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"**STEM in the Park**," a family day of hands-on fun at Bowling Green State University, took place on Sept. 27 and drew another record crowd of nearly 4,000 people from all over northwest Ohio and southeast Michigan.

This engaging event featured interactive displays and activities created by community partners, local businesses and area universities to enlighten children of all ages in the STEM (science, technology, engineering, and mathematics) fields. Over 70 unique exhibitors hosted hands-on STEM Activity Stations, with close to 100 tables of activities that individuals and families enjoyed. Take-home STEM activities and a complimentary lunch catered by local family restaurant favorite Tony Packo's were also included in this fifth annual event.



Activity Station hosts included BGSU's Marine Lab and Herpetarium, Verizon, Toledo Botanical Garden, Challenger Learning Center of Lake Erie West, Imagination Station, ERG Environmental Services, Ohio Northern University, and the Toledo Zoo, plus more than 60 other institutions and organizations.

A new addition to this year's event was an Activity Zone titled the "Science of Sports" which featured activity stations that examined how fast participants could run, how high participants can jump, and how far participants can throw a ball. In addition, a participant could have his or her golf or tennis swing analyzed at a station sponsored by Verizon. Participants did this and more in this exciting and quite popular addition to "**STEM in the Park**".

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Other activities included engineering robots, setting off 'rockets', petting lizards, playing with bubbles, and making ice cream. The "Roots to STEM Pre K-2" zone was also back this year, which featured activities catered specifically to younger children.



"**STEM in the Park**" is the brainchild of Drs. Emilio and Lena Duran, both faculty members in BGSU's College of Education and Human Development. Inspired by Literacy in the Park, a spring on-campus event that brings families in for a variety of literacy-boosting activities, "**STEM in the Park**" seeks to increase public engagement in the STEM disciplines.

NWO Hands-On STEM Activity

[Math Dominos](#)

"It is a true pleasure and privilege for our BGSU family to be able to provide people of all ages in our community and all over northwest Ohio and beyond with enjoyable and engaging opportunities to participate in hands-on STEM learning," stated Dr. Emilio Duran.

NWO, the Northwest Ohio Center for Excellence in STEM Education at BGSU, organizes the free event on campus, and is a partnership among a number of area universities, K-12 schools, and community partners who all come together at this event to showcase innovation and educational opportunities and promote positive attitudes toward STEM teaching and learning.

Bob Midden, Director of NWO, said, "This was a spectacular gathering of a rich array of institutions, agencies, colleges, departments, organizations, and corporations brought together at one time and place to inspire and excite interest in science, technology, engineering, and mathematics as it is most broadly perceived to connect to nearly every aspect of human endeavor."

According to Jenna Pollock, "**STEM in the Park**" Program Manager, "NWO is committed to increasing attendance among low-income and at-risk children. For the second consecutive year we provided transportation for families from several school districts in urban and low-income neighborhoods, and we are very happy to do so."

"**STEM in the Park**" Presenting Sponsors for 2014 were BP, Lubrizol, and Verizon. BGSU is also a Presenting Sponsor, with support from the following BGSU colleges and departments:

- Athletics Department
- BGSU Foundation
- Center for Faculty Excellence
- College of Arts & Sciences
- College of Business
- College of Education and Human Development

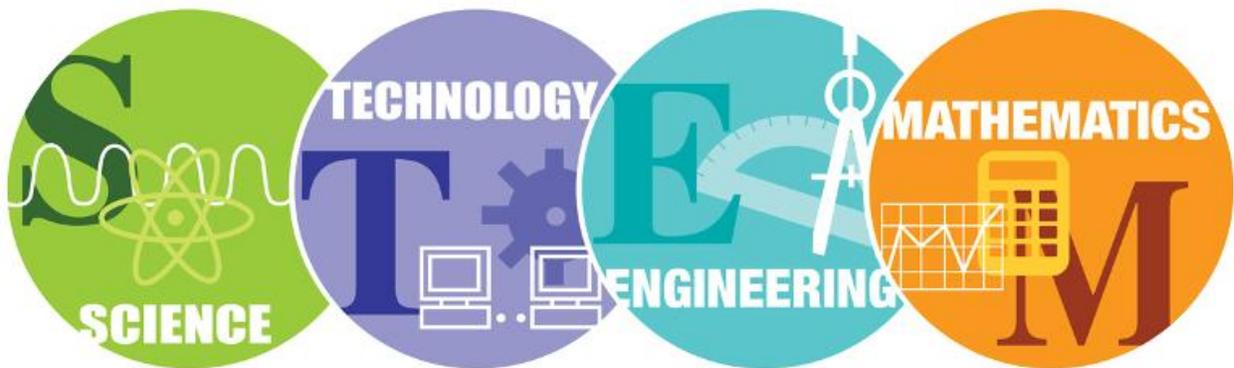


College of Technology, Architecture & Applied Engineering
Department of Biological Sciences
Graduate College
Office of Admissions
Office of the Provost
School of Teaching & Learning

Community sponsors included the Bill Rowles Youth Fund of Toledo Community Foundation, Bowling Green Community Foundation, John Deere, Spectra, Thayer Automotive, and Walmart; with support from Cooper Tires, Dura Magnetics, Giant Industries, Spark! Learning of Perrysburg, and SSOE.

STEM Opportunities

Announcing the 2014 NWO Symposium on STEM Teaching



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

A local professional development conference for PreK-12 teachers, administrators, pre-service teachers, college faculty/staff, and informal educators

Featuring a keynote presentation by NASA Engineer Kobie Boykins

A dynamic young engineer at NASA's Jet Propulsion Laboratory, Kobie Boykins is on the front line of Mars exploration. He has overseen the designing, building and testing of mechanisms and other mechanical hardware for a wide range of robotic space vehicles. He designed the solar arrays that powered the Mars Exploration Rovers, Spirit and Opportunity, and currently supervises the mobility and remote sensing teams for the Mars Science Laboratory, better known as the Rover Curiosity. In 2013, Boykins was awarded a NASA Exceptional Achievement Medal, one of the highest honors given to NASA employees and contractors. A

featured National Geographic explorer and presenter, Boykins is also a featured scientist for Dr. Robert Ballard's JASON project educating youth in STEM.

Saturday, November 1, 2014 at Bowling Green State University from 8:00 AM - 4:00PM.

Online registration is now open! [Click here](#) to for more info and to register.

2014 - 15 NWO Inquiry Series Presents the...



Connecting the Standards to Best Mathematics Teaching Practice (K - 12)

The NWO Inquiry Math Mini-Series will examine the standards for mathematical practices and the best practices for mathematics teaching through 4 evening meeting dates (16 hours of mathematics professional development).

Dates and Times: Wednesday's from 4:30 - 8:30 PM (4 hours per evening)

October 29, 2014
November 12, 2014
November 19, 2014
December 3, 2014

Price and Space Limitations:

- \$160.00 total for all four events. Teacher's must sign up and commit to all four meetings. Meals and snacks provided for all events.
- **Space is limited to 20 teachers** in the K - 5 elementary session and 20 in the 6 - 12 secondary session. Both sessions meet on the dates listed above but in separate classrooms.

Register and pay today to guarantee your spot in the training!

Location: Life Science Building, Bowling Green State University

Instructors: Each mini-series will feature two instructors who will co-teach the mini-series session. One instructor is a Mathematics Education faculty member at BGSU and the other is a local K - 12 mathematics educator with current teaching experience in the classroom.

- K - 5 Elementary

Dr. Gabriel Matney, Bowling Green State University
Tami Matney, Imagine Clay Avenue Community School

- 6 - 12 Secondary

Dr. Jonathan Bostic, Bowling Green State University
Diane Mott, Liberty Center Schools

[Click here](#) to register for the Math Mini-Series

For more information visit <http://cosmos.bgsu.edu/inquiryseries/index.htm> or e-mail nwo@bgsu.edu with questions.

NCTM Offers "Engaging Students in Learning Mathematics Grants" for Grades 6-8 Teachers

The purpose of this grant is to incorporate middle school classroom materials or lessons that actively engage students in tasks and experiences to deepen and connect their content knowledge. For 2015-2016, grants with a maximum of \$3,000 each will be awarded to persons currently teaching mathematics in grades 6-8. The **deadline for applying is November 7**. For more information go to the NCTM grants web page at <http://www.nctm.org/resources/content.aspx?id=1322>

Verizon Innovative App Challenge

Student teams across the nation are now invited to create novel ideas for the mobile app marketplace in the Verizon Innovative App Challenge. The competition offers middle and high school students the opportunity to apply their STEM knowledge and submit an idea for a mobile technology application that can be used to solve a societal or community problem. Registration for this contest is now open, and eight teams will win "Best in Nation"



honors, each earning a \$20,000 cash grant for their school.

Visit: <http://appchallenge.tsaweb.org>



Imagination Station Little Scientist Workshops

The Little Scientist Workshops are a series of programs that encourage families with young children, ages 3 - 5, to investigate the world around them. Children will explore science through hands-on activities. These programs are a great way to spend time creating and exploring together.

This nine workshop series runs the following times:

- Wednesday, 11:30am - 12:30pm - NEW
- Wednesday, 2 - 3pm
- Thursday, 11:30am - 12:30pm

Register at the link below or call the Reservation Specialists at 419.244.2674 ext. 250 to reserve your space for individual workshops.

www.imaginationstationtoledo.org



OSU Mathematics Coaching Program

The OSU Mathematics Coaching Program is currently recruiting districts/schools/coaches for the 2014-2015 school year (February-August). The Mathematics Coaching Program, in its ninth year, is designed as a training program for experienced teachers who work as full-time mathematics coaches. These coaches team with teachers, in their classrooms daily in six-week rotations, and assist them in implementing research-based strategies that help K-12 students learn mathematics.

For more information: <http://mcp-coaching.osu.edu>

Climate Change Symposium To be Held At The Toledo Zoo

OCTOBER 29, 2014 from 9 am - 12:45 pm
Indoor Theatre in the Museum of Science

Students, teachers, professors, interested faculty, and community



members are all invited. Registered Symposium attendees will receive **FREE** admission.



To register & for more information: www.toledozone.org/climate

NCTM 7-12 Research Grants

The purpose of this grant is to support and encourage classroom-based research in precollege mathematics education in collaboration with college or university mathematics educators. For 2015-2016, grants with a maximum of \$6,000 each will be awarded to mathematics educators or classroom teachers currently teaching mathematics at the grades 7-12 level. The research must be a collaborative effort involving a college or university mathematics educator (a mathematics education researcher or a teacher of mathematics learning, teaching, or curriculum) and one or more grades 7-12 classroom teachers. The proposal may include, but is not restricted to, research on the following topics:
Curriculum development and implementation



- Involvement of at-risk or minority students
- Students' thinking about a particular mathematics concept or set of concepts
- Connection of mathematics to other disciplines
- Focused learning and teaching of mathematics with embedded use of technology (any acquisition of equipment must support the proposed plan but not be the primary focus of the grant)
- Innovative assessment or evaluation strategies

The **deadline is November 7, 2014**. See the grant web page to learn about NCTM membership requirements and to find out more about the grant and other opportunities. <http://www.nctm.org/>

Common Sense Media

1-to-1 Essentials Program comprises great resources and materials that will provide the guidance you need to proactively address issues related to the implementation of a 1-to-1 program in schools. These resources include checklists, PDF documents, and videos.



Of particular interest in this regard is the checklist which features the different phases (envisioning, communication, and implementation), steps and assets schools can draw on to develop their 1-to-1 programs.

This checklist is available for free download in PDF format from this page. <https://www.common sense media.org>

Christopher Columbus Award Program is a National Community-based STEM Contest for Middle School Students

The program challenges students in grades six to eight working in teams of three to four with an adult coach to identify a problem in their community and apply the scientific method to create an innovative solution to that problem. The program can be implemented in science or social studies classes, for cross-curricular use in team teaching or block-scheduled classes, or as an afterschool program.

Eight finalist teams and their coaches will receive an all-expense-paid trip to Walt Disney World to attend the program's National Championship Week and compete for cash prizes as well as development grants of \$200 to further refine their ideas. Two gold medal-winning teams will receive \$2,000 per team member as well as a medal for each team member.



Visit the awards program website for complete competition information, student and teacher/coach guides, details on past award-winning projects, and entry materials.

<http://www.christophercolumbusawards.com>

The Toledo Section of the American Chemical Society Announces Exciting Upcoming Opportunities

In partnership with the Toledo-Lucas County Library: OPEN BOOK Evening with Best Selling Science Author SAM KEAN. This event is **FREE** and open to the public. **Thurs. Nov 13 from 6:30 - 8:30pm** at the Main Library in Toledo; reservations are encouraged by emailing to toledosectionacs@gmail.com



For more information : <http://toledosection.sites.acs.org/>

6 sponsorships in 2014 are available to high school science teachers interested in joining the American Association of Chemistry Teachers. ACS will pay \$40 toward the annual fee of \$50 for each teacher sponsored; teachers would pay the remaining \$10.

AACT is a separate sub entity of the American Chemical Society. Teachers DO NOT need to be members of ACS to join AACT.

Additional information for Toledo Section of ACS can be found on:

<https://www.facebook.com/pages/Toledo-Section-American-Chemical-Society/128610157192543>

<http://toledosection.sites.acs.org/>

Believe In Ohio's Free STEM Commercialization and Entrepreneurship Forums

Believe in Ohio is a comprehensive, free, new program from the Ohio Academy of Science, supported by the Ohio General Assembly and the Ohio Board of Regents, that helps students develop critical thinking skills and offers an opportunity to compete for nearly \$2 million in awards and college scholarships.



At the STEM Commercialization and Entrepreneurship Forums, students will participate in a program that will inspire them to "think outside the box" and allow them an opportunity to interact with STEM and venture development thought leaders.

Each Forum runs from 9:30 a.m. to 3:00 p.m. A \$150 transportation subsidy is available on a first-come, first-served basis for schools with 10 or more students who attend.

Forum Dates:

- Saturday, Nov. 1, 2014, at Ohio University, Athens, OH (SE Ohio region)
- Saturday, Nov. 8, 2014, at Westerville North High School, Westerville (Central Ohio region)
- Saturday, Nov. 15, 2014, at University of Toledo (NW Ohio region)
- Saturday, Nov. 22, 2014, at Miami Valley Career Technology Center, Clayton (Dayton Region)

For more information, go to the Forums web page at <http://www.believeinohio.org/forum.html>

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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 2014 can be found on our website at: www.STEMinthePark.org

Math Dominos

This month's Hands-on Activity is from Bowling Green Council of Teachers of Mathematics (BGCTM)



What You Need:

- Index Cards
- Marker

Set Up:

- Take each index card and draw a line down the middle connecting the long side to the other long side of the card
- Make a list of equivalent statements. Example $\frac{3}{4} = \frac{6}{8}$ or $\sqrt{16} = 4$ on a sheet of paper. Think of as many as you can.
- Once your list is made, label one half of the index card with the left side of each equation. For example $\sqrt{16}$. Then on another card label the right side of the equation, for example 4.
- Do this until all of the cards are filled up on both sides of the middle line. You are making dominos but instead of numbers or dots you are writing expressions and numbers.

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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Find Even More Ohio STEM Education Resources

Visit our STEM clearinghouse, nwostemresources.org, for more STEM activities, programs, and information.

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