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## K-16 STEM in the NEWS

### BGSU chapter of AAUW earns distinction of "Tech Trek" site



The American Association of University Women (AAUW) values the importance of supporting girls in science, technology, engineering, and math (STEM) as part of its mission to break through barriers for women and girls. Its research, policy, and nationwide programs encourage members to work from their own communities to ensure that equity is reached in these important fields.

"Tech Trek" is a weeklong STEM summer camp designed to develop interest, excitement, and self-confidence in young women who are entering the eighth grade. "Tech Trek" started in 1998 with one site in California and in 14 years has grown to 10 camps on eight college campuses across the state. In summer 2011, the camp was featured on *CBS Evening News*.

Attending camp on a college or university campus helps girls - especially those whose parents may not have gone to college - to see themselves seeking higher education. The university campus experience gives girls a chance to think about the kinds of opportunities a college education can afford them.

[New! Inquiry Workshops for Educators at The Toledo Zoo](#)

Camp field trips encourage maximum interaction and instruction in environments where STEM professionals work. Girls are immersed in a world in which they are empowered by their capabilities and encouraged to think about themselves not just as young women but also as future scientists, engineers, mathematicians, and computer scientists.

**NWO Hands-On STEM Activity**

[Marshmallow Catapults](#)

[\(read more\)](#)

## Community STEM in the NEWS

### Findlay Schools hold Family Science Night

Over 400 parents, students, and volunteers attended Family Science Night recently at Findlay High School. The theme, "Engineering Structures", provided students with many exciting science experiences: Laura Finney-Suspension Bridges; Mike Gilligan-Paper Bridges; Bryan Miller-Newspaper Towers; Barb Tidd-Earthquake Structure Simulations; Heather Bryan-Aluminum Bridges; Kyle Watts-Airplane Design; Imagination Station-Geodomes; Mike Wilson-Parachutes and Time Warner's Spellbinding Science!



Also in Findlay, as robots inhabit our world making life safer and easier for all of us, eighteen budding robot-makers in grades 6-8 have been successfully programming their LEGO robots to perform tasks with teacher Jenna Potteiger. On Thursdays after school, highly competitive students compete with their robots to win in various categories. Another Robotics I class is offered second semester as well as Robotics II.

### Helmsley Charitable Trust Awards \$11 Million in Support of Common Core Standards (Philanthropy News Digest, December 2012)

The Leona M. and Harry B. Helmsley Charitable Trust has announced a three-year, \$11 million grant to three organizations working to develop tools to help students meet new college and career-ready academic standards.

Student Achievement Partners, the National Education Association, and the American Federation of Teachers will use the grant to design tools and digital applications that support teachers in the forty-six states that have adopted the Common Core State Standards. *The tools will be distributed to educators at no cost by Student Achievement Partners*, which was central to development of the standards.

Internationally benchmarked, the Common Core standards outline the skills a student needs to master in order to be prepared to succeed in college and the twenty-first century economy. As they work on the front lines to implement the new standards, teachers will need to make significant changes in their instructional practices in both literacy and math.

"The new rigorous Common Core State Standards represent a huge shift in teaching and learning ensuring that students are able to think critically, apply knowledge, and meet the challenges of today's world," said AFT president Randi Weingarten. "But teachers across the country say they are not receiving the time, tools, and resources they need to master the new curriculum and make the instructional shifts necessary to make the standards work for teachers and kids. The AFT is excited to join this partnership to help ensure that teachers have access to and a voice in creating high-quality resources to help their students and their profession succeed."

***Please note NWO will stay advised as to when these resources will become available and will pass along the information accordingly.***

## STEM Opportunities

### National Engineers Week

**February 12-18, 2013**

2013 marks the 61st anniversary of National Engineers Week.

Help us celebrate as we Think It. Build It. Test It... Do It Again! Explore the engineering design process and discover that creativity and imagination are essential skills for an engineer.



Engineer It!, an Imagination Station's learning world, explores the fun and creative sides of engineering. Using the engineering design process - Think It, Build It, Test It, and Do It Again! - visitors are encouraged to design and build boats, buildings, windmills, airplanes and more and then test their performance.

Engineer It! is a highly interactive, entertaining and educational exhibit that presents science as an open-ended discovery process by utilizing a wide variety of adaptable components and multiple-outcome-based activities. There is no right or wrong answer - visitors set their own challenges and design and test devices of their own creation to meet those challenges. Creativity, experimentation and problem solving are promoted.

***Sponsored by SSOE***

Please visit Imagination Station website for more info: <http://www.imaginationstationtoledo.org/content/2012/09/national-engineering-week/>

## STEM Speaks! 2012-13 NWO STEM Education Inquiry Series continues

**February 12, 2013 ~ Karl Klimek**

## **Generative STEM Teaching Through a Brain/Mind Lens!**

The STEM education "wave" is building but far from cresting in this country and it represents incredible opportunity to tap the natural learning characteristics of those great kids we serve every day! Bringing generative practices to our schools and classrooms involves environments rich with creativity, innovation and a deep exploration of how we all really learn. Our interactive and fun time together will target core elements of great learning spaces, classroom culture and authentic research that supports teaching as a non-worksheet/textbook driven endeavor. You will have a chance to validate the excellent teaching practices you already utilize, and also visit new ideas that will justify the need to further develop your capacities as an incredible teacher. Our collective discoveries will support your STEM efforts, and also all others that we professionally commit to each and every day! Let's get intrigued!

Please join us for this engaging event! [Click here](#) to register for the Feb 12 Inquiry Series.

**For more information please visit:** <http://cosmos.bgsu.edu/inquiryseries/index.htm>

As always, if you are interested in getting contact hours for watching the video and reflecting on the ideas presented, please contact [nwo@bgsu.edu](mailto:nwo@bgsu.edu) for more information.

## **Ohio JSHS**

### **March 20-22, 2013 The 50th Annual Ohio Junior Science and Humanities Symposium**

***Attention Junior High and High School  
Students and Teachers: Call for Research  
Papers and Posters!***

The Ohio Junior Science and Humanities Symposium is an annual event held on the campus of BGSU in which Ohio students in grades 7 to 12 compete for scholarships and recognition by presenting the results of their original research efforts before a panel of judges and an audience of their peers. The OJSHS is part of the national Junior Science and Humanities Symposia Program, which is jointly sponsored by the United States Departments of the Army, Navy, and Air Force, in cooperation with leading research universities throughout the nation, and is celebrating its 50th year anniversary.



More information can be found at [www.ojshs.org](http://www.ojshs.org)

## Science Education Council of Ohio

### Ohio's State Science Conference

February 7 & 8, 2013

Dayton Convention Center

Check Out All Of The Great Programs at:

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



**Science Education  
Council of Ohio**

The Ohio chapter of the National Science Teachers Association

## Winter Weekends at the Toledo Zoo

- **Winter Science in Nature's Neighborhood:** Check out a range of activities including animal demos, dry ice and the science of COLD, winter camouflage, Snow Central, static electricity, pendulum art, electric robots & circuit boards, and Solar K'Nex
- **Challenger Learning Center and Bounce House** - Great Hall: 11am-4pm
- **Imagination Station activities** - Great Hall: 12-4pm
- **Ice-Carving Demo** by the African Lodge: 11am to 2pm

Check the Toledo zoo website for more info: <http://www.toledozoo.org/site/program/441>

## SAVE THE DATES! Community Resources Workshop



Plan to Spend A Week of Your Summer Vacation on A Fun-Filled Field Trip for Educators While You Earn College Credit or Contact Hours!

**Dates: June 17-21, 2013**

Website: <http://cosmos.bgsu.edu/CRW/CRWhome.htm>

## Upcoming STEM is ELEMENTARY events:

- The paper engineering contest deadline is fast approaching (Feb 1). All children from pre-school to 6th grade may enter the contest. Winning entries will receive autographed books by world famous paper engineering author David Carter. See <http://www.stemiselementary.com/Events.html> for details
- The Children's Council of the International Technology and Engineering Educators Association ([www.tecchome.org](http://www.tecchome.org)) is hosting a **FREE** pre-conference session on integrating STEM into the elementary language arts and social studies curriculum. Dr. Susan Holland, retired gifted and tech ed teacher of the Westerville (OH) schools will be the presenter. It will be held on March 6, 2013 from 5 to 6:30 PM at the Hyatt Regency Hotel at the Columbus Convention Center. To learn more about the session or to register (it is free but limited in number), go to the CC webpage ([www.tecchome.org](http://www.tecchome.org)) or ([www.stemiselementary.com](http://www.stemiselementary.com)).
- ITEEA international conference will be held at Columbus, OH this year from March 7-9 at the Columbus Convention Center. **Early bird registration ends Feb 1, 2013.** Visit <http://www.iteea.org/Conference/registration.htm> for a preliminary conference guide and to register. There will be many sessions dedicated exclusively to elementary STEM.
- If registered for the ITEEA conference, attendance to Engineering by Design sessions is free if you contact Leslie Yenkin at ODE. These sessions will present STEM curriculum materials developed by the ITEEA for grades K-12. The curriculum materials are FREE to Ohioeducators! **If you are interested in attending the EbD Labs and taking advantage of this offer, please contact Leslie Yenkin at [leslie.yenkin@education.ohio.gov](mailto:leslie.yenkin@education.ohio.gov) by January 28th.** Please include the **name of your school** in this e-mail. For more information on EbD and the sessions, go to [www.iteea.org](http://www.iteea.org) and download the preliminary conference guide. The sessions are on p. 13 of the guide.

## New! Inquiry Workshops for Educators at The Toledo Zoo

The Toledo Zoo is partnering with NWO to offer a series of inquiry workshops for grades K-12 teachers.

Participants will learn basic principles for doing a life science inquiry with their students using the QUEST model. Working in groups, teachers will learn inquiry techniques by participating in guided inquiry lessons on days one and two. The series will culminate with teachers working in teams to perform an open inquiry utilizing animal exhibits at the zoo.

\*\*\*When you register, you will be signing up for all three sessions in the series.

- **When** - Thursday February 21, March 7, and March 14
- **Time** - 4:30 - 6:45PM
- **Where** - The Toledo Zoo, 2 Hippo Way, Toledo, OH
- **What** - Applying life science inquiry lessons in the classroom

- **Who** - Elementary teachers; **Secondary Audience** - middle and high school life science/biology teachers
- **Cost** - \$75/person - includes light dinner, refreshments, instruction, and handouts for each of the 3 sessions and an outreach inquiry program for each participant's classroom (new zoo education program).
- **Contact Hours** - 6 contact hours will be awarded at the conclusion of the series.
- **Of special note** - The maximum number of registrants is 20, so register soon!

### To Register:

Please visit the following link...

<http://onlinesales.toledozoo.org/eComm/products.php?cat=669>

### Questions?

Email Mitch Magdich, Curator of Education at The Toledo Zoo,

[mitchell.magdich@Toledozoo.org](mailto:mitchell.magdich@Toledozoo.org).

## NWO Hands-On STEM Activity

**Better Lesson** ( <http://betterlesson.com/>) is an online social network which allows teachers to share classroom resources, and was founded by a group of teachers from Atlanta and Boston public schools to connect educators and help them create, organize, and share their curricula. They are focused on aggregating and scaling the most innovative content and practices from high-performing teachers across the country.

### Marshmallow Catapults

*Recommended for middle school grades 5-8*

Apply the technological design steps to build a marshmallow catapult that uses the allotted materials to launch a marshmallow at least 5 meters in the air and within a 1/2 meter wide area.

Download a pdf of the complete hands-on activity by [clicking here!](#)



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### Share Your Story!

Thank you for your support of NWO, our programs, our activities, and our partners. Please send us updates, press releases, and news of STEM happenings at your school, district, or organization.

Please submit to [nwo@bgsu.edu](mailto:nwo@bgsu.edu). We are always looking for great STEM education stories to feature in upcoming newsletters.

Join NWO on [Facebook](#)

#### Find Even More Ohio STEM Education Resources

Visit our STEM clearinghouse, [nwostemresources.org](http://nwostemresources.org), for more STEM activities, programs, and information.

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