CAPSTONE ENGINEER

SPRING 2011

TOUCHING LIVES

ENGINEERING THE FUTURE

THE UNIVERSITY OF
ALABAMA
ENGINEERING

CONTENTS

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30%
TOTAL RECOVERED FIBER
ALL POST-CONSUMER FIBER

Capstone Engineering Society
1-800-333-8156

Issue No. 43
Capstone Engineer is published in the spring and fall by the Capstone Engineering Society.

Tori E. Nelko
Designer

Benita Crepps
Proofreader

Jeff Hanson, Samantha Hernandez, Zach Riggins
Photography

Address correspondence to the editor:
The University of Alabama
Capstone Engineering Society
College of Engineering, Box 870200
Tuscaloosa, AL 35487-0200

Visit the College of Engineering website at www.eng.ua.edu.

Dean's message

Dear **Alumni** and **Friends**,

The College of Engineering recently launched a new program for current and prospective students, incorporating the many available activities they can pursue at the Capstone. The Engineering + Program is specifically designed so our students can meet their personal education goals and experience life fully at a major liberal arts and research university. Through the six E+ areas, our students customize their individual areas of interests and maximize their engineering educational programs.

As you explore this issue of the *Capstone Engineer*, you will gather that these six areas we have identified in the E+ Program have always existed at the University. The feature article explores how our current students incorporate the E+ areas in their studies and how alumni participated in these areas while they attended the Capstone. I hope you enjoy learning more about the E+ Program and how these focus areas have impacted our alumni's careers and are influencing our students' future professional plans.

Charles L. Karr

DR. CHARLES L. KARR
DEAN

ENGINEERING PLUS

With more than 170 years of educating engineers, UA's College of Engineering has a tradition few schools match. While we take great pride in our past, we are not satisfied with the status quo. As part of how we educate tomorrow's engineering and computer science professionals, we have designed a new program that emphasizes our students' academic paths and highlights their extracurricular achievements. The Engineering + Program customizes our students' individual interests by expanding their experiences in a wide range of areas, including internships, research, international travel, service, creative endeavors and projects.

LEARNING BEYOND THE CLASSROOM — UNDERGRADUATE RESEARCH E+

Alabama's engineering faculty not only teach engineering but also perform cutting-edge research in new engineering frontiers. Students can work side by side with faculty who are at the forefront of knowledge development.

DOUG MOORE
BSEE '87

RESEARCH IS THE FOUNDATION

With more than 25 years of experience in software research, design and development, Doug Moore has greatly impacted computer software application and implementation. He has been a partner and senior manager at several leading-edge-technology companies throughout the country.

Effective engineers solve problems, and the foundation for problem solving is research. Moore firmly believes the research skills and relationships acquired during his time at The University of Alabama impact his professional career daily.

"Engineering and computer sciences are increasingly complex, and my education provided a solid foundation from which to work and learn continually throughout my career," said Moore.

Imagination, creativity and structured research lead engineers to solve problems. "Imagination and creativity come naturally. However, quality instruction and practice will enable students to maximize these attributes," explained Moore.

During his time at the Capstone, Moore's involvement in research led to a unique business opportunity, and he left the University shortly before completing his master's degree. While in graduate school, he developed the Maxis Report Management System, which is a data transfer and analysis application that was eventually used by more than 2,000 insurance agencies nationwide. He subsequently founded CSS Inc., which ultimately merged with the largest software-development company in the Chicago, Ill., area.

"If you're not at least research minded, it's very difficult to keep up with such a fast-moving career," said Moore. "A student's involvement in research while in school becomes a differentiator in the job market. Likewise, staying involved in research keeps one relevant and less likely to become outdated throughout a long engineering career."

Doug Moore attending a Texas Instruments research meeting in 1988. Left to right: Doug Moore, electrical engineering graduate assistant; Dr. Jeff Jackson; Doug DeGroot, then the research branch and marketing manager for Texas Instruments

KYLE SCOTT
SENIOR, AEROSPACE ENGINEERING AND MECHANICS

The University of Alabama's research efforts are focused on making a hands-on difference in the lives of the people we serve. Our world-class faculty, staff and students are leading the way as our state enters a period of outstanding growth and accomplishment — exploring new technologies, developing the mind power to advance scientific discovery and finding ways to harness the power of creative thought that will fuel the economy of the future.

"I chose UA for the emphasis on experiential education. Through undergraduate research and co-op, the College of Engineering generates tremendous opportunity for undergraduates to get our hands dirty with engineering technology and experience a variety of professional engineering challenges," said Kyle Scott, a senior majoring in aerospace engineering and mechanics.

Scott began working with Dr. Paul Hubner's Low Reynolds Number Aerodynamics group at the beginning of his sophomore year. Since 2007, he has worked with Hubner on flexible membrane airfoil aerodynamics targeted for application to Micro Air Vehicles. As the work is funded primarily through the Air Force Office of Scientific Research, he has been exposed to numerous industry-relevant challenges.

"In addition to the lab time and academic challenges, my involvement in undergraduate research has generated several peripheral opportunities. I have presented my research at both student and professional conferences, which is an extremely exciting opportunity for networking and exposure to the exciting work across our industry," said Scott. "Additionally, Dr. Hubner funded me as a research assistant at an MAV-focused research facility near Eglin Air Force Base in Florida. I was able to work with Air Force Research Labs employees along with other Air Force-funded academics pursuing similar research interests."

At the Capstone, undergraduates have ample opportunities to participate in research projects. Through undergraduate research, students work on the newest equipment pushing the state of the art and developing even newer technology. Most students find it is incredibly easy to learn while working with a professor on a research team that takes the examples from the classroom into the experience of a research lab.

"Undergraduate research is easily my most fun academic pursuit because it provides the opportunity for me to get in the labs, push the buttons and work with the technology that motivates my interest in engineering," said Scott. "I have found that academic research requires a new way of thinking and a thoroughness in analysis required of few other disciplines. The entire intent of undergraduate research is to extend the state of technology, which means that there are no answers in the back of the book. Undergraduate research has forced me to develop the critical analysis capability to distrust data and explanation until I can convince myself of their accuracy."

WHISTLE WHILE YOU WORK — COOPERATIVE EDUCATION AND INTERNSHIP E+

Working with engineers in corporate environments, today's students are learning firsthand about the engineering workplace. Students are gaining engineering experience, earning competitive salaries and entering valuable networking channels.

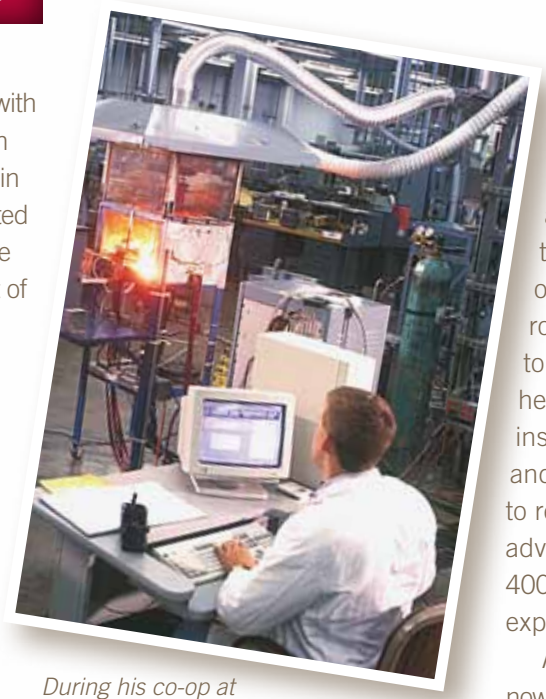
MICHAEL JOHNS
BSME '97, MBA '05

EXPOSURE INTO THE PROFESSIONAL WORLD

Michael Johns began his career with Southern Research Institute as an engineering co-op student at UA in 1994. Since then, he has dedicated his career to the company, and he currently serves as vice president of the engineering division.

"I chose to co-op with Southern Research Institute over an offer with another company because I thought it offered a better engineering-learning experience," said Johns. "Being in a research environment really drove home the principle of what I was learning in the classroom and allowed exposure into the professional world as to what was expected of young engineers when they got out of school."

Through the Co-Op program, Johns gained more of a practical understanding of the concepts learned in school, rather than just theoretical. "Often times, when I took a class, I had already been exposed to the material through real-world, on-the-job applications of the concepts," said Johns. "The co-op program also helped me tailor my electives to better match what I needed to learn to be successful."



During his co-op at Southern Research, Johns automated a test rig that simulated the thermal boundary conditions of composite materials in a rocket-motor firing.

Since Southern Research Institute is a leading research organization working in the life sciences, engineering and environmental protection, Johns was not only exposed to leading-edge research in the classroom but also in the workplace.

"One of my major projects while co-oping at Southern Research was to automate a test rig that simulated the thermal boundary conditions of composite materials in a rocket-motor firing. I was able to pull from my knowledge of heat transfer, control systems, instrumentation, machine design and mechanics of materials to redesign the system to heat advanced carbon composites to 4000°F in about five seconds," explained Johns.

As a practicing engineer, Johns now sits on the other side of the hiring desk and can relate the importance of co-ops and internships to the professional industry.

"I certainly recommend the Co-Op Program to every engineering student as there is no substitute for on the job training in your chosen field," said Johns. "As someone who hires a lot of young talent from universities across the country, I can tell you that co-op experience is almost a prerequisite to applying for that first job as an entry level engineer."

TYLER MATHEWS
JUNIOR, CIVIL ENGINEERING

Cooperative Education is a special academic program at UA in which students alternate periods of full-time study with periods of full-time employment. This program offers work related to the academic major or career interests of each student, greatly enhancing the student's employment prospects after graduation.

By alternating semesters of full-time study with semesters of full-time employment, co-op students acquire important career-related skills and earn money to help finance their educations. While on co-op, they work with professionals in their fields who supervise their training and work. During employment periods, co-op students earn competitive salaries and valuable on-the-job experience.

"Not only does co-op represent a student's first time to be working in their respective profession, but it also allows for many students to move to a new city for work, which provides the true young professional experience," said Tyler Mathews, a junior majoring in civil engineering. "I have had the unique experience of working at Brasfield and Gorrie and moving to Nashville and Birmingham. What great opportunities to explore and learn!"

While in school, students keep regular course schedules. Students maintain their full-time student status while employed and have priority registration status each semester.

"Co-op is impacting my educational understanding in many ways," said Mathews. "It is so much easier and more enjoyable to relate to lessons and examples in lectures after you have seen them used or experienced firsthand in the field."

Learning in the classroom and applying it to the work environment occurs consistently through co-op. From estimating to contract work and from research protocol to safety issues, co-op students constantly learn in the classroom and on the job site.

"Recently, I was talking contingency with a subcontractor at the end of a job, and we were pushing some dollars around at closeout. I realized it was exactly what I had learned listening to Dr Back in class," explained Mathews. "It was exciting to be given the privilege by Brasfield and Gorrie to have the opportunity for such meaningful discussions and decisions with subcontractors as part of my co-op experience."

Hugh (BSCET '81), Regina and Tyler Mathews at a Brasfield and Gorrie work site in Nashville, Tenn.

THE WORLD IS FLAT — INTERNATIONAL E+

Today's engineering applications do not stop at state or national boundaries; they are multinational undertakings using worldwide work forces. Students are preparing to be leaders in the global environment of the engineering profession by experiencing international adventures.

WILL QUINBY
BSMINE '69, MSMINE '70

BUSINESS OF ENGINEERING IS GLOBAL

After graduating from the Capstone, Will Quinby began an Army career in the 27th Airborne Engineer Battalion. He then served as a project engineer responsible for building a U.S. Coast Guard Long Range Aid to Navigation (LORAN-C) station on the Italian island of Lampedusa, about 60 miles off the coast of Tunisia.

Quinby's work on the Panama Canal expansion

"During my first overseas tour, I learned that the work pace doesn't always mean 8 a.m. to 5 p.m.," said Quinby. "I worked with an Italian construction contractor, the Italian citizens of the island, the 28 U.S. Coast Guardsmen and myself. The Italians worked hard from about 8 a.m. to 1 p.m., often accompanied by a lot of singing; then we had the big meal of the day and took a siesta until 3 p.m., and back to work until about 6 p.m. I found it to be an easier-going approach to life."

Quinby continued his military career with a three-year tour in Riyadh, Saudi Arabia, where he worked as a project engineer building Saudi Arabia's King Abdulaziz Military Academy. During his second military tour in the 1970s, he worked with contractors from Saudi Arabia, Lebanon, Jordan, Egypt, China, Taiwan, Korea and the United States.

"I found the Saudis to be friendly, generous, hospitable and trying their very best to distribute the oil wealth throughout the kingdom. At the time, there were schools and clinics and sports facilities being built everywhere you looked," said Quinby. "I remember taking our Boy Scouts into the desert for campouts and having Bedouins drive their Toyota pickups up to the camp, and we would share food and stories around the campfire."

Quinby's third and fourth overseas military tours were to the Republic of Korea, a country engaged in breakneck modernization. "My engineer construction units were half U.S. soldiers and half Korean, so I had the chance to see Korean life up close," explained Quinby. "In the countryside, homes often had packed dirt floors and thatched roofs compared to those in Seoul, which was a rapidly modernizing city. The Koreans were friendly, hardworking, homogenous people, with many centuries of tradition. I remember some of the older citizens would bring baskets of food out to our troops when we were out on maneuvers. Then it was a very different culture from our own, but today South Korea is a beacon of capitalism in the Far East, evidenced by Internet coverage greater than that of the states."

In private engineering practice, Quinby has worked assignments in Kuwait, the United Arab Emirates, Saudi Arabia, Germany, the United Kingdom and Spain. The longest civilian assignment was a year on the startup team for the Panama Canal Expansion, a $5.25 billion program to add larger locks and deepen and widen the Atlantic and Pacific entrance channels, as well as through the Gaillard Cut, or Culebra Cut, and Gatun Lake.

"Business, particularly the business of engineering, is global, so the opportunities for rewarding assignments are endless," said Quinby.

CORY MCINVALE
SENIOR, ELECTRICAL ENGINEERING AND SPANISH

From the University's study abroad programs to independent international adventures, engineering students are experiencing the best the world has to offer. By learning about differences in cultures to business practices, students are better prepared to address global issues with an engineering perspective.

"Since my sophomore year, I've been working on a second degree in Spanish, and in order to help my fluency in Spanish, I decided to study abroad," said Cory McInvale, a senior majoring in electrical engineering and Spanish. "I have completed two summer terms abroad during my time at the Capstone; in the summer 2009 to Bilbao, Spain, and then in the summer 2010 to Alcalá de Henares, Spain."

Through the University's study abroad programs, students take classes that examine a wide range of topics, including languages, literature, art, history and engineering. In addition to classes, students experience culture firsthand through living with host families or in apartment-style flats to dining and eating local cuisine.

"One cultural difference I noticed was the way Spaniards ate. Unlike Americans, Spaniards will eat a three- to four-course meal for lunch between 2 to 4 p.m., and then they will eat a very small dinner around 10 p.m. Sometimes people would go out around 8 p.m. to get a tapa or pintxo, which is a small snack accompanying a drink," explained McInvale.

McInvale also noticed engineering challenges during his times in Spain. "One cultural difference pertaining to engineering was that much of the country worries about their electricity use, and they discourage wasting energy," said McInvale. "One morning I had my bedroom light on and my host mom came in the room and politely explained that we didn't need the lights since it was sunny outside. The main reason they discourage wasting utilities comes from the high electricity costs in Spain."

"Studying abroad changed my perspective on engineering by exposing me to different cultures and different ways of thinking," said McInvale. "I learned that the challenges we face are not necessarily the same challenges faced by other nations. Also, this experience taught me how to work with people that come from different backgrounds and have different viewpoints."

Cory McInvale near the Royal Palace of La Granja de San Ildefonso. The fountains at this palace use only gravity to project water, and one fountain is capable of projecting water more than 150 feet.

IT TAKES A VILLAGE — SERVICE LEARNING E+

Service learning integrates meaningful community service with instruction, working on projects within the state of Alabama as well as projects in the developing world. Engineering students are learning about civic responsibility and engagement through firsthand experiences.

L. LAMAR FAULKNER
BSCHE '64

ENGINEERING SKILLS HELP DELIVER NECESSITIES

From networking possibilities to enriching lives, Lamar Faulkner easily acknowledges how much service impacted his career as a chemical engineer. For Faulkner, volunteering has centered on his two passions: faith and the Capstone.

From the day that Faulkner walked across the stage to receive his degree, he has been a dedicated student recruiter for the University. In addition to his three sons each graduating from the Capstone, Faulkner has thoroughly integrated his efforts with admissions and regularly schedules visits for students from his area.

"Shortly after I began working in Anniston at Monsanto, I read of an area star student who was considering chemical engineering at UA. I arranged some contacts for his campus visit, and the rest is history," said Faulkner.

In addition to volunteering his time for the University, Faulkner is active at his church where he has taught a Sunday school class for more than 30 years and served as a deacon for First Baptist Church, of Milton, Fla.

Through his church, he learned of RAM, the Romanian-American Mission, which at the time was formed in Robertsdale, Ala., but is now headquartered in Decatur, Ala. Faulkner's first mission trip to Romania was in 1996, and he has been going annually for the last 14 years. He has served the group as chairman of the board and currently serves on the executive committee as chair of the finance committee.

The 2010 team gathered for a group photo. This trip was especially meaningful for Faulkner because his 16-year-old grandson, Caleb, made his first mission trip. Caleb is the son of Al Faulkner, BSChE '88. Through this special trip, Faulkner believes the service legacy continues in the family.

"For many of these trips, I serve as team leader of up to 25 team members, including a doctor, nurses, dentist and other volunteers. Our roles include dispensing adult and children vitamins and limited prescription medications and evangelization with adults and children," explained Faulkner. "Last year during the four-day mission, the doctor and nurses saw more than 800 patients, and we had over 100 professions of faith."

Faulkner's engineering expertise came into play in 2002 with a special shipment for RAM. He became the lead coordinator of a container shipment to Braila, Romania, a city with more than a quarter million people and no mammogram machine. Baptist Hospital in Jay, Fla., was replacing its machine, and Faulkner's youngest son, Mark, was the hospital administrator.

"After several months of red tape in Romania, we gathered a container load that included the mammogram machine, six industrial sewing machines, more than 100 boxes of new clothing, about 50 boxes of medical supplies, 15 boxes of English and other school books, 10 boxes of blankets, and cloth for the sewing machines," said Faulkner. "My engineering skills were needed as we loaded the mammogram machine, which fit in the container by just an inch. Loading as much as possible in the container was vital, so my abilities to work with various sizes and shapes helped us deliver many valuable necessities to the citizens of Braila."

LISSA PETRY
SENIOR, CIVIL ENGINEERING

As if majoring in engineering weren't enough to keep our students busy, many make the time to fulfill volunteer and service activities, impacting the lives in our communities. From the University's Community Service Center to professional societies and Greek organizations to churches, UA students have innumerous ways to contribute through volunteerism.

Lissa Petry, a senior in civil engineering, has been involved in several service-learning opportunities during her time at the Capstone. Among her many obligations, she has worked on homes for Habitat for Humanity, judged Science Olympiads for middle school and high school students, and been active with UA's Engineers Without Borders. With EWB, Petry traveled to Vietnam and Cambodia, working on two drinking-water projects.

"These experiences have helped prepare me for my career as an engineer because I think community involvement is vital throughout your life. It is always important to give back," said Petry. "Many companies place a high value on community involvement, and a lot of companies partner with us in these service events, so service events actually become professional networking events."

From working with people of all ages and socio-economic and cultural backgrounds to learning valuable life skills, service and volunteer activities provide students the chance to improve someone's life and to strengthen their own abilities.

"EWB has helped strengthen my relationship with my peers and professors and as a result has greatly enriched my time at the Capstone," said Petry. "I've had the opportunity to network with professionals, set up meetings, travel to conferences, be involved in research, work on design projects, and schedule and manage events. This has increased my time management and organizational skills."

"I would highly recommend students be involved in service and volunteer projects because they provide experiences that other opportunities cannot. Not only does it provide real-world experience and networking, but service directly impacts people's lives," explained Petry.

Petry collecting water samples at a Cambodia schoolhouse

Petry experiencing local culture during EWB's trip to Cambodia and Vietnam

IF YOU BUILD IT — PROJECT BASED E+

Our students don't have to dream about racing their own Formula car. Each year, Alabama's engineering students compete in a wide range of engineering competitions, from Formula SAE to mini-baja races, and from robotics to concrete canoe races.

SARAH GRANO
BSME '09

WORK HAND IN HAND WITH OTHERS

By leading the Crimson GRITS (Girls Racing in the South) baja team, Sarah Grano relied heavily on all aspects of teamwork. Grano's experiences with the baja team taught her the importance of time management, communication, prioritization skills, and creativity that she now utilizes daily in decision making for her role as a mechanical engineer for Ingalls Shipbuilding.

"Baja was a project that relied heavily upon teamwork and the ability to convey ideas clearly," said Grano. "At my job with Ingalls Shipbuilding, I am constantly working with people in many different states on large projects, so it is vital that I be able to not only convey the job that needs to get done but also work hand in hand with others to accomplish the task."

The Society of Automotive Engineers sponsors the mini-baja competition each year, and students are asked to design and build an off-road vehicle that will survive rough terrain, rolling hills, sandy flats and a challenging water course. The goal of the competition is to provide SAE student members with a challenging project that involves the planning and manufacturing tasks encountered when introducing a new product to the consumer market. The overall goal of the competition is for teams to compete against one another to have their design accepted for manufacture by a fictitious firm. Students must function as a team not only to design, build, test, promote and race a vehicle within the limits of the rules but to also generate financial support for their project.

"Baja also teaches many skills in time management and organization," said Grano. "At school, you constantly have classes, homework and any extracurricular activities. In order for everything to be accomplished on time, you have to prioritize assignments and work efficiently. This is another skill that is very valuable to learn for use in the workforce."

Through team projects, engineering students are learning skills that are typically not taught in the classroom but definitely enhance their professional marketability. From welding to programming, students are exposed to so much more than just traditional engineering theories.

"Aside from all the technical positives, it was just simply a lot of fun," said Grano. "I learned how to weld, run a mill and a lathe, program a CNC machine, and many other skills that are in a machine shop. A specific instance where we applied classroom knowledge to our baja was with the recommended tubing for the frame. Teams are allowed to substitute with other sizes and wall thicknesses as long as you can prove the two have equal strength. Our team chose to go with chromoly tubing for its strength and weight, so we had to complete the required calculations to prove it was equal."

Left to right, 2007 mini-baja team: Sarah Grano, Meredith Caldwell, Dr. Beth Todd, Martha Addison and Christina Ibrahim

EMILY LLOYD
SENIOR, MECHANICAL ENGINEERING

With more than 27 engineering student organizations from which to choose, engineering students can be a part of a team that designs and builds amazing projects for various competitions. From learning about specific intricacies of design to time management, engineering students are gathering experiences and learning skills that are hard to teach in the classroom.

"Not all educational lessons can be acquired from a book. Most lessons are better learned through hands-on experience and can be life-changing," said Emily Lloyd, a senior in mechanical engineering and captain of Team Rocket Girls. "Team Rocket Girls has been one of those life-changing experiences for me. Through all the workshops, research, scheduling and implementation of guidelines, I ultimately discovered my love of technical design and how I favor that role over a leadership or managerial role."

Engineering students learn firsthand that team projects depend not only on technical skills but also on the attitude and work ethic of the team members. "Team projects will be common in my engineering career, and this project gave me insight on the best approach to bring team members together for compromises," said Lloyd.

Emily Lloyd (left) and Kelly Cannon (right) work on the rocket.

As a first-year all-female team competing in the NASA-sponsored University Student Launch Initiative, Team Rocket Girls is challenged to design, build, launch and recover a reusable rocket capable of reaching an altitude of one mile. The rocket must also carry a scientific payload; UA's payload will collect data to explore the behavior of flow over the surface of a rocket during flight. The teams are judged not only on the performances of the flights but also on their abilities to fully document their designs.

"Throughout this rocket project, I have utilized many skills I learned in the classroom with the obvious tools being technical knowledge, such as fluid mechanics, dynamics and experimentation techniques," said Lloyd. "While the technical design is at the heart of the project, other skills such as communication, dependability and ability to follow guidelines have been essential for success."

NO LIMITS TO YOUR IMAGINATION — CREATIVE ENDEAVORS E+

Engineering students apply their skills and backgrounds to a wide range of fields, such as dance, performing art, poetry, graphic novels, short videos and animation, painting, sculpture and film. Engineering students are working with students from the arts in design, construction and performance of many of the cultural activities taking place on campus.

KATY MIDDLETON
BSCHE '09

CREATIVITY AND INNOVATION ARE NEXT STEPS OF EVOLUTION

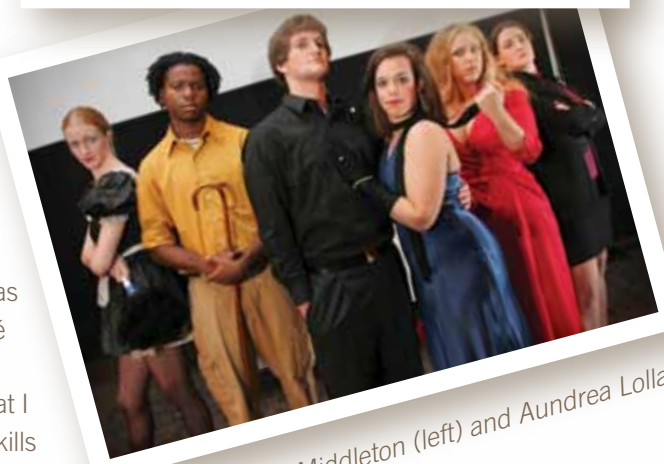
As a founding member of the College of Engineering Does Amateur Radical Theater (COE Does ART), Katy Middleton understands the importance of integrating creative outlets with engineering basics. Established in 2007, COE Does ART aims at disproving the stereotype that engineers are not capable of producing creative works of art.

"I think creativity is a huge asset to any engineer, mostly because the reason I'm employed is to build a better mousetrap," said Middleton, now a process control engineer for Savannah River Nuclear Solutions. "Engineers work to make things better, more efficient, more user-friendly, more cost effective for a company, and once all the obvious things are gone, it takes creativity and imagination to take the next step in an evolution. Through creativity, I'm able to see things they don't see, and ask questions they don't ask, which leads to a better process and a better product."

From meeting new people to taking the ever-important break from the same process, creative outlets allow engineers the opportunity to think outside the box and explore realms that lead to new creations.

"The best thing about being involved in creative projects is that it's really nice to get out of your head sometimes," said Middleton. "I spent a lot of time in school focusing on the tangible, the measurable and the proven. COE does ART was a great vacation from that mentality and gave my brain a break so I didn't get burned out."

Working in creative channels also helps students practice important life skills, such as public speaking. "Working with COE Does ART was wonderful on a résumé because it made me stand out. It proved that I had public-speaking skills in an unusual format for engineers," said Middleton. "Being a good communicator is a valuable asset at work."



Top photo: Katy Middleton (left) and Aundrea Lollar (right)

Middleton, the fourth from the left, performing in COE Does Art's "CLUE: The Musical"

JORDAN MATTHEWS
SENIOR, MECHANICAL ENGINEERING

With more than 300 student organizations at the Capstone, engineering students have ample opportunities to get involved through multiple creative outlets. From experiencing the benefits of a liberal arts university to befriending students from all majors, engineering students are laying the groundwork for how creativity will impact their future careers.

"The University of Alabama Million Dollar Band has helped prepare me for my engineering profession in many ways, including organizing a large group for a common goal, responsibly minimizing error and producing a quality product through high-class and entertaining performances for the University, its fans and supporters," said Jordan Matthews, a senior majoring in mechanical engineering. "Similar to an engineer, as drum major of the MDB my experience has led me through challenging situations, where the end goal is evident but the processes to get there aren't always laid out clearly."

Through involvement in the Capstone's creative organizations, engineering students are learning skills that will greatly advance their professional careers. Students are becoming competent in time management, leadership and teamwork.

"One thing I tell incoming freshmen when they are worried about the time commitment

associated with the MDB is that college is all about learning time-management skills," said Matthews. "The MDB will help you refine those skills because it is not only an activity but also a class that requires attendance at every rehearsal."

"Ultimately, I would recommend being a part of any creative outlet on campus," explained Matthews. "The opportunities that the MDB have given me are innumerable and have greatly affected my life while in college. I have done things I never thought I'd have the opportunity to do, like attending and leading the band in a national championship football game in the Rose Bowl."

Jordan Matthews and his twin brother, Logan, who served as the Auburn mascot, Aubie

THE CAPSTONE ENGINEERING SOCIETY ... TOUCHING LIVES

By Nancy Holmes, manager of the Capstone Engineering Society

When asked about the Capstone Engineering Society, the image from the Touching Lives campaign comes to mind: where a single drop of water … becomes a part of something bigger, a tremendous wave ... a great unstoppable force. Just like this illustration, you are a part of something bigger. Each of our individual contributions makes a significant impact on the CES and the College of Engineering.

Impacting and Engaging Students … Changing Lives

With the generosity of our members and friends, the Capstone Engineering Society awards scholarships to deserving engineering and computer science students, sponsors the Ambassadors for the College of Engineering (ACEs) student program, and recognizes outstanding seniors from each discipline for their individual accomplishments.

Since the establishment of the Capstone Engineering Society Alumni Endowed Scholarship in 2006, 12 deserving students have received four-year scholarships. Benjamin Butler, a freshman scholarship recipient, shared the following: "This scholarship makes it possible for me to attend the college of my choice, gives me the opportunity to earn a degree in my area of interest, and paves the way for my future in engineering. I appreciate the opportunity to attend The University of Alabama on an academic scholarship."

Throughout the year, the CES reaches out to our students, as they are essential to the future of the University, the College of Engineering and the CES. Through letters, emails, networking opportunities and other efforts, the CES shares information and encourages students as they navigate the path to completing their degrees. The CES is dedicated to forging relationships with students and alumni that will last a lifetime!

"This scholarship makes it possible for me to attend the college of my choice, gives me the opportunity to earn a degree in my area of interest, and paves the way for my future in engineering. I appreciate the opportunity to attend The University of Alabama on an academic scholarship."

—Benjamin Butler

Recognizing Accomplishments … Celebrating Lives

Each year, the CES celebrates the achievements of our alumni and faculty. One special annual event hosted by the CES is the Distinguished Engineering Fellows ceremony. Select alumni and friends receive this honor, which is considered the highest commendation given to those who have strengthened the reputation of the College of Engineering. Another prestigious award provided by the CES is the Outstanding Alumni Volunteer of the Year, which honors a person who has provided outstanding volunteer assistance to the College. In addition, the Capstone Engineering Society recognizes faculty and staff, who have faithfully served the College, with tenure and retirement receptions.

Uniting Alumni and Students … Connecting Lives

Through the *Capstone Engineer* magazine, the dean's newsletters, Good E-News, the CES website, Facebook, and LinkedIn, the CES informs alumni and friends of the College's activities and provides updates on research, and student, alumni and faculty news. At special events, like homecoming and the CES Golf Tournament, alumni and friends gather to celebrate and share their memories of the Capstone. It is not uncommon to hear alumni comparing stories of their time on campus about the professor who became their biggest champion or the class that had the greatest impact.

Your support makes all of these things a reality. You make a difference.

The Capstone Engineering Society … *Touching Lives.*

"As a member of The Capstone Engineering Society, I mentor students who are considering medicine as a career. I believe that my achievements in life are directly related to my engineering education from The University of Alabama. The Capstone Engineering Society is a wonderful professional and social network offering students and alumni another resource for a successful career."

—Mark E. Cooper, MD, FACS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UA ALUMNI INDUCTED INTO ALABAMA ENGINEERING HALL OF FAME

The State of Alabama Engineering Hall of Fame held its induction ceremony on Feb. 26, 2011. The following UA alumni received the prestigious honor.

Although **George T. Goodwyn**'s career began in the U.S. Army as an airborne combat engineer in Germany, he put his civil engineering training to work upon his return to Montgomery, Ala., where he joined Goodwyn & Williamson Bridge Construction Co. as engineer and vice president. Two years later in 1965, he formed Goodwyn Engineering Co., and within 10 years the company had grown to 17 employees. In 1975, he joined with his college friend Donald Mills to form Goodwyn and Mills Consulting Engineers, and then 10 years later, Steve Cawood joined the partnership to form the present Goodwyn, Mills & Cawood Inc. The firm is one of the largest and most successful multidisciplinary design firms in the Southeast, with seven offices in Alabama and offices in Florida, South Carolina and Tennessee.

In 2010, Goodwyn received the Volunteer of the Year Lifetime Achievement Award from the Volunteer and Information Center and the Junior League of Montgomery. He is the first recipient of the Lifetime Achievement Award, which honors outstanding leadership and commitment to improving the lives of residents in the River Region. Goodwyn was instrumental in creating Leadership Montgomery with the goal of bringing leaders together to improve the city. He helped create Envision 2020, a community-driven organization that takes an in-depth look at Montgomery's future.

Henry Hoyt Harris has significantly contributed to national defense through his development and deployment of some of the nation's key air defense weapon systems. A 1950 graduate of The University of Alabama with a degree in electrical engineering, Harris spent 28 years of his career with the U.S. Army Missile Command, advancing to the top civilian position of deputy to the commanding general. During his time with the Army Missile Command, he was a member of the NATO Mutual Weapons Development Program. Harris served on the Patriot Source Selection Evaluation Board and was later appointed director of product assurance and testing for the system during the most fragile stage of its development.

Establishing the need for a man-portable air defense system, Harris orchestrated the campaign for a weapon that became known as the Stinger Weapon System. He became the first project manager and stayed with the program through the first four years of research, development and production. Stinger, a shoulder-fired missile, is an integral part of the country's air defense plan. Harris attained the highest rank of a career government employee: the Senior Executive Service.

Jack W. MacKay's enthusiasm and dedication to his profession drives him to remain a practicing engineer, even at the age of 101. MacKay is considered a pioneer of cast iron and steel pipe, and the field would not be where it is today without his efforts.

MacKay earned two bachelor's degrees from the Capstone: aerospace engineering in 1935 and civil engineering in 1936. He began his career with American Cast Iron Pipe Co. in Birmingham, Ala., where he served for 39 years. MacKay played a leading role in the development and expansion of ACIPCO's steel-casting facilities, the acquisition of the steel-pipe plant and the company's entry into the ductile-iron-pipe field. He invented, patented and named the American Fastite joint, which became the company standard joint for pipe and fittings in the water and wastewater industries. When he retired in 1975, he was vice president of sales, secretary and a member of the board of directors and the board of management.

After retiring from ACIPCO, MacKay served as vice president of NTW Tire Co. until 1982. He has worked as an engineering consultant for Caldwell-MacKay, his son's company, since 1981. He remains a licensed professional engineer in the state of Alabama.

COURINGTON ANNOUNCED AS NEW CAPSTONE ENGINEERING SOCIETY NATIONAL CHAIR

The Capstone Engineering Society announced David G. Courington has assumed the role of national chair. During his two-year term, Courington will preside over all CES board meetings and serve on the committee that elects new board members.

BIG THANKS

We appreciate our recent partners in UA's College of Engineering family for their support of our students and programs.

- **Mr. and Mrs. James A. Blackwell Jr.** for continuing support of the James A. Blackwell Jr. and Billie F. Blackwell Endowed Scholarship
- **Dr. Robin B. and Mr. William P. Buckelew** for continuing support of engineering scholarships
- **Chevron** for continuing support of the Chemical Engineering Fund, the Chevron Chemical Engineering Scholarship, the Chevron Mechanical Engineering Scholarship, the Mechanical Engineering Gift Fund, the Multicultural Engineering Gift Fund, and the Society of Women Engineers Gift Fund
- **Cisco Systems Inc.** for support of the Electrical Engineering Gift Fund
- **Drummond Company Inc.** for continuing support of the Drummond Company Annual Scholarship in Engineering and the Drummond Company Inc. Endowed Scholarship
- **Eastman Chemical Co.** for continuing support of the Chemical Engineering Fund and the Multicultural Engineering Gift Fund
- **Ms. Marce Fuller** for continuing support of the Marce Fuller Endowed Scholarship
- **Mr. and Mrs. Ronald W. Gray** for continuing support of the Mr. and Mrs. Clifford S. Gray Endowed Scholarship
- **Halliburton Foundation Inc.** for establishing the Halliburton Scholarship Fund
- **Mr. and Mrs. Robert H. Haubein** for continuing support of the Mr. and Mrs. Robert H. Haubein Endowed Engineering Scholarship
- **Dr. Bernice K. Hodge** for support of the Mechanical Engineering Gift Fund
- **Mr. Harry H. Holliman** for support of the Chemical Engineering Fund
- **Mr. and Mrs. Michael D. Johns** for establishing the Thomas and Bonnie Culhane Endowed Scholarship
- **KBR Inc.** for establishing the KBR Endowed Scholarship
- **Mr. Jack W. MacKay** for continuing support of the Jack W. and Gweneth M. MacKay Endowed Scholarship
- **Mr. and Mrs. Richard M. MacKay** for continuing support of the Rick and Barrett Brock MacKay Chemical Engineering Discretionary Fund
- **McAbee Construction Inc.** for continuing support of the McAbee Construction Inc. Endowed Scholarship
- **McAbee Foundation** for continuing support of the McAbee Foundation Scholarship
- **Mr. Guy K. Mitchell** for continuing support of the Guy K. Mitchell Jr. Endowed Scholarship
- **Mr. and Mrs. Terry Neeley** for continuing support of the Terry L. Neeley Endowed Scholarship
- **Northrop Grumman** for continuing support of the Aerospace Engineering Gift Fund
- **Mr. Alsey C. Parker Jr.** for continuing support of the Alsey Clements Parker Memorial Endowed Engineering Scholarship
- **Ms. Jacqueline D. Pirkle** for continuing support of the Laura Spence Davis Endowed Support Fund
- **Mr. and Mrs. Mark A. Roberts** for continuing support of the Mark A. and Chrystine B. Roberts Endowed Engineering Scholarship
- **Robins & Morton** for continuing support of the Robins & Morton Scholarship
- **Mr. Thomas Clark Russell** for establishing the Thomas C. Russell and Nancy A. Carper Endowed Scholarship
- **Mr. Robert S. Ryan** for continuing support of the Aerospace Engineering and Mechanics Endowed Scholarship and the Engineering Scholarship Fund
- **Saiia Construction LLC** for continuing support of the Saiia Construction LLC Endowed Support Fund
- **Mr. and Mrs. Joseph E. Sanders Jr.** for continuing support of the Joe and Lavonne Sanders Chemical Engineering Scholarship
- **SASHTO** for continuing support of the Civil Engineering Scholarship Fund
- **Mr. Dennis Schroeder** for continuing support of the Dennis A. Schroeder Endowed Scholarship
- **Mr. and Mrs. Charles A. Sipe Jr.** for continuing support of the Charles A. Sipe Jr. and Nelle Sipe Endowed Scholarship
- **Society for Information Management – Alabama Chapter** for continuing support of engineering scholarships
- **Mr. Wallace A. Swanson Jr.** for establishing the Wallace A. and Thelma C. Swanson Endowed Scholarship
- **3M Foundation – Decatur** for continuing support of the Minnesota Mining and Manufacturing Minority Scholarship and the Minnesota Mining and Manufacturing Company Scholarship
- **URS Energy & Construction Inc.** for support of the Civil Engineering Gift Fund
- **Walter Schoel Engineering Co. Inc.** for continuing support of the Walter Schoel Company Endowed Scholarship
- **Mr. Joe C. Weaver Jr.** for establishing the Joe C. Weaver Jr. Endowed Scholarship
- **Mr. L. Brunson White** for support of the Lonnie B. White Jr. Memorial Endowed Engineering Scholarship

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VAN DE LINDT JOINS COLLEGE AS DRUMMOND CHAIR

The College of Engineering recently named Dr. John W. van de Lindt as the Garry Neil Drummond Endowed Chair in civil, construction and environmental engineering. As the Garry Neil Drummond Endowed Chair, van de Lindt will work to advance research in areas related to improving the built environment by making structures and structural systems perform to the level expected by their occupants, the government and the public. His research projects specifically develop and test applications of performance-based engineering of building systems and bridges for earthquakes, hurricanes and floods. Throughout the last 10 years he has successfully led federal, state- and industry-sponsored projects totaling $6.1 million.

The Board of Trustees of The University of Alabama established the Garry Neil Drummond Endowed Chair of Mining Engineering in 1977 with gifts from Garry Neil Drummond, the coal mining companies in the state of Alabama and Drummond's colleagues in the mining industry. In 1997, the board amended the Garry Neil Drummond Endowed Chair; it was transferred to the department of civil, construction and environmental engineering and was renamed the Garry Neil Drummond Endowed Chair of Civil Engineering.

CCEE ANNOUNCES NEW JOINT JD AND MSCE PROGRAM

Civil engineering students interested in law can now earn a master's degree in civil engineering and a Juris Doctor through a new joint program with UA's School of Law. Students admitted to the program will be able to complete the program with 96 credit hours versus the 120 credit hours needed if the degrees were pursued separately.

FRIDLEY RECEIVES ASCE ExCEEd LEADERSHIP AWARD

Dr. Kenneth J. Fridley, professor and head of civil, construction and environmental engineering, received the American Society of Civil Engineering's ExCEEd Leadership Award. The award honors an ASCE member who has shown exceptional leadership and dedication to educational activities within the organization. It is presented by the ASCE Education Activities Committee at the American Society for Engineering Education Annual Conference. ExCEEd is ASCE's program for excellence in civil engineering education.

UA HONORS TEACHING AWARD WINNERS

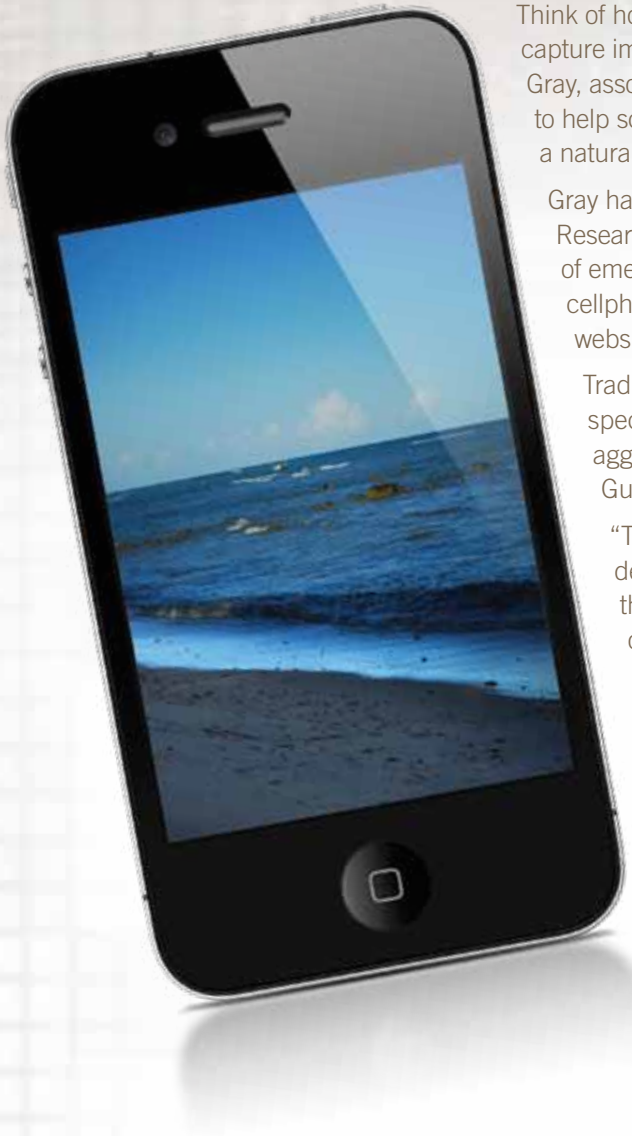
The University of Alabama National Alumni Association announced the 2010 recipients of the University's highest honor for excellence in teaching: the Outstanding Commitment to Teaching Award. The 2010 recipients included Drs. Pauline Doherty Johnson and Philip Webb Johnson, professors in the College of Engineering.

Established in 1976, OCTA recognizes dedication to the teaching profession and the positive impact outstanding teachers have on their students.

Dr. Pauline Doherty Johnson, professor of civil, construction and environmental engineering, received her bachelor's degree from Salford University in England and her doctoral degree from Queens University in Northern Ireland. Her teaching and research interests are in the areas of alternative water and wastewater treatment systems and green building. She is currently co-principal investigator on two National Science Foundation projects: NSF-GK12 (Sustainable Energy) and NSF-Research Experience for Undergraduates (Grand Challenges). Through her service-learning courses and the Engineers Without Borders program, her students have completed several project designs and installations for underserved communities from rural Alabama to villages in the Peruvian Amazon. Many of the projects focus on renewable energy and water infrastructure projects.

Dr. Philip Webb Johnson, associate professor of civil, construction and environmental engineering, joined the faculty of UA's College of Engineering in 1990. He received his bachelor's degree from Florida State University and his master's and doctoral degrees from the New Mexico Institute of Mining and Technology. Throughout the last 20 years, Johnson has trained professionals from major international oil companies in countries as far away as Kazakhstan, Suriname and Oman. He also served as an expert for the international media during the recent oil disaster in the Gulf of Mexico, being interviewed on ABC World News Tonight, in The New York Times, in The Guardian (London) and more. He has visited more than 80 countries through his professional experiences and travels, and he works to offer similar opportunities to his students. He founded the Alabama chapter of Engineers Without Borders with his colleague and wife, Dr. Pauline Johnson. This program has allowed engineering students to participate in service-learning projects and study-abroad experiences in Amazonian Peru, Cambodia and rural counties in Alabama.

PUBLIC TO USE UA CO-DEVELOPED NETWORK TO HELP RESEARCHERS DOCUMENT OIL-SPILL FALLOUT



Think of how easy it has become to take out your mobile smartphone and capture important photos in just seconds. Now, through the work of Dr. Jeff Gray, associate professor of computer science, you can use that technology to help scientists and researchers build a database of critical images during a natural disaster or crisis.

Gray has been awarded a National Science Foundation Rapid Response Research grant of $65,000 to develop a system that allows capturing of emergency response issues by allowing average citizens to use their cellphones to collect data. The data would be uploaded to a coordinated website to help assist in understanding the effect of the disaster.

Traditional applications for monitoring disasters have relied on specialized, expensive hardware and software platforms to capture, aggregate and disseminate information on affected areas, such as the Gulf Region during the recent oil spill.

"This is a critical opportunity for us to help in relief efforts by deploying cutting-edge cyber-physical systems research directly in the field, enabling community members to contribute to the body of science by direct recording of events and ecological impacts on the Gulf oil spill, such as fish and bird deaths and oil sightings," said Gray.

Gray is collaborating with researchers who received similar Rapid Response Research grants. Dr. Jules White, assistant professor of electrical and computer engineering at Virginia Tech, Dr. Aniruddha Gokhale, assistant professor of electrical and computer engineering at Vanderbilt University, and Dr. Douglas C. Schmidt, chief technology officer at the Software Engineering Institute of Carnegie Mellon, are working jointly with Gray on this project.

COMPUTER SCIENCE GRADUATE STUDENT IS FINALIST IN NATIONAL RESEARCH COMPETITION

Ferosh Jacob, a doctoral student in computer science, was named one of three finalists at the OOPSLA/SPLASH student research competition held in Reno, Nev. The OOPSLA/SPLASH competition was sponsored by Microsoft and the Association for Computing Machinery. Jacob is now qualified for next year's ACM Student Research Competition grand finals.

CCEE PROFESSOR NAMED TO INTERNATIONAL ADVISORY BOARD

Dr. Duk-Won "Duke" Park, professor of civil, construction and environmental engineering, was appointed to the Korean Institute of Geosciences and Mineral Resources Advisor's Board. KIGAM is a leading institute contributing to the proper understanding of Earth, its conservation and the efficient utilization of its limited resources for the benefit of all the people.

STUDENTS RESPOND TO T. BOONE PICKENS LECTURE

T. Boone Pickens, chairman and chief executive officer of BP Capital, visited the Capstone in October to discuss the Pickens Plan for reducing the country's dependency on foreign oil. As part of the Engineering the Future class, students were encouraged to attend the Pickens lecture and either ask questions or write editorials for their hometown newspapers. More than 15 newspapers throughout the state printed the students' letters.

NSF EXTENDS UA-INVOLVED ALLIANCE ENCOURAGING AFRICAN-AMERICANS TO PURSUE ROBOTICS, COMPUTER SCIENCE

Dr. Monica Anderson and a few of her students in her robotics lab

The National Science Foundation has extended its support for an alliance of 19 historically black colleges and universities and nine major research universities, including The University of Alabama, encouraging African-American students to pursue graduate training and research careers in robotics and computer science.

The NSF's two-year, $1.5 million extension award will enable the Advancing Robotics Technology for Societal Impact Alliance, or ARTSI, to develop additional curricula and outreach activities, as well as continue a summer research program for undergraduates.

"This summer UA will host about 35 faculty from historically black colleges and universities and major research universities to work jointly on research initiatives and training materials for high school and college students," said Dr. Monica Anderson, assistant professor of computer science.

UA, under Anderson's leadership, has hosted undergraduate students on its campus during each of the last three consecutive summers as part of the alliance's summer research program.

MTE PROFESSOR RECEIVES YOUNG LEADER AWARD

Dr. Nitin Chopra, assistant professor of metallurgical and materials engineering, has been selected by The Minerals, Metals & Materials Society as the 2011 Young Leader International Scholar. Chopra's research is centered on nanofabrication and microfabrication, nanostructure growth, materials chemistry and materials-characterization methods. It encompasses the importance of a thorough understanding of the fundamentals of metallurgy and materials science in designing novel nanomaterials and their applications.

UTCA FINALIZES SCHOOL BUS SEAT BELT PILOT STUDY

The University of Alabama's University Transportation Center for Alabama finalized the research data of the pilot study assessing the impact of the installation of lap/shoulder seat belts on a limited number of Alabama school buses. The research group, led by Drs. Dan Turner, Jay Lindly, and David Brown, reported to the Governor's Study Group on School Bus Seat Belts that seat belts on school buses would have a relatively small impact of the number of injuries and deaths inside Alabama school buses, but protecting students getting on and off school buses would be more effective.

With 12 new school buses from 10 local school systems equipped with various types of three-point seat belts, the project involved four areas of research: review of national experiences and trends, alterations needed in the Alabama bus fleet if seat belt use is adopted, analysis of Alabama school bus crash data, and a cost-effectiveness analysis.

UA is the first institution to carry out comprehensive research of this kind, as there have been no previous large-scale, scientific studies conducted to assess the benefits of installing seat belts in school buses. Because of this, national and state agencies have contacted UA's research team about the results of the study.

ARTICLES AUTHORED BY ENGINEERING AND COMPUTER SCIENCE PROFESSORS DEEMED 'HOTTEST'

A research article authored by Dr. Viola Acoff, professor and head of the department of metallurgical and materials engineering, and her former graduate student is among 2010's "Top 25 Hottest Articles" appearing in the scientific journal Intermetallics, according to an online database regularly accessed by nearly 11 million users. ScienceDirect lists an article written by Acoff and a former UA doctoral student, Dr. Gajanan Chaudhari, as the year's 17th most downloaded article from the journal. The article, published in April 2010, details the pair's research on an improved method for making titanium aluminide, an alloy used in aircraft construction.

Two research articles co-authored by Dr. Jeffrey Carver, assistant professor of computer science, are among 2010's "Top 25 Hottest Articles" appearing in the scientific journal Information and Software Technology. ScienceDirect lists articles written by Carver and collaborators from Mississippi State University as the year's sixth and 22nd most downloaded articles from the journal. One of the articles, published in January 2010, is a literature survey that identifies the characteristics of software changes that can result in the undesired degradation of software architecture. The other article, published in July 2009, details the researchers' efforts to improve software quality by classifying the sources of software requirement errors documented in a review of 149 scholarly articles.

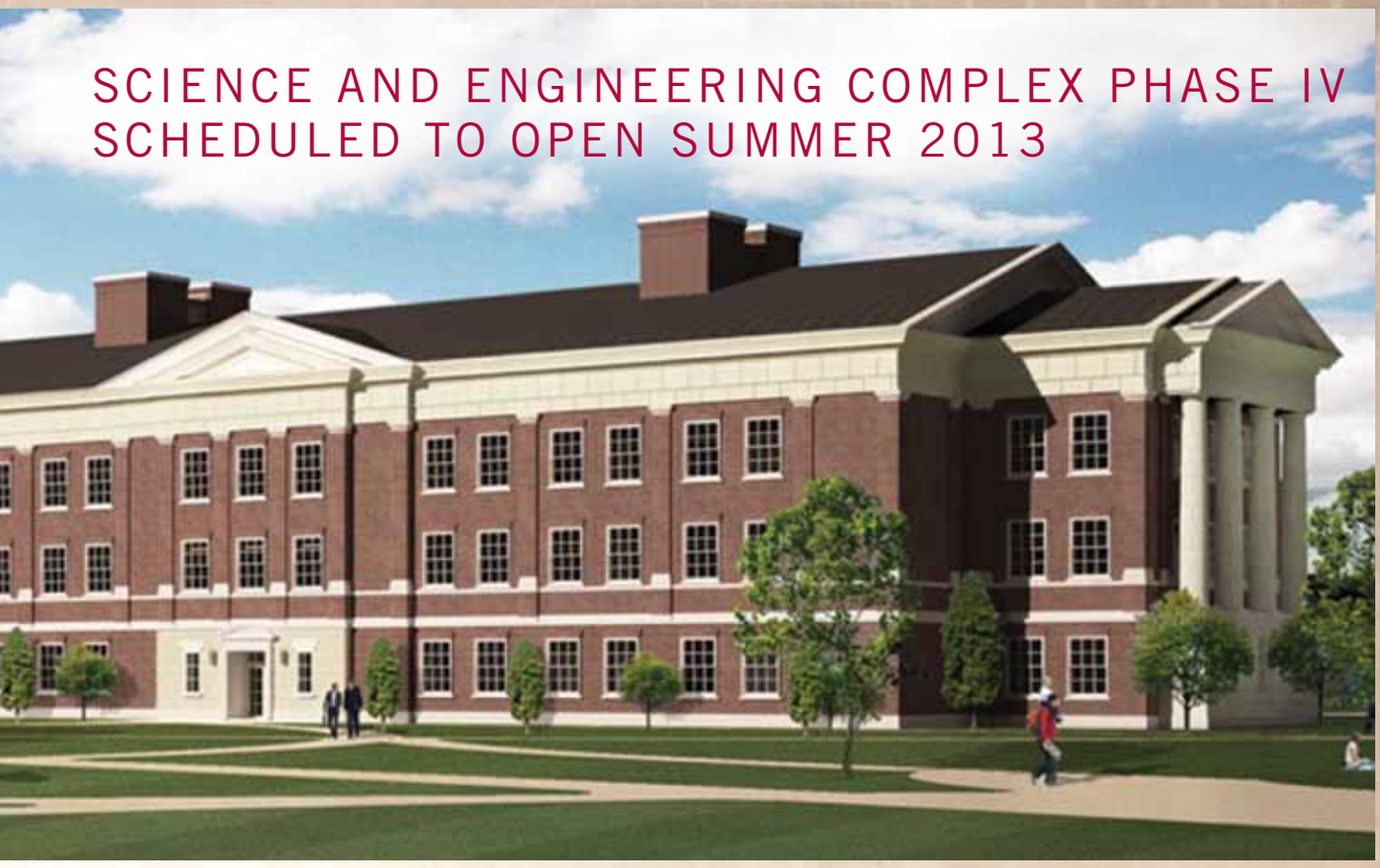
CONSTRUCTION UPDATE

SCIENCE AND ENGINEERING COMPLEX PHASE III SCHEDULED TO OPEN JANUARY 2012

South

North

SCIENCE AND ENGINEERING COMPLEX PHASE IV SCHEDULED TO OPEN SUMMER 2013



South

North

Jobs/ Promotions/ Awards

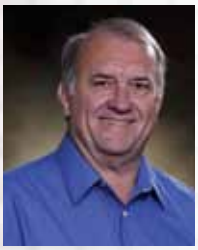
1961

Garry Neil Drummond, BSCE '61, was inducted into the Birmingham Business Hall of Fame by the Kiwanis Club of Birmingham.

1963

Gil Yanuck, BSME '63, was selected by AARP to receive Nevada's 2009 AARP Andrus Award for Community Service, the association's most prestigious volunteer award.

1971



H. Kenneth White

H. Kenneth White, BSCE '71, was appointed the chairman of the American Council of Engineering Companies Business Insurance Trust.

1972

Bruce Anderson

Bruce Anderson, BSCE '72, JD '75, joined Barge Waggoner Sumner and Cannon Inc. as vice president and federal program director. He will be responsible for overall direction and strategic oversight of the firm's work with federal agencies, including the Department of Defense, NASA and the Department of Energy.

1979

Charles Daley Speer, BSChE '79, MSEE '95, a safety engineer for the Anniston Army Depot, received the Department of the Army's Commander's Award for Civilian Service for 2007–09. His efforts also helped the Anniston Army Depot win the Industrial Operations Safety Award for 2009.

1980

Danny Herron, BSCE '80, was named president and CEO of Nashville Habitat for Humanity.

1982

Edward Day VI, BSME '82, was named president and CEO of Mississippi Power, which provides retail electric service to about 200,000 customers across the southeastern region of the state. Day joined Southern Co. in 1983 and progressed through positions of increasing responsibility.

1992

Sam Fleming, BSCE '92, MSCE '93, was named senior water resources project manager at Dewberry in Atlanta, Ga. He will oversee business development and management of municipal water resources projects.

1993

David Willingham

David Willingham, BSCE '93, has been certified as a project management professional by the Project Management Institute. Willingham is a project manager and civil engineer in the Birmingham, Ala., office of Barge Waggoner Sumner and Cannon Inc.

1995

Oscar Martin, BSChE '95, recently earned his doctorate from Virginia Commonwealth University and is the sales and operations planning manager for DuPont in Richmond, Va.

1999

Jeremy Meade, BSIE '99, MSIE '05, joined the Alabama Productivity Center at The University of Alabama as a manufacturing outreach coordinator.

Bianca Covington

2009

Bianca Covington, BSME '09, received the American Society of Mechanical Engineers' Charles T. Main Student Section Silver Award, which recognizes student leadership and service.

ESPY ENGINEERS CONTINUE
LONG TRADITION AT CAPSTONE

A 1925 photo shows Goodman Basil Espy Sr. and Goodman Basil Espy Jr. in the middle of Woods Quad as they prepare the younger Espy for his freshman year at the College of Engineering.

Goodman Basil Espy earned a civil engineering degree from The University of Alabama in 1890. Little did he know then what civil engineering would mean to his family. In December 2010, Collins Espy received his bachelor's degree in civil engineering from the Capstone, marking the family's fifth generation of UA civil engineers.

The family's distinction spans three centuries beginning with Goodman Basil Espy. Goodman Basil Espy Jr., Collins' great-grandfather, followed with his civil engineering degree in 1929. Collins' grandfather, Isaac P. Espy, received his degree in 1961, and Isaac's daughter, Jamie Espy Nettles, continued the legacy with her bachelor's, master's and doctoral degrees in 1983, 1990 and 1996, respectively.

Collins Espy plans to complete his master's degree in the spring and hopes to work for a structural engineering firm.

touching lives

Leading by doing.

The University of Alabama is leading future generations through teaching, research and service. The greatest example of this can be seen in our stellar students. From helping students in Tuscaloosa schools with afterschool tutoring, to rebuilding baseball fields in the Black Belt, to working in Vietnam and Cambodia to improve water sanitation efforts, our engineering students are touching lives and making a positive difference in the lives of the Tuscaloosa community, the state and far beyond.

As a member of The University of Alabama, you join a time-honored tradition of excellence. To find out why so many outstanding students call the Capstone their home, visit www.ua.edu.

THE UNIVERSITY OF ALABAMA

www.ua.edu/touchinglives

IN MEMORY

Liz Crawford

Liz Crawford, office associate senior in the department of civil, construction and environmental engineering, passed away on Feb. 1, 2011. Crawford joined the department in September 2004, assisting with purchasing and payables. In October 2006, Crawford moved to undergraduate student records advising students and managing degree audits. Previous to her time in engineering, she served the University from 1985 to 1999 in procurement for business services in financial affairs and in various roles in the Student Health Center.

James E. Curry, PhD

Dr. James E. Curry died on Oct. 22, 2010. He graduated from the Georgia Institute of Technology with a bachelor's degree in chemical engineering in 1950 and was awarded a master's degree in chemical engineering the following year. In 1972, Curry received his doctorate from the Capstone. He served his country during World War II as a soldier in the U.S. Army. Later he worked as a federal employee at the Army Ballistic Missile Agency and then for the National Aeronautics and Space Administration. He retired from NASA in 1981 and taught in the department of chemical engineering at The University of Alabama in Huntsville.

Jay T. Fish

Jay T. Fish died on Aug. 31, 2010, in Englewood, Fla. He graduated from the Capstone in 1942 with a bachelor's degree in industrial engineering. During World War II, he was drafted from his job building war ships. He served in the Army Air Corps as a flight engineer. His plane was shot down over Austria, and he was held as a prisoner until the end of the war. After the war, he worked for 32 years as a mechanical engineer at the DuPont Co., becoming the plant manager at the Niagara Falls plant.

Harold F. "Fish" Herring

Harold F. "Fish" Herring died on Nov. 6, 2010. He received his bachelor's degree in industrial engineering in 1948 and his Juris Doctor in 1951. Herring entered World War II military service in 1943 as a pilot in England. After leaving military service, he entered the Capstone. After attaining his Juris Doctor, he was an acclaimed courthouse lawyer for more than 59 years, serving numerous law firms and working on such tasks as rewriting the Alabama Constitution.

W. Edward Lear, PhD

Dr. W. Edward Lear, former dean of UA's College of Engineering, passed away on Jan. 4, 2011. Lear received his bachelor's degree in electrical engineering from the Capstone in 1942. He received his master's degree in electrical engineering from Stanford University and his doctorate from the University of Florida. During his career, he also served as executive director of the American Society of Engineering Education and as head of the engineering division of the National Science Foundation. Lear frequently worked as a consultant on engineering education to universities, states, federal agencies, publishers and foreign governments. He served on the boards of directors for the First Alabama Bank of Tuscaloosa, the American Association of Engineering Societies, the American National Metric Council, the Alabama Society of Professional Engineers, the American Society of Engineering Education, the Engineering Deans Council and SECME. The family asks that memorials be made to the W. Edward Lear Endowed Graduate Fellowship Fund, which was established in 1983 by the Capstone Engineering Society and his friends.

John T. Link

John T. Link died on Oct. 30, 2010. In 1949, Link enlisted in the U.S. Air Force and was stationed in Monterey, Calif., and then Washington, D.C. He was honorably discharged in 1954. He then attended Florence State University before transferring to and graduating from The University of Alabama in 1958 with a bachelor's degree in electrical engineering. He received a master's degree in electrical engineering from Purdue University in 1962.

After college, Link worked at Martin Corp. in Florida and then at Magnavox Corp. in Fort Wayne, Ind. In 1974, he formed Energystics Corp., an avionics consulting firm. In 1987, he sold Energystics and formed Link Staff Services Inc., a business and government avionics consulting company in Panama City, Fla. In 1987, he was recruited by North American Phillips as a vice president and retired in 1994 as the senior vice president of engineering.

In 1987, Link was named a UA College of Engineering Distinguished Engineering Fellow.

Peter W. Spencer

Peter W. Spencer died on Dec. 18, 2010, at the age of 77. Spencer received his bachelor's degree in engineering in 1955. He retired as a civil engineer from the Marine Corps Logistics Base in Albany, Ga. He also retired as a commander from the U.S. Coast Guard.

Deondre Devon Street

Deondre Devon Street, a freshman from Jacksonville, Fla., who was majoring in engineering, died on Dec. 15, 2010.

Richard H. Wall Sr.

Richard H. Wall Sr. died on Aug. 4, 2010. He received a bachelor's degree in mechanical engineering in 1949. He began his career with Thiokol Chemical Corp. and retired from there in 1988 as director of operations.

FRIENDS WE WILL MISS

Harvey Y. Andress, BSIE '63, died on Dec. 17, 2010.

Harold L. Bates, BSEE '61, died on Aug. 11, 2010.

Wiley L. Bullard, BSIE '50, died on Sept. 8, 2010.

Rex E. Childs, BSIE '50, died on Jan. 14, 2011.

Rosier W. Dabbs, BS '51, died on Sept. 25, 2010.

G. Donald Deerman, BS '65, died on Nov. 12, 2010.

Nickless Devin, BSME '06, died on Oct. 30, 2010.

Daniel Leroy Drake, BSME '37, died on May 2, 2010.

Donald R. Ellison, BS '52, died on Sept. 27, 2010.

Benjamin C. Ferguson Jr., BS '56, died on Sept. 22, 2010.

George Arthur Finkbeiner, BSIE '43, died on Nov. 14, 2010.

Joseph Sidney Garner, BSAE '49, died on Feb. 19, 2010.

Gene A. Gorham, BSMtE '56, died on July 28, 2010.

Charles P. Hannon, BSAE '52, died on Jan. 27, 2011.

Berma Lee Henderson, BSIE '58, died on Aug. 3, 2010.

Richard D. Hicks, BS '50, died on Nov. 26, 2010.

James C. Jones Jr., BSCE '50, died on Dec. 19, 2010.

Daniel J. Lammon, BSChE '42, died on Dec. 19, 2010.

Thomas A. Logan, BSCE '59, died on July 13, 2010.

William S. May, BSEE '88, died on Aug. 5, 2010.

Terry Stephen Meek, BSEE '66, died on Feb. 27, 2010.

Robert L. Morris, BSIE '60, died on July 21, 2010.

Harry J. Pfeifer, BSIE '42, died on Aug. 17, 2010.

J. Paul Poole, BS '60, died on July 12, 2010.

Robert F. Rey, BSEE '51, died on July 14, 2010.

William G. Sutton, BSEE '56, died on Jan. 15, 2011.

Norman L. Turnbull, BSAE '51, died on Sept. 22, 2010.

William Wilkins, BSEE '50, died on April 4, 2010.

Walter S. Wilson III, BSMinE '43, died on Oct. 21, 2010.

GOLFERS RAISE FUNDS FOR CES

The Capstone Engineering Society held its 10th annual golf tournament on Sept. 20, 2010, at the Riverchase Country Club in Birmingham, Ala. About 116 alumni and friends enjoyed a beautiful day and raised more than $23,000 that will benefit CES initiatives.

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Engineering Day

On Oct. 7, the College of Engineering hosted Engineering Day, or E-Day, an open house for high school students and their families. More than 500 visitors who wanted to gain a realistic view of the College toured the facilities and enjoyed a lunch provided by the McAbee Pigfitters.

Homecoming Tailgate Party

More than 250 people enjoyed the CES tailgate party on the Quad before the game on Oct. 16. Engineering alumni and friends relished good food while discussing old times and awaiting victory over the Ole Miss Rebels.

UA Chemical Engineering Celebrates 100 Years

The University of Alabama department of chemical and biological engineering honored 100 alumni and friends by inducting them into its class of Centennial Fellows, culminating a year of celebrations recognizing the department's founding in 1910. The newly inducted Centennial Fellows received the honors at a ceremony Oct. 13 at NorthRiver Yacht Club.

College Hosts Luncheon Honoring McAbee Scholars

The College of Engineering hosted a luncheon on Nov. 15 honoring Leroy McAbee. Each year, the McAbee Foundation supports student scholarships.

Left to right: Emily Lloyd, a senior in mechanical engineering; Matthew Dillon, a freshman in aerospace engineering; Leroy McAbee; Irby Wallace, a junior in civil engineering; and Daniel Hershman, a senior in mechanical engineering.

College Hosts Luncheon Honoring Massey Scholars

The College of Engineering hosted a luncheon on Aug. 20 honoring Cathey Massey. Massey established the James B. Massey Scholarship honoring her father, and each year the James B. Massey Trust will contribute funds to promote education of full-time engineering students.

Left to right: Andrew Jackson, a freshman in computer science; Cathey Massey; and Paul McKelvey, a freshman in mechanical engineering.

CAPSTONE ENGINEERING

THE 11TH ANNUAL
CAPSTONE ENGINEERING SOCIETY
GOLF TOURNAMENT

MONDAY, SEPTEMBER 19, 2011

RIVERCHASE COUNTRY CLUB

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