CET Hosts 1st Research Day

The College of Engineering and Technology hosted its first Research Day on Friday, April 1, 2016. The event was developed to celebrate the many research efforts of faculty over the last three years, as well as bring awareness to the collaborative research projects that our faculty are doing with other faculty across campus, including the health science campus.

Dr. Tarek Abdel-Salam, professor in engineering and associate dean for research and graduate studies for CET, organized the event. Dean David White opened the ceremony thanking faculty and collaborating faculty that attended from across campus. He then presented plaques to any faculty that were primary investigators, or PI's, on a grant and certificates to all co-PI's. Over twenty CET faculty were honored.

Dean David White said, “The College is working to build our research and external funding profile. Research Day is one way we can recognize our researchers and bring faculty from across campus together with the College faculty to celebrate successes and identify opportunities for collaboration.”

Guest speaker, Dr. Christopher Williams, associate professor at Virginia Tech, and additive manufacturing expert, addressed the audience during the ceremony. Dr. Williams is a National Science Foundation CAREER award winner for his research with additive manufacturing, also known as 3D printing or rapid prototyping. His research contributions have been recognized by eight Best Paper awards at international design, manufacturing, and engineering education conferences. Dr. Williams encouraged collaboration with additive manufacturing across the campus. He is an advocate for student-led collaboration as well.

After the ceremony, both graduate and undergraduate students presented their research posters in the lobby area of the Science and Technology building. The posters were displayed throughout the first floor of the building for both faculty and guests to observe.

Above: Students share research posters with guests at Research Day in April.

Students Benefit from National Convention

In early May, a literal “bus load” of industrial distribution and logistics (IDIS) students embarked on a two day professional development experience courtesy of the Material Handling Distributor’s Association (MHEDA). MHEDA holds the “MHEDA Convention and Exhibitor’s Showcase” every year and typically sponsors students from four universities to attend the entire convention. This year, MHEDA funded 26 students from ECU to attend the convention program for one day in Washington, DC.

The students arrived late on a Sunday evening and enjoyed a bus and walking tour of the capital. On Monday morning, an early start allowed the students to hear a keynote speaker and an economist’s forecast. Students were then paired up and
For the department of Technology Systems, capstone projects have become an essential part of the learning experience. In particular, the Information and Computer Technology (ICT) program, requires a capstone project that spans two semesters for their seniors. It is not only a graduation requirement, but a way to give back to many service or non-profit organizations—and provides a tremendous learning opportunity for students.

The term capstone, is derived from the final decorative “cap stone” that is used to complete a building or a monument. Hence, the senior capstone project is the final step and the culmination of the academic experience for students. It is designed to engage students in yet more “real world” application of what they have learned in the classroom. The capstone also offers students another opportunity to fine tune their professional skills such as public speaking and technical writing. Teamwork, planning, goal-setting, and research skills are also emphasized.

On Friday, April 15th, twelve capstone teams from the ICT program completed their final presentations for their capstone projects in front of a large group of peers, faculty, and industry representatives. This year marked the 8th year that the program has presented the capstones. It was also the largest year for presentations in the history of the program. Since 2008, there have been 67 unique capstone projects.

One of the many unique things about the ICT capstone experience is that many of the projects are service-oriented and are designed to work with non-profit organizations or entities that would not normally be able to afford necessary IT work. One such project this year was at the local Jack Minges Unit Boys and Girls Club in Greenville. Seniors Andrew Heath, Carlos Morales, Tyler LeMoine, Joseph LoPiccolo, and Dharmesh Patel, titled “Shebang #!” worked to upgrade the elementary and high school computer labs at the club. The club serves nearly 300 youth a day, with a rotation of 240 students using the computer lab on any given day for homework, tutoring, and some recreational use.

Heath, the project manager, commented on the importance of time management during the project. “There was limited time for troubleshooting, so we had to try and foresee the problems and use our time effectively to fix them,” he stated. Morales, the hardware and network engineer for the project, added, “Employers are looking for real, hands-on application outside of just a lab experience. The capstone provides that. Also, the commitments are to people other than your professors, and that’s good. The deadlines are emphasized even more.” Claude Cannon, the club facilities manager, was the project mentor. He states, “the experience was a great one. The students were dedicated and well-prepared for the task. The team was a pleasure to work with and showed a true interest in the kids being able to have well-running and functional computers.”

The computer upgrades will help reduce computer downtime and speed up new machine rollouts. “Probably the best part of the project was seeing the direct impact we had on the kids that use the computer labs,” Morales said. “They were thanking us for fixing the PC’s and I think we left a good impression. It was great to get to experience an immediate impact.”
Message from the Dean

Another Great Year and More to Come!

Greetings to all our alumni and friends from ECU’s College of Engineering and Technology! Your College had another great year as you can see from the articles in this edition of our College newsletter.

As I write this we are hosting nearly 100 middle school teachers and students at our Advanced Manufacturing and Innovation Academy sponsored by the Golden L.E.A.F. Later this summer, during the last two weeks of July, we will be hosting 40 rising 9th grade girls from our region at our newly developed Engineering and Technology Academy sponsored by the Duke Energy Foundation. We are very grateful for the support from both Golden LEAF and Duke Energy! Duke Energy is also supporting the expansion of our successful STEM Girls program out into our regional community colleges. I am excited about our impact on the region and these opportunities allow us to grow our own talent in eastern North Carolina.

Summer orientation is underway and it is clear that our majors are becoming increasingly popular! You may recall that last Fall we admitted the largest group of new majors that I can recall bringing our total majors headcount to over 2800 majors! I am expecting another increase this year and we will likely top the 3000 mark! Our faculty and advisors continue to work to assure that we are maximizing our students’ success opportunities.

As our numbers grow, our need for more scholarships also grows. I believe we offered about 70 scholarships last Fall. Let’s work together to increase that number to 100! Remember that many of our students are first generation college students and many must work to make ends meet. Scholarships really make a difference for these students!

We can do this together so please consider supporting one of our scholarship funds or consider creating a scholarship.

The College continues to be a focus of attention due to our research funding potential. Faculty are stepping up to prepare proposals for a variety of funding agencies, including the National Science Foundation, Department of Energy, Department of Transportation, and many other funding agencies. There are very high expectations for Engineering and Technology as a driver of externally-funded research at ECU. Our Center for Sustainability is re-focusing its work on sustainability-related research and outreach. The Center is being led by Associate Dean Tarek Abdel-Salam who is working diligently to expand our research productivity in the area of sustainability. Our CITE program (Center for Innovation in Engineering and Technology) continues to be an important aspect of our outreach as it provides a portal for our faculty to be engaged in industry work.

The College is a driving force for regional prosperity as we focus on innovation, entrepreneurship and economic development in the coming year. To do this, I respectfully ask you to support our students and faculty. Help us continue to deliver the programs that allow our students, our region, and our great state to prosper! Have a great summer and please come for a visit!

- David M. White, Dean

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Student Contest Winners Visit Rotor Clip & NYC Trade Show

It was our pleasure to host the winners of our recent “Ring-A-Majig” contest at Rotor Clip’s manufacturing facility in Somerset, New Jersey, this past week. James Powell, Joshua Adams, Josh Katsikis and Owais Siddiqui from East Carolina University, Greenville, North Carolina, were given a tour of Rotor Clip’s manufacturing facility as well as an opportunity to visit the “Design in Engineering” trade show held at the Jacob Javits Convention Center, June 14-16, 2016.

They were also taken on a tour of New York City, including a visit to the 9/11 memorial site in lower Manhattan. The four won the 2016 Rotor Clip “Ring-A-Majig” contest, challenging students pursuing technical courses of study to use retaining rings (non-traditional fasteners) in original product designs. The contest was held in affiliation with ATMAE, the Association of Technology, Management and Applied Engineering.

I had the opportunity to discuss a variety of issues with the students during their stay here at Rotor Clip. I was particularly impressed by their optimism and belief the future is looking good for those pursuing manufacturing as a career. Owais Siddiqui noted that his parents originally wanted him to pursue a career in IT. But he countered that “hardware was always exciting for me.” Before you can utilize software, he said “you need hardware.”

James Powell understood the concern about automation and how it eliminates conventional factory jobs. But embracing robotics will, in his view, create the need for more skilled technicians in the future. “We will just be re-directing what is needed as we evolve to a different skill set,” he noted.

Just working for a paycheck is not how Josh Adams regards his career. “I want to feel good about what I’m doing.” He said. He noted breakthrough technologies like 3-D printing bode well for US manufacturing. “Imagine what it (3-D printing) will be like in 10 years,” he said.

TV shows like “How it’s Made” turned Josh Katsikis on to manufacturing. His studies at East Carolina University have demonstrated to him that “manufacturing is a very viable option as a career.” He also believes that new technologies like robotics “can increase production and create technical jobs that pay well.”

This belief in US manufacturing and the promise it holds for creating meaningful jobs is not just naïve optimism. As a recent Wall Street Journal article noted, “Countries that don’t make anything, soon lose their edge.”

Not if these students have anything to say about it.

- Joe Cappello, Director of Global Marketing for Rotor Clip Company.
High school students from Greene Central high school participate in robotic demonstrations during STEM Day in the Science and Technology Building. Brandalyn Watts showed an ECU student-built robot used to compete in a ATMAE (Association of Technology Management and Applied Engineering) competition. (Photos by Cliff Hollis)
READY TO WORK: Tech students meet employers at career day

Business suits and resumes were making the rounds Wednesday as students in the College of Engineering and Technology had the chance to talk with representatives of nearly 70 companies looking for employees. “I think it’s huge to get your resume to people, not just email it but hold it in their hand and see what kind of person you are if you’re a good fit for their company,” said junior Dylan Hodge of Rocky Mount, a construction management major who’s looking for an internship. He was one of an estimated 300-plus students who attended the career networking event in the Murphy Center.

Justin Wood, manager of quality engineering at Sequence, a Morrisville-based company that specializes in quality and compliance consulting services for manufacturers, said ECU engineering graduates are ready to work. “One of the things that impresses me about this program is they come out prepared for the real world from day one,” he said. “They’re polished. Not only do they have a technical background, they have the communication skills you need and the other skills we look for.” Junior D’Asha Murphy of Lewiston is a junior industrial engineering technology major. She said the chance to talk to potential employers gives her a roadmap for improving her skills. “You get a sense of what companies are looking for and try to meet that expectation,” she said.

That’s an important part of landing an interview, said James Kuras, associate director of career services at ECU. “It helps them prepare for those opportunities,” he said. “So it’s critical for their success. This kind of networking event really does help.” Scott Fussell, an ECU graduate and project manager with Farrior & Sons, a Farmville commercial construction company, said the presence of the College of Engineering and Technology is important for companies such as his. “It gives us a lot of candidates to choose from,” he said. “Greenville’s growing, and the surrounding counties, too.”

Junior Kayla Simmons of Bailey, an industrial engineering technology major, said the career day gave her assurance she’s in the right field. She’s planning to apply for an internship with Navair, the Naval Air Systems Command, which had representatives at ECU. “It’s just very rewarding and fulfilling to see businesses and know that people in my job field are needed everywhere,” she said.

– Doug Boyd, ECU News Services

NATIONAL CONVENTION, CONTINUED FROM FRONT PAGE

and awarded the opportunity to stroll through the Exhibitor’s Showcase with an industry representative for nearly three hours. The industry mentors helped the students understand the products, services, and technologies on the showroom floor, as well as share their own perspective about the material handling industry and the role of the industry within the supply chain.

In the afternoon, students participated in a roundtable discussion with industry representatives to ask questions and learn even more about the material handling industry and supply chain management.

Dr. Mark Angolia, assistant professor and program coordinator, arranged the trip for the students. “This type of opportunity is so important for many of our students, to gain exposure to not only the products and services, but to also see how industry professionals network and continually need to learn about their own industry,” Angolia said. “It exposes them to how small business works and there are things here that just can’t be learned in a textbook,” he adds.

The students were a mix of freshmen through seniors. Student attendee, Bryan Coston, said, “I had a great time with other students in my major, and most importantly, I learned about the industry I want to work in and met a few possible employers.” Two students were offered internships on the spot.

The IDIS program is heavily invested in teaching the wholesale distribution supply chain model. The degree program has fourteen core distribution, supply chain, and logistics courses with additional classes offering a focus on professional skills such as writing and oral presentations. Students earn certifications in SAP and even technical sales, which further enhances their marketability within various industries.
STUDENT HIGHLIGHTS

Leela Goel, senior in biomedical engineering and EC Scholar, recently presented her senior Honors Project titled “Developing a Musculoskeletal Model of Landing.”

Samantha Hamann, engineering student, won second place for her poster at the 2nd annual REACH Medical Education Day held in Brody Commons.

Rana Abdel-Salam won best oral presentation in the graduate division during Research and Creative Achievement Week. Rana is a first year graduate student in biomedical engineering. Her work was titled “Fluid Contact Angle Assessment to Evaluate Wetting of Dental Materials.” Rana is advised by Dr. Teresa Ryan.

Mikaela Howell is a senior in mechanical engineering. Mikaela won best oral presentation in the undergraduate division during Research and Creative Achievement Week. Her work was titled “A comparison of finite element simulation, analytic prediction and experimental measurements of mode shaped in a center driven square plate with free-free boundary conditions.” Mikaela is advised by Dr. Teresa Ryan.

April Tamang, graduate student in software engineering, won the 2016 Outstanding Thesis award in the area of Mathematics, Physical Sciences, and Engineering. April’s thesis director was Dr. Mark Hills and the nomination was submitted by Dr. Nasseh Tabrizi.

Jill DeFranco, an undergraduate student majoring in industrial distribution and logistics, has been selected to attend the Women in Industry forum sponsored by the National Association of Electrical Distributors (NAED) in Ponte Verde, Florida in late June. Jill was selected out of forty schools. NAED will be covering the cost of the conference, as well as her travel expenses.

Jade Olaoye, graduate student in biomedical engineering, has been selected to participate in the Engineering World Health Summer Institute in Rwanda, Africa this summer. Engineering World Health is a non-profit organization that mobilizes the biomedical community to improve the quality of health care in hospitals and clinics that serve resource-poor communities of the developing world.

In Fall 2015, Sigma Lambda Chi (SLC) Construction Management Honor Society inducted thirteen new candidates. Being selected as a SLC inductee is an honor in the construction industry. Candidate must maintain at least a 3.0 overall GPA and be in the top 20% of the CMGT class. Additionally, they must be recognized by their peers as an ethical and hard-working student. Inductees include: Zachary Stephen Byrnes, Michael Richard Cobb, Renee Frances Daigle, Barbra Elinor Glynn, Clayton Gregory Hopkins, Beau Ryan Kelly, James Christopher Moore, Carly Elizabeth Nickels, Cody Lee Pittman, Mark Alan Potter, Ryan Taylor Pova, Piyawat Sittiwongse, James David Wynn.

Oldcastle Blockfest Competition

Oldcastle / Adams sponsored the 2nd Annual ECU Blockfest Competition. Seven student teams created designs for a wall, bench, or other structure. All were charged with using one palette of brick and one palette of concrete masonry units, with designs being completed before the actual construction competition. Students were then given one hour to construct their designs in mortarless construction. Winners were evaluated a panel of professional architects, designers and contractors. Special thanks to Brett Hardy (IAB), Frank Warner, Robb Haas (ECU Alum), David McQueen, and Parrish Hoffman for providing the materials, site assistance, and the generous CASH Awards to the Winners. The first place winners (pictured below) were Colton Harrell, Alexander Jenkins, Brandon Jones, Dalton List, and William Smith.
FACULTY HIGHLIGHTS

Eban Bean, assistant professor in engineering, was awarded the College of Engineering and Technology 2016 Scholar Teacher Award Winner.

George Wang, associate professor in construction management, had a paper recently translated into French and published in a magazine titled, Laitiers. The article, titled “Use of Steel slag as a granular material; Volume expansion prediction and usability criteria,” has 75 citations since it was first published in 2010. Wang also has a book titled The Utilization of Slag in Civil Infrastructure Construction that will be published in June 2016.

George Wang, Donna Hollar, and Kamlesh Panthi, faculty members in construction management, were recipients of a $185,000 grant from NC DOT titled “Using Recycled Concrete Aggregate in Non-Structural Concrete on NCDOT Projects in Eastern NC.” The research project will study the use of recycled concrete aggregate in non-structural concrete in NCDOT projects in eastern NC from both technical and cost aspects.

Tarek Abdel-Salam, professor in engineering and associate dean for research recently spoke at the 10th International Conference on Informatics and Systems in Cairo, Egypt in May. Abdel-Salam spoke on the topic of “Simulation and web-based tools in engineering education.”

Dr. Junhua Ding, associate professor in computer science, received a three year extension to his research experience for undergraduates (REU) grant, titled “Software Testing: Foundations, Applications, and Tools” from National Science Foundation.

Dr. David L. Batie is a Board Member of our accrediting body, The American Council for Construction Education (ACCE), and is Vice-Chair of the Standards Committee. Dr. Batie was also a member of the University of Minnesota-Mankato Construction Program Accreditation Visiting Team in Spring 2016. Dr. Batie is also a Board Member of the American Institute of Constructors Constructor Certification Commission (AIC-CCC), a board that makes independent decisions regarding the Constructor Certification program.

At the April 13-16, 2016 Associated Schools of Construction Conference held at Brigham Young University, CMGT faculty presented papers. They included F. Tait Lane/Dr. David L. Batie “The Use of Project Risk Management in the Southeastern United States Construction Industry” (MCM Research), and Dr. George Wang / Marc Steenbakkers “Eight Years Superb Performance of a Motorcycle Race Track Pavement – A Design and Construction Review”.

Tau Beta Pi Inaugural Induction Ceremony Held

After several years of operating an engineering honor society at East Carolina University, in October 2015, East Carolina University’s department of engineering successfully petitioned the national convention to charter a chapter of Tau Beta Pi, the national engineering honor society. It is the nation’s second oldest Greek letter honor society, which was originally founded at Lehigh University in 1885. Tau Beta Pi recognizes outstanding engineering students who are in the top eighth of the junior class or top fifth of the senior class, and who have demonstrated exceptional talent in the classroom, and also exhibited exemplary character. It is the only honor society established to recognize engineering students from all disciplines.

On March 19, 2016, the inaugural induction ceremony and chapter installation was held at ECU. The ceremony was a formal event and included the induction of both alumni and current engineering students. Sixteen alumni were inducted and 24 current students. Association officers of Tau Beta Pi were guests at the ceremony and presented the official charter to the ECU chapter president, Andrew Cutrell. Additionally, 5 more current students were inducted on reading day in a make-up initiation for those who could not attend the March 19 event.

The ECU chapter will be known as North Carolina Zeta, which indicates that we are the sixth chapter created in North Carolina. Other chapters include NCSU, UNC-CH, Duke, UNCC, and NC A&T.

Engineering and Technology Summer Academy

The College of Engineering and Technology has received funding from Duke Energy to host its first ever Engineering and Technology Summer Academy. The proposal was funded in March as part of Duke Energy’s workforce development grants. Dr. Leslie Pagliari, Associate Dean of Academic Affairs, and Margaret Turner, Director of Marketing and Outreach, will be leading the efforts and are the Primary Investigator, and Co-Primary Investigator, respectively, for the grant.

The summer academy will include two, one-week residential camps for rising high school sophomores. The academy will serve a total of 40 participants and will be focused on underrepresented populations, including, but not limited to, African American and Hispanic females. Participants will be selected from Beaufort, Greene, Lenoir, Pitt, and Wayne counties. These are service areas for Duke Energy and where some middle school STEM learning centers, funded by Duke Energy, have already proven to impact the performance of minority students on standardized tests. The goal of the academy will be to provide the girls with the opportunity to learn more about engineering and technology concepts, inspire them to pursue a college degree in these fields, and expose them to careers in the very region where they live.
You Make a Difference!

Through a combination of endowed scholarships, annually funded scholarships, and gifts to our scholarship accounts, the College of Engineering and Technology was able to award over $75,000 to students over the 2016/2017 school year. We are very grateful and thankful for all of you who have made this possible through your financial gifts to the college! Your support is so important to our continued success because, in addition to making a quality education more affordable for many of our students, your scholarships also enable us to attract some of the brightest students for our programs. A scholarship awards ceremony honoring the recipients will be held on September 28, 2016 at the East Carolina Heart Institute.

There are many other ways to support the college as well, and all are vital to the advancement of the College of Engineering and Technology. Some of you have established lab endowments to ensure that we have state of the art equipment in place to allow for leading edge instruction. Many of you continue to support our college through the annual fund or annual gifts that often go to support the operations of the college.

With more state funding cuts on the horizon, your continued support has never been more critical. It is so very important for us to be able to stay connected with our alumni and friends. Thank you to Gregory Poole Equipment Company for continuing to provide the financial support to make this newsletter publication possible.

Please visit ecu.edu/give/ to continue your gifts to the college and always feel free to connect with our advancement staff by calling 252-328-9550 to learn more about endowments and estate planning at ECU.