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Community STEM in the NEWS**State of Ohio Kicks off Million Women Mentors Advocacy Campaign**

On September 8, the State of Ohio kicked off its advocacy of the Million Women Mentors (MWM)



campaign, which is an effort to increase young women's participation in the STEM fields through mentoring relationships. The kickoff event was held at Metro Early College, a public STEM school co-founded by Battelle and The Ohio State University.

The event began with three young women who told their personal accounts of how a mentor positively impacted their lives, and how they overcame adversity to rise above challenges and reach their goals. Two were current students, and one had already achieved a dream, as she is presently working as an engineer. One young student aspires to become a dentist, and the other, a chemical engineer. Achieving these goals would not be possible without the help of a mentor, a person outside their family who can help them achieve their dreams and passions. One stated that the impact of the mentor in her life is immeasurable, adding that she may not have even finished high school if the mentor were not in her life.

Ohio Lieutenant Governor Mary Taylor then spoke to the audience about Ohio Governor Kasich's goal to reinforce education and career center training for students throughout the state. She stated advocating for the Million Women Mentors campaign will be a "huge positive for the state of Ohio", and that the Governor's office is working with the Ohio Department of Education, Battelle, and Million Women Mentors to increase women in the STEM



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fields. "We want to help students reach their God-given potential," she stated, adding, "I'm honored to be here today to help kick off this campaign and further work toward this aggressive and important goal in Ohio. Investing in young women through a mentorship program like this is vital to training and preparing our future leaders both here in Ohio and throughout the country. Governor Kasich and I have worked since day one to ensure our children have access to a world class education and more opportunities for a brighter future."

Ohio is committed to pledging 25,000 mentors to the Million Women Mentors campaign, which is being led by Dr. Stephanie Johnson of Battelle, an international, independent research and development organization with a long history of support for STEM education that is based in Columbus. The Northwest Ohio Center for Excellence in STEM Education at BGSU is also taking an active role in gaining mentors, especially through its programs "STEM in the Park", a free, hands-on and interactive STEM program for individuals and families, and "Women in STEM", a daylong program aimed toward engaging junior high girls in the STEM fields.

According to their website, Million Women Mentors is a collaboration of more than 58 partners, 30 sponsors, and 30 state leadership teams that support the engagement of one million STEM mentors (male and female) to increase the interest and confidence of girls and women to persist and succeed in STEM programs and careers. Over 360,000 pledges to mentor girls and women in STEM have been entered thus far. Prospective mentors, both men and women, can visit: www.MillionWomenMentors.org to register individually or as an organization to offer mentors or mentees a minimum of 30 minutes a week and/or 20 hours a year, which can make a tremendous impact on a young woman's life.

For more information on Ohio's effort with Million Women Mentors, please contact Battelle's Dr. Stephanie Johnson at: johnsonsa@battelle.org.

For more information on NWO's "STEM in the Park" please visit: www.STEMinthepark.org and/or "Women in STEM" please visit: <http://cosmos.bgsu.edu/womeninSTEM>

K-16 STEM in the NEWS

Sylvania Teen Advances in Elite Event

Solar project among 1 in 90 Google Science Fair finalists

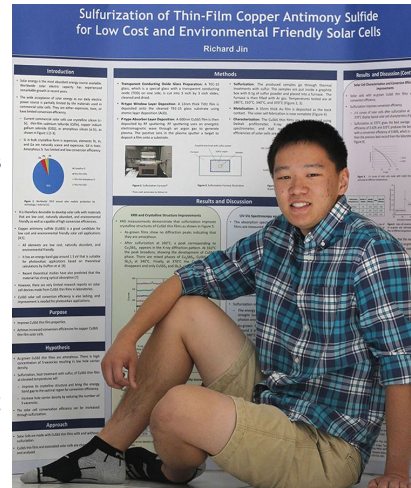
BY BRIAN BUCKEY
BLADE STAFF WRITER

Richard Jin, a Sylvania resident and Maumee Valley Country Day School student, is one of 90 finalists in the Google Science Fair for his research on low-cost and environmentally friendly solar cells.

The Google Science Fair is the largest online science fair in the world and is open to students age 13-18.

Richard, 17, is one of three finalists in Ohio, with his project chosen from thousands of submissions around the world. "I heard about the Google Science Fair through some research on the Internet, and I thought it was a really cool opportunity," Richard said. "I never participated in an online science fair before, so I took this project and I submitted it online. I was really surprised to find out I made it into the top 90 in the world. It was really exciting to hear that news."

Richard's project, titled "Sulfurization of Thin-Film Copper Antimony Sulfide for Low Cost and Environmental Friendly Solar Cells," was developed on research he did at the University of Toledo's Research in Science and Engineering internship program in the summer of 2014.



"Basically I made a solar cell using a new material called copper antimony sulfide and I improved its conversion efficiency," Richard said. "Currently solar energy is the most abundant energy source available. However, one problem is that current solar cells use materials that are either too expensive, like silicon, or they're toxic, such as cadmium. So they limit the greater use of solar energy. With my material it's both low cost and environmentally friendly."

Richard's mentors in the research program were University of Toledo professor Yanfa Yan and graduate student Nick Franzer.

"During the RISE program, Richard was keen to work in the laboratory to synthesize and characterize solar cell materials and fabricate and characterize thin-film solar cells," Mr. Yan said. "He was very self-motivated. He spent hours and hours in learning how to operate advanced scientific research equipment. Richard would not stop asking questions until he understood the project, which is one of the best ways to learn."

Richard, who will be a senior at Maumee Valley this fall, said he enjoys most scientific subjects and is particularly interested in energy conservation.

Using the same solar project, Richard participated May 16 in State Science Day 2015 at Ohio State University and also qualified for the Intel International Science and Engineering Fair from May 10-15 in Pittsburgh.

Google will announce 20 global science fair finalists Tuesday. Finalists get a trip to Google headquarters in Mountain View, Calif., where they will present their project before judges.

The winner of the competition receives \$50,000 in scholarships.

"That would be really cool," Winnie Jin, Richard's mother, said of the possible trip to California. "We visited the Google building before, but back then he was in elementary school. It's always so fancy and if he can win that trip it would be awesome."

Photo Credit:

'I was really surprised to find out I made it into the top 90 in the world,' says Richard Jin of Sylvania, a student at Maumee Valley Country Day School, who was chosen as a finalist for the 2015 Google Science Fair competition. Google will announce 20 global science fair finalists Tuesday

THE BLADE/LORI KING

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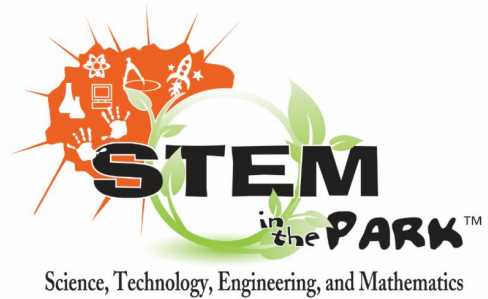
STEM Opportunities

Join us for STEM in the Park!

**Saturday, September 26, 2015, 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:

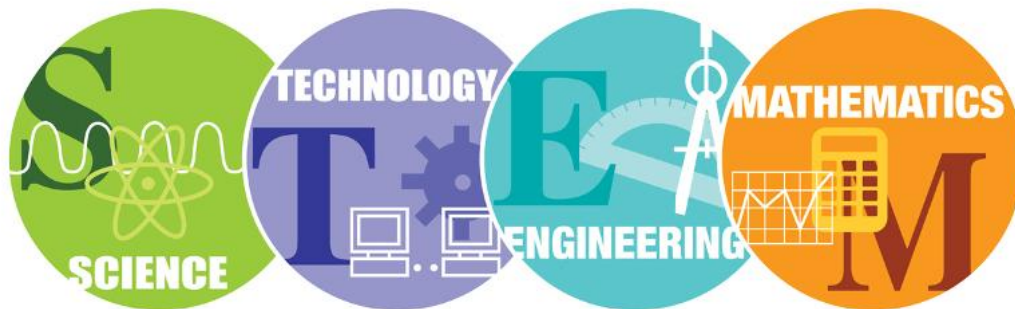
- Four hours of engaging, hands-on STEM activities from over 100 area businesses, schools and organizations,
- Free lunch and other refreshments (while supplies last),
- Free take-home activities,
- Free STEM materials, and best of all:
- Fun for the whole family!



**SAVE TIME... Pre-register online by [Clicking HERE!](#)
and be entered into a drawing to win a \$25 gift card to Amazon!**

Visit the website for more info at www.STEMinthepark.org

Announcing the 2015 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 BGSU Professor of Teaching Excellence, Dr. Daniel Brahier!

A passionate and dedicated educator for 27 years, Dr. Brahier continues to have a tremendous impact on mathematics education nationwide. He has written several books, including the top-selling textbook for middle and high school mathematics teacher preparation, and is the co-author of *Principles to Action*, an NCTM-published guidebook centered on mastering teaching practices with core principles for today's educators.

Dr. Brahier has taught mathematics and science at many levels during his career. He currently teaches mathematics education courses at BGSU, and serves as the Director of Science and Math Education in ACTION, a program designed to train STEM teachers in current and effective teaching methods.

Saturday, November 21, 2015 at Bowling Green State University from 8:30 AM - 4:00 PM.

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



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. No app building experience is necessary! Only an app idea is required for submission by a faculty advisor, who guides a team of five to seven students in the conceptualization process. This is the fourth year for this exciting competition by the Verizon Foundation, in partnership with the Technology Student Association. Registration and entry instructions can be found on the Verizon Innovative App Challenge website at: <http://appchallenge.tsaweb.org>

Black Swamp Match Teachers' Circles

Math Teachers' Circles bring together teachers and mathematicians to enrich the teachers' experience of mathematical problem solving. There are four goals:



- Increase the confidence of math teachers in problem solving.
- Deepen teachers' content knowledge through exploring mathematically rich problems and develop an arsenal of techniques to solving unfamiliar and challenging problems.
- Form long-term professional relationships among teachers and mathematicians, through regular, highly interactive meetings.
- Provide support for teachers who want to bring richer mathematical experiences to their students.



The fall sessions are **FREE** and open to **K - 12 math teachers in northwest Ohio**. Space is limited so register today to secure your spot.

Participants will receive:

- Great professional development.
- Networking with mathematicians, higher education faculty and other classroom teachers.

BS-MTC will meet on the following dates from 6:30 - 8:30 PM (snacks provided):

September 22, 2015

October 20, 2015

November 17, 2015

All meetings will be held at:

Powell Elementary

500 North Main Street

North Baltimore, OH

Please complete your registration for ONE or MORE of the fall meetings at the link below.

https://docs.google.com/forms/d/1deFUWdKj5b9a0h72JYIW0x5W1nJIRcE_0hNUGQ7mf_Q/viewform

If you would like more information, please contact **Dr. Debra Gallagher**, Bowling Green State University, at dgallag@bgsu.edu.

Lowe's Charitable and Education Foundation Accepting Applications for Toolbox for Education Grants

The Lowe's Charitable and Education Foundation has announced the opening of its Fall 2015 Toolbox for Education program, which supports projects that encourage parent involvement in local schools and build stronger community spirit.



One-year grants of up to \$5,000 will be awarded in support of projects that have a permanent impact on a school community such as facility enhancement (indoor or outdoor) or landscaping/clean-up projects. Toolbox grants also can be used as part of a large-scale project like a playground as long as the funds are used to complete a phase of the project that can be completed within twelve months of the award.

To be eligible for a grant, applicants must be a public K-12 school or nonprofit parent group associated with a public K-12 school. Parent groups that are applying (PTO, PTA, etc.) must have an independent EIN and 501(c)(3) tax-exempt status under the Internal Revenue Code. Preschools are not eligible.

<http://www.toolboxforeducation.com>

Crossing Boundaries: Transforming STEM Education A Network for Academic Renewal Conference:

November 12-14, 2015

Seattle, Washington

Register by September 24, 2015, for best conference rates

Crossing Boundaries: Transforming STEM Education will explore the latest research on integrative, cross-disciplinary STEM teaching and learning; inclusive excellence and broadening participation in STEM; STEM faculty support and reward systems; and institutional transformation to advance hands-on learning and increase the achievement of key learning outcomes for all students.

Designed to assist colleges and universities as they work to make inclusive excellence the foundation for institutional purpose and educational practice, the conference will also focus on the inextricably linked goals of both increasing STEM baccalaureate degree earners and ensuring that all college graduates achieve scientific learning outcomes essential for responsible citizenship in a complex world.

Association of American Colleges & Universities: www.aacu.org

Link Engineering

A great resource for preK-12 educators everywhere: Link Engineering is an Educator Exchange that links preK-12 to expertise and content. Discover, Connect and Prepare at: <http://linkengineering.org>





INFOhio's **FREE** Professional Development offerings are an easy way to meet required CEUs while learning about great resources and tools to use with students!

Next webinar: September 17, 2015 3:30pm - 4:30pm EDT
Tools to Support Ohio's Pathways to Graduation, College, and Career

Please see website for other webinars and offerings: <https://www.infohio.org/educators/pd/lwi>

Integrating STEM Activities into the Elementary Science Curriculum

Bob Claymier's online course, Introduction to Integrating **STEM activities into the Elementary Science Curriculum**, is available online. The purpose of this course is to provide educators the opportunity to understand and experience integration of STEM lessons into the pre-K - 6 science curricula. The course will include discussing the development of STEM literacy in school-age students; experiencing hands-on activities that serve as exemplars for integrating STEM concepts with academic standards for science; understanding how scientific inquiry and engineering design can guide implementing STEM projects in elementary science lessons; and reviewing resources for elementary STEM. As a final project, attendees will develop their own integrated STEM lessons based on a science concept standard they teach at their grade level.

The class begins the week of **September 14** and run for 10 weeks until November 20. The **cost is \$150**. One semester of graduate credit from Ashland (OH) University is available for an additional \$175.

Please email bob@stemiselementary.com

Kids in Need Foundation Teacher Grants

The **Kids In Need Foundation**, a national nonprofit organization dedicated to providing free school supplies to economically disadvantaged school children and underfunded teachers, is accepting applications from K-12 teachers for grants in support of classroom projects.



The grants are funded by a number of different private sponsors, including Fred Meyer, Jo-Ann Fabric and Craft Stores, and Elmer's Products. Grants of up to \$500 will be awarded to teachers to support projects that strengthen creativity, critical thinking skills, and/or core knowledge by engaging students in the learning process. Grant awards are based on the creativity of the projects being proposed. All certified K-12 teachers in the United States are eligible to apply.



See the Kids in Need Foundation Web site for complete program information and application guidelines:
<http://www.kinf.org/grants/>



Training Center

New, Improved Google for Education Training Center

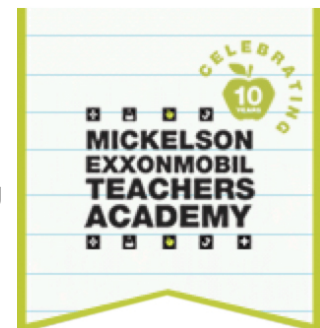
Want to learn how Google tools can help in the classroom? Check out the new and improved online Training Center. Google just announced this free, interactive, online platform that helps educators apply Google's tools inside of class and beyond.

<https://edutrainingcenter.withgoogle.com/>

The Mickelson ExxonMobil Teachers Academy

The school year has only just begun, but if you're a third- to fifth-grade teacher, it's not too early to think about your summer plans! The **Mickelson ExxonMobil Teachers Academy**, a partnership among professional golfer Phil Mickelson, ExxonMobil, NSTA, and Math Solutions, will take place at the Liberty Science Center in Jersey City, New Jersey, in July 2016. **Applications are currently being accepted!**

This unique program provides third- to fifth-grade teachers with an all-expense-paid, week-long professional learning experience that equips them with new ways to inspire their students in math and science. For more information and to apply to the Academy-or nominate a fellow teacher-go to: www.sendmyteacher.com. Please share this with the teachers in your school today and join the almost 5,000 teachers nationwide who have attended since 2005.



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NWO Hands-On STEM Activity

Why Apples Turn Brown

This month's Hands-on Activity is from www.schoolofdragons.com

This simple 5th grade science activity helps you learn the reason why apples exposed to the air turn brown.

You will need:

- An apple
- Lemon juice
- Tap water
- Shallow bowl
- Knife



Instructions:

- Slice the apple into three pieces.
- Fill the bowl with just enough water to cover a slice of apple completely.
- Place a slice into the bowl
- Coat another slice of apple with lemon juice
- Leave the third slice out in the open without doing anything to it.
- Wait for 20 minutes and observe what happens.

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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