Class Develops Charging Stations for Portable Devices

About two dozen East Carolina University students have designed a potential fix for dying cell phones and other mobile devices on campus: solar-powered charging stations.

Five student teams from a thermal and fluid systems class in the industrial engineering technology program in the Department of Technology Systems recently built portable prototypes with solar panels to capture sunlight as an energy source.

The stations would provide a convenient place to charge cell phones and tablets without the need for a traditional electrical outlet. If funded, the idea eventually could become a campus amenity.

For instance, if someone tailgating at Dowdy-Ficklen Stadium or waiting for an ECU Transit bus had a phone with a low battery, they could plug it into a solar charging station and fully charge the phone in about 25 minutes, said Ranjeet Agarwala, technology systems instructor in the College of Engineering and Technology.

“When you’re in plant engineering positions, you have to solve problems,” Agarwala said.

“We’re here to prove you don’t need $300 (to build it); $7.99 for a solar panel does the job,” said junior Aaron Grant.

“As we went through the project, we had to tweak it,” said sophomore Hunter Hawkins. “I like the effectiveness and efficiency of ours.”

The students spent five weeks designing and building their stations. Most of the work was done during lab hours, but some pulled all-nighters with last-minute painting and fine-tuning before the unveiling April 15.

“I didn’t go to sleep last night...”

UNC Board of Governors Visit ECU

The UNC Board of Governors (BOG) visited ECU April 8-10th and the College of Engineering and Technology was fortunate enough to capture the attention of the members several times during their visit. The Board of Governors is the governing body over all of the 16 higher education public universities in the North Carolina system.

On the first day of their visit, BOG members participated in a guided tour of campus. Although one stop was in the School of Art and Design, it included several short presentations from Dean David White, three engineering students, and one alumnus of our college. Curren Blake, Logan Cole, and Tyree Parker, all senior engineering students, shared their stories of coming to ECU and how the engineering program and their valuable experience in areas such as 3D printing and unmanned aerial vehicles (UAV) has positioned them well for the job market. Blake had a job offer in August, before even starting her senior year. Cole and Parker are currently interviewing at Cherry Point, primarily as a result of their research and experience with UAV’s.

Allen Scott, a recent graduate of the Bachelor of Science in Industrial Technology (BSIT) program in the department of Technology Systems, also shared his story briefly with the BOG members during their campus tour. Scott was a community college transfer who was laid off from his job because of not having a four year degree. He found it necessary to complete his bachelor degree in order to keep a job and provide for his family. He enrolled in the online BSIT program and recently graduated and is now working as a...
The largest ever Career Networking Day was held February 11th. Sixty-three companies with 135 company representatives set up in ECU’s Murphy Center in order to meet current students and network about job opportunities. Companies attending were from across the US including the states of Illinois, Louisiana, North Carolina, Ohio, South Carolina, and Virginia. The day has proven to be a valuable day for both students and employers.

Dr. Leslie Pagliari, Associate Dean for Academic Affairs, helped start the event five years ago and oversees the event each year. “We are excited that this event continues to grow and be successful with our employers and students. Companies that attend are looking for continued relationships with our College, as well as interviewing our students for potential co-ops, internships and full-time jobs. Freshmen to graduate students are encouraged to attend and have the ability to network with employers sooner in their college career rather than later. Our strategic plan is very focused on student success and this event ensures that our students get every possibility to gain employment upon graduation. This event would not be successful without the continued support of our industry partners.”

A luncheon for faculty and the employers provides the opportunity for both to network about industry trends, hiring trends, and curriculum updates. During the afternoon, students bring their resumes and talk with potential employers. In 2014, the National Association of Colleges and Employers surveyed employers and found that 74% favor relevant work experience over 1% that said work experience does not factor into a hiring decision with a new college graduate.

“The data continues to show the importance of work experience in addition to a good education,” states Margaret Turner, Director of Marketing and Outreach for the college. “The College of Engineering and Technology focuses on student success. This not only includes graduating our students, but also providing real world and practical work experiences along the way. Our Career Networking Day is just one of the opportunities we provide for students to facilitate that work experience. Student success means that our graduates are well prepared for the workforce and are getting good jobs,” Turner adds.

Nav-Air recruiters pause for a photo during the Career event.

A student discusses job possibilities with an employer.

An IBM company representative speaks with an interested student.

BOG, CONTINUED FROM FRONT PAGE

quality manager with SpinRite in Washington, NC. His story and our students’ stories inspired a round of applause from the visitors.

A video that highlighted the importance of industry partnerships and the economic impact that our college has had in eastern NC and beyond, was shown during one of the many meetings with the BOG members. A link to the video and the article about their visit is as follows: (http://www.ecu.edu/cs-admin/news/bogatecu.cfm).
Message from the Dean

College of Engineering and Technology: A Winning Team!

Greetings to all our alumni and friends from ECU’s College of Engineering and Technology! Your College is having an extremely productive and notable Spring Semester. You can be proud of your College Team!

In our Fall newsletter I mentioned ECU’s new Strategic Plan titled Beyond Tomorrow: Our Commitments to the Future. (http://www.ecu.edu/beyondtomorrow/) The College of Engineering and Technology is central to the new Strategic Plan and we are focusing our work on two important commitments, Student Success and Regional Transformation. This newsletter gives you some sense of our actions regarding these commitments.

Our central role in the University’s future has been particularly evident this Spring. We were selected as one of three stops for state legislators on ECU Legislative Day. I want to thank our students and industry partners who helped us tell the story of our College’s importance to their businesses to the legislators who attended. In January I was interviewed along with several others for an article in Business North Carolina which appeared in the March edition. The title of the article is “Rising in the East” which was followed by this comment: “Buoyed by a major university dedicated to transforming its region, eastern North Carolina is becoming a favored sport for new and growing businesses.” In April, ECU hosted the UNC Board of Governors meeting and a three-day visit. Once again the College was selected to highlight the ways we are promoting Student Success and Transforming our Region. It was a big hit!! I am so proud to be a part of this College and we have great things in our future!

This summer we are preparing to offer an exciting hands-on experience for middle school students and teachers focusing on Advanced Manufacturing and Innovation. This project is supported by a large grant from Golden LEAF. We see the real need to support middle school-aged children and help them prepare for a great future in STEM-related careers. They will also be provided an Innovation experience and an Entrepreneurship course. We are collaborating on this project with several groups including our local school partners and Pitt Community College.

The College must be a driving force for student success, regional prosperity and economic development. Help us accomplish our goals by supporting our programs. I believe people want to support a “winning team.” I am unabashed in saying to you that we are a winning team! We need more scholarships to offer talented students and assure that they experience state-of-the-art technology to prepare them for great careers. We need more funds to allow us to take advantage of great opportunities that frequently arise. Please help us by telling others about the exciting programs in the College and talk to prospective students about the great education they can receive at ECU. Help us continue to deliver the programs that allow our students, our region, and our great state to prosper!

- David M. White, Dean

SOLAR SOLUTION, CONTINUED FROM FRONT PAGE

because we were working so hard,” said Vaughn Logan, a junior from Charlotte. Logan’s group developed the “Pirate Nation Charging Station,” a tall rectangular-shaped box topped with a 100-watt solar panel.

“What’s awesome is it’s on wheels, so we can move it anywhere,” Logan said.

Sandy Jalal, a sophomore from Wilson studying architectural design, said she got good advice from her brother when she began working on the project. “He said ‘everything connects to something else,’ ” she said. “The whole thing is the body and the solar panel is like the brain.”

Her group had trouble developing an overall structure for the station, until team member Jesus Lucena, a senior from Tarboro, came up with the final design. “He did it and he pushed us to finish,” Jalal said.

“Every design was unique,” Agarwala said. “Hopefully, the best features of each design will be integrated and an ideal design will get deployed on campus.”

The projects were sponsored by the college’s Center for Innovation and Technology Education, or CITE, which pairs ECU faculty members with area industry to provide workforce training and support.

- Crystal Baity, ECU News Services

The charging station would provide a convenient opportunity to charge a number of devices. (Photo by Cliff Hollis)

ECU Engineering undergraduate and graduate students attend Aseptic Training Workshop at the Biomanufacturing Training and Education Center (BTEC) in Raleigh, NC - April 16 - 17, 2015

MS in BioMedical Engineering students: Jadesola Olaoye, Blair Weaver, Daniel Vargas and Matthew Cadmus; Undergraduate seniors in Bioprocess engineering: Nick Bernath, Melissa Wilson, and Daniel Woods

ECU Engineering undergraduate and graduate students attend Aseptic Training Workshop at the Biomanufacturing Training and Education Center (BTEC) in Raleigh, NC - April 16 - 17, 2015

David White, Dean College of Engineering and Technology
Technology Systems Announces ECU’s First Professional Science Masters (PSM) Degree

In late February, the Professional Science Masters office in the Keck Graduate Institute approved the PSM affiliation for the Network Technology program with four concentrations for students to enroll in the PSM program. The PSM is an innovative graduate degree that allows students the opportunities to obtain advanced training in a science or math field while simultaneously developing workplace skills. These skills may often include internships and experience in communications, business, or regulatory affairs. The PSM includes two years of academic training along with the professional experience.

The Master of Science in Network Technology was recently approved as a graduate degree in 2013. The four concentrations offered are computer networking management, digital communications technology, information security, and web technologies. The program is a good fit for a PSM because of the strong industry ties that are associated with it. Dr. Charles Lesko, associate professor in technology systems and director of graduate programs for the department was instrumental in leading the efforts for approval of the PSM. He states, “Over the years, the Network Technology program has built and maintained a strong relationship with industry both from an advising and mentoring perspective. Affiliation with the PSM program has proven to be a natural fit for us; we both have a common commitment to students pursuing their advanced STEM education while simultaneously developing and honing critical workplace skills.”

First Row: Bahirrah Siddiqi, Christian Matlock, Joshua Alan Buck, and Michael Beavans; Second Row (faculty members): Dr. Kevin Howell, Mr. Len Palmer, Dr. Bob Chin, Mr. Matt Powell, Dr. David Batts, Dr. Andy Jackson, Dr. Jim Dautramount, Dr. Barry DuVall, and Ms. Amy Frank

Sophomore engineering student Alan Register displays his unmanned aerial vehicle (UAV) at the Autonomous Aerial Vehicle Competition (AAVC) in Dayton, OH. The ECU team took 2nd place in the national competition that included 8 total teams and is by invitation only. The AAVC is sponsored by the Air Force Research Laboratory and Air Force Technology Institute. The competition premise is autonomous navigation and target geo-location in a GPS-denied environment. The UAV must search for an object in a hazard-cluttered indoor playing field and report the object’s coordinates. ECU’s team had the only UAV that navigated the course correctly. Engineering assistant professor, Dr. Zhen Zhu, is the team’s faculty advisor and also supported the team in Ohio.

Epsilon Pi Tau Beta Mu Inductees
(East Carolina University Spring 2015)

East Carolina University recently inducted four members into Epsilon Pi Tau (EPT) for the first time in seven years. EPT is the Leading International Honor Society for Technology. With the desire to recognize the best and brightest technology students at ECU, faculty members, Mr. Len Palmer and Dr. David Batts, determined to re-activate the Beta Mu Chapter of Epsilon Pi Tau. The idea received a tremendous amount of support from the EPT national office, the regional director, and the executive director. Bahirrah Siddiqi, Christian Matlock, Joshua Buck, and Michael Beavans were recognized as some of the top students in the Technology Systems department. The department also has nearly 500 online students. Faculty members wanted to grant access and recognize the brightest distance education students as well. Seven more students were inducted later in April through a virtual induction ceremony.

The Beta Mu Chapter plans to have two inductions every year. Every fall, Beta Mu will induct graduate students, alumni, faculty members, professionals, and advisory board members. Each spring, Beta Mu will induct the brightest undergraduate students.
ECU has multiplying effect on Allen Scott’s family

Allen Scott knows full well the difference that a four year degree can make. A Morehead City native, Scott attended Craven Community College, graduated in 1985, and then transferred to UNC-Charlotte to finish an engineering degree. He worked at night in a grocery store to help pay for college.

“Classes were hard and money was short,” Scott remembers. He left school and decided to work his way up in the retail chain. After an 18 year career as a butcher, he was promoted to meat manager, and relocated to New Bern with the new Harris Teeter in 1996. The grocery store hours became increasingly more difficult with a young family, so Scott decided to make a career change and began working at B/S/H/ in New Bern.

In 2008, a competitive market forced B/S/H/ to downsize. It was then that Scott noticed something that changed his future. “All 100 employees were laid off, except those with a four year college degree,” Scott adds. That was the tipping point for Scott going back to college himself.

He enrolled in the Bachelor of Science in Industrial Technology (BSIT) program in 2011. The BSIT is a degree completion program that is offered through the department of Technology Systems in the College of Engineering and Technology. The program allows students to complete their four year degree online after completing an Associate of Applied Science (AAS) at a community college. Scott graduated in 2013 with a concentration in manufacturing, and was then able to obtain a job as a quality manager.

Scott’s wife, Laura, and his children were very supportive of his return to college. “My education and positive outcome has produced a multiplying effect on my family.” Scott’s daughter, Brittany, graduated in May from ECU and will start on a graduate degree this summer, while his son, Tyler, will enter ECU in the fall of 2016 as a transfer student from an early college program. “The BSIT program played a huge role in preparing me for the workforce. I’m much more viable and certainly less vulnerable to layoffs. My children have seen me work hard for an education, which has encouraged them to do the same.”

FACULTY HIGHLIGHTS

Several CET faculty received funding for summer research projects through the Center for Sustainability. These include the following: Dr. Eban Bean (Engineering), Dr. George Wang (Construction Management), Dr. Ranjeet Agarwala (Technology Systems), Dr. Kamalesh Panthi (Construction Management), Dr. Kanchan Das (Technology Systems), and Dr. Tarek Abdel-Salam (Engineering). Many of the projects will be collaborative working with faculty within the college as well as with other faculty across the university.

Dr. Mike Behm, associate professor in the MSOS program, was invited to chair the Safety In Action Safety Conference in Brisbane, Australia in April. He was also the invited keynote speaker on the second day of the conference.

Four members of the College of Engineering and Technology faculty received their PhD’s in December. Ranjeet Agarwala (Technology Systems) has earned a PhD in Mechanical Engineering from North Carolina State University, Jimmy Linn and John Pickard (Technology Systems), have both earned a PhD in Technology Management from Indiana State University, and Chris Venters (Engineering) has earned a PhD in Engineering Education from Virginia Tech.

Dr. Arun Aneja, teaching assistant professor in engineering, recently published an article titled, “Crystallization of poly (ethylene terephthalate) filaments by infusion of ethanol upon cold drawing” that appeared in the Polymer journal. The work for his article was completed with colleagues at the Tokyo Institute of Technology.

Dr. Tarek Abdel-Salam, professor in engineering, received funding from ASHRAE for their Senior Undergraduate Project Grant Program. The project is titled “Thermal Conductivity Tester and Chamber.”

Dr. Mark Angolia, assistant professor in technology systems, attended the Material Handling Equipment Distributors Association (MHEDA) networking event in Richmond, Virginia. He presented at the summit and took four students as participants to the event.

Dr. Mike Behm, associate professor in the MSOS program, received third place in the professional paper awards competition as part of the American Society of Safety Engineers. Behm’s article was titled “SH&E Problem Solving: Are Higher-Order Controls Ignored?” The article was published in the February 2014 issue of PS magazine and was co-authored with Demetria Powell, recent graduate in the MSOS program.
Engineering student, Kayland Adams, was recently selected to receive a $10,000 scholarship on behalf of ASHRAE for the 2015-2016 academic year. The scholarship was awarded as a result of his outstanding scholastic and leadership abilities, character, potential to the HVAC&R profession, and financial need. Adams was also selected by the North Carolina Space Grant to participate in the Space Grant Helicopter Workshop this summer. The workshop will be held in June at Central Connecticut State University. He was one of seven students selected to participate.

Graduate students in the MS in biomedical engineering program, along with the bioprocess engineering seniors, recently attended an aseptic training workshop at the Biomaterials Training and Education Center (BTEC) in Raleigh in April. Students attending included Jadesola Olaoye, Blair Weaver, Daniel Vargas, Matthew Cadmus, Nick Bernath, Melissa Wilson, and Daniel Woods.

Tyler Martin, engineering student, recently received the ASHRAE Senior Undergraduate Project Grant for $5,000. ASHRAE is the American Society of Heating, Refrigerating, and Air-Conditioning Engineers and is a global society working in the built environment that focuses on sustainable technology. The title of the grant received is “Thermal Conductivity Tester and Chamber.”

Demetria Powell, recent graduate in the MS in occupational safety (MSOS) program, received third place in the professional paper awards competition as part of the American Society of Safety Engineers. Powell’s article was titled “SH&E Problem Solving: Are Higher-Order Controls Ignored?” The article was published in the February 2014 issue of PS magazine and was co-authored with Dr. Mike Behm, associate professor in the MSOS program.

Design students Nicholas Abbondanzio, John Kuhlman, and Jessica Staton placed second in the statewide Natural Talent Design Competition as part of the US Green Building Council North Carolina Chapter, held in Raleigh, NC. The team had to design a ‘visitors center’ for a state park that worked well in a natural environment and with other entities in the park.

Shauna Holley, Information and Computer Technology student, was just selected as part of the Dream Team for the Cisco largest customer event called Cisco Live! in San Diego, CA in June. Holley will work with a team of other students alongside industry leaders to support the event Network Operations Center. The conference boasts over 20,000 attendees.

Four Information and Computer Technology Students recently passed their Red Hat Certified System Administrator (RHCSA) exam. These students are Michael Dougherty, James Galloway, Nickolav Milovanov, and Gregory Wootton. Milovanov and Joshua Buck also passed a second Red Hat certification exam titled the Red Hat Certified Engineer (RHCE).

Nathan Hingtgen, former graduate of the MS in sustainable tourism (MSST) program in the Center for Sustainability, recently published an article in Tourism Management titled “Cuba in Transition: Tourism industry perception of entrepreneurial change.”

Seven engineering students recently presented their research at the 10th State of North Carolina Undergraduate Research and Creativity Symposium held at North Carolina State University in November. Over 500 undergraduate students from across the state participated in poster sessions or presented in oral sessions. Engineering students attending included Edward Bryant, Logan Cole, Tyler Martin, Kevin Nicolle, Tyree Parker, Alan Register, and Joshua Webster.

Computer science graduate student, Ryan Deliana, presented his paper, “Back-Projective Priming: Toward Efficient 3D Model-Based Object Recognition via Preemptive Top-Down Constraints” at the 26th Modern Artificial Intelligence and Cognitive Science Conference (MAICS) in late April in Greensboro, NC.

Richard Ketchum and David Moore, information and computer technology students, were recently awarded funding from the URCA committee for their undergraduate research project. Jared Henry and Trevor Kovach, construction management students, have each been awarded the $2,500 Associated General Contractors (AGC) Education and Research Foundation scholarship for the 2015-2016 academic year.

Ten information and computer technology students qualified as one of just ten teams to compete in the regional (semifinal) Mid-Atlantic Collegiate Cyber Defense Competition (MACCDC) in March in Maryland. The CCDC is in its 10th year and provides a unique experience for college students to test their cybersecurity knowledge and skills. The team includes: James Hoover, Carl Miles, Sameer Thadani, Nolasco Monk, Joshua Buck, Michael Dougherty, John Faulconer. Alternates include: Dustin Burnett, Andrew Ramirez, and Miquel Vega.

Eddie Gillespie, Eleni Grosskopf, Jade Hood, and Kaleb Moore, distribution and logistics students, attended the Material Handling Equipment Distributors Association (MHEDA) networking event in Richmond, VA. The students participated in a panel discussion and met industry experts.

Dr. Qin Ding, computer science, published an article in Nature Communications titled “The evolution of photosynthesis in chromist algae through serial endosymbiosis.” The article was published in collaboration with several faculty members in Biology at ECU as well as a computer science graduate student, Hui Guo.

Benjamin Tillett-Wakely, information and computer technology student, successfully completed the second part of a professional certification exam offered by Red Hat and is now recognized as a Red Hat Certified Engineer (RHCE). Tillett-Wakely was the only student in his class this year to achieve this distinction.

Emily Ayscue, recent graduate of the MS in sustainable tourism program, published an article in UCLA’s Electronic Green Journal titled “Initiating sustainable behavior, Feel good for doing good.”

Construction Management students attended the National Association of Home Builders Residential Construction Management competition in Las Vegas in January. The team consisted of Kacie Wolcott, Jared Markham, Robert Mewborn, Joseph Patrick Wurzel, James Wynne, Ryan Pova, and Matthew Taylor.
National Society of Black Engineers Reactivates Chapter

In Spring 2015, ECU reactivated its student chapter of the National Society of Black Engineers (NSBE). NSBE has 350 pre-collegiate, collegiate, and professional chapters around the world with over 31,000 members. An original chapter was started at ECU in 2009, but has been dormant for the last few years. Dr. Hayden Griffin, department chair in engineering, began to develop interest in reactivating the chapter from several engineering students he was teaching. Dr. Evelyn Brown, professor in engineering, agreed to be the faculty advisor. Dr. Brown has vast experience in aiding the group with service learning projects for the organization.

Angel Chukwu is the student chapter president and a freshman in mechanical engineering at ECU. She became involved in NSBE in high school and was excited that the chapter was reactivating on campus. According to Chukwu, “We currently have 20 members and are looking to build on that. We participate in community service and STEM outreach to youth, hold chapter socials, and team bonding activities. NSBE is special because it is a place for like-minded people to share personal and professional experiences.”

You do not have to be an engineering major to be a member. Current members include students with majors in physics, math, business, and psychology. The group requires attending eight hours of study hall per week and completing 30 hours of community service per semester. Chukwu adds, “We would like to see our study hall program flourish. It’s so important that we learn how to ask one another for help.”

For more information, please contact Angel Chukwu at chukwual4@students.ecu.edu.

Academic Innovations awards

Pictured (left to right) at the North American IPv6 Summit in Denver, Colorado are Shixion Shang of Nephos6, ECU senior Dustin Stocks, ECU teaching instructor John Pickard, and Dr. Ciprian Popoviciu, founder and CEO of Nephos6. Stocks and Pickard won the Academic Innovations award at the summit for their work done with IPv6.

DSM Dyneema Scholarship

Seated center front, ECU Honors College Dean Marianna Walker prepares to sign an agreement with DSM Dyneema site director Jim Lawless, right, and DSM Dyneema engineering director Scott Quinn, at left. The Greenville fiber manufacturer will fund an EC Scholar award earmarked for an engineering student. Standing left to right, Todd Fraley, director of the EC Scholars Award Program; Deb Mungal, director of DSM’s Human Resources & Training; Ricky Castles, assistant professor of engineering; and Hayden Griffin, professor and chairman of the Department of Engineering. (Photo by Cliff Holis)
Message from the Major Gifts Officer

On behalf of the College of Engineering and Technology, I would like to thank you for your continued support by giving of your time, resources, and financial gifts. Through your support to ECU and CET, you are enabling a level of excellence that will have an increasingly positive impact on student success as well as regional transformation. We simply could not operate as we do without your help. Thank you!

As you give thought to your future level of giving I would ask you to think of your gift as an investment; an investment in our faculty, staff, students, and our region. As you know, there are many ways to give and many areas within CET to support. All are important and as a reminder, there is no gift too small! However, we continue to be focused on growing our endowments with an emphasis on everyone continuing their annual gifts as well. This helps us to continue to operate while building sustainability for the future.

With the success of our college comes the need for more discretionary funding. In the business world, when things are going well, opportunities of value often present themselves unexpectedly but they must be seized for the stability and growth of the business. Our dean and the chairs of our departments need that discretionary money to seize opportunities for our students, staff development, establishing industry partnerships, etc. Gifts for discretionary purposes may be given annually and through the establishment of an endowment.

Over the last couple of years I have really tried to focus on the potential that each department has in terms of financial support. We are a young college but we have departments within our college that have been around for a long time. CET currently has an alumni base of over 9,000 graduates! I look forward to having meaningful conversations with many of you about continuing your support as well as creating new relationships with alumni that have been disconnected over the years for various reasons. If you would like to schedule a time to visit, please contact me using the information below.

Lastly, 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.

Thank you!

Scott Snead
Major Gifts Officer
College of Engineering and Technology
East Carolina University
252.328.9580
sneadsc@ecu.edu