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

January 2025

What's happening at NWO?

Educator of Color Panel

For the fourth straight year, NWO and Project EDUCATE (Educators of Diversity: Unified and Collaborative to Aspire Teacher Education) and the College of Education and Human Development at BGSU will present the **Educator of Color Panel**. Local educators of color will be on campus sharing their teaching experiences with the BGSU community, and attendees will be able to submit questions when they register and while they are at the event.
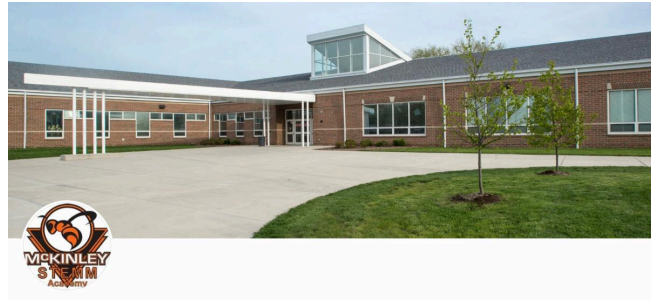
TUESDAY JANUARY 21, 2025
6:00 P.M.-7:30 P.M.
BTSU ROOM 206, LITTLE THEATRE

Register here: https://forms.gle/ktvYPtBhLpe3i368A

K-16 STEM in the NEWS

Showcase of Mckinley STEMM by the Northwest Ohio STEM Hub

McKinley STEMM Academy, an Ohio Department of Education and Workforce/Ohio STEM Learning Network designated STEAM School in Toledo, Ohio will hold "Spring into STEM" on April 3rd, 2025 from 8:30 a.m. – 11:00 a.m., at the school, located at 3344 Westland Ave., Toledo, OH 43613.

Educators and administrators who are interested in experiencing a student-led tour of the building while having an opportunity to interact with teachers/instructional leaders and be apprised of opportunities that exist through the Ohio STEM Learning Network are invited to attend. Participants will experience a learning environment dedicated to hands-on, inquiry-based STEM education, especially in the arts and engineering.

The mission of McKinley STEMM Academy, a K-8 elementary school in Toledo Public Schools District, is to provide innovative experiences in STEM to cultivate life-long learning and to help students become critical problem solvers in the 21st century. McKinley has a strong focus on Project Based Learning, and the leadership and staff at McKinley STEMM Academy recognizes that all students learn differently. McKinley STEM implements a collaborative instructional model which serves as a training site and showcase for STEM in an urban-based neighborhood school environment. Engineering practices are taught following a school-wide Engineering Design Process adopted by the staff and utilized within PBL. Students use the engineering design process when creating products that solve real world problems. All students participate in engineering challenges and projects that reflect the Ohio Learning Standards across content areas.

Capacity limit of 20.
Register Now!

For more information on STEM school designation, please see: https://osln.org/schools-hubs/schools/stem-designation/

Community STEM in the NEWS

Accelerating success: BGSU student bolsters engineering skills through undergraduate research

Luke Woolard has completed two research projects with renowned researcher Dr. MD Sarder, director of the BGSU School of Engineering

By Laren Kowalczyk '07

Only in his second year at Bowling Green State University, Luke Woolard is taking full advantage of undergraduate research opportunities, leveraging his education and access to world-class faculty to gain relevant experience in systems engineering.

Woolard has already completed two research projects through the BGSU Center for Undergraduate Research and Scholarship program and has worked closely on both projects with Dr. MD Sarder, director of the BGSU School of Engineering and a logistics and systems engineering professor.

"It's hard to put into words how grateful I am for the research opportunities," Woolard said. "I was fresh out of high school with very little experience, and Dr. Sarder was not only willing to help mentor me through the projects, but he was excited. One of the greatest things about BGSU is that our world-class faculty supports and encourages us to pursue undergraduate research."

In addition to the valuable hands-on experience, Woolard's research experience bolstered his credentials and helped him secure an internship at Mettler Toledo, a global Columbus, Ohio-based company, after his first year at BGSU.

He'll complete a second internship with Mettler Toledo this summer on the company's digital business management team.

As the No. 1 public university in Ohio for student experience and opportunities, BGSU is committed to empowering students to embrace personal and engaged learning experiences while benefiting from all the opportunities a comprehensive research university provides.

BGSU also was honored as Ohio's top public university for career preparation, emphasizing the University's commitment to blending classroom learning with experiential opportunities.

"Engaging in undergraduate research at BGSU with the CURS funding empowers students to explore engineering concepts on a deeper level," Sarder said. "Through semester-long projects, students not only refine their technical and analytical skills but also build a strong foundation for success in graduate education and beyond."

Only in his second year at Bowling Green State University, Luke Woolard is taking full advantage of undergraduate research opportunities, leveraging his education and access to world-class faculty to gain relevant experience in systems engineering.

Woolard's first research project included building a robot prototype that could provide virtual tourist experiences in cities across the country. With limited robotics knowledge, Woolard said the experience provided a unique introduction to the complexities of research and the technicalities of building a robot.

"There was a lot of learning through doing and overcoming adversity, but it was such a positive experience," he said. "From the beginning, Dr. Sarder has been so welcoming and helpful. He wants us to grasp the content we're learning by using it, whether through group projects or real-world applications. He's such a great professor."

Building on the knowledge from his first research project, Woolard spent this past summer researching robotic and technological systems to improve safety and security in the pharmaceutical industry. He'll present his findings at the CURS symposium in April.

Woolard, from Westerville, Ohio, near Columbus, enrolled at BGSU in Fall 2023 with more than 50 credits from Advanced Placement courses he took in high school, putting him on track to graduate in three years.

A student-athlete on the men's cross-country and track team, Woolard said he plans to pursue a master's degree in logistics systems engineering at BGSU to finish his last year of athletic eligibility.

"I want to keep making the most of all the opportunities I have at BGSU both as a Division I athlete and a student," Woolard said. "Conducting research as an undergraduate is incredibly beneficial. Everyone should do it. It has helped me apply what I'm learning to real-world applications. It also solidified the fact that what I'm doing can make a real impact on the world."

STEM Opportunities

Current Battelle and Ohio STEM Learning Network (OSLN) opportunities

Manufacturing Pathways Pilot Open Now, Closes Feb. 3
Battelle Education will select up to 10 Ohio, public schools to develop new innovative delivery models or expand existing successful and innovative Manufacturing pathway or Engineering and Science Technologies pathway programs. These programs

are expected to offer students the opportunity to earn the high-quality credits and credentials needed for careers in one of the state's largest industries.

The grants are designed to elicit locally relevant innovative education, employer, and community partnership responses to the challenges of preparing a diverse advanced manufacturing workforce and removing barriers to participation especially for priority populations (Black, Hispanic, Native American, women, free or reduced-price lunch eligible and/or rural). To support grantees throughout the project, Battelle Education will provide access to technical assistance consultants to strengthen grantees' capacity and improve their performance.

Eligibility: Traditional public school or district, public community school, public STEM school, public joint vocational school district will be eligible to apply.

Estimated funding total: $1,850,000 will be available to fund the pilot schools for 18 months.

Proposals are due by February 3, 2025. A detailed Request for Proposals PDF is available here with important information on requirements and the project background. Join an optional information session on January 13 for details on the program.

The Battelle Climate Challenge Opens

The Battelle Climate Challenge is now open and accepting entries until Feb. 7, 2025. This challenge offers students a chance to win a $5,000 STEM grant for a public school, library, or non-profit of their choice by learning about the impacts of climate-related hazards within their community and developing a proposed action to help build a more resilient community. Grand prize winners will have the opportunity to present their solution on a national stage at the Innovations in Climate Resilience Conference in Washington, D.C.

Learn more and sign up for the challenge at: Battelle Climate Challenge

Ohio STEM Innovation Summit

Build connections, get empowered to lead on June 3, 2025

The Ohio STEM Learning Network proudly announces the third annual Ohio STEM Innovation Summit will be held on June 3, 2025 at the Greater Columbus Convention Center in Columbus, Ohio. Over the past two years, the Ohio STEM Innovation Summit has become a pivotal gathering for educators, leaders, and partners dedicated to advancing high-quality STEM education in the state. Sold out events in 2023 and 2024 inspired hundreds of attendees to return to their schools and organizations invigorated and prepared to do more.

More details are coming soon. Be sure to sign up for emails to hear when sessions, exhibitor registration, and tickets are available.

C2S2 - Youth Mental Health First Aid Training

Youth Mental Health First Aid Training
- Training is open to all adults who work with youth - parents, family members, caregivers, teachers, school staff, group leaders, coaches and other caring citizens.
- Training will cover common signs/symptoms of mental illness in youth, common signs & symptoms of substance use, how to interact with youth in crisis, how to connect the youth with help
- There is no cost to participate.

- Earn 8 Contact Hours Total, including time for online, independent pre & post work

North Central Ohio ESC, 928 West Market Street Tiffin, Ohio 44883
- Two Dates to choose from - Feb 5, 2025 or March 17, 2025
- 9 A.M. - 3:30 P.M.
- Register **here**

BGSU at Levis Commons, 1655 N. Wilkinson Way, Perrysburg, OH 43551
- March 19
- 9 A.M. - 3:30 P.M.
- Register **here**

Educational Service Center of Lake Erie West, 2275 Collingwood Boulevard Toledo, OH 43620
- April 3
- 9 A.M. - 3:30 P.M.
- Register **here**

For more information click here

LUCAS SOIL & WATER CONSERVATION DISTRICT School Tree Giveaway

In honor of Earth Day and Arbor Day, Lucas County students have the opportunity to receive a Norway Spruce seedling, free of charge, compliments of Lucas Soil & Water Conservation District! As part of this program, students receive a seedling prepackaged with instructions on how to care for their seedling along with a fun program where they learn all about the needs of trees. If you would rather do a class tree planted at the school, we can do that too! Supplies are limited with the tree seedlings.

To reserve trees, please contact Patrick Troyer via phone at 419-893-1966 ext. 2# or email ptroyer@co.lucas.oh.us. by Friday, March 21, 2025 at 3pm.

Texas Instruments Coding Contest

Students are invited to team up and compete to win new TI technology and earn a $250 gift card for their teacher/sponsor. Spread the word and join the coding funwhen the contest kicks off in January 2025.

Every team must include up to five students (ages 13–19), plus one adult sponsor like a teacher, parent or guardian. Think up an innovative idea based on motion or movement for the chance to compete for awesome prizes. Each member of the winning team will receive their choice of a new TI graphing calculator, a new TI-Innovator™ Hub and TI-Innovator™ Rover, and T-shirt. The winning team's adult sponsor will also receive a $250 gift card. Each member of the second and third place teams will receive their choice of a new TI graphing calculator and a T-shirt. For more information, please see link below.
https://education.ti.com/en/promotion/codescontest

Institute of Competition Sciences Plant The Moon Challenge

The PTMC is a global science experiment, project-based learning program, and research competition to identify new and innovative ways to grow crops for NASA's missions to the Moon. Students in K-College conduct experiments on growing plants in lunar or Martian soil simulant with a chance to present their findings at an International Symposium at NASA Kennedy Space Center Visitor's Complex. Learn more.

ESC of Lake Erie West Math Workshop

Build a Lasting Impact with a Problem-Based Learning Approach. Join Amplify and the ESC of Lake Erie West on Feb. 27 for learning, conversations and insights from math instruction and learning specialists during an interactive workshop of K-12 educators. For more information: https://conta.cc/4iHAZGz

2025 BGSU Summer Camps

Discover summer learning opportunities for youth in third grade through high school with Summer Academic and Youth Programs at Bowling Green State University.

This year, we are offering a combination of virtual and in-person camps. Whether at home or on campus, we promise the camps are engaging, fun and affordable.

Summer Academic Camps provide opportunities for students to connect to Bowling Green State University all while expanding their knowledge, building life skills, and exploring their interests.

Be sure to **visit the Falcon Youth website** as new programs are continually added!

VIRTUAL CAMPS & PROGRAMS
- Academic Enrichment Camp (Grades 3-8)
- Forensic Science (Grades 9-12)
- Future Med: Exploring Health Careers (Grades 9-12)
- Veterinary Science (Grades 9-12)

IN-PERSON CAMPS and PROGRAMS
- Art Workshops (Grades 9-12)
- Advanced Manufacturing (Grades 9-12)
- BG: Cyber Guardians (Grades 8-10)
- Content Creator (Grades 9-12)
- Discovering Hidden Health Sciences (Grades 9-12)
- Explore Nursing (Grades 9-12)
- Farm 2 Fork Camp (Grades 4-6)
- Ignite STEM (Grades 4-6)
- Marine Biology Camp (Grades 10-12)
- News & Sports (Grades 9-12)

- [Pre-Law Camp](#) (Grades 10-12)
- [Summer Music Institute](#) (Grades 7-12)
- [Veterinary Science](#) (Grades 10-12)

NWO STEM Activity

Drones to the Rescue

NASA STEM Engagement
[New STEM Activity and Instructional Video: Drones to the Rescue](#)

Audience: Educators of grades 6-8

NASA's Advanced Capabilities for Emergency Response Operations ([ACERO](#)) project is working to develop innovative aviation and communication technologies to support a new era of wildland fire management. Using ACERO technologies, uncrewed vehicles, or drones, could be safely integrated into firefighting operations to help suppress wildland fires and add valuable operational support.

In this activity, students create an interactive simulation of a drone navigating within a geofenced area (simulated wildfire) to help crews on the ground fight the fire. The activity includes data files for the students to use in the coding environment of their choice as well as an [instructional video](#) to aid educators and students who may be new to coding.

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.

eNewsletters from the past!
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 [Click here](#) to view and download from our **eNewsletter** archives

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