensors and imaging; exploring the application of information theory to study trade-offs in circuit design, microfabrication and development of devices. The new assistant professor in EECS received her Ph.D. from the University of Maryland.

Dr. Jinyuan (Stella) Sun, an assistant professor, received her Ph.D. from the University of Florida. Sun’s areas of expertise include security and privacy in wired/wireless networks and systems, wireless communications and computer networks. The Department of Materials Science and Engineering welcomes Dr. Susan Wang. She received her Ph.D. from Lund University, Sweden, and her research area includes interactions of charged particles with materials, detection and characterization of charged particles including ion-solid, electron-solid and photon-solid interaction. The Department of Mechanical, Aerospace and Biomedical Engineering welcomes Dr. Matthew Mench, professor and Condra Chair. Mench received his Ph.D. from the Pennsylvania State University and has two United States patents and one international patent issued, three additional U.S. patent applications currently being reviewed and three invention disclosures also under review. Mench’s primary research area is fuel cells.

Dr. Bethany Goldblum has joined the Department of Nuclear Engineering as an assistant professor. Goldblum’s Ph.D. was awarded at the University of California, Berkeley, where she was a Clare Booth Luce Chancellor’s Postdoctoral Fellow. She was also a member of the Project on Nuclear Issues Scholar at the Center for Strategic and International Studies in Washington, D.C., and served as a technical associate in physics and advanced technologies at Lawrence Livermore National Laboratory in Livermore, Calif.

Pharr Receives Inaugural MRS Innovation in Materials Characterization Award

Dr. George Pharr, McKamey Professor and Head of the Department of Materials Science (MSEE), and Warren C. Oliver of Nanomechanics in Oak Ridge, Tenn., have been honored with the inaugural MRS Innovation in Materials Characterization Award for their joint work on nanoindentation. Pharr and Oliver were cited for “seminal contributions to the development of the instrumentration and analysis methods of nanindentation for characterizing the mechanical properties of materials at the micro- and nanometer length scales.” Oliver received his Bachelor of Science in Materials Science from the University of Tennessee and is the son of the late Dr. Ben Oliver, a long-time faculty member in the MSE department. The award was presented to Pharr and Oliver at the 2010 Materials Research Society Spring Meeting in San Francisco.

MABE Professors Win NASA Award

Dr. Jay Frankel and Dr. Majd Keyhani, both professors in the Department of Chemical and Biomolecular Engineering, have received a National Aeronautics and Space Administration (NASA) EPSCoR Award for 2010. The funding was awarded for “Patented Heating Rate Sensor and Analytic Tools for Prediction of Surface Heat Flux and Temperature of TPS via In-Depth Sensor Data.”

Dr. Stephen Paddison, Department of Chemical and Biomolecular Engineering

Dr. Stephen Paddison, an associate professor in the Department of Chemical and Biomolecular Engineering (CBE), is passionate about polymer electrolyte membrane fuel cell research. “Proton exchange or polymer electrolyte membrane fuel cells (PEMFCs) are applicable as power supplies for a range of devices, including portable electronics, vehicular power, or stationary power for small buildings. Essentially these fuel cells will be used to directly change energy storage devices including batteries,” said Paddison. “My group is especially interested in the materials used in PEMFCs, with a specific focus of the material properties of a fundamental, that is, molecular-level.” The majority of his research involves the simulation of the structure and function of materials.

Paddison received his bachelor’s in chemical physics and a Ph.D. (1996) in physical/theoretical chemistry from the University of Calgary, Canada.

“When I finished my Ph.D., I chose to do a fellowship in a completely new area of research, and it really came as an opportunity to do something different then what I had done in the past,” commented Paddison. The postdoctoral fellowship and later staff position, with the Materials Science Division at Los Alamos National Laboratory led Paddison into experimental and theoretical investigations of anodic acid based polymer electrolyte membranes.

Paddison then spent three years as an assistant professor in the Department of Chemistry and Materials Science at the University of Alabama in Huntsville before taking a position at the University of Tennessee in August 2007.

“Mostly what attracted me to the University of Tennessee was the proximity to Oak Ridge. I had spent eight years in Los Alamos National Lab, and was well acquainted with what could be done in a national lab with all their ‘toys,’” explained Paddison.

In the classroom, Paddison hopes to instill a level of enthusiasm in graduate and undergraduate students.

“I don’t want to make anything more difficult than it is, but I don’t want my students to be afraid to tackle the difficult topics,” Paddison said. His professional achievements mimic his classroom mentality as he too has tackled obstacles for the success of new discoveries in fuel cell research.

“We are extremely fortunate to have attracted Stephen to our program at the University of Tennessee. Not only is he a great scholar but also an excellent citizen of the CBE community,” said Dr. Ramin Kheirami, professor and head of the CBE department.

Paddison received a 2010 CBE Research Fellow Award. The award was established to recognize and reward superior research. For Paddison, the award reflects his exceptional record of fuel cell research activity and efforts that clearly contribute to the mission of the college. He has dedicated more than 14 years to advancing the structure-function relationships in fuel cell materials.

Looking to the future of fuel cell research in his department, Paddison said, “My own aspiration for the department is to bring excellence in terms of research and scholarship, and therefore training of students and young researchers.” The majority of his research in the field involves international collaboration with such institutions as the University of Cambridge and the Max Planck Institute, Stuttgart. “I want to bring an awareness of this department to the international community,” added Paddison.

Paddison’s high expectations and forward-looking philosophy for the CBE department hinges on his central statement that “if you want a good product, then you’ve got to hold the light, and you have to demand and require a high but achievable standard.”

Outside of the classroom, Paddison enjoys spending time with his family: wife Joann, daughter Kassandrea, 11, and son Cooper, 10. He is very involved in his children’s musical activities.

Cooper plays the violin with the youth orchestra, and Kassandrea studies the piano.
College of Engineering Salutes Excellence at 2010 Faculty and Staff Awards Dinner

The University of Tennessee College of Engineering held its annual Faculty and Staff Awards Dinner on Thursday, April 22, 2009, at the Knoxville Convention Center. Award winners, COE administrators and staff and their guests enjoyed a reception, dinner and awards program. This year, members of the college’s Board of Advisors and their guests also attended the dinner. COE Dean Wayne Davis and Associate Dean for Research and Technology Bill Dunne served as emcees for the event.

The highlight of the evening was the presentation of the Nathan W. Dougherty Award to Dr. John Prados, professor emeritus in the Department of Chemical and Biomolecular Engineering. Prados is a former Vice President and University Professor Emeritus at UT, where he has served for more than 50 years, beginning as a graduate assistant in 1953. He was a full-time professor in the Department of Chemical Engineering for 13 years, and for the next 20 years he held several administrative positions, including Associate Dean of Engineering, Dean of Admissions and Records, Acting Chancellor of the Knoxville and Martin Institutes and, from 1973 through 1988, he was the Vice President for Academic Affairs of the state’s flagship University of Tennessee system. He returned to the Department of Chemical Engineering in 1989 and from 1990-93 he was the department head. He served as the Senior Education Associate in the Engineering Directorate of the National Science Foundation from 1994 through 1997, Prados has been a consultant to industry, government and more than 30 universities and state education agencies in the United States and abroad.

In 2006, Prados received the Benjamin Garver Lamme Award from ASEE. Established in 1928, the honor recognizes excellence in teaching, contributions to research and technical literature and achievements that advance the profession of engineering college administration. Prados was recognized for 50 years of combined service to the University of Tennessee, ASEE, ABET, NSF and to the nation and the world for his leadership in engineering education reform and innovation.

After the award presentation to Prados, Dr. Bamin Khoshmihan, professor and head of the Department of Chemical and Biomolecular Engineering, announced the establishment of the John W. Prados Professorship in his department. The professorship was created by Malcolm Colditz (BS/COE ’58) and additionally supported by J. Michael Stone (BS/COE ’60), both of whom are former students of Dr. Prados.

Additional awards presented during the evening included:

Outstanding Support Staff Award: Julia Elkins, Administrative Services Assistant, Electrical Engineering and Computer Science and Kristin England, Communications Specialist, Nuclear Engineering

Outstanding Faculty Adviser: Dr. J. Wallace Mezo, Instructor, Electrical Engineering and Computer Science

Allen & Hoshall Engineering Faculty Award: Dr. Michael Barry, Professor, Electrical Engineering and Computer Science

Moses E. and Mayme Brooks Distinguished Professor Award: Dr. Leon Tolbert, Professor, Electrical Engineering and Computer Science

Leon and Nancy Cole Superior Teaching Award: Dr. John Landes, Professor, Mechanical, Aerospace and Biomedical Engineering

Charles Edward Ferris Faculty Award: Dr. Carl McIlhaghe, Professor, Materials Science and Engineering and Director, Center for Materials Processing

2010 Teaching Fellow Awards:
- Dr. Richard Bennett, Professor, Civil and Environmental Engineering and Director, Jerry E. Stoneking Engage Program
- Dr. James Plunk, Professor, Electrical Engineering and Computer Science
- Dr. Ron Shainosky, Professor, Industrial and Information Engineering

2010 Research Fellow Awards:
- Dr. Joshua Fu, Associate Professor, Civil and Environmental Engineering
- Dr. Yenfei Gao, Assistant Professor, Materials Science and Engineering
- Dr. Bin Hu, Associate Professor, Materials Science and Engineering
- Dr. Jian Huang, Associate Professor, Electrical Engineering and Computer Science
- Dr. J. Wesley Hines, Professor, Nuclear Engineering
- Dr. Stephen Padlison, Associate Professor, Chemical and Biomolecular Engineering
- Dr. Xiaoming Wang, Assistant Professor, Electrical Engineering and Computer Science

The University of Tennessee and Oak Ridge National Laboratory (ORNL) are offering two joint graduate programs. They are the Distinguished Graduate Fellowship and an Energy Science and Engineering (ESE) program. The two programs are administered through the Center for Interdisciplinary Research and Education (CIRE).

“These two programs constitute a new level of collaboration between ORNL, a Department of Energy facility, and the University of Tennessee Knoxville, that will create the opportunity to recruit very high caliber graduate students,” said Dr. Bill Dunne, associate dean of research and technology for COE.

Graduate students for these programs will collaborate with the faculty from the Colleges of Arts and Sciences, Agricultural Sciences and Natural Resources, and Engineering as well as research staff at ORNL. They will determine the curriculum and work primarily as teachers, researchers and mentors for the admitted students. One cycle of recruiting has already been completed for the Distinguished Graduate Fellowship program. The students enrolled for fall semester were chosen from Michigan University, Louisiana State University and the University of Tennessee Knoxville.

“There is a preference for U.S. citizens, but we do not exclude international students, said Shelly Lohmann, manager of University and Fellowship Recruiting Programs for ORNL. “We did a great job making this program attractive the first year out, and recruited very good, choice students.”

The Fellowship program derived from the idea that the UT-ORNL partnership paired with a strong stipend would be alluring to high quality prospective students that would not normally apply to UTK and ORNL does not grant degrees. Students who meet the requirements will receive a $30,000 stipend for their fellowship.

“We anticipate this program to be very competitive,” commented Lohmann.

The Fellowship is a five-year program with a carrying capacity of 60 doctoral students, and focuses on material sciences engineering, computational engineering and nuclear science engineering. Students in the Fellowship program will spend the majority of their time at ORNL. Some students will have the opportunity to participate in both the Fellowship program and the ESE program. The ESE program is the larger initiative with a carrying capacity of 300 doctoral students. Governor Phil Bredesen provided $62.1 million of one-time funds to establish this program.

“The governor’s vision was to create a unique graduate program that would be a means of growing the research base of manufacturing, service and intellectual industry development for the state of Tennessee in fields related to alternative energy technologies,” said Dunne. “Ideally these students would stay in this ORNL-UTK nexus after completing the program and potentially grow an expertise that would become nationally and internationally recognized.”

Students involved in the graduate programs will obtain valuable experience that supports an array of professional objectives. The platforms for these educational endeavors is state-of-the-art facilities at ORNL combined with globally recognized science and engineering research centers within and outside of the university.

“This is a new level of relationship that is premised on the concept of success for both organizations and the students,” explained Dunne.
New leaders Take the Helm in Diversity, Professional Practice Programs

The Engineering Professional Practice Office and the Engineering Diversity Programs Office in the College of Engineering have both undergone changes in leadership this year.

In January, Todd Reeves was named as the new director of Engineering Professional Practice, replacing Walter Odum, who left the university to accept a position as Director of Recruiting and Retention with Norfolk State University in Norfolk, Va.

Reeves served for 21 years in private industry, where he focused on new product development, team leadership and customer relationship management.

Reeves' most recent position was with Emerson, working for the Knoxville-based Machinery Health Management business as a senior staff engineer and product manager. In this role, he focused on the creation and global market launch of new machinery condition monitoring products for the process industries. Prior to that, Reeves worked for General Dynamics Electric Boat division in Groton, Conn., as a sound and vibration design engineer, where he assessed the acoustic acceptability of nuclear submarine propulsion systems.

Since moving to Knoxville in 1991, Reeves has been an active member of the Knoxville community, leading and participating in various civic organizations. He holds seven patents in the area of machine condition monitoring, and has received numerous recognitions and honors, including the NSBE Alumni Extension (AE) National Leadership 2006 award and the Region 3 NSBE AE Dedication 2006 award.

“An honor to succeed the legacy of James Pippin,” Reeves said. “This position is a dream come true for me, and I plan to follow the vision that has already been established for the diversity programs.”

Reeves is excited about the opportunities for the Engineering Professional Practice program, which is the second oldest cooperative education initiative in the Southeast, established in 1926. The program combines classroom learning with educationally relevant, productive work experience in a field related to students’ academic and career goals.

“We want to build on the traditions of excellence that has been established,” Reeves commented. “A lot of good things have happened previously, and we have an excellent staff. I want to see more student participation and also to grow our employer base. We’re planning to increase our communications efforts with students so they will be more aware of the opportunities that are available with co-op positions and internships.”

Reeves also hopes to enhance the program’s relationships with faculty and departments as well as work closely with OCE departmental names.

“The adjustment in the name of our program helps to minimize confusion that the old name created,” Reeves said. “Having the word ‘engineering’ in our name clearly identifies the group of students that we support and gives employers a clearer idea of what we represent.”

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“The role is putting opportunities together,” Reeves added. “This is a great program–work experience is so important to employers and it’s a win-win situation for both students and companies.”

In the Engineering Diversity Programs Office, longtime director James Pippin retired on June 10. A reception was held on May 7 at the University Welcome Center to honor Pippin. At the event, the establishment of the James Pippin Pre-College Endowment in the OCE was announced. The fund was created by a small group of engineering alumni who joined together for this honorary gift to thank Pippin for his many years of service to University of Tennessee minority engineering students. Anyone interested in contributing to this ongoing endowment should contact Nathan Zipper in the Engineering Development Office at (615) 974-0323 or via e-mail at nzipper@utk.edu.

On May 3, Travis Griffin was named as the new director of Engineering Diversity Programs. Griffin comes to the university from Oklahoma State University where he served as the coordinator for the Multicultural Engineering Program. In this role, Griffin focused on recruiting, advising and retaining students for the College of Engineering, Architecture and Technology. He also developed, implemented and managed special programs targeted to underrepresented groups and a multicultural awareness program for the college. Prior to this position, Griffin was the outreach coordinator at the University of Southern Mississippi (USM) within the College of Science and Technology, in which he mentored students and helped them pursue graduate degrees and career opportunities.

Griffin received his bachelor’s degree in software engineering from Mississippi State University in 2004 and his master’s degree in higher education from USM in 2005.

Griffin is an active member, leader and advisor within the National Society of Black Engineers (NSBE) and National Association of Multicultural Engineering Program Advocates and has received numerous recognitions and awards for his work in recruiting, retaining and graduating African-American, Hispanic and Native American engineering students. Since 1978, UT Knoxville has consistently ranked among the top 50 universities and colleges in the nation for graduation rates of African-American engineering students. The college’s initial outreach to underrepresented students began in 1973 with the establishment of the Minority Engineering Scholarship Program, which was renamed the Diversity Engineering Scholarship Program (DESP) in 1999. The DESP program is currently under the auspices of the Engineering Professional Practice Office.

Both Reeves and Griffin plan to work together to meet the goals for their respective programs.

“Travis and I have agreed that we want to take a fresh look at DESP and see if we can make it even more beneficial for students,” Reeves said.

Griffin agreed. “The system that has developed within the DESP is great for retention,” he said. “The professional experience that it provides is outstanding. We also want to make sure that academic excellence is the key to the program.”

For more information on the Engineering Professional Practice Office, visit: http://www.coop.utk.edu/

For more information on the Engineering Diversity Programs Office, visit: http://www.coop.utk.edu/diversity/
College of Engineering and Eastman Continue Productive Relationship

The students also receive the benefit of adding an industrial component to their undergraduate curriculum. The course provides a team approach to solving problems. The students gain experience in delivering presentations to an audience of industrial professionals, and it allows them an opportunity to apply their academic studies to “real world” problems. They also get the experience of visiting an industrial plant site and seeing chemical process equipment firsthand, along with the opportunity to talk to Eastman’s process operators.

The chemical company also sponsors the Eastman Leadership Seminars through the university’s Office of Career Services. This program helps students prepare for future careers in all industries, not just engineering. Leaders from Eastman interact with students in an open and relaxed environment to discuss real world topics, current issues and leadership styles. The program also provides opportunities for participants to engage with students from different concentrations and backgrounds.

“The intent of this program is to provide student participants with skills that enable them to become better communicators and leaders,” said Sneed. “Our hope is that this initiative will give students the confidence and professionalism required to excel in a competitive work environment.”

The program provides Eastman with many benefits as well. A valuable take away from the program is the information about what the current generation values. It provides Eastman with an inside look into what these students are looking for in a future employer. Participation in this program also allows Eastman an opportunity to showcase the quality of its leadership and the value placed upon employees in our company. Lastly, it’s an excellent opportunity for us to identify potential hires early on in our recruiting process.”

Eastman recently provided the engineering college with $1 million to establish a new Chemical and Biomolecular Engineering Fellowship in the CBE department.

“Our goal for this position is to help enable the university to attract the brightest students into the graduate program and provide adequate funding for the selected individual to be successful,” Sneed said. “This funding also shows Eastman’s commitment to UT, specifically the College of Engineering.”

Sneed added that a long-term commitment to the current difficult economic climate and did evaluate multiple cost cutting measures and made in-depth business decisions, the company is also dedicated to making sure that decisions on reducing short-term costs do not jeopardize long-term growth goals.

“Our intention is to keep UT at the forefront of our future growth endeavors,” Sneed said.

Sneed said that Eastman looks forward to continuing its relationship with both the university and the CBE, and is confident that his company will continue to progress in the future.

“Our company is committed to growth and we are well-positioned for growth,” Sneed said. “We will continue to build on our core businesses while also pursuing new growth opportunities in emerging global markets. Our vision is to be an outstanding chemical company by delivering growth for our employees, customers, owners and communities. We expect Eastman to be a larger company than it is today, with a broader global footprint.”

COE Collaborates with College of Business Administration to Offer Courses Focused on Engineers’ Needs

The University of Tennessee College of Engineering (CCE) and Eastman Chemical Company, through the Chemical and Biological Engineering (CBE) department, have announced a new joint program aimed at enhancing the technical expertise of engineers. It began in 1972 when CEE developed the Engineer/Scientist as a Manager project in which both the engineering and business colleges were involved. CEE’s Executive Development Program began in 1972 through the encouragement and financial support of the organizations that contributed to the endowment for the program. In 1980, CEE aligned itself with Dr. W. Edwards Deming, the father of quality improvement initiatives, to establish itself as a world-class leader in quality and process improvement education; the center grew as did its initiative to engage with corporations in those areas through applied research and field implementation support. CEE continued its leadership role through the 1990s by offering globally ranked programs in lean enterprise and supply chain management/logistics that continue to be delivered by internationally renowned faculty.

“Seeing a lot of engineers in our lean, process improvement, supply chain, and performance-based logistics (PBL) programs,” said Bric Wheeler, program director. “The percentage of chemical engineering students is especially high in our custom PBL programs.”

“Working with the College of Business Administration, our leaders are able to offer courses focused on the unique challenges and aspects of that industry,” Wheeler said.

The one-year Executive MBA program and 16-month, weekend-format, Professional MBA program both count a significant number of engineers as alumni. Approximately 25 percent of their graduates are engineers who understand the importance of building their business skills. A 16-month Global Supply Chain Executive MBA is being offered beginning first quarter in 2012. UT’s Professional MBA program offered Bill Fulghum, a UT graduate with a master’s degree in civil engineering, an opportunity to gain a new perspective on managing his engineering firm. Fulghum was able to study companies such as Toyota while learning from fellow students.

“Fulghum was able to study companies such as Toyota while learning from fellow students. The sharing of knowledge was invaluable to me,” Fulghum said.

Whether it is building business skills through non-degree programs or building strategic-level business competency through an MBA program, CCE graduates have many opportunities to enhance their excellent technical backgrounds with a solid foundation of business knowledge.

For additional information on any of these programs, please visit http://www.cee.utk.edu or www.utk.edu/admissions or contact Fulghum at 568-3936, or http://www.mba.utk.edu/ or contact Babione at 230-7113.
COE Spring 2010 Commencement

The College of Engineering Spring 2010 commencement ceremony took place on Thompson-Boling Arena on the UT-Knoxville campus at 11:30 a.m. Dr. Wayne Davis, dean of engineering, led the academic procession that signaled the beginning of the ceremony. The procession included the academic deans, department heads and faculty representatives. Dr. Susan Martin, UTK Provost and Vice Chancellor, and Dr. Brad Fornwalt, UTK Vice Chancellor for Research, also attended the ceremony.

Mr. Raja Jubran (JSCE '94), founder, Chief Executive Officer, and 51 percent stockholder of the Denark Construction Company, Inc., was the commencement speaker. Jubran has led the management team of the general contracting and engineering company since its incorporation in 1985. A former member of the college’s Board of Advisers and the recipient of the 2004 Nathan W. Dougherty Award for outstanding achievements in engineering, Jubran reminded graduates to thank everyone who helped them along the way—parents, community, alumni and faculty. He also offered five suggestions for a successful future: be a leader, stand up for what you believe in, make the right choices, take care of your family, and take care of your community and give back to it.

The college’s top students were also recognized: Zachary Taylor Dixon, recipient of the 2004 Nathan W. Dougherty Award of Merit, was recognized as the winner of a Society of American Military Engineers Award. This Society ROTC Award of Merit is a national award given only to 20 ROTC Air engineering. Daniel Stephen Smith was recognized as the winner of a Society of American Military Engineers Award. This Society ROTC Award of Merit is a national award given only to 20 ROTC Air engineering.

The event also featured a military ceremony, where Lt. Colonel Michael S. Angle, a professor of engineering, led the academic procession that signaled the beginning of the ceremony. The procession included the academic deans, department heads and faculty representatives. Dr. Susan Martin, UTK Provost and Vice Chancellor, and Dr. Brad Fornwalt, UTK Vice Chancellor for Research, also attended the ceremony.

Dr. Wayne Davis (left) and Raja Jubran (right)

Several graduates from the College of Engineering 2010 Class

COE Departments Ranked by U.S. News and World Report

For the first time, all academic departments based in the College of Engineering have a graduate degree program nationally ranked by the U.S. News and World Report, and the nuclear engineering graduate program is in the top 10. College of Engineering Dean Wayne Davis said the college’s latest rankings will help recruit highly qualified candidates for the college’s graduate programs.

“Reinventing is also being enhanced by the recently established UT Knoxville-ORNL Graduate Fellowship Program, a new program designed to attract top graduate students in science and engineering, and the fact that our nuclear engineering program is one of the best in the country will be a definite asset in attracting high-caliber candidates to UT,” Davis said.

UT’s College of Engineering’s overall graduate program was ranked 73rd nationally out of 198 public and private colleges and 44th among public universities.

College of Engineering programs ranked nationally:

• Aerospace Engineering is ranked 63rd
• Chemical Engineering is ranked 60th
• Civil Engineering is ranked 59th
• Computer Science is ranked 61st
• Electrical Engineering is ranked 58th
• Industrial Engineering is ranked 54th
• Mechanical Engineering is ranked 67th
• Nuclear Engineering is ranked 9th

Each year, U.S. News ranks graduate programs in the areas of business, education, engineering, law and medicine. These rankings are based on expert perception (40%) about the program quality and quantitative metrics (60%) that measure the level of a school’s faculty, research and students. Indicator and perception data come from surveys of more than 1,500 programs and some 12,400 academics and other professionals that were conducted the previous year.

Several COE graduates were officially commissioned in the U.S. Airforce and U.S. Army

Dr. Wayne Davis (left) and Raja Jubran (right)

When I received my first grade report in the mail with a 4.0, that was pretty sweet,” Tickle recalled. “I really enjoyed my times as a brother in the Phi Delta Theta fraternity. Phi Delta Theta was a big part of my years at UT. And how about that 1986 Sugar Bowl when UT sacked Texas every 20 times and Darryl Dickey completed every pass that he threw—what a great trip to New Orleans. I remember talking to John Ward in the hotel lobby almost every night.”

After graduation, Tickle worked for Shell Chemical Company for 10 years, traveling and living all over the U.S. in cities including Denver, St. Louis, Chicago and Atlanta. In 1996, he attended the University of North Carolina, where he received an MBA degree in management.

“Tickle moved back to Bristol in 1998 to join his family’s business, Strongwell Corporation, a manufacturer of reinforced polymer composites and precast polymer concrete. Although Tickle is a relatively young alumni, he encourages his fellow UT graduates not to wait to contribute to the university.

“A few of the younger alumni don’t realize what is possible when you give to UT,” Tickle said. “I believe that nothing will propel our society and our nation further than an investment in our children’s education. Secondly, UT has the potential and roadmap to be one of the top research universities in the country. Our partnership with ORNL is unparalleled. The quality of life and business environment in East Tennessee is unsurpassed. All we have to do is to invest and work at reaching our goals every day. I know that Chancellor Jimmy Cheek, our leadership and our professors and alumni want the best and that’s what we should strive for all of the time.”

Tickle’s wife, Lisa, is a UT graduate, and they have two children—Jack, who is 8 years old, and 16-month-old Josie. Tickle hopes his gift will inspire others to give to the university.

“I know that I gave the gift, I was doing the right thing and that I would have a productive legacy,” Tickle said.

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Lisa Bird Wins Send Roses Award

Engineering Advisor Lisa Bird received the university’s Send Roses Award on June 18, 2010. Each month, the Positive Recognition Committee selects an employee who demonstrates outstanding courtesy and customer service. Bird received a framed certificate, three roses, a gift certificate for the UT Book and Supply Store and a reserved parking spot on campus for one month. The award is given to the employee who demonstrates outstanding courtesy and customer service skills. Customers are defined as students, parents, co-workers, faculty, staff, alumni and the general public. Consideration is also given to job performance, work behaviors, initiative and relationship with associates and other customers.

Dr. Ron Nutt Receives IEEE Award

Dr. Ron Nutt (BS/EE ’61, MS/EE ’62, Ph.D./EE ’69) was the co-recipient, along with Dr. David W. Townsend, of the 2010 IEEE Medal for Innovations in Healthcare Technology for the design, commercial development and clinical implementation of the hybrid PET/CT scanners. Nutt was one of the founders of CTI Imaging Systems, which was purchased by Siemens, and is currently the chairman of the Board of Advanced Biomarker Technologies in Knoxville. Townsend is pioneer of three-dimensional PET and its required reconstruction algorithms. The two collaborated on the development of the hybrid scanners, with Nutt working to build the prototype as well as designing the first commercial version. Nutt and Townsend received the award at the 2010 IEEE Honors Ceremony on Saturday, June 26 in Quebec, Canada.

COE First African American ME Graduate Named Vice Chairman

COE Graduate Wins 2010 Award of Excellence

John Hillman stands beside the 20-foot span of the first Hybrid Composite Beam (HCB) installed in Ontario, Canada.

John R. Hillman (BS/CE ’86) was recently granted the Engineering News-Record’s 2010 Award of Excellence for his patented invention of the Hybrid Composite Beam (HCB), which consists of a corrosion-resistant steel/glass box containing self-consolidated concrete, steel strands and low-density foam. The HCB is lighter than conventional beams and has been used in three bridges since 2007. Hillman and his partner, Mike Zics, run HC Bridge Company LLC that is the patent assignee and supplies HCBs to industry. Engineering News-Record provides the news, analysis, commentary and data that construction industry professionals need to do their jobs more effectively. Its products include a weekly magazine with more than 70,000 paid subscribers, a Web site with more than 90,000 unique visitors a month and e-mail newsletters with more than 14,000 subscribers. The magazine has a circulation of more than 22,000 people and is read in over 150 countries.
A Great Time to be an Engineer

Brian Shupe, 865-974-2779, or www.engr.utk.edu. Contact us to

A donation envelope is inserted in this newsletter's fold, or if it's missing, call

They will become field engineers, they will teach and do research

Your gifts educate engineers who will continue your

hurt the timing of some major gifts, you are willing to plan with us for the

discovered that engineers are inherently generous. Even as this economy has

You approach everything – including your philanthropy – with a

The methodology. Okay, this may actually be my favorite thing about

futures we anticipate.

It may seem as though my staff and I ask all the time – and we do! That's our

public universities. As state budgets are confronted with mandates that pull

that engineers touches every aspect of my life. From the chemicals in my

I have conveyed that enthusiasm to me. Sometimes I haven’t understood the

intricacies of the science, but I have never missed its relevance.

A Great Time to be an Engineer

The University of Tennessee, Knoxville, College of Engineering

If you have ever met. The entire spectrum of engineering is exciting to you and you

and I drive to the computer programs I cannot live without to the energy I depend on to cool my house, engineers and computer scientists are behind the progress we’ve made and the future we anticipate.

The leadership Annual Giving Calendar Year 2009

Both the Campaign for Tennessee and our new annual giving emphasis are counted on the calendar year. To keep totals consistent, we do the same here.

Dr. Wayne and Barbara Coleman

Dorothy Bryson

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In this newsletter, we drive 22

What professional problem is solved for me? Oh, yes, exactly! When I took the assignment to become chief fundraiser for the College of Engineering in February 2009, my commitment was to stay for 12 to 18 months, hire the staff, and help launch the Campaign for Tennessee.

A donation envelope is inserted in this newsletter's fold, or if it's missing, call 865-974-2779, or find us on the Web at www.engr.utk.edu. Contact us to obtain a copy of our latest annual report or to have a new donation envelope inserted in your next newsletter.

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It may seem as though my staff and I ask all the time – and we do! That's our direct logic that is so refreshing. You tell it like it is and you want real data. I believe that if you talk to engineering leadership you always get a response from a...
Gifts, Pledges, and Pledge Payments by Degree

Listed by degree received (not the designation of the gift), we are unable to recognize all of our College of Engineering graduates who have supported their college through a new gift, a new pledge, or a pledge payment regardless of when the original pledge was made. Our records for several individuals are incomplete and so we have listed some as, "Unknown, Engineering.

We are researching student records to try to update these records and would welcome your contact with correct information. Please notify the Engineering Development Office with your corrections.

Aerospace Engineering

Robert Adams
Lt. Colonel Paul April
Dr. William Baker, Jr.
James Barnett
Darnell Barnsby
Dr. Eugene Callens, Jr.
Marvin Catlett
Clyde Bell
Terry Begley
Dewayne Atchley
Susan Arensman
Dr. James Hackney
Dr. Paul Haas
Dr. Jianguo Zhou
Dr. Yun Zhang


Civil Engineering

Ahmed Abu-Khushan
Clifford Ackerson
Paul Akin
Mark Allen
Dr. James Bernstein
Charles Brewer
Dr. William Bryan
Charles Brown
Jeffrey Gamble
Dr. Royce Brown
Dr. Terry Godsey
Timothy Goeman
Dr. William Groves
Dr. Paul Haas
Dr. James Hackney
Dr. Gene Haas
Dr. Malcolm Hale
Thomas Hall
Jeffery Gamble
Jonathan Bean
James Patton
Dr. Daniel Paller
Dr. D. Lynn and Anne Sorrell
Hamid Sobhani
Dr. James Snyder
Terry Smith
Stephen Smith
Jason Smith
Cheryl Smith
Brian Smith
Scott Simpson


Dr. J. Roger Parsons, Jr.
Steven Oliver
Edward Oliver
Andre Nowell
Thomas Newsom
Howard Nelson, Jr.
Mike Ross
Shane Woosley
Courtney Woods
Ken Wills
Williamson


Story by Tammy Enix and Lisa Gay

Middle-school aged girls had an opportunity to crash remote-controlled cars, get behind the wheel of a driving simulator, examine debris leftover from a week and take electric bikes out for a spin during the UT Center for Transportation Research (CTR) Transportation Academy 2010, which was held on the UT-Knoxville campus the week of June 14-18.

The summer academy introduced rising 7th and 8th grade girls to the world of transportation and the range of career possibilities open to young women. Each day included a different transportation focus: teamwork; planes, trains and automobiles; traffic safety and logistics; transportation science; technology, engineering and mathematics; and to think of transportation as a career option. Behind each activity is a lesson.

"It’s a weeklong academy to get girls introduced into transportation-related careers using math and science," explained Deanna Flinchum, associate professor, traffic safety engineer, academics and students showed the girls what it is like to be a flight instructor, a marketing and logistics professor, traffic safety engineer, transportation researcher or a transportation planner.

Special activities included a ride on "The Convincer," which simulates what it is like to be in a cockpit. With a traffic signal and serves as the inspiration of a U.S. DOT program that encourages students to pursue careers in transportation. It is organized and sponsored by the CTR and the Southeastern Transportation Center. UT Knoxville is also a sponsor. For more information on the academy, visit www.stc.utk.edu/transportation/or call 865-745-2749 or engrealt@utk.edu so we can make corrections.

Center top-scoring academy participants with Knox County Schools and a U.S. Department of Transportation grant named after Garrett Miller, an African-American engineer who invented the first traffic signal and serves as the inspiration for the U.S. DOT program that encourages students to pursue careers in transportation. It is organized and sponsored by the CTR and the Southeastern Transportation Center. UT Knoxville is also a sponsor. For more information on the academy, visit http://stc.utk.edu/transportationacademy.

The CTR was created in 1970 to foster and facilitate interdisciplinary research, public service and outreach in the field of transportation at UT Knoxville. For more information about the CTR, visit http://ctr.utk.edu/.
Calendar

**Fall 2010**
- Classes Begin: Aug 18
- Labor Day: Sept 6
- Fall Break: Oct 7-8
- Thanksgiving: Nov 25-26
- Classes End: Dec 10
- Graduate Hooding: Dec 10
- Commencement: Dec 11

**Spring 2011**
- Classes Begin: Jan 12
- MLK Holiday: Jan 17
- 1st Session Ends: Mar 2
- 2nd Session Begins: Mar 3
- Spring Break: Mar 14-18
- Spring Recess: April 22
- Classes End: April 29
- Exams: May 3-6, 9-10
- Commencement: May 11-13

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: 974-5117
- Nuclear: 974-2525

**Administration & Programs**
- Communications: 974-0533
- Dean's Office: 974-5321
- Development: 974-2779
- Engineering Advising Services: 974-4008
- Engineering Diversity Programs: 974-1956
- 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: 974-8625
- Scintillation Materials: 974-0267
- Transportation Research: 974-5255

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.

College of Engineering
Alumni barbecue Homecoming 2010

The University of Tennessee, Knoxville College of Engineering invites you to “Homecoming 2010 – Rocky Top the Rebels” and the Annual Alumni Barbeque On the Hill catered by Dead End BBQ, co-owned by UTK Engineering Alumnus Robert Nutt

Saturday, November 13th, 2010
3 hours prior to the Tennessee vs. Ole Miss game

Join us for a barbeque lunch, catered by Dead End BBQ; exhibits and demonstrations; and reunions with former classmates and faculty! Register today and be a part of the tradition!

Costs: $12.00/adults • $8.00/children under 10 years of age

RSVP to (865) 974-2779, e-mail Christina Parsons at cparson4@utk.edu or register online at www.utk.edu/alumni/

DEAD END BBQ
The Search is Over

Scintillation Materials