



Advancing science, technology, engineering, and mathematics education for people of all ages.

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## K-16 STEM in the NEWS

### Sixth Graders Win Best in Region Verizon App Challenge!

An energetic and curious team of ten and eleven year old boys from Maumee Valley Country Day School (MVCDS) has created an award-winning app as an entry to the "Verizon App Challenge", competition. The idea stemmed from a recent, and disappointing, class field trip to Maumee Bay State Park. As most students are excited about going on field trips, this class's enthusiasm dimmed once they arrived to find the beach was closed due to an E.coli warning. The question was asked: "How did we not know this in advance?" Little did they know at that time, they would soon venture to create an app to answer this question.

Mr. Brian Soash, who teaches science at MVCDS and is acting as the team's faculty advisor, announced the Verizon App Challenge to his classes in the fall of 2013. "We put up a big board of ideas and brainstormed. We began with a focus on health and discussed which problems we could address." There were lots of ideas during the brainstorming session, and then the field trip was brought up. After much discussion and deliberation, the idea for an app titled "[Beachteria](#)" was born. The "Beachteria" app involves disclosing dangerous bacterial levels and creating maps "like Google maps" for people to see where bacteria levels are too high on numerous area beaches. It also provides an educational component on how to prevent exposure to harmful bacteria and illness.

Criteria for the competition included developing an original mobile app concept that incorporates STEM fields and addresses a need or problem in their school or community. The Verizon Foundation, which sponsored the competition, will also award special



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recognition for apps which support the three pillars of the Verizon Foundation: Education, Healthcare, and Energy Management. While designing their apps, students considered marketplace need, usefulness, audience, and viability. Teams submitted their design concepts online through a visual presentation accompanied by an essay.



***Pictured***

**Front row:**

Isaac Grinberg of Maumee, Mihir Joshi of Sylvania, Ivan Stretten of Temperance.

**Middle row:**

Jonathan Buchanan of Perrysburg, Stefan Radjenovic of Sylvania, Paradon Pipatjarasgit of Sylvania, Jeremiah Taylor of Sylvania

**Back row:**  
Upper Intermediate Teacher, Mr. Brian Soash of Perrysburg

[\(read more\)](#)

## STEM Opportunities

### Ohio Junior Science and Humanities Symposium (OJSHS)

**Join us for the 51st Annual OJSHS  
March 19 - 21, 2014 at BGSU**

Each year, over 48 JSHS symposia are held throughout the United States. In Ohio, the JSHS is sponsored by Bowling Green State University and The Northwest Ohio Center for Excellence in STEM Education, with continued support of the U.S. Army Research Office, U.S. Office of Naval Research, and U.S. Air Force Research Office. Two student finalists and three alternates from the Ohio JSHS program are chosen (all expenses paid) to attend the National JSHS. The OJSHS first place finalist presents his/her research paper to compete for six opportunities to represent the United States at the London International Youth Science Fortnight (LIYSF). The OJSHS second place finalist also presents his/her research paper in a competitive session at the National JSHS and a chance to attend the LIYSF. **A total \$4,500 in undergraduate, tuition scholarships are awarded at \$2,000, \$1,500, and \$1,000 to each of three regional symposium finalists.**



**Registration deadline is Friday, February 21st.**

For registration and more information visit: [http://cosmos.bgsu.edu/nwo\\_ojshs](http://cosmos.bgsu.edu/nwo_ojshs)

## 2014 SATELLITES Conference at Penta Career Center April 10, 4-8 pm.

Area students are asked to participate in the **OhioView SATELLITES Geospatial Technology Conference** on on April 10 from 4:00 p.m. to 8:00 p.m. at the Penta Career Center, 9301 Buck Road in Perrysburg, OH. Students from K-12 schools and universities will present projects that were developed using their own inquiry-based research using geospatial technologies. Student projects will be evaluated for scientific quality and awards will be presented to the highest scoring teams in elementary, middle, high school, and university. Pizza will be provided for dinner.

For more information, please see: <http://satellitesk12.org> and look under **CONFERENCE INFO**.

Please register students for the conference by: **Tuesday April 1, 2014**. For each team please provide the following:

1. Title of their poster.
2. Names of all students on that poster
3. Grade of the students on that poster
4. Signed Photo Release Forms

Send this information to: [kczajko@utnet.utoledo.edu](mailto:kczajko@utnet.utoledo.edu)

Students will be broken into grade levels: elementary, middle, high school, and college for the judging. All students are encouraged to present their posters at the conference.



**GLOBE Learning Expedition (GLE):** Details for the August GLE in New Delhi, India have been posted to the GLOBE website: <http://www.globe.gov/events/globe-learning-expeditions/overview/gle-2014-new-delhi-india>.

Please encourage teachers to enter the US School Competition to present and participate: <http://www.globe.gov/events/globe-learning-expeditions/overview/gle-2014-new-delhi-india/u.s.-schools-competition>. The GPO will support the costs for up to 5 US teams to attend! This is for students in grades 7-12. The projects that students do for the SATELLITES Conference in April could be entered into the GLOBE competition. The **deadline is April 21** for the first version of the report. Revisions will be due after that.

## 23rd Biennial Conference on Chemical Education (BCCE) Grand Valley State University

**Greener on the Grand: Empowering Chemical Educators for a  
Greener Tomorrow**

**August 3 - 7, 2014**

<http://www.bcce2014.org/>

### **Call for Abstracts**

Abstract submission is now open! (**Deadline February 28th, 2014**)  
Please consider submitting an abstract for a presentation to one of 86  
symposia. The quality of the conference is directly related to the quality of  
the presentations presented. Abstracts may be submitted at: <http://www.bcce2014.org/submissions.html>



### **Rules for Presenting Professional Work at the 2014 BCCE**

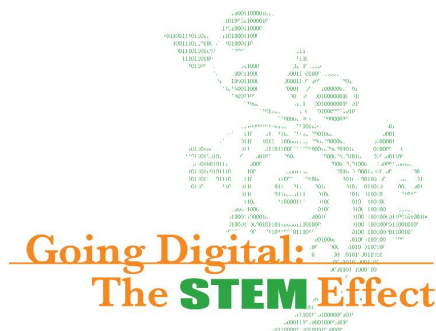
You may personally organize or present any two of the following in any combination: workshops, papers, or posters. (Note: if your workshop runs twice, this is considered one presentation.) If you receive more than two invitations by symposia organizers to present a paper, you will need to decide which two you will accept. Your name may be listed as a co-author on as many papers or posters as you and your co-authors care to submit. An exhibitor may present one paper, one poster, or two workshops. At least one presenting author must be identified for each paper.

Click the [BCCE 2014 Abstract Submission Information and Presentation Guidelines link](#) on the submission website for more information.

## NWO STEM Education Inquiry Series

Technology tools can be used for many purposes from consumption to curation to creativity, with creativity or creation requiring more active and engaged student participation. Come learn about and explore creation/creativity tools that engage students in higher levels of thinking, communication, and inquiry.

The theme of this year's series is **Going Digital: The STEM Effect** and focuses on incorporating digital tools and technology into the preK-12 STEM classroom.



**March 4, 2014** - Carrie Rathsack: Using Creativity Tools for Active & Engaged STEM Learning

Registration information is available at: <http://cosmos.bgsu.edu/inquiryseries>

## Computing in Secondary Schools

### The CE21 CS10K Program in Ohio

This project is designed to provide computer science education professional development to high school teachers throughout the state of Ohio. Primarily, teachers will be trained to teach the CS PRINCIPLES course. This project is part of the nationwide CS10K Community. <http://selab.csuohio.edu/ciss/>

## Art and Environment Online Summer Teacher Course

**June 16-August 8, 2014:** \$75 plus two books and online video rentals

**Eco-conscious teachers** interested in contemporary art, please register now for the **new Art and Environment course** at the Wexner Center at Ohio State. Art and Environment will be available as an online-only professional development course for teachers in summer 2014. With 11 years of experience teaching eco art directly to high school students, Shelly Casto, the Wexner Center's Director of Education, has extensive materials and resources to share with teachers around the world. Designed primarily for K-12 art teachers, this course will provide an in-depth introduction to the emerging field of eco art as well as a basic introduction to environmentalism. Visit the [Art and Environment blog](#) for more information and to register.



## Ohio eTextbook Pilot

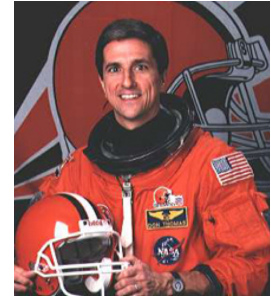
The Ohio Resource Center is working with the Ohio Board of Regents on the **Ohio eTextbook Pilot**, a \$6 million grant program funded by the State of Ohio. The pilot is designed to facilitate the purchase of digital texts, electronic educational content, professional development, and training resources. All Ohio public school districts and chartered nonpublic schools are eligible to apply. The submission period is January 27, 2014-March 7, 2014. ORC will contribute its expertise with electronic content and electronic professional development tools. Learn more at [ilearnOhio](#).

## Astronaut - Author Don Thomas To Visit Tony Packo's®

Tony Packo's® will be welcoming **Astronaut Don Thomas** for a book signing at their Front Street location on **Friday, February 21st**. Mr. Thomas authored and recently released "Orbit of Discovery: The All-Ohio Space Shuttle Mission".

For more information about Don and the All Ohio Space Shuttle Mission, visit [http://www.nasa.gov/centers/glenn/about/bios/ohio\\_astronauts\\_fun\\_facts.html](http://www.nasa.gov/centers/glenn/about/bios/ohio_astronauts_fun_facts.html)

Don Thomas will be signing books with Tony Packo, Jr. at the Original Tony Packo's® location, 1902 Front St., Toledo Ohio 43605 on Friday February 21st from 4:30 p.m. - 7:00 p.m. Copies may be purchased at the book signing.



**The event is open to the public.** For more information, please call Scott Radel at **419-276-2253**.

## House App Challenge

This year marks the first annual Congressional Science, Technology, Engineering and Math (STEM) Academic Competition, the "House App Contest." This new competition is designed to engage students' creativity and encourage their participation in STEM education fields.

Established by Members of the U.S. House of Representatives in 2013, this competition is a nationwide event that allows high school students from across the country to compete by creating and exhibiting their software application, or "app," for mobile, tablet, or computer devices on a platform of their choice. Throughout the completion period, participating students will be provided opportunities to engage with various STEM educational partners located within the community to mentor and assist them with their app development.



The "House App Challenge" is open to all high school students in participating districts. Students entering the competition must submit their app's source code online during the Competition Submission Period between 12 PM Eastern Standard Time on FEBRUARY 1ST, 2014, and 11:59 PM Eastern Daylight Time on APRIL 30TH, 2014, as well as provide a YouTube or VIMEO video demo explaining their app and what they learned through this competition process. <http://studentappchallenge.house.gov/About.aspx>



Discovery Education is broadcasting live from Google Headquarters to meet with Google Doodlers themselves. Join Google for a sneak peek into the creative process behind favorite Google homepage creations where Google will introduce students to brainstorming ideas, digital design tools, and more! Spark creativity in the classroom today and inspire a new generation of Doodlers.

The 7th annual Doodle 4 Google competition is now underway inviting K-12 students to design their own Google Doodle for the chance to see their artwork on the Google homepage. One talented student artist will also receive a \$30,000 college scholarship, and a \$50,000 Google for Education Technology Grant for his or her school. **Closing date for entries is Thursday, March 20th.**

Learn more at <http://www.google.com/doodle4google/index.html>

## ARC-Oak Ridge National Laboratory 2014 Summer Math-Science-Technology Institute and Summer Science Academy

Two ARC-Oak Ridge National Laboratory programs will be held in summer 2014: A [high school math-science-technology institute](#), which is a two-week program for students and teachers; and a [middle school science academy](#), which is a one-week program just for students. Both programs are all expenses paid and offer the opportunity to work with world-class scientists doing real science!

Applications for both programs are due **on or before March 7, 2014**. Applications must be submitted to the [ARC state program manager](#) of the state in which the applicant's school is located. Applicants will be notified of their status by mail by the end of March.

**For more information on the programs and their application processes, see the links below.** For further information, contact ARC Education Program Manager Jeff Schwartz at [jschwartz@arc.gov](mailto:jschwartz@arc.gov).

### High School Summer Math-Science-Technology Institute Information and Application

- [2014 High School Summer Math-Science-Technology Institute Announcement](#)
- [2014 High School Summer Math-Science-Technology Institute Criteria for Participant Selection](#)
- [2014 High School Summer Math-Science-Technology Institute Application](#)

### Middle School Summer Science Academy Information and Application

- [2014 Middle School Summer Science Academy Announcement](#)
- [2014 Middle School Summer Science Academy Criteria for Participant Selection](#)
- [2014 Middle School Summer Science Academy Application](#)

## NSTA Virtual Conference on the Next Generation Science Standards

**Saturday, March 8, 2014**

Join NSTA for an intensive one-day [virtual conference](#) on Saturday, March 8 to learn how to integrate the Next Generation Science Standards (NGSS) into your K-12 classroom.

This web-based professional learning opportunity will feature interactive sessions on modeling, explanation and argumentation, and engineering, plus breakouts by grade level and discipline. Engage with leading experts, discuss ideas with colleagues, and gain practical insights and strategies to better understand and apply key principles from the *Next Generation Science Standards*-**all from the convenience of your home.**

[Click here](#) for more information and to register for this one of a kind opportunity.

### NOT AN NGSS ADOPTION STATE?

Learn more about NGSS best practices in modeling, explanation and argumentation, and engineering and specific grade level and discipline specific strategies you can incorporate into your classroom teaching.

Avoid travel costs and time away from home and family! A virtual conference is an exciting and cost effective way to engage in professional learning.

BONUS! Educators who participate in the virtual conference can earn a printable certificate recognizing 10 hours of effort.

NSTA Virtual Conference: NGSS Practices in Action

NSTA members: \$79

Nonmembers: \$99

[Click here](#) for more information and to register

***While Ohio has not adopted the Next Generation Science Standards, Ohio's New Learning Standards for K-12 Science are very similar and have many of the same features so this webinar should be useful for learning how to address Ohio's new science standards.***

## Goodyear Engineering Career Day 2014 hosted by University of Akron

This **free** one-day event will be held Saturday, April 12, 2014 from 8:00am to 2:30 pm and is open to all parents, teachers, and students (grades 6-12) in schools across northeastern Ohio. There will be a career fair in which over 40 local organizations, including The J.M. Smucker Company and NASA, will have booths



manned by company representatives. Students will rotate through a series of hands-on engineering activities, such as making your own polymer putty and playing with light as an energy source. Each attendee will also receive a free lunch.

Students will also have the opportunity to participate in a large group hands-on activity that puts a spin on the popular mine craft game. Teams of four as well as a Goodyear engineer will be given supplies to build a primitive vehicle that must accomplish certain tasks. The day will close with a ceremony where the scholarship and middle and high school grant winners are recognized with trophies. Door prizes, including a blimp ride, will also be given. You can learn more about this event and register to attend via [www.goodyear.com/careerday/](http://www.goodyear.com/careerday/).

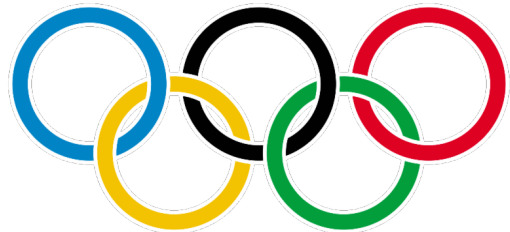
Those with specific questions can contact the Goodyear Engineering Career Day planning committee via email to [gyeng\\_careerday@goodyear.com](mailto:gyeng_careerday@goodyear.com)

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## NWO Hands-On STEM Activity

### Science and Engineering of the 2014 Winter Olympic Games

This Month's Hands-On Activity involves the Science and Engineering of the 2014 Winter Olympic Games. Click on the link below to find videos, lesson plans, and activities to engage your classroom in the exciting events of the Olympics. NBC Learn and NBC Sports, together with the National Science Foundation, explore the science, technology, engineering and math of the Games. Lesson plans and activities are provided by the National Science Teachers Association.



<http://www.nbclearn.com/science-and-engineering-of-the-2014-olympic-winter-games>

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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](#)

Follow NWO on [Twitter](#)

### 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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