

STEM-IN'

Indiana STEM News



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Indiana Science Initiative The Indiana Science Initiative (ISI) is the signature program for the I-STEM Resource Network. ISI supplies curricular materials and teacher training for science for grades K-8 in Indiana. For the 2014-2015 school year, I-STEM shipped over 8 million parts in science kits to our partner schools, totaling more than 400 tons of material. I-STEM has continued to grow its statewide network of STEM professionals and educators, with a focus on expanding quality STEM education to all schools. Now in its sixth year, ISI supports 152 schools with 52,168 students and 2,409 teachers. For the 2013-2014 school year, ISI students in grades 3-8 show:

- a) Significantly higher ISTEP+ passing rates for science, mathematics and ELA as compared to matched peers in non-ISI classrooms
- b) A statistically significant increase in physical science and earth science knowledge compared to peers as measured by Acuity diagnostic science assessments
- c) ISI female students in grades 3-8 show a statistically significant increase in earth science knowledge compared to peers as measured by Acuity diagnostic science assessments.

Additionally, students in classroom where the teacher has received 41 or more hours of professional development from ISI have significantly higher ISTEP+ scores for science compared to students in ISI classrooms with teachers receiving little or no PD.

A complete report on the ISTEP+ and Acuity results for ISI students is available at the I-STEM website:

<https://www.istemnetwork.org/about-us/stem-reports/>

Indiana STEM Education Conference The first-annual Indiana STEM Education Conference will be held at Purdue University on January 14, 2016. The Purdue University College of Education, the Indiana Department of Education, and the Indiana Commission for Higher Education are proud sponsors of the conference. The goal of the conference is to provide a platform for dissemination of data-based, best practice in K-12 STEM teaching and learning in Indiana. There will be three strands that organize the conference: K-12 STEM Practice, STEM Education Research, and STEM resources.

To register for the conference, visit:

http://www.conf.purdue.edu/landing_pages/stem2016/index.html

We are also seeking proposals for presenters for the K-12 STEM Practice strand and STEM Resources strand. The instructions for preparing a K-12 STEM Practice presentation are at:

http://www.conf.purdue.edu/landing_pages/stem2016/proposals.html

To participate in the STEM Resources Exhibit Hall, send an email with the title of your organization, a brief abstract/overview of your STEM resources and list of names, titles and full contact info for those who will be presenting in the exhibit hall the day of the conference. Space is limited and will be provided on a first come first serve basis. **All presenters should register for the conference as well. The deadline for proposals to present is 11/30/15.**

STEMx Policy Fellow Rep. Todd Huston STEMx is a multi-state STEM network formed in 2012 by Battelle and STEM education leaders from 13 states. There are currently nineteen (19) states and two (2) territories in the STEMx network. Indiana joined STEMx in 2013. The Network is comprised of educators, employers, policy-makers, and community leaders who work collaboratively and are devoted to supporting quality STEM education both in and out of school. By working together, STEMx provides a platform to analyze and disseminate ideas, practices and tools that will transform the country's STEM educational landscape.

I-STEM nominated Indiana General Assembly Representative Todd Huston from Fishers to be a STEMx Policy Fellow for two years, and Rep. Huston accepted. As a STEMx Policy Fellow, Rep. Huston will be asked to attend the STEMx national conference and two regional conferences. The service period for the fellowship spans two (2) years. At the end of the two (2) year period, Battelle Education and STEMx will develop a public forum that will provide Rep. Huston and fellow legislators an opportunity to share the information that has been gained by participation in meetings. The goal is that STEMx Policy Fellows will use this experience and the knowledge gained to enhance state and national dialogue related to STEM policies and practices. Battelle Education, on behalf of STEMx, will provide certification to legislators upon completion of their Fellowship.

Million Women Mentors Launched in January 2014, Million Women Mentors (MWM) is the collective action of over 60 national partners and 30 corporate sponsors designed to increase the number of girls and women within the high school to

work age continuum that persist and succeed in STEM programs and careers. Million Women Mentors held their inaugural MWM Summit & Gala where over 400 leaders from industry, education, and government came together for a day of learning and celebration. During the Summit, Indiana Lt. Governor Sue Ellspermann, an engineer herself, spoke of the importance of mentoring for young women going into STEM careers as part of an engaging and informative State Leadership Panel. Lt. Governor Kim Reynolds of Iowa and Tennessee Senate Speaker Pro Tempore Bo Watson (on behalf of Lt. Governor Ron Ramsey) joined Lt. Governor Ellspermann on this panel.

The day ended with an awards ceremony during the MWM Gala where standout individuals, companies, organizations and state leaders were recognized for their efforts within the Million Women Mentors National movement. Lt. Governor Sue Ellspermann received one of the three State Honorary Chair awards for her incredible support and advocacy of the MWM Movement. The MWM – IN Steering Committee, co-led by Bev Bitzegaio and Mary McGuire, was also recognized during the Gala, receiving the one of two State Steering Committee awards. The dynamic team consists of leaders from industry, education, and government. With the support of Lt. Governor Ellspermann, they are working on several new mentoring initiatives within the state.

To learn more about what is going on in Indiana and the rest of the states with Million Women Mentors, download a copy of the MWM State Report at www.MillionWomenMentors.org and register as a mentor or interested organization.

Indiana Afterschool Network – At the national forefront of out-of-school time STEM learning by Bob Abrams, IAN

With a goal to “expand high quality and engaging STEM learning in out-of-school time throughout Indiana,” the STEM Initiative of the Indiana Afterschool Network (IAN) focuses on four priorities:

1. Partnership and leadership development
2. Communications and policy and funding development
3. Program quality and professional development
4. Data coordination and assessment

In the previous two I-STEM Newsletters I addressed the first two priorities. In this the third newsletter, my focus is on the third priority – “Program quality and professional development.”

It is generally recognized within the Indiana out-of-school community that the greatest need for improving the quality of its STEM education quality is to provide effective professional development to those who lead STEM activities at program sites. A sub-committee of the Indiana Afterschool STEM Taskforce was commissioned last year to develop a plan to address this need.

They are in the process of putting together a strategy to address the challenges of the out-of-school education environment – lack of formal training requirements, transitory workforce, limited time and resources, etc. – in order to utilize the flexibility of informal education that offers such rich potential for hands-on STEM learning and that can complement and expand formal STEM instruction.

The autumn meeting of the **Indiana Afterschool STEM Taskforce** will be held Wednesday, November 18th where the work of the professional development team will be covered, along with other key topics pertaining to improving the quality of STEM education in Indiana out-of-school programs. The STEM Taskforce meeting will take place from 1 to 4 pm at the 1150 Coding Academy, 1150 116th Street, Carmel, Indiana, an apropos location since the 1150 Coding Academy's is a wonderful illustration of a STEM-based enterprise with the purpose of improving quality for its clients through professional development.

Other topics that will be covered at the November 18th STEM Taskforce meeting will address the IAN's focus on program quality and professional development:

Dimensions of Success – a Harvard developed evaluation tool for out-of-school STEM learning that not only illustrates the current state of program quality, but provides a pathway to improvement.

STEM School Certification – an initiative of the Indiana Department of Education to evaluate and recognize those schools that meet the demanding standards of successful STEM education which includes the extension of STEM learning through STEM-rich out-of-school programming.

STEM Ecosystems Initiative – A national program of the STEM Funders Network to extend successful STEM learning through community partnerships that equip educators with the skills and resources to enable students to progress on coordinated STEM pathways. An IAN-led collaboration was one of 27 communities nationwide to receive a grant to participate in this program. Gerald Solomon, Executive Director of the Samuelli Foundation and co-chair of the STEM Funders Network, will attend the STEM Taskforce meeting and will lead this discussion.

To join us at the Indiana Afterschool STEM event on November 18th and in on-going activities of that group, contact Bob Abrams, IAN STEM Coordinator – babrams@indianaafterschool.org, 812-344-0405.

About STEM-IN' This newsletter is published six times per year by the I-STEM Resource Network. For inquiries and news contributions please email: istem@istemnetwork.org.

EVERY student **EVERY** school **EVERY** day