



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

Vol. 5 Issue #6

June 2013

In This Issue

K-16 STEM in the NEWS

[Innovation in Education at EHOVE](#)

Community STEM in the NEWS

[TOLEDO ZOO Opens New Exhibit](#)

STEM Opportunities

[STEM Summer Camps at Toledo Technology Academy](#)

[SAVE THE DATE - NWO Symposium on Teaching and Learning](#)

[Standards-based Elementary STEM Workshop at the Ohio State Fair](#)

[Imagination Station this summer!](#)

[Ohio Energy Project](#)

[Free Science Standards Workshop: Chemistry in a Biobased Economy](#)

K-16 STEM in the NEWS

Innovation in Education at EHOVE

EHOVE Career Center, a career tech school in Milan Township, Ohio, is going about education in an innovative way. During an Innovation Camp last summer, EHOVE teachers and students learned processes and skills for solving problems using creativity and rational thinking. Participants worked in teams to research community partner organizations, identify specific needs that camp teams could tackle, and respond with innovative solutions that the partners would value.

Students and staff are now working with professionals from local businesses and organizations to tackle a problem and find a way to solve it. "It exposes students to real world opportunities that apply to the curriculum," said Assistant Director Matt Ehrhardt.



EHOVE students and staff are working on several projects including:

- NASA Glenn Research Center - mobile photovoltaic (solar) power plant
- Case Western Reserve and the Norwalk Rotary Club - well digging project
- Erie, Huron, Ottawa and Sandusky Law Enforcement Agencies - Internet and cell phone safety
- Ohio Veterans Home - restoration projects of historic structures and photographs

[Free Workshop: Feeding the World: Webinars](#)

[ISTE International Society for Technology Education](#)

[STEM in the Park](#)

[INFO OHIO - FREE WEBINARS AND TOOLS FOR EDUCATORS](#)

[Discovery Launches Free STEM Summer Camps](#)

[Discovery Education is offering educators the use of its Techbook service](#)

NWO Hands-On STEM Activity

[The SCIENCE involved in brushing your teeth](#)

- NASA Plum Brook - Bio-sustainability of native prairie ecosystems
- NASA Plum Brook - Safety awareness for visitors
- EHOVE Cafeteria - Health, wellness and good nutrition for students

Innovation Camp fosters motivation, self-regard, and provides essential techniques and tools to thrive in the 21st century. Tim Best of Wexford Inc., assists with the program. Wexford is a non-profit educational agency that collaborates with school districts, universities, and other educational agencies to develop and improve educational programs that focus on closing the achievement gap.



EHOVE Career Center is a leading career tech school in Milan Township. This high school and adult education facility draws students from a variety of locales, and serves multiple school districts as well in Erie, Huron and Ottawa Counties.

Students are given the opportunity to take challenging academic classes in a customized and relevant curriculum to prepare them for a specific career or college, and learn skills to advance in the trade of their choice, for now or the future. A wide variety of career paths and training opportunities are available for many professions. More information is available at www.EHOVE.net.

Community STEM in the NEWS

TOLEDO ZOO Opens New Exhibit

On May 24 with much fanfare, the Toledo Zoo opened a new and fascinating exhibit: **Wild Walkabout at The Toledo Zoo: Wonders from Down Under.**

Our zoo is a great place to teach and learn, as the entire **Wild Walkabout** exhibit is a remarkable opportunity for people of all ages to experience and to learn about wildlife and the natural world of Australia.

A walk-through wallaby exhibit near the Aviary brings



visitors close to wallabies, which are gentle marsupial cousins to kangaroos.

Visitors can explore the captivating natural world of Australia like never before, with 50 species from Australia in this unparalleled exhibit.

The Zoo offers up-close and in-depth educational encounters with both the wallabies and dingoes throughout the summer, where visitors can learn more about these Australian animals with a behind-the-scenes tour. Educational opportunities and programs abound at the zoo, from summer camps to overnight family adventures.

Here are some of the amazing animals for one to see at this spectacular exhibit, located in areas throughout the zoo.

Near the Aviary:

Wallaby: gentle marsupials, which are cousins to kangaroos

Cassowaries: tall, aggressive birds with dagger-like claws

Reptile House:

Taipain: a highly venomous snake known for its "intelligence and nervous temperament", and a Death Adder snake as well.

BARU! North America's largest saltwater crocodile, 17-foot-long Baru, who arrived in northwest Ohio from Down Under last month.

Museum of Science:

360-gallon Great Barrier Reef exhibit



Near Tiger Terrace:

Dingoes, which are closely related to wolves

In addition, **twin polar bear cubs, Suka and Sakari**, were born in November, 2012 and can be viewed in the **Artic Encounter exhibit!**

Please visit the zoo website for hours of operation and more information: <http://www.toledozoo.org>

Photo Credit: Toledo Zoo/Andi Norman

[\[back to top\]](#)

STEM Opportunities

STEM Summer Camps at Toledo Technology Academy

TTA to host STEM Instruction for 7-9 grade students

Metallurgy, polymers and alternative energy exploration will be featured in this years STEM summer camps. **20 spaces available each week: June 17-20, and June 24-27.** Lunch is provided. Students may attend only one week of STEM Camp.

For More Information Contact:

Toledo Technology Academy

3301 Upton Ave. Toledo, Ohio 43613

Tel: 419-671-3900

Fax: 419-479-3192

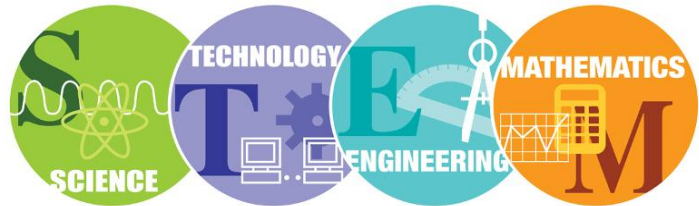
Internet: webmaster@toledotechnologyacademy.org

SAVE THE DATE - NWO Symposium on Teaching and Learning

**NOVEMBER 2, 2013 AT BOWLING GREEN
STATE UNIVERSITY'S OLSCAMP HALL**

KEYNOTE SPEAKER: ALFIE KOHN

*Overhauling the Transmission Model: Teaching
your students to be active meaning makers*



Northwest Ohio Symposium on Science, Technology, Engineering, and Mathematics Teaching

The traditional "bunch o' facts" model of education applied to STEM subjects consists of filling students with information about decimals and variables, cells and minerals. The process typically relies on lectures, worksheets, grades, tests, and homework. But our challenge is to help students think like scientists and mathematicians so they can actively make sense of ideas - and, ideally, to take pleasure in doing so. In his keynote address, Alfie Kohn invites us to reflect on how we can bring about just such a shift in our classrooms.

Registration information will be announced soon! [Click here](#) to learn more!



**Standards-based Elementary STEM Workshop
at the Ohio State Fair
Part of the Technology and Engineering Showcase
Ohio Technology and Engineering Educators Association
July 30 - August 1, 2013**

The Ohio State Fair in conjunction with the Ohio Technology and Engineering Educators Association's Technology and Engineering Showcase will be offering a 2 1/2 day elementary STEM workshop that will be based around Ohio's Academic Standards in science and other curriculum areas for grades 1 - 6. We will explore hands-on activities and visit Fair venues (Natural Resources Park, agricultural exhibits, amusement park rides and others) to address four essential questions:

1. How do organisms survive in their environments?
2. What can we learn about force and motion?
3. How can we protect our natural resources?
4. How can we use different types of energy?

Attendees will develop short design briefs and lesson plan starters based around their Fair experiences that will be posted on the Ohio State Fair website so other teachers may benefit from their ideas.

The cost is only \$100 for fair admittance, parking and materials for all three days. A semester of graduate credit will be available through Ashland (OH) University for an additional fee.

Registration is limited to the first 20 participants. **Registration closes on Friday July 19, 2013.** Please direct questions to:

Bob Claymier/STEM Is Elementary
248 N. Franklin St
Delaware, OH 43015

Contact Bob at 740-816-9627 or bob@stemiselementary.com

Imagination Station

Lots of activities are taking place at Imagination Station this summer!



HOT SUMMER COOL SCIENCE - SUMMER CAMPS

Registration is now OPEN! Camps begin June 17! While its HOT and steamy outside, Imagination Station has fun-filled, weeklong summer camps loaded with COOL science to experience.

Visit for more information: <http://www.imaginationstationtoledo.org/content/2010/12/hot-summer-cool-science-summer-camps/>

Animal Grossology

July 12
12-4pm

Sometimes animals can be gross! All of these gross things have a purpose and many are helpful to animals and the environment. Check out some gross Toledo Zoo animals, real owl pellets etc. at Imagination Station!



Please visit the Imagination Station website for more information: <http://www.imaginationstationtoledo.org/>



Energy education for all students.

Don't miss out on summer opportunities!

Energy Efficient Programs - Various dates July-September. Sign up now to participate in the 2013-14 school year.

High School Careers in Energy and Environment - contact OEP to express your interest in participating. Energy Summit, Workshop & Fair dates will be posted by September 2013.

Visit: <http://www.ohioenergy.org/educators/efficiency>

Free Science Standards Workshop

Chemistry in a Biobased Economy

- Wednesday, June 26, 8:30am-4pm; Findlay High School, Findlay, Ohio
- Thursday, June 27, 8:30am-4pm; University School, Hunting Valley, Ohio
- Wednesday, July 10, 8:30am-4pm; Centerline High School, Centerville, Ohio

Connect chemistry and environmental science with 21st Century careers in bioproducts and biofuels. The one-day workshop will include labs addressing green chemistry and sustainability, soybeans as a chemical feedstock for bioproducts, biodiesel and anaerobic digestion. In addition to curriculum materials, participants will also receive student research ideas and classroom supplies including samples of soybeans feedstocks and bioproducts.



Go to <http://geleerd.net/s13/chemistry> to find out more information and to register.

Free Workshop: Feeding the World: Science, Energy and Agriculture

August 7-8, 2013

Greene County Career Center and Conover Research Farm near Xenia, Ohio

A workshop where questions are answered: How do we feed 9 billion people? How does production agriculture affect water quality? What is the value of corn production? Why biofuels? How can ag biotechnology contribute to food security? Soil and Sustainability: what is the link?



Go to <http://geleerd.net/s13/corn> to find out more information and to register.



Ohio Environmental Council Free Webinars

June 21 & 28. Free Webinar (2 Part): Clean Air & Your Health.

This interactive discussion will include the history of the Clean Air Act, sources of air pollution, health impacts, current work to clean our air and protect our health, and what you can do to help clear the air. 10:30 a.m. - 12 noon.

July 12 & 26. Free Webinar (2 Part): The Facts on Fracking. Join us for a discussion of the environmental, human health, and community impacts associated with shale gas drilling and development (fracking). The webinar will also include an overview of shale policy and regulation in Ohio, as well as OEC's advocacy efforts regarding fracking. 11 a.m.- 1 p.m.

<http://www.theoec.org>



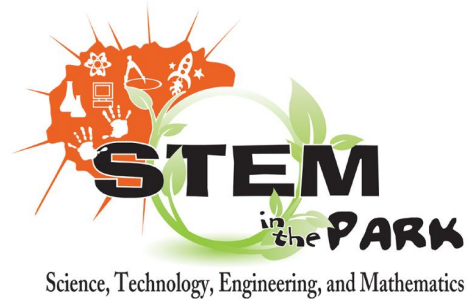
ISTE International Society for Technology Education is a not-for-profit organization dedicated to supporting the use of information technology to aid in the learning and teaching of K-12 students and teachers.

<https://www.iste.org/>

SAVE THE DATE for STEM in the Park 2013

A free event for all northwest Ohio families and the entire community. Held on the campus of BGSU on **Saturday, September 7th, 2013 from 10:00am - 2:00 pm**. Featuring: Four hours of engaging, hands-on STEM activities from over 75 area businesses, schools and organizations; **Free** lunch and other refreshments (while supplies last); **Free** take-home activities; **Free** STEM materials; and best of all: Fun for the whole family!

Visit the website for more info at www.nwocenter.org/STEMinPark



INFO OHIO - FREE WEBINARS AND TOOLS FOR EDUCATORS

Work through one or all of this course's 21 modules that teach how to Integrate Web 2.0 technologies and 21st Century Learning Skills into the K-12 classroom.



<http://learningcommons.infohio.org>

Discovery Launches Free STEM Summer Camp Materials:

Discovery Communications is formalizing its programs related to science, technology, engineering, and math (STEM) under an umbrella initiative called "Connect the Dots," intended to help young people make the link between STEM and their everyday lives.



To read the complete article, please visit:

<http://thejournal.com/articles/2013/05/06/discovery-launches-free-stem-summer-camp-materials.aspx>

Discovery Education is offering educators throughout America a free trial to use its Techbook™ service through the end of June

Discovery Education Techbook™ is a comprehensive digital program that replaces traditional textbooks, fuels digital transformation, and supports your standards.

Whether your district has one computer per student or one computer per classroom, our Techbook™ services engage students, support teachers, and bring learning alive.

<http://login.discoveryeducation.com/?TECHBOOK=1>

NWO Hands-On STEM Activity

The SCIENCE involved in brushing your teeth

Suitable for middle school students

Overview:

In this experiment, students will see the effect of a carbonated drink on an eggshell, which will act as a tooth

Background:

Eggshells are used in this experiment as a substitute for teeth, because both contain a high percentage of calcium minerals. Eggshells contain mainly composite calcium carbonate, with some calcium phosphate; whereas tooth enamel is a composite calcium phosphate.

The eggshell is half coated in toothpaste. The calcium fluoride in the toothpaste protects this half of the eggshell in the same way that toothpaste protects our teeth.



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

[\[back to top\]](#)

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. 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, for more STEM activities, programs, and information.

Print and eNewsletters from the past!

Looking for past articles from our print and eNewsletters?

[Click here](#) view and download from our **Print Newsletter** archives.

[Click here](#) view and download from our **eNewsletter** archives.

[Forward email](#)



This email was sent to laddis@bgsu.edu by nwo@bgsu.edu | [Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

NWO/COSMOS | 241 Math Science Bldg. | BGSU | Bowling Green | OH | 43403-0212

