



December 2015

Akron Training Center

**2016 Spring
Workshop Offerings**

Digital Literacy

January 19-21

Blended Learning

February 9, 16, & 23

PBL Design

March 15-17

Limited seats remain!
Register today at
www.akronstem.org

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NIHF and Coach Hogarth Earn innOVATION STEAM Grant Award

When it comes to integrating the Arts into traditional STEM curricula, National Inventors Hall of Fame® School Digital Literacy and Visual Arts Coach, Julienne Hogarth, is a leader in the field. Hogarth was recently recognized by the Ovation Foundation, the President’s Committee on the Arts and the Humanities (PCAH), and Americans for the Arts (AFTA), in cooperation with the Congressional STEAM Caucus, for her work and was granted a \$10,000 innOVATION award.



The innOVATION STEAM Grant Awards represent the first funding program of its kind for STEAM Education and aim to provide the

education field with national models for including and integrating Arts into STEM curricula.

Hogarth was recognized for placing emphasis on innovative problem solving and creatively weaving Arts into core subjects.

Hogarth traveled to Washington, D.C. to accept her award and was accompanied by sixth grade learner, Grace Moritz.

“The day was a celebration of eight schools nationwide that are doing things right and should be held up as examples of what future schools should be.”
NIHF STEM Coach, Julie Hogarth

OSLN Akron Hub Welcomes New Manager

As new manager of the Ohio STEM Learning Network Akron Hub, Ms. Annie Hanson will lead the Hub’s efforts in integrating best STEM education practices to districts in the thirteen-county Akron Hub. In this position, Hanson will help deliver professional development to educators

and STEM stakeholders, support the development of initiatives to enhance STEM concept delivery to schools, and will facilitate mutually beneficial partnerships with local entities representing K-12, higher education, community and business. Welcome, Annie!



STEM High Partners with GLBio and Akron Zoo

Geometry Coach Ben Graber knew that he needed a creative design project to engage and excite his 9th grade learners. The perfect opportunity presented itself during a Great Lakes Biomimicry conference for educators where Graber learned that the Akron Zoo needed help designing new exhibit spaces. Some of the Zoo's exhibits rotate out every three to five years, and this spring the Zoo's design team will be accepting proposals for a new exhibit to replace the indoor *Journey to the Reef* exhibit.

"I discovered that Coach Hanna's Biology class also had an interest in assisting the Akron Zoo, and our design challenge team was formed."

The coaches split the learners into

twenty teams charged with investigating the design and fabrication of exhibits while considering biomimicry in the proposal. The learners interviewed Zoo experts on site to investigate key elements needed in the proposals, such as the available size and space, animal needs, and daily operations of the keepers. Each team will prepare a formal proposal that will be delivered to the Zoo's design team and the public in the spring. Plans will include blueprints drawn in Geometry class and biomimicry principles covered in Biology class. The design challenge has been supported by Coaches in English and Social Studies as well.

"The best part about this challenge is the authenticity of the problem



and the way it fits into the curricula, says Hanna. "This gives our learners a way to apply what they've learned in class lessons to an interesting local problem."

Beyond bringing STEM High and the Akron Zoo together, Great Lakes Biomimicry has provided significant support for the challenge, including funding for transportation and Zoo admission.

Congressman Tim Ryan Sponsors App Contest

Congressman Tim Ryan has invited all high school students in the 13th Congressional District to participate in the second annual Congressional App Challenge.

Established by members of the House of Representatives in 2013, this competition is a nationwide event intended to engage students' creativity and encourage their participation in STEM fields. This competition allows students to compete with peers in their own district by

creating and exhibiting their software application, or "app," for mobile, tablet, or computer devices on a platform of their choice.

Students may compete individually or in teams of up to four. Students entering the competition must submit their source code online by midnight on January 15, 2016, as well as provide a video demo explaining their app and what they learned through the competition process.

The apps will be judged through a panel of local judges who work within the academic, software, and entrepreneurial fields. The app of the winning student or team in each participating congressional district will be featured on the US House of Representative's website, and displayed in the US Capitol exhibit.

For more information, visit www.congressionalappchallenge.us

Tips and Tricks to Engage Parents in STEM Learning

Parents are a learner's first role model, and getting STEM-specific support at home can inspire children to design their own educational journey. Here are some tips to help engage parents in STEM learning:

1) Develop an evening STEM academy for parents to introduce 21st century skills and familiarize

them with STEM vernacular.

2) Offer short technology sessions with parents so they are familiar with the devices and software frequently used by learners for schoolwork, including classroom management systems and online tutoring programs.

3) Establish a monthly book club

to research and discuss emerging issues in education.

4) Bring learners and their families together for fun, interactive activities with community partners.

5) Help parents identify their children's, as well as their own, learning styles and study techniques best suited to support that style.

Northwestern Launches Clean Energy Track

In the quest to develop cheaper clean energy technologies to support energy security and reduce carbon emissions, Northwestern Local Schools is on the cutting edge. A pilot program offering high school students a clean energy pathway was launched this school year and 48 students jumped at the opportunity. This unique program is one of only two offered to high schools in the state.

Superintendent Jeffrey Layton was a visionary in developing the program. "I think it's astounding," Layton said. "We asked kids if they'd be interested before we started the program. When we saw the numbers of interest, we said we have to

move forward with this. It's good for the economy, the country, and our students."

The program price tag was approximately \$50,000, of which a portion was supported by grant funds through the Ohio Department of Education and the Southern Regional Education Board; Northwestern picked up the difference. Classroom equipment includes solar ar-

ray panels, generators, engines and motors.

Students studying advanced physical science may elect to take courses in clean energy systems, applications, strategies, and innovations. The first year of the program focuses on energy conservation and the advanced year on energy storage.

Amanda Michalak, clean energy teacher hopes that the program will continue to grow. "Hopefully they will be able to link in with some internships and gain some good hands-on experience. This is my favorite class to teach! Kids have the opportunity to try out their ideas, compare with their classmates, and research alternatives."

"It's good for the economy, the country, and our students."

*Jeffrey Layton, Superintendent
Northwestern Local Schools*

Around the Hub...



Lead teachers from 15 districts in Stark County's Young Entrepreneurs Consortium recently completed advanced Problem Based Learning Design training offered by the Akron Training Center.



Northwestern Seniors James and Kyle show off their senior capstone design project, to develop a battery operated mug heater.



Akron STEM High Instructional Leader Johnson and Learning Coach Hanna pose with members of HPAC on a field trip to the Austen BioInnovation Institute. The learners heard from PhRMA on recent developments in experimental medications.

Class of 2016 Will Learn on the Job in New Internship Program

STEM High has announced a new internship class available to all senior learners beginning in the spring 2016. The learners will participate in an organized course discovering possible career and professional tracks. The first half of the semester will explore "soft skills" such as interviewing techniques, resume building, networking, and goal setting. The second

half of the semester will require a field experience at a local company or organization providing hands-on practical training. Learners may elect to find their own internship placement, or they will have the support of community partners such as the OSLN Akron Hub and the Greater Akron Chamber in identifying prospects. Instructional Leader Larry John-

son stated, "It is especially important to support our learners in this experiential learning so that they can gain valuable understanding of their chosen career or college major, obtain real-world skills, build motivation, and begin their professional networks. An internship is the best way to see how classroom lessons are applied to real life problems."

OHIO STEM LEARNING NETWORK AKRON HUB

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Founded in 2009, the OSLN Akron Hub is one of seven regional hubs across Ohio facilitating STEM partnerships between schools, higher education institutions, businesses, non-profits, government organizations and community groups. The OSLN Akron Hub primarily oversees and creates educational opportunities and community collaborations across a 13-county region in Northeast Ohio, and the Hub works with STEM stakeholders in other parts of the state and beyond.

As part of its mission, the OSLN Akron Hub provides high quality, effective STEM professional development services to educators wanting to learn relevant and sustainable STEM practices to incorporate innovative and creative concepts in their classrooms. Ultimately, the goal is to impact students, so they may become creative problem solvers, 21st century thinkers and entrepreneurs through the use of rigorous STEM content.

For more information, contact:

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Training Center Spotlight: Blended Learning

This hybrid course explores ways to incorporate blended learning into the classroom by integrating the best components of traditional, face-to-face instruction and online learning. Participants are presented with various approaches and models designed to increase learner flexibility and student success. Through an interactive approach, our facilitators empower participants to identify best practices for selecting and using the appropriate mix of innovative learning technologies to design effective blended solutions that fit your students' unique

needs.

The upcoming offering of this workshop provides participants with time to develop and incorporate the blended learning model and will include time for assessment and reflection.



Workshop participants will:

- Develop a course map to prepare to teach in a blended format
- Identify tools and resources to generate an effective blended format
- Develop materials for use in future blended courses
- Use instructional design strategies to plan, organize, and implement course content
- Assess the effectiveness of instructional design decisions

Three course meetings:
February 9th 8am- 4pm
February 16th 12pm- 4pm
February 23rd 12pm-4pm

Register: tinyurl.com/blended2016