



AUBURN UNIVERSITY
COLLEGE OF SCIENCES
AND MATHEMATICS

$$E=mc^2$$

Engaging More
Community Connections



Volume 9: Issue 2



COSAM Outreach Newsletter
March/April 2017



Upcoming Events & Programs

SCORE Summer Camps Registration now open!

SCORE (The Southeastern Center of Robotics Education) will be offering a variety of fun, educational, robotics programs this summer for rising 3rd – 9th graders. The SCORE center is a new initiative at Auburn University that serves to inspire and prepare future generations of STEM professionals by developing and delivering student robotics programs, online robotics resources, and professional development for educators.

A list of the upcoming SCORE camps follows:

Course	Grades	Dates	Topic
Drone Camp (in Auburn)	Rising 7 th -9 th	June 5 th – 8 th	Configure, fly, and program drones
Drone & Aviation Camp (in Birmingham)	Rising 6 th -9 th	June 27 th – 30 th	Configure, fly, and program drones
Chaotic Robotics (in Auburn)	Rising 7 th -9 th	July 24 th – 28 th	VEX robotics engineering and programming
Chaotic Robotics (in Birmingham)	Rising 7 th -9 th	July 31 st – Aug 4 th	VEX robotics engineering and programming
SCORE Camp (in Auburn)	Rising 3 rd -6 th	July 10 th – 14 th	Introduction to robotics, engineering design, and programming

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To register or for more information, visit <http://scoreau.org> or contact TJ Nguyen at tcnoo2@tigermail.auburn.edu.

Upcoming Events



Women's Leadership Symposium

Thursday, May 4th 2017
Registration now open!

The 2017 SWSM (Society of Women in Sciences and Mathematics) Women's Leadership Symposium will be held on Thursday, May 4th, 2017 at the Auburn University Hotel and Conference Center. The Marie W. Wooten distinguished speaker is Audrey Goins Brichi – retired former manager of diversity and inclusion in Chevron's Office of Global Diversity Ombuds and University Partnerships.

To register or for more information regarding this event, please visit <http://auburn.edu/cosam/swsm> or contact Kristen Bond at Kristen.bond@auburn.edu or 334-844-5769.



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Outreach Calendar

March

- 9 GEARSEF
- 23 Environmental GUTS
- 28 Science Café

April

- 1 State Science Olympiad
- 6 Health Day GUTS
- 20 Science Pub
- 22 High School AMP'd

May

- 4 SWSM
- 25 Science Pub

The AU Science Café & Pub

Join us **each month** for a night of science, good drinks, tasty sweets, and great conversations! At the AU Science Café & Pub, 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. The event typically alternates between a "pub" version at Red Clay Brewery and a "café" version at Mama Mocha's Coffee Emporium.



The event is **FREE**, open to the public, and is **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/Pub Dates:

April 20th – "Tomorrow's Lunch is Underwater" by Dr. David Cline @ Red Clay Brewery
May 25th – Dr. David Maurer @ Red Clay Brewery



2017 Core Teacher Training

Registration Opens April 3rd

Each summer, Auburn University offers core training for Project Lead The Way (PLTW) Engineering, Biomedical Science, Gateway, and Launch programs to train teachers how to effectively use PLTW curricula with their students. According to the PLTW network agreement, only trained PLTW teachers may teach the curriculum.

Core training provides teachers with the knowledge to utilize the PLTW technology, software and associated curriculum. Classes are taught by master teachers and affiliate professors who bring hands-on teaching experience to the classroom. PLTW pays significant attention to assessing the teachers' readiness for the intensive two-week training. PLTW training courses at Auburn University this summer include:

- June 4 - 9: Gateway: Design and Modeling (DM)
- June 4 – 16: Principles of Biomedical Sciences (PBS)
- June 10: DM Retooling
- June 11 – 16: Gateway: Medical Detectives (MD)
- June 18 – 23: Gateway: Automation and Robotics (AR)
- June 18 – 30: Principles of Engineering (POE)
- June 18 – 30: Digital Electronics (DE)
- July 9 – 21: Human Body Systems (HBS)
- July 17 – 18: Launch – Classroom Training

* Computer science core training will be offered at the University of Alabama.

For more information, contact Dr. Jeff Gray at gray@cs.ua.edu.

For further information on registering:

<https://www.pltw.org/our-programs/professional-development/core-training>

For more information on Alabama PLTW visit:

<http://auburn.edu/pltw>

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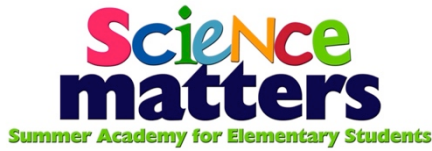
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Upcoming
Events and
Programs
(Cont'd.)

Upcoming Events



Space still available for rising 5th - 8th grade students!

Science Matters is a summer enrichment program for students in rising grades 1st – 8th offering youngsters 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!

There are still spaces available for rising 5th-8th graders. For more information or to download our registration form, please click on:
www.auburn.edu/cosam/sciencematters

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Upcoming Events and Programs (Cont'd.)

Available Course Offerings by Grade

Week	1st - 2nd Grade	3rd - 4th Grade	5th - 6th Grade	7th - 8th Grade
June 5 - 9	FULL	FULL	Secret Formulas	No Offering
June 12 - 16	No Offering	No Offering	Mystery at the Museum	No Offering
June 19 - 23	FULL	FULL	Off the Grid	No Offering
June 26 - 30	FULL	FULL	Balloon Poppers	Adept at Adaptation
July 17 - 21	FULL	FULL	Pondering Potter	No Offering
July 24 - 28	FULL	FULL	FULL	No Offering

To add your child to our waiting list for our 1st-4th grade classes, please click on: www.auburn.edu/cosam/sciencematters

Need more information? Contact Kristen Bond at 334-844-5769 or Kristen.Bond@auburn.edu





New Auburn-Opelika iNaturalist Program

Join now to become a citizen scientist!

Help us document the biodiversity of the Auburn University campus and Auburn-Opelika area. The Auburn University Museum of Natural History (<http://aumnh.org/>) created this project to give AU students, staff, faculty, visitors, and area residents an opportunity to share their observations of the plants and animals that share campus and our local area with us.

Please join us and share what you see!

For the **on-campus program**, visit:

<http://www.inaturalist.org/projects/auburn-university-campus-biodiversity-survey>

For the **Auburn-Opelika area program**, visit:

<http://www.inaturalist.org/projects/auburn-opelika-biodiversity-survey>

For questions, contact Michael Barbour at mbarbour@auburn.edu.

High School Research Opportunities

Wada Lab mentoring students this summer and fall

Are you interested in doing a science fair project this summer and fall? The lab of Dr. Haruka Wada is mentoring students this summer and fall who are interested in gaining scientific research experience. Interested students must be rising 10-12th graders having had a least one Biology course with a B or higher. The time commitment is 6+ weeks, depending on the project. The Wada Lab's research interests include:

- How cellular and organismal stress responses are integrated
- How mercury affects brain function in songbirds
- The physiology of stress tolerance

To join, consult with your science teacher and then contact Dr. Haruka Wada at hwoo24@auburn.edu. The lab website can be found at

<https://www.wadalaboratory.com>.

Other Local Programs



Activity of the Issue

Shoobox Maze

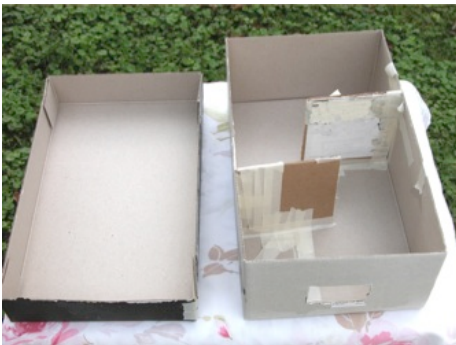
(Phototropism and being hungry for light)

Materials:

- Shoobox
- A few pieces of extra cardboard
- Scissors
- Tape
- Small potted plant (bean plants work best)

What to do:

1. Cut a large hole at one end of the shoobox.
2. Cut two pieces of cardboard in such a way that they are the same height as the shoobox and half the width of the shoobox.
3. Divide the box into thirds and tape the cardboard pieces down, on the left side of the first third of the box, the other on the right side of the second third of the box. Once taped, it should look like the image below.



4. Place the small potted plant in the shoobox opposite the hole cut in the box. Tape the plant down.



5. Water the plant, close the box, tape it shut, and place it near a sunny window. In about 4 or 5 days, open the box and notice how the plant navigates your maze towards the light!



How Does It Work?

The plant here is demonstrating **phototropism** which is the growth of an organism in response to stimulus from a light source. Organisms can express “positive” phototropism (growing towards the light) as seen in many plant shoots or “negative” phototropism (growing away from the light) as seen in many plant roots. This process is mediated by a chemical in the cells of a plant called “**auxin**” that helps the plant find the direction to grow for photosynthesis or to help guide the directional growth of roots for nutrients.

Make It An Experiment

The project above is a DEMONSTRATION. To make it a true experiment, you can try to answer these questions:

- Do different colored lights affect the plant growth?
- Does a different shaped maze affect the plant growth?
- Do different plants respond differently to the shoebox maze?

Since the last issue

Elementary Science Olympiad

Overall Winners

- 1st – Ogletree Elementary School Team A
- 2nd – Mt. Gap Elementary School
- 3rd – Ogletree Elementary School Team B
- 4th – Montgomery Catholic Preparatory School

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

GEARSEF

Senior Division Best of Fair

- 1st – Rahul Lall – Auburn High School
- 2nd – Alexis Jones – Auburn High School

Junior Division Best of Fair

- 1st – Carrie Smith – Beverlye Magnet School
- 2nd – Christian Leverette – Beverlye Magnet School
- 3rd – Julian Vilardi – Wetumpka Middle School

For more information about GEARSEF visit our webpage
www.auburn.edu/cosam/gearsef



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For more information about any of our programs visit:

www.auburn.edu/cosam/outreach

Or call us at 334-844-7449

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