



AUBURN UNIVERSITY

COLLEGE OF SCIENCES  
AND MATHEMATICS

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

**Engaging More Community Connections**

*A Science and Math Outreach Newsletter*

## Inside this Issue

Upcoming Events for Parents	1
Upcoming Events for Teachers	2
Experiment of the Month	3
Since last issue...	3-4

## Schedule of Events

- **July 6-9**- Summer Y.E.S. Cub Camp
- **July 13-16**- Summer Y.E.S. Tiger Camp
- **July 13-14**- Administrators AP Institute
- **July 20-23**- Summer Y.E.S. Eagle Camp
- **August 21**- SWSM Women's Leadership Symposium
- **August 29**- War Eagle BEST kickoff

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

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

## Upcoming Events & Programs for Parents:

### *Y.E.S. Camps 2009*

YES Camps provide kids the opportunity to experience science through hands-on courses in a relaxed, enjoyable environment on the Auburn University campus. Camps are designed for kids who have high interest or aptitude in science, math, or technology-related subjects and feature courses such as River Creatures, Polymer Chemistry, Forensics, Geometry of Puzzles and Games, and many others.

#### Summer Y.E.S. Camp

The three Summer Youth Experiences in Science (Y.E.S.) camps are set to begin on July 6th and will continue through July 23. The 4 day camps will bring students ranging in age from rising 1st graders to rising 9th graders to Auburn University. We are excited to have had such a great turn out this year with all camps being completely filled.

#### Fall Y.E.S. Camp

Fall Y.E.S. Camp, an all-day Saturday camp, is scheduled for October 3, 2009. This year, courses will be geared toward 7th-9th grade students. Check back next issue for registration and course information. To see information from last year's camp, please visit the outreach website, click on All Programs, and scroll down to the Fall Y.E.S. link..

### *G.U.T.S.*

This fall will mark the 3rd year of Getting Under the Surface (G.U.T.S.). G.U.T.S. is a semi-monthly evening program for 1st-6th grade students and their parents. Dessert is followed by a 90-minute activity focused on the "guts" of every day objects, processes, and scientific concepts. Registration for each session is generally on the outreach website 2-3 weeks before the event.

#### Fall 2009 Tentative G.U.T.S. Schedule

- Wednesday, September 9th
- Tuesday, September 29th
- Thursday, October 29th
- Tuesday, November 17th

*Getting Under the Surface*  
**GUTS**

## Other Upcoming Events & Programs:

### *SWSM Women's Leadership Symposium*

The College of Sciences and Mathematic's Society of Women in Sciences and Mathematics (SWSM) will hold the 4th annual Women's Leadership Symposium on Friday, August 21, 2009 at The Hotel at Auburn University & Dixon Conference Center from 8:30am - 2:00pm. The Symposium will include a networking breakfast, panel discussion, and lunch including keynote speaker, Dr. Kathy Pearson.

#### Keynote Speaker and Panelists

##### *Dr. Kathy Pearson '84– Keynote*

Dr. Pearson is a senior consultant and the Director of Executive Education for Decision Strategies International (DSI), a management consulting firm focused on scenario-based strategic planning and decision-making. Dr. Pearson also serves as an adjunct associate professor in the Operations and Information Management Department at The Wharton School.

##### **Brittany Barnes '09– Panelist**

Pharmacy Student , Auburn University

##### **Erin Edmondson '07– Panelist**

Life Science Teacher, Auburn City Schools

##### **Dr. Andrea Hardwick '00– Panelist**

Optometrist, Hardwick Vision Center

##### **Janayah Hudson '96– Panelist**

Director of Surgical Technology Program, Aiken Technical College

#### Symposium Schedule:

- 8:30 am- Networking Breakfast
- 9:30 am– Registration
- 10:00 am– Panel Discussion
- 11:15 am– Roundtable
- 12:00 pm– Lunch and Program including keynote

Fifty high school girls will be invited to attend this special event. For more information about applying to attend, please contact Mary Lou Ewald at [ewaldml@auburn.edu](mailto:ewaldml@auburn.edu).

### *BEST Robotics Registration*

Registration continues to be open for **BEST** across Alabama. BEST is a fully inclusive, national robotics competition that is presented at little or no cost to its middle and high school teams. For further information, please feel free to contact our office or see the last issue of **E=mc<sup>2</sup>** for local contacts at each of the 5 hubs across the state.

### *War Eagle BEST Kickoff*

Alabama BEST will start it's first season under the new name War Eagle BEST on the August 29th Kick-off Day. Kick-off will take place in the Student Center Ballroom on Auburn University's campus. On this much anticipated day, teams will receive all game-specific rules and will get their first look at this season's challenge during the big reveal of the 2009 playing field. War Eagle BEST Kick-off begins the "6 weeks of BEST" that will culminate in War Eagle BEST Gameday on October 10th.

Please visit  
[www.auburn.edu/academic/science\\_math/swsm/](http://www.auburn.edu/academic/science_math/swsm/)  
 for more information  
 about SWSM



To find out more about BEST, please visit

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

## Experiment of the Month

### Colorful Carnations

#### What It 's All About...

Where does the water go when a plant is watered? With this experiment, young scientists can discover for themselves how essential the functions of roots and stems are to plant growth. As the colored water is absorbed, students will be able to see how the water is absorbed into the plant and the petals of the carnation change color.

#### Materials

- 6 white carnations
- 4 plastic cups
- Food coloring (red, blue, green, and yellow)
- Knife
- Water

#### Procedure

1. Fill each cup half full with water
2. Add 20-30 drops of food coloring to each cup of water (More is better!)

3. Trim the stem of each of the flowers at an angle to create a fresh cut.
4. Place one freshly cut carnation in each of the cups of colored water.
5. For the remaining two carnations, split the stems straight down the middle and put each half of the stem into a cup of different colored water (try red and blue for a patriotic carnation— great for the 4th of July) .
6. Check back in a couple of hours to see how things are going. It could take as much as 24 hours for the color to make it up to the petals.

#### The Science Behind It...

Plants “drink” water from the ground through their roots and up their stems to nourish their leaves and flowers. Inside the leaves, the plants use the water to make their own food. When you cut a flower, it no longer has its roots, but the stem still pulls water towards the leaves.

Two things work together to move water through plants — **transpiration** and **cohesion**. When water evaporates from the leaves, buds, and petals of a plant (**transpiration**), it pulls water up the stem.. This works in a way that’s very similar to sucking on a straw. Water molecules stick together very easily (**cohesion**), so as water evaporates, it “pulls” other molecules up to fill the space that’s left. This movement of water up the stem is called **capillary action**.

Coloring the water with food dye doesn’t harm the plant in any way, but chemicals and pollutants that are dissolved in the water found in nature may be pulled into plants in the same way, resulting in contamination.

## Since last issue...

### AU Explore

Over 1,500 5th-8th grade students, teachers, and parents came to Auburn’s campus on April 30th to participate in COSAM’s annual open house, AU Explore. Students were given the opportunity to participate in hands-on Science Fun Shops instructed by Auburn University faculty and staff, the Science EXPO that included interactive booths from each department within the college, and large scale Demo Shows which included the ever-popular Pyromania and Wet and Wild Science Show.

COSAM Outreach would like to thank the countless volunteers that make AU Explore such a success every year.



Area students enjoy up-close, hands-on encounters in the AU Explore Science Fun Shops.



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## Since last issue... cont'd

### Backyard Science Bash

Forty families attended the G.U.T.S. Backyard Science Bash on Saturday, May 2nd. A cookout was followed with a liquid nitrogen ice cream demonstration by COSAM Outreach and Science in Motion staff members. Organic chemist, Dr. Susanne Striegler's presentation of the cRaZy ChEmIs'TrY show finished off the two hour event .



*Outreach staff prepare liquid nitrogen ice cream for the participants of the Backyard Science Bash.*

### BEST National Conference 2009

Between June 17th and June 20th, over 175 teachers, students, and industry representatives were on Auburn's campus for the 1st annual BEST National Conference. The decision of the College of Sciences and Mathematics and the Ginn College of Engineering to host the inaugural conference was due in part to the relocation of the headquarters of BEST Robotics, Inc. to Auburn University. Highlights from the conference were keynotes from Celeste Baine, director of the Engineering Education Service Center based in Springfield, Oregon, and Dr. Ken Berry, Assistant Director to the Science and Engineering Education Center (SEEC) at the University of Texas at Dallas.

### AP Institute

COSAM, in partnership with the Auburn University Outreach Program Office, hosted the Advanced Placement Institute and Vertical Team Training for AP teachers during the week of June 22nd. Classrooms, laboratory facilities, and staff were provided by the College of Sciences and Mathematics for the Chemistry, Biology, Social Studies, and Calculus workshops. The final institute will take place July 13th and 14th for AP administrators and counselors.



*Attendees of the BEST National Conference troubleshoot programming of the BEST Robotics Advanced Instruction Node (BRAIN) during the Pre-conference Workshops .*

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