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STEM in the Park Once Again Amazes the Crowd!

"STEM in the Park", a free, hands-on and inquiry-based event designed to engage participants in the STEM (science, technology, engineering, and mathematics) fields, was held on the campus of BGSU on September 23. An estimated crowd of around 5,500 people attended the 8th annual event and enjoyed over 175 activities from a wide variety of exhibitors showcasing STEM disciplines. Two new activity zones delighted the crowd with their unique activities. Children and adults alike got their "wheels turning" in the "All Wheels Zone" that featured activities with tires, gears, and all types of wheels. The Right Direction, a local youth development organization, was also featured in this zone and offered dazzling BMX motorcross demonstrations. The Robotics Zone was also new this year, and it featured activities that explored the design, construction, operation, and application of robots.



"We were thrilled to have The Right Direction at "STEM in the Park" this year, especially because of its strong positive message for youth, its STEM application in physical science concepts and the high-energy demonstrations," said Jenna Pollock, STEM in the Park coordinator.

One of the many strengths of this program is the spirit of community that evolves during its planning and implementation. The many volunteers and exhibitors that provide free STEM-infused and inquiry-based learning activities to engage children and their families contributes to the remarkable success of "STEM in the Park". As well, many exhibitors state that participation in "STEM in the Park" is a worthwhile experience and is beneficial for their organization. One such

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organization is SSOE, a local engineering firm that helps sponsor the event while also administering an activity station. This year they helped participants build and construct their own motors, serving as a playful introduction to Newton's Laws of motion.



"This event has become our passion. We truly love to see children and their families enjoying hands-on STEM learning activities," stated Emilio Duran, who co-founded the event with his wife Lena Duran. Both are faculty in BGSU's College of Education's School of Teaching and Learning and are amazed at the growth of the event over the years.

Another important aspect of the event is a grant program that was developed to offer transportation to students wherein transportation is the main barrier of attendance. Mrs. Pollock exclaimed, "Each year we reach out even further in our region to provide this opportunity and we're thrilled and gratified at the number of those who come to enjoy this spectacular event!"

Attendance for the event has steadily grown each year, as crowds come to not only participate in hands-on STEM-infused activities, but to watch the live super-sized demonstrations from the Toledo Zoo and Imagination Station on the STEM Stage, listen to a steel drum band and vocal groups on the Musical Stage, and enjoy a free Tony Packo's lunch. This year, over 5,600 hot dogs were served, and countless smiles seen everywhere.



Presenting sponsors for the 2017 "STEM in the Park" included BGSU, BP, First Solar, Lubrizol, PPG Industries, and Verizon. Community sponsors include The Andersons, Thayer Family Dealerships, Perrysburg Rotary Club, SSOE, Northwest Ohio Center for Excellence in STEM Education at BGSU, And Toyota. General Sponsors were Wal-Mart, Tony Packo's, Bostdorff's, Children's Discovery Center, Columbia Gas of Ohio, Partners in Education, Glass City Federal Credit Union and Whirlpool.

For more photos, videos and information on "STEM in the Park", please visit: www.steminthepark.org.

Community STEM in the NEWS

NSTA: Partnering with Scientists

By Debra Shapiro,

Reprinted with permission from NSTA

While it's common for many teachers to have a scientist visit their classroom once or twice a year, some teachers have formed long-term partnerships that enable scientists to spend significant time with their students. Cindy Hopkins, science teacher at Kaffie Middle School in Corpus Christi, Texas, met one of her scientist partners- Janel Ortiz, a graduate student from Texas A&M University-Kingsville (TAMUK)-at a professional development session on quail that Ortiz led at TAMUK. "There is no extra money for field trips, so I actively seek science professionals to come to my class and connect students with real-world science," Hopkins explains.

"This past spring, I had Janel come to my class [twice a week for two months] and teach a unit about quail (her area of expertise)...Researchers and scientists are another voice for my students, and they pay more attention [to them]," Hopkins contends.

"Janel brought good binoculars, and my students used them...to [examine] bird bands...She asked students to give her evidence, and taught them how to do it...When [scientists do] this, students make connections from the classroom to the field," Hopkins maintains.

A Vanderbilt University Scientist in the Classroom Partnership fellow helps middle school students in the Nashville, Tennessee, area test their car design for speed.

"I did activities alongside the students. They got to see me as a learner. I asked questions to help students connect her material with what I've taught them," she relates. Having Ortiz teach the unit also "allowed me to sit down with students that need one-on-one attention and connect with them," she notes.



David Lockett, middle-level science, technology, engineering, and math (STEM) teacher at Edward W. Bok Academy in Lake Wales, Florida, benefitted when Principal Damien Moses helped bring Keith Young, CEO of Detroit-based Ecotek-a research organization promoting science education and careers for students ages 10 to 17 (www.ecotek-us.com)-to the city's charter school system for two semesters. Young co-taught "and deliver[ed] lessons on citrus greening and alternative battery and fuel options with our STEM classes," says Lockett. "We had a community need because a plant and tree disease was affecting citrus crops."

Young even took some middle school and high school students to the U.S. Department of Agriculture National Lab for Genetic Research Preservation in Fort Collins, Colorado. "Students made bactericide and did directional drone studies of infected trees. [The trip] showed students how something in Florida could also affect the rest of the country and the world," Lockett reports.

"In grad school, one of my friends was working on his thesis and was required to do outreach as part of his own graduate work. That school year, Dr. J. P. Trasatti (J.P.) came to my classroom to share his research with the students," recalls Nichole Mantas, a biology teacher in New York, "then he and I designed a hands-on activity to simulate his research. He had been worked similar[ly] to a zipper in the blood-brain barrier," Mantas notes.

"In recent years, J.P. has moved on from his graduate work, and our lessons have changed as well...For two years, J.P. came [to my classroom] and shared how tissue engineering works," she relates. "It helped engage a group of students who might have just considered science a hobby."

[Click here](#) to read the full article.

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STEM Opportunities

NWO SYMPOSIUM - Online Registration now OPEN!

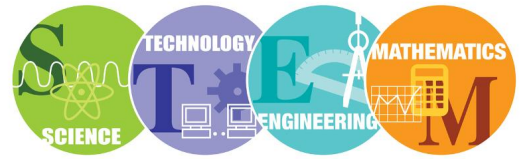
NWO Symposium on Science, Technology, Engineering and Mathematics Teaching

November 18, 2017

8:45 AM - 3 PM

Olscamp Hall @ BGSU

Featuring the 2017 keynote speaker: **Dr. Gabriel Matney**



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

2017 NWO SYMPOSIUM STRANDS

1. STEM in the Community: Thinking Outside the Classroom
2. Putting Creativity to Work: Teaching STEM With Innovation
3. Integrating Technology in the Classroom
4. Teaching and Learning in SCIENCE
5. Teaching and Learning in MATHEMATICS
6. Teaching and Learning in ENGINEERING

[CLICK HERE](#) to register online!

Program now available online at: bgsu.edu/nwoSymposium



eCybermission student registration is open

eCybermission is a free competition for **6th to 9th grade** students. **Early registration ends November 9. Final registration ends December 13.**

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

Junior Solar Sprint (JSS) Registration is Open

JSS is a free solar competition for middle school students. Registered teams will receive a free solar car kit. For more information and to register: <http://www.usaeop.com/programs/competitions/jss/>

The National Academy of Engineering EngineerGirl Writing Contest

All Students - girls and boys in grades 3-12 can enter a chance to win up to \$500.



To enter, students imagine how engineering can help their community. Students will then write a plea to their city/county council making the case for an infrastructure improvement.

Full rules and requirements can be found on the EngineerGirl Website: <http://engineergirl.org/2018contest.aspx>

Google For Educators Blog

This blog has many helpful videos and resources for digital citizenship and safety such as: Teach Online Safety with "**Be Internet Awesome**".

As classroom technology usage increases, it's important for students to be prepared to make smart decisions online. Developed in collaboration with online safety experts, "**Be Internet Awesome**" teaches the fundamentals of digital citizenship and safety so students can explore the online world with confidence. In addition to a robust curriculum for teachers, the program includes Interland, an adventure-packed online game that puts these critical lessons into hands-on practice.



Access resources at: <https://goo.gl/n96yxA>

Google Education website can be found at: <https://goo.gl/d5PzL4>

INFOhio District Building ICoach



October 9 kicked off the District/Building ICoach application period, and INFOhio is looking for tech-dedicated educators to join more than 300 D/B ICoaches volunteering as a statewide team of INFOhio experts in their district or building. The required training is an online, self-paced course worth 15 contact hours.

INFOhio's D/B ICoaches provide hands-on training to help teachers make the most of classroom technology and INFOhio digital resources. D/B ICoaches do more than just talk about technology features; they connect technology to real-life classroom teaching.

Consider becoming a part of this statewide network. Contact: central@infohio.org for application information.

World of Seven Billion Video Contest

Back by popular demand, the *World of 7 Billion* student video contest helps teachers bring technology and creativity into middle and high school classes. The contest challenges students to create a short video connecting world population growth and one of three global challenges: Advancing Women and Girls, Feeding 10 Billion, or Preventing Pollution. Students can win up to \$1,000 and participating teachers will receive free curriculum resources.



The contest **deadline is February 22, 2018** - use this lesson plan to get started now! Full contest guidelines, resources for research, past winners, and more can be found at <https://www.worldof7billion.org/student-video-contest/>.

UNITE

UNITE is a pre-collegiate summer program for talented high school students from groups historically underserved and underrepresented in science, technology, engineering and mathematics (STEM).

An initiative of the Army Educational Outreach Program (AEOP), Unite is administered by the Technology Student Association (TSA). The program, held at host university sites, is designed to encourage and help prepare students to pursue college-level studies and, ultimately, careers in engineering and related STEM fields.

For more information: <http://www.usaeop.com/programs/stem-enrichment-activities/unite/>

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NWO STEM Activity

This month's Hands-on Activity is from the Bowling Green Curling Club and was an activity station at **STEM in the Park**.

More fun activities from **STEM in the Park** can be found on our website at: <http://www.bgsu.edu/nwo/programs/stem-in-the-park/activity-cards.html>

Ice Cube Curling: Let's Explore Friction

What You Need

- 2 players
- Ice Cubes (kept frozen until right before they are needed)
- A coin



- Kitchen counter top or 1 metal tray (cookie sheet)
- Small Hand Towel

What To Do

1. Start with a dry kitchen counter top or metal tray
2. Place a coin on the counter top or tray to act as your "house" (the target in curling)
3. Try to slide you ice cube as close as possible to the house.
4. Each player tries to get their ice cube closer to the house than the other player.
5. Predict what will happen as the ice cube is moved around on the tray with greater motion.
6. Gently move the ice cube, rubbing it on the flat surface, increasing speed while still maintaining good self-control.
7. Slide your ice cube around and play again.
8. Compare how the ice cubes move as the surface gets wetter.
9. Experiment with different ideas...what happens if you put a sheet of wax paper on the tray or counter top?

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. We are always looking for great STEM education stories to feature in upcoming newsletters.

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