



Vol. 9 Issue #5

May 2017

**In This Issue****K-16 STEM in the NEWS****K-16 STEM in the NEWS**

[You Be the Chemist Challenge Offers Students Exciting Chemistry Competition](#)

**Community STEM in the NEWS**

[Ohio Students Fare Well at National Junior Science and Humanities Symposium](#)

**STEM Opportunities**

[GLOBE Mission EARTH Solar Eclipse Webinar](#)

[BGSU Health Career Exploration Day Camp](#)

[BGSU Robotics Camp](#)

[First Energy STEM Classroom Grants](#)

[2017 ASEE Workshop on PreK-12 Engineering Education](#)

[A Solar Eclipse](#)

## You Be the Chemist Challenge Offers Students Exciting Chemistry Competition

The You Be the Chemist Challenge® (YBTC) is a fun and stimulating academic competition that engages grade 5 - 8 students in learning about important chemistry concepts, discoveries, and chemical safety. Challenge competitions are exciting events that take place across the country, encouraging the collaboration of community organizations, schools, and the chemical industry, as together, they educate students about the benefits and value of chemistry and its place in everyday life.

This year's statewide competition took place at Rogers High School in Toledo on April 29. Students from all over Ohio came together to try and earn the top prize of representing Ohio at the National YBTC in Philadelphia in June.



All participants earned certificates and trophies were awarded to the top

[Texas Instruments Exploring Path to STEM Projects](#)

[U.S. General Services Administration's Computers for Learning](#)

[ODE YouTube Video on Teacher Licensure](#)

[Summer Professional Development Opportunity](#)

[PBL Ohio Institute](#)

[Toshiba USA grants for Project-Based Learning](#)

## NWO STEM Activity

[See How IT GROWS: Earth System in a Bottle](#)

students. The top four award winners for 2017 were:

- **1st Place: Aristo Liu** from Copley-Fairlawn Middle School;
- **2nd Place (runner up): Lee Garber-Ford** from Taylor Middle School in Cleves;
- **3rd Place: Mantas Viazmitinas** from Lee Burneson Middle School in Westlake; &
- **4th Place: Alex Masgras** from **Menlo Park Academy** in Cleveland.

Students prepared for the challenge by studying free online study guides from The Chemical Education Foundation. Students are also encouraged to study the Periodic Table and Periodic Table of Atomic Weights, as well as additional examples and explanations of chemistry concepts from outside resources. YBTC Challenge questions ask the students to connect concepts and apply their knowledge of chemistry to both familiar and unfamiliar situations.

The Chemical Education Foundation aims to help students succeed at every level of the Challenge and expose them to the fascinating world of chemistry as it applies to everyday life. Competition questions are based on an overall understanding of chemistry and science concepts presented in these study materials, as well as the relationships among concepts. The materials align to the Next Generation Science Standards (NGSS) and include science concepts covered in many state assessments.

Jeff Stevenson from Toledo's Imagination Station entertained the students with exciting chemistry demonstrations in between the rounds of questions. Robert Mendenhall, Executive Director Curriculum for Toledo Public Schools, who helps sponsor the program stated, "I would like to thank the sponsors for their generosity and continued support of You Be The Chemist. There were more Challenges across the state than ever this year! It's wonderful to see young students excited about chemistry."

The Local and State Challenge events were sponsored by NWO, University of Toledo's American Chemical Society, Toledo Public Schools, PVS-Nolwood Chemicals, Inc., and Imagination Station.

## Community STEM in the NEWS

### Ohio Students Fare Well at National Junior Science and Humanities Symposium

The National Junior Science and Humanities Symposium (JSHS) is a Department of Defense (DoD) - U.S. Army, Navy and Air Force - STEM competition that brings together 230 high school students who qualify for attendance at 47 regional symposia held on university campuses nationwide, in Puerto Rico, and in cooperation with the DoD Dependents Schools in Europe and the Pacific. JSHS encourages high school students to conduct original research in STEM and aims to prepare and support students to contribute as future scientists and engineers on behalf of or directly for the Department of Defense (DoD) or to advance the nation's scientific and technological progress.

The National JSHS was held in San Diego in April, with 94 students competing in oral research paper competitions and 130 students competing in poster research competition.

The scientific and educational program offered unique activities for JSHS participants which included:

- "DoD STEM Experiences," a session that allowed students and teachers to engage with DoD's world-class STEM professionals and provided exposure to the Department's cutting edge research and technologies;
- Tours of Office of Naval Research Laboratories, Scripps Oceanographic Institute, USS Naval Fleet and others;
- opportunities to attain a sense of achievement and self-confidence resulting from interaction with students from other schools and regions and with professional researchers and educators;
- The Banquet and Awards Ceremony on Saturday that featured recognition for all participants and the announcement of undergraduate, tuition-based scholarships awarded to 24 students in eight categories of National JSHS competition.

Five students from the Ohio JSHS earned the all-expense paid trip to National JSHS by placing in the Ohio regional Symposium held at Bowling Green State University on March 15-17.

**1st Place Winner was Arman Serpen of Sylvania Southview High School** who earned a gold medal along with a \$2,000 College Scholarship sponsored by the United States Army, Navy, and Air Force. He presented his research paper "KIAA1026 is Upregulated in Three Neurodegenerative Diseases" at National JSHS.



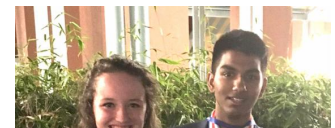
**2nd Place Winner was Srinath Seshadri of Village Academy in Powell**, who earned a gold medal and \$1,500 College Scholarship sponsored by the United States Army, Navy, and Air Force. He presented his research paper, "Genetic Engineering of *S. cerevisiae* for the Single Step Conversion of Biomass to Bioethanol" at National JSHS.

**3rd Place Winner was Arukshita Goel of Sylvania Southview High School** who earned a gold medal and \$1,000 College Scholarship sponsored by the United States Army, Navy, and Air Force. She presented her poster, "Platelet-Dependent Killing of *C. albicans* in Whole Blood" at National JSHS.

**4th Place Winner was Jordan Skates from Pettisville High School** who earned a gold medal and a \$500 Award sponsored by the College of Arts and Sciences, BGSU. She presented her poster, "A Survey of Three Different Wetlands" at National JSHS.

**5th Place Winner was Ashwin Veeramini of University School (Chagrin Falls)** who was awarded a gold medal and a \$250 Award sponsored by the Department of Chemistry, BGSU. He presented his poster, "The Role of Hair Bundle Protein 7 (HBP7) in the Auditory Hair Cell of Zebrafish in Mediating Hearing Function" at National JSHS.

The Junior Science and Humanities Symposia (JSHS) Program is a collaborative effort between the research offices of the United States Departments of the Army, Navy, and Air Force, the Academy of Applied Science, and leading research universities throughout the nation. The Department of Defense generously provides funding for the National symposium and JSHS scholarships.



Two of the five students from Ohio won awards at the national competition:

- **1st place in the Life Sciences oral competition** was awarded to **Srinath Seshadri**, who earned a \$12,000 undergraduate tuition scholarship. Srinath plans to attend Case Western Reserve or the University of Pennsylvania in the fall.
- **3rd place in the Environmental Science poster competition** was awarded to **Jordan Skates**, who will be a senior next year but plans for college include studying Fish Management and Aquaculture Sciences at Hocking College in Ohio.



[\[back to top\]](#)

## STEM Opportunities

### GLOBE Mission EARTH Solar Eclipse Webinar

Wednesday, May 24 at 8:00 pm EDT

Observing the **Solar Eclipse on August 21** - Learn about the solar eclipse occurring on August 21, 2017 from two experts: Dr. Michael Cushing, Director of Ritter Planetarium & Brooks Observatory at the University of Toledo and Stephen J. Edberg, NASA scientist at the Jet Propulsion Laboratory. Jill Teige will reveal the new GLOBE webpage for the solar eclipse. Sara Mierzwiak from the University of Toledo will showcase websites where teachers can find lesson plans on the solar eclipse.



**LOCATION:** ZOOM Conference Room

**REGISTER:** <https://www.surveymonkey.com/r/missionearthwebinar>

Here is the link to log into the conference. <https://zoom.us/j/4197048033>

### BGSU Health Career Exploration Day Camp

**JUNE 26 - 30, 2017**

**8:00 - 5:00 PM (Includes lunch)**

\*extended hours for early arrival and late departure from 7:30 AM - 5:30 PM



**SIGN UP TODAY TO SECURE YOUR SPOT - LOWERED COST 295.00**

Are you a high school sophomore through senior thinking about a career in the health field but unsure about your options? Here's an opportunity to gain insight into eight pre-professional areas and is a great opportunity for students to interact with faculty and professionals in the field.

- Discover the impact of pharmaceutical medicine through personalized medicine
- Explore the field of veterinary medicine through dissections and suturing
- Learn firsthand from local dentists and optometrists about their profession
- Make an investment in your future by signing up to attend the new Health Careers

### Health Careers Exploration Camp 2017

[https://emsregics.bgsu.edu/Exploration\\_Camp\\_2017](https://emsregics.bgsu.edu/Exploration_Camp_2017)

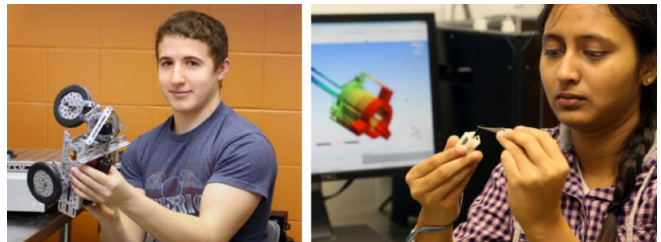
**Website:** <http://www.bgsu.edu/pre-college-programs/pre-college-certified-summer-academic-programs-and-summer-camps/academic-summer-programs/health-career-exploration-camp.html>

**Sign up at:** [https://emsregics.bgsu.edu/Exploration\\_Camp\\_2017](https://emsregics.bgsu.edu/Exploration_Camp_2017)

## BGSU Robotics Camp

**JULY 10 - 12, 2017**

The College of Technology, Architecture and Applied Engineering at BGSU is hosting a three-day robotics camp for students.



### Students will:

- Design and build their own robot with the help of BGSU professors! No previous experience necessary.
- Students will use the robot, which is theirs to keep, in a game called "Hatch the Falcon Egg," while exploring careers in engineering and robotics.

**Camp Dates:** July 10th - 12th

**Type of Camp:** Overnight Camp

**Cost to attend the Camp:** \$325.00

**BGSU**®

**Apply Online to attend:** <https://emsregics.bgsu.edu/RoboticsCamp2017>

**Website:** <http://www.bgsu.edu/pre-college-programs/pre-college-certified-summer-academic-programs-and-summer-camps/academic-summer-programs/robotics-camp.html>

## First Energy STEM Classroom Grants

FirstEnergy proudly supports classroom projects and teacher professional-development initiatives focusing on science, technology, engineering and mathematics (STEM).

**FirstEnergy**®

Grants of up to \$1,000 will be awarded in support of creative classroom projects related to one or more of the

STEM disciplines. Since the program began during the 1986-87 school year, more than a thousand educators and leaders of youth groups have received classroom grants.

[https://www.firstenergycorp.com/community/education/educational\\_grants.html](https://www.firstenergycorp.com/community/education/educational_grants.html)



Welcome, PreK-12 teachers, administrators and engineering educators from Columbus and across the country! Join ASEE for an informative day of professional development for pre-college teachers and learn about how to integrate the "E" in STEM into learning and engage students in authentic engineering practices. Broaden understanding of the engineering practices as articulated in the Next Generation Science Standards.

<https://www.asee.org/conferences-and-events/conferences/k12-workshop/2017>



## **A solar eclipse is coming August 21, 2017 A spectacular teaching opportunity!**

On Monday afternoon, August 21, millions of people across the United States will see nature's wondrous spectacle - **an eclipse of the Sun!** A total eclipse is a scene of unimaginable beauty; the Moon completely blocks the Sun, daytime becomes a deep twilight, and the Sun's corona shimmers in the darkened sky.

The total eclipse will not be visible from northwest Ohio, but we will see 80-90% coverage of the Sun during

school hours. The Appold Planetarium has resources to help you make the most of this spectacular teaching opportunity:

- Planetarium shows to explain the science behind solar and lunar eclipses, with age-appropriate explanations and simulations. \$3 per student, \$4 per adult, with one free adult admission for every ten students. Our weather is always perfect!
- Eclipse glasses to view the sun safely, \$1 per pair.
- Free teacher resources on our webpage at [www.Lourdes.edu/Eclipse](http://www.Lourdes.edu/Eclipse)

For more information contact the Appold Planetarium \* 419-517-8897 or by email at [planetarium@lourdes.edu](mailto:planetarium@lourdes.edu)

## Texas Instruments Exploring Path to STEM Projects with the TI-Innovator™ Hub with TI LaunchPad™ Board

**June 7, 2017 | 8 a.m. to 3 p.m.**



This workshop is designed for math and science teachers interested in introducing STEM projects with the TI-Innovator™ Hub with TI LaunchPad™ Board and TI-84 Plus CE technology. Guide students on the path to building their own STEM projects with activities that challenge them to learn the science concepts that support the development of engineering skills.

**Location:** Wright State University - Lake Campus | 7600 Lake Campus Dr., Celina, Ohio 45822

**Cost:** \$275 with technology included, \$225 without technology

**Technology:** TI-84 Plus CE graphing calculator, TI-SmartView™ for TI-84 Plus family, TI-Innovator™ Hub with TI LaunchPad™ Board, and TI-Innovator™ Breadboard Pack.

To register and find information on other workshops visit: [education.ti.com/go/t3workshops](http://education.ti.com/go/t3workshops)

## U.S. General Services Administration's Computers for Learning

This program donates surplus government computers to schools.

[https://computersforlearning.gov/hm/hp\\_programDesc.htm](https://computersforlearning.gov/hm/hp_programDesc.htm)

[DonorsChoose.org](http://DonorsChoose.org) matches teacher requests for educational materials & supplies to donors. <https://www.donorschoose.org/teachers>



## ODE YouTube Video on Teacher Licensure

The Ohio Department of Education has posted a webinar about the state's teacher licensure program, including:

- Ohio's Four-Tiered Licensure Structure



- The Ohio Resident Educator Program for beginning teachers
- Professional Development, including Local Professional Development Committees

This webinar is ideal for early learning professionals, preschool directors and human resources personnel, higher education faculty, staff and anyone advising students or professionals on Ohio's Teacher Licensure system.

<https://www.youtube.com/watch?v=MyDHJVOj-lw>

## Summer Professional Development Opportunity

**Project WILD, Project WILD Aquatic, Science & Civics, Healthy Water, Healthy People**

July 23-29

Stone Lab, Put-in-Bay OH

[Click here](#) to visit the website.

[Click here](#) to download a flyer.



**July 25-27, 2017**

New Albany-Plain Local Schools, New Albany OH

<http://www.pblohio.com/>

## Toshiba USA grants for Project-Based Learning

Applications for Toshiba USA grants over \$5000 for project-based learning in grade 6-12 science & math due 8/1. <http://www.toshiba.com/taf/612.jsp>

**TOSHIBA**  
Leading Innovation >>>



[\[back to top\]](#)

## NWO STEM Activity

*This month's Hands-on Activity is from BGSU - School of Teaching & Learning and Department of Environment & Sustainability*

### See How IT GROWS: Earth System in a Bottle

**Purpose:** Students construct an earth system containing soil, air, water, and living organisms. This activity can be used by students to conduct experiments on the needs of a balance system.

For more on Earth System in a Bottle (activities, songs, story, role-play) visit Elementary GLOBE @ <http://www.globe.gov/web/elementary-globe> (All About Earth module)

Download a pdf of the complete hands-on activity by [clicking here!](#)

[\[back to top\]](#)

### 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.

Join NWO on [Facebook](#)

Follow NWO on [Twitter](#)

### eNewsletters from the past!

Looking for past articles from our eNewsletters?

[Click here](#) view and download from our **eNewsletter** archives.



NWO/COSMOS, 241 Math Science Bldg., BGSU, Bowling Green, OH 43403-0212

[SafeUnsubscribe™ {recipient's email}](#)

[Forward email](#) | [Update Profile](#) | [About our service provider](#)

Sent by [nwo@bgsu.edu](mailto:nwo@bgsu.edu) in collaboration with



Try it free today