

STEM Educators Join Hands, Make Plans for Iowa



A major Iowa company adopts a mission to improve STEM education in the state. A regional consortium wants to improve STEM programming for youth in a tri-county area. A legislator wishes to head into session advocating for a consensus STEM education agenda. Each of these would-be contributors to Iowa's rich STEM education milieu is hampered by the absence of a unified, forward-looking plan that integrates the state's assets for cohesive advancement. Help is on the way. Leaders in STEM education representing private and public sectors kicked off strategic planning for STEM education in Iowa on May 13. The process went virtual the next week so that any and all who wish to chip in have a voice in shaping the document, targeted for delivery to the Governor's office by year's end. Contributors log in to www.iowaSTEM.org.

Iowa's STEM Education Inventory

The first thing builders do before gearing up for a new project is to inventory tools and materials. Such was the case in the ancient history of the Iowa Mathematics and Science Education Partnership...2007. What programming existed across Iowa that could be amplified, complimented or leveraged as part of a foundation for this new initiative? With the help of the Iowa Department of Education, an inventory of more than 250 STEM education programs has accrued, spanning public universities, private and community colleges, AEAs, nonprofit agencies, K-12 schools, informal venues, private organizations, industries and more. Working now to build on that foundation, we invite STEM education leaders from across Iowa to contribute their projects to the growing inventory as Iowa gets its STEM education house in order. Post your program at www.iowamathscience.org/inventory.shtml



Real World Externship Program Grows by 300% for Summer 2010



IMSEP's Jason Lang talks with Pella High School science teacher Robin Hammann in 2009 at her externship with Pella Corporation, a second year program partner.

IMSEP is offering mathematics and science teachers from around the state an opportunity to apply their skills this summer in real-world environments. The result is an antidote to the oft heard lament of math/science students, "When will I ever use this in real life?" Thanks to grant funding from the Iowa Department of Economic Development (IDED), the IMSEP team recruited numerous education-committed businesses across Iowa – from Sioux City to Dubuque – to offer teacher experiences readily applicable back to classrooms later this fall. "This year we were stunned at the response from businesses AND teachers," said Jason Lang, project supervisor at UNI working with UI's Ted Neal and ISU's Comfort Akwaji–Anderson to mentor the 32 enrolled teachers. Host businesses this year include: **Abbe Hills Farm; Ace Hardware; Alliant Energy; Allen Hospital – Waterloo; Wells' Dairy, Inc.; City of Cedar Falls; ConAgra Foods; Diamond Vogel Paints; Ellison Technologies; the Iowa Department of Natural Resources (DNR); General Mills; Hy-Vee Food Stores; Kemin Industries, Inc.; Monsanto; Pella Corporation; Principal Financial Group; Procter and Gamble; Rockwell Collins; and Sudenga Industries.** For more information, visit www.iowamathscience.org/externships.

And...Action! Science Video Contest for Young Producers

As a Satellite Event sponsor for the USA Science and Engineering Festival, IMSEP encourages K-12 students to enter the Kavli Foundation's "Why is Science Cool?" video contest by the deadline of July 15. Winners earn travel to Washington, D.C., plus resources for school. For details go to <http://www.usasciencefestival.org/>



STEM to New Heights in Hills



Hills students learn the mechanics of building bridges thanks to this after school volunteer, who is an engineer by trade, at the Hills STEM After-School Program.

What makes tiny Hills, Iowa, stand out on the STEM education map is the elementary school's progressive approach to integrating math, science and technology into students' classroom time, after-school time and family time, reinforcing the ideas they learn throughout the day. "We've seen the kids excel in ways we could only hope for," said Kris Mowatt, Hills Learning Center Director. The innovative approach is bringing amazing achievement to Hills Elementary, where 71% of the families qualify for free or reduced lunch; 33% of students are second language learners; and approximately 46% of Hills students are ethnic or racial minorities. Through the Corridor STEM Initiative (CSI) partly sponsored by IMSEP, Grant Wood AEA awarded mini-grants to Hills and other area schools to support instruction in science, technology, engineering and mathematics (STEM) last fall. To ensure that families understand and reinforce the concepts students are learning, family nights are held several

times during the school year; and a year-end family STEM night allows students to showcase their individual projects. The experiences seem to stay with students. "I listened to the kids describe, using scientific vocabulary, why their paper airplanes and parachutes flew the way they did...It was wonderful to see the kids apply what they had learned in their STEM program to aerospace engineering," said Yukiko Hill, Grant Wood AEA's Teacher-in-Residence who facilitates CSI programming.

I-Teach Alum Joins IMSEP as Summer Student Assistant

As an incoming UNI freshman in 2008, Taylor Davenport wasn't quite sure what he wanted to do when he "grew up." The *I-Teach* Math and Science teacher recruitment seminar "Exploring Math and Science Teaching" changed all of that. "A friend told me about the program," said Taylor. "And teaching was always something in the back of my mind, but I didn't know what I really wanted to do." And now? Taylor is about to begin his junior year as an all-science teaching major. As the newest member of the IMSEP team this summer, Taylor also works as a research assistant at UNI's National Ag Based Lubricants (NABL). Learn more about the *I-Teach* Math & Science Program at www.iowamathscience.org/i-teach. Other teaching scholarship opportunities offered by IMSEP can be found at <http://www.iowamathscience.org/noyce/>.



UNI's Taylor Davenport doing data compilation as a summer IMSEP student assistant.

IMSEP TEAM News

The IMSEP team extends a fond farewell to Diane Yoder, project manager and grant writer, who departs the position the end of May. Best wishes, Diane.

Upcoming IMSEP-Sponsored Events

June 13-15	FIRST Tech Challenge (FTC) 3-Day Coaches Workshop – Co-Sponsored by U of I's College of Engineering and IMSEP, teachers and coaches from Iowa schools serving students of underrepresented populations in the STEM fields are strongly encouraged to apply. Location: U of I's College of Engineering. Contact: Rebecca Whitaker, U of I's College of Engineering K-12 Outreach Coordinator, at ftc.iowa@gmail.com
June 22-24	Chemistry Workshop for Teachers – Location: University of Iowa – Iowa City. Contact: UNI – Bill Harwood, bill.harwood@uni.edu or 319-273-2052; ISU – Tom Greenbowe, tgreenbo@iastate.edu ; U of I – Norb Pienta, norbert-pienta@uiowa.edu
July 11-16	Astronomy for Teachers – An intensive course that includes curriculum and astronomy content, as well as learning the night sky via star maps, binoculars, telescopes, software and print/online references. Location: University of Northern Iowa – Cedar Falls. Contact: Siobahn Morgan, Professor, siobahn.morgan@uni.edu or 319-273-2389
July 18-30	PLTW Summer Training Institute – Open to all teachers teaching PLTW courses for Fall 2010. Contact: For more information, go to http://www.pltwiowa.org/
July 27-29; Sept. 11	Geoscience Education Information Network – Interactive workshop on how to incorporate Google Earth, GPS and/or GIS into teaching Iowa's geology. Location: University of Northern Iowa – Cedar Falls. Contact: Chad Heinzl, Assistant Professor, chad.heinzl@uni.edu .
August 3	Iowa Mathematics & Science Teacher Educators Summit – A statewide one-day conference for all math and science teacher educators in Iowa. Keynote address by Dr. Pendred (Penny) E. Noyce, Noyce Foundation Trustee. Location: Grinnell College – Grinnell. Contact: Jeff Weld, IMSEP Director, jeff.weld@uni.edu