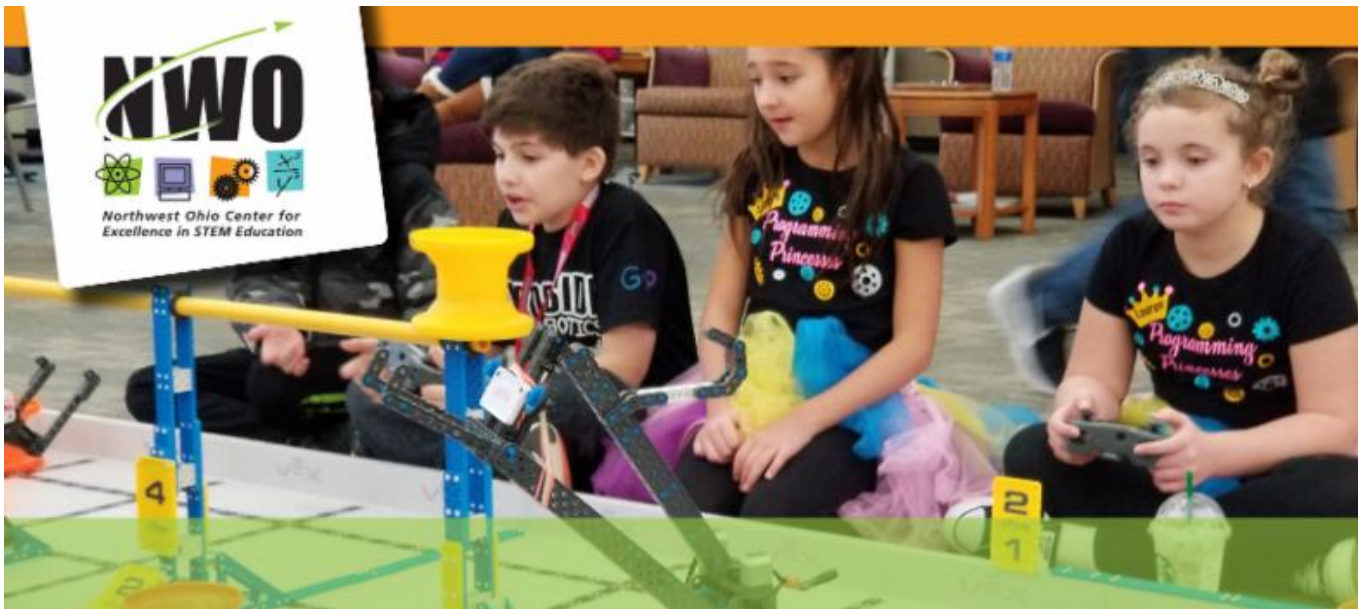


Advancing science, technology, engineering, and mathematics education for people of all ages.



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K-16 STEM in the NEWS

BiG Fab Lab Hosts Vex Robotics Competition

BiG Fab Lab, located in Bowling Green, is an open-access "Maker Space" workshop that serves people in the Northwest Ohio region, providing equipment, classes and personal assistance that allows them to prototype and develop any idea imaginable. BiG Fab Lab serves people, schools, and businesses who have an interest in hands-on skills in a variety of crafting, design, engineering and manufacturing areas.



Early in January 2019, the BiG Fab Lab hosted the robotics competition "Vex IQ Challenge Next Level" tournament. The event featured more than 32 teams and over 100 students from elementary and middle schools from all over Ohio. Participants strategically executed the game VEX IQ Challenge Next Level, with robots they designed, built and programmed using VEX IQ. The VEX IQ Challenge, presented by the Robotics Education and Competition Foundation, serves as a vehicle for students to develop critical life skills, such as teamwork, ingenuity and project management. These skills are honed through building robot and collaborating with like-minded students from the community.

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According to the VEX website, there are more than 20,000 VEX Competition teams from over 45 countries that participate in over 1,500 events worldwide. VEX competitions represent competitive robotics programs for elementary schools, middle schools, high schools and colleges.

The competition season culminates each spring, with the VEX Robotics World Championship, an event that unites top qualifying teams from local, state, regional and international VEX IQ Challenge events who strive to secure the title of World Champions.

More information about the VEX IQ Challenge is available at [RoboticsEducation.org](#) or at [RobotEvents.com](#) and [VEXRobotics.com](#).

The director of BiG Fab Lab, Mark Bowlus, exclaimed, "We were very pleased with the event! "

For more information about Big Fab Lab, visit: www.BiGFabLab.com.

Participating schools included: Brookside Intermediate School from Sheffield, Ohio; Fairbanks Middle School from Milford Center, Ohio; North Union Elementary School from Richwood, Ohio; and St. Gabriel Consolidated from Glendale, Ohio. The top three teams for teamwork were all from Fairbanks Middle School and the top three finalists were: the Iron Giants from North Union, Boss Bots from Fairbanks Middle School, and the Master Builders, also from Fairbanks.

Photo credit Mark Bowlus

Community STEM in the NEWS

Schnepf receives prestigious ATMAE award

This article was reprinted with permission from BGSU



Dr. Jerry Schnepf, associate professor of [visual communication technology](#) (VCT) and director of Bowling Green State University's

[Collab Lab](#), has been recognized with the Association of Technology, Management, and Applied Engineering (ATMAE) Faculty Excellence Award for 2018.

Schnepf has been at BGSU since 2012 and is a technologist, designer and creative problem-solver, teaching classes on interactive media focusing on web technology, design and user experience.

The award, presented at the annual ATMAE Awards Breakfast on Nov. 9, recognizes members who have primary responsibilities in four-year institutions offering technology, engineering technology, technology management or applied engineering programs. Selection is based on excellence in teaching, research and service to the profession.

"Winning this award is an incredible honor," Schnepf said. "The Association of Technology, Management, and Applied Engineering is our accrediting body. They are the ones who evaluate our programs to ensure our courses meet the published standards. This recognition reinforces the college's continued efforts to develop curricula that prepare our students for industry jobs."

Each semester, in addition to teaching classes, Schnepf mentors two or three students who conduct an independent study project. The typical experience of an undergraduate student in the VCT program involves completion of coursework and co-op assignments. Giving students the enhanced opportunity to conduct scientific or creative research has been Schnepf's priority as a VCT faculty member.

"I feel that, given the opportunity, VCT undergraduates stand to benefit immensely from involvement in research projects," Schnepf said. "These students had never done research like this before and each did remarkable work. More importantly, these students each gained a set of skills, values and principles that will serve them throughout their careers."

BGSU also honored Schnepf for his efforts in behalf of students when it presented him the 2018 Elliot L. Blinn Award for Faculty-Undergraduate Student Innovative Basic Research/Creative Work Award at the Faculty Excellence Awards last May.

"Jerry exemplifies excellence in teaching that enriches student skills through the latest technology and research," said Dr. Jennie Gallimore, dean of the [College of Technology, Architecture and Applied Engineering](#). "His drive and accomplishments are pushing our students to greater heights. A job well done to Jerry and the rest of the VCT department."

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STEM Opportunities

Climate Change Symposium @ The Toledo Zoo

The Toledo Zoo is sponsoring a Climate Change Symposium on Thursday, February 21, 10am-1pm at the Malawi Event Center. The symposium is particularly geared to middle and high school students and teachers but all interested persons may attend. Attendance is free but pre-registration is required. To register, visit www.toledozoo.org/programs and scroll to the bottom



of the page. Parking is available at the Zoo's main lot off the Anthony Wayne Trail.

The program includes live presentations by experts from the University of Toledo, the University of Michigan and the Toledo Zoo. Additionally, there will be virtual presentations by scientists from Polar Bears International in Churchill, Manitoba CA and the Alaska Sea Life Center in Seward, Alaska. The program also includes opportunities for the audience to ask questions of the presenters.

Questions about the symposium can be addressed by Mitch Magdich, Curator of Education at the Toledo Zoo. He can be contacted at **419.385.5721 x2048** or mitch.edu@toledozoo.org.



Kids Tech University @ BGSU

Kids' Tech University (KTU) is a science outreach program now in its 8th season at BGSU that provides a true university experience for children by introducing them to a scientist, and providing hands-on activities that let kids explore scientific concepts. The morning sessions feature a talk and extended question period with the invited speaker. Afternoon sessions will include a series of hands-on activities relevant to the session topic that the children can participate in with their parents. Topics covered in this year's program will include the importance of human factors in the design of new technologies, the science behind our sense of taste, climate records in the earth's crust, and plant interactions with insects. To participate, children must be 9-12 years old as of Sept. 30, 2019. There is a \$100 registration fee to participate. However, scholarships support for registration fees are also available.



Please contact the KTU Program Director, Dr. Paul Morris, at: pmoris@BGSU.edu for more information.

REACH HIGHER Free Tool for High School Students

Reach Higher is always looking for innovative ways to support more students on the journey to higher education. High school students are encouraged to try the **new AI**

Facebook chatbot, Bo, which is available 24/7 to answer questions about college.



This chatbot can be found on the [Better Make Room Facebook page](#) or by messaging Better Make Room in Facebook Messenger. This does not require the student to enroll in or send any personal information to participate. Students are encouraged to try it now at <https://www.facebook.com/BetterMakeRoom/>, and ask questions about college!

Google for Education Updates

Empowering Educators



Learn from leaders across the globe who have successfully rolled out classroom technology in their schools. Listen in as they share their best strategies for empowering, encouraging, and supporting educators as they integrate technology into their instructional practice.

<https://goo.gl/VGBAvJ>

Also check out: EDU in 90, from Google [Classroom](#) updates to innovative ideas for [Slides](#) to Google [Earth](#). Missed an episode? Check out the full series [playlist](#).

National Science Foundation Apps

Whether a teacher, student or just fascinated by science, the NSF Science Zone app will ignite the imagination. For the latest news, interviews and discussions about science, technology, engineering, and math, the Science360 Radio app is available. Learn more about NSF's apps for iOS and Android mobile devices.

More at https://www.nsf.gov/news/special_reports/apps/index.jsp?WT.mc_id=USNSF_51

eCybermission Needs Volunteers

Please consider the benefits of volunteering as an [eCYBERMISSION](#) Virtual Judge, Ambassador or Cyber Guide! [eCYBERMISSION](#) is a web-based STEM competition for students in grades 6-9 that enables all students to recognize the real-life applications of STEM and find solutions to problems they identify in their communities.



[eCYBERMISSION](#) is the perfect volunteer opportunity for educators, school officials or STEM professionals interested in STEM and passionate about promoting STEM careers and education,

Register by February 27 to join #ecyber19.

Science Education Council of Ohio Annual Symposium

SECO Symposium January 28-29, 2019

Nationwide Hotel and Conference Center
100 Green Meadows Drive South
Lewis Center, OH 43035



Science Education Council of Ohio

The Ohio chapter of the National Science Teachers Association

Raising the Science Standards of Excellence Through EmPOWERed Teachers

Symposium strands:

P- Practical Applications in Life, Earth and Space, and Physical Science

- O-** Outcome Based
- W-** Web-Based Learning
- E-** Engaging Learners Through Literacy in Science
- R-** Resources in STEM and Scientific Inquiry

SECO is the Ohio chapter of the National Science Teachers Association

<https://scienceeducationofohio1.wildapricot.org/page-18250>

First Energy STEM Grants

Grants are offered to Encourage Creativity in PreK-12 Student Learning and Teacher Professional Development in Science, Technology, Engineering and Mathematics Education



Who Can Apply?

Educators (Pre-Kindergarten through grade 12) and youth group leaders are encouraged to apply if their school or group is located in communities served by FirstEnergy's electric operating companies (Ohio Edison, The Illuminating Company, Toledo Edison, Penn Power, Met-Ed, Penelec, Jersey Central Power & Light, West Penn Power, Mon Power and Potomac Edison), or in communities where the company has generating plants or does business.

<https://www.firstenergycorp.com/content/dam/community/files/STEM-Grant-Application.pdf>

Toshiba/NSTA ExploraVision Science Competition

The Toshiba/NSTA ExploraVision science competition encourages K-12 students to imagine what technology might be like in the future while learning the scientific process in an engaging, hands-on way. It's not too late to register your teams for this project-based learning competition! Deadline for submissions is February 8.



Download the [free lesson plans for teachers](#) and [register](#) online today!

Teen Science Café Program

The [Teen Science Café program](#) is a series of free, fun, out-of-school events where teens socialize over food and refreshments and have the opportunity to talk with local scientists and engineers about current cutting-edge ideas in science and technology, all in a relaxed and informal (out-of-school) setting.



TEEN SCIENCE CAFÉ
NETWORK

Teen Science Cafés are for teens, by teens. A core group of Teen Leaders, with the committed mentorship of an adult, plan and run the café themselves. They make welcome as diverse of a teen crowd as possible, diverse in ethnicity, culture, gender, and motivations for learning about science. Teen Science Cafés are not just for the science geeks; they are for all curious teens. Along the way, teen organizers gain a host

of leadership skills. Please see:

<https://theconnectory.org/opportunity/start-a-teen-science-caf-program-in-your-community>

Imagination Station's Science Weeks Offer More Bang for Field Trip Bucks!

National Engineering Week

February 18 - 24

Science Weeks are a great way to make the most of field trip at Imagination Station, while supporting work you are doing in the classroom. National Engineering Week is coming up soon and will offer your students a week of creativity and construction! Students will craft Simple Machines using ramps, pulleys, levers, screws and wedges. Whatever their brains can imagine is possible with a little work and ingenuity.



Please visit: <https://www.imaginationstationtoledo.org/visit/events/event/national-engineering-week>

Let It Snow! INFOhio's Got You Covered with Blizzard Bags in Educator Tools

When the world is covered in a blanket of snow, INFOhio has lessons that students can complete from wherever they spend their snow day. Just take a few minutes to use [INFOhio's Educator Tools](#) to find standards-aligned lessons and student learning activities for all grades and all subjects that students can complete from anywhere.

Search Educator Tools for "Blizzard Bags" to access INFOhio's inquiry-based lesson plans complete with activities differentiation strategies, and formative assessments beginning with [Grades K-3 and the Snowflake Man](#). Each ba is aligned to Ohio's Learning Standards for ELA, Math, Science, and Social Studies and is updated with high to low tech options.

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NWO STEM Activity

Ice Cube Curling: Let's Explore Friction

This month's activity was featured at the 2019 STEM in the Park and is brought to you by Bowling Green Curling Club.

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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