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K-16 STEM in the NEWS**Maumee Valley Country Day wins Falcon BEST Robotics 2017 competition**

By Bob Cunningham

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Eighteen high school teams competed in the [Falcon BEST Robotics 2017](#) event, held Oct. 28 at the Stroh Center, but none better than Maumee Valley Country Day School from Toledo.



The MVHawksRobotics won the BEST award, which recognizes the overall top team after counting total points from the engineering notebook, robotics competition, marketing, exhibit and spirit events. That wasn't the only accolade collected by Maumee Valley as it also took home awards for second place in the robotics competition, the Most Robust Machine, BEST Engineering Notebook and BEST Exhibit and Interview.

Maumee Valley, along with Millstream Career Center, Cardinal Stritch Catholic High School, Anthony Wayne High School, Port Clinton High School, Hamilton Southeastern High School and St. Ursula Academy, qualified for regional competition Nov. 29 to Dec. 1 in Fargo, North Dakota.

This was the fifth consecutive year that Bowling Green State University has hosted the event. BEST stands for Boosting Engineering, Science and Technology. The theme for this year's event was fire safety. Teams interviewed and engaged with local fire departments to help develop their

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robot's strategy.

"This year presented some large challenges even before the Falcon BEST contest was unveiled," said Phil Paskvan, MVHawksRobotics head coach. "Maumee Valley tries very hard to make sure that kids are exposed to many experiences while they are here. Athletics, clubs, drama productions and challenging academics all compete with time for the robotics team. As coach, I resolved this by making myself as available as possible by being at the school after sports and club activities. This usually meant some long nights or Saturdays, but it ensured access to tools and facilities."

It also ensured the team would be traveling to North Dakota.

"The size of the team is also a challenge," Paskvan said. "We had approximately 40 students from seventh to 12th grade participate in all areas of BEST. Having student leaders organize these groups was a huge factor in making sure we finished all our tasks."

"The two biggest influences on success for the team this year were having three great senior student leaders, Oliver Heard, Bailey Hannan and Finn Bamber, who provided organization and guidance while using the tools and a physical space provided by the school to work. It can be messy."

The teams were required to design and build a prototype robot to rescue a fire test mannequin, contain simulated dangerous chemicals and extinguish "flames" with plastic golf balls during a three-minute match. A robot can score points by performing each objective - the faster the accomplishment, the higher the score.

"The team also branched into new areas for this year," Paskvan said. "We added a programming group to create a Simulink program that is scored as part of our engineering documentation and we purchased a CnC router for accurately cutting robot components."

The goal of BEST Inc. is to help students decide on career choices early, especially ones related to STEM (science, technology, engineering and math).

"Falcon BEST Robotics was essential for translating my ideas and motivation into actual engineering products," said Jonathan Buchanan, a member of the Maumee Valley team. "Every year I participate, I learn more and more about the engineering process. Moreover, BEST Robotics has given me the opportunity to participate in engineering in a collaborative setting, which is very important to developing a complete STEM education that would lead to a career in this field."

To see the results of the competition, visit the [Falcon BEST Robotics website](#).

Community STEM in the NEWS

Teacher Spotlight - Lucas County Soil and Water District Conservation Educator of the Year

Kristy DiSalle has been awarded the 2017 Lucas Soil and Water Conservation Educator of the Year award.



Kristy is a 4th grade teacher at Dorr Elementary in Springfield Local Schools. She has taught for 22 years, has a Master of Education Degree in Special Education, and has earned a Master Teacher Accreditation. She continually seeks professional development, teaching, and grant opportunities to improve student and teacher learning in science.



Kristy collaborates with her school district and community partners to work toward the advancement of STEM education. She is a member of the Teacher Ambassador Board (TAB) for the Northwest Ohio Center for Excellence in STEM Education. As a member of the NWO TAB, Kristy works with a variety of stakeholders to advance STEM education in Northwest Ohio. Kristy was also retrained this summer in Project Wild and continues to implement the wildlife-based conservation and environmental education that fosters responsible actions toward wildlife and natural resources. In addition, she has collaborated with Jamie Kochensparger from Lucas County SWCD for several years to provide hands-on, active-learning experiences which have positively impacted hundreds of students by increasing a better awareness of conserving and appreciating our soil, fresh water, and natural resources.

Kristy is a teacher leader in science education. She has facilitated professional development in her district on inquiry-based and literature-based science for teachers in grades K-5. She has also enjoyed teaching science educators through grant projects at BGSU since 2013. She collaborates with scientists, interventions specialists, and community outreach partners, like Jamie Kochensparger at Lucas County SWCD, to deliver high quality investigative lessons to educators in Northwest Ohio. She has helped to further science education in the following BGSU grant projects: PiR2, ASSETS, ASSETS II, and ASSETS +, focusing on providing science educators quality investigative STEM lessons.

Kristy is passionate about the conservation of our environment and improving learning of students and educators with STEM education and we congratulate her for this well-deserved award.

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STEM Opportunities

NWO SYMPOSIUM - Online Registration now OPEN!

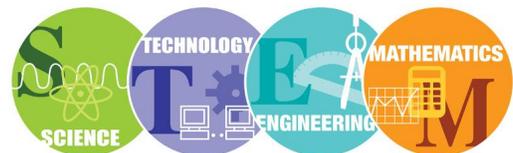
NWO Symposium on Science, Technology, Engineering and Mathematics Teaching

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

Register onsite starting at 8:00 AM

Program now available online in the Attendee Information page at:
bgsu.edu/nwoSymposium

Hour of Code

In 6 weeks, Code.org will kick off the largest learning event in history for the fifth time. December 4-10th, during Computer Science Education Week, tens of millions of students will gather all around the world to participate in the annual Hour of Code. For many, it will be their first introduction to computer science, but for others, it has become an annual celebration of computer science and the movement to expand opportunity.

Join Hour of Code and [sign up your classroom](#) today! And as you do, please go one step further - let it be known how computer science is offered at your school, and join the thousands of teachers in pledging to expand access.

<https://hourofcode.com/us#join>



Teacher and Students Participate in the Ohio Heart Design Challenge!

Last year, more than 1,200 students across the State of Ohio worked in teams to develop solutions to the opioid crisis. In May, 100 students gathered at Battelle in Columbus for the Student Solutions Showcase, presenting their solutions to scientists, engineers, and



state political leaders. This year, the Ohio STEM Learning Network presents another challenge for teachers and their students: the Ohio Heart Health Design Challenge, to be showcased the week of May 14th at Battelle.

When choosing a statewide design challenge, we ask ourselves: Is the challenge worthy of your time and talent? It is important enough to devote over a thousand minds to solve? Does it have large-scale impact? The hardest question is simply: does the challenge impact us personally? Is this a topic that you (and we) will be passionate about?

This year's challenge easily meets the criteria.

- Heart Disease is a chronic problem that is on the rise - especially in the U.S.
- Heart Disease is a challenge on a global scale- it is projected to be the worldwide leading cause of death by 2030.

When it gets down to the heart of the matter, matters of the heart impact us all.

For more information and learn how to get involved please visit OSLN at: <https://goo.gl/yRBzrd>

STEM educators: Reset your classroom curricula with this summer research experience!

Research Experiences for STEM Educators and Teachers (RESET) allows educators and teachers to enrich their classroom curricula and reinforce their content knowledge at participating Army Laboratories during the summer. Teachers complete an on-site research opportunity with an Army mentor, followed by an online component that allows participants to enhance and extend the learning experience. Applications are open from November 1, 2017 to February 28, 2018.

Info: <http://www.usaeop.com/programs/stem-enrichment-activities/reset/>

New & Improved Google for Education Website

Introducing the new and improved Google for Education website! Now live in the U.S. and Canada, check out the redesigned site and explore new additions like the Computer Science hub, K12 and Higher Ed solution pages, and The Latest, a collection of news and insights about the education world.

The logo for Google for Education, featuring the word "Google" in its multi-colored font followed by "for Education" in a grey sans-serif font.

<https://goo.gl/yJVDcW>

Million Women Mentors

Mentored Pathways is looking for additional mentors to help serve a number of students across the United States. Utilizing a vast network of middle and high school educators, Mentored Pathways provides the opportunity for mentors to match with students focused on specific projects to help boost their understanding and desire for the STEM path. For more information please visit: www.MentoredPathways.org

The logo for Mentored Pathways, with "MENTORED" in green and "PATHWAYS" in blue, separated by a blue triangle pointing upwards.

eCybermission student registration is open

Cybermission is a free competition for 6th to 9th grade students where students compete for state, regional and national awards while working to solve real problems in their community. Final registration ends December 13. FREE STEM kits available!

Please visit: <https://www.ecybermission.com>

Junior Solar Sprint (JSS) registration is open

JSS is a free solar competition for middle school students that challenges students to design, build, and race solar electric vehicles using hands-on engineering skills and principles of science and math. Registered teams will receive a free solar car kit.

JSS is designed to support the instruction of STEM in categories such as alternative fuels, engineering design, and aerodynamics.

For more information: <https://goo.gl/K4JQCx>

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NWO STEM Activity

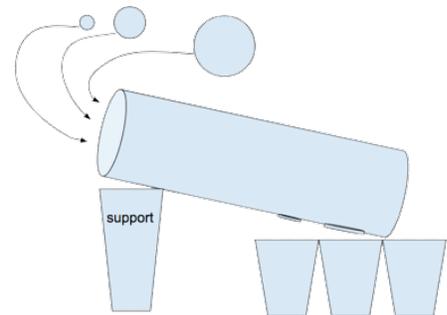
This month's Hands-On Activity is from the St. Ursula Academy STEM club and was included in their activity station at **STEM in the Park**.

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>

Engineering Your Own Bead Sorter

What You Need

- 3 different size beads that can fit in a cardboard paper towel or wrapping paper tube
- Cardboard paper towel tube
- 3 small bowls or cups
- 1 stand or slightly taller cup
- Scissors



What To Do

1. Cut one small and one large rectangular hole in the side of the tube. The large one should be near the end. The small one should be in the middle. The small one must be slightly bigger than the small bead but smaller than the middle size bead. The large hole should be larger than the middle size bead but smaller than the large bead.
2. Test the whole sizes by rolling beads down a slightly slanted tube to see if the beads come out the right holes.
3. Prop your tube on the 4 cups as shown.
4. Put the beads in.
5. Now comes the engineering part! Make it work better and explore the results of changes in the design.
6. Show someone!

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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