



Vol. 8 Issue #3

March 2016

In This Issue

K-16 STEM in the NEWS

[Students Become Engineer for a Day](#)

Community STEM in the NEWS

[Perrysburg Teacher Named to a National Advisory Group for STEM Education](#)

STEM Opportunities

[Literacy Design Collaborative Science Collection for Middle and High School Students](#)

[STAMPS Modeling Institute](#)

[Battelle Innovative Leader Institute](#)

[Attention Teachers! FREE Tutoring Available!](#)

[Kelley's Island Field Experiences for K-12 Students](#)

K-16 STEM in the NEWS

Students Become Engineer for a Day

SSOE Group, a global engineering, architectural, and construction management firm headquartered in Toledo, Ohio, hosted 16 students from Adrian High School and Bedford Senior High School on February 23rd as part of "Engineers Week". Focused on promoting entry into the engineering profession, "Engineers Week" is annually held in locations across the United States. Engineering is a fast growing, and one of the best paid, careers for recent college graduates and this growth is projected to continue into the future.

Visiting students received a hands-on experience from a team of engineers when they spent part of their day at **SSOE's** Toledo headquarters for the "Engineer for a Day" program. Students attended a luncheon at The University of Toledo College of Engineering before meeting at **SSOE**. While at **SSOE**, they participated in team building activities, gained insight on the different engineering disciplines, and learned what it takes to become an engineer and potentially an employee of **SSOE**.



The day began with Senior Electrical Engineer, John Colley, who led a demonstration on electrical engineering titled, "Let's Build a Motor". Next, Structural Engineer, Kyle Bosworth, led an activity titled, "Construct a Building Frame" which involved students working in teams to construct a building frame out of household products. The frames were then tested to resist both vertical and horizontal loads - measuring the students' creativity with various design options in a

[Google Science Fair](#)

[New AP Computer Science Course](#)

[Junior Solar Sprint \(JSS\) Registration Is Now Open!](#)

[Ohio STEM Learning Network STEM School Designation](#)

[FREE 5 hrs Grad Credit in Conceptual Chemistry](#)

[The Ohio Technology Summit](#)

[STEM Teaching Conference at University of Cincinnati](#)

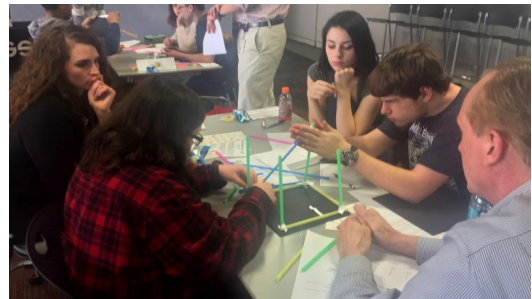
[The MakerSpace of Northwest Ohio](#)

[Top 10 Best Apps for Science](#)

NWO Hands-On STEM Activity

[See How IT GROWS: Earth System in a Bottle](#)

Brad Rowe, Director of Talent Acquisition at **SSOE**, stated, "Targeting younger students who have an interest in science, math, and technical education is a win-win. Students can learn more about a job they might be interested in and can ask questions to professionals in the field, and the company can build a pipeline of potential future hires. "Mr. Rowe said there is a shortage of engineers in the United States, which he partially attributes to retiring baby boomers and educational interests in other fields. "We're doing outreach at a younger age," he said. "Fifteen years ago we would do outreach to the university students, and really at this stage we feel we need to be driving that down to high school and grade-school levels."



SSOE is a global engineering, procurement, and construction management firm that was founded in

team environment, while managing a theoretical project budget and schedule.

The day ended with a presentation from **SSOE's Global Virtual Design and Construction (VDC) Team** led by Lauren Collier, Mark LaBell, Doug Furia, and Mike Musgrave, who took students through a



high-level discussion on topics such as Building Information Modeling (BIM), 3D model coordination, pipe spooling / material lists, model quantity take-offs, and point clouds. Students then had the opportunity to learn more about pursuing a career in the engineering field through a Q &

A session.

During the program the students also learned about **SSOE's** student co-op / internship program, that provides college students with resume building experience, a competitive wage, and college credits. On average, **SSOE** employs 40 co-ops / interns at any given time.

SSOE is committed to preparing students for successful careers by generating interest and improving skills in the STEM fields. In addition to their support of Engineer's Week, they are a proud sponsor of the National Math and Science Initiative.

1948 in Toledo, and currently has more than 20 locations worldwide, with projects in 40 countries.

Community STEM in the NEWS

Perrysburg Teacher Named to a National Advisory Group for STEM Education

A Perrysburg teacher has been named to a national advisory group for STEM education. **Mrs. Jackie Derr, of Perrysburg Junior High School**, has been named to the Pitsco Education Teacher Advisory Group, and is one of only 25 teachers nationwide who were selected. According to Pitsco, teachers are chosen to deliver the kind of insight and feedback that only educators can deliver.

The teacher advisory group members are from 13 different states and will provide activity ideas as well as feedback on Pitsco products, activities, curriculum, and solutions. Their insight will affect the development of Pitsco's 2017 product releases, and many of their efforts will be displayed on Pitsco's website, marketing materials, and social media channels.



Pitsco Education is a provider of K-12 STEM solutions that use hands-on application to connect school, community and work.

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

STEM Opportunities

Literacy Design Collaborative Science Collection for Middle and High School Students

The team at Battelle Education has been working closely on a new project with the Literacy Design Collaborative entitled the Battelle LDC Science Collection.

This Collection aims to help teachers learn more effective ways to teach science in their classrooms. Classroom guides, sample assignments, and planning materials are provided that embed literacy into real-world experiences.

For more information, please visit: <http://sciencecollection ldc.org>

STAMPS Modeling Institute

Are you a high school teacher who wants your students to master state science benchmarks? Do you want to gain a deeper understanding of core concepts and how to teach them in a meaningful and interesting way? If so, the 2016 STAMPS Modeling Institute at BGSU is the place to be!



The Modeling Institute is peer-led, and science content will be reorganized around basic models to increase its structural coherence. Participants will be supplied with a complete set of course materials and work through activities alternately in the roles of student or teacher, as they practice techniques of guided inquiry and cooperative learning. Modeling is one of two K-12 science programs designated by the U.S. Department of Education as EXEMPLARY.

Visit: <http://cosmos.bgsu.edu/stamps/index.htm> for more details.

Application deadline March 31, 2016

Battelle Innovative Leader Institute

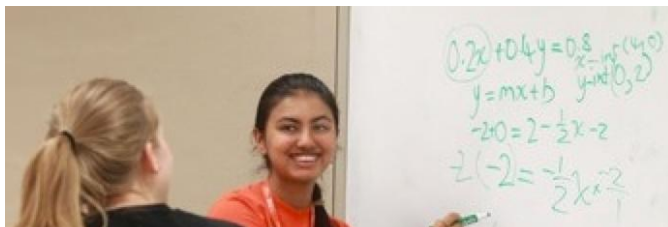
Deadline to apply: April 4

The Innovative Leaders Institute is a year-long training and mentoring experience for educators led by some of the top STEM and innovative school leaders across the country. To date, over 100 educators from urban, rural, and suburban schools across five states - including Chicago Public Schools - have participated.

Applicants must apply as part of a two person team. Final dates and locations are still to be determined but will include 3 days in May or June with quarterly follow-up sessions in October 2016, February and April 2017. The team must include a principal or assistant principal plus an additional building-level leader. Additional details are included on the application: <https://goo.gl/Fo73r6>

Attention Teachers! FREE Tutoring Available!

The High School Math in ACTION Tutoring Hub is available to ALL students taking high school Math courses including Pre-Algebra, Algebra I, Geometry, Algebra II, Pre-Calculus, Calculus, Statistics, or any other math course your school offers.



When:
Mondays - Thursdays:
3:30-10 p.m.
Sundays: 4-9 p.m.

Where:



BGSU's Main Campus

Oiscamp Hall Room 120

Contact Information:

419-372-1493

rhack@bgsu.edu OR
llapp@bgsu.edu

FREE Online Tutoring Via SKYPE. Call for more information at (419) 372.1493
 Or visit us at: bgsu.edu/mathhub

Kelley's Island Field Experiences for K-12 Students

Working in the field is a powerful way to engage students. Designing their own research project, connecting with experts and getting dirty are the hallmarks of a transformative learning experience. At the Kelleys Island Field Station, students can ask questions, collect data, and make discoveries. The Kelleys Island outdoor classroom is a perfect place to introduce students to a variety of concepts in the biological, chemical and physical sciences. Please visit the website below to learn more about this extraordinary experience:



<http://www.kelleysislandfieldstation.org>

Google Science Fair

The sixth annual Google Science Fair is here and now open for submissions for students aged 13-18 around the world. In partnership with National Geographic, LEGO Education, Scientific American, and Virgin Galactic, we want to hear how students will use science and engineering to make something better. Check out the website for more details at <https://www.google-science-fair.com>, including lesson plans for teachers and fun classroom posters.



New AP Computer Science Course

The new AP Computer Science course will be coming online during the 2016-17 school year, which means AP CS teacher training will take place this summer! [Code.org](http://code.org) will be offering FREE teacher training (free includes travel expenses) this summer in Atlanta. The training is rapidly filling up, please visit this website for more information and to apply: <https://code.org/educate/professional-learning/cs-principles-application>.

A friendly reminder - if a teacher signs up for this training, they are required to teach at least one class of AP CS Principles next school year.

Junior Solar Sprint (JSS) Registration Is Now Open!

Junior Solar Sprint (JSS) registration is **now open**. JSS is a solar car competition sponsored by the US Army Educational Outreach Program that challenges students to design, build, and race solar electric vehicles using hands-on engineering skills and principles of science and math. JSS is designed to support the instruction of STEM in categories such as alternative fuels, engineering design, and aerodynamics. Students who are part of a registered Technology Student Association (TSA) chapter or who compete at an approved Army host site are eligible to compete in JSS. Teams must follow the official TSA middle school competition rules when competing in JSS.



For more information: <http://goo.gl/BaJJao>.

Ohio STEM Learning Network STEM School Designation

Sustaining an innovative STEM approach in the classroom requires flexibility and resources. Official designation as a State of Ohio STEM school can help.

Designation is open to Ohio middle and high schools.

Applications are due to the Ohio Department of Education by April 1.



For more information please visit: <http://goo.gl/4RBs9e>

FREE 5 hrs Grad Credit in Conceptual Chemistry

Learn what it takes to really teach Chemistry for Teachers of Grades 4 -9

FREE TUITION - FREE MATERIALS

All classes meet at Kent State University at Tuscarawas * 330 University Dr. NE, New Philadelphia, Ohio

Conceptual Chemistry is funded by the Ohio Board of Regents' Improving Teacher Quality State Grants Program. The purpose of Conceptual Chemistry is to assist school districts by providing quality professional development experiences for middle and high school teachers. This program provides **free tuition, a \$2,425**

value, for all participants along with approximately \$850 worth of equipment, supplies, activity books and other hands-on materials for use in the classroom. For more information visit the website at: http://personal.kent.edu/~cfenk/Chemistry/Conceptual_Chemistry.html

[Click here](#) to download a brochure.

[Click here](#) to download an application.



May 5 & 6, 2016

The Ohio Technology Summit is where education leaders and technology experts converge to exchange techniques and strategies for teaching and learning success. At OTS educators have the opportunity to explore the hands-on integration of technology across the curriculum - from kindergarten to college. The Ohio Technology Summit is for:

- Makers - For anyone who is embracing the do-it-yourself (or do-it-together) spirit and wants to share their accomplishments or learn more about "making";
- Innovators - For those who are out in front with what's new in education and are the early adopters.
- Leaders - Connect with like-minded individuals and network with leading visionaries. Share ideas, and reflect on your own leadership performance.

For more information, or to submit a presentation proposal: www.ohiosummit.org

STEM Teaching Conference at University of Cincinnati

"Driving Change through STEM: Models Pedagogy and Collaboration"

Wednesday, May 11, 2016, from 7:30 am - 3:45 pm, at Tangeman University Center, on the campus of the University of Cincinnati.

This conference is aimed towards:

K-12 STEM teachers and administrators from public and private schools interested in:

- connecting with educational organizations that support STEM education;
- innovative instructional strategies in STEM disciplines;
- networking with other STEM educators and school administrators;
- exploring successful models for STEM education.

Leaders in higher education, business and industry that support STEM education and STEM-related career opportunities who are interested in:

- attracting students into STEM careers; and exploring successful models for STEM education.

For more information and registration, please visit:

http://ceas.uc.edu/special_programs/ceems/CEEMS_Home.html



The MakerSpace of northwest Ohio has new offerings, open house dates/ times, and new membership information.

Please check their website for more information: <http://bigfablab.com>

Top 10 Best Apps for Science

Technology education blogger Leah Nieman ranks her favorite science apps for kids, including ones that lets kids meet the elements of the periodic table, play with a virtual chemistry lab, conduct experiments, and more! The apps are available on a wide variety of devices and for learners of all ages.

See the awesome apps that made Nieman's list! <http://goo.gl/NMGOQg>



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

NWO Hands-On STEM Activity

*This month's STEM activity features one of the many exhibitors showcased at this year's **STEM in the Park**. More fun activities from STEM in the Park can be found on our website at: www.nwocenter.org/STEMinPark/activitycards.htm*

See How IT GROWS: Earth System in a Bottle

This month's Hands-on Activity is from BGSU - School of Teaching & Learning and Department of Environment & Sustainability

Purpose: Students construct an earth system containing soil, air, water, and living organisms. This activity can be used by students to conduct experiments on the needs of a balance system.

For more on Earth System in a Bottle (activities, songs, story, role-play) visit Elementary GLOBE @ <http://www.globe.gov/web/elementary-globe> (All About Earth module)

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](#)

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.



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

[SafeUnsubscribe™ laddis@bgsu.edu](#)

[Forward email](#) | [Update Profile](#) | [About our service provider](#)

Sent by [nwo@bgsu.edu](#) in collaboration with



Try it free today