



The SPARK

CERT's
Spring 2018
Newsletter

The Center for Energy Research and Technology is an interdisciplinary energy research center, created to foster collaborative research and development of new energy-related technologies. The center focuses on basic and applied research, outreach and extension activities and education.

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CERT Launches EMERGE IN STEM Initiative

The Center for Energy Research and Technology (CERT) at North Carolina A&T State University has been awarded a \$300k National Science Foundation (NSF) grant to create a pathway to the STEM workforce for minorities and women. The NSF funding is for a CERT-created program called EMERGE in STEM, which stands for Education for Minorities to Effectively Raise Graduation and Employment in STEM. It will offer STEM-related career exposure to Guilford County students in grades 4-12.

Through EMERGE in STEM, CERT will work closely with Guilford County schools and a large network of private, governmental and educational institutions to meet the objectives of the program. An EMERGE in STEM website (www.EMERGEinSTEM.org) will serve as the hub to provide information and a calendar of events throughout the year, both in and out-of-school, to parents, children, educators, public and private entities about STEM opportunities. The expectation is to have hundreds of organizations linked to the network, with volunteers from most STEM-oriented industry and entrepreneurial partners in Guilford County.

"We launched EMERGE in STEM, have built a website and are present-

ly engaged in surveying thousands of students in Guilford county middle schools on STEM interest," said CERT Director Greg Monty. "We are also enlisting industry partners across the county to bring career knowledge to K-12 students."

Learning Blade, a game-based software, will be one mechanism to provide both STEM science/technology/engineering/math lessons to students, as well as knowledge of exciting and fulfilling jobs in the STEM workforce. The EMERGE in STEM funding will provide the Learning Blade software to Guilford County schools at no cost, having been shown to significantly improve student interest in STEM careers in other school systems.

The EMERGE in STEM aspires to be the go-to STEM program and website for Guilford County by the end of the pilot in December 2019.



CERT Director Dr. Greg Monty will address attendees at the North Carolina Department of Public Instruction's new Connecting Communities of Education Stakeholders (CCES) Conference. The conference, with the theme "Fostering Innovation Across Our State", merges the best of the Home Base Symposium and Collaborative Conference for Student Achievement by focusing on professional networking, building professional capacity, spotlighting successful and effective stakeholders, and promoting real-world problem solving. The conference will be March 11-15 at the Koury Convention Center/Sheraton Four Seasons in Greensboro.

Get Ready for the EPA's New GENERATE game!

Research Associate Dr. Vicki Foust will be introducing the Environmental Protection Agency's energy game to 8th grade science teachers in Guilford County. *Generate* is an interactive game that allows students to explore energy choices and teaches the considerations and costs in deciding what type of energy generation to build. The game, complete with board and game pieces, features several "rounds" with different criteria for competition. For more information on Generate, contact Vicki at vafoust@ncat.edu.



Four Things We Love About ENERGY DAY!

It's that time of year again, when our team is putting the finishing touches on N.C. A&T's Energy Day event which is coming up on **March 20th, 2018!** This is our ninth annual program, and each year has gotten bigger, better, and more exciting for the Piedmont Triad youth in attendance.

1. Welcome to College!

For many students, this trip to N.C. A&T represents their first visit to a college campus. Getting off a bus and setting foot onto our campus is a truly exhilarating experience, offering young people an opportunity to picture themselves in an institution of higher learning. The same facility which houses Energy Day is the setting for many N.C. A&T programs and celebrations, giving kids a foretaste of their future educational journey.

2. Welcome to Reality!

Energy is interesting to study, but even more exciting to see and touch. Unlike many theoretical disciplines, energy is something tangible and real with which youth can interact. Energy Day provides immediate and overwhelming positive response to the age-old student question *Am I ever going to use this information?* Yes indeed, every day of your life will be impacted by energy!



3. Welcome to Learning!

For most students, this is their first exposure to a college professor; N.C. A&T faculty present their research and laboratory accomplishments during Energy Day, giving young visitors a glimpse of classroom life at N.C. A&T. Can they learn something useful for these seasoned researchers? Can they picture themselves working at a university someday as an expert in their field?

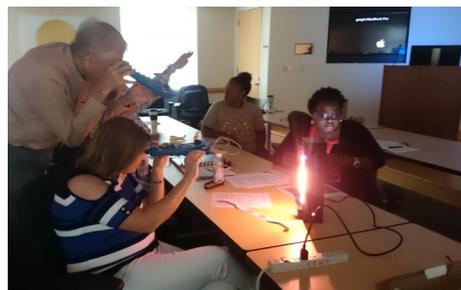
4. Welcome to Your Future!

The Center for Energy Research and Technology is committed to showing kids the roadmap to a successful career in the fields of science, technology, engineering and mathematics (STEM). These are the high-demand, high-paying jobs of the future, and the sooner today's youth are exposed to the career possibilities in STEM fields, the higher the reward for them (and for our nation!) Energy Day shows kids so many ways they can build an exciting future for themselves and our world in the field of energy.

Last year we had over 2,000 area youth in attendance. Energy Day is a significant way for N.C. A&T to reach tomorrow's college students with hope, relevance and excitement as we prepare our young people for academic success in high school, college and beyond!

Make Plans to Attend CERT's FREE Educator Workshops!

During the summer months, CERT invites North Carolina's K-12 science teachers to the N.C. A&T campus for its free Energy Educator Workshops. Teachers from across the Piedmont Triad are exposed to fun energy concepts, and are taught to use easy-to-implement, plug-and-play modules which help science teachers engage kids back in their classrooms.



CERT's most popular teaching modules are the Heat Transfer Module and the Energy Transfer Module. They are video and software-based sessions, enhanced with hands-on experiential learning in the classroom. Teachers only have to invest about a half hour of prep time to teach a module, and the students really enjoy the fun, experiment-based atmosphere. All module materials and kits are loaned for free throughout the year from the "CERT Library."

Workshops are free, including meals and parking, and CEUs are earned. Visit the CERT website for the annual workshop schedule, and to register: <http://www.ncat.edu/research/dored-research-centers/cert/index.html>.

