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**K-16 STEM in the NEWS****Grant to Boost Youth's Engagement in Research**

The **Northwest Ohio Center for Excellence in STEM Education** (NWO) at BGSU is one of three organizations nationwide to receive funding from the **Army Educational Outreach Program** (AEOP), in collaboration with Battelle.

The \$50,000 grant will help NWO increase the number of underrepresented students participating in the Ohio Junior Science and Humanities Symposium (OJSHS) in March 2017 and beyond. The program will recruit and train 30 to 60 underrepresented students and their teachers from Toledo Public, Lima City and Fostoria school districts with the purposes of engaging the students in scientific research and STEM studies.

"This grant represents an important goal we've had for quite a while for the Ohio Junior Science and Humanities Symposium: to dramatically increase participation in this very high profile, statewide science research competition by students from underrepresented groups or economically disadvantaged areas," said Dr. Bob Midden, NWO Director.

NWO will reach out to teachers in Toledo, Lima and Fostoria schools who have been mentors or research guides or who may be interested in participating and ask them to identify potential student candidates for the program. NWO will use the AEOP funding to hold a monthly series of all-day Saturday workshops for students and teachers. The workshops will introduce the event and explain what skills are needed to compete, help generate ideas and let students get started on their projects' plans and procedures, and then develop their poster or oral presentations.

Director of the Ohio Junior Science and Humanities Symposium since 2001, Dr. Emilio Duran stated, "One of our longtime goals has been to increase the number of underrepresented students who participate in OJSHS. We are excited about this grant opportunity from AEOP and Battelle that will enable us to assist students in learning how to develop and implement scientific

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research plans and ultimately participate in OJSHS. Our hope is that this project will have long-term effects on participating students by increasing their exposure to scientific research and exploration while building their level of interest in STEM studies and STEM careers."

AEOP offers students and teachers Army-sponsored programs that effectively engage, inspire and attract the next generation of STEM talent. Through AEOP's suite of programs, students from elementary school to college, representing all proficiency levels and ethnic, economic and academic backgrounds, participate in real-world experiences involving STEM disciplines. Scientists, technology experts, engineers and mathematicians, who act as mentors and guides, introduce students to the various opportunities in STEM fields through hands-on experiences and provide advice for technical skill development and career planning.

AEOP's new partners were selected specifically for their leadership in STEM learning and outreach to African-American, Hispanic, female and military-connected students. Together with these partners, the Army seeks to enhance existing programs to provide the highest quality experiences and contribute to an exceptionally prepared workforce.

"We've seen firsthand the power of partnering with strong local communities to provide even more students with high-quality STEM learning and mentorship," said Jeffrey Singleton, Director of Basic Research in the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology. "By further expanding AEOP's network, we are able to ensure students from all backgrounds, particularly those from underserved and underrepresented communities, have the opportunity to engage in programs proven to help students develop knowledge and skills that prepare them for real-world careers."

"Hands-on learning and career exploration opportunities allow students to develop a sense of possibility for their own futures," said Aimee Kennedy, Vice President for Education, STEM Learning and Philanthropy at Battelle. "For many students, these experiences are breaking down stereotypes of what STEM careers look like and how to pursue them."

The other grantees are Johns Hopkins University's Hopkins Extreme Materials Institute and the Center for Educational Outreach in Baltimore, MD, and Washington STEM in Seattle.

**Community STEM in the NEWS****Ohio Department of Education Announces Free Access to Middle School STEM Resources**

Ohio schools are able to access Engineering by Design middle school materials at no cost. Developed by the STEM Center for Teaching and Learning under the guidance of the International Technology and Engineering Educators Association, this curriculum provides an integrative STEM approach that connects concepts and practices of science and mathematics with those of technology and engineering. Engineering by Design is a standards-based STEM curriculum developed by the STEM Center for Teaching and Learning, under the guidance of the International Technology and Engineering Educators Association (ITEEA).

For more information about this opportunity, please go to: <http://education.ohio.gov/Topics/Career-Tech/STEM>

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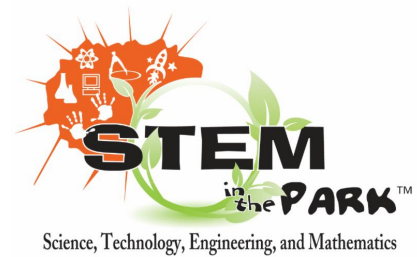
## STEM Opportunities

### Join us for STEM in the Park!

**Saturday, September 24, 2016, 10:00am - 2:00pm**  
**in the Perry Field House @ BGSU.**

A free event for all northwest Ohio families and the entire community.  
STEM in the Park features:

- Four hours of engaging, hands-on STEM activities from over 60 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!

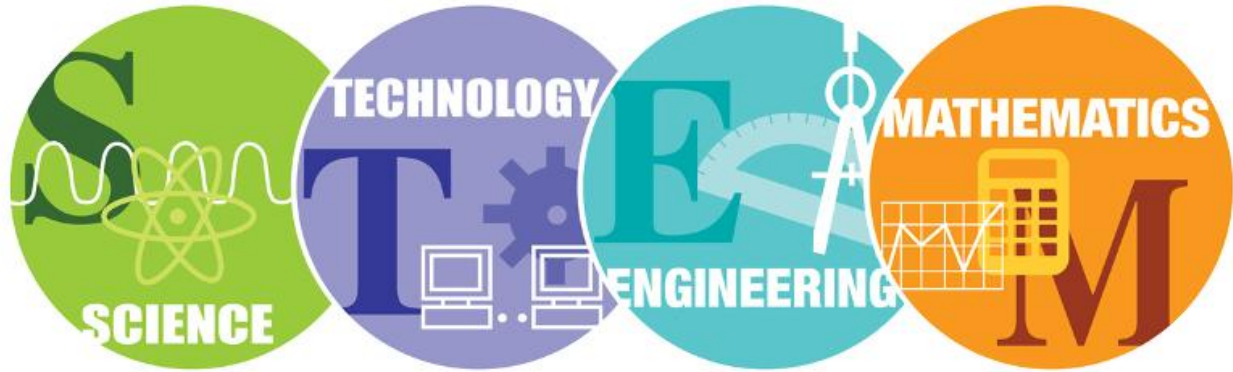


### SAVE TIME... Pre-Register Online!

[Click here](#) to Pre-Register and be entered into a drawing to win a \$25 Amazon Gift Card or FREE Family Passes to Sky Zone Trampoline Park.

Visit the website for more info at [www.STEMinthepark.org](http://www.STEMinthepark.org)

## NWO Symposium 2016: Registration is now OPEN!



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

**Saturday, November 19, 2016**

8:30 AM - 4:00 PM

Olscamp Hall, Bowling Green State University

Bowling Green, OH 43403

Featuring the 2016 keynote speaker:

Dr. Jodi Haney

BGSU, Professor Emeritus

### ***NEW Strand for 2016! Extended Day STEM: Supporting After School Programs***

Sessions in this strand will focus on developing and implementing STEM learning environments in after school programming.

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**Online registration for Attendees is now open!**

**[Click here](#) to register**

- Standard Registration:
  - \$35 Pre-registered
  - Undergraduates: \$5 Pre-registered
- Multiple Participant Discount: (5 or more participants from same school)  
Schools with 5 or more participants are eligible for a reduced registration fee of \$30 per participant before November 15.

## Presentation Proposal Information

We invite submission of proposals for presentations at the 2016 NWO Symposium on Saturday, November 19th at Bowling Green State University. To submit a presentation proposal, please click the link below and complete the online form. Please review the Symposium Strands listed on the web site; you will need to choose one of these strands for your presentation.

[Click Here To Apply by September 26](#)

All presentation proposals must be submitted by SEPTEMBER 26th at 5:00PM. Beginning September 27, NWO staff will review the proposals and notify prospective presenters if their proposal has been accepted. Accepted presenters will not be charged a registration fee.

For more information visit the Symposium website at: [bgsu.edu/nwoSymposium](http://bgsu.edu/nwoSymposium)

Questions? Contact [nwo@bgsu.edu](mailto:nwo@bgsu.edu)

## The 2016 Breakthrough Junior Challenge

The 2016 Breakthrough Junior Challenge is an annual, global competition for students, designed to inspire creative thinking about science. Students aged 13-18, from countries across the globe are invited to create and submit an original video (5 minutes max) that brings to life a concept or theory in the life sciences, physics, or mathematics. The submissions are judged on the student's ability to communicate complex scientific ideas in the most engaging, illuminating, and imaginative ways.

One winner is recognized every year and awarded a \$250,000 college scholarship. The teacher who inspired the winning student receives a \$50,000 prize. The winner's school also receives a state-of-the-art science lab valued at \$100,000.

More information: <https://breakthroughjuniorchallenge.org/>

## The Math in ACTION Tutoring Hub

The High School **Math in ACTION Tutoring Hub** is available at no cost to ALL students taking high school math courses such as Pre-Algebra, Algebra I, Geometry, Algebra II, Pre-Calculus, Calculus, Statistics, or any other math course your school offers.

Use online tutoring for individual assistance or make a request for a group in your class who want to work on problems together before an exam.

Visit our website at [www.bgsu.edu/mathhub](http://www.bgsu.edu/mathhub)

Use our chat feature to ask questions or set up a video conference tutoring session

**When:**

Mondays - Thursdays: 3:30 - 10:00 p.m.

Sundays: 4:00 - 9:00 p.m.

**Where:**

BGSU's Main Campus  
Olscamp Hall Room 120  
(or online)

**Contact Information:**

[mathhub@bgsu.edu](mailto:mathhub@bgsu.edu)

## The National Council of Teachers of Mathematics is accepting applications for Equity in Mathematics grants for classroom teachers in grades 6-8

The purpose of the grant is to incorporate middle school classroom materials or lessons that improve the achievement of student populations with a previous record of

underachievement. Grants of up to \$8,000 will be awarded to proposals that include the following: mathematics content as defined in the NCTM's Principles and Standards for School Mathematics; a plan for improving achievement of the targeted students; and the anticipated impact on their achievement.



Activities are to be completed between June 1, 2017, and May 31, 2018. Past recipients of the grant are ineligible to re-apply.

See the NCTM website for complete program guidelines, information about past recipients, and application instructions.

[http://www.nctm.org/Grants-and-Awards/Grants/Equity-in-Mathematics-Grants-\(6-8\)/](http://www.nctm.org/Grants-and-Awards/Grants/Equity-in-Mathematics-Grants-(6-8)/)

## Digital Harbor Foundation

DIGITAL HARBOR FOUNDATION



During the National Week of Making, the Digital Harbor Foundation announced the Innovation Access Program and is providing a free 3D Printer and 3D Printing workshop to an educator from each state. They will be accepting applications from interested educators throughout the summer.

To learn more and apply, please visit [dhf.io/iap](http://dhf.io/iap)

## Teaching Channel Free Science Modules



In celebration of The Boeing Company's 100th Anniversary, the Teaching Channel has launched 10 newly revised Science and Innovation modules to help teachers guide students in becoming problem solvers and critical thinkers for the 21st century.

<https://www.teachingchannel.org/engineering-curriculum-boeing>

## eCYBERMISSION

Registration for this web-based STEM competition, free to students in grades 6-9, is now open. Now in its 15th year, eCYBERMISSION challenges students to develop solutions to real-world challenges in their local communities. **Deadline is December 7, 2016.**

<http://www.businesswire.com/news/home/20160803006473/en/eCYBERMISSION-STEM-Competition-Kicks-15th-Year>

## The NASA GISS Climate Change Research Initiative (CCRI)

This initiative is a year long internship opportunity for graduate students to work directly with NASA scientists and lead research teams in a NASA research project associated with the science related to climate change. This opportunity will not conflict with the graduate students coursework and class schedule during the fall and spring and is considered to be a part time position that supports the graduate students major area of study that will not exceed 10 hours per week.

The final symposium will have participants from other government agencies, such as the National Science Foundation (NSF), National Oceanic and Atmospheric Administration (NOAA), the United States Department of Education (USDE) and the United States Department of Defense (DoD) and many others.

For more information visit: <http://smdepo.org/post/8988>

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## NWO STEM Activity

### Crystal Names

This activity was shared through Playdough to Plato on Pinterest



and is intended for grades K-4.

### What you need:

- Pipe cleaners
- Fishing line {twine or yarn will work too}
- Pencils or wooden skewers
- Scissors
- Glasses or plastic container {one for each color}
- A container large enough to hold letters of name {if doing your name as a single piece written in cursive}
- Borax
- Food Coloring {optional, if you want colored letters you can dye the borax solution or use colored pipe cleaners}
- Liquid measuring cup
- Tablespoon
- Heat Safe Mixing Bowl



### Shaping the Names

Take white pipe cleaners and use them to form the letters of name. Letters must be able to fit in the container without touching any sides.

Once formed fishing line can be used to suspend each letter a few inches from wooden skewers.

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](mailto:nwo@bgsu.edu). We are always looking for great STEM education stories to feature in upcoming newsletters.

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