175 Years of Engineering at the University of Tennessee

Distinguished History. Dynamic Present. Bright Future
Welcome to this special edition of Tennessee Engineer. We are excited about recognizing 175 years of engineering at the University of Tennessee, and we have many events and activities going on during this year of celebration.

Inside this issue, you will find a special inserted poster that traces the history of engineering at the university. It has been a fascinating journey!

The university (then East Tennessee College) offered its first engineering course, surveying, in 1838. Today, we still offer surveying, but utilize digital equipment and GPS positioning systems. We also offer over three hundred fifty undergraduate and five hundred graduate courses in twelve undergraduate disciplines, sixteen master’s programs, and fourteen PhD programs on our Knoxville and Tullahoma campuses. We are steeped in tradition, with over twenty-four thousand living alumni located in all fifty states and over sixty-five countries.

The celebration of our 175th anniversary of providing engineering education provides us a time to celebrate our past and current successes and present our vision for the future.

As of 2013, I have been at the university for forty-two years, as a graduate student, faculty member, associate dean (of the graduate school and the college), and now as dean. My role as dean has been the most challenging and yet exciting and fulfilling position that I have held in my career and I cannot imagine a place that I would rather be.

The college has made major progress in expanding its capacity to provide an engineering education to its undergraduate and graduate student body, with increases in enrollment of 37% (BS) and 62% (PhD) in the last five years.

We have a new engineering building (the Min H. Kao Electrical Engineering and Computer Science Building) that just opened this past year; the new John D. Tickle Engineering Building will open during this year of celebration (currently scheduled for this summer) with the building dedication ceremony to take place on Friday, October 4; the Joint Institute for Advanced Materials facility is now under construction on the Cherokee Farms campus; and we hope to announce the details of an additional new engineering complex that will move into the design phase this year. These outstanding facilities will provide us the opportunity to provide a high quality education to our ever-growing population of engineering students.

This celebration will allow us to showcase the phenomenal progress that our college and university have made since its inception—and the best is yet to come! We are very proud to be a major contributor to the economic base and technological innovation of our state, nation, and the world through our faculty, staff, students, and graduates.

We hope you will join us in celebrating all of the good things that have happened and are happening with engineering at the University of Tennessee in 2013.
Get ready to celebrate! In 2013, the College of Engineering is marking several momentous milestones, including:

- The commemoration of 175 years of engineering at the University of Tennessee
- The dedication of the John D. Tickle Engineering Building
- The recognition of the 40th anniversary of Engineering Diversity Programs in the College of Engineering

The origins of the college began 175 years ago in 1838, when the first engineering course, surveying, was offered at what was then East Tennessee College.

The college will be saluting significant achievements from the past, highlighting current progress, and planning for an even more successful future during this year-long event.

The highlight of the anniversary celebration will be the dedication of the John D. Tickle Engineering Building at 851 Neyland Drive. The facility, currently under construction, is projected to be completed in the late spring of this year with the Department of Civil and Environmental Engineering relocating from Perkins Hall and the Department of Industrial and Systems Engineering moving from East Stadium Hall to the Tickle Building during the summer months.

Mr. John D. Tickle (BS/IE '65) and his wife, Ann Tickle, provided a generous donation to the construction of the building. Tickle is the chairman of Strongwell Corporation, headquartered in Bristol, Virginia. Strongwell is a world-wide operation, with the Bristol division serving as its headquarters.

Together, John and Ann Tickle were recognized with a 2012 University of Tennessee Distinguished Alumnus Award from the UT Alumni Board of Directors, the highest distinction given by the Knoxville campus.

John Tickle also received the 2013 ACMA Lifetime Achievement Award from the American Composites Manufacturers Association (ACMA), the composites industry’s largest trade group in the world. He has been the recipient of a host of local, regional, and national business and philanthropic awards and has served on the UT Athletic Board and with the COE’s Board of Advisors. He was a member of the Campaign for Tennessee Engineering Executive Committee for the college.

Ann Tickle graduated with a bachelor’s degree from the UT College of Education and is extensively involved in philanthropic work, including the College of Veterinary Medicine at UT, where the small animal laboratory is named for the couple.

The college’s main 175th anniversary events will take place on Friday, October 4. The dedication ceremony will take place at the John D. Tickle Building beginning at 10:00 a.m. All UT faculty, staff, and students are invited, along with the general public. Guest parking is available at the Second Creek lot on Cumberland Avenue. A reception and tours of the facility and other engineering departments will follow the ceremony.

The 40th anniversary of the college’s Engineering Diversity Programs will also be recognized with a luncheon and program (reservations required) for invited guests at noon that same day. On the evening of October 4, the college will host an invitation-only Gala Celebration recognizing 175 years of engineering at the University of Tennessee. This event will feature a reception at 6:00 p.m., banquet at 7:00 p.m. and a special program after dinner that includes a keynote speaker and video presentation. Reservations will also be required for this event.

Invitations for all events will be mailed out by July 1, 2013. For more information on the 175th anniversary events, visit: http://www.engr.utk.edu/175.

Send us your story! We want to feature your remembrances on this website as part of our celebration. Send your favorite anecdotes—about faculty who influenced you, how you met your spouse, adventures in the labs, memories of friends, etc.—to coe@utk.edu. Join the festivities and help us tell the Tennessee Engineering story.

175 Years of Engineering at the University of Tennessee
Distinguished History. Dynamic Present. Bright Future
Innovative, Early-career Engineering Faculty Participate in NAE’s Frontiers of Engineering Education Symposium

Two COE faculty members were part of a group of seventy-two of the nation’s most innovative, early-career engineering educators who were selected to take part in the National Academy of Engineering’s fourth Frontiers of Engineering Education (FOEE) symposium. The attendees were nominated by fellow engineers or deans and chosen from a highly competitive pool of applicants. The symposium was held Oct. 3-17 in Irvine, California.

Dr. Claudia Rawn, a UT-Oak Ridge National Laboratory Joint Faculty member and an assistant professor in the Department of Materials Science and Engineering, and Dr. Jeffrey Reinbolt, an assistant professor in the Department of Electrical, Biomedical Engineering, were both selected to participate in the event.

Rawn has been at the forefront of the college’s latest engineering education initiative, the Research and Instructional Strategies for Engineering Retention (RISER), a new program funded through UT’s Research and Education Initiative (REI). Rawn is also the new director of the college’s Center for Materials Processing (CMP), a State of Tennessee Center of Excellence that was established in 1985. CMP’s objective is to develop significant new materials for novel applications.

Dr. Rawn has been active in affective, innovative student learning since he was hired in 2009 after a three-year appointment at Stanford University. He is helping to facilitate institutional change with an award from The National Institutes of Health for the college’s first R25 education research grant titled “The Contributions of an Educational Innovation in STEM in a University Research Environment.” Collaborating institutions include the University of Pennsylvania, University of Colorado Boulder, University of Michigan, Washington University in St. Louis, and NASA’s Glenn Research Center.

The RISER project’s goal is to develop a novel concept based on an advanced ceramic composition coating for 3D-array cladding. Collaborating institutions on the UT team include Pennsylvania State University, University of Colorado Boulder, University of Michigan; Westinghouse Electric Corporation, and NASA’s Glenn Research Center.

Researcher on the UT-led project will develop a fuel concept based on an advanced ceramic composition coating for 3D-array cladding. Collaborating institutions on the UT team include Pennsylvania State University, University of Colorado Boulder, University of Michigan; Westinghouse Electric Corporation, and NASA’s Glenn Research Center.

COE Faculty Teams Receive NEUP Awards

Dr. J. Wesley Hines, professor in the Department of Mechanical Engineering, and Dr. Belle Upadhyaya, a professor in the nuclear engineering department, have been awarded the 2012 Nuclear Energy University Programs (NEUP) Distinguished Professor Award and the 2012 Nuclear Energy University Programs (NEUP) Young Faculty Award, respectively.

Dr. Hines is the director of the MABE cluster group, which is part of the Min H. Kao Professor and head of the UT Department of Electrical Engineering and Computer Science (EECS). He is now head of the EECS department effective January 1, 2013.

Dr. Upadhyaya is the head of the UT Department of Nuclear Engineering. He was awarded the NEUP Young Faculty Award in 2011. NEUP programs support multifaceted projects to develop breakthroughs for the US nuclear energy industry.

The NEUP programs support multifaceted projects to develop breakthroughs for the US nuclear energy industry. Universities lead the three-year projects, working in collaboration with the nuclear industry, national laboratories, and DOE.

For more information on the specific awards, visit www.neup.gov.

U.S. Department of Energy

The department also received a five-year, $18 million grant from the National Science Foundation to establish an NSF Engineering Research Center (ERC) focused on research, education, and technology for sustainable energy systems with an emphasis on power transmission systems. The Center for Ultra-wide-area Resilient Electric Energy Transmission Networks (CURENT) involves a consortium of academia, industry, and national laboratories. The Lead Institution is the University of Tennessee.

Dr. Leon Tolbert Named EECS Department Head

Dr. Leon M. Tolbert, the Min H. Kao Professor in the University of Tennessee Department of Electrical Engineering and Computer Science (EECS), is now head of the EECS department effective January 1, 2013.

Tolbert is internationally respected researcher in the areas of power systems and power electronics, hybrid electric vehicles, renewable energy, and carbon dioxide power electronics. He will take leadership during a time of tremendous growth for the EECS department. The department completed a move to the new Min H. Kao Electrical Engineering and Computer Science Building in January of 2012, and celebrated the dedication of the new facility in March 2012. The expanded classroom and laboratory space offers tremendous potential for both teaching and research.

Faculty Updates

NE Emeritus Professor Publishes Two New Books

Dr. Thomas W. Kerlin, professor emeritus and former head of the Department of Nuclear Engineering, has recently had two new books published by the International Society of Automation (ISA).

Future Energy: Opportunities and Challenges presents the scientific principles underlying the capabilities and limitations of potential energy production and energy use technology so that energy choices can be based on facts, not conjecture or misperceptions.

ISA has also published a book, written by Kerlin along with colleague Dr. Mitchell Johnson, Practical Thermocouple Thermometry (Second Edition). This comprehensive publication will help readers from any background achieve good performance with thermocouples.

Dr. Kerlin and Johnson have updated the second edition to include the latest in thermocouple technology, building on their sixty-plus years of collective experience in theory, research, teaching, manufacturing, and real-world applications.

ISA (www.isa.org), founded in 1945, is a leading global nonprofit organization that is setting the standard for automation by helping over thirty-thousand worldwide members and other professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities.

MABE Professor’s Research Project Published in National Journal

Dr. Mingjun Zhang, PLOS Computational Biology, an open-access, peer-reviewed journal published monthly by PLOS as an official journal of the International Society for Computational Biology (ISCB), is publishing “Experimental Studies and Dynamics Modeling Analysis of the Swimming and Diving of a Novel 3D Clutter Avoiding Swimming Robot,” an article by Dr. Mingjun Zhang, an associate professor in the Department of Mechanical, Aerospace and Biomedical Engineering (MABE). The article focuses on Zhang’s research funded by a grant from the Office of Naval Research, with a bio-inspired swimming robot project. For more information, visit http://www.ploscompbiol.org.

EECS Professor Receives Professional Achievement Award

Dr. Jack Dongarra, a Distinguished Professor in the Department of Electrical Engineering and Computer Science and the director of the Innovative Computer Laboratory, will be the recipient of the 2013 Illinois Institute of Technology’s (IIT) Professional Achievement Award in recognition of the contribution and achievements of IIT’s most remarkable faculty members and leaders. Dongarra received his MS degree from IIT. The awards ceremony will be held at the lab on IIT’s campus in April.

Dr. Jack Dongarra

COE Faculty Teams Receive NEUP Awards

A proposal submitted by a research group led by Dr. Kurt Sidkufu, Alvin and Sally Beaman Professor and head of the Department of Materials Science and Engineering, to the 2012 Nuclear Energy University Programs (NEUP) Integrated Research Programs (IRP) Awards was selected for a $3.5 million award for a nuclear innovation project. The US Department of Energy (DOE), which provided a total of $13 million in funding for the three university-led research teams, recently announced the award.

Researchers on the UT-led project will develop a fuel concept based on an advanced ceramic composition coating for 3D-array cladding. Collaborating institutions on the UT team include Pennsylvania State University, University of Colorado Boulder, University of Michigan; Westinghouse Electric Corporation, and NASA’s Glenn Research Center.

The university was also selected to collaborate with Georgia Tech and eleven other institutions on a $5.9 million NEUP IRP award project to develop a novel concept of a high-power light water reactor (1-WH) with very low safety features that will advance its safety level beyond that of advanced passive systems. The UT team is led by Dr. Wesley Hines, Charles P. Postelle Distinguished Professor in Nuclear Engineering and head of the UT Department of Nuclear Engineering, and Dr. Belle Upadhyaya, a professor in the nuclear engineering department.

Dr. Kurt Sidkufu

The NEUP programs support multifaceted projects to develop breakthroughs for the US nuclear energy industry. Universities lead the three-year projects, working in collaboration with the nuclear industry, national laboratories, and DOE.

For more information on the specific awards, visit www.neup.gov.

COE Faculty Teams Receive NEUP Awards

The NEUP programs support multifaceted projects to develop breakthroughs for the US nuclear energy industry. Universities lead the three-year projects, working in collaboration with the nuclear industry, national laboratories, and DOE.

For more information on the specific awards, visit www.neup.gov.

MABE Professor’s Research Project Published in National Journal

Dr. Mingjun Zhang, PLOS Computational Biology, an open-access, peer-reviewed journal published monthly by PLOS as an official journal of the International Society for Computational Biology (ISCB), is publishing “Experimental Studies and Dynamics Modeling Analysis of the Swimming and Diving of a Novel 3D Clutter Avoiding Swimming Robot,” an article by Dr. Mingjun Zhang, an associate professor in the Department of Mechanical, Aerospace and Biomedical Engineering (MABE). The article focuses on Zhang’s research funded by a grant from the Office of Naval Research, with a bio-inspired swimming robot project. For more information, visit http://www.ploscompbiol.org.

EECS Professor Receives Professional Achievement Award

Dr. Jack Dongarra, a Distinguished Professor in the Department of Electrical Engineering and Computer Science and the director of the Innovative Computer Laboratory, will be the recipient of the 2013 Illinois Institute of Technology’s (IIT) Professional Achievement Award in recognition of the contribution and achievements of IIT’s most remarkable faculty members and leaders. Dongarra received his MS degree from IIT. The awards ceremony will be held at the lab on IIT’s campus in April.

Dr. Jack Dongarra

COE Faculty Teams Receive NEUP Awards

A proposal submitted by a research group led by Dr. Kurt Sidkufu, Alvin and Sally Beaman Professor and head of the Department of Materials Science and Engineering, to the 2012 Nuclear Energy University Programs (NEUP) Integrated Research Programs (IRP) Awards was selected for a $3.5 million award for a nuclear innovation project. The US Department of Energy (DOE), which provided a total of $13 million in funding for the three university-led research teams, recently announced the award.

Researchers on the UT-led project will develop a fuel concept based on an advanced ceramic composition coating for 3D-array cladding. Collaborating institutions on the UT team include Pennsylvania State University, University of Colorado Boulder, University of Michigan; Westinghouse Electric Corporation, and NASA’s Glenn Research Center.

The university was also selected to collaborate with Georgia Tech and eleven other institutions on a $5.9 million NEUP IRP award project to develop a novel concept of a high-power light water reactor (1-WH) with very low safety features that will advance its safety level beyond that of advanced passive systems. The UT team is led by Dr. Wesley Hines, Charles P. Postelle Distinguished Professor in Nuclear Engineering and head of the UT Department of Nuclear Engineering, and Dr. Belle Upadhyaya, a professor in the nuclear engineering department.

Dr. Kurt Sidkufu

The NEUP programs support multifaceted projects to develop breakthroughs for the US nuclear energy industry. Universities lead the three-year projects, working in collaboration with the nuclear industry, national laboratories, and DOE.

For more information on the specific awards, visit www.neup.gov.

MABE Professor’s Research Project Published in National Journal

Dr. Mingjun Zhang, PLOS Computational Biology, an open-access, peer-reviewed journal published monthly by PLOS as an official journal of the International Society for Computational Biology (ISCB), is publishing “Experimental Studies and Dynamics Modeling Analysis of the Swimming and Diving of a Novel 3D Clutter Avoiding Swimming Robot,” an article by Dr. Mingjun Zhang, an associate professor in the Department of Mechanical, Aerospace and Biomedical Engineering (MABE). The article focuses on Zhang’s research funded by a grant from the Office of Naval Research, with a bio-inspired swimming robot project. For more information, visit http://www.ploscompbiol.org.

EECS Professor Receives Professional Achievement Award

Dr. Jack Dongarra, a Distinguished Professor in the Department of Electrical Engineering and Computer Science and the director of the Innovative Computer Laboratory, will be the recipient of the 2013 Illinois Institute of Technology’s (IIT) Professional Achievement Award in recognition of the contribution and achievements of IIT’s most remarkable faculty members and leaders. Dongarra received his MS degree from IIT. The awards ceremony will be held at the lab on IIT’s campus in April.

Dr. Jack Dongarra
Faculty Focus

Dr. Andrew Sarles, Department of Mechanical, Aerospace & Biomedical Engineering

Dr. Andy Sarles pursued a migratory route to his position as assistant professor in the College of Engineering’s Department of Mechanical, Aerospace, and Biomedical Engineering (MABE).

“My path to becoming a faculty member at UT is a bit circular, or diagonal if you look at a map,” said Sarles. “I grew up in Princeton, West Virginia, earned my BS in mechanical engineering at the University of Tennessee, and then got my MS and PhD from Virginia Polytechnic Institute and State University (Virginia Tech), not far from my hometown. I stayed, for a year, with the Virginia Tech Department of Mechanical Engineering, working as a post-doctoral research scientist with Dr. Don Leo. Then, it was time to return to Tennessee.

“I was fortunate to be able to return to Knoxville and join the MABE faculty in August, 2011,” he said. “It’s great being back, and I’m lucky to get to work with many of the faculty whom I first knew as a student.”

Sarles taught sophomore-level Mechanics of Materials (ME321) in the spring of 2012. He is also interested in developing new courses when I was a student.”

“I continue to be impressed by the quality of the faculty in our department,” he said. “I am confident that this strength will play an important role not only in the education of our students, but also in fostering collaborations with other colleagues in the COE, researchers outside of UT, and industry partners.”

In addition to campus activities, Sarles and his wife, Kelsey, enjoy exploring the Knoxville area and sites.

“We like any activity that gets us outside—road biking, hiking, tennis, working in our yard,” he said. “We enjoy the University of Tennessee and Bijou theaters; we enjoy traveling; and we like to cook. I also like to play guitar, though saying that I ‘play’ may be a tad generous.”

Engineering Students Place in NDConnect National Competition

A duo of enterprising undergraduate engineering students collaborated to land the bronze-medal position in the 2012 Notre Dame Competition in Nanoscience and Nanotechnology, and Campus Tour (NDConnect), awarded October 5, 2012, at Notre Dame University in South Bend, Indiana.

Neil Brown and Hannah Haines, research students in the Department of Chemical and Biomolecular Engineering, shared the $2,000 third-place win for their poster titled “Systematic Assembly of Photosystem I (PSI) on Chemically Patterned Substrates.”

The presentation grew from their research in the Nano-biomaterials Laboratory, where they work under Bamin Khomami, the Granger and Beaman Distinguished University Professor and head of the Department of Chemical and Biomolecular Engineering (CBE), and Diyabdul Mukherjee, an associate professor in the Department of Mechanical, Aerospace, and Biomedical Engineering (MABE).

The research is associated with the Sustainable Energy Education and Research Center (SEERC). It is carried out in technical collaboration with Dr. Ilia Ivanov and Dr. Jamie M. Messman from the Center for Nanophase Materials Sciences (CNMS) at Oak Ridge National laboratory (ORNL).

“We both work on the same project, but from different angles,” said Brown. “Hannah works with electrical characterization and I work more closely with surface attachment of PSI. For the contest, we worked to arrange our most recent works in an easily presentable poster format.”

The presentation highlighted their research into the fabrication of solid-state, bio-hybrid photovoltaic devices that incorporate PSI, a protein complex that is involved in photosynthesis in plants. Their work could lead to hybrid solar-energy systems that use biological materials, offering a cleaner, greener energy source than that of conventional solar cells.

“PSI is almost 100% efficient at moving electrons on a nanoscale level, and can be used like a battery in a circuit if placed such that directional electron flow is able to occur,” said Haines.

Brown is a junior from Kingsport, Tennessee, and Haines is a senior from Limestone, Tennessee. In addition to working in the Nano-biomaterials Laboratory, both actively pursue on-the-job experience through internships and co-op assignments. For the competition, they maintained a tag-team research schedule while traveling back and forth to co-op assignments with ExxonMobil in Texas.

“During the summer months, while Hannah was away for an internship, I worked both on completing further systematic attachment research and organizing what information would be pertinent to the contest,” said Brown.

“When Brown’s fall co-op term came up, Haines returned to campus to conduct electrical characterization research and finish the poster.”

“I picked up where the group left off, focusing more on surface composition analysis of the self-assembled monolayers (SAMS),” said Haines.

The students credit professors Khomami and Mukherjee for their encouragement and guidance.

“Both were principle directors for guiding the experimental series,” said Haines. “They helped us to trouble-shoot and develop the correct methodic approach for studying our system. It was their influence that allowed us access to facilities at ORNL and state-of-the-art equipment for our lab at UT.”

“Additionally, they reviewed both our original application for the contest as well as the PowerPoint and the final poster that we took to the competition,” said Brown.

Both students also felt that the competition experience earned them more than just the prize money.

“The competition was my first opportunity to present research that I have worked on,” said Brown. “It helped me expand my research skills, both through requiring me to assemble information from our lab in a presentable form and to know it well enough to slate it.”

“It was fascinating to see the other projects and diverse interests of students in the field of nanotechnology,” said Haines. “It was a good opportunity to network with faculty, representatives from industry, and other students.”
The University of Tennessee Establishes New Biomedical Engineering Institute

The University of Tennessee has launched a new institute to research solutions to medical problems such as devices for improved delivery of medications and monitoring of patients; better imaging technology; regenerative models to help the body heal itself; and optimized efficiency in the healthcare setting. Finding answers to these and many other healthcare problems is possible through a unique collaboration introduced by the new Institute of Biomedical Engineering (iBME). This new institute connects not only engineering and medicine but also three diverse university campuses in a collaboration that is unique in the country; innovative for UT faculty, physicians, and students; and beneficial to people everywhere.

In February, the UT College of Engineering (COE) and the Office of Research & Engagement in collaboration with the UT Graduate School of Medicine (GSM) and UT College of Veterinary Medicine (CVM) established iBME, a new multidisciplinary initiative. While the institute is operationally based in the engineering college, it is intended to be an intellectual bridge to a number of disciplines including engineering, medicine, veterinary medicine, arts and sciences, nursing, agriculture, and others.

iBME provides a unique opportunity for UT to respond to the growing demand for education and research opportunities in the rapidly expanding field of biomedical engineering. Researchers from the three founding institutions work collaboratively with scientists, physicians, faculty, and students from many UT disciplines to research today’s medical problems, resulting in better healthcare for the state and beyond.

“We are coming together to capitalize on resources and collaborate on medical problems that can only be solved through such teamwork,” says Mohamed Mahfouz, PhD, a professor in the Department of Mechanical, Aerospace, and Biomedical Engineering (MAE). “If we confine the field of biomedical engineering into just one department, we lose the perspective of what can be accomplished.”

The goals of iBME include generating cross-disciplinary teams to develop healthcare innovations and discover new research funding; to offer a multidisciplinary curriculum and real-world medical experiences to engineering students; to provide a regional resource to improve the general public’s understanding of biomedical engineering; and to establish outreach to area educators and students to develop interest in and knowledge of the field.

Mitchell Goldman, MD, a professor and chair of the Department of Surgery and assistant dean of Research of the Graduate School of Medicine, is enthusiastic about the institute.

“iBME offers a unique opportunity to combine the intelligence and scientific resources of engineering, veterinary medicine, and human medicine to solve problems in healthcare delivery, monitoring of outcomes, disease pathophysiology, therapeutics, wellness, and more,” he says.

Research focus areas include molecular, cellular, and tissue engineering; healthcare engineering; and imaging, biomechanics, and devices. iBME will also feature masters and PhD programs in biomedical engineering that include specialization tracks in the three research focus areas.

“I know the healthcare environment in America is changing, and being able to manage those changes while continuing to provide the best patient care demands innovation,” says James Neutens, PhD, FASHA, dean of the UT Graduate School of Medicine. “Collaboration such as that found in iBME brings together inquiry from diverse perspectives and results in answers to healthcare problems.”

Mahfouz, an internationally established researcher in the field of biomedical engineering, is the director of iBME. Dr. Eric T. Boder, an associate professor in the Department of Chemical Engineering, is the institute’s academic director, and serving as research and outreach director is Dr. Christopher P. Stephens, medical-engineering liaison and an assistant professor in the COE, GSM, the Center for Materials Processing, and the biomedical engineering program in MAE.

For more information, visit http://ibme.utk.edu.

Christopher Stephens, PhD (left), and Mohamed Mahfouz, PhD (right), help lead collaborative research through the Institute of Biomedical Engineering.
UT College of Engineering professors (left to right): Dr. John W. Prados, Dr. Mongi Abidi, Dr. Edwin G. Burdette, Dr. H. L. (Lee) Dodds, Dr. C. H. (Hal) Aikens, and Dr. Manel Hilligan.

Seven doctorate degrees. A total of three hundred and ten years of service to the UT College of Engineering. And countless memories of educating students, working on research projects, and interacting with colleagues. These seven professors are the living history of engineering at the University of Tennessee.

Dr. John W. Prados, an emeritus professor in the Department of Chemical and Biomolecular Engineering (CBE), began his faculty service as an instructor in the fall of 1955. He was named as an assistant professor in 1958. Prados also served as the UT vice president for academic affairs from 1973 through 1984, as the chemical engineering department head in the early 1990s, and as the university’s vice president later that decade.

Dr. Edwin G. Burdette, still a full-time professor, joined the Department of Civil and Environmental Engineering (CEE) as a part-time instructor in 1958, and has remained with the university since, with the exception of a stint at the University of Illinois for his PhD in the late 1960s. Dr. Mongi Abidi, the newly named Cook-Eversole Professor in the Department of Electrical Engineering and Computer Science (EECS), came to the university in 1982 and has been involved in teaching and research at UT for over three decades. Dr. C. H. (Hal) Aikens, an emeritus professor in the Department of Civil and Systems Engineering (SES) joined the university faculty twenty-eight years ago and served as department head for engineering industry in the late 1990s.

Dr. Joseph Spruell, the former head of the Department of Materials Science and Engineering, was instrumental in the founding of that department, and began professorship at UT in 1960.

Dr. Manel Hilligan, an emeritus professor in the Department of Mechanical, Aerospace, and Biomedical Engineering (MABE), came to UT as an instructor in mechanical engineering in 1959, serving nine years as head of MABE. He is also an experienced pilot who still flies for the university.

Dr. H. L. (Lee) Dodds) joined the nuclear engineering department faculty in 1976 and served as department head from 1999 until his retirement in 2011. He still teaches for the department in his role as an emeritus professor.

Prados expressed appreciation for the awards that he has received, including the Alumni Outstanding Teacher Award in 1987, being designated a Faculty Macoebeer in 1997, and receiving the college’s prestigious Nathan W. Dougherty Award in 2010. Two recent examples of alumni appreciation were the establishment of the John W. Prados Chemical Engineering Co-op Scholarship by Michael Stone and the establishment of the John W. Prados Professorship in Chemical Engineering by Malcolm Harriot and Collett and贷石.

Aikens said that Dr. Bill Snyder, Chancellor Emeritus and former dean of engineering, was consistent in his fairness and integrity.

Abidi said it has been exciting over the years to see the expansion of the EECs degree and the progress that has been made over the decades.

“IT was wonderful to see the Min H. Kao Electrical Engineering/Computer Science Building come to completion, and to know that our department has come so far,” he said. “It’s given us greater opportunities for our faculty and students in this state-of-the-art environment.”

Dodd is particularly proud of the improved national ranking of the department during his tenure as department head, which increased from being unranked to being ranked in the Top Ten in the US by U.S. News and World Report.

All of the faculty members agree that the students are the best part of the job.

“Every time I visit a local engineering firm, I am rewarded by seeing so many former students,” Burdette said. “And every time I teach a class and see students who are genuinely interested, I count that a positive interaction. I am blessed to continue to teach graduate and undergraduate students. ”

“When a student ‘gets’ the subject and does well, that is reward for me,” Spruell said. “I also appreciate all of the students who have returned to visit or do additional work when they graduate. ”

Aikens agrees that the recognition from students and grateful parents makes it all worthwhile.

“My greatest satisfaction has come from former students who have contacted me years after graduation with stories of their successes, and the ultimate compliment is when the children of those students began showing up in my classes. I am blessed to have played some small part in influencing the future paths of all of those young people I have been privileged to teach.”

The College of Engineering (COE) and the College of Nursing are collaborating on the renovation of an existing building to improve simulated instruction and research for students across multiple disciplines.

The Health and Information Technology and Simulation (HITS) Laboratory will be housed in the former Student Health Center at 1818 Andy Holt Way. The 15,000 square foot facility will provide simulated learning experiences and opportunities to explore health care scenarios. The building will add more than seven full-time equivalent faculty, learning and health information technology development and research.

“Gaining first hand knowledge of the impact that health technology has on improving patient care, quality, and safety is critical for nursing students,” said Dean Victoriana Niederhaufer. “Research has shown that when students engage in simulated scenarios in a safe learning environment, they are better prepared to enter into the workforce upon graduation.”

The $15 million project involves renovating the three-story building. The HITS Lab will take two floors and one floor will house a rare plant herbarium for the Department of Ecology and Evolutionary Biology in the College of Arts and Sciences.

The second floor will include four patient exam rooms; a pediatric unit; a room that functions as an operating room; a birthing room; and an emergency department, stocked with drugs and lockers. It will also contain a debridging room with an observation and control laboratory where students and professors can observe how other students are handling simulated scenarios live. The experiences can be taped so that students can review how they responded to situations.

The basement level will contain an apartment with a bedroom, living room, and dining room for simulated learning and collaborative nursing and engineering research projects to tackle health care challenges. For example, HITS co-directors Tami Wyatt, associate professor of nursing, and Xueping Li, associate professor of industrial engineering, plan to conduct study using new smart-home technologies to assist with independent living for elderly people. These technologies will allow adults to live safely and independently in their own homes.

“Our primary goal for the HITS Lab is to advance the science of health engineering, and we are hopeful that this collaboration and cannot wait to see HITS in operation!” Spruell said.

Construction is slated to be complete by summer 2013.

Student Health Services moved from its former Andy Holt Avenue facility last December. The new Student Health Building, on the corner of Pat Head Summit Street and Andy Holt Avenue, opened to students in January 2012. For more details, visit http://lab.engr.utk.edu/hits/.

COE Collaborates with College of Nursing to Build Simulated Health Care Facility

The Health and Information Technology and Simulation (HITS) Laboratory.
As the University of Tennessee College of Engineering (COE) prepares to celebrate 175 years of engineering at the university, another important anniversary is also taking place. The college will recognize forty years of engineering diversity programs in 2013.

In 1973, the COE established the Minority Engineering Scholarship Program (MESP), designed to target African American young people to select engineering careers. Mr. Fred D. Brown Jr. was the first director of MESP and it was his dedication that helped to launch the fledging program from an initial enrollment of only seventeen African-American students.

Fred Brown graduated from Hall High School in Alcoa, Tennessee, and earned his college degree from the Tuskegee Institute. He did postgraduate work at UT, Tennessee State University, Fisk University, and Vanderbilt University. He taught at Hall High School in Alcoa and Oak Ridge High School. He was the first African-American teacher at Oak University, Fisk University, and Vanderbilt University. He taught at Hall High School in Tennessee State University, Fisk University, and Vanderbilt University. He taught at Hall High School in Tennessee State University.

In recent years, the EDP has expanded its outreach to Hispanic, Native American, Pacific Islanders, Alaskan Native, and female prospective and current students. The summer programs have also increased in alignment with the support of distinguished corporate sponsors including AT&T and the Bechtel Corporation.

The EDP 40th anniversary celebration will be marked with a special invitation-only luncheon and program on Friday, October 4, at noon after the dedication ceremony of the John D. Tickle Engineering Building. For more information, contact the COE dean’s office at (865) 974-5321 or e-mail ccoe@utk.edu.

The residence hall, currently under construction on Andy Holt Avenue, is the first new residence hall to be built in forty years. The 40th anniversary of Engineering Diversity Programs will celebrate the accomplishments of pre-collegiate, undergraduate, and graduate achievement.

In recognition of its longstanding commitment to students and its support of engineering education, the college has established a new scholarship program aimed at helping to attract and retain top engineering students.

At the college’s Spring Commencement ceremony, Dr. Charles H. Weaver, whose name graces the newly completed Engineering Building, received an Honorary Doctorate from UT.

As a lifelong resident of Oak Ridge, Mr. Brown was an avid supporter of UT and wished to help support those following in his father’s legacy. Hadley has given to the University of Tennessee to support the Charles Weaver Memorial Scholarship and the College Fund for Engineering.

Throughout the generations, the Weavers have supported UT in one way or another. They have followed in Dr. Weaver’s footsteps and both Charles and Ann will always be remembered.
A company, a family foundation, and two members of the College of Engineering Board of Advisors are the first in engineering to respond to Chancellor Jimmy Cheek’s challenge to endow significant faculty support. It typically takes several years for academic units to see investment earnings from endowed gifts. Through the challenge, the chancellor’s office has committed funds so faculty awards can be made immediately to recruit, retain, and recognize outstanding faculty.

The UCOR Faculty Fellow was awarded to Dr. Jason Hayward beginning academic year 2012-13. “By establishing this endowed faculty award at UT, we hope to give students the opportunity to study under the best professors in nuclear education,” said UCOR President, Leo Sain. “Quality education in the nuclear field is absolutely critical to the pipeline of future nuclear workers for UCOR and companies similar to ours.”

UCOR is a partnership between URS, a worldwide leader in environmental work, and CH2M HILL, the United States’ largest environmental company.

More recent is the appointment of Dr. Stephen J. Paddison, professor of chemical and biomolecular engineering, to receive the first Ferguson Faculty Fellow in Chemical Engineering. This endowment was created by the Ferguson Family Foundation, headed by Brian Ferguson, former CEO of Eastman Chemical Company and member of the University of Tennessee Board of Trustees.

A third new endowment has been created by Joe and Judy Cook of Nashville, Tennessee, and Bill and Jenny Eversole of Austin, Texas. Joe Cook Jr. and Bill Eversole responded quickly to the chancellor’s challenge. As members of the College of Engineering Board of Advisors—Joe is a past chair of the board and Bill its current chair—they know the critical dynamic that excellent faculty provide and understand the power of an endowment to inspire further excellence. The Cook-Eversole Professorship has been awarded to Dr. Mongi Abidi in the Department of Electrical Engineering and Computer Science.

“These are just the first three in what I believe will be many new endowed professorships, chairs, and faculty fellows in the College of Engineering that take advantage of the chancellor’s funding,” said COE Dean Wayne Davis. “We are fortunate that these leaders understand the leveraging power of a named faculty endowment in helping us recognize outstanding faculty and increase our visibility.”

For information about how you can leverage the Chancellor’s Faculty Support Challenge with your own gift, contact Dorothy Bryson, Senior Director of Development, 865-974-2779 or dbryson@utk.edu.

A little over a year ago, Dwight Hutchins (BS/ChE ’86, Group 9) challenged the college to raise $25,000 to match his new commitment to create the Engineering Diversity Excellence Endowment. Sitting beside him, Chancellor Jimmy Cheek immediately stepped up with $25,000 from his office, raising the goal to $50,000 in a mere thirty seconds. A week or two later Cavanaugh Mims (BS/NE ’86 and Group 9) raised the ante again with a $25,000 commitment of his own, creating a goal to raise $150,000 (including these three gifts). With great thanks to the first seventeen additional alumni who have made commitments, Goal One has been reached and we continue to move ahead.

“The goal seemed so large at first, but alumni have been very generous in stepping up to create an important fund to help future generations as we were helped,” says Hutchins with a broad smile. “I believe we can reach more than the $250,000 Goal Two by this fall when we celebrate the 40th Anniversary of the Office of Engineering Diversity and be well on our way to the million dollar mark. This would be a great tribute to Fred Brown who began the program.”

The endowment supports programs in the Office of Engineering Diversity—everything from sending students to seminars and professional conferences to augmenting funding for the summer pre-college programs. Discover more about engineering diversity programs at www.engr.utk.edu/diversity.

To learn more about joining the on-going challenge contact Adlai Hurt, Associate Director of Development, 865-974-2779 or ahurt3@utk.edu.

Diversity Challenge -- $173,225 in commitments to date
Goal One $150,000: Met and more!
Goal Two $250,000: In sight!
Goal Three $1,000,000: An aspiration for opportunity!
COE Graduates Honored at UT Alumni Board of Directors Awards Dinner

Five College of Engineering (COE) alumni were recognized at the 2012 University of Tennessee, Knoxville, Alumni Board of Directors Awards Dinner, which took place on September 7, 2012, at the Knoxville Convention Center.

John D. Tickle (BS/EE ’65) and his wife Ann also received the Distinguished Alumnus Award. John and Ann Tickle exemplify the spirit of giving back. While their financial contributions have made an immediate and noticeable impact on campus, they continue to show their love for their alma mater by giving of their time and enthusiasm—an act that goes beyond even their significant personal gifts to the university. They are advocates for higher education—and UT in particular—with their voices being heard in their communities as well as Nashville.

Ann Tickle has always had a deep passion for education. Not only was it her academic major, it was the focus of her career as host of the popular television show Romper Room. Pre-dating Sesame Street, the show was an educationally based program that taught basic skills and encouraged young minds.

Mark Dean was recognized with the Alumni Board of Directors’ highest honor, the Distinguished Alumnus Award. A 1979 electrical engineering graduate, Dean began working with personal computers as a chief engineer at IBM in Boca Raton, Florida, after graduation. As a result of his work, he holds three of the original nine patents on the standard IBM personal desktop computer that serves as a basis for all personal computers and has more than forty patents or patents pending. Now the fellow and vice president of Technical Strategy and Worldwide Operations, Dean’s work has garnered him national and international honors. He was inducted into the National Inventors Hall of Fame in 1997 and has racked up numerous accolades, including being named one of the “Innovators of the 21st Century” in 2000 by U.S. News and World Report (only the third African American to hold this honor); CCG Black Engineering of the Year in 2000 by U.S. News and World Report (only the third African American to hold this honor); CCG Black Engineering of the Year in 2000 by U.S. News and World Report; and the National Institute of Science Outstanding Young Scientist Award; and the US Department of Commerce’s Ronald H. Brown American Innovators Award. He is an Institute of Electrical and Electronics Engineers (IEEE) Fellow and a National Society of Professional Engineers Distinguished Research Engineer. Dean has continued giving back to his alma mater, serving as the keynote speaker for hundreds of potential engineering students from high school across the region during the college’s Engineers Day.

John and Ann Tickle

Mark Dean (BS/EE ’79) was recognized with the Alumni Board of Directors’ highest honor, the Distinguished Alumnus Award. A 1979 electrical engineering graduate, Dean began working with personal computers as a chief engineer at IBM in Boca Raton, Florida, after graduation. As a result of his work, he holds three of the original nine patents on the standard IBM personal desktop computer that serves as a basis for all personal computers and has more than forty patents or patents pending. Now the fellow and vice president of Technical Strategy and Worldwide Operations, Dean’s work has garnered him national and international honors. He was inducted into the National Inventors Hall of Fame in 1997 and has racked up numerous accolades, including being named one of the “Innovators of the 21st Century” in 2000 by U.S. News and World Report (only the third African American to hold this honor); CCG Black Engineering of the Year in 2000 by U.S. News and World Report; and the National Institute of Science Outstanding Young Scientist Award; and the US Department of Commerce’s Ronald H. Brown American Innovators Award. He is an Institute of Electrical and Electronics Engineers (IEEE) Fellow and a National Society of Professional Engineers Distinguished Research Engineer. Dean has continued giving back to his alma mater, serving as the keynote speaker for hundreds of potential engineering students from high school across the region during the college’s Engineers Day.

Hashem Mehrdad “Hash” Hashemian (MS/NE ’76) received the Alumni Professional Achievement Award. A recognized leader in the nuclear industry, Hashemian began his career in 1977 when he co-founded Analysis and Measure Services Corporation (AMS). Formed around technologies he first developed while a graduate student in the engineering college, AMS now has offices in the United States, Australia, Spain, South Korea, and Switzerland.

Under Hashemian’s leadership (he became president and CEO in 1985), AMS has become the pre-eminent supplier of equipment, training, and services for response time testing and on-line calibration of temperature and pressure instrumentation in nuclear power plants. Nearly all of the one hundred and four nuclear power plants currently operating in the United States, and many in Europe and Asia, have employed his services.

Hashemian’s list of professional accomplishments includes three doctoral degrees he earned, and have been translated into Chinese, Japanese, Korean, and Russian. Additional publications include ten book chapters, two hundred conference papers, and more than fifty peer-reviewed articles. He has spoken at nearly one hundred conferences worldwide, and chaired and hosted many more.

In February of 2011, Hashemian was honored at the White House with a Tibbets Award in recognition of the critical role that AMS has played in research and development.

Stefan Duma (BS/MF ’95) received the Alumni Promise Award. Duma was awarded his PhD from the University of Virginia in 1995. Currently, he serves as professor and department head of the Virginia Tech-Wake Forest School of Biomedical Engineering and Sciences. Duma is also the founding director of the Center for Injury Biomechanics—an interdisciplinary research center that combines the Virginia Tech College of Engineering with the Wake Forest University School of Medicine. The center performs research that investigates human tolerance to impact loading as it relates to automobile safety, military restraints, and sports biomechanics.

Duma’s research has established the former Torchbearer as an expert and pioneer in his field and has attracted national attention for his research on impact biomechanics. The New York Times, ABC News, ESPN, Sports Illustrated, CNN, Time, and U.S. News & World Report have covered his research. Under his leadership, the Virginia Tech-Wake Forest School of Biomedical Engineering and Science received the 2011 Brain Trauma Foundation Award from the American Composites Manufacturers Association (ACMA), the composites industry’s largest trade group in the world. Together, the Tickles are a team with personal values that have led them to achieve excellence in all that they do. The Tickles served as chairs for the recent Campaign for Tennessee. John Tickle also serves as a member of the UT Alumni Association Board of Governors, the UT Research Foundation’s Board of Advisors, and the Wharton Society.

Hashem Mehrdad “Hash” Hashemian (MS/NE ’76) received the Alumni Professional Achievement Award. A recognized leader in the nuclear industry, Hashemian began his career in 1977 when he co-founded Analysis and Measure Services Corporation (AMS). Formed around technologies he first developed while a graduate student in the engineering college, AMS now has offices in the United States, Australia, Spain, South Korea, and Switzerland.

Under Hashemian’s leadership (he became president and CEO in 1985), AMS has become the pre-eminent supplier of equipment, training, and services for response time testing and on-line calibration of temperature and pressure instrumentation in nuclear power plants. Nearly all of the one hundred and four nuclear power plants currently operating in the United States, and many in Europe and Asia, have employed his services.

Hashemian’s list of professional accomplishments includes three doctoral degrees he earned, and have been translated into Chinese, Japanese, Korean, and Russian. Additional publications include ten book chapters, two hundred conference papers, and more than fifty peer-reviewed articles. He has spoken at nearly one hundred conferences worldwide, and chaired and hosted many more.

In February of 2011, Hashemian was honored at the White House with a Tibbets Award in recognition of the critical role that AMS has played in research and development.

Stefan Duma (BS/MF ’95) received the Alumni Promise Award. Duma was awarded his PhD from the University of Virginia in 1995. Currently, he serves as professor and department head of the Virginia Tech-Wake Forest School of Biomedical Engineering and Sciences. Duma is also the founding director of the Center for Injury Biomechanics—an interdisciplinary research center that combines the Virginia Tech College of Engineering with the Wake Forest University School of Medicine. The center performs research that investigates human tolerance to impact loading as it relates to automobile safety, military restraints, and sports biomechanics.

Duma’s research has established the former Torchbearer as an expert and pioneer in his field and has attracted national attention for his research on impact biomechanics. The New York Times, ABC News, ESPN, Sports Illustrated, CNN, Time, and U.S. News & World Report have covered his research. Under his leadership, the Virginia Tech-Wake Forest School of Biomedical Engineering and Science received the 2011 Brain Trauma Foundation Award from the American Composites Manufacturers Association (ACMA), the composites industry’s largest trade group in the world. Together, the Tickles are a team with personal values that have led them to achieve excellence in all that they do. The Tickles served as chairs for the recent Campaign for Tennessee. John Tickle also serves as a member of the UT Alumni Association Board of Governors, the UT Research Foundation’s Board of Advisors, and the Wharton Society.

Stefan Duma

Charles Wharton (BS/BE ’85) was a recipient of the Alumni Service Award. Wharton’s service to the university began even before he earned his degree. As a member of the Student Government Association and the Kappa Alpha fraternity, he participated in service projects and worked to improve the on-campus student experience.

Shortly after graduating, Wharton began giving back to UT—a habit that has continued for more than four decades and culminated with his induction into the Torchbearer and Legacy societies. Even more than his generous financial gifts, it is Wharton’s personal dedication and re-nonsense leadership that will leave the deepest mark of the quality of the university.

In 1993, Wharton was invited to join the UT Development Council and he has continued to serve as a member of that group for twenty years. He is also a member of the UT College of Veterinary Medicine Board of Advisors, the UT Research Foundation’s Board of Directors, the UT Alumni Association Board of Governors, the UT Foundation board, and the UT Board of Trustees.

Today, Wharton remains deeply committed to fulfilling the work he began with his late wife, Julia, who shared his dedication to the College of Veterinary Medicine.
COE Hosts 2012 Student & Donor Appreciation Luncheon

The University of Tennessee College of Engineering hosted the 2012 Student & Donor Appreciation Luncheon at the Knoxville Museum of Art on Thursday, September 13. Guests included one hundred thirty-five administrators, faculty, staff, student recipients of college-wide scholarships, donors, and special guests who all enjoyed a delicious luncheon and an opportunity to get acquainted.

Dean Wayne Davis introduced the keynote speaker, Mr. Dwight Hutchins. A UT alumnus with a bachelor's degree in chemical engineering, Hutchins is currently the Senior Executive, Global Managing Director, Health and Public Strategy with Washington D.C.-based company Accenture. Hutchins leads project teams around the world, helping clients define their strategy, reorganize, increase effectiveness, reduce costs, and transform their operations to become high performing public sector organizations. In addition to his BS degree, Hutchins received an MPA from the John F. Kennedy School of Government at Harvard University and a MBA in marketing from the J.L. Kellogg Graduate School of Management at Northwestern University.

Morgan Baltz, a senior major in chemical engineering, was the student speaker. Baltz is the president of the student chapter of the American Institute of Chemical Engineers and served as chair of the 2012 Engineers Day as part of her role in Tau Beta Pi, the engineering honors society.

ISE Professor and Student Collaborate on Grand Prize Winning National App Contest Project

A team comprised of members of the Department of Industrial and Systems Engineering (ISE) and the Construction Industry Research and Policy Center (CIRPC) won the “Safety in the Workplace Innovator Award” grand prize of $15,000 in the Worker Safety and Health App Challenge, a national competition created by the Department of Labor.

ISE professor Dr. Xueping Li and graduate student Alison Yu Huang collaborated with CIRPC members to create the interactive website “Working Safely Is No Accident,” (http://ilab.engr.utk.edu/cirpc/index.html) aimed at teaching workers ages 13-24 about factors that increase workplace safety. The site features a game in which users evaluate relative probabilities of interesting events. The concept is then applied to workplace safety, with additional links to work-safety sources.

The goal of the contest was to encourage entities to build tools to educate the public about safety in the workplace.

For more information about the contest, visit the Department of Labor's website at http://workersafetyhealth.challenge.gov.

Rebekah Patton ‘14
John W. Prados Scholarship Recipient

“I am so thankful to be a recipient of the John W. Prados Chemical Engineering Co-op scholarship. As required by the scholarship, I am majoring in chemical engineering and minoring in business administration while simultaneously completing a co-op. However, this scholarship has reduced my financial burdens, allowing me to focus more on the rigorous engineering curriculum and to pursue these leadership and service positions on campus. I have been blessed with the opportunity to serve the University of Tennessee as a Resident Assistant, College of Engineering Ambassador, and Student Alumni Associate. I would not have been able to pursue these activities if I had not received financial support through this scholarship program.

I am incredibly grateful for this scholarship, not only for the monetary relief but also for the inspiration with which it has provided me. Without this scholarship, I would have never thought to pursue a business minor, but I have found that the business minor, in combination with my co-op, has greatly enhanced my education. I feel that I am now a more well-rounded individual with a better understanding of my discipline and the world around me. Following graduation, I plan on continuing my career in the chemical industry, eventually transitioning into management and pursuing an MBA. Overall, becoming a John W. Prados scholar has given me the opportunity to gain leadership skills both on-campus and in the ‘real world,’ and it helped me to find my passion in industry, and set me up for a successful career doing what I love.”

Keynote speaker Dwight Hutchins; student speaker Morgan Baltz; UT Chancellor Dr. Jimmy G. Cheek; and COE Dean Wayne T. Davis at the 2012 Student & Donor Appreciation Luncheon.

COE Dean Wayne Davis addresses the crowd at the 2012 Student & Donor Appreciation Luncheon.

The Working Safely Is No Accident Web Site home page.
HITES Program Receives National Recognition

The College of Engineering's High School Introduction to Engineering Systems (HITES) program has been selected by the National Association of Multicultural Engineering Program Advocates (NAMEPA) as its 2013 Outstanding Pre-College/Community Organization Award recipient.

HITES offers a one-week residential experience for rising eleventh and twelfth grade students. The program provides an introduction into engineering, college life preparation, and showcases the applications of math and science. The program serves as a model for research institutions and minority-serving institutions to increase minority engineering enrollment. HITES was recognized at the 34th Annual NAMEPA National Conference in West Lafayette, Indiana, in February.

Since the beginning of 2001, HITES has provided the experience to over two hundred high school juniors and seniors. In 2011, 86 percent of seniors decided to major in engineering once they enrolled in engineering. The NAMEPA Outstanding Pre-College/Community Organization Award was established to honor pre-college programs, community organizations, or individuals who have been active in increasing the participation of minorities in engineering disciplines at the pre-college or community level. NAMEPA is a national network of educators and representatives from industry, government, and nonprofit organizations who share a common commitment to improving the recruitment and retention of African Americans, Hispanics, and American Indians earning degrees in engineering. For more information about NAMEPA, visit http://www.namepa.org.

COE Emeritus Professor Receives Honor from India

Dr. Bimal Bose, Emeritus Professor of Electrical Engineering and the former Condra Chair of Excellence in Power Electronics, was honored with the Doctor of Science (Honoris Causa) degree from the President of India in the annual convocation of Bengal Engineering and Science University (BESU) on January 19, 2013, in recognition of his outstanding contribution in engineering and his dedicated service to the nation.

Events & Awards

HITES Program Receives National Recognition

Events & Awards

COE Celebrates 100th Engineers Day!

On Thursday, October 25, 2012, close to one thousand two hundred students from fifty-five different high schools (and some home-schooled students) traveled to UT’s Knoxville campus to explore and learn about the various aspects of engineering through discussions, project demonstrations, and exhibits prepared by UT engineering student clubs and societies. Participants experienced an overview of the different engineering disciplines and saw examples of how an engineer’s work impacts daily life. Mark Cox, Vice President-Worldwide Engineering and Construction for Eastman Chemical Company in Johnson City, Tennessee, served as keynote speaker. He holds a bachelor’s degree in chemical engineering from UT and an MBA from Northwestern University’s Kellogg School of Management.

Engineers Day Keynote Speaker Mark Cox.

JIAM Hosts Open House

The Joint Institute for Advanced Material (JIAM) hosted an open house on Wednesday, February 6, 2013, to formally open the new JIAM Electron Microscopy Center. The two new powerful Zeiss electron microscopes are among the most advanced in the world, and will open up exciting new research and teaching options for faculty and students. Currently housed in room 307 in the Science and Engineering Research Facility (SERF), the microscopes will eventually be moved to the new JIAM building on the university’s Cherokee Farm Campus when it opens in 2014. Guests enjoyed refreshments and a tour of the laboratory as well as discussion about the capabilities of the new equipment. The open house was followed by a special lecture, “Atoms Under the Microscope” by Dr. Stephen J. Pennycook. Pennycook is an Oak Ridge National Laboratory (ORNL) Corporate Fellow as well as a joint UT-ORNL faculty member in the Department of Materials Science and Engineering and an adjunct professor with the Department of Physics and Astronomy at Vanderbilt University.

JIAM Electron Microscopy Center. The two new powerful Zeiss electron microscopes are among the most advanced in the world, and will open up exciting new research and teaching options for faculty and students.

Dr. Stephen Pennycook provides insights during his lecture at the JIAM open house in February.

Students collaborate on experiments in the HITES program.

COE Emeritus Professor Receives Honor from India

Dr. Bimal Bose, Emeritus Professor of Electrical Engineering and the former Condra Chair of Excellence in Power Electronics, was honored with the Doctor of Science (Honoris Causa) degree from Shri Pinarub Muhitep, the president of India at the 5th Annual Convocation of Bengal Engineering and Science University (BESU).

Dr. Bimal Bose (left) receives his honorary Doctor of Science degree from Shri Pinarub Muhitep, the president of India at the 5th Annual Convocation of Bengal Engineering and Science University (BESU).
Events & Awards

The College of Engineering 2012 Homecoming Alumni Barbeque on The Hill took place on Saturday, November 3, on the engineering campus. A group of two hundred twenty-five including alumni, friends, and retired faculty enjoyed a barbeque lunch catered by Dead End BBQ, a Knoxville restaurant owned by an engineering alumnus. The event also featured student organization demonstrations and games for both adults and children. Alumni and their guests also had an opportunity to tour the new Min H. Kao Electrical Engineering and Computer Science Building.

The event was followed by an exciting football game, with a UT Volunteers victory over Troy.

Please save the date for this year’s Homecoming, which is scheduled for November 9th preceding the UT-Auburn football game. More details will be available in August online at www.volsconnect.com and in the fall issue of Tennessee Engineer.

HOMECOMING Events & Awards

TENNESSEE ENGINEER • engr.utk.edu

Alumni News

The US Small Business Administration (SBA) has named Knoxville-based Management Solutions, LLC (MSLLC), owned by COE graduate Misty Mays (BS/EE ’88) the National Subcontractor of the Year. The award was announced at a breakfast event in May 2012 as part of SBA’s National Small Business Week celebration in Washington, D.C. Mays’ husband, Sam Mays (BS/CE ’85, MS/Engr ’87) who is vice president of MSLLC, is also an engineering alumnus. Management Solutions was selected from among ten regional subcontractors of the year. The award honors small businesses that provide outstanding goods and services to the federal government as subcontractors. The company was nominated by the Small Business Programs Office of Oak Ridge National Laboratory (ORNL) for its work in project management, project controls, and related IT and administrative support.

Governor Bill Haslam also recognized Mays in August 2012 with a Certificate of Appreciation for the leadership and business successes that she and her company have demonstrated.

In addition to the Knoxville headquarters, MSLLC has satellite offices in Louisville, Kentucky, and Atlanta, Georgia, and has on-site staff at sites in Tennessee, Kentucky, Missouri, Illinois, Indiana, and Ohio. The company was recently named to the Inc 5000 list of fastest growing private companies in the United States.


Mike Wyre (BS/IE ’91) Vice President and co-owner of Lose & Associates in Nashville, Tennessee, was recently awarded the Outstanding Planning Award from the Tennessee Chapter of the American Planning Association (TAPA) on behalf of his firm. The award recognizes the exceptional work of Lose & Associates on the Greensboro North Transit Ready Development in Gallatin, Tennessee. Greensboro North is one of the first communities in Tennessee designed around the convenience of a transit station. The Nashville Metropolitan Organization has identified the Gallatin site as one of thirteen proposed station sites as part of its Northeast Corridor Plan.

Dr. Jamis Anderson Porter (BS/NE ’08, MS/NE ’09, PGD/NE ’12), the first female African-American student to graduate from the University of Tennessee with a PhD in nuclear engineering, participated in the “Rising Stars in Nuclear Science and Engineering” Symposium on March 5, 2013, at the Massachusetts Institute of Technology. The event focused on current research in nuclear science and engineering and related.

Tenn. U.S. Senators Lamar Alexander (left) and Bob Corker (right) congratulate Misty Mays of Management Solutions, LLC. (right); all with the U.S. Small Business Administration, present the National Subcontractor of the Year Award to Misty Mays of Management Solutions, LLC. From Left: Mary McClendon Vavra, Lose & Associates; Lee Zoller, Green & Little; Mayor Jo Ann Graves, City of Gallatin; Anthony Holt, Sumner County Executive; and Mike Wrye, Lose & Associates at the award presentation.

Tennessee’s U.S. Senators Lamar Alexander (left) and Bob Corker (right) congratulate Misty Mays of Management Solutions, LLC. (right); all with the U.S. Small Business Administration, present the National Subcontractor of the Year Award to Misty Mays of Management Solutions, LLC.

TENNESSEE ENGINEER • engr.utk.edu

Alumni News

The US Small Business Administration (SBA) has named Knoxville-based Management Solutions, LLC (MSLLC), owned by COE graduate Misty Mays (BS/EE ’88) the National Subcontractor of the Year. The award was announced at a breakfast event in May 2012 as part of SBA’s National Small Business Week celebration in Washington, D.C. Mays’ husband, Sam Mays (BS/CE ’85, MS/Engr ’87) who is vice president of MSLLC, is also an engineering alumnus. Management Solutions was selected from among ten regional subcontractors of the year. The award honors small businesses that provide outstanding goods and services to the federal government as subcontractors. The company was nominated by the Small Business Programs Office of Oak Ridge National Laboratory (ORNL) for its work in project management, project controls, and related IT and administrative support.

Governor Bill Haslam also recognized Mays in August 2012 with a Certificate of Appreciation for the leadership and business successes that she and her company have demonstrated.

In addition to the Knoxville headquarters, MSLLC has satellite offices in Louisville, Kentucky, and Atlanta, Georgia, and has on-site staff at sites in Tennessee, Kentucky, Missouri, Illinois, Indiana, and Ohio. The company was recently named to the Inc 5000 list of fastest growing private companies in the United States.


Mike Wyre (BS/IE ’91) Vice President and co-owner of Lose & Associates in Nashville, Tennessee, was recently awarded the Outstanding Planning Award from the Tennessee Chapter of the American Planning Association (TAPA) on behalf of his firm. The award recognizes the exceptional work of Lose & Associates on the Greensboro North Transit Ready Development in Gallatin, Tennessee. Greensboro North is one of the first communities in Tennessee designed around the convenience of a transit station. The Nashville Metropolitan Organization has identified the Gallatin site as one of thirteen proposed station sites as part of its Northeast Corridor Plan.

Dr. Jamis Anderson Porter (BS/NE ’08, MS/NE ’09, PGD/NE ’12), the first female African-American student to graduate from the University of Tennessee with a PhD in nuclear engineering, participated in the “Rising Stars in Nuclear Science and Engineering” Symposium on March 5, 2013, at the Massachusetts Institute of Technology. The event focused on current research in nuclear science and engineering and related.

Tenn. U.S. Senators Lamar Alexander (left) and Bob Corker (right) congratulate Misty Mays of Management Solutions, LLC. (right); all with the U.S. Small Business Administration, present the National Subcontractor of the Year Award to Misty Mays of Management Solutions, LLC.
1970s

Ed Mahoney (BS/CE '77, MS/CE '78) was named to the office of engineering and architectural firm headquartered in Dallas, Texas.

Victor Mills (BS/ME '85) has joined the Knoxville office of engineering and architectural firm Barge, Waggoner, Sumner, and Cannon Inc. in the Industrial and Building Services Group as manager of mechanical services.

2000s

2000s: Andrew Howe (BS/CE '05, MBA/BusAdm '17) has joined the Chattanooga office of Barge, Waggoner, Sumner, and Cannon Inc. as a project engineer on the expanding Water Services Team.

Memorials

John Eldon Atchley (BS/IE '66) died on November 14, 2012. He was a resident of Kingsport, Tennessee.

Charles L. Chavis (BS/EE '49) died on September 10, 2012. He was a resident of Memphis, Tennessee.

David Stuart Fonde (BS/EE '52) died on December 2, 2012. He was a resident of Spring Hill, Tennessee.

James Howard French (BS/CE '83, MS/CE '86) died on November 8, 2012. He was a resident of San Diego, California.

Mark W. Gregory (BS/CE '66) died on June 16, 2012. He was a resident of Lakeland, Tennessee.

Conrad Witten Hale (BS/CE '48) died on September 30, 2012. He was a resident of Morristown, Tennessee.

Dr. Dennis Wayne Hetzner (PhD/ME '80) died on May 7, 2012. He was a resident of Baltimore, Maryland.


Thomas Hawkins Landrum (BS/EE '47) died on August 31, 2012. He was a resident of Oxford, Mississippi.

1980s

Alumni

Jeff Odum (BS/CE '77, MS/CE '78) has joined the Knoxville Extreme Makeover: Home Edition program.

Victor Mills (BS/ME '85) has joined the Knoxville office of engineering and architectural firm Barge, Waggoner, Sumner, and Cannon Inc. in the Industrial and Building Services Group as manager of mechanical services.

2000s

2000s: Andrew Howe (BS/CE '05, MBA/BusAdm '17) has joined the Chattanooga office of Barge, Waggoner, Sumner, and Cannon Inc. as a project engineer on the expanding Water Services Team.

Special Recognitions

Dr. Igor Alexeff, an emeritus professor in the Department of Electrical Engineering and Computer Science, died on October 25, 2012. He had a lifelong enthusiasm and talent for theoretical mathematics, computer science, and invention. At the age of 17, he was one of forty finalists selected to present their projects in Washington for the annual Science Talent Search, which drew over sixteen thousand contestants from across the nation. He was awarded a scholarship, and finished in the top twelve. Later, he was awarded a full college scholarship, and he chose to attend Harvard University, where he graduated with honors with a BA in Physics in 1952. He received his PhD in nuclear physics from the University of Wisconsin in 1959, followed by a postdoctoral Fellowship from the NSF, which he chose to complete at the University of Zurich in Switzerland. After completing his postdoc work, he was offered a position at ORNL, where he worked on controlled implosion and target design until 1970, when he accepted a position with the University of Tennessee, where he taught and worked in industrial plasma engineering. Alexeff retired from teaching in 1996, but he retains his office and research lab, and continued his work, until 2011. He was co-founder of the IEEE NFFS, and a lifetime Fellow of the IEEE, and Fellow of APS.

Kenneth Edwin Boring (BS/CE '50, MS/ME '53, PhD/ME '59) died on October 8, 2012. He was a resident of Decherd, Tennessee.

Robert Lent Williams (BS/EE '60) died on August 2, 2012. He was a resident of Cocke, Tennessee.

In 1990 he established the Kenneth E. Boring Civil Engineering Cooperative Scholarship Endowment with a gift $250,000. He hoped his endowment would encourage students to fully evaluate the many opportunities available in the aggregate industry.

“I am truly grateful for being a recipient of the Boring Scholarship in the past. I can honestly say it was beneficial to driving my passion to continue onto graduate school and form the engineer I am today,” James Ensley, graduate student in civil engineering stated. James held the scholarship in-112.

The Boring Scholarship has helped twenty-six engineering students to date. Boring’s support helps students recognize that success is earned.

“Ken kindly emphasized to me the importance of hard work and sacrifice in entrepreneurial success,” said Mark Adams, senior in civil engineering after driving with Mr. and Mrs. Boring last year.

Boring’s legacy will live on at UT through his love for engineering shown in his philanthropy.
*The University of Tennessee, Knoxville*
*College of Engineering*
207 Perkins Hall
Knoxville, TN 37996-2012

**Calendar**

**Spring 2013**
- Classes End: Apr 26
- Study Day: Apr 29
- Exams: Apr 30, May 1-3, 6-7
- Graduate Hooding: May 9
- Commencement: May 8-11
- Official Graduation Date: May 11

**Fall 2013**
- Classes Begin: Aug 21
- Labor Day: Sept 2
- 1st Session Ends: Oct 9
- 2nd Session Begins: Oct 10
- Fall Break: Oct 17-18
- Graduation Hooding: Dec 12
- Commencement: Dec 13
- Official Graduation Date: Dec 13

**Contact Information**

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

**Departments**
- Chemical & Biomolecular: 974-2421
- Civil & Environmental: 974-2503
- Electrical & Computer Science: 974-3461
- Industrial & Information: 974-3333
- Materials Science: 974-5336
- Mechanical, Aerospace & Biomedical: 974-2093
- Nuclear: 974-2525

**Administration & Programs**
- Communications: 974-0533
- Dean's Office: 974-5321
- Development: 974-2779
- Engineering Advising Services: 974-4008
- Engineering Diversity Programs: 974-1931
- Engineering Fundamentals: 974-9810
- Engineering Professional Practice: 974-5323
- Engineering Research: 974-8360
- Engineering Student Affairs: 974-2454
- Finance & Admin. Affairs: 974-5279

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

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

E01-1301-013-033-13 4/13