

AUBURN UNIVERSITY
COLLEGE OF SCIENCES
AND MATHEMATICS

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*Engaging More
Community Connections*



Volume 4: Issue 4

July/August 2012



Upcoming Events & Programs:

War Eagle BEST

Schools and science teachers in the East-Central Alabama region are invited to participate in the 2012 War Eagle BEST program. War Eagle BEST is co-hosted by the College of Sciences and Mathematics and the Samuel Ginn College of Engineering. The free program challenges students in grades 6-12 to design, build, and program a robot from a kit of raw materials through implementation of the Engineering Design Process. The six-week-long program culminates in a one-day, sports-like competition.

Kick-Off: Thursday, August 30

War Eagle BEST: Saturday, October 13

For more information about War Eagle BEST please visit, <http://www.wareaglebest.org> or contact Mary Lou Ewald via e-mail at ewaldml@auburn.edu. The following is a list of schools that have already submitted their 2012 Intent to Participate Form:

A-2-Z homeschool, Auburn Junior High School, Benjamin Russell High School, Brewbaker Technology Magnet High School, Carver High School, Central Educational Center, Columbus Consortium, Glenwood School, The Heritage School, J.F. Drake Middle School, Jordan Vocational High School, LAMP High School, Lochapoka High School, Montgomery Catholic High School, Opelika High School, Opelika Middle School, Prattville High School, Saint James School, Smiths Station High School, Southside Middle School, Springwood School, Stanhope Elmore High School, Wetumpka High School

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Upcoming Events and Programs (cont'd.)

Science Matters–July Availability

Science Matters is a summer enrichment academy for elementary students in rising grades 1-6 offering youngsters a supercharged science experience. The program allows participants to explore the world of science through real experiments, technology, language arts, art projects, and hands-on, make-n'take 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-4th graders to choose from and four weeks for rising 5th-6th graders to enjoy. Parents may choose between the Regular Day option from 8am-3:30pm or the Extended Day option from 8am-5pm. Prices range from \$170 –\$235 per week/child. Multiple week discounts are available. A few seats remain in the following July courses:

July 16-20:

Grades 3-4: We Got The Beat
Grades 3-4: Snap It!

July 30-August 3:

Grades 5-6: Measuring- Microbes to Mountains

Courses fill on a first-come-first-serve basis and remaining seats are filling quickly, so be sure to register today by visiting:

www.auburn.edu/cosam/sciencematters

War Eagle BEST Training

The College of Sciences and Mathematics in cooperation with the Samuel Ginn College of Engineering will host the 2012 War Eagle BEST Teacher Training Workshop on August 6-7th at Auburn University.

The workshop is mandatory for all teachers new to BEST Robotics. Attendance is encouraged for veteran BEST Robotics teachers. Technical and BEST Award sessions will be offered.

For more information or to register, go to <http://www.wareaglebest.org>

Science Investigations

Homeschool Science Fair Experience

Science Investigations provides a meaningful science lab experience for home schooled students in grades 7-10. The program, held at Auburn University's main campus, is designed to be a learning continuum throughout the school year. The program is comprised of a parent meeting and twelve academic sessions designed to build students' scientific research and laboratory skills through the development of their own 'science investigation'. Students will present their science investigation project at their regional, International Science and Engineering Fair (ISEF)-affiliated fair in the spring. Any home school student can design and carry out their own science fair project without participating in the Science Investigations program. However, the Science Investigations program provides students with additional guidance throughout the student-led process of designing and carrying out a science project of the student's own choosing.

Although the concept of Science Fair has been around for decades, even today it remains one of the truest forms of inquiry available to science students. Not only does it allow students to ASK their own science questions, but it also allows students to engage in their own scientific research and ANSWER their own questions. It fosters problem-solving skills, allows students to practice oral presentation skills, and provides a venue for students to discuss and defend their work to real scientists and engineers.



Students living in the following Alabama counties will compete at the Greater East Alabama Regional Science and Engineering Fair (GEARSEF) held at Auburn University in March of 2013: Autauga, Bullock, Chambers, Dallas, Elmore, Lee, Lowndes, Macon, Montgomery, Russell, Tallapoosa, Butler, Crenshaw, Pike, Covington, Coffee, Dale, Geneva, and Houston. Students located outside of these areas will compete in their local fair held in February or March of 2013. All students will compete for the chance to move on to their state competition. Additionally, high school students will compete for the opportunity to advance to the Intel International Science and Engineering Fair held in Phoenix, Arizona.

Admittance into this year's program will be a selective application process in which 12 rising 7th-8th grade students and 12 rising 9th-10th grade students will be accepted for year long participation in the program. The program cost is \$150.00 for a year of student participation and \$125.00 for a second child in the same immediate family. The application will be available beginning Monday, July 2nd on our SI website at www.auburn.edu/cosam/scienceinvestigations.

The deadline to apply is Friday, July 27th.

For further questions or information please contact
Erin Percival at 334-844-7449 or
by e-mail at erin.percival@auburn.edu



Outreach Calendar

July

- 9 Science Matters
- 16 Science Matters
- 30 Science Matters

August

- 6 BEST Teacher Workshop
- 30 War Eagle BEST Kick-off



Activity of the Issue

Bend Water With Static Electricity

Materials:

- A dry plastic comb
- An indoor faucet
- A head full of clean dry hair

What to do:

1. Turn on the faucet and slowly turn down the water until you have a VERY thin stream of water flowing.
2. Take the plastic comb and brush it through your hair ten times.
3. Now slowly bring the comb close to the flowing water, (without actually touching the water). If all goes well, the stream of water should bend towards the comb! Magic you ask? Not really.

What's Happening?

When you brushed that comb through your hair, tiny parts of the atoms in your hair, called **ELECTRONS**, collected on the comb. These electrons have a **NEGATIVE** charge. Remember that, its important. Now that the comb has a negative charge, it is attracted to things that have a **POSITIVE** charge. It is similar to the way some magnets are attracted to certain metals.

When you bring the negatively charged comb near the faucet it is attracted to the **POSITIVE** force of the water. The attraction is strong enough to actually pull the water towards the comb as it is flowing! If you want to try another

experiment with your comb, tear up pieces of tissue until they are as small as you can get them...I mean really small! Then charge your comb again by brushing it through your hair, and bring it close to the tiny pieces of tissue. If the pieces are small enough they will jump off the table to the comb the same way that the water was pulled to the comb. It is all thanks to the wonders of static electricity.

Make it an Experiment:

The project above is a **DEMONSTRATION**.

To make it a true experiment, you can try to answer these questions:

1. Does water temperature affect how much the water bends?
2. Does the size of the comb affect the static power?
3. Does the amount of moisture in the air affect the static power? Try it after someone has taken a shower in the room.
4. Does the material that the comb is made of affect the static power?

For more science activities visit:



Since the Last Issue

Summer Science Institute

The first annual Summer Science Institute occurred from June 10-16th. The institute brought 26 of the brightest high school students from Alabama and Georgia together for a week-long experience in the College of Sciences and Mathematics.



The students hailed from twenty-one different Alabama and Georgia high schools, included 12 females and 14 males, and were selected for participation in the program based upon a rigorous application process.

Students participated in nine academic sessions in the areas of biology, chemistry, geology, mathematics, and physics. Students also engaged in additional activities including a herpetology hunt, science demonstration night, raptor show, challenge course, an undergraduate research panel, and a Leach Science Center tour.

The program was co-funded through the Vice President for Outreach Office, The College of Sciences and Mathematics, and the Auburn University Army ROTC.



Advanced Placement Summer Institute for Teachers

More than 305 Alabama high school teachers congregated at Auburn University during the week of June 18th for a four-day, Advanced Placement training workshop. The workshop provided AP teachers training in the areas of biology, chemistry, physics, and calculus.

A+ College Ready works to increase dramatically the number of students in Alabama taking math, science, and English AP courses, earning qualifying scores on AP exams and attending and succeeding in college.

The AP Summer Institute was supported by the Auburn University Office of Professional and Continuing Education, and the College of Sciences and Mathematics. This College Board Certified Training is required for all teachers who will teach AP level courses at their schools.

Since the last issue

Science Matters

Science Matters kicked off on June 4th with 206 rising 1st - 6th grade students participating in Science Matters during the month of June. Three weeks of the Science Matters Academy took place in June and included courses taught by teachers at:

- Rebecca Balkcom-Auburn Junior High School
- Courtney Davis- Pleasant Valley Elementary School
- Karin Fuller- Auburn Junior High School
- Lana Grooms-Auburn Early Education Center
- Mark Jones- J.F. Drake Middle School
- Amanda Prince- Auburn Early Education Center
- Frank Ware- Sanford Middle School (retired)
- Gina Watkiss-The Heritage School



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