

AUBURN UNIVERSITY  
COLLEGE OF SCIENCES  
AND MATHEMATICS

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

Engaging More  
Community Connections



Volume 5: Issue 3

May/June 2013



## Upcoming Events & Programs: Robotics Academy

July 22 – 26, 2013

The week-long Robotics Academy at Auburn University is aimed at rising 7<sup>th</sup>-10<sup>th</sup> grade students interested in robotics. Working in teams, students will engage in real-world engineering scenarios that will culminate in a friendly competition on the last day of the academy. Students will be introduced to the engineering design process, the importance of engineering notebooks and technical writing, as well as gain hands-on experience programming and building robots using VEX robotics kits.

All aspects of the camp are applicable outside of the Robot Academy: the engineering design process and engineering notebooks are a vital part of professional engineering, the programming portion teaches logic that is applicable to any other programming language, and the VEX robotics control system is used in other robotics competitions such as BEST Robotics. All necessary materials, including motors, gears, pulleys, wheels and axles, and microcontrollers will be available for student use during the academy. The 5-day, non-residential program will meet from 9:00am to 4:00pm each day and will cost \$375 (includes academy t-shirt, lunch and snacks each day).

To download a registration form or for more information visit our website at [www.auburn.edu/cosam/outreach](http://www.auburn.edu/cosam/outreach) or contact Erin Percival by e-mail at [erin.percival@auburn.edu](mailto:erin.percival@auburn.edu).

### Inside

#### Upcoming Events and Programs

Robotics Academy

SWSM Symposium

Science Matters

1

#### Announcements

SSI Participant

Nat'l. Student Employee Winner

4

#### Activity of the Issue

Build a Womery

6

#### Since Last Issue...

Spring YES

AU Explore

7



## Upcoming Events and Programs (cont'd.)

### SWSM Annual Symposium

May 9, 2013

The annual Women's Leadership Symposium and Luncheon offers women at all stages of their careers in science and mathematics the opportunity to network with one another through panel discussions, career awareness break-out sessions, and a luncheon with Keynote address from the Marie W. Wooten Distinguished Speaker. SWSM is composed of women leaders and role models committed to increasing awareness of opportunities available for women in the fields of sciences and mathematics, as well as providing support to ensure their success. Members of SWSM give their time, talents, energy, and resources to enhance the educational experiences of our students. The organization is dedicated to recognizing abilities to lead and mentor, fully exercising our philanthropic potential, and changing lives through education.

In order to meet the Society's mission, 75 high school girls will be invited to participate in the Symposium and Luncheon. The young women will engage in a panel discussion led by women graduate students in the College of Sciences and

Mathematics. Additionally, they participate in career awareness break-out sessions led by COSAM staff and graduate students followed by a Keynote address from a woman recognized in her field of science or mathematics. Schools participating in this year's annual Women's Leadership Symposium include:

Auburn High School

Auburn Junior High School

Cristo Rey-Holy Family High School

Glenwood School

Lochapoka High School

Montgomery Catholic Preparatory School

St. James School

## Science Matters

### Summer Academy for Elementary Students

Science Matters is a summer enrichment program for elementary students (rising 1<sup>st</sup> – 6<sup>th</sup> grade students) that takes science education out of the traditional classroom in an effort to spark a child's interest in the world of science and discovery. The 2013 Science Matters program incorporates a hands-on learning approach that has been developed by education experts. The program features activities that are fun, engaging and inspire exploration, imagination and creativity while building skills such as self-esteem and teamwork. During this action-packed academy, kids can design and build, learn computer-programming skills, enhance their science vocabulary and more!

All weeks are five-day programs. Parents can choose between the Regular Day option (8am-3:30pm) or the Extended Day option (8am-5pm). Prices range from \$170 - \$235 per week per child with discounts available. Seating is limited and spaces are filled on a first come, first served basis.

To download a registration form or for more information visit our website at [www.auburn.edu/cosam/sciencematters](http://www.auburn.edu/cosam/sciencematters) or contact Kristen Bond by e-mail at [kdb0022@auburn.edu](mailto:kdb0022@auburn.edu).

Courses denoted in **blue** still have seat availability.

#### June 3 – June 7:

- 1<sup>st</sup> – 2<sup>nd</sup> grade: Science Stew (wait-list space only)
- 3<sup>rd</sup> - 4<sup>th</sup> grade: **Biology of Me**
- 3<sup>th</sup> – 4<sup>th</sup> grade: **DNA Detectives**

#### June 17 – June 21:

- 1<sup>st</sup> – 2<sup>nd</sup> grade: Creature Features (full, wait-list space only)
- 3<sup>rd</sup> – 4<sup>th</sup> grade: Head, Shoulders, Knees and Toe (full, wait-list space only)
- 5<sup>th</sup> – 6<sup>th</sup> grade: Secret Formulas (full, wait-list space only)

#### June 24 – June 28:

- 1<sup>st</sup> – 2<sup>nd</sup> grade: Space is the Place (full, wait-list space only)
- 3<sup>rd</sup> – 4<sup>th</sup> grade: Slimy Science (full, wait-list space only)
- 5<sup>th</sup> – 6<sup>th</sup> grade: **20 Questions**

#### July 8 – July 12:

- 1<sup>st</sup> – 2<sup>nd</sup> grade: Kitchen Chemistry (full, wait-list space only)
- 3<sup>rd</sup> – 4<sup>th</sup> grade: Angry Birds (full, wait-list space only)
- 5<sup>th</sup> – 6<sup>th</sup> grade: Balloon Poppers (full, wait-list space only)

#### July 15 – July 19:

- 1<sup>st</sup> – 2<sup>nd</sup> grade: My Big Backyard (full, wait-list space only)
- 3<sup>rd</sup> – 4<sup>th</sup> grade: Ready, Set, Grow! (full, wait-list space only)
- 5<sup>th</sup> – 6<sup>th</sup> grade: **Spa Science**

#### July 29 – Aug. 2:

- 1<sup>st</sup> – 2<sup>nd</sup> grade: Design This (full, wait-list space only)
- 3<sup>rd</sup> – 4<sup>th</sup> grade: **It's Up in the Air!**
- 3<sup>rd</sup> – 4<sup>th</sup> grade: LEGO Mania! (full, wait-list space only)



## Outreach Calendar

### May

- 9 **SWSM Symposium**
- 10 **Kidz-sized Science**
- 28 **Re<sup>2</sup> Training for AMSTI**

### June

- 3 **Science Matters (week 1)**
- 9 **Summer Science Institute**
- 17 **Science Matters (week 2)**
- 17 **AP Teacher Institute**
- 24 **Science Matters (week 3)**

# Announcements

## **COSAM Announces students chosen to participate in the 2013 Summer Science Institute**

### **Hayley Anderson**

Patrician Academy  
Butler, AL

### **Bradley Bayuga**

Sparkman High School  
Harvest, AL

### **Jacob Bensinger**

Charles Henderson High School  
Troy, AL

### **Abigail Blankenship**

St. Paul's Episcopal School  
Mobile, AL

### **Olivia Choi**

Columbus High School  
Columbus, GA

### **Kira Combs**

Forsyth Central High School  
Gainesville, GA

### **Mason Corbett**

Lakeview Christian School  
Salem, AL

### **Matthew D'Alonzo**

St. Paul's Episcopal School  
Mobile, AL

### **Matthew Davis**

McGill-Toolen Catholic High School  
Spanish Fort, AL

### **Anna Erickson**

Erickson Homeschool  
Maxwell AFB, AL

### **Julie Evans**

Kennesaw Mountain High School  
Acworth, GA

### **Victoria Fang**

Auburn High School  
Auburn, AL

### **Grayson Gladish**

Decatur Heritage Christian Academy  
Decatur, AL

### **Jared Godwin**

Hazel Green High School  
Huntsville, AL

### **William Haney**

Ider High School  
Henagar, AL

### **Jonathan Hurowitz**

The Altamont School  
Birmingham, AL

### **Aysha Jackson**

Collins Hill High School  
Lawrenceville, GA

### **Christina Lee**

Kennesaw Mountain High School  
Marietta, GA

### **Rueben Lewis**

Patrician Academy  
Sweet Water, AL

### **Alexandra Micher**

Montgomery Catholic Preparatory School  
Wetumpka, AL

### **Brexton Pham**

Kennesaw Mountain High School  
Marietta, GA

### **Elizabeth Prior**

Auburn High School  
Auburn, AL

### **Arrix Ryce**

Jefferson County IB School  
Fultondale, AL

### **Nivita Sharma**

Kennesaw Mountain High School  
Kennesaw, GA

### **Joshua Siniard**

Kennesaw Mountain High School  
Kennesaw, GA

### **Liandrie Swanepoel**

Forsyth Central High School  
Cumming, GA

### **Aksal Vashi**

Collins Hill High School  
Lawrenceville, GA

### **Heather White**

Life Gate Academy (Homeschool Cover)  
Athens, AL

Thanh "TJ" Nguyen, a senior in mechanical engineering, is the 2013 recipient of the Auburn University Student Employee of the Year award, the Regional Student Employee of the Year Award, given by the Southern Association of Student Employment Administrators, as well as the [National Student Employee of the Year Award](#), given by the National Student Employment Association. This is the first time a student employee from Auburn has won all three awards, and Nguyen was selected from more than 1,500 student workers nationwide. For the past four years, Nguyen has worked with the Department of Outreach in the College of Sciences and Mathematics, and it was Mary Lou Ewald, director of the Department of Outreach for COSAM, who nominated him. She describes Nguyen as dependable and reliable, beyond what one would expect from a busy college student. His responsibilities and accomplishments within the COSAM Department of Outreach include: instructing 15 teachers at a two-day intensive robotics workshop; interacting with and offering technical advice to more than 25 teachers on a daily basis over a six-week period during a robotics program; serving as floor boss and technical director during the War Eagle BEST robotics competition and the South's BEST Robotics Championship; and handling COSAM outreach IT issues. He also learned how to use a new sublimation machine the department received, and he created a user manual from scratch, held a training session with outreach office employees, and took on the responsibility of creating hundreds of award plaques for BEST Robotics competition sites all over the country.



In addition, he is active in the Cupola Engineering Society and serves as the service and outreach chair for the Auburn chapter of the Society of Women Engineers. He actively recruits members of many of the student engineering societies to volunteer for COSAM outreach programs, and has even developed several outreach programs on his own. For example, he started a traveling engineering program and recruited his peers to create interactive engineering exhibits targeted at middle school students. He also developed a "Parents Night Out" program where parents can drop off their children periodically on a Friday or Saturday night, and Nguyen and his college student recruits educationally entertain the

students with science and engineering activities. Because he works well with children, Ewald even asked Nguyen to develop a curriculum and teach a new Robotics Academy for middle school students this summer. He also plays a major role in COSAM's six-week Science Matters summer program for elementary students, serving as the lead counselor every afternoon for the extended-day portion of the program.

*"Rewarding doesn't begin to describe my job. I love my job. I look forward to getting out of class to go into work every day. I love preparing events for children, and one day I hope to become a high school teacher like Dr. Conner, preparing students for the grueling curriculum of math, science and engineering in college, and hopefully instilling the importance of society's need for these fields."*

- Tj Nguyen  
Excerpt taken from AU's Take 5



# Activity of the Issue

## Build a Wormery

### Materials:

- Clear plastic 2-liter soda bottle (no label)
- Scissors
- Sand, soft soil, garden soil, compost (as many different types of soil as you can find)
- Water
- Worms (about 5)
- Leaves
- Construction paper or cardboard

### What to do:

*To obtain worms, there are several places you can go. Probably the easiest way to get them is to purchase them from a local bait shop or pet supply store. If you have a bare patch of earth, you may be able to find worms by watering the area and then placing a piece of cardboard, carpet, or wood over it. Wait a day and then lift the cardboard off the dirt to find the worms hidden underneath. Another way to obtain worms is to dig for them. While planting a garden or a tree, collect the worms you find as you go.*

1. After you have collected your worms, build your wormery. Clean the soda bottle if you haven't already. Using the scissors, cut off the top of the bottle where it starts to taper to form the neck of the bottle.
2. Fill the bottle with alternating layers of soil and sand. Use at least two different types of soil, but the more you have the better.
3. Add water to the soil to get it damp, but not wet.
4. Place the leaves on top of the soil and then place the worms on the leaves. Cover the top of your wormery with construction paper or cardboard to make it dark for your worms.
5. Over the next few days and weeks, watch your worms tunnel through the bottle and see how long it takes for the layers to mix so that they are no longer distinguishable. You may even see them tunnel along the side of the bottle. If needed, add more

water to keep the soil damp.

6. When you are done with your wormery, simply dump the entire contents (worms, too!) back in your garden or a soil area in your yard.

### What's Happening:

Worms move an amazing amount of soil for their small size. An earthworm can eat its own weight in soil every day! As you saw in this project, worms help till the soil as they tunnel through it. Any compost (decomposed plant material) you place on your garden you can be sure some friendly earthworms will help get it down to the roots of your plants.

### Extension:

1. Research why people use worms to help them compost.
2. Why do you think earthworms are usually given plant-based materials when composting?

This activity was developed by Home Science Tools for more science activities visit them at [www.homesciencetools.com](http://www.homesciencetools.com).



# Since the last issue

Kidz-sized SCIENCE – During April’s Kidz-sized Science, pre-K and kindergarten students learned the three-R’s (reduce, reuse, and recycle) in anticipation of Earth Day!

Spring YES – This annual event was hosted on Saturday, April 13<sup>th</sup> for students currently in 3 – 5<sup>th</sup> grade. Over 50 kids attended the event and engaged in courses such as: Robotic Arm, Now You See It- Now You Don’t, Go Go with Goddard, and Turtle Mania!

AU Explore – This annual event for 5<sup>th</sup> – 8<sup>th</sup> grade students occurred on Friday, April 26<sup>th</sup>. Over 50 home school, public school, and private school groups attended and 1,432 students arrived along with their parents and teachers to participate in this COSAM-wide open-house. Highlights of this year’s event included Dr. Gorden’s, “pyro-show”, and an outdoor EXPO featuring Wild Animal Safari!



E=mc<sup>2</sup> Engaging More Community Connections

Volume 5:Issue 3

Engaging More Community  
Connections

E=mc<sup>2</sup>

131 Sciences Center Classrooms Bldg.  
315 Roosevelt Concourse  
Auburn University, AL 36849

phone: 334-844-7449  
fax: 334-844-5740  
COSAM\_Outreach@auburn.edu



For more information about  
any of our programs visit:

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

call us at: 334-844-7449



Visit us on our new facebook page