



AUBURN UNIVERSITY

COLLEGE OF SCIENCES
AND MATHEMATICS

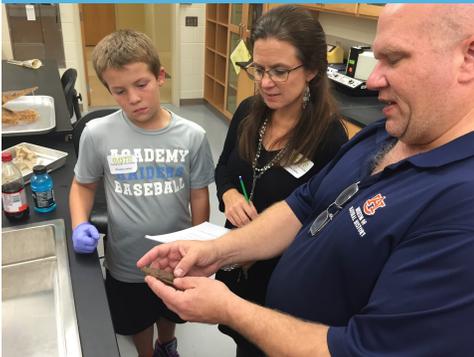
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Engaging More
Community Connections

Volume 8: Issue 5



COSAM Outreach Newsletter
November/December 2016



Upcoming Events & Programs

Summer Science Institute

Application Deadline: February 10, 2017

The Summer Science Institute is for outstanding students who are currently in the 10th or 11th grades and are interested in science and mathematics. Students engage in real-world applications of science, perform experiments using cutting edge research equipment, & partner with COSAM researchers to gain lab skills not taught in high school.

The program is offered at no cost to accepted students. Interested students will need to download the full application and recommendation forms online. **For these forms and further information, please visit our website at www.auburn.edu/cosam/ssi.**



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Science Olympiad

Elementary – February 4th
State Tournament – April 1st

Science Olympiad is a one-day sports-like science competition involving approximately 2,500 Alabama K-12 students each year. Auburn is pleased to host both a regional Elementary Science Olympiad on Feb. 4, 2017 as well as the Alabama state tournament for both Middle and High School students on April 1, 2017. We are at maximum capacity for our Elementary teams and our Middle/High School teams will advance to Auburn following regional tournaments throughout the state. *With event topics ranging from field biology to astronomy to chemistry, if you have an interest in assisting us with these events or if you would like to volunteer in any capacity for either of these competitions, we'd love to have you!*

For more information, contact Kristen Bond at Kristen.bond@auburn.edu or by phone at 334-844-5769. You can also visit Auburn Science Olympiad online at www.auburn.edu/cosam/scienceolympiad.

The AU Science Café

Join us **each month** for a night of science, good drinks, tasty sweets, and great conversations! At the AU Science Café, you'll have the opportunity to sit down and talk about new and exciting science and technology with scientists in our community, all the while relaxing in a great local food and drink venue.

The event is **FREE** and open to all of the public. **No science background is required**, and no question is too silly to ask! For more info, including parking directions and the event schedule, visit us online at <http://auburn.edu/cosam/sciencecafe> or contact Josh King at josh.king@auburn.edu.



Next Science Café Date:

November 15th – “The Waters Around Us: Protecting Local Water Sources” by Rasika Ramesh @ Mama Mochas

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Outreach Calendar

November

- 10 PLTW State Conference
- 15 AU Science Café

December

- 3 South's BEST – Day 1
- 4 South's BEST – Day 2

January

PLTW Winter Training



Greater East Alabama Regional Science and Engineering Fair

Time to start registering projects!

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 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 winning students to GEARSEF on March 9 should now be registered in the new digital science fair system, “Scienteer,” and students should now be registering their projects also. If you would like your school to participate in GEARSEF this year but are not registered in Scienteer, please contact Josh King at josh.king@auburn.edu.

For more information about GEARSEF, visit our website at www.auburn.edu/cosam/gearsef.

Activity of the Issue

Making Metal Float*

(Diving Into Surface Tension)

Materials:

- Paper clips, tissue paper, a bowl of water, and a pencil

What to do:

1. Fill the bowl with water and try to make the paper clip float. Not much luck, huh?
2. Tear a piece of tissue paper about half the size of a dollar bill and gently drop the tissue flat onto the surface of the water.
3. Gently place a dry paper clip flat onto the tissue (try not to touch the water or the tissue).
4. Use the eraser end of the pencil to carefully poke the tissue (not the paper clip) until the tissue sinks. With some luck, the tissue will sink and leave the paper clip floating!

How does it work?

How is this possible? With a little thing called **surface tension**. While objects will normally sink if they are denser than water, attraction between water molecules can sometimes be enough to resist the downward pressure of the floating object. In this case, they can hold tight enough to support your paper clip. Many insects, such as water striders, use this effect to walk across the surface of a stream.

Make it an experiment:

The project above is a *demonstration*. To make it a true experiment, you can try to answer these questions:

1. How many paperclips can the surface tension hold?
2. Does the shape of the paperclip affect its floating ability?
3. What liquids have the strongest surface tension?
4. Can the surface tension of water be made stronger? (try sprinkling baby powder on the surface)



*This activity and graphics were developed by "ScienceBob" and adapted for this publication. For more experiment ideas visit:

<http://sciencebob.com>

Since the last issue:

Middle School AMP'd Winners

In October, the Middle School AMP'd (Auburn Mathematical Puzzle) Challenge hosted 19 teams from Alabama and Georgia. Winning teams included:

- 1st Place – Beulah High School
- 2nd Place – Sanford Middle School (Team 1)
- 3rd Place – Lee Middle School (Team 2)

GUTS

Getting Under the Surface (GUTS) is an evening program for 1st-6th grade students and their parents or grandparents. The mission of GUTS is to enhance science literacy and engagement within our community by providing relevant science activities to students and their parents.

This fall, COSAM's October GUTS featured the science of the monstrous and mysterious. The courses offered were:

- Monsters of the Past (Grades 1-3)
- Daring Detectives (Grades 1-3)
- The Terrible Pink Pumpernickle (Grades 4-6)
- Monsters of the Deep (Grades 4-6)

Look to our website (www.auburn.edu/cosam/guts) and this newsletter in the Spring for news of the next GUTS!

Since the last issue (cont.)

War Eagle BEST Winners

The War Eagle BEST (Boosting Engineering Science and Technology) Competition occurred on October 8, 2016. The event, co-hosted by the College of Sciences and Mathematics and the Samuel Ginn College of Engineering was a huge success. Middle and High school teams worked to efficiently collect and process crops on a farm tended entirely by robots.

Over 800 students participated in the event. Teams advancing to South's BEST are listed below:

- Wetumpka High School
- Eastwood/Cornerstone Schools
- Saint James School
- Tallassee High School
- Opelika High School

South's BEST Championship (www.southsbest.org), also hosted by Auburn University, is the Southeastern Regional for BEST robotics and will take place on December 3 – 4. South's BEST is open to the public to attend.

For more information about War Eagle BEST visit www.wareaglebest.org



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For more information about any of our programs visit:

www.auburn.edu/cosam/outreach

Or call us at 334-844-7449

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