



AUBURN UNIVERSITY

COLLEGE OF SCIENCES
AND MATHEMATICS

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Engaging More Community Connections

A Science and Math Outreach Newsletter

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Schedule of Events

- July 6-9—BizWorld *Science Matters* program
- July 12-15—Summer YES Camp
- July 19-23—Soda Pop *Science Matters* program
- July 23-24—BEST Robotics Teacher-Mentor Workshop
- July 26—Furry Friends *Science Matters* program
- August 27—Women's Leadership Symposium on Science and Mathematics

Upcoming Events & Programs:

Women's Leadership Symposium 2010

On August 27, 2010, COSAM will host its annual Women's Leadership Symposium on Science and Mathematics at the Auburn University Hotel and Conference Center. Held every August, the Symposium was established to showcase distinguished women in the fields of sciences and mathematics. Fifty area high school girls (9th—12th grades) with leadership potential will be invited to campus to be a part of this dynamic one-day experience. The morning opens with a panel discussion featuring accomplished women from various disciplines, then follows with a luncheon that features a keynote speech delivered by a woman distinguished in her discipline. Past panelists and keynote speakers have included women from NASA, the Centers for Disease Control, The Wharton School, and a Jefferson Science Fellow recipient.

This year's distinguished keynote speaker is Dr. Cynthia Carver DeKlotz, Resident physician in Internal Medicine and Dermatology at Georgetown University Hospital. Dr. DeKlotz is a 2002 graduate in Biomedical Sciences from COSAM and was the only AU student who received the USA Today All-American distinction during her senior year at Auburn.



The Symposium is sponsored and hosted each year by the Society of Women in Sciences and Mathematics (SWSM), an organization that aims to provide a platform for young women to meet many different female role models in sciences and mathematics. For more information, go to http://www.auburn.edu/academic/science_math/swsm/. Girls in 9th—12th grades are invited to submit an application to attend the Symposium at no cost to them (see below).

Please visit our website for a complete listing of all our programs!

www.auburn.edu/cosam/outreach

To request an application form, contact us at COSAM_Outreach@auburn.edu or by phone at (334) 844-8161 or visit our website. www.auburn.edu/cosam/outreach
Application forms due by August 9th

Upcoming Events & Programs, cont'd:

Summer YES Camp



The College of Sciences and Mathematics will host the Summer Youth Experiences in Science (YES) camp July 12-15 for rising sixth- through ninth-grade students. Summer YES is a great opportunity for students to explore the many wonders of science by participating in hands-on experiments related to Chemistry, Robotics, River Creatures, Art in Science and much more. Students can choose between half-day, full-day or residential options. Summer YES was the only middle school camp in the state of Alabama to be featured in the national publication, "The Ultimate Guide to Summer Opportunities for Teens," in 2008. Information and registration forms can be found at www.auburn.edu/cosam/outreach. Limited space still available. For more information, contact COSAM Outreach at 844-7449 or eesoon@auburn.edu.

BEST Robotics Teacher-Mentor Workshop

BEST is a middle and high school robotics competition held each fall at 40 different locations across the country. BEST is currently the second largest educational robotics program in the U.S., with over 12,000 students at 700+ schools participating. Auburn University is the national headquarters for this rapidly growing program. This fall, schools in Alabama—public, private, and home schools— can participate at one of SIX different competition sites. The program is FREE to schools, thanks to generous sponsorship from higher education institutions and industry in Alabama. If you are interested in registering a team for this fall, please contact Mary Lou Ewald (ewaldml@auburn.edu).

The six competition sites in Alabama include:

- Blazer BEST (University of Alabama-Birmingham)
- Jubilee BEST (Mobile)
- North Alabama BEST (Wallace Community College, Hanceville)
- Tennessee Valley BEST (Calhoun Community College, Decatur)
- War Eagle BEST (Auburn University, Auburn)
- Wiregrass BEST (Dothan)

The University of Alabama-Birmingham (Blazer BEST) will host this year's Teacher-Mentor Workshop on July 23-24 on the campus of UAB. The workshop is free to attend. Experienced and new teachers and mentors are invited to attend (pre-registration required), as are individuals who may be interested in starting a team. To register for the workshop, contact Mary Lou Ewald (ewaldml@auburn.edu) by July 14.

For up-to-date program information from the COSAM Outreach Office, sign up for our listserv, AU4kids. To become a member, send an e-mail to cosam_outreach@auburn.edu

Experiment of the Issue

Red, White and Blue Soda Geysers

Keep the summer doldrums away by shooting [Red, White and Blue Soda Geysers](#) using Mentos and 3 bottles of Diet Sprite or another clear soda. Color two of the sodas using red and blue food coloring. Strawberry soda and blue Mountain Dew Voltage also work. Drop the Mentos in for your own daytime fireworks show!

Materials Needed:

- Three rolls or box of Mentos® mints
- Three 2-liter bottles of diet Sprite (diet *or* regular soda will work, but diet soda is not as sticky) or another clear soda
- Red and Blue food coloring
- Piece of paper
- Paper towels

Procedure...

1. This activity is probably best done outside in the middle of an abandoned field, or better yet, on a huge lawn.
2. Carefully open each bottle of soda. Add red food coloring to one bottle and blue food coloring to the other bottle.. Position the bottles on the ground so that it will not tip over.
3. Unwrap each roll of Mentos. The goal is to drop a role of Mentos into each bottle of soda at the same time (which is trickier than it looks). One method for doing this is to roll a piece of paper into a tube just big enough to hold the loose Mentos. You'll want to be able to position the tube directly over the mouth of the bottle so that all of the candies drop into the bottle at the same time.
4. Don't drop them into the bottle just yet! Warn the spectators to stand back. Okay, you're going to drop all of the Mentos into the bottles at the same time and then get truckin' (move out of the way... so long... bye- bye... hasta la vista!)

The Science Behind It...

From SteveSpanglerScience.com

Here's the question of the day... Why do Mentos mixed with soda produce this incredible eruption? You should know that there is considerable debate over how and why this works. As you probably know, soda pop is basically sugar (or diet sweetener), flavoring, water and preservatives. The thing that makes soda bubbly is invisible carbon dioxide gas, which is pumped into bottles at the bottling factory using tons of pressure. Until you open the bottle and pour a glass of soda, the gas mostly stays suspended in the liquid and cannot expand to form more bubbles, which gases naturally do.

But there's more... If you shake the bottle and then open it, the gas is released from the protective hold of the water molecules and escapes with a whoosh, taking some of the soda along with it. What other ways can you cause the gas to escape? Just drop something into a glass of soda and notice how bubbles immediately form on the surface of the object. For example, adding salt to soda causes it to foam up because thousands of little bubbles form on the surface of each grain of salt. Many scientists claim that the Mentos phenomenon is a physical reaction, not a chemical one.

Water molecules strongly attract each other, linking together to form a tight mesh around each bubble of carbon dioxide gas in the soda. In order to form a new bubble, or even to expand a bubble that has already formed, water molecules must push away from each other. It takes extra energy to break this "surface tension." In other words, water "resists" the expansion of bubbles in the soda.

To find out more about the science behind it, go to <http://www.stevespanglerscience.com/experiment/00000109>.



Since last issue ...

Science Matters

So far this summer, we have completed four of seven weeks of the new **Science Matters** summer enrichment program for elementary students. The responses from student participants and their parents have been extremely positive and we are looking forward to several more exciting weeks of the program. Here are some fun photos from June programs.

Science matters

Summer Enrichment for Elementary Students



Rocket Challenge—Starbase Maxwell Field Trip



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Visit our YouTube channel!! New videos will be updated following outreach programs.

www.youtube.com/AUCOSAMOutreach

Keep up to date with programs and information by visiting:
www.auburn.edu/cosam/outreach