

AUBURN UNIVERSITY  
COLLEGE OF SCIENCES  
AND MATHEMATICS

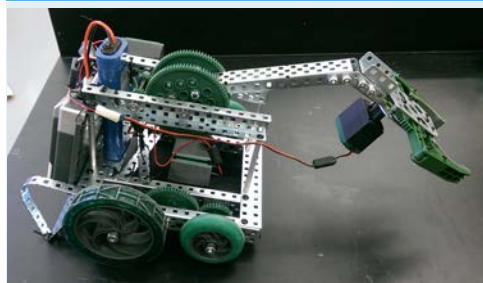
**E=mc<sup>2</sup>**

Engaging More  
Community Connections



Volume 6: Issue 5

November/December 2014



## Upcoming Events & Programs:

### Summer Science Institute

*Summer Academy for High School Students*

**Registration Now Open**

SSI is for outstanding students who are currently in the 10<sup>th</sup> or 11<sup>th</sup> grades and are interested in a possible career related to science or mathematics. Students will engage in real-world applications of science, perform experiments using cutting edge research equipment, and partner with science and math faculty researchers to gain lab skills not taught in high school. The program is offered at no cost to accepted students. Interested students should download the full application form from [www.auburn.edu/cosam/ssi](http://www.auburn.edu/cosam/ssi). Registration deadline is January 31, 2015.

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### Eligible Applicants:

- Must be entering 11<sup>th</sup> or 12<sup>th</sup> grade in the fall of 2015.
- Superior academic proficiency in mathematics and/or science courses is required.
- Minimum ACT score of 28, or SAT combined score of 1850.
- Must demonstrate leadership abilities and social maturity through (1) personal essay, (2) involvement in school and community activities, and (3) teacher/adult recommendations.

## High School AMP'd

Registration is still open for our annual High School AMP'd (Auburn Mathematical Puzzle Challenge) competition that will take place on Saturday, January 25, 2015. Participation is limited to the first 20 registered teams. The deadline to register is Friday, December 5, 2014. Below is a current list of participating teams. At present, we have space for 3 more teams to participate.

Schools are limited to two teams. The cost of the first team is \$100, the second team is \$75. For more information or to register, visit [www.auburn.edu/cosam/ampd](http://www.auburn.edu/cosam/ampd) to download the registration packet.

### 2015 Competing Teams

Central Educational Center – Newnan, GA  
 Saint James School – Montgomery, AL  
 Montgomery Catholic Preparatory School – Montgomery, AL  
 East Coweta High School – Sharpsburg, GA  
 Baker High School – Mobile, AL  
 Beulah High School – Valley, AL  
 Beauregard High School – Opelika, AL  
 W.P. Davidson High School – Mobile, AL  
 Opelika High School – Opelika, AL

## Upcoming Events and Programs (Cont'd.)



Join us for the South's BEST Robotics Championship on Sunday, Dec. 7 at the Auburn Arena. Watch the top middle and high school teams in the south go head-to-head with their robots to see who is the best of BEST! Free admission – bring the whole family.

[www.southsbest.org](http://www.southsbest.org)

## Greater East Alabama Regional Science and Engineering Fair School Registration Deadline Quickly Approaching!

Visit <http://www.auburn.edu/cosam/gearsef> to register!

GEARSEF is a regional affiliate fair of the Intel International Science and Engineering Fair (Intel ISEF), the world's largest international pre-college science competition. GEARSEF is open to all students in grades 6-12 who have advanced from their local science fair (school, county, district, or community fair) and reside within the following Alabama counties: Autauga, Barbour, Bullock, Butler, Chambers, Coffee, Crenshaw, Dale, Elmore, Geneva, Henry, Houston, Lee, Lowndes, Macon, Montgomery, Pike, Russell, and Tallapoosa. Students can be enrolled in public or private schools in the region or affiliated with a home school cover school.

Students should present their projects at a school or county science fair and only top winners should advance to GEARSEF. Schools (or school systems) planning to send their fair winning students to GEARSEF on March 19, 2015, should register by **Friday, December 12, 2014**. School registration is free. In February, schools will submit a list of participating students and a \$10 entry fee/project.

For more information about GEARSEF or to register, contact Allison Tjelmeland at 334-844-7449 or by e-mail at [alto008@auburn.edu](mailto:alto008@auburn.edu).



**2015 Core Teacher Training**  
Registration Coming Soon!

Project Lead The Way Core Training for teachers at PTLW schools in Alabama has been scheduled and registration will open soon. In summer 2015, Auburn University will offer core training for Engineering, Biomedical Science, Gateway, and Launch programs to train participants to become Project Lead The Way teachers. According to the PTLW network agreement, only trained PTLW teachers may teach the curriculum.

Core training provides teachers with the knowledge to utilize the PTLW technology, software and associated curriculum. Classes are taught by master teachers and affiliate professors who bring hands-on teaching experience to the classroom. PTLW pays significant attention to assessing the teachers' readiness for the intensive two-week training.

The 2015 Auburn University PTLW Core Training Schedule:

Program	Start	End	# of Seats
Intro to Engineering Design (IED)	May 31	June 12	24
Principles of Engineering (POE)	May 31	June 12	24
Design and Modeling (DM) - Gateway	May 31	June 5	24
Automation and Robotics (AR) - Gateway	June 7	June 12	24
Principles of Biomedical Sciences (PBS)	June 14	June 26	24
Human Body Systems (HBS)	June 14	June 26	24
Computer Integrated Manufacturing (CIM)	June 14	June 26	24
Green Architecture (GA)	June 14	June 19	24
Medical Detectives (MD)	June 21	June 26	24

Classes (and class sizes) are limited, so register early!

To register visit:

**<http://www.pltw.org/core-training-course-offerings>**

For more information or to join the Alabama PTLW email list, visit

[www.auburn.edu/cosam/pltw](http://www.auburn.edu/cosam/pltw) or contact:

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## Outreach Calendar

### December

- 7 South's BEST Competition
- 9 SWSM Christmas Party

### January

- 17 TASSAL Teacher Training
- 24 AMP'd High School Challenge

# Activity of the Issue

## See Leaf Colors

### Materials:

- 1/3 cup Lemon Juice
- 9 pieces of paper towel, each 1" x 1" in size
- 5 shiny, clean pennies
- 5 zinc-coated washers (3/4" in diameter)



### What to do:

1. Cut paper towel into 1"x1" squares and soak 9 pieces in the lemon juice. Make sure no part of the towel is dry.
2. With a washer on a clean surface, place paper towel square on the top of the washer followed by a penny. Continue alternating until all materials are used.
3. Wet thumb and middle finger with either lemon juice or water. Pick up stack with those two fingers making sure to touch the metal and not the paper towel.
4. A slight tingle should be felt in the fingers.

### What's Happening?

The basic parts of a battery consist of two metals surrounded by strong acid. In order for the charge to be felt, one metal needed to have a negative charge and the other needed a positive charge. With the fingers on either end of the coin stack, the circuit (the ability for the charge to circulate) was completed.

### Extension

You could measure the charge by using a voltmeter (battery tester). Measurements are taken by attaching prongs to each end of the stack. Try changing up the source of acid by switching out lemon juice with another acidic source (do limes work just as well?)

This activity is from [www.education.com](http://www.education.com). For more activities visit:

<http://www.education.com/activity/science/>



## Since the last issue:

### Middle School AMP'd Winners

In September, the Middle School Auburn Mathematical Puzzle Challenge hosted 15 teams from Alabama and Georgia. Winning teams included:

- 1<sup>st</sup> – Montgomery Catholic Prep School
- 2<sup>nd</sup> – Saint James Middle School #2
- 3<sup>rd</sup> – Alabama Christian Academy
- Super Sleuth Award Winner– Central Ed. Center
- Black Market Barter Winner– Madras MS
- Ready, Set, Go Challenge Winner – Sanford MS
- Five Star Award Winner – Arnall MS



## War Eagle BEST Winners

The War Eagle BEST (Boosting Engineering Science and Technology) Competition occurred on October 11, 2014. The event, co-hosted by the College of Sciences and Mathematics and the Samuel Ginn College of Engineering was a huge success. Teams of middle and high school students worked to assemble and transport wind turbines using an environmentally friendly method.

Over 800 students participated in the event. Winners are listed below:

1<sup>st</sup> Place BEST Award – Wetumpka High School

2<sup>nd</sup> Place BEST Award – Eastwood/Cornerstone School

3<sup>rd</sup> Place BEST Award – Springwood School

4<sup>th</sup> Place BEST Award - Saint James School

1<sup>st</sup> Place Robotics – Southside Middle School

2<sup>nd</sup> Place Robotics – Lee-Scott Academy

3<sup>rd</sup> Place Robotics – Wetumpka High School

Robotics Finalist – Eastwood/Cornerstone School

\*Teams in yellow advanced to the regional South's BEST Competition also hosted by AU on December 5 – 7.



E=mc<sup>2</sup> Engaging More Community Connections

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For more information about  
any of our programs visit:

[www.auburn.edu/cosam/outreach](http://www.auburn.edu/cosam/outreach)

Call us at: 334-844-7449



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