Mission Statement

The mission of the University of Tennessee College of Engineering is:

To provide high quality education in the major engineering disciplines from the undergraduate through doctoral levels through a creative balance of academic, professional and extracurricular programs;

To foster and maintain mutually beneficial partnerships with our alumni, friends, industry and local, state and federal governments through public services assistance and collaborative research; and

To be a major contributor to our nation’s technology base through scholarship and research.
As I reflect on the college’s accomplishments during the last year and look forward to the future, I can’t help but be excited about the future of engineering at UTK. Our college has grown substantially over the last several years in both size and quality. The college’s enrollment has grown by 18% and 37%, respectively, at the undergraduate and Ph.D. levels over the last six years, and by 4% and 9%, respectively, in FY10. However, the number of faculty remained relatively constant during that same period until last year. Through the success of programs such as the UT/DOE Governor’s Chair program and other opportunity hires, we have been able to increase the faculty size over the last year and half, and we are implementing plans to continue this growth over the next several years. In FY10 there were 135 tenured or tenure track faculty within the college’s base budget compared to approximately 125 in FY09—an increase of approximately 8%. We feature a number of our outstanding faculty, staff, students and graduates in this report.

Our graduates are also making a difference within the state, the nation and across the world. Our 23,450 alumni are located in all 50 states and 64 countries. We are pleased that approximately 50% have stayed within the state, providing a stable workforce for the state’s economic and technological development, but we are also proud that our graduates are making an impact across the globe.

The significant increases in research funding, student enrollment and graduates have not gone unnoticed in the rankings, such as those conducted by U.S. News and World Report. Seven years ago, the College of Engineering at UTK was unranked by USNWR. Six years ago, our college’s graduate program was initially ranked 81st for colleges of engineering that grant a Ph.D. in engineering. Our 2011 ranking (April 2010 USNWR) is now 73rd out of the 198 public and private colleges of engineering surveyed and 49th among public universities. The college also ranks 64th in UG engineering programs (32nd among public universities). In previous years, many of our graduate degree programs were nationally ranked. For the first time in the college’s history, all seven of the departments based in the college have specialties that are now nationally ranked. Individual department degree programs that were ranked at the graduate level include aerospace engineering (43rd), chemical engineering (68th), civil engineering (58th), computer science (63rd) and nuclear engineering (9th). We are grateful to the state, the Board of Trustees, our Board of Advisors, the university and our alumni and friends who have helped us in many ways to plan for and meet the challenges presented by a growing student body. We are confident that we will be able to continue to provide a quality educational experience to future engineers who are needed to serve the world in which we live.
College Profile

Board of Advisors for Fiscal Year 2010 (July 1, 2009 – June 30, 2010)

Dr. Earl H. Boeke

Mr. J. Peter Brown

Mr. Byron G. Boyer
Retired, Carrollton, Texas

Mr. Eric L. Zeanah
American Accessories International Contractors, Knoxville, Tenn.

Mr. Donald W. Callahan
Kingsport, Tenn.

Kingsport, Tenn.

Mr. Dennis A. Denihan
Vice President and General Manager, American Accessories International Contractors, Knoxville, Tenn.

Mr. William L. Eversole
Nashville, Tenn.

Dr. Michael W. Howard
Authority, Knoxville, Tenn.

Dr. Masood Parang
Director of the Engineering Fundamentals Program, Computer Science and Engineering

Dr. Brian Wirth, Governor’s Chair for Reliability and Maintainability

Dr. Takeshi Egami, Department of Electrical Engineering and Computer Science

Dr. Frank Loeffler, Governor’s Professor

Dr. Jack Dongarra, Department of Computer Science

Dr. David Joy, Department of Materials Science and Engineering

Robert B. Bearden, Chair of the Department of Mechanical Engineering and Computer Science

Dr. Fred Wang, Department of Electrical Engineering Science

Dr. Charles P. Postelle Distinguished Professor

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomolecular Engineering

Dr. Matthew Mench, Department of Mechanical, Aerospace and Biomedical Engineering

Dr. John Forney, Department of Chemical and Biomologic...
Outstanding Undergraduate Student Marybeth Parker  
Attaining High Goals

The decision to pursue a degree in engineering hit close to home for Marybeth Parker. Growing up in Greeneville, Tenn., Parker was fascinated with chemistry and science in high school. Her mother (IE) and father (CHE) were engineers, but she decided to take a different approach by pursuing a degree in materials science engineering in the college’s Department of Materials Science and Engineering (MSE).

“I am not an engineer just because I like science, but because I believe that scientists and engineers have an important responsibility to use their gifts to help others,” explained Parker.

This University of Tennessee was Parker’s top choice when she decided to enroll in a school to begin her engineering career.

“The honors freshman-engineering program was wonderful and very valuable for my education,” said Parker. In addition, she was drawn to the university’s proximity and collaboration with Oak Ridge National Laboratory (ORNL).

Parker is passionate about MSE because it has a balance between research and application. She admires the program’s flexibility and diversity in the study of materials and research.

“The MSE program teaches students to work and think like engineers, but also to operate in a research environment,” explained Parker.

Parker has applied her passion in three summer internship opportunities during her time at the university. Working with the University of Tennessee Space Institute in Tullahoma, Tenn., she learned about laser processing and powder metallurgy. At South Dakota School of Mines and Technology in Rapid City, S.D., she worked with a company to reduce pore size in their fused deposition polymer products by hot isostatic pressing.

This summer, Parker is working at ORNL on a crystal-growing project and a hydrates project. She is studying Maus’ salt, a synthetic compound that shares characteristics with the naturally occurring mineral metavoltine. The purpose of her study is to grow larger, better quality crystals and to identify missing atoms in the previously published crystal structure with single-crystal x-ray diffraction.

“My internships have been a crucial part of my education,” said Parker. “During all three appointments excellent scientists have mentored me and I am grateful for their guidance.”

Parker is co-chair for the Materials Advantage Program and is very active on campus.

“Being co-chair of the Materials Advantage Program chapter at the University of Tennessee has taught me responsibility and leadership, but most of all, to manage my time,” explained Parker. “I am working with a wonderful team of officers this year, and I am excited to see what our chapter will accomplish. I am also a member of Tau Beta Pi, the Chancellor’s Honors Program and Phi Eta Sigma.

Parker has been awarded many scholarships including the Chancellor’s Scholarship, the Herbert C. & Ethel C. Dugan Engineering Scholarship and the Racheff Scholarship.

Looking to the future, Parker plans to continue her education in graduate school. “My experience here has been wonderful because of the teachers and advisors in the College of Engineering who have supported me throughout my education,” she said. “The University of Tennessee has helped me reach my goals by making college possible through scholarships.”

6

THE UNIVERSITY OF TENNESSEE, KNOXVILLE
THE UNIVERSITY OF TENNESSEE, KNOXVILLE
9
33
6
7

THE UNIVERSITY OF TENNESSEE, KNOXVILLE
Outstanding Graduate Student Milan Kumar
Motivated to Excel

In a small village tucked away in India, Milan Kumar studied by candlelight throughout his early education. Years later, he used this experience as motivation for his research in an energy-related area, fuel cell technology. For Kumar, the inspiration to excel in chemical and biomolecular engineering derived from the background and a genuine interest to change people’s lives for the better.

“The demand for alternative energy is increasing day by day, and my research is a part of alternative, clean energy, which can be used on an industrial and household scale,” said Kumar. “My work will contribute to a great extent to search for a membrane with better conductivity and improved stability.”

Kumar received his undergraduate degree from the Indian Institute of Technology, Kanpur, India in BTech-MTech, a dual degree encompassing chemical engineering. “During the course of the program, I felt a penchant for the practicality of the field,” Kumar said. Chevron, USA uses the technology he helped develop in his undergraduate research.

Kumar came to the University of Tennessee to pursue his area of interest in energy related research fuel cell technology. He completed his work on the degradation mechanism of the membrane, which will help in the development of more stable membranes. Presently, he is working on a macroscopic model for proton and water transport, which could potentially change the way that researchers think about transport of the species through the membrane and membrane-ionomer interfaces.

“My present research is based on fuel cell technology, and I am working under Drs. Stephen Paddison and Brian Edwards, who are leading figures in fuel cell materials research,” said Kumar. “My work is divided into studying the chemical degradation of PFSA membranes and modeling the transport of water and hydronium ion through the membrane-ionomer interface.”

After finishing his Ph.D., Kumar will pursue post-doctoral research for a couple of years. Long term, he wants to return to India and apply his research. “India has a large population, and the demand of energy is increasing day by day. But we are lagging in the supply of energy,” explained Kumar. “There is a great scope for the fuel cell, which can give an alternative source of clean energy.”

Kumar is president of the Graduate Student Council of the Department of Chemical and Biomolecular Engineering, and he has also organized events to strengthen the graduate student and faculty relationships within the department.
The Min H. Kao Scholars
Supporting Future Engineers

The Min H. Kao Electrical and Computer Engineering Scholarship was awarded for the 2009-2010 academic year to 33 exceptional young students who are committed to pursuing an education in electrical, computer science or computer engineering.

This scholarship is named for Dr. Min H. Kao, Chairman and CEO of Garmin International, Inc., a world leader in global positioning systems (GPS) technology. Kao received his M.S. and Ph.D. degrees in electrical engineering from the University of Tennessee.

Thanks to this generous endowment provided by Dr. Kao and his wife, Fan, selected students are awarded up to $16,000 per academic year, and the scholarship is renewable for four years. The Min H. Kao Scholarship is among the college's most prestigious awards and requires that its recipients have an ACT score of 30 or higher, a high school GPA of at least 3.8 and be declared an undergraduate majoring in electrical or computer engineering. A parallel fellowship endowment created by Dr. and Mrs. Kao helps attract outstanding graduate students.

Dr. and Mrs. Kao also donated funding for the new Min H. Kao Electrical Engineering and Computer Science Building, which is expected to be completed in September 2011.

For more information about this facility, please see the article on page 14.

During the 2009-2010 academic year, the college had 2,217 undergraduate students, 458 master's students and 379 Ph.D. students for a total enrollment of 3,054.

Min H. Kao Scholarship winners Michael Ratliff, Ben Bales, Josh Clark, Mischa Buckler, Nathan Berger and David Prenshaw also spending time giving back to the community through volunteering. In the past year, I have spent a significant amount of time volunteering with inner city elementary school students. These children love computers and are always interested to learn that I am studying computers in college. It is great being able to put my education to good use while serving the community.”

Kerry Memory, junior majoring in computer engineering

“Dr. Kao’s generous donation to the department has really helped me a lot. Were it not for his scholarship, I would probably be thousands in debt. Thanks to Dr. Kao, I am concentrating on my studies. I am also looking forward to using the new building he funded.”

Ian Harmon, junior majoring in computer engineering

“I am greatly honored to be a Min H. Kao scholar. The Min H. Kao scholarship has helped me advance in engineering with financial security in mind. As a result, I no longer have to work to pay for my school, and this has definitely helped me succeed in my courses.”

Ahmad Alsharif, junior majoring in electrical engineering

“The Min H. Kao Scholarship has allowed me to focus on my studies at the University of Tennessee by financially supporting me during school. The scholarship’s requirements have given me a high academic standard to hold myself to. With Dr. Kao’s generosity, I feel that I am able to obtain the most out of my college experience.”

Nathan Berger, junior majoring in computer engineering

“The Min H. Kao Scholarship allows me to focus on my classes while

The Min H. Kao Electrical and Computer Engineering Scholarship was awarded for the 2009-2010 academic year to 33 exceptional young students who are committed to pursuing an education in electrical, computer science or computer engineering.

This scholarship is named for Dr. Min H. Kao, Chairman and CEO of Garmin International, Inc., a world leader in global positioning systems (GPS) technology. Kao received his M.S. and Ph.D. degrees in electrical engineering from the University of Tennessee.

Thanks to this generous endowment provided by Dr. Kao and his wife, Fan, selected students are awarded up to $16,000 per academic year, and the scholarship is renewable for four years. The Min H. Kao Scholarship is among the college’s most prestigious awards and requires that its recipients have an ACT score of 30 or higher, a high school GPA of at least 3.8 and be declared an undergraduate majoring in electrical or computer engineering. A parallel fellowship endowment created by Dr. and Mrs. Kao helps attract outstanding graduate students.

Dr. and Mrs. Kao also donated funding for the new Min H. Kao Electrical Engineering and Computer Science Building, which is expected to be completed in September 2011. For more information about this facility, please see the article on page 14.

“The Min H. Kao Scholarship has allowed me to focus on my studies at the University of Tennessee by financially supporting me during school. The scholarship’s requirements have given me a high academic standard to hold myself to. With Dr. Kao’s generosity, I feel that I am able to obtain the most out of my college experience.”

Nathan Berger, junior majoring in computer engineering

“The Min H. Kao Scholarship allows me to focus on my classes while
The Engineering Diversity Programs Office experienced a change in leadership when longtime director James Pippin retired on June 30, 2010. 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, a fund 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, was announced.

On May 3, 2010, the college appointed Travis Griffin as the new director of Engineering Diversity Programs. Griffin’s previous position was as coordinator for the Multicultural Engineering Program at Oklahoma State University (OSU). 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 his position at OSU, Griffin was the outreach coordinator at the University of Southern Mississippi (USM) within the College of Science and Technology, where 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 honors including the NSBE Alumni Extension (AE) National Leadership 2006 award and the Regional 3 NSBE AE Dedication 2006 award.

“IT is an honor to succeed the legacy of James Pippin,” Griffin 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.”

Griffin plans to focus on outreach, recruitment and retention.

“We are going to enhance our outreach to African-Americans, Native Americans and Hispanics,” Griffin commented. “We also want to provide more outreach to women as an underrepresented group in engineering. We believe it is our job to help students understand the opportunities and to help them pursue graduate degrees and career opportunities in engineering.

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 honors including the NSBE Alumni Extension (AE) National Leadership 2006 award and the Regional 3 NSBE AE Dedication 2006 award. Griffin said: “The system that has developed within the DESP is great for retention,” Griffin 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 Diversity Programs Office, visit http://www.engr.utk.edu/diversity/.

For more information on the James Pippin Pre-College Endowment, contact the Engineering Development Office at (865) 974-2779.

The UT Knoxville College of Engineering has graduated more than 900 minority students in more than three decades, due in large part to the diversity programs’ efforts in recruiting, retaining and graduating African-American, Hispanic and Native American engineering students. Since 1973, 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. Students who participate in this program combine periods of employment with corporate sponsors with semesters of academic study.

“The system that has developed within the DESP is great for retention,” Griffin 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 Diversity Programs Office, visit http://www.engr.utk.edu/.
COE Building Projects are Moving Forward

Min H. Kao Electrical Engineering and Computer Science Building

The Min H. Kao Building is nearing completion. The fixtures and interiors of the building are being completed in some areas, and work on the interior of the west and north sides are nearly progressing well. Exteriors on both the west and north sides are nearly complete, and work on the interior of the building is ongoing. The interiors will be completed using various pieces, including the classroom annex, laboratories, and the lecture halls. Although the building projects are on schedule but are being completed in some areas, the building is on track for completion in August 2011.

Although the JIAM building is a more complicated project due to the other two engineering buildings under construction, the mechanical and construction documents are being finalized, and the project is expected to be completed in late-2011 as well. Current plans are for several COE faculty members and research programs to have space in the JIAM building.

The college will do a series of development moves with a number of departments as the new structures are completed and ready for occupancy. The Department of Electrical Engineering and Computer Science will move from locations in Ferris and Claxton Halls to the new Min H. Kao Building. The Department of Materials Science and Engineering will move to the former ESTC offices on the fourth floor of Ferris plus the lower two floors of this building, while the Jerry E. Bunching Engage Freshman Engineering Program, the Advanced Office and the Educational Diversity Programs office will be relocated from Estabrook Hall in the fourth and fifth floors of Ferris. The biomedical engineering faculty will move from Perkins Hall to the Department of Mechanical, Aerospace and Biomedical Engineering (MABE) in Dougherty. Current plans are for the Engineering Honors program (Estabrook), components of the Engineering Research Facility (SERF) will also become available once all of the personnel in offices and labs that are currently housed in that building have been relocated. At that point, UT administrators will make a decision on what to do with the building. Estabrook’s proximity to the football stadium is one reason, as well as difficulties meeting fire code regulations in such an old and complex building.

In addition to freeing up space in Ferris and Perkins Halls, 5-10,000 square feet in the Science and Engineering Research Facility (SERF) will also become available when the Min H. Kao Building is completed.

Once the Tickie building is completed, the Department of Civil and Environmental Engineering will move into the new facility from locations in Parks, Estabrook and Berry Halls, freeing up considerable space in Perkins. The Department of Industrial and Information Engineering will also relocate to the Tickie building from East Stadium Hall.

The situation with Estabrook is more problematic. Although the building is the second oldest on campus, it was built without a single foundation and is in fact several square feet in the Science and Engineering Research Facility (SERF) will also become available when the Min H. Kao Building is completed.

The biomedical engineering faculty will move from Perkins Hall to the Department of Mechanical, Aerospace and Biomedical Engineering (MABE) in Dougherty. Current plans are for the Engineering Honors program (Estabrook), components of the Engineering Research Facility (SERF) will also become available once all of the personnel in offices and labs that are currently housed in that building have been relocated. At that point, UT administrators will make a decision on what to do with the building. Estabrook’s proximity to the football stadium is one reason, as well as difficulties meeting fire code regulations in such an old and complex building.

Direct renovations related to the damage from a fire that broke out in Dougherty a few years ago were completed in April 2010, creating more modern space for teaching and research. In particular, the MABE department was grateful to finance the renovation and regain precious needed space. The second phase of the renovation to upgrade its lab systems is currently in progress.

Effective October 1, 2010, Dougherty is the recipient of a $1.8 million National Science Foundation (NSF) grant that will fund the construction of state-of-the-art research facilities. Dr. Bamin Khomami, professor and head of the MABE department, was gratified to finalize the plans for the new laboratory space similar to that available in the JIAM building. The building is shared space between the COE and the College of Arts and Sciences; however, tenants are only allowed to stay in Senter for up to two years, so that it acts as surge space for new hires and new programs prior to their being located in other permanent facilities.

Progress is continuing on the college’s building construction and renovation projects. Work on the Min H. Kao Electrical Engineering and Computer Science Building, on the corner of Estabrook Drive and Cumberland Avenue, is proceeding well. Extensions on both the west and north sides are nearly complete, and work on the interior of the building is ongoing. The interiors will be completed using various pieces, including the classroom annex, laboratories, and the lecture halls. Although the building projects are on schedule, the building is not expected to be substantially finished in August 2011. The completion will conclude final work in September of that year and will then officially hand the building over to the university and the College of Engineering.

The college’s other new facility, the John Tickle Engineering Building, is on track for construction to begin in December of this year. The initial building design is to be submitted to the State Fire Marshal for review by October 2010, and construction plans are being finalized.

The building is currently projected to be completed in August 2012. Site preparation on the university’s new Cherokee Campus is ongoing, and construction on the Joint Institute for Advanced Materials (JIAM) facility and construction on the Joint Institute for Advanced Materials (JIAM) facility are completed and ready for occupancy. The Department of Electrical Engineering and Computer Science will move from locations in Ferris and Claxton Halls to the new Min H. Kao Building. The Department of Materials Science and Engineering will move to the former ESTC offices on the fourth floor of Ferris plus the lower two floors of this building, while the Jerry E. Bunching Engage Freshman Engineering Program, the Advanced Office and the Educational Diversity Programs office will be relocated from Estabrook Hall in the fourth and fifth floors of Ferris. The biomedical engineering faculty will move from Perkins Hall to the Department of Mechanical, Aerospace and Biomedical Engineering (MABE) in Dougherty. Current plans are for the Engineering Honors program (Estabrook), components of the Engineering Research Facility (SERF) will also become available once all of the personnel in offices and labs that are currently housed in that building have been relocated. At that point, UT administrators will make a decision on what to do with the building. Estabrook’s proximity to the football stadium is one reason, as well as difficulties meeting fire code regulations in such an old and complex building.

Direct renovations related to the damage from a fire that broke out in Dougherty a few years ago were completed in April 2010, creating more modern space for teaching and research. In particular, the MABE department was grateful to finance the renovation and regain precious needed space. The second phase of the renovation to upgrade its lab systems is currently in progress.

Effective October 1, 2010, Dougherty is the recipient of a $1.8 million National Science Foundation (NSF) grant that will fund the construction of state-of-the-art research facilities. Dr. Bamin Khomami, professor and head of the MABE department, was gratified to finalize the plans for the new laboratory space similar to that available in the JIAM building. The building is shared space between the COE and the College of Arts and Sciences; however, tenants are only allowed to stay in Senter for up to two years, so that it acts as surge space for new hires and new programs prior to their being located in other permanent facilities.
Dr. Jason Hayward is a young faculty member at the forefront of the positive future ahead for nuclear engineering at the University of Tennessee.

Hayward, an assistant professor in the Department of Nuclear Engineering (NE) is involved in research focusing around radiation detector science and development for gamma ray and neutron imaging, as well as techniques for improved quantitative analysis of the associated data. Currently, most of his funding comes from the area of nuclear security, but Hayward's work is also applicable to other areas of science.

“Nuclear engineering, along with wind and solar power, is certainly a potential clean energy source for the future,” Hayward said. “The U.S., along with the rest of the world, is starting to see that nuclear power needs to be a substantial part of the power portfolio for any nation with large and expanding demands.”

Hayward points out that France effectively uses nuclear engineering capabilities for 80% of its public power system. The country continued to build nuclear power plants as other countries put their efforts on hold.

“East Tennessee will be a major player in helping to implement the current administration’s nonproliferation policies because this area is a hub of knowledge and experience in areas such as uranium enrichment, radiation sensor development, nuclear reactor design and the technical aspects of nuclear nonproliferation,” Hayward added. “I foresee that major contributors will include the University of Tennessee, Oak Ridge National Lab, Y-12 and local industries.”

Hayward views the renewed interest in nuclear engineering, and the increased number of students enrolling to study the field, as a lasting trend.

“Although nuclear power provides advantages over other energy resources in terms of the environment, the disposal problem is certainly a difficult one. To succeed, I think that recycling and transmutation of spent fuel need to be implemented because these solutions are able to greatly reduce the quantity and longevity of the waste,” Hayward said. “Nuclear transmutation is the conversion of one chemical element or isotope into another, and it is considered as a possible mechanism for reducing the risks and hazards of radioactive waste. In the U.S., if would be a responsibility on the part of the federal government to make this a reality.”

The U.S. is currently involved in negotiations with other nations to begin a drawdown on nuclear weapons worldwide. Hayward sees this as an opportunity for nuclear engineering researchers as well as the state of Tennessee and the East Tennessee region.

“East Tennessee will be a major player in helping to implement the current administration’s nonproliferation policies because this area is a hub of knowledge and experience in areas such as uranium enrichment, radiation sensor development, nuclear reactor design and the technical aspects of nuclear nonproliferation,” Hayward added. “I foresee that major contributors will include the University of Tennessee, Oak Ridge National Lab, Y-12 and local industries.”

Hayward also views the UT-ORNL relationship as a positive factor in future nuclear power developments.

“We are very fortunate to be one of two universities in the country that is next door to a premier national laboratory that is making major contributions to nuclear science and engineering. The level of support for this relationship and the NRC research mission is completely unique. Together, we can offer the field of nuclear engineering both trained nuclear professionals with advanced skill sets and research findings that help to overcome difficult engineering challenges that remain. Our university partnership offers, among other things, an improved ability for the national labs to benefit from basic nuclear research that is associated with our own research missions,” Hayward said.

Hayward views the renewed interest in nuclear engineering, and the increased number of students enrolling to study the field, as a lasting trend.

“The momentum toward nuclear engineering will continue because we are now better educated about the necessity to expand nuclear power, stop the proliferation of nuclear weapons, increase the number of nuclear power professionals and some remaining technical challenges related to the field,” Hayward said.
The University of Tennessee Driving Simulation Lab (UTDSL) is a revolutionary transportation research lab. The driving simulation system was unveiled in June 2009 and is a fully distributed and remote visualization system that can run high-definition 3D simulations. It is located in the basement of Perkins Hall.

“The support from the University of Tennessee’s College of Engineering, the Southeastern Transportation Center, and the Department of Civil & Environmental Engineering are crucial to the establishment of UTDSL and the integrated, immersive, high fidelity driving simulation system designed for research use in surface vehicle research and driving simulation system designed for use in surface vehicle research and training applications,” said Lissa Gay, Technology Transfer Coordinator for STC.

In addition to the lab’s research mission, the lab has served the educational mission by students in graduate courses and undergraduate coursework, said STC. "The UT Driving Simulator is designed to share the testing environment and the system is very extendable," said Gay.

The Department of Civil & Environmental Engineering, the Southeastern Transportation Center, and the College of Engineering, in the basement of Perkins Hall.

“The driving simulator comes with a graphics library that is very flexible, and it is very extendable,” said Lissa Gay. Technology Transfer Coordinator for STC.

There are three ongoing research projects, including a study on driver behavior on high-speed rural roads with and without curbs, a study on the accuracy and sensitivity of the virtual environment and a study on the interaction design and sight distance.

The driving simulator is in use at the Southeastern Transportation Center (STC) in the COE. The lab has been established to recognize and reward superior teaching. The awards were established to recognize and reward superior teaching. The awards were established to recognize and reward superior teaching.
Three outstanding researchers have been named as Governor’s Chairs in the College of Engineering.

Dr. Frank Loeffler, a leading expert in environmental microbiology and the use of bacteria to clean and sustain environmental resources, has been named the sixth University of Tennessee-Oak Ridge National Laboratory Governor’s Chair. Loeffler will serve in the Department of Materials Science and Engineering at UT Knoxville and ORNL’s Materials Science and Technology Division.

Loeffler was previously the Carlton W. Harburg Chair for Microbiology and Civil and Environmental Engineering, which is a joint appointment in microbiology and technical biology and agricultural sciences.

He was previously the Carlton W. Harburg Chair for Microbiology and Civil and Environmental Engineering, which is a joint appointment in microbiology and technical biology and agricultural sciences.

Loeffler served as the Governor’s Chair for Microbiology and Civil and Environmental Engineering, which is a joint appointment in microbiology and technical biology and agricultural sciences.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Three outstanding researchers have been named as Governor’s Chairs in the College of Engineering.

Dr. Frank Loeffler, a leading expert in environmental microbiology and the use of bacteria to clean and sustain environmental resources, has been named the sixth University of Tennessee-Oak Ridge National Laboratory Governor’s Chair. Loeffler will serve in the Department of Materials Science and Engineering at UT Knoxville and ORNL’s Materials Science and Technology Division.

Loeffler was previously the Carlton W. Harburg Chair for Microbiology and Civil and Environmental Engineering, which is a joint appointment in microbiology and technical biology and agricultural sciences.

He was previously the Carlton W. Harburg Chair for Microbiology and Civil and Environmental Engineering, which is a joint appointment in microbiology and technical biology and agricultural sciences.

Loeffler served as the Governor’s Chair for Microbiology and Civil and Environmental Engineering, which is a joint appointment in microbiology and technical biology and agricultural sciences.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.

Loeffler’s research centers on discovering new ways to clean the environment, control disease, and improve environmental health. As the head of his research, he is a renowned expert in the field of environmental microbiology and has made significant contributions to the understanding of how naturally occurring bacteria can be used to clean up contaminated environments.
Dr. Lynne Parker did not need to be converted into a Big Orange fan—one was practically born one!

Brought into the world across the river at Baptist Hospital, Parker, a professor in the Department of Electrical Engineering and Computer Science, grew up in Knoxville in the shadow of the state university. Both of her parents attended the university and took Parker and her siblings along to UT football and basketball games. After graduation from Powell High School, Parker received her bachelor’s degree in computer science from Tennessee Tech in 1980. She then held down a position at the Y-12 National Security Complex in Oak Ridge, Tenn. Parker enjoyed math and science and during her years at UT took a class taught by a professor of computer science from Tennessee Tech. When she held down a position at the Y-12 National Security Complex in Oak Ridge, Tenn. Parker was practically born one!

Dr. Lynne Parker did not need to be converted into a Big Orange fan–she converted into a Big Orange fan herself.

“I had always thought that I would like to work in academia, ” Parker said. “However, since my husband has his own business in Knoxville, I did not want to move. So I sent an application in cold to UT, and I got the job! ”

Several years later, Parker took a leave of absence from ORNL to obtain her Ph.D. degree at the Massachusetts Institute of Technology (MIT). Parker returned to ORNL after receiving her doctorate, but she had a strong notion that she wanted to enter the world of academia.

“I had always thought that I would like to work in academia,” Parker said. “However, since my husband has his own business in Knoxville, I did not want to move. So I sent an application in cold to UT, and I got the job!”

Parker has been at UT for eight years now, and has come a long way on her record. One of her proudest achievements was working with female Ph.D. students.

“I’m very pleased that I mentored four female Ph.D. students in this program, who have now received their doctorates,” Parker said. “I focus a lot of interest in women in the computer science field. It’s great to see those young women team be involved, and we’ve worked on a lot of interesting research projects in robotics and sensor networks.”

Parker is also the director of the new Center for Intelligent Systems and Sensor Networks, a multi-disciplinary, university-wide initiative that includes participation between the COE’s College of Arts and Sciences (Department of Psychology) and the College of Business Administration (Department of Statistics and Information). The center was primarily established to attract major funding from national sources, and as a resource to attract top students involved faculty in the College of Arts and Sciences. The center also made presentations to high school students for classes in math, science, and physics, to encourage them to study computing at UTK. Parker feels the program is improving recruitment and retention.

“As if Parker was not busy enough, she is also the associate director of the Science Alliance Joint Directed Research and Development program, a joint effort with ORNL that encourages collaborative research between the laboratory and the university.

Parker still finds time to enjoy UT sports, however, which is fortunate. “I married an avid UT sports fan,” she said. “So I’m still going to the games.”

Parker has been at UT for eight years now, and has come a long way on her record. One of her proudest achievements was working with female Ph.D. students.

“I’m very pleased that I mentored four female Ph.D. students in this program, who have now received their doctorates,” Parker said. “I focus a lot of interest in women in the computer science field. It’s great to see those young women team be involved, and we’ve worked on a lot of interesting research projects in robotics and sensor networks.”

Parker is also the director of the new Center for Intelligent Systems and Sensor Networks, a multi-disciplinary, university-wide initiative that includes participation between the COE’s College of Arts and Sciences (Department of Psychology) and the College of Business Administration (Department of Statistics and Information). The center was primarily established to attract major funding from national sources, and as a resource to attract top students involved faculty in the College of Arts and Sciences. The center also made presentations to high school students for classes in math, science, and physics, to encourage them to study computing at UTK. Parker feels the program is improving recruitment and retention.

“As if Parker was not busy enough, she is also the associate director of the Science Alliance Joint Directed Research and Development program, a joint effort with ORNL that encourages collaborative research between the laboratory and the university.

Parker still finds time to enjoy UT sports, however, which is fortunate. “I married an avid UT sports fan,” she said. “So I’m still going to the games.”

Parker has been at UT for eight years now, and has come a long way on her record. One of her proudest achievements was working with female Ph.D. students.

“I’m very pleased that I mentored four female Ph.D. students in this program, who have now received their doctorates,” Parker said. “I focus a lot of interest in women in the computer science field. It’s great to see those young women team be involved, and we’ve worked on a lot of interesting research projects in robotics and sensor networks.”

Parker is also the director of the new Center for Intelligent Systems and Sensor Networks, a multi-disciplinary, university-wide initiative that includes participation between the COE’s College of Arts and Sciences (Department of Psychology) and the College of Business Administration (Department of Statistics and Information). The center was primarily established to attract major funding from national sources, and as a resource to attract top students involved faculty in the College of Arts and Sciences. The center also made presentations to high school students for classes in math, science, and physics, to encourage them to study computing at UTK. Parker feels the program is improving recruitment and retention.

“As if Parker was not busy enough, she is also the associate director of the Science Alliance Joint Directed Research and Development program, a joint effort with ORNL that encourages collaborative research between the laboratory and the university.

Parker still finds time to enjoy UT sports, however, which is fortunate. “I married an avid UT sports fan,” she said. “So I’m still going to the games.”
Dr. John Schwartz characterizes himself as an ecological engineer, and his love for the natural beauty of rivers, streams and creeks has been the ongoing theme of his life. Growing up in St. Louis, Mo., Schwartz was fascinated by water at an early age. He created a science project in the 6th grade that focused on the effects of factory discharge into a nearby creek. Schwartz also noticed the disturbing sight of water pollution in the river near his home, the result of toxic chemicals dumped in the water in those pre-Environmental Protection Agency (EPA) days.

Schwartz received his bachelor of science in civil engineering from the University of Missouri, Columbia. Shortly afterward, he joined the Peace Corps and served as a volunteer design engineer in the Kenya Ministry of Water Development in the South Nyanza District Office, Homa Bay, Kenya. “The project in Kenya was fascinating,” Schwartz said. “We were directly involved in supplying water to the populace of Kenya. I learned a lot from that Peace Corps initiative.”

Schwartz stayed in Kenya for two years. He returned to the U.S. and accepted a position as an environmental engineer for the EPA’s Water Quality Division in Dallas, Texas. In 1987, Schwartz entered Oregon State University, Corvallis, where he received his master’s degree in fisheries science with a minor in water resources engineering.

Schwartz received his Ph.D. in environmental engineering from the University of Illinois Urbana-Champaign and shortly afterward accepted a position as assistant professor in the University of Tennessee College of Engineering. He is currently working on several long-term projects, including one funded by the U.S.D.A. National Sedimentation Laboratory to study the effects of fine sediment on aquatic biota. He is also monitoring the water quality in the Great Smoky Mountains National Park, observing the effects of acid deposition on ecosystems.

Schwartz has also recently embarked on a stream sediment research project on Little Turkey Creek in West Knoxville, funded by the Tennessee Stream Mitigation Program (TSPM). This initiative will extend for several years and will focus on measuring bedload sediment transport during floods through several means to help improve measurement devices and improve on current engineering transport models.

“I am trained as both a biologist and an engineer, so I integrate ecological data with engineering models and tools. Actually, it is uncommon to find someone with experience in both, and I’ve tried to make it a serious focus of my research,” Schwartz said.

Schwartz is pleased to have ended up in East Tennessee, with its rich natural resources and large system of lakes, rivers, streams and creeks.

“Tennessee is a great place for my work, with lots of water and a real need for this kind of research. I’m also fortunate to have a number of resources available in the area that I can look to for grants and funding,” Schwartz commented.
The University of Tennessee, Knoxville named Vice President of Academic Affairs of the statewide University of Tennessee system and served in that role from 1973 through 1989. In 1997, he received the coveted Malabar Award, UT’s highest faculty honor.

Noted for his intellectual vigor and national leadership in engineering education, he professional influence has been felt far beyond the state of Tennessee. Dr. Prados is a Fellow of AIChE, ASEE and is a registered professional engineer (retired) in Tennessee. He received ASEE’s highest recognition for services to engineering education, the E.I. DuPont Distinguished Service Award, in 1980. He also received the James T. Rogers Award of the American Institute of Chemical Engineers, as Associate in the Engineering Directorate. Dr. Prados has also been a consultant to industry, government and more than 30 universities and state education agencies in the United States and abroad.

In 2006 Dr. Prados received the Benjamin Garver Lamme Award from ASEE. Established in 1928, the honor recognizes excellence in teaching, 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, AIB and NSF and to the nation for his leadership in engineering education reform and innovation.

Dr. Prados earned his B.S. in chemical engineering at the University of Mississippi and his M.S. and Ph.D. degrees in major in chemical engineering at the University of Tennessee.

The Nathan W. Dougherty award was established by the College of Engineering in 1967 to pay tribute to Nathan Washington Dougherty, dean of the engineering college from 1940-55. The prestigious recognition honors engineers whose accomplishments have enhanced the profession and whose contributions have brought acclaim to the university.

Dr. Benjamin Kohanim, CBE Professor and Department Head; and Dorothy Bryson, Dr. John Prados receives a plaque commemorating the establishment of the Prados Professorship from (left to right) donors Malcolm and Harriet Colditz; Dr. Darrin Newman, CBE Professor and Department Head; and Dorothy Bryson, Senior CBE Development Director. Dr. John Prados receives a plaque commemorating the establishment of the Prados Professorship from (left to right) donors Malcolm and Harriet Colditz; Dr. Darrin Newman, CBE Professor and Department Head; and Dorothy Bryson, Senior CBE Development Director.

In recent years, the College of Engineering has developed more educational opportunities for students to study in other countries than ever before. These study abroad programs cater to the strict engineering curriculum while providing students with intercultural knowledge and the skills that cannot be taught in the classroom.

“Dr. John Prados, Director of Engineering Outreach. While the Study Abroad Office offers a wide range of programs globally for all students, Engineering Outreach intends more specifically for engineering students. Because engineering has become a globalized profession, students will graduate and work in international corporations. Participating in a study abroad program during college will equip students with valuable skills to compete in the professions.”
Fiscal year 2010 saw substantial progress toward the $75 million campaign goal with over $7.2 million in gifts and pledges booked during that 12-month period.

Major gift highlights include a $1 million endowment from Eastman Chemical Company to establish an endowed fellowship in the Department of Chemical & Biomolecular Engineering. Commitments for student support were made by Joe (BS/IE ’65) & Judy Cock; Jim (MS/ME ’79) & Carol (MS/Planning ’79) Toepaugh; Tim Moehl (BE ’77) in honor of his father, Dr. T. E. Lundy (BS/IE ’56, EPh ’54, MS/ME ’57, Ph.D.1960); Dr. Thomas (Ph.D./ES ’88) and Patricia Strower; Harold Carter (BS/CE ’51) in honor of his wife, Kaylene (B.S./CHE ’81); Ron (BS/EE ’69) and Jessica Morris; and Dr. Mohamed Mahfouz (associate professor of biomedical engineering). Support from Jim Gibson (BS/’71), J. L. F. Foundation, Maryland and Nvida are advancing research and program initiatives. Faculty endowments include two new professorships, one from Leonard Penland (BS/IE ’52) (deceased) through his trust and in second in honor of Dr. John Prados (MS/ME ’34, Ph.D. CHE ’37), an emeritus faculty member in the chemical and biomolecular engineering department. The Prados Professorship was created by Malcolm Cristli (BS/CE’66) and has been augmented by Michael Gipe (GS/IEE’83). The IRB conference room in the Min H. Kao Electrical Engineering and Computer Science Building has been named for Linda & King through a gift commitment from Ms. and Mr. Tony King (BS/EE ’83, M.S./EE ’87); Ms. Gwendolyn Yung and Ms. Marla Black. Don (BS/CE’77) and Marion Savage have also made a gift to the John Yoko Engineering Building initiative; a seminar room will be named in their honor. Tom (BS/CE ’77) and Rosemary (BS/Education ’70) Bise have made a provision in their estate planning that will significantly support the College Fund for Engineering.

Annual giving to the College Fund and parallel departmental funds became an important emphasis. As the economy plunged into recession, increased annual giving by our alumni and friends has enabled the college’s academic leaders to respond quickly to emerging opportunities and sudden needs. Calculated on a calendar year, not the fiscal year, 2009 annual giving to engineering totaled a modest $371,855. In the first six months of 2010, we have raised nearly double the amount from the same period in 2009. The Dean’s Circle recognition for gifts of $1,000 or more was launched in January 2010 with the inaugural medallion featuring the venerable Estabrook Hall.

Staffing for the Engineering Development Office has been supported by both the dean and the chancellor. After nearly five years of transition, a full professional team has been in place since November 2009. The presence of five full-time focused development officers assisted by two superb assistants has enabled us to position our message to alumni, industry leaders, and other friends of engineering. The staff is proudly located in Perkins Hall, which for decades has been the center of the college’s administrative leadership.

For information about giving to the College of Engineering, contact Dorothy Bryan, Senior Director 120 Perkins Hall Knoxville, Tennessee 37996 865-974-2779 engdev@utk.edu

The power of philanthropy is not in the totals or the lists or the data. The power of philanthropy is the transformational generosity—accomplished by a single person or by a multitude together—that impacts lives.

Our great thanks to our donors who both individually and collectively are advancing the College of Engineering and influencing the future through the lives of our faculty and our students.
Outstanding Alumnus Michael Howard 
Focusing on the Future of American Energy

Dr. Michael Howard (BS/EE '80, Ph.D./ES '96) has a vision for energy security and environmentally responsible electric power. He is focusing on the future of American energy and has been associated with EPRI for over 18 years. Howard said, “EPRI provides thought leadership to address many of today’s challenging issues faced by our electric utility industry. I want to continue to focus on research that addresses high-value solutions identified by society and our electric utility industry that provides the public with electricity. That is EPRI’s mission and they are not going to change. Our research activities have led the industry to de-carbonize our electric power generation, delivery and use. We are seeking the reliability and affordable and environmentally safe future for our growing power generation and development relating to the electric power system as efficiently and reliably as possible and enable the consumer to economically transition toward a greater leadership role at EPRI, an organization I’ve worked for 30 years,” Howard said. “EPRI provides the technical services and advice needed by society and our electric utility industry.”

Howard was raised in Knoxville and graduated from Carter High School. He received his bachelor’s degree in electrical engineering from UT, he worked for Westinghouse Electric Corporation in Orlando, Fla., and then moved to Orlando to co-found Scientific Imaging Solutions with two other UT graduates in 1990 to co-found Scientific Imaging Solutions, which is now a wholly owned subsidiary of EPRI called EPRI PEAC, a research portfolio.

Howard spent most of a decade with Westinghouse, leaving in 1992 and took a position with the Electric Power Research Institute (EPRI). EPRI formed EPRI PEAC, a wholly owned subsidiary of EPRI that addresses high-value solutions identified by society and our electric utility industry members saying the same thing. “I want to help lead the technology development and deployment that will enable the world-wide electric utility industry to de-carbonize while continuing to produce reliable, affordable, and environmentally responsible electricity,” Howard said.

Howard’s main goals as leader of EPRI are clear. “I want to help lead the technology development and deployment that will enable the world-wide electric utility industry to de-carbonize while continuing to produce reliable, affordable, and environmentally responsible electricity,” Howard said.

Howard’s main goals as leader of EPRI are clear. “I want to help lead the technology development and deployment that will enable the world-wide electric utility industry to de-carbonize while continuing to produce reliable, affordable, and environmentally responsible electricity,” Howard said.
## Financial Information
### Fiscal Year 2010

**FY 2010 Recurring & Nonrecurring State Funding Expenditures: $37.0 Million**

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries &amp; Benefits</td>
<td>$26,000,617</td>
</tr>
<tr>
<td>Equipment</td>
<td>$1,739,307</td>
</tr>
<tr>
<td>Miscellaneous Operating Expenses</td>
<td>$9,266,650</td>
</tr>
</tbody>
</table>

**FY 2010 Total Expenditures: $80.8 Million**

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Externally Funded Gifts, Grants &amp; Contracts</td>
<td>$43,795,301</td>
</tr>
<tr>
<td>Recurring &amp; Nonrecurring State Funds</td>
<td>$37,006,574</td>
</tr>
</tbody>
</table>

**FY 2010 Gifts, Grants & Contracts by Department/Center: $43.8 Million**

- Research Centers: $11,303,207
- Materials Science & Engineering: $7,395,418
- Electrical Engineering & Computer Science: $6,956,382
- Civil & Environmental Engineering: $5,506,914
- Nuclear Engineering: $4,510,991
- Mechanical, Aerospace & Biomedical Engineering: $3,257,709
- Chemical & Biomolecular Engineering: $2,792,542
- Industrial & Information Engineering: $839,175
- Administration: $1,227,596
- Engineering Fundamentals Division: $15,367

### Vision Statement

The College of Engineering is resolved to become one of the country’s top 25 public engineering educational institutions. To bring this vision to reality, our college is committed to these five charges:

1. **Attaining national and international recognition among peer institutions for excellence in both research and teaching;**
2. **Assembling a dynamic body of faculty who exemplify excellence and innovation in the pursuit and delivery of knowledge and will perpetuate the highest standards of engineering education for future generations;**
3. **Graduating students who are well educated in technical knowledge, with solid communication and teamwork skills, who can compete successfully in the global business world and contribute significantly to the national base of engineering education and technology;**
4. **Investing strategically in the college’s most important resources — students, faculty and programs — through the vigorous acquisition of private gifts from individuals, corporations and foundations;**
5. **Partnering with academic, industrial and government entities that share and enhance the mission of the College of Engineering so that our educational and collaborative efforts result in the maximum, positive economic impact locally, regionally, nationally and globally.**