Upcoming Events & Programs

Greater East Alabama Regional Science & Engineering Fair

Project Registration Deadline Coming Soon – February 10th:

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.

Students should present their projects at a school or county science fair and only top winners advance to GEARSEF. Local winners planning to attend GEARSEF on March 9, should complete their registration by Friday, February 10, 2017. The cost to participate is $20 per project. All registrations are done online using the new Scienteer system.

For more information about GEARSEF, visit our website at www.auburn.edu/cosam/gearsef. Further questions can be directed to Josh King at 334-844-8123 or by e-mail at josh.king@auburn.edu.
Upcoming Events

Science Olympiad

Science Olympiad is a one-day sports-like science competition involving elementary to high school students throughout the US. Auburn hosts a regional event for elementary students and the state competition for qualifying middle and high school teams. Approximately 1000 students participate in these events.

This year’s Elementary Science Olympiad features 27 participating teams for the competition on February 4th.

Elementary Science Olympiad – 2017 Competing Teams
February 4, 2017

Auburn Classical Academy
Beulah Elementary School
Concord Elementary School
Fairhope Intermediate School
Highlands Elementary School
Irondale Community School
W.O. Lance Elementary School
Montgomery Catholic Preparatory School
Montana Street Magnet School
Mt. Gap Elementary School

Oak Grove Elementary School
Ogletree Elementary School
Pick Elementary School
Prattville Christian Academy
Springwood School
Thompson Intermediate School
West Forest Intermediate School
Wrights Mill Road Elementary School
Yarbrough Elementary School

For more information about Science Olympiad, visit www.auburn.edu/cosam/scienceolympiad

The AU Science Café

Now introducing “Science Pub” @ Red Clay Brewery!

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. Coming this February, we will be introducing Red Clay Brewery in Opelika as a new “Science Pub” location to the Science Café program.

The event is FREE and open to all of the public. The event is intended as family-friendly whether hosted at Mama Mocha’s or Red Clay Brewery. 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 Dates:

January 31st – “Alchemy & Infamy” by Dr. John Gorden @ Mama Mochas
February 23rd – Dr. Jason Bond @ Red Clay Brewery

Outreach Calendar

Jan

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Outlook

Calendar

Feb

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Elementary Science Olympiad

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GEARSEF/SSI Applications Due

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Science Pub

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AMSTI-AU Open House Event

Save the Dates!

G.U.T.S. – March 23 & April 6

High School AMP’d – April 22

The Auburn Mathematical Puzzle Challenge (AMP’d) is a problem solving challenge in which teams of 6 – 8 students work together to solve the puzzles presented to them. Look for registration information in February.
Upcoming Events

**Science Matters** is a summer enrichment program for students in rising grades 1 – 8 offering a supercharged science experience. The program allows participants to explore the world of science through **real experiments**, technology and **art projects**, and hands-on, **project-based activities**. During this action-packed program, kids can design and build, **dabble in the art of chemistry**, “become a flight specialist”, **see amazing critters**, and more!

**Science Matters** offers six different science-themed weeks for rising 1st – 6th graders and one special course offered through the Biodiversity Learning Center for rising 7th and 8th graders.

All programs operate between 8am-4pm daily. Prices range from $195 – $235 per week/child. Multiple week discounts are available. Courses fill on a first-come-first-serve basis.

### 2017 Course Offerings by Grade

<table>
<thead>
<tr>
<th>Week</th>
<th>1st - 2nd Grade</th>
<th>3rd - 4th Grade</th>
<th>5th - 6th Grade</th>
<th>7th - 8th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 5 - 9</td>
<td>Farm Fresh</td>
<td>Super Sleuth</td>
<td>Secret Formula</td>
<td>No Offering</td>
</tr>
<tr>
<td>June 12 - 16</td>
<td>No Offering</td>
<td>No Offering</td>
<td>Mystery at the Museum</td>
<td>No Offering</td>
</tr>
<tr>
<td>June 19 - 23</td>
<td>Opposites Attract</td>
<td>Bugs &amp; Blossoms</td>
<td>Off the Grid</td>
<td>No Offering</td>
</tr>
<tr>
<td>June 26 – 30</td>
<td>Snap It</td>
<td>Crack the Code</td>
<td>Balloon Poppers</td>
<td>Change, Change, Change</td>
</tr>
<tr>
<td>July 17 – 21</td>
<td>Wonder of Weather</td>
<td>Up in the Air</td>
<td>Pondering Potter</td>
<td>No Offering</td>
</tr>
<tr>
<td>July 24 – 28</td>
<td>Sense and Ability</td>
<td>Rock and Roll</td>
<td>3, 2, 1 Blast Off!</td>
<td>No Offering</td>
</tr>
</tbody>
</table>

For more information or to register visit [www.auburn.edu/cosam/sciencematters](http://www.auburn.edu/cosam/sciencematters). Further questions can be directed to Kristen Bond at [Kristen.bond@auburn.edu](mailto:Kristen.bond@auburn.edu) or by phone at 334-844-5769.

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**Summer Science Institute**

**Application Deadline Soon: February 10, 2017**

The Summer Science Institute (SSI) 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, and partner with COSAM scientists 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 at [www.auburn.edu/cosam/ssi](http://www.auburn.edu/cosam/ssi).

For further information, visit us online or contact Mary Lou Ewald at [ewaldml@auburn.edu](mailto:ewaldml@auburn.edu) or by phone at 334-844-5745. **Applications must be postmarked by February 10 to be considered.**
Activity of the Issue

Disappearing Water*  
(The magic of absorbent polymers)

Materials:
- Clean cup
- Sodium Polyacrylate
  - This can be found on amazon in the same name or as “Water Gel” or similar names. It can also be found in disposable diapers. You will only need ~100g.
- Glass or pitcher to hold water
- Measuring cups

Safety:
- Do not ingest anything used in this activity.
- Wash your hands before touching your eyes after handling the sodium polyacrylate.

What to do:
1. This demonstration can be presented as a magic trick. You’ll want to practice a few times on your own before showing it off.
2. Pour roughly one tablespoon of sodium polyacrylate into the bottom of a cup.
3. Pour roughly 1 quarter of a cup of water onto the sodium polyacrylate. The water will be absorbed by the sodium polyacrylate forming a cool white gel.
4. Practice this a few times to figure out the best ratio of water to sodium polyacrylate so that all the water is absorbed.
5. When you’re ready to show the trick, ask a friend if they think you can make the water disappear.
6. Repeat the steps above to absorb the water and then slowly turn the cup over to show that the water has “vanished.” You may need to pat the absorbed water down a little bit before turning over to keep it from spilling.

How it works
Sodium polyacrylate is a super-absorbant polymer able to hold 500-800 times its own weight in water. This is made possible by sodium polyacrylate being made up of multiple repeating chemical units (making it a “polymer”) where each unit absorbs water. Due to its amazing absorbent ability, sodium polyacrylate is often used in disposable diapers (including those used by NASA in outer space), as artificial snow, as thickening agents in products like hair gel, and even in refreezable gel packs.

Extension
The project above is a DEMONSTRATION (and a magic trick!). To make it a true experiment, you can try to answer these questions:
1. Does the temperature affect the amount of water absorbed?
2. What is the maximum amount of water per weight of sodium polyacrylate that can be absorbed?
3. Does adding table salt to the mixture affect its absorbency? How so and why?

AMSTI-AU 10th Anniversary Open House
Monday, February 27th, 2017

The Alabama Math, Science, and Technology Initiative in Auburn (AMSTI-AU) will be celebrating its 10th anniversary this February and invites members of the public to attend this fun, open house event. Join us for a fun, free evening of cake, door prizes, and lots of hands-on science and math activities for children K through 8th grade. For more information about AMSTI-AU, visit http://amstiau.org/. **Pre-registration for this event is required. To register, please visit** https://goo.gl/forms/lkKGZfiNNyGPaBaf2.
South’s BEST 2016
South’s BEST is a Regional Robotics Championship held each December. This year the top 58 teams competed from 16 BEST hubs in five states. Below are the overall winners.

**BEST Award Winners:**
1st Place: W.P. Davidson High School (Jubilee BEST)
2nd Place: Brooks High School (Northwest Alabama BEST)
3rd Place: DARC (Tennessee Valley BEST)

**Robotics Winners:**
1st Place: DARC (Tennessee Valley BEST)
2nd Place: Evangel Christian School (Selma BEST)
3rd Place: MHMS Robotics (Music City BEST)
Finalist: Oak Mountain High School (Central AL BEST)

**Middle School Winners:**
BEST Award: Good Hope Middle School (North Alabama BEST)
Robotics: Academy for Science and Foreign Language (Tennessee Valley BEST)

More information about South’s BEST, including a full listing of event winners, can be found at [www.southsbest.org](http://www.southsbest.org).

For more information about any of our programs visit:
[www.auburn.edu/cosam/outreach](http://www.auburn.edu/cosam/outreach)
Or call us at 334-844-7449

Follow COSAM Outreach on social media for updates, pictures, and chances to win prizes!

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Phone: 334-844-7449
Fax: 334-844-5740