

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



February 2025

## What's happening at NWO?

As part of the NWO STEM Inquiry Series, Jason Hubbard facilitated a session in January on **Scaffolding Extraordinary STEM Culture through Design Thinking, Invention, and Entrepreneurial Spirit**. The next session of the series will be held on February 18<sup>th</sup> at 5:00 p.m. – 8:00 p.m. on Mastery Learning. More information can be found in the STEM Opportunities section below.



## K-16 STEM in the NEWS

### Educator of Color Panel 2025

For the fourth consecutive year, an Educators of Color Panel was held on the BGSU campus, in which local teachers shared their teaching



experiences, discussed their viewpoints and answered questions from the audience about diversity and racial injustices that occur in the classroom.

Panelists included four current teachers from the Washington Local School district (Melissa Hall, Felicia Singleton, James Nino, Andre Cowell), which is partnering with the Northwest Ohio Center for Excellence in STEM Education (NWO), at Bowling Green State University's College of Education and Human Development on the grant-funded Project EDUCATE (Educators of Diversity: Unified and Collaborative to Aspire Teacher Education), an educational model developed to increase and diversify the educator workforce. The teachers are also mentors within the grant project, which is in its fourth year. Two teachers from Toledo Public Schools (Edward McDaniel and Tim Pettaway), also participated, adding their perspective from another large urban district in northwest Ohio.

Alongside the BGSU community comprised of faculty and administrators, over 70 BGSU students braved the frigid cold temperatures and attended the vibrant discussion. The students, mostly Education majors, were encouraged to ask the panelists questions about their journey as an educator, their experiences in today's classroom, advice for future teachers and their challenge to stay passionate about education. Each panelist spoke candidly from their personal viewpoints.

**Topics discussed included:**

- Incorporating students' cultural backgrounds into the curriculum and teaching practices
- The issues and challenges educators of color face
- Panelist experiences with racism and micro-aggressions
- Addressing the shortage of teachers of color

For more information on Project EDUCATE, please visit:

<https://www.bgsu.edu/nwo/current-grant-projects/project-educate.html>.

*The panel was sponsored by the College of Education and Human Development's Office of Student Engagement and the Northwest Ohio Center for Excellence in STEM Education at BGSU.*

## **Community STEM in the NEWS**

### **Celebrating #OhioSustainsSpace Sticker Challenge and Regional Winners**

It's time to celebrate the innovative minds of Ohio's students as OSLN announces the winners of the 2025 #OhioSustainsSpace [Design Challenge](#) and the [Sticker Design](#)

## Contest!

In this year's design challenge, students were tasked with a critical question: How do we improve the sustainability of life in low-Earth orbit, such as living aboard the Starlab space station? Participants were encouraged to develop a plan, system, or product that positively impacts the sustainable use of materials, habitable space, and/or energy, with the potential to translate these improvements to more sustainable living on Earth.



Through this challenge, students delved into the realms of space exploration and sustainability, prototyping real-world solutions to pressing issues. After advancing from school-level competitions, students presented their innovative solutions to a panel of judges, enhancing their confidence, communication skills, and reflective learning. This year, 120 students from 43 schools submitted their projects to the regional competition.

The Ohio STEM Learning Network, in collaboration with Starlab, hosts this annual statewide design challenge, inviting schools across Ohio to participate. To involve your school in future challenges, sign up for emails from the network.

Read complete story [here!](#)

## STEM Opportunities

### NWO STEM Inquiry Series

The STEM Inquiry Series features four 3-hour inquiry-based sessions highlighting current trends in STEM education research and professional development during the Spring of 2025. Session topics include concepts from the Ohio Department of Education STEM School Quality Model: A Culture for STEM Learning, STEM as an Approach to Teaching and Learning, and Pathways to Careers. The series is sponsored by Bowling Green State University's College of Education and Human Development, NWO, and the Ohio STEM Learning Network.



### Mastery Learning

**February 18, 2025, 5:00 - 8:00 pm**

BGSU Levis Commons 1655 N Wilkinson Way, Perrysburg, OH 43551  
(Light Dinner Provided)

**Facilitator:** Marcy Raymond

Registration: <https://forms.gle/7GcA6ev8NvfLoMviZ>

This session will focus on Mastery Learning strategies to implement in the classroom as it relates to the ODEW STEM Quality Model.

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## Current Ohio STEM Learning Network (OSLN) opportunities



### STEM Deep Dive

The Ohio STEM Learning Network, together with the Northwest Ohio Center for Excellence in STEM Education at Bowling Green State University, invites educators, school administrators and/or staff to participate in a daylong workshop to gain a deeper understanding of the three domains of STEM education by exploring the STEM Quality Model of the Ohio Department of Education and Workforce.\* This session will provide an overview of how culture, curriculum, and connections to the community work together to support STEM best practices for a school-wide approach and will guide participants to understand how STEM education transcends content areas, resulting in a shift in the way students engage in learning from kindergarten to graduation. Facilitators will present what distinguishes a STEM school from other schools with strategies to support all students and will assist schools interested in seeking STEM or STEAM designation. **Thursday, April 17th** at BGSU Levis Commons, 1655 N. Wilkinson Way, Perrysburg, OH 43551, beginning at **9:00 a.m. until 3:30 p.m.** with lunch provided.

**Registration:** <https://forms.gle/5L7EMLQzPHZymPiX7>. **Space is limited.**

### Computer Science professional learning programs applications close March 31

OSLN, Putnam County ESC, and ESC of Central Ohio are teaming up to bring computer science education to more Ohio classrooms. At no cost to teachers and schools, Ohio educators can join a year-long cohort and build the skills to bring computer science to any classroom. No matter the grade level or prior experience, these programs help dedicated teachers inspire students, connect to relevant standards, and build life-changing skills.

**Elementary:** Teaching computer science in early grades develops critical computational thinking skills in young learners. OSLN's K-5 Computer Science Program provides the tailored solutions elementary teachers need.

**Middle and High School:** To succeed as a part of tomorrow's workforce, every student will need a grounding in computational thinking. With support from Code.org, OSLN has brought three programs to Ohio: Computer Science Discoveries (6-10th grade), Computer Science Principles (9-12th grade), Computer Science A (9-12th grade)

**Priority applications close March 31.**

### Spring into STEM 2025

Tour any of eleven schools with Spring into STEM 2025  
Join the Ohio STEM Learning Network this spring as the network's seven regional hubs host open tours at select STEM schools across the state.

From elementary to high school, these tours offer a chance to visit schools that will inspire you to rethink education. Discover how to leverage industry partnerships, implement work-based learning opportunities, and integrate cutting-edge technology. Bring it all together with updated best practices in STEM teaching and learning. Learn more and register at [osln.org/spring](https://osln.org/spring).

## Learning Blade!

Celebrate National Engineering Week (Feb 16–22, 2025) by inspiring students to "Reimagine the Possible" with Learning Blade's engineering career exploration resources! Learning Blade offers educators a wide range of engaging [Missions and lessons](#), providing students with an exciting glimpse into the diverse opportunities in the world of engineering.

Sign up for a free account today to explore: [LearningBlade.com/States](https://LearningBlade.com/States)  
Learning Blade offers free on-demand, virtual training at times that work [here](#).

## DriveOhio Educator Toolkit

DriveOhio has added new content to the DriveOhio Educator Toolkit to support educators in the classroom, afterschool, and over the summer.

Updates include: a new resource page for Drones & Air Mobility, a new collection of resources for Afterschool & Summer programs, recordings of 6 episodes of the Toolkit Tuesday professional development webinar series, and links to more partner resources. With over 800 educators and community partners who have downloaded the toolkit and attended our webinars and workshops over the past year, we're excited to continue adding to this free collection of resources to support STEM education and career exploration focused on new and emerging transportation technologies.

[Click here](#) to view the DriveOhio Educator Toolkit.

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## 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

- 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](#)



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## BGSU Robotics and Advanced Manufacturing Research Experience for Teachers



Bowling Green State University Summer 2025 Robotics and Advanced Manufacturing Research Experience for Teachers is open now until February 25, 2025.

This grant provides funding to pay \$6000 to educators currently teaching in high school and community college STEM subjects for participating in the six-week summer 2025 program, \$200 one-time stipend to defray travel cost, lunch and snacks, plus funding for cost of materials and an additional \$500 for implementing their research module into the curriculum during the following academic year. Participants will also receive a Ohio Professional Development verification of Participation certificate.

The focus of the program is to increase interest in STEM fields with topics related to robotics and advanced manufacturing. Summer 2025 program dates are June 9 – July 18, 2025. More information and the link to apply is available on the BGSU [NSF-RET Robotics and Advanced Manufacturing Program](#) website and in the attached flyer.

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## INFOhio Resources



Winter is the season of ice and snow, but it also includes celebrations to light a fire of learning. Count on INFOhio for engaging digital resources to explore history, culture, science, and creativity with students to warm up the classroom.

<https://www.infohio.org/blog/item/welcome-winter-celebrations-with-infohio-resources>

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## Educational Service Center of Lake Erie West

### Environmental Education PD Opportunities

Flyer Link: <https://conta.cc/4fF6WwJ>

### Virtual STEM Info Series

All sessions held from 3:45 pm - 4:30 pm via Zoom. Link sent to registrants prior to session

Dates and Registration Links Below:

- March 6, 2025 (synchronous) [Register Here](#)
  - April 3, 2025 (asynchronous) [Register Here](#)
  - May 8, 2025 (synchronous) [Register Here](#)
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## Girls Who Code Summer Immersion Program



Girls Who Code offers [free, virtual Summer Programs for high school students](#). Applicants can choose between a two-week Summer Immersion Program, featuring live virtual classes and hands-on game design, or a six-week Pathways program for flexible, self-paced study in artificial intelligence, data science, cybersecurity, and web development. For more information: <https://girlswhocode.com/>

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## 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)

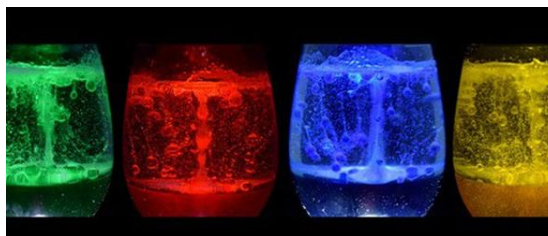
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## NWO STEM Activity

### Make an Alka-Seltzer Powered Lava Lamp

Brought to you from Science Buddies:  
[sciencebuddies.org](http://sciencebuddies.org)



#### Introduction

Have you ever seen a lava lamp? They were the height of 1960's "groovy" room decorations. A few minutes after turning it on, a lava lamp has blobs of colored liquid floating towards the top of the lamp and then drifting back down. Making an actual

lava *lamp* that you plug in would require some effort and unusual supplies, but you can create a non-electric version in just a few minutes with the help of the fizzing power of Alka-Seltzer. In this activity you can find out how to make your own Alka-Seltzer® lava lamp. How will changing the temperature of the ingredients change the behavior of the colorful blobs in your lava lamp?

### Materials

- Tall identical jars or bottles, such as empty, clear, plastic 1-liter or 2-liter bottles (2)
- Knife
- Cutting board
- Timer or clock that shows seconds
- Water
- Food coloring
- Vegetable oil (enough to fill the jars nearly full)
- An Alka-Seltzer tablet. Only one tablet is needed for the activity, but having additional tablets can be fun if you wanted to repeat lava lamp action.
- A way to make one jar hot and one cold, such as by using a large bowl filled with hot water and access to a refrigerator or freezer

For the complete activity visit: [www.sciencebuddies.org/stem-activities/make-a-lava-lamp](http://www.sciencebuddies.org/stem-activities/make-a-lava-lamp)

### 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.

### eNewsletters from the past!

Looking for past articles from our eNewsletters?

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[View as Webpage](#)

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