



# The SPARK

CERT's  
Summer  
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 Unveils New Additions to its Educational Series

This fall CERT invites North Carolina's K-12 science teachers to attend its free Energy Educator Workshops, and this year's series will feature three new modules: Heat Transfer for third grade, Generate (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) and the brand new Light and Waves Module!

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.



**Heat Transfer** is taught through two experiments involving hot and cold water cups, an aluminum bar, and thermometers. Aligns to Science standards 5.P.3 and 6.P.3.

**Heat Transfer (3rd Grade)** is taught through one experiment involving hot and cold water cups, an aluminum bar, and thermometers. Aligns to Science standard 3.P.3

**The Generate Game** teaches energy generation and the consequences of

generation choices through a board game that allows eight teams to compete in energy-grid management. The Generate Game was created by the Environmental Protection Agency (EPA). Aligns with standards: 8.P.2, EEn.1.1 and EEn.2.8.

**Light and Waves** teaches properties of light and waves through several experiments that make waves, measuring light, discover how light travels, and explore electromagnetic spectrum. Aligns with standard: 6.P.1

**Energy Conversion** provides the equipment to demonstrate energy conversion from mechanical, chemical, light, and wind energy. Aligns with standard: 4.P.3

The free workshops count as Professional Development Workshops sanctioned by GCS, and CEUs are earned. Visit this [registration form](#) on the CERT website for the annual workshop schedule, and to register.

## CERT Salutes National Energy Education Schools

Three Guilford County schools were recently recognized by the National Energy Education (NEED) project for their conservation efforts through Energy WISE. Sedgefield Elementary, Southern High and Northern Middle were named North Carolina School of the Year at the junior level. All 24 Energy WISE schools were celebrated at an awards banquet on May 21, 2018. Congratulations to all our teams!

## Attend One of CERT's FREE Learning Blade Training Events

**Learning Blade** is an effective and exciting Internet-based tool designed to grab your students' attention while introducing them to the careers, tools and technology found throughout the STEM fields. As a teacher in the Guilford County School System, Learning Blade is available FREE to your students through grant funding secured by North Carolina Agricultural and Technical State University.

Join us for one or more of these free informational sessions and we will provide you a meal. Bring a teacher friend! Integrating Learning Blade into your Fall 2018 curriculum is easy!



### Training Dates and Times

- Tuesday, June 26<sup>th</sup>, Noon – 2pm
- Wednesday, July 25<sup>th</sup>, Noon – 2pm
- Saturday, July 28<sup>th</sup>, 9am – 11am
- Tuesday, August 7<sup>th</sup>, 5pm – 7pm
- Thursday, August 9<sup>th</sup>, Noon – 2pm

Training sessions will take place on the N.C. A&T campus in Greensboro. Parking is free, as is the training and meal provided! More information will be sent when you register, please do so here: [CERT@ncat.edu](mailto:CERT@ncat.edu)

## N.C. A&T Students Fighting Hunger with Food Recovery Network

Around 100 students on the N.C. A&T campus are helping to battle hunger in Guilford County. In conjunction with Sodexo, the university's food services vendor, students have established a local Food Recovery Network chapter.



Each Wednesday afternoon, students help to recover and package approximately 50 pounds of surplus food from Williams Dining Hall, the university's cafeteria. The food is packed and delivered to Greensboro Urban Ministry, local churches and Out of the Garden Project and shared with local residents facing food insecurity.

The N.C. A&T Food Recovery Network chapter has been conducting weekly food recovery since January 2018. Many of the student volunteers are ServSafe® Certified, a food handling training program provided through the National Restaurant Association. The N.C. A&T chapter is led by chapter president Heaven Jordan, chapter vice president Nicole Gregory, Dr. Vicki Foust, advisor and research associate with N.C. A&T's Center for Energy Research and Technology, and Jenna Maroney, marketing specialist at Sodexo. Getting involved in the Food Recovery Network effort is easy and free, simply contact Heaven Jordan at [htjordan@aggies.ncat.edu](mailto:htjordan@aggies.ncat.edu).

## N.C. A&T Researchers to Measure kW Reductions in Four UNC System Schools

Lighting consumes about 25 to 30 percent of the electricity in classroom and office buildings on a typical campus, which is why lighting is a high priority for efficiency upgrades.

Energy researchers at N.C. A&T will measure and verify light-related usage at four UNC system schools: N.C. A&T, Winston-Salem State University, The University of North Carolina School of the Arts and UNC-Charlotte.



Over the past 25 years, many campuses have converted from inefficient tubes and incandescent bulbs to compact fluorescent bulbs and LEDs that use a fraction of the electricity and last many times longer. In addition, many buildings have been equipped with timers to turn off the lights during periods of no occupancy. N.C. A&T will do pre and post measurements to track kilowatt usage while keeping the same light intensity needed at the schools.

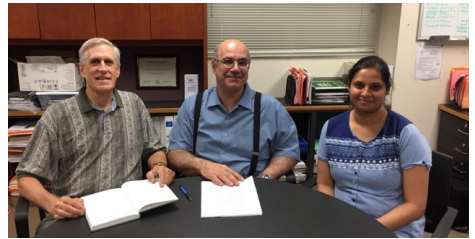
In April, CERT Director Dr. Greg Monty moderated a North Carolina Energy Conference panel called Public + Private Partnerships. Attendees gathered to hear about the latest clean energy innovations springing from collaborations between the business and research sectors in North Carolina.

2018 State Energy Conference  
of North Carolina

Innovation. Evolution. Revolution.



## CERT Celebrates Student Achievements



It's with great pride that we announce that CERT team member Aditi Bhalerao has graduated with her Master's degree in computational science.

Aditi (right) is shown above with major professors Dr. Greg Monty and Dr. Marwan Bikdash. Her thesis was titled "A Study of Electricity Generation in North Carolina Using Linear Regression and Regression Trees."

## CERT Celebrates Earth Day at Greensboro Area Library

CERT celebrated Earth Day (April 14) at the Kathleen Clay Edwards Family Library on Price Park Drive in Greensboro. The library event featured a celebration, exhibits and entertainment for area families. CERT had interactive displays and activities at their table



The day's activities were sponsored by the City's Parks and Recreation and Field Operations departments, Greensboro Public Library, and Friends of the Greensboro Public Library.

