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August 2013

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Earning a \$10,000 grant from the American Association of University Women (AAUW) in late 2012, the local BGSU chapter of AAUW held its first annual and quite successful Tech Trek Science and Math camp for rising eighth grade girls during mid-July on various sites of the BGSU campus and throughout northwest Ohio.

AAUW expanded Tech Trek nationwide with the addition of five new pilot sites, which included the BGSU chapter. Created in 1998 in Palo Alto, California, the camp has grown to serve over 9,000 girls thus far. Tech Trek is a critical program well positioned to prepare and empower the next generation of girls interested in science and technology.

Fifty 8th grade girls from all over northwest Ohio, through a competitive selection process, were provided with a free weeklong camp exploring the STEM fields through a wide variety of fun and engaging activities taught by STEM professionals.

Beth Pinheiro of BGSU's AAUW served as the director of the camp, and was very pleased to offer the opportunity to as many girls as possible, "The girls really enjoyed it and learned a lot through awesome workshops and presentations from STEM professionals and faculty." Workshops included

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learning about and experimenting with documentary filmmaking, bridge building, GLOBE (www.globe.gov) projects, and water quality. Also, a veterinarian presented a lesson on taking x-rays of live animals with a portable x-ray machine. One of the most popular workshops was in the chemistry lab where the girls learned about forensics, as well as a workshop conducting observations in BGSU's planetarium. The girls also took a field trip to Imagination Station in downtown Toledo.

Ms. Pinheiro stated she was well pleased with the support of the BGSU campus and faculty, which attributed to the wonderful success of this program. "We encouraged the girls to be persistent in these fields of study, and many made brand-new friends along the way." She has already begun planning for next year's camp, and hopes to increase the number of girls participating to 80 by securing additional grants and funding. For more information, please visit: <http://techtrek-oh.aauw.net>

Community STEM in the NEWS



Another successful SETGO Summer Program!

SETGO (Science, Engineering and Technology Gateway Ohio) completed another successful summer program in July. SETGO is a collaborative venture in which Bowling Green State University and Owens Community College partner with local community-based organizations to increase the number of students graduating with associates and bachelors degrees in the STEM fields. Aimed at undergraduate juniors and seniors, the 42 participating students attended classes and conducted STEM research, along with faculty mentors, during four weeks over the summer. The program gives the students a chance to engage in specific

research projects related to their majors.

The program culminated with poster presentations of their research achievements to teachers, family and friends in BGSU's student union at a Summer Research Roundup. The students pursued, studied and researched a wide range of subjects such as astronomy, mechanical engineering, ecology, and computer science. "The students, along with their faculty mentors, have worked with diligence, enthusiasm, commitment and pride throughout the summer on STEM research," stated Moira van Staaden, Ph.D., Professor & Director of SETGO. She also stated the summer program was again very successful, and directed together with Dr. Anne Bullerjahn of Owens, the program is now in its fifth year of funding from the National Science Foundation and provides students with critical hands-on research experience while establishing a rapport and connection with accomplished faculty researchers.

Another facet to the SETGO program is the Bridge component, which integrates math and science computer skills for high school students to get a head start on their college careers. This part of the program involves high school juniors and seniors who are interested in early exposure to the college experience.

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STEM Opportunities

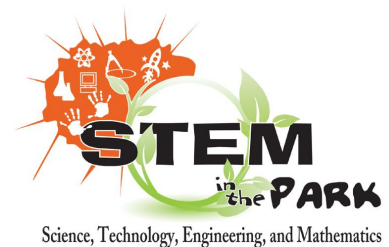
Join us for STEM in the Park!

Saturday, September 7, 2013, 10:00am - 2:00pm in the Perry Field House @ BGSU.



A free event for all northwest Ohio families and the entire community, featuring: Four hours of engaging, hands-on STEM activities from over 50 area businesses, schools and organizations; **Free** lunch and other refreshments (while supplies last); **Free** take-home activities; **Free** STEM materials; and best of all: Fun for the whole family! **SAVE TIME... Pre-register online!** [Click here](#) to Pre-register

Visit the website for more info at www.nwocenter.org/STEMinPark



Discover The Metroparks

This coming autumn, explore the many opportunities available in our region's



metroparks. Book a field trip or schedule a visit. Here is just a sampling of upcoming programs for families, teachers and students:



**METROPARKS
TOLEDO AREA**
Your Clean, Safe, Natural Places To Be

Wild About Monarchs

Join representatives from the local chapter of Wild Ones, a national organization promoting the use of native plants and natural landscapes, to learn how to create "Monarch Waystations" that help this threatened butterfly. The program will feature demonstrations and take home resources on how to be "Wild for Monarchs". The National Center for Nature Photography gallery will be open for exhibit tours.

Wednesday, August 21, 6:30 to 8:30 p.m.
Secor Park, 10001 W. Central Avenue, Berkey Ohio

Dr. Insecta!

Dr. Insecta is returning to Wildwood Preserve Metropark. Participants are able to get up close and personal with hissing Madagascars, hairy arachnids, foot-long millipedes and "Darth Vader" the emperor scorpion.

Saturday, August 31, noon to 3 p.m.
Wildwood Preserve, Ward Pavilion

Wild For Monarchs

September is Monarch Month at the National Center for Nature Photography. Join Wild Ones member and Monarch Watch conservation specialist Candy Sarikonda for a program highlighting how to get involved to help in conservation efforts to save these iconic butterflies. Learn about the challenges monarch butterflies face and what they will encounter on their 3,000-mile migration to Mexico. Migrating monarchs will be tagged at the program for release the following day (weather permitting). Sign up to be notified of the butterfly release at the program.

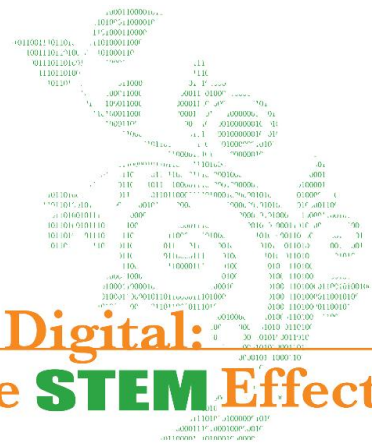
Tuesday, September 10, 7 to 8:30 p.m.
Secor Park, Secor Room

For more information on all of the programs and more, please visit: www.metroparkstoledo.com

NWO Inquiry Series

NWO is very pleased to announce the theme and keynote speakers for the 2013-14 Inquiry Series. The theme of this year's five-part series is: **Going Digital: the STEM Effect** and will focus on incorporating digital tools and technology into the preK-16 STEM classroom. Sessions topics may include:

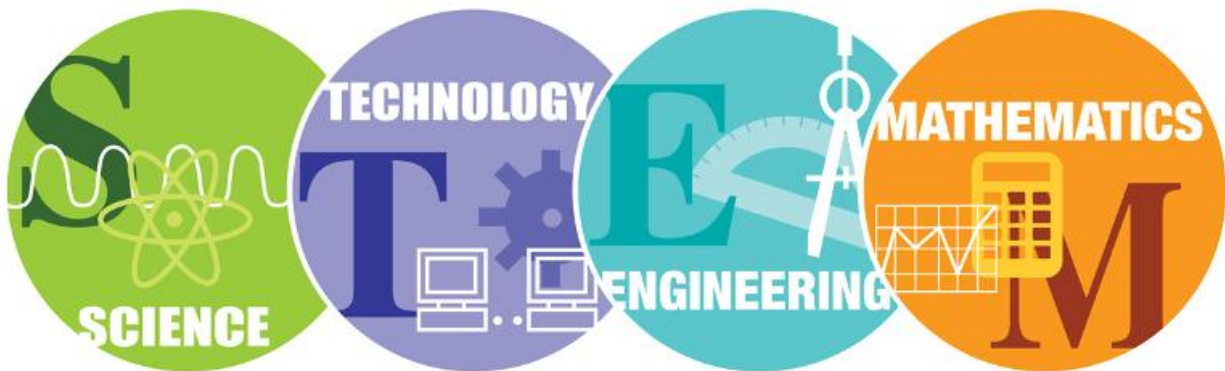
- Flipped Classroom
- Collaboration and Communication Tools
- Creativity Tools
- Digital Content
- Digital Inquiry



The Series will once again be held at WGTE/PBS in Toledo and headlining the first program will be Elliot Soloway from the University of Michigan and Cathleen Norris from the University of North Texas, two internationally known and sought-after speakers in the field of integrating technology into the digital classroom.

Registration information will be announced soon on our website at: <http://cosmos.bgsu.edu/inquiryseries>

SAVE THE DATE - NWO Symposium on STEM Teaching



Northwest Ohio Symposium on Science, Technology, Engineering, and Mathematics Teaching

NOVEMBER 2, 2013 @ BGSU's OLSCAMP HALL

KEYNOTE SPEAKER: ALFIE KOHN, who will speak on: "Overhauling the Transmission Model: Teaching your students to be active meaning makers".

The traditional "bunch o' facts" model of education applied to STEM subjects consists of filling students with information about decimals and variables, cells and minerals. The process typically relies on lectures, worksheets, grades, tests, and homework. But our challenge is to help students think like scientists and mathematicians so they can actively make sense of ideas - and, ideally, to take pleasure in doing so. In his keynote address, Alfie Kohn invites us to reflect on how we can bring about just such a shift in our classrooms.

Presenter and Vendor Registration is OPEN! Space is still available and you can submit your proposal by visiting: <http://cosmos.bgsu.edu/nwoSymposium/PresenterInfo.htm>

Attendee Registration is OPEN! Visit <http://cosmos.bgsu.edu/nwoSymposium/AttendeeInfo.htm> for more information and registration details.

Toledo Botanical Garden

Teachers - plan your field trips now!

"Growing Science" is a two-hour program for grades 1 - 6 and includes indoor activities and experiments, as well as outdoor explorations.

More information on this and other programs: www.toledogarden.org



Lexus and Scholastic Launch Seventh Annual Environmental Contest for Middle and High School Students

A program of automaker Lexus and children's publishing company Scholastic, the Lexus Eco Challenge is an educational program and contest designed to inspire and empower middle and high school students in the United States to learn about the environment and take action to improve it. In its seventh year, the program will award



a total of \$500,000 in grants and scholarships. The competition is open to students in grades 6-12. Middle and high school teams of five to ten students and a teacher-advisor are invited to participate in one or both of the two initial challenges, each addressing different environmental elements: land/water and air/climate.

Visit: <http://lexus.scholastic.com>

Falcon BEST Robotics Competition is coming to BGSU!

FALCON BEST ROBOTICS

Bowling Green State University has very recently established the Falcon BEST Robotics Hub, the first and only BEST Robotics hub in the state of Ohio. As a partner with BEST Robotics Inc., BGSU will sponsor the first robotics competition this fall to area schools in the region.

This unique and exciting competition teaches students how to think through a problem, analyze and solve it, while building many skills along the way, which include:

- leadership development
- presentational skills
- technical skills
- organizational skills
- problem solving abilities
- other areas of personal and career development

The sports-like competition is comprised of developing a marketing presentation, creating an engineering notebook, crafting a robot, and a spirit-building component.

A series of events will kick off on September 14th, at Perry Field House; Mall Day (practice day) on October 12th and Game Day on October 26th.

The **Falcon BEST** team is in need of volunteers in many areas to help run this worthwhile event: judges, referees, crowd control, scorekeepers, greeters, and mentors.

Please contact:

Sherri Orwick Ogden, Event Coordinator: sorwick@bgsu.edu

For more information: <http://www.bgsu.edu/colleges/technology>



Recruiting Teachers for High School Science and Biostatistics Modules - Stipends Available

The SBCE project at UC Davis is recruiting high school math and science teachers to test biostatistics and cancer modules in Fall of 2013. The modules consist of case studies that provide students with the opportunity to analyze authentic data in order to answer complex, high-interest questions relating to cancer, health, and science. To complete the case studies, students analyze data using "Seelt", a free data visualization and analysis tool developed by the SBCE team. Case studies are supported by PowerPoint

presentations that focus on the background skills required to complete the cases. Modules and case studies address the new Common Core Math and English Language Arts Standards and Next Generation Science Standards and are based on current research on teaching statistical reasoning to diverse learners. Each module requires approximately 7-12 class periods to complete.

Teachers will receive a stipend of up to \$500 for their participation in the project.

If you are a teacher that would like to be considered please fill out teacher survey (sbcesepa.org/teacher-testing) on our website. Stipend funds are limited. Preference will be given to early applicants.

For more information, check the website at SBCESEPA.org or contact: SBCE@iamstem.ucdavis.edu.

Imagination Station Opportunities

Little Scientist Workshops

A series of programs that encourage families with young children, ages 3 - 5, to investigate the world around them. These programs are a great way for families to spend time creating and exploring together.

Choose from Thursday (beginning September 26th) or Saturday (beginning September 28th) workshop series from 11:30am - 12:30pm. This series will meet on nine different days. Reservations are required, and rates for individual workshops and a group rate for the entire series are available.

Visit <http://www.imaginationstationtoledo.org/> or call 419.244.2674 ext. 250 for pricing, workshop dates and to RSVP.

Spooky Science

October 1 - 31

Explore the month-long science of Halloween with this hair-raising, bone-chilling, spine-tingling event.

National Chemistry Week

November 5 - 9

Experience demonstrations you can't replicate in the classroom as staff get kids excited about this year's national theme: Energy!



Akron Hub - Two Upcoming Programs:



1. Professional Learning Communities for Curriculum, Assessment and Instruction for 21st Century Learners

Provided by the Ohio STEM Learning Network (OSLN)-Akron Hub, this blended learning course is designed to provide participants with an opportunity to develop an understanding of Professional Learning Communities (PLCs) as a foundation for curriculum, assessment and instruction for the 21st century learner.

This blended learning course includes two face-to-face meetings and 5-6 weeks of an online learning experience. The introductory session provides learners a chance to meet the other members of the PLC and become familiar with the online course. The follow-up meeting provides an opportunity to create SMART goals for personal learning.

Introductory Meeting: Sept. 11, 2013 5:30 p.m. to 7:30 p.m.

Room 112, Ott Staff Development Center, 65 Steiner Ave Akron, 44301

Follow-Up Meeting: Nov. 20, 2013

5:30 p.m. to 7:30 p.m.

National Inventors Hall of Fame® School Center for STEM Learning, 199 S. Broadway, Akron Ohio 44308

Deadline to register: August 30, 2013

Register online: <http://tinyurl.com/OSLNAkronHubPD>

\$450 per educator, including all books and fees. 3 graduate credit hours at \$150 per credit or a certificate for 3.8 continuing education units are available upon workshop completion.

2. Snapshots of STEM Fall 2013 Program

This three day professional learning experience is designed to provide participants with a real-world experience inside a fully functioning and operational STEM School, the National Inventors Hall of Fame® School Center for STEM Learning.

During the program experience, a STEM learning environment is modeled using observation, reflection and discussion to support participant understanding of the meaning of STEM.

199 S. Broadway Akron, Ohio 44308

Date/Time: October 1, 15 and 29, 2013

8:30 am - 3:00 pm

Deadline to register: September 6, 2013

<http://tinyurl.com/OSLNAkronHubPD>

- \$525 per participant, per day including all materials and lunch (discounts can be provided for groups of five or more)
- 2 graduate credit hours at \$150 per credit or a certificate for 2.4 continuing education units are available upon program completion

For more information about these workshops, contact:

Alison White, Director

OSLN-Akron Hub

awhiteua@akron.k12.oh.us

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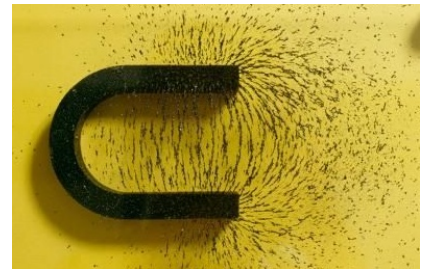
NWO Hands-On STEM Activity

Pinterest (<http://pinterest.com/vageekmom/stem-for-kids/>) is a pinboard-style photo-sharing website that allows users to create and manage theme-based image collections such as events, interests, and hobbies.

Electricity and Magnetism

This month's Hands On Activity is from Pinterest.
"Electricity and Magnetism" by McREL.

Purpose: As a result of this activity, students will be able to understand that electricity and magnetism are related forces.



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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Find Even More Ohio STEM Education Resources

Visit our STEM clearinghouse, nwostemresources.org, for more STEM activities, programs, and information.

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