The John D. Tickle Engineering Building: Bridge to a Bright Future for UT Engineering
Dean's Message

Welcome to our latest issue of Tennessee Engineer. It is exciting to capture in print a summary of our yearlong celebration of the 175th anniversary of offering engineering courses at the University of Tennessee. This issue includes features on the opening/ribbon cutting of the new one hundred ten thousand sq ft John D. Tickle Engineering Building this fall (housing the Department of Civil and Environmental Engineering and the Department of Industrial and Systems Engineering), the celebration of the 40th anniversary of the college’s diversity programs, and the 175th anniversary event which were all held on October 4. We are deeply appreciative to John and Ann Tickle for the investments that they have made and continue to make within our college and university. They, along with others who helped satisfy the funds for the building, as well as numerous other alumni and friends who have made investments in other buildings and programs, have provided a foundation for our college for years to come. We sincerely thank each and every one of you for helping us achieve our mission of providing the highest quality education to our students.

Based on the outstanding growth of our college, the strong demand for engineering graduates, the quality of our students, and the need for faculty/staff growth to meet those demands, FY13 was a pivotal year for our college during which the university administration submitted a proposal to the governor’s office to provide a matching request for recurring funds to be provided to the chancellor’s office to grow an additional twenty-five to thirty percent of the college, and from the UT Foundation (development) over the next five years. The state provided a $3 million increase in the state budget effective July 1, 2013 for the college to address faculty/staff needs and to provide the opportunity for the college to continue our forward momentum. In anticipation of these funds, the college was able to move forward with searches for new faculty and staff hires in FY13, and the need for faculty/staff growth to meet those demands, FY13 was a pivotal year for our college during which the university administration submitted a proposal to the governor’s office to provide a matching request for recurring funds to be provided to the college to grow an additional twenty-five to thirty percent over the next five years. The state provided a $3 million increase in the college’s base budget effective July 1, 2013. This commitment is being matched by combined funds from the chancellor’s office, the college, and from the UT Foundation (development) over the next several years to allow the college to continue its forward momentum. In anticipation of these funds, the college was able to move forward with searches for new faculty and staff hires in FY13, many of who are now part of the College of Engineering team. We feature several of our most recently hired faculty in our newsletter. These commitments, which occurred in FY13, have provided us with the opportunity to initiate searches for twenty two new faculty lines starting this fall, ranging from lecturers to chaired faculty positions.

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 challenges:

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 that 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.

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Visit the College of Engineering web site at
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The John D. Tickle Engineering Building is Dedicated

October 4, 2013

On the evening prior to the dedication ceremony of the John D. Tickle Engineering Building, an elegant pre-dedication affair took place on the seventh floor of the Neyland Stadium East Skybox, a location that boasted a magnificent view of the Tickle building, which faces Neyland Drive, on a beautiful fall day. Speakers at the event included Chancellor Cheek, UT President Joe DiPietro, civil and environmental engineering student John Scobey, Dean Davis, and Tickle.

“This building is a beautiful addition to campus,” Tickle said in his remarks during the event. “This is a constantly forward-moving campus, and it’s going to continue moving forward.”

Guests at the dedication event included three former UT presidents: Ed Boling, Joe Johnson, and Jan Simek, as well as Chancellor Emeritus Bill Snyder, Congressman John J. Duncan, and Senator Becky Duncan Massey; and representatives from professional engineering organizations including Jim Froula, executive director emeritus, and Curt Gomulinski, executive director of Tau Beta Pi, the national engineering honor society, which is housed on the UT campus in the Dougherty Engineering Building; and Department of Industrial and Systems Engineering Head Dr. John Kobza with Katherine Kobza.

On Friday, October 4, 2013, Tickle helped dedicate the new, state-of-the-art engineering building named in his honor in front of a crowd of over five hundred University of Tennessee students, faculty, and staff as well as engineering donors and supporters from around the country. The event took place outside of the building, which faces Neyland Drive, on a beautiful fall day. In his remarks, Davis also recognized three couples who provided significant funding for the facility: Chad Holiday, chairman of the Bank of America and the former CEO of DuPont, and his wife Ann; Jim Gibson, former CEO of Pressure Tube Manufacturing LLC, and his wife Jill, and Eric Zeanah, president of American Accessories International, a Knoxville-based company, and his wife Elaine.

The Tickle Building has twenty-four laboratories, three conventional classrooms, one lecture hall, three student work spaces, and sixty-three faculty and graduate student offices. The laboratories include a high-bay area for structural testing and asphalt road surface testing as well as a geotechnical laboratory. The three classrooms promote collaborative learning through the use of moveable chairs and Smart Boards.

“Building this continues to fuel the excitement about our research and teaching programs,” Davis said. “Our college always aspires to be better and better. The Tickles’ continual support of and belief in UT allows us to keep moving forward and create initiatives that will benefit students for generations to come.”

The John D. Tickle Building was designed by Grieve Associates Architects of Knoxville, working in association with three engineering firms: Cannon & Cannon Inc. and IC Thomasson Associates Inc., both of Knoxville, and Ross Bryan Associates Inc. of Nashville. Messer Construction of Knoxville was the general contractor.

For more information about the building, visit engr.utk.edu/tickle.
A demonstration in the Tickle building’s civil and environmental engineering concrete lab.

COE staff members enjoy the networking luncheon after the Tickle building dedication.

Dean of Engineering Wayne Davis (far right) and Chancellor Jimmy G. Cheek (right) present a special gift to Ann Tickle (far left) and John Tickle (left).

TENNESSEE ENGINEER • engr.utk.edu
Dr. Sudarsanam Suresh Babu, an authority in the production, design, and performance of transforming materials into parts, has been named the eleventh UT-ORNL Governor’s Chair. He has also received a PhD in materials science from Cambridge University.

Babu received a bachelor’s degree in engineering from the PSG College of Technology in Coimbatore, India. Babu has also served in multiple roles at ORNL, including as a postdoctoral scholar, research professor, and member of both the research and development staff and the senior research and development staff. Babu’s research helps widen the scope of advanced manufacturing and additive manufacturing, also known as 3D printing, which is the process of adding successive layers to make a three-dimensional solid object from a digital model.

As Governor’s Chair, Babu will lead efforts to integrate the University of Tennessee–Oak Ridge National Laboratory (UT-ORNL) research and design activities between UT, ORNL, and industry. In collaboration with industry, faculty, postdoctoral scholars, and researchers at ORNL’s Manufacturing Demonstration Facility, he will conduct basic and applied research focusing on advanced materials, energy-efficient design and development, and understanding a product’s lifecycle and the implications of design on the product’s purpose.

Babu received a bachelor’s degree in engineering from the PSG College of Technology in 1985, a master’s degree in technology from the Indian Institute of Technology in 1987, and his doctorate in materials science from Cambridge University.

Ramesh serves as Governor’s Chair for Nanomaterials Engineering, based in the Department of Materials Science and Engineering. Ramesh received a PhD in materials science from UC Berkeley in 1987. He joined UC Berkeley in 2004 after several years as a distinguished scholar, research professor at the University of Maryland and a member of the technical staff at Bell Communications Research.

Ramesh’s research is important to the development of the next generation of thin film technology used in solar panels and computer memory. His work advances solar and information storage technology by improving energy transfer while making products thinner.

His breakthrough research has led to a new generation of computer memory devices that can retain stored information even when not powered, termed Ferroelectric Random Access Memories. Ramesh was elected to the National Academy of Engineering in 2011 and is a recipient of the 2001 Humboldt Senior Scientist Prize. He has served in multiple roles at ORNL, including as a postdoctoral scholar, research professor, and member of both the research and development staff and the senior research and development staff.

Ramesh has been a driving force in moving innovation to the marketplace, most recently at SunShot and as director of the Berkeley Nanoscience and Nanotechnology Institute and the Singapore-Berkeley Research Institute for Sustainable Energy. Prior to that, he served in multiple roles at ORNL, including as a postdoctoral scholar, research professor, and member of both the research and development staff and the senior research and development staff.

Dr. Steve Zinkle, an authority in the production, design, and performance of transforming materials into parts, has been named the twelfth UT-ORNL Governor’s Chair. He has also received a PhD in materials science and engineering from the University of Wisconsin, Madison.

The UT-ORNL Governor’s Chair Program is funded by the state of Tennessee, the University of Tennessee–Oak Ridge National Laboratory (ORNL) Governor’s Chair Program, and the US Department of Energy (DOE) and other federal agencies to advance national priorities in science, health, education, and national security. A nonprofit corporation and federal contractor, ORAU manages the Oak Ridge Institute for Science and Education for the DOE.
Dr. John E. Kobza

Dean Wayne T. Davis has recently named two new department heads for the College of Engineering.

Dr. John E. Kobza, previously the interim Department Chair of Industrial Engineering and Senior Associate Dean at the Edward E. Whiteacre College of Engineering at Texas Tech University in Lubbock, Texas, is now the professor and department head of the Department of Industrial and Systems Engineering (ISE).

Kobza received his BS degree in electrical engineering from Washington State University, his MS degree in electrical engineering from the University of Virginia, and his PhD in industrial and systems engineering from Virginia Polytechnic Institute and State University.

He began his career as an assistant professor in the Department of Industrial and Systems Engineering at Virginia Polytechnic Institute and State University, then joined the Department of Industrial Engineering at Texas Tech as an associate professor and was promoted to full professor in 2006. He was the associate department chair from 2006-2008 and was named senior associate dean in 2009. He served as interim department chair beginning in 2012. Kobza also was an instructor for the Department of Industrial Engineering at Kaisersat University in Bangalore, India, in 2004 and was a visiting professor in the Department of Systems Engineering at the US Military Academy at West Point from 2005-2006.

Kobza received the Texas Tech Alumni Association New Faculty Award in 2003; he was chosen as one of three researchers to represent Texas Tech at “Research Education for Texas,” an engineering and technology event in Austin in 2003; and he was inducted into the Texas Tech University Teaching Academy in 2002.

He also received the Texas Tech Industrial Engineering Professor of the Year Award, presented by the Texas Tech chapter of the Institute of Industrial Engineers, in 2000. Kobza has provided expertise for numerous media reports and articles with outlets including Fox News, Dateline NBC, the British Broadcasting Corporation, National Public Radio, The Daily Mail, the Sunday Times, the London Times, and the Daily Mail.

He is a Fellow of the Institute of Industrial Engineers, the Institute for Operations Research and the Management Sciences, the Institute of Electrical and Electronic Engineers Communications Society, and the American Society for Engineering Education. He is a licensed Professional Engineer in the state of Texas. Kobza received his BS degree in electrical engineering from Clemson University, and his PhD in industrial and systems engineering from Virginia Polytechnic Institute and State University.

Dr. John E. Kobza

Dr. John E. Kobza

ECE Professor Leads Two High Profile Supercomputer Projects

Dr. Jack Dongarra, a distinguished professor in computer science, is designing software that will be critical in making the next generation of supercomputers operational. Supercomputers have been tackling the world’s most pressing challenges, from sequencing the human genome to predicting climate changes, for years. So far, though, the power of these machines has been limited. The next generation of supercomputers, called exascale (a quintillion floating point operations per second), holds promise for solving some of the most demanding problems in numerical modeling.

Dongarra also was an instructor for the Department of Industrial Engineering and Senior Associate Dean at the Edward E. Whiteacre College of Engineering (MABE).

Dongarra received his BS, MS, and PhD degrees, all in mechanical engineering, from Pennsylvania State University.

He began his career as an assistant professor and research associate in the Department of Mechanical Engineering at Pennsylvania State University. He was promoted to associate professor a year early in 2007. Then, in 2010, he was appointed as the Condra Chair Chair of Excellence in Energy Storage and Conversion and a professor in mechanical engineering at the University of Tennessee, through a new department head of the Department of Mechanical, Aerospace, and Biomedical Engineering (MABE).

Dongarra received his BS degree in electrical engineering from Oak Ridge National Laboratory (ORNL) and has a joint courtesy faculty position with the Department of Chemical and Biomolecular Engineering.

Dongarra was awarded a National Science Foundation Early Career Development (CAREER) Award in 2007 to support his research on fuel cells. He is the author of the textbook Fuel Cell Engineering, over one hundred research publications, and holds several patents. His research work has been supported by numerous industrial and government agencies.

In 2013, March was named as a UT College of Engineering Research Fellow. He received the Premier Teaching Award in 2009 and the Outstanding Teaching Award in 2006 from the Penn State Engineering Society.

March also serves as the executive vice president of the International Society for Hydrogen Energy and is an associate editor and a former member of the editorial board of The International Journal of Hydrogen Energy.

March is a Fellow of the American Institute of Mechanical Engineers. He is also a member of the Electrochemical Society and the American Society for Engineering Education.

Both appointments were effective August 1, 2013.

UTRF President and CEO Dave Washburn (left) and Stephen Wheeley (right) present J. Douglas Birdwell and Tsewei Wang with the B. Otto and Kathleen Birdwell Award for Excellence in Technology Transfer to Dr. J. Douglas Birdwell, a professor in the Department of Electrical Engineering and Computer Science, and Dr. Tsewei Wang, an associate professor emeritus in the Department of Chemical and Biomolecular Engineering. The award is a cash prize given to the member of the UT faculty who has had a major impact on the tech transfer success of the university.

Birdwell was a faculty member at UT since 1978 and is currently the director of the Laboratory for Information Technology. He has over one hundred publications and has directed over $10 million in sponsored research projects at UT.

Wang joined the College of Engineering faculty in 1989. She has authored over fifty publications, presentations, and peer reviewed journal articles and has directed $7 million in sponsored research projects at UT. Wang retired from UT in December of 2012 but continues to be active with her research team.

Together, Birdwell and Wang have twenty-three issued patents and licensing agreements on their technologies have generated $1,124,012 in revenue.

UTRF, the University of Tennessee Research Foundation, is a non-profit 501c3 organization that manages sponsored research activities at UT. In addition to PaRSEC, Dongarra is part of an international group working to evaluate potential reward and obstacles to the introduction of more complex supercomputer designs.

The current generation of supercomputers has processor counts in the millions. The exascale computers will have roughly a billion processors. In addition, the general makeup of the machines will differ dramatically through the use of multiple central processing units and hybrid systems to overcome barriers limiting today’s supercomputers. These barriers include large amounts of heat and power consumption, leakage, voltage, and a limited bandwidth of data through the pins on a single chip.

The goal is to reach exascale by 2020. There are for the next generation supercomputers to provide a broad range of industries, including energy, pharmaceutical, and transportation, the ability to more quickly engineer superior new products, which will translate into better consumer technology.

In addition to PaRSEC, Dongarra is part of an international group working to evaluate potential reward and obstacles to exascale supercomputers. Workshops called Oda and Extreme-Scale Computing, hosted by the National Science Foundation, are held around the world annually. To learn more, visit http://www.top500.org.
A major gift from two University of Tennessee graduates has established the first-ever joint faculty positions between the colleges of engineering and business administration.

A gift from Ralph (GS/EE ’70, MBA ’75) and Janet Heath through Chanaka Edirisingne, professor of statistics, operations, and information engineering, is the fellow in the College of Engineering. The Heath Fellow program provides a unique opportunity to identify and encourage interaction and collaboration between our two colleges,” said Wayne Davis, dean of the College of Engineering.

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NE Department Head to Serve as NEDHO Vice Chair

Dr. J. Wesley Hines, the Charles P. Postelle Distinguished Professor in Nuclear Engineering and head of the UT Department of Nuclear Engineering, has been named the vice chair/chair elect for the Nuclear Engineering Department Head Organization (NEDHO). NEDHO is an alliance of heads (chairs) of nuclear engineering departments and programs in North America. NEDHO was formed to provide a forum for discussion, coordination, and collaboration on issues facing academic programs emphasizing nuclear and radiological science, engineering, and technology. Hines will serve as vice chair beginning in 2014 and will be the chair of the organization in 2015.

EECS Professor Wins 2012 IBM Faculty Award

Dr. James Plank, a professor in the Department of Electrical Engineering and Computer Science, is the recipient of a 2012 IBM Faculty Award. The thirty thousand dollar award is highly competitive and recognizes the quality of an academic program and its importance to industry.

The award originated out of a collaboration with Jim Hafner, a researcher at IBM, with whom Plank worked on fault-tolerant storage systems. The project is to enrich the failure handling capabilities of key-value stores, which allow systems like Facebook and Twitter to store and propagate the millions of simultaneous updates that they get from their millions of distributed users. Plank will be using the award to fund student research.

Support a UT professor forging new frontiers of knowledge. Learn how you can invest in a professorship.

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The high-caliber faculty roster in the College of Engineering (COE) continues to grow, steadily enhancing the college’s opportunities for teaching and research. More than two dozen new professors have joined the COE community in 2018. This is also the college’s most diverse group of new faculty hires.

**Department of Chemical and Biomolecular Engineering**
Dr. Steven M. Abel
Assistant Professor
PhD: Stanford University
Research areas: Abel’s group applies theoretical, computational methods to investigate fundamental problems in cell biology and immunology. A major focus is on the development of a multiscale, spatial-temporal understanding of cellular processes involving the interplay of signal transduction networks, membranes, and the cytoskeleton.

Dr. S. Michael Kilbey II
Professor
Jointly appointed in the Department of Chemistry
PhD: University of Minnesota
Research areas: Synthesis and characterization of polymeric materials used for surface and interface engineering, intrinsic link between assembly, structure and properties of ultrathin polymer films at surfaces and of molecular assemblies in solution.

**Department of Civil and Environmental Engineering**
Dr. Joseph Amoah
Lecturer
Florida A&M University
Research areas: Sustainable water supply infrastructure GIS, watershed and floodplain management, water quality modeling, low impact design, urban storm water modeling, climate change on water systems, green water infrastructure planning and optimization.

Dr. Kimberly Carter
Assistant Professor
PhD: University of Arizona
Research areas: Analysis of trace metal content of synthesis gas derived from coal, oxidation and adsorption of perfluorinated carbons and technochalcogen remediaiton of brines spills with hay, correlation of plant growth with brine content in soil.

**Department of Electrical Engineering and Computer Science**
Dr. Daniel Costinett
Assistant Professor
PhD: University of Colorado, Boulder
Research areas: Novel materials for electrochemical energy applications, nanoscale confinement, and interfacial effects in soft materials, diffusion in soft condensed matter, and broadband dielectric spectroscopy and its applications.

Dr. Jon Hathaway
Assistant Professor
PhD: North Carolina State University
Research areas: Innovative stormwater management, green infrastructure, low impact development, ecological engineering, fecal indicator bacteria/pathogens, surface water quality, natural treatment systems.

Dr. Andrew Ye
John Fisher Distinguished Professor
PhD: Stanford University
Research areas: Advanced computer systems architectures and structures.

**Department of Mechanical, Aerospace, and Biomedical Engineering**
Dr. Steven Brooks
Assistant Professor
PhD: University of Florida, Gainesville, FL
Research areas: Healthcare systems engineering, optimization and simulation models in healthcare, stochastic optimization, parallel computing, communication networks.

Dr. Jon Hathaway
Assistant Professor
PhD: University of Colorado, Boulder
Research areas: High efficiency power conversion, energy harvesting, implantable devices, and electric vehicles.

Dr. Andrew Ye
Associate Professor
UT Space Institute
PhD: Louisiana State University
Research areas: Operations research and supply chain management; systems engineering, information technology.

Dr. Steven Brooks
Associate Professor
UT Space Institute
PhD: Catholic University of America, Washington, DC
Research areas: Atmospheric turbulence, atmospheric dispersion and transport, atmospheric trace gas chemistry, instrumentation, polar studies.

Dr. Aditi Sharma
Assistant Professor
PhD: University of Tennessee
Research areas: Microbially induced nonthermal manufacturing, nanophotonics, manufacturing, materials science.

Dr. Eric Wade
Assistant Professor
Massachusetts Institute of Technology
Research areas: Biological signal processing, wearable sensor design, assistive robotics, neuro-rehabilitation, health-care technologies.

**Department of Materials Science and Engineering**
Dr. Maulik Patel
Research Assistant Professor
PhD: University of Waterloo, Canada
Research areas: Additive manufacturing, nanophotonics, nanomaterials for energy storage and environment application; femtosecond induced nonthermal nanorouting and additive manufacturing for flexible electronics, II rechargeable battery, water treatment, ultrafiltration substrates for surface enhanced optical spectroscopy; femtosecond laser-nanosurgery and cell transfection.

Dr. Caleb Bucker
Assistant Professor
PhD: Vanderbilt University
Research areas: Robotics, solid mechanics, medical applications, computer-aided surgery.

**Department of Nuclear Engineering**
Dr. Oleg Shylo
Assistant Professor
PhD: University of Leipzig, Germany
Research areas: Novel materials for electrochemical energy applications, nanoscale confinement and interfacial applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale applications, nanoscale appli

Dr. Maulik Patel
Research Assistant Professor
PhD: Charles University in Prague, Czech Republic
Research areas: Additive manufacturing using high-performance computing applications to nuclear engineering, reactor core physics, molten salt based nuclear systems.

Dr. Jamie Coble
Assistant Professor
PhD: University of Tennessee
Research areas: Fault detection, diagnostics, and prognostics; equipment condition assessment; processo monitoring for safeguards and control; risk-informed maintenance and control.

Dr. Niklas Justin
Research Assistant Professor
PhD: University of Helsinki, Finland
Research areas: Fusion reactor materials, plasma-surface interactions, atomistic simulations.

Dr. Maik Lang
Assistant Professor
PhD: University of Heidelberg, Germany
Research areas: Ion-matter interactions, radiation damage, high-pressure studies, nuclear materials science.

Dr. Jae-Hyeok Shim
Research Assistant Professor
PhD: Seoul National University, Korea
Research areas: Energetic materials, computer simulation, thermodynamics, phase transformation.
A multidisciplinary team that includes two colleges and four departments was recognized by the Chancellor’s Office with a Multidisciplinary Research Award at the Chancellor’s Honors Banquet Ceremony on April 8, 2013 for the research project “Transformational Computational Materials for Neutron and Gamma Detectors and Education Integration.” The US Department of Homeland Security had tasked the group with developing needed radiation measurement capabilities through a $2 million grant from the National Science Foundation (NSF) and Department of Homeland Security (DHS). In addition to the significant intellectual contribution, the team mentored many UT undergraduate and graduate students throughout the project, and the results of this research has been presented at conferences around the world.

The Principal Investigators (PIs) for this five year NSF/DHS ARI award are: Dr. Laurence Miller, Department of Nuclear Engineering; Dr. Dayakar Perumalswamy, Department of Civil and Environmental Engineering; and Dr. Charles McVey, Corrosion Materials Research Center (SMRC).

Other significant contributors include: Dr. George Schweitzer, Department of Chemistry; Dr. Indranil Sen, post doc in civil and environmental engineering; Dr. Rohit Uppal, post doc in civil and environmental engineering; Dr. Anayi Zuru, post doc in SMRC, research assistant professor in the Department of Materials Science and Engineering; Dr. Zheng Chang, professor, South Carolina State University (SCSU).

The PIs also acknowledge Dr. Andrew Martin Williamson, PhD student in nuclear engineering, currently working at Y-12 in Oak Ridge.

Students at both the undergraduate and graduate levels are actively involved with Wirth in this investigation into understanding the behavior of materials over time.

"I think research and teaching are inherently intertwined," said Wirth. "I strive to provide a rigorous theoretical foundation in my teaching, and then encourage dialogue and questioning of our understanding."

In class, Wirth tries to call on students as much as possible to encourage dialogue, and he also likes to let them know that there are new answers to explore.

"It can be humbling to realize how little we know, but also incredibly satisfying to ask questions about why a material performs as it does, and then devise the research to provide the answers. I hope that I can teach students how to approach the answer that, 'I don't know, but this is how I would attack the problem.'" Wirth said.

In addition to working towards a three-dimensional, engineering-scale assessment of reactor pressure vessel embrittlement, Wirth and his group are also involved within the Consortium for Advanced Simulation of Light Water Reactors (CASL) to develop highly accurate, three-dimensional models of nuclear fuel performance. Another recently initiated project—jointly funded by the Department of Energy (DOE) Office of Advanced Scientific Computing Research (ASCOR) and the Office of Fusion Energy Sciences (OFES)—is an effort to simultaneously develop “bottom-up” and “top-down” computational models of the performance of materials subjected to plasma surface interactions.

"I believe this last effort will help lead us to the practical realization of fusion as an energy source," said Wirth.

Outside of his research pursuits, Wirth and his family—his wife, Christine; their two sons, Alden and Cooper; and their two dogs, Roco and Ruby—stay in motion around the Knoxville area—hiking and visiting the nearby mountains, and watching and participating in sports. He is also driven by the future opportunities for the university, COE, and nuclear engineering.

"I am thrilled to be part of the rapid growth and development within the Department of Nuclear Engineering," said Wirth. "I now believe that we are arguably one of the top three or four departments of nuclear engineering in the country, and it is my goal for us to be the top department, and be the place that the nation looks to for answering critical questions about the safety and sustainability of nuclear reactors, and driving the future research enterprise to ensure a sustainable future growth for nuclear power, and the many aspects of nuclear science and engineering."
Dr. Mingjun Zhang, an associate professor in the Department of Mechanical, Aerospace, and Biomedical Engineering has a long-term goal for his research: to develop fundamental theory and engineering principles for building nanoparticle-based systems that have sensing, actuation and decision-making capability for disease diagnosis and treatment. To address the challenges for small-scale propulsion, he also works on bioinspired energy-efficient propulsion systems for robotics.

“Two fundamental questions to be addressed in my research are related to healthcare and energy utilization,” Zhang said. “One is about characterization and fabrication of naturally occurring/bioinspired nanoparticles. The other is the development of bioinspired energy-efficient aquatic propulsion systems.”

Zhang’s initial interest in the clinging properties of the English ivy plant inspired some of the research on nanoparticles-enhanced adhesion. He, along with colleagues, developed an approach to isolate, purify, and characterize nanoparticles secreted from adventitious roots of the English ivy. He sees applications from this discovery as having merit for military and medical applications.

Zhang was also inspired by nature’s design principles of energy-efficient swimming and robust attachment mechanisms from several microorganisms, employing principles learned from biology for innovation in propulsion system design for underwater unmanned vehicles and robots.

“On a more general note, we have made several original discoveries about naturally occurring nanoparticles, and biological propulsion mechanisms for micro/nano-robots. In 2012, our group discovered that the curved swimming trajectories were more energy efficient than linear trajectories for swimming bees, which explains why they are more often observed in nature. Recently, we discovered that the nanoparticles secreted from a carnivorous fungus can stimulate immune response, and kill tumor cells. We have developed a sitting drop culture method to massively produce the fungus-based nanoparticles. We have also developed an approach to produce tea nanoparticles from tea leaves for drug delivery and therapeutics.”

“Zhang’s research has drawn increasing recognition internationally. Results from his research have been well archived in leading journals, including Proceedings of National Academy of Sciences, Advanced Functional Materials, Journal of the Royal Society Interface, PLoS Computational Biology, Nano Letters, Nanomedicine, Journal of Nanotechnology, Journal of Biomedical Nanotechnology, and many others. His projects on naturally occurring and bioinspired nanoparticles are supported by three National Science Foundation (NSF) Awards, one Army Research Office (ARO) award, and an ARO Defense University Research Instrumentation Program (DURIP) award. His research on micro/nano-scale propulsion was sponsored by the prestigious Office of Naval Research (ONR) Young Investigator Program (YIP) award and a new ONR DURIP award in 2013.

While the recognition and funding support are gratifying, it is also extremely important to Zhang that students are also included in all of his research.

“Undergraduate and graduate students are heavily involved in research projects in my lab,” Zhang said. “In general, each funded project in my group has at least one undergraduate student contributing to experimental studies or computer simulation.”

Students (front row, left to right) Yuan Jing, Jonathan Wiegand, Gieff Goodmiller, and (standing, left to right) Jacob Holloway, along with Dr. Stephanie TerMaath, work with the new Siemens PLM Software.

Dr. Mingjun Zhang

UT students will soon get the chance to gain practical engineering analysis skills using technology that companies worldwide rely on to design sophisticated products for aerospace, mechanical, biomedical, and other industries.

The classroom enhancements are made possible through an in-kind software grant with a commercial value of $2.7 million from Siemens PLM Software. The product lifecycle management (PLM) software helps users make better products using complex modeling techniques. The in-kind grant includes Femap™ software with NX™ Nastran® software for finite element modeling.

Students in Department of Civil and Environmental Engineering Assistant Professor Stephanie TerMaath’s three classes will use the software to investigate fundamental concepts in structural engineering; for example, how applying different boundary conditions such as loads and supports to a part affects structural performance.

“This technology allows class to be very hands-on,” said TerMaath. “We can interactively investigate customizable problems very quickly instead of just showing them pictures in a PowerPoint presentation. Use of this software provides a much improved learning environment by providing the flexibility to explore an unlimited number of configurations in real time based on student questions.”

The software will impact close to a hundred students through TerMaath’s classes and research, and is available through UT’s app to anyone at the university who wants to use it. TerMaath, who used the technology as an engineer at Boeing, Lockheed Martin, and Applied Research Associates, said this grant gives students access to technology that companies around the world use every day to develop innovative solutions in a wide variety of industries, including automotive, aerospace, defense, machinery, medical, and electronics.

Training with this software also makes students highly marketable for advanced technology jobs.

“This software is very user-friendly and is widely used by industry,” said TerMaath. “Codes can be very frustrating to learn, and students end up spending more time figuring out which button to push instead of working on their analysis. This software eliminates that problem and allows us to focus on the engineering fundamentals.”

TerMaath also will use the PLM software for her own multidisciplinary research in computational structural mechanics which spans problems in civil, aerospace, mechanical, and biomedical engineering.

Siemens’ academic program delivers PLM software technology to more than a million students from grade school to graduate school around the world each year.

“Siemens PLM Software is dedicated to equipping today’s students with the knowledge and skills necessary to serve in the next generation of engineers. UT serves a key role in filling the science, technology, engineering, and mathematics job skills gap and producing highly qualified future employees,” said Bill Boswell, senior director, partner strategy, Siemens PLM Software.

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Outreach Update

Global Initiatives: Engineering Students Travel to Costa Rica, Madrid, and Peru

Three trips organized by the College of Engineering (COE) International Coordinator Judith Malloy allowed participating students to experience engineering in other parts of the world starting in the spring of 2013. Malloy oversaw an Alternative Spring Break in Cartago, Costa Rica; an end-of-semester visit to Madrid, Spain; and an Alternative Summer Break trip to Cuzco, Peru.

Malloy accompanied nine students—Faith Frye, Avik Purkayastha, Vick Singh, Matt Lloyd, Victoria Vast, Emma Hofman, Megan Farell, Kylie White, and Michelle Morin—to Cartago, Costa Rica, in March, 2013, for service projects each morning and cultural activities in the afternoons.

The students divided their time between two orphanages for the daily service projects. The first is a long-term home to more than one hundred children; the other is a home in an urban setting with thirteen children who live there on a temporary basis. COE students conducted a classroom science and engineering experiments, which were enjoyed by the resident children.

The group also had two small building projects at each location. At the campus facility, COE students constructed a small stage for an outdoor gymnasium. At the second location, the students built a fence to protect a vegetable garden. For both projects, students worked without power tools and used less-than-ideal, sometimes recycled, materials.

Cultural activities in Costa Rica included a walking tour of Cartago, which is the home of the most significant basilica in Central America, the Basílica de Nuestra Señora de los Ángeles (Our Lady of the Angels Basilica); a visit to the artisans’ market and produce/meat market; a dance class; two Spanish language lessons; and a visit to the Irazu volcano and a trip to the rain forest of the Tapanti National Park.

Their week concluded with an engineering tour of the Universidad Carlos III Madrid in Leganes. Later, the group took a three-hour bike ride that included a visit to one of the largest parks in Europe, which is constructed over the top of a highway. Afterward, they attended a lecture on alternative energy sources, given by a Spanish engineer/entrepreneur.

A cultural excursion took the trip to the town of Segovia, where they viewed aqueducts constructed in the first century by the Romans, as well as the Castle of Queen Isabella’s Court, erected in the twelfth century.

Near Segovia, they visited the Instituto Nacional de Tecnica Aeroespacial (INTA), a constituent of NASA. Its budget of more than €150 million comes from the Spanish Ministry of Defense and from its own projects with industry. Some of the scientists and engineers at INTA design and build unmanned craft used in drone strikes, and several of these craft were on display. At the site’s astrobiology facility, the group viewed a lab that replicates rivers believed to have once existed on Mars.

Six COE students traveled to Peru August 10-20, 2013. They visited the city of Cuzco and the Machu Biosphere Reserve in the Amazon Rainforest, both designated UNESCO World Heritage Sites. Students involved were Stephanie Kerrigan, Bryant Medina, Mark Nichols, Drew Keller, Shyam Zaveri, and Nathan Siler.

The host organization, Conservation Research and Environmental Education towards Sustainability (CRESS), asked for help in the design and construction of an observation platform to be used by researchers collecting data at a remote lake. In addition to review by students, COE professors Dr. John Schwartz, Dr. James Mason, and Dr. Massoud Parang provided assistance in the design.

The service project site was within the Amazon Rainforest and accessible only by boat. Students helped set posts in concrete and moved river sand and rock to the site for use in the construction. They also had a two-hour hike through a primary forest, a significant focus of CRESS since portions of the area suffer from deforestation.

Cultural activities included a walking tour of Cuzco, the historical capital of Peru with an elevation of 11,200 feet. The group also traveled four hours by car and train to the Historic site of Machu Picchu, the “Lost City of the Incas.” A site specialist pointed out construction techniques and discussed daily life in the ancient city. For more information, visit: http://www.engr.utk.edu/global.

Students Enjoy Faculty-led Study Abroad Programs

Inspired by the Chancellor’s Honors Program decision to require an international or intercultural experience for honors students, the Office of Engineering Outreach began a targeted effort to increase engineering-student participation in study-abroad programs by offering faculty-led courses. The effort has shown healthy results. In the 2009-2010 school year, eighteen students participated in study abroad, but only three took engineering courses. Fifty-eight COE students participated in 2011-2012, with twenty-nine taking engineering courses. For 2012-2013, a total of eighty-five COE students participated, with forty-seven taking engineering courses.

For 2013, Engineering in London combined two programs from the summer of 2012, with students taking two out of three course offerings in a five-week format. Courses were: Development of Computing, taught by Dr. Michael Berry, professor in the Department of Electrical Engineering and Computer Science; Thermodynamics, taught by Dr. Roger Parsons, director of Engineering Outreach; and an electrical engineering course, Electromechanical Components, taught by Dr. Paul Crilly, associate professor in the EECs department.

Students experienced multiple trips to sites related to the Industrial Revolution and the development of computing, providing context and enrichment opportunities.

“...The London trip is amazing,” said James Alfred, a junior in computer science. “There is a lot to experience and discover.”

A new course for 2013 was Sustainable Energy Engineering, taught by Dr. Madhu Madhukar, an associate professor in the Department of Mechanical, Aerospace, and Biomedical Engineering (MABE) and based in Dublin, Ireland. Ireland produces a significant portion of its energy from wind turbines, so this class visited wind farms as part of the curriculum.

“This was a great opportunity to see this important technology up close and actually interact with the people who implemented it,” said Madhukar.

In another trip for 2013, Dr. Wes Hines, Charles P. Postelle Professor and head of the Department of Nuclear Engineering, led twelve students on a tour of nuclear facilities in Prague, Czech Republic, during a mini-term program abroad in May of 2013. Research Assistant Professor Dr. Ondrej Chvala, who is from Prague, also accompanied the group and proved to be an invaluable tour guide.

“...This study abroad program will be a yearly event and should be the highlight of any student’s nuclear-engineering education experience at UT,” said Hines, who gave a seminar during the trip at the Czech Technical University of Prague.

During their stay, the students participated in a reactor-physics training program for which they received upper-division laboratory credit in the nuclear engineering program. The class had a first-hand look at a uranium yellow cake processing facility; two Czech research reactors at the country’s national laboratory; and reactors at the Temelin Power Station.

Another initiative that resulted in a significant engineering study-abroad experience in 2013 was the UT COE/Department of Mechanical, Aerospace, and Biomedical Engineering partnership with the Polytechnico di Torino (PdT), in Turin, Italy. Six mechanical engineering seniors spent their final semester in spring of 2013 at PdT. Turin is the home of PdT, and PdT has a significant reputation in automotive engineering and design.

Water Resources and Climate Change in the European Alps (now a joint trip with the University of Alabama) was also offered again in 2013, led by Dr. Glenn Tootle of the civil engineering department and based in Innsbruck, Austria. This course offered technical elective credit that was applicable to most engineering curricula.

For information, visit: http://www.engr.utk.edu/outreach.
The College of Engineering Spring 2013 Commencement Ceremony

The College of Engineering Spring 2013 graduation ceremony took place on Wednesday, May 8, 2013, with two hundred eighty-four engineering graduates participating in the ceremony. Approximately two thousand six hundred parents, friends, and relatives attended the event, which took place in Thompson-Boling Arena on the UT-Knoxville campus at 11:30 a.m.

Dr. Wayne T. Davis, dean of engineering, and Dr. Jimmy G. Cheek, University of Tennessee chancellor, led the academic procession that signaled the beginning of the ceremony. The procession included the UT president, associate deans, department heads, and faculty representatives.

Dwight Hutchins, the Global Managing Director of Washington, D.C.-based Accenture’s Health and Public Service Strategy practice, was the ceremony’s keynote speaker. Hutchins, a 1986 UT chemical engineering alumnus, leads project teams around the world at Accenture, helping clients define their strategy, reorganize, increase effectiveness, reduce costs, and transform their operations to become high performing public sector organizations.

Hutchins received an MPA from the John F. Kennedy School of Government at Harvard University, an MBA in marketing and finance from the J.L. Kellogg Graduate School of Management at Northwestern University, and a BS in chemical engineering from here at the University of Tennessee. He co-oped at the DuPont plant in Old Hickory, Tennessee, and after graduating from UT, he began working at Procter and Gamble in Jackson, Tennessee. Prior to Accenture, Hutchins consulted with McKinsey & Company and Bain & Company, focusing on marketing strategies for Fortune 500 banks and business products companies.

Hutchins joined Accenture seventeen years ago to build a strategy practice focused on improving the performance of government agencies. Over the course of building this practice he has led teams that have developed and implemented strategies to improve the performance of a number of government agencies, including homeland security, healthcare reform, economic development, and student loans. In healthcare, he worked with the Commonwealth of Massachusetts to develop its strategy and performance plans and assisted with the launch and improvement of its Health Insurance Exchange, an agency that has served as a model for national healthcare reform.

At the federal level, Hutchins has led teams that have developed and implemented strategies to increase international trade and reduce delays at the border while increasing security. Specifically, he helped the Department of Homeland Security develop its plan for protecting US ports from threats and risks, including those posed by terrorists and weapons of mass destruction. This plan became part of the White House’s Homeland Security Council policy and was hand-delivered by the department to every member of Congress. Internationally, he has led efforts for infrastructure investment in developing countries on behalf of the US as well as the World Bank and the United Nations.

Hutchins also led the initial phases of transforming the Federal Student Aid (FSA), the US Department of Education’s one hundred billion per year program, into a world-class financial services operation and the government’s first performance-based organization (PBO). Accenture designed, built, and runs the system that originated all the federal grants and loans in the country. The Congressional Budget Office has determined that this service provided via the department versus the banks saves taxpayers over $60 billion while improving services to students.

Dr. Joseph D. Hutchins, president of the UT System, was also a special guest speaker at the event. He congratulated the graduates on their achievements, wished them a successful career, and expressed pride in the College of Engineering’s accomplishments.

The college’s top students, Jordan Richard Kreitzman, an aerospace engineering major, and Scott Michael Strickler, an aerospace engineering major, were honored. Two National Academy of Engineering (NAE) Grand Challenge Scholars were also saluted during the ceremony for completing additional challenging academic requirements as stipulated by NAE. Morgan

COE graduates are commissioned into the US Air Force during the commencement ceremony.

Raney Baltz, a chemical engineering major; Ethan Zachariah Cansler, an aerospace engineering major; and Katelyn Elizabeth Hasia, a nuclear engineering major.

In addition to the commencement activities, the event also featured an ROTC ceremony, where Lt. Colonel Brian Delamater, Commander of the Air Force ROTC detachment at UT, officially commissioned two COE graduates into the UT Air Force. The new second lieutenants are Joseph Andrew Applebee and Thomas David Winter.

Beginning in the spring of 2004, the university’s colleges have been conferring commissions during smaller, more individualized graduation events.
College of Engineering Celebrates 175 Years of Engineering at UT with Gala Event

The College of Engineering celebrated 175 years of engineering instruction at the University of Tennessee with a gala event on Friday, October 4, at the Knoxville Convention Center. A crowd of over five hundred and fifty engineering alumni, faculty, and staff gathered to recognize this significant milestone.

At the elegant reception, guests enjoyed the opportunity to visit with all seven COE department heads and connect with former classmates and professors. Tennessee Governor Bill Haslam dropped by and greeted several attendees, including John and Ann Tickle, who were special guests at the event. The Tickles provided generous support for the new John D. Tickle Engineering Building, which was dedicated earlier that day in an impressive outdoor ceremony. Other special guests at the event included family and friends of John and Ann Tickle from around the country.

Representatives from professional engineering organizations included Jim Froula, executive director emeritus, and Curt Gomulinski, executive director, of Tau Beta Pi, the national engineering honor society, which is housed on the UT campus in the Dougherty Engineering Building; Marc Apter, president, the Institute of Electrical and Electronics Engineers; Larry Satkowski, vice president, the Instituto for Nuclear Materials Management; and Stacey DelVecchio, president of the Society of Women Engineers. Numerous members of the college’s Board of Advisors were also in attendance.

After the reception, guests moved into the main ballroom, highlighted with dramatic lighting donated by UT alumnus Michael Strickland, the CEO of Bandit Lites, for the dinner and program. UT Board of Trustees member and industrial engineering graduate Spruell Driver was emcee for the event, which featured remarks from Chancellor Cheek and Dean Davis.

Guest speaker Celeste Baine, a biomedical engineer, director of the Engineering Education Service Center in Oregon, and the award-winning author of over twenty books on engineering careers and education, provided educational entertainment during her presentation, titled “The Wow! Is Engineering.”

A video on the history of engineering, introduced by veteran UT faculty member and chemical engineering emeritus professor Dr. John Prados, a member of the college’s planning committee for the event, received an enthusiastic ovation from the crowd. The surprise came at the end of the evening, when John Tickle took the stage and announced that he and donors Chad and Ann Holliday, Joe and Judy Cook, and Eric and Elaine Zeanah had established the Wayne T. Davis Chair in Engineering.

The gala was the final event in a two-day celebration of engineering that included a dinner with fireworks honoring the Tickles on Thursday, October 3; the dedication and ribbon cutting at the John D. Tickle Engineering Building on October 4; and the luncheon program featuring alumni and students to celebrate the 40th anniversary of Engineering Diversity Programs that same day.

Guest speaker Celeste Baine talks about engineering education.

Dean of Engineering Wayne Davis addresses the crowd at the gala.

UT alumnus Spruell Driver serves as the emcee for the 175 Years of Engineering at UT gala.

Dr. John Prados introduces the history of engineering at the University of Tennessee special video presentation.

John Tickle (right) announces the creation of the Wayne T. Davis Chair in Engineering at the 175 Years of Engineering at UT gala.
EDP Celebrates 40th Anniversary

On Friday, October 4, at noon after the dedication ceremony, a group of engineering alumni, faculty, students, and special guests gathered at The Foundry, where the College of Engineering hosted a luncheon honoring the 40th anniversary of its Engineering Diversity Programs (EDP).

The crowd of over one hundred and twenty attendees was welcomed by COE Dean Wayne T. Davis, and Chancellor Jimmy G. Cheek also offered remarks recognizing the 40th anniversary of the college’s diversity programs.

Rodney Brooks (BS/ME ’85, Group 8), a mechanical engineering alumnus and vice president of ABB in Alamo, Tennessee, also spoke, recognizing the origins of engineering diversity initiatives that began with the Minority Engineering Scholarship Program (MESP) which was established by the college in 1973 under the direction of the late Fred Brown, Jr.

“The university has shown its greatness in the College of Engineering through its commitment to the diversity programs over the past forty years. To be able to celebrate forty years of diversity demonstrates the unwavering commitment by the leadership at UT,” said Brooks. “The future is bright to be a Top 25 university through the efforts of the engineering leadership along with the campus administration. Seeing the new Fred Brown Dormitory validates his efforts to provide opportunities to many students whose lives were impacted in a very positive manner by being a part of the College of Engineering. I am very proud to be a VOL!”

Special tributes were given to the National Society of Black Engineers; the National GEM Consortium; the EDP summer pre-college programs; the Society of Hispanic Professional Engineers; and the Tennessee Louis Stokes Alliance for Minority Participation.

The two previous directors of the program, Brown and James Pippin, also received recognitions. Pippin was present at the event and graciously acknowledged the current EDP director, Travis Griffin.

“An exciting event to behold was the return of the first group of students recruited by Mr. Fred Brown and those whom I recruited when they converged for the 40th Anniversary Celebration of the Minority/Diversity Engineering Programs,” Pippin said. “The establishment of the James T. Pippin Diversity Engineering Scholarship and the increased number of PhD degrees in medicine, engineering, and law as well as MBA degrees for underrepresented students as a result of the EDP, I consider to be two of my greatest contributions to the College of Engineering.”

Special guests at the event included Cavanaugh Mims (BS/NE ’86, Group 9), a nuclear engineering graduate and president of the UT Alumni Board of Directors, and his wife, Telicia; and Dr. Mark Dean (BS/EE ’79, Group 2), co-inventor of the personal computer, former IBM Vice President and Fellow, and the new John Fisher Distinguished Professor in Electrical Engineering and Computer Science, and his wife, Denise, along with his parents James and Barbara Dean.

“The 40th Anniversary Luncheon for the Engineering Diversity Programs brought me back to the place and connected me with the people where engineering and I became one,” said Tiffany Grant, CEO of TEGrant Consulting and a member of MESP Group 25. “I walked up to the third floor of Perkins Hall and went straight to the lecture hall. Filled with emotions of gratitude and pain, I said, ‘STATICS’—that was my beginning, and I am grateful to Mr. James T. Pippin, the engineering diversity initiatives, and Group 25 for the support, love, encouragement, and access over the past sixteen years. The importance of what I received is almost impossible to put into words, but I hope for all students to be recipients.”
The dyno-MITES participants discovered new engineering experiences through activities titled “Simple Mach 10,” “Day of Buggy Cars,” “Gummy Bear Towers,” and “Hover Puck Shuffletboard.” Dyno-MITES participants were divided into groups of two to three and engaged in engineering design projects focused on green energy. Participants worked in teams to design, construct, and present models of cars and cars that operated on solar energy. The program provided an engineered field trip to the American Museum of Science Energy as students learned the history behind Oak Ridge, the first atomic bomb, how nuclear power works, and more. The week was one full of laughter, competition, and fun.

After surveying the dyno-MITES participants, 97% are interested in pursuing a career in engineering. The participants rated “Engineering Design Project” as the best experience.

The College of Engineering has sponsored two sessions of the 13th Annual High School Introduction to Engineering Systems (HITES) program, one sponsored by Eastman and one by Bechtel.

Eastman HITES was hosted July 14-19, 2013, and Bechtel HITES on July 21-26, 2013, providing engineering immersion to fifty-eight participants from nine states. The purpose of the HITES program is to provide high school students the opportunity to explore engineering and campus life at the University of Tennessee.

From day one to day four, the HITES participants engaged in activities titled “Engineering Discovery: Introduction to Engineering,” “Admission 101: Financial Aid and Scholarships 101,” “Campus Life Experience,” and “Engineering Design Project.”

Each HITES session visited all seven departments of the college, with participating students and hosts including Or Imaginative and civil and environmental engineering; Adam Handelbeek, electrical engineering; Adam Linas and Cory Hull, mechanical and aerospace engineering; Dr. Ruphy Sawamy, industrial and systems engineering; Carlos Gonzales, materials science and engineering; Dr. Toby Boulet, mechanical, aerospace, and biomedical engineering; and Dr. Lawrence Heilbronn, nuclear engineering.

Each session participated in college life programs featuring an introduction to the Tennessee Student Government, and a campus recreation at the Recreational and Fitness Center. Dr. Cong Trieu and Dr. Siris Laursen, assistant professors in chemical and biomolecular engineering, hosted the engineering design project. Eastman HITES activities were divided into two sets of projects: energy and materials. Students learned how to revitalize old fuel into fuels, and biocatalyst, to develop a biological device to turn biomass green or make it have a certain scent.

The Engineering Volunteers for K-12 Education, also known as the dyno-MITES, kicked off on June 23-28, 2013, with thirty-one rising ninth graders. During the summer of 2013, the college hosted five sessions, of which 52% were past MITES participants. The purpose of the dyno-MITES program is to engage students in hands-on engineering activities, ACT math preparation, and help them learn the engineering design process.

Foremost, one day to four, the eVOL10 participants engaged in “Introduction to Engineering” with Retherford; “ACT Math Preparation” with Michael Gilbert, lecturer within mathematics; and “Engineering Design” by Travis Griffin.

The eVOL10 participants engaged in experiments featuring newspaper bridges, global warming, marshmallow catapults, and aerodynamics. Gilbert provided an introduction to ACT math through workshops and workbooks focused on pre-algebra, elementary algebra, and intermediate algebra. Based on pretest and posttest assessment, 77% of the participants improved their pre-ACT math scores.

The eVOL10 participants were divided into groups of three to four and worked on engineering design projects focused on sustainability and innovative ideas. Students’ projects included Or Imaginative and civil and environmental engineering; Adam Handelbeek, electrical engineering; Adam Linas and Cory Hull, mechanical and aerospace engineering; Dr. Ruphy Sawamy, industrial and systems engineering; Carlos Gonzales, materials science and engineering; Dr. Toby Boulet, mechanical, aerospace, and biomedical engineering; and Dr. Lawrence Heilbronn, nuclear engineering.

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"I am a senior studying civil engineering and Spanish at the University of Tennessee. I chose UT for its excellence in engineering, and with graduation in the fall of 2013 quickly approaching, I can confidently say that my undergraduate education has put me on the right track to a successful and enjoyable career.

I feel honored and humbled to have been awarded the Charles Edward Ferris Scholarship for leadership in campus and community organizations. Receiving this scholarship allows me to devote less effort to the financial obligations of higher education and more to my studies. One day, I hope to be able to give back to the University of Tennessee just as the Charles Edward Ferris Scholarship has so graciously given to me."

John Scobey '13
Charles Edward Ferris Scholarship Recipient

Jamie Thomas, a general manager with international corporation IBM, got interested in engineering early through the influence of her father, who was an electrical engineer and was a textile engineering major at Georgia Tech.

Thomas, who was born in Louisville, Georgia, and grew up for the most part in Chattanooga, saw her father’s interest in information science broaden within his career in the textile industry, and with his encouragement she chose to major in computer science at UT.

“The software engineering field was not well understood when I was in high school, but I was interested in science in general and decided to give it a try in college,” Thomas said. “UT had a solid computer science program with the College of Arts and Sciences at that time. I also was offered a first year scholarship as a valedictorian and I later won an upper class Roddy Scholarship.”

Thomas enjoyed the people she met on the university’s campus, particularly those in the computer science program who already had workforce experience coming back to school for the second round to major in the discipline. Thomas also co-oped with the Department of Energy in Oak Ridge.

“The co-op job was one of my most memorable experiences with UT and it really enabled me to be more competitive when I graduated,” Thomas commented. “The faculty were also great at the university—less a math minor as well as a computer science major. The faculties in both departments were dedicated to the students and to learning overall.”

Thomas was a College of Arts and Sciences top graduate, and had the exciting experience of having Alex Haley as the commencement speaker during her ceremony in 1985. Haley’s book Roots was a national phenomenon, and getting the opportunity to meet the internationally famous author was a real highlight of Thomas’ tenure at UT.

After UT, Thomas joined IBM as a programmer in the Research Triangle Park location in North Carolina. After four years, she moved into management, and over the years moved up the management chain within the software organization. Thomas managed networking software, the WebSphere Product Software and Strategy, Rational Product Software and Strategy, and the Tivoli Product Software and Strategy. The WebSphere brand was acquired initially. Today, Thomas is a General Manager for the Software Defined Environment Strategy within IBM’s Server and Technology division, responsible for how software will enable the next generation of automation for data centers.

“My most proud accomplishments at IBM are really what I was able to achieve for my clients I worked with over the years and for our employees,” Thomas said. “With clients, I’ve formed relationships with certain organizations that have lasted for more than ten years across various industries. I’ve chosen to focus on specific regions of the world, including the United Kingdom, Germany, Japan, and Indonesia to better build relationships in those regions with both our sales teams and the clients. I’ve been managing global teams for more than fifteen years, and working with employees from North America, South America, Europe, and Asia has been very rewarding. In my last role, I managed over twenty sites worldwide. I’ve also seen so many acquired organizations join our company in the software arena and am very proud of the employees I’ve mentored in these companies.”

Thomas said the electrical engineering and computer science field will experience tremendous growth in the years to come, with topics like cloud computing, big data, social media, and mobile being a few of the driving forces behind this growth.

“I think that UT is in a unique position to capitalize on this growth, through its cooperative work with ORNL, and its investments in both engineering and computer science over the last several years,” Thomas commented. “Being able to understand the implications of computing in the arenas of energy and smart infrastructure will serve the university well in the years to come. These are huge issues that affect global economies.”

Thomas is also encouraged by the increasing numbers of women who are becoming engineers.

“I believe that this is a great arena for women. Women are often more interested in the human element of their careers and engineering allows you to have a huge impact on people, either within the organization you choose to work or in organizations that you serve,” Thomas said.

Outside of work, Thomas enjoys spending time with her husband, Richard Thomas, and their two “furry children,” dog Morgan and cat Leo. The couple loves the outdoors, and has a vacation home near Asheville, North Carolina. They also spend time golfing and hiking in the beautiful national parks between North Carolina and Tennessee, and also like to travel and learn about different cultures across the globe.

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"My most proud accomplishments at IBM are really what I was able to achieve for my clients I worked with over the years and for our employees,” Thomas said. “With clients, I’ve formed relationships with certain organizations that have lasted for more than ten years across various industries. I’ve chosen to focus on specific regions of the world, including the United Kingdom, Germany, Japan, and Indonesia to better build relationships in those regions with both our sales teams and the clients. I’ve been managing global teams for more than fifteen years, and working with employees from North America, South America, Europe, and Asia has been very rewarding. In my last role, I managed over twenty sites worldwide. I’ve also seen so many acquired organizations join our company in the software arena and am very proud of the employees I’ve mentored in these companies.”

Thomas said the electrical engineering and computer science field will experience tremendous growth in the years to come, with topics like cloud computing, big data, social media, and mobile being a few of the driving forces behind this growth.

“I think that UT is in a unique position to capitalize on this growth, through its cooperative work with ORNL, and its investments in both engineering and computer science over the last several years,” Thomas commented. “Being able to understand the implications of computing in the arenas of energy and smart infrastructure will serve the university well in the years to come. These are huge issues that affect global economies.”

Thomas is also encouraged by the increasing numbers of women who are becoming engineers.

“I believe that this is a great arena for women. Women are often more interested in the human element of their careers and engineering allows you to have a huge impact on people, either within the organization you choose to work or in organizations that you serve,” Thomas said.

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The tent was huge! Still, the crowd of around six hundred spilled out beyond to celebrate the dedication of the John D. Tickle Engineering Building—the largest attendance of a ribbon cutting that UT can remember. In a letter to students, Ann Tickle expressed the significance of this event, writing, “We are here today to dedicate a building, but the students and faculty are what bring life to a building. You, the students, are the inspiration for us to remain engaged and committed to the university.”

The Tickles’ gift and the building named for John have inspired others, evidenced with over twenty donors acknowledged for their major support in plaques throughout this building. Gift recognition opportunities are still available in this beautiful one hundred ten thousand square-foot facility. For information about naming one of the other available rooms, please contact Dorothy Bryson.

A $1.5 million commitment from Jim Gibson (BS/IE ’71) has established the Gibson Endowed Chair in Engineering to focus on research pointed towards answers to the world’s tremendous energy challenge. “This gift allows us to leverage funding for engineering provided in Governor Bill Haslam’s budget in a powerful way. The Gibson Endowed Chair will complement and expand our already considerable scope of work in the energy disciplines,” explains Davis. With key faculty in multiple departments already working on leading-edge energy solutions, the Gibson Chair will be a senior-level professor who can augment current research collaborations and help the college create new clusters of strength. A national interdisciplinary search began fall 2013.

“The past several years I have met some of UT’s incredible young graduate students and have seen their research presentations,” states Gibson. “Their enthusiasm and dedication gives me great hope for the future. They inspire me and my intent is to help the college bring in more great professors who will continue to inspire students.”

The Wayne T. Davis Endowed Dean’s Chair

Announced at the conclusion of the 175th Anniversary Celebration Gala, this new $3 million endowment is another fund that will enable UT’s current dean—for whom it is named—to propel the College of Engineering forward. It is in recognition of Davis’ extraordinary service and leadership that John and Ann Tickle, Chad and Ann Holliday, Joe and Judy Cook, and Eric and Elaine Zeanah came together to establish the Wayne T. Davis Endowed Dean of Engineering.

“An endowment that establishes a Dean’s Chair is tremendously important,” notes Dr. Susan Martin, who as provost is the university’s chief academic officer. “It is a visible affirmation of the importance of great leadership in the academic enterprise.”

The Davis endowment is specifically designated to be used by the dean to advance the educational mission of the college. We celebrate the impact of giving at every level because the difference it makes for engineering students is real.

For information about making an impact of your own contact:

Dorothy Barkley Bryson
Executive Director of Development • The University of Tennessee, Knoxville • College of Engineering
114 Perkins Hall • Knoxville, Tennessee 37996-2012 • dbryson@utk.edu • 865-974-2779
Events & Awards

COE Student Named UT Torchbearer

The Chancellor’s Honors Banquet was held on April 8, 2013, and a College of Engineering student received one of the university’s highest honors.

Akhshita Yarrabothula was named a Torchbearer. She is a chemical and biomolecular engineering major, a Haslam Scholar, Chancellor’s Scholar, and Baker Scholar. Her dedication to research earned her a position as an undergraduate research assistant conducting graduate-level research. Her accolades include selection as the engineering first place divisional winner of the 2011 EURECA competition and as UT’s representative for the first SEC Symposium. She has helped others through volunteering with the Boys and Girls Club of Greater Knoxville and in the emergency room at Fort Sanders Regional Medical Center, among other organizations. Yarrabothula has led campus groups such as the Delta Phi Omega Sorority and the Society of Women Engineers.

UT’s Department of Housing honored her as one of its most outstanding resident assistants.

The Torchbearer is the highest honor the university gives to its students. The Torchbearer is awarded to seniors who have served UT with overall excellence. Recognition as a Torchbearer reminds all students that those who bear the Torch of Enlightenment shadow themselves to give light to others.

Tony Chilcoat (front row, far left) and Robbie Nutt (second row, second from left) are joined by the Randall K. Nutt and Nutt Family Scholarship recipients and alumni, as well as COE Dean Wayne Davis (second row, far right) at the barbeque and reunion host at Nutt’s home.

COE Dean Wayne Davis (far left), Director of Outreach Programs Roger Parsons (left) and Associate Dean for Academic and Student Affairs Masood Parang (far right) with the NAE Grand Challenges Scholars (left to right) Ethan Cancian, Katelyn Hasse, and Morgan Ball at the college’s spring Board of Advisors meeting.

Three National Academy of Engineering (NAE) Grand Challenge Scholars were saluted at the College of Engineering’s spring board meeting and at the 2013 engineering commencement ceremony for completing additional challenging academic requirements as stipulated by NAE: Morgan Ryan Banty, a chemical engineering major; Ethan Zacharias Cancian, an aerospace engineering major; and Katelyn Elizabeth Hasse, a nuclear engineering major.

In 2008, the National Academy of Engineering identified fourteen Grand Challenges for engineering in the 21st century. These challenges represent each of the broad realms of human concern: sustainability, health, vulnerability, joy of living as specified by the NAE qualifications and response to an online poll sponsored by the organizations that received over twenty-five thousand votes over five months.

The Grand Challenge Scholar Program is the companion program for engineering schools that have accepted the challenge of designing combined curricular and extra-curricular programs to prepare students to be the generation that solves the grand challenges facing society. In 2009, the University of Tennessee College of Engineering established an approved Grand Challenges Scholars Program. The college is one of only twelve engineering schools in the country to have this prestigious program.

For more information about the Grand Challenges Program, visit http://www.engineeringchallenges.org/cms/8996/9227/10474.aspx

AOL Founder Visits COE

On Tuesday, April 16, Ken Huntman (HS/CS ’77), recipient of the UT Accomplished Alumni Award for 2013, presented Creashop’s “The Internet on Training Wheels,” a special seminar for University of Tennessee faculty, staff, and students.

Huntman also is a 1974 graduate of Penn State University with a BS in computer science.

Huntman was co-architect, at Telnet Corporation, of one of the first successful commercial e-mail systems. He then joined Control Video Corporation to work on downloading games to the Atari VCS in early 1980s. After leaving that organization, he joined several others in 1985 to co-found the company that eventually became America Online. He retired as an “AOL Fellow” from AOL in 2007.

Akhshita Yarrabothula (left) receives a plaque designating her as a UT Torchbearer from Chancellor Jimmy G. Cheek (right) at the Chancellor’s Honors Banquet.

COE Student Receives Scholarship from ACEC

Caleb Drummer, a senior in civil engineering in UT’s College of Engineering, was one of two students out of twelve applicants to receive a $1,000 scholarship from the American Council of Engineering Companies (ACEC) of Tennessee. As one of the Tennessee representatives, he is now eligible for one of five scholarships given by ACEC National.

The selection committee, which included David T. Harrell, PE, of the Vaughn & Martin engineering consulting company, evaluated Drummer in five areas: his grades, an essay, his work experience, recommendations from faculty, and extracurricular college activities. He maintained a 4.0 GPA and the committee found his essay and work experience to be excellent. In his essay, Drummer wrote about the role or responsibility of the consulting engineer in mitigating the impact of natural disasters. He has worked as an assistant and research student in the Department of Civil and Environmental Engineering.

He received an outstanding recommendation by Dr. Edwin Burdette, the Fred. N. Peebles Professor in the Department of Civil and Environmental Engineering. The committee was also impressed with his extracurricular activities, which included participation in the student chapter of ACEC and volunteering.

“I am very thankful for ACEC and their scholarship program,” said Drummer. “It is an honor to have received this scholarship and will really help with paying for next year’s tuition. I am always thankful to organizations who lend financial support to help students achieve their goal of becoming an engineer.”

ACEC of Tennessee is a member organization of the American Council of Engineering Companies, a national federation devoted to promoting public welfare by increasing the value of engineering to society. More than 500 ACEC member firms have over 10,000 licensed, sitting engineers and more than 500 engineering companies employing more than five hundred thousand engineers, architects, land surveyors, scientists, and other specialists. ACEC promotes infrastructure funding, qualifications-based selection, outsourcing, tax reform, regulatory changes, and other government actions beneficial to engineering companies.

For more information about the ACEC, visit http://www.acec.org/.

Help Support the IEEE Robotics Team Go to www.volsconnect.com/impact to give today!
COE Celebrates Excellence at 2013 Faculty and Staff Awards

The University of Tennessee College of Engineering gave its most prestigious honor—the Nathan W. Dougherty award—to industrial engineering graduate John D. Tickle at the college’s annual Faculty and Staff Awards Dinner, held on Thursday, April 4, 2013, at the Crowne Plaza.

Tickle, who earned the rank of Eagle Scout, received the Heroism Award from the National Court of Honor of the Boy Scouts of America in June 2012. He also recently received the 2013 ACMA Lifetime Achievement Award from the American Composites Manufacturers Association (ACMA), the composites industry’s largest trade group in the world.

Tickle and his wife, Ann Tickle, who graduated with a bachelor’s degree from the UT College of Education, are extensively involved in philanthropic work and are avid supporters of the university. He has been a member of the UT Athletic Board and has served on the College of Engineering’s Board of Advisors and is a member of the Campaign for Tennessee Engineering Executive Committee. Ann Tickle has been an active member of the Development Council and Alliance of Women Philanthropists. Mr. and Mrs. Tickle have been contributing to the university for over forty years.

A gift from the Tickles established the John and Ann Tickle Small Animal Hospital expansion within UT’s College of Veterinary Medicine. The generosity allowed construction to go forward on the $10 million addition in 2007. The facility was opened in the spring of 2008.

Additional award recipients at the college’s Faculty and Staff Awards Dinner included:

Outstanding Support Staff Award: Kristy Walker, business manager, Department of Industrial & Systems Engineering; and Angela Miller, administrative coordinator, Engineering Advising Office.

Outstanding Faculty Advisor Award: Dr. Robertson Moo, Department of Materials Science & Engineering; Moxie E. and Mayme Brooks Distinguished Professor Award: Dr. Lynne Parker, Department of Electrical Engineering & Computer Science; Outstanding Teaching Award: Dr. Hahn Choo, Department of Materials Science & Engineering; Dr. David Icove, Department of Electrical Engineering & Computer Science; College of Engineering Teaching Fellow Awards: Dr. Lee Han, Department of Civil & Environmental Engineering and Dr. Brad Vander Zanden, Department of Electrical Engineering & Computer Science; College of Engineering Research Fellow Award: Dr. Joshua Fu, Department of Civil & Environmental Engineering; Dr. Yanfei Gao, Department of Materials Science & Engineering; Dr. Peter Liu, Department of Materials Science & Engineering; Dr. Matthew Mench, Department of Mechanical, Aerospace & Biomedical Engineering; Dr. Philip Rack, Department of Materials Science & Engineering; Dr. Leon Tolbert, Department of Electrical Engineering & Computer Science.

COE Dean Wayne Davis presents the COE Dean Wayne Davis (left) presents the COE Dean Wayne Davis (left) presents the Outstanding Support Staff Award to Angela Miller from the Engineering Advising Office.

COE Alumni Receive Recognitions at the Alumni Board of Directors Awards Dinner

On Friday, September 27, the Alumni Board of Directors Awards Dinner was held at the Knoxville Convention Center. Two College of Engineering alumni received distinctive awards at the event.

Dr. Nathan Washington Tickle received his bachelor’s degree in industrial engineering in 1965 from the University of Tennessee. He has served in positions of leadership at US Internet, Inc., Strongwell Corporation, headquartered in Bristol, Virginia. Tickle and his wife, Ann Tickle, provided considerable support for the college’s new John and Ann Tickle Advisory Office.

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COE Associate Dean for Faculty Affairs Varela Lopes (far left) with the college-wide award winners: Dr. Brad Vander Zanden and Dr. Lee Han. COE 2013 Teaching Fellows: Dr. Hahn Choo, Leon & Nancy Cole Superior Teaching Award; Dr. Lynne Parker, Moxie E. and Mayme Brooks Distinguished Professor Award; Dr. Robertio Benson, Outstanding Faculty Advising Award; Dr. David Icove, Charles Edward Fermi Award.

COE Dean Wayne Davis presents the Outstanding Support Staff Award to Angela Miller from the Engineering Advising Office.

Advisors, the UT Chancellor’s Associates and the UT Development Council.

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COE Associate Dean for Research and Technology Dell Drum aka’hi presents the COE Research Awards to faculty including Dr. Xueping Li, the Translational Research Award, and COE Research Fellows Dr. Lawrence Townsend, Dr. Matthew Mench, Dr. Peter Liu, Dr. Yanfei Gao, and Dr. Joshua Fu. Not pictured Dr. Phil Rack, Dr. Mingjun Zhang, and Dr. Fred Wang.

Dr. Charles Edward Fermi Fellow Award: Dr. David Icove, Department of Electrical Engineering & Computer Science; College of Engineering Teaching Fellow Awards: Dr. Lee Han, Department of Civil & Environmental Engineering and Dr. Brad Vander Zanden, Department of Electrical Engineering & Computer Science; College of Engineering Research Fellow Award: Dr. Joshua Fu, Department of Civil & Environmental Engineering; Dr. Yanfei Gao, Department of Materials Science & Engineering; Dr. Peter Liu, Department of Materials Science & Engineering; Dr. Matthew Mench, Department of Mechanical, Aerospace & Biomedical Engineering; Dr. Philip Rack, Department of Materials Science & Engineering; Dr. Leon Tolbert, Department of Electrical Engineering & Computer Science.

Dr. Lawrence Townsend, Department of Nuclear Engineering Dr. Mingjun Zhang, Department of Materials Science & Engineering Dr. Fred Wang, Department of Electrical Engineering & Computer Science A new award, the translational Research Award, was presented to Dr. Xueping Li in the Department of Industrial & Systems Engineering.

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Advisors, the UT Chancellor’s Associates and the UT Development Council.

Kathy Caldwell received the Alumni University of Tennessee She graduated from the University of Texas with honors in civil engineering in 1964. Upon graduation, she worked as a structural designer with Lockwood Greene in Oak Ridge, Tennessee. She moved to Austin, Texas, in 1987 and joined Parkhill Smith & Halbur as Director of the research and development group. In 1995, she joined the Texas Department of Highways and Public Transportation as executive director and CEO. Caldwell served as president of the American Association of Engineering Societies (AAES) from 2008 to 2009.

Kathy Caldwell, Pike.
Edwin McDougle (BS/CE ’69, MS/CE ’73), a former managing engineer of Jacobs Engineering’s Board of Advisors, was named Outstanding Engineer of the Year by the Nashville/Middle Tennessee Section of the American Society of Professional Engineers at the organization’s Engineer’s Weak Banquet on March 1, 2013.

H.M. Hashemian (MS/NE ’78), president and CEO of Jacobs Engineering Group, was appointed to the American Society of Mechanical Engineers (ASME) in Knoxville, has been selected by the US Small Business Administration in Washington, DC, as the 2013 Tennessee Small Business Person of the Year. The SBA honors Hashemian’s achievements and role in driving the nation’s economic growth, particularly for his hard work, innovative ideas, and dedication to the business and academic community.

James M. “Mike” Holmes (BS/CE ’87) was promoted to Lieutenant General on August 2, 2013. He now serves as Vice Commander, US Air Force, Washington, DC.

James Conwell (BS/MEch ’82, MS/MechE ’86) was named president of the Board of Trustees at Rose-Hulman Institute of Technology in Terre Haute, Indiana, and began serving on May 13, 2013. He is the institute’s fifteenth president. Before taking this position, Conwell served as vice president of the Jacobs Engineering Group, a Fortune 500 Company, where he led his group to record financial performance for the past five years. In addition to his successful and growth-oriented record, Conwell also includes teaching undergraduate engineering at Vanderbilt University in Nashville, Tennessee; Louisiana State University; and Grove City College in Pennsylvania. Founded in 1874, the Rose-Hulman Institute is an engineering college with 1,900 undergraduate students and one hundred graduate students.

John Hillman (BS/CE ’86) was honored at the White House in May, 2013, as one of twelve “Champions of Change” for his development of the hybrid-composite beam, a structural technology that helps build stronger, lighter, and longer-lasting bridges. Hillman was recognized in the transportation category, becoming the second UT College of Engineering graduate to receive this honor. Alumna Kimberley Caldwell (BS/CE ’85) was recognized for this in 2011.

David Harrell (BS/CE ’86, MS/CE ’87), PE, Regional Vice President at Vaught and Harrell Consulting Engineers in Knoxville, was elected 2013-2014 President of the American Council of Engineering Companies (ACEC) of Tennessee (ACEC), an organization whose membership includes more than 100 engineering firms across the state.

Harrill, a resident of Powell, Tennessee, has more than twenty-five years of experience in civil engineering, and has been with Vaughn and Melton since 2005. He is associated with numerous high-profile projects including the redevelopment of the 100 & 200 blocks of Gay Street in Knoxville, the SR-840 bypass around Knoxville, and the redevelopment of Cumberland Avenue between Alcoa Highway and Seventeen Mile Road. Harrell was chairman of the 2008 ACEC of Tennessee Engineering Excellence Awards Committee. Harrell is a member of the Tennessee Society of Professional Engineers.

Another College of Engineering graduate, Joe Ledford (BS/CE ’80), PE, Board Chairman for Barge Waggoner Sumner and Cannon, Inc., was elected Second Vice President of the ACEC of TN. Ledford, a structural engineer, joined Barge Waggoner in 1985 and has worked in its Knoxville office for twenty-six years. He currently serves as Chairman of the Board of Directors at Barge Waggoner. He is a registered engineer in Tennessee, Georgia, South Carolina, North Carolina, Missouri, and Alabama. Ledford is a member of the East Tennessee Industrial Council, the American Society of Civil Engineers, and the National Society of Professional Engineers. Founded in 1968, ACEE of Tennessee is a statewide organization with 20 chapters throughout the state of Tennessee, including the Knoxville chapter.

Arup Bandyopadhyay (BS/M Eng ’94) is the 2013 Chair of the West and Middle Tennessee Chapter of the Air & Waste Management Association. Bandyopadhyay is the Director of ENVIRON International Corporation in Brentwood, Tennessee.

Doug Brock (BS/CE ’92) was appointed manager of the Tennessee and Northwest Georgia locations of Kendall Electric Inc.

Inayat Husain (MS/CEF ’48) died on June 11, 2013. He was a resident of Karachi, Pakistan. After earning his MS degree at UT, Husain set up shop in 1958, founded and headed the newly formed Pakistan in 1948 and helped with the development of his country’s complex nuclear power and nuclear program, and held a variety of government positions relating to science and technology.

Jere Ballentine (BS/EE ’59) died on March 25, 2013. He was a resident of Dayton, Tennessee.

David Arthur Barford (BS/EE ’69) died on June 28, 2013. He was a resident of Chattanooga, Tennessee.

Herschel Bryant (BS/CE ’61) died on June 11, 2013, at the age of 100. He was formerly a resident of Stone Mountain, Georgia, and more recently of Indiana, Oregon.

Jack Thomas Carter (BS/CE ’57) died on September 24, 2010. He was a resident of Little Rock, Arkansas.

William H. Dodson (BS/CE ’50) died on May 3, 2013. He was a resident of Gainesville, Florida.

Joseph Owen Ellis (BS/CE ’59) died on November 8, 2013. He was a resident of Jupiter, Florida.
College of Engineering
Homecoming 2013

Save the Date
College of Engineering Alumni BBQ
On the Hill

The University of Tennessee College of Engineering invites you to Homecoming 2013 and the Annual Alumni Barbeque on the Hill.

Saturday, November 9, 2013

Three hours prior to kickoff of the Tennessee vs. Auburn game.

Join us for a barbeque lunch, including hot dogs for the kids.

Enjoy exhibits and demonstrations, reunions with former classmates and faculty, and games for both adults and children.

Register today and be a part of the tradition.

Costs:
$12.00/adults - $8.00/children under ten years of age

Register online at: www.volsconnect.com

For more information, contact Christina Parsons at (865) 974-2779 or e-mail engrdev@utk.edu.