Iowa Math and Science Education Partnership

iowamathscience.org

a collaboration of the University of Northern Iowa, Iowa State University and the University of Iowa

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SPRING EVENTS

STEM Career Awareness & Curriculum Modernization through Externships. Three of Iowa's premiere companies have joined IMSEP as inaugural hosts for *Real World Externships for Teachers of Mathematics and Science*. **Kemin Industries**, **Pella Corporation**, and **Rockwell Collins** will accord to teachers a summer-long work experience with the goal of equipping mathematics and science teachers with the latest real world applications of their disciplines. Back at school in the fall and coached by university mentors, teachers will share with students the exciting STEM careers available right here in Iowa while incorporating lessons and methods picked up from their *real world* summers. Applications from teachers, as well as additional business hosts, are now being accepted through the IMSEP website, **http://www.iowamathscience.org/externships/**

Federal Fund Pursuits. More than $1.2 million in proposals to federal agencies have been generated by the IMSEP office in FY2009. We expect to hear any day now about *NASA* funding for our project to place pre-service teachers of mathematics and science into global climate change research laboratories at Iowa's public universities. And, just submitted to the *National Science Foundation* last week is an inter-university collaborative proposal to provide scholarships to STEM professionals for earning teaching certification and for upper level majors in mathematics or science to earn teaching certification before graduating. Recipients of these scholarships would commit to teaching in a high-need school for two years for each year of scholarship support. If funded, the program will begin in the fall of 2009.

Iowa's College and University Mathematics and Science Teacher Preparatory Institutions to Gather. Faculty members from 26 Iowa colleges and universities have already committed to joining in a day-long conference hosted by IMSEP to be held at Grand View University on August 14. The *Iowa Science and Mathematics Teacher Preparers' Summit*, an unprecedented event for the state, will open essential dialog on Iowa's need for exemplary teachers and how all of Iowa's programs can work together toward that common goal. A planning committee consisting of teacher-preparers from UI, ISU, UNI, private colleges, and the Iowa Department of Education, is working out details of the conference. If you wish to be included on the invitation list, please send an e-mail to IMSEP@uni.edu.

***ConFABS* Across Iowa**. Over two-dozen education enthusiasts gathered on the evening of March 5 at the Heartland AEA in Johnston to discuss partnerships of businesses and schools for the benefit of mathematics and science education. It was the first of many such Conversations to Forge Alliances of Business and Schools (*ConFABS)* conducted by IMSEP in partnership with AEAs. *ConFABS* session number two was March 24 at Southeastern Community College in partnership with Great Prairie AEA. *ConFABS* 3 will be April 15 in Council Bluffs, teaming with Loess Hills AEA. Coinciding with these meetings is an emerging resource database and clearinghouse through IMSEP. For more information on *ConFABS* visits, go to **http://www.iowamathscience.org/symposium**

IMSEP Director Jeffrey Weld at ConFABS meeting at the Heartland AEA on March 5, 2009.

WHO Radio Spots to Heighten Awareness. Public service announcements, sponsored by IMSEP, begin this week on WHO radio to promote mathematics and science to the citizens of Iowa. These 30-second, promotional messages delivered by enthusiastic high schoolers ask the listener to open her and his mind to mathematics and science as more than just meaningless number crunching and memorization, but the key to exciting careers in fashion, auto racing, and

more. Catch the message weekdays between 5 am and 9 am or send us an e-mail request for the audio file at **IMSEP@uni.edu**

FEATURED COMPETITIVE GRANT PROJECTS

Two dozen faculty members across Iowa's public universities were awarded competitive grants through IMSEP for innovative mathematics and science education projects in 2009. Two of those projects are highlighted below.

Participants in Randy Barron's workshop learn the water cycle through movement.

Learning Mathematics and Science Through the Arts. Randy Barron, arts educator, engaged University of Northern Iowa education majors in creative movements to teach science concepts. For example, students used their minds and bodies to become the water cycle. Mobility in the classroom allows young scientists to remember with their bodies and build upon their own understanding. "These activities will make science a less daunting subject for many students who are intimidated of large science concepts," said Elementary Education senior Erin Anderson. Says Barron, "When we fail to assemble isolated facts into a framework that is coherent it doesn't stay with us. When we make meaning about it, it stays with us." Barron's week-long workshop was the second in a three-part series focusing on teaching through the arts by integrating music and movement with science and mathematics, presented by the Gallagher-Bluedorn Performing Arts Center at the University of Northern Iowa.

Seamless Transitions into and through Science Teacher Education. Well underway at Iowa State University, the Seamless Transitions project addresses the challenge of aligning the student-teaching experience with the methods and philosophies learned about teaching during university study. Project leaders bring together university supervisors and cooperating teachers who work with secondary science teacher education students in their field experiences. The fall and spring workshops focused on ways to optimally work with prospective teachers while ensuring a seamless transition from university coursework to teaching practice. Specific topics included: characteristics of the revised secondary science teacher education program, what to look for when working with interns and student teachers, post-observation conferences, self-evaluation practices, supervising for science safety, issues in special education, and how to assist struggling students. Feedback from participants has been encouraging: "I feel better prepared to take on this role (as a cooperating teacher)." "The model of the post-observation conference was very helpful!" "These are strategies that will be helpful to me so I can improve my work as a supervisor."

ON THE HORIZON

STEM Equity Pipeline State teams meet in Washington, March 29 through April 1. Iowa is one of several states awarded funding through the NSF to develop equity policy and practices in STEM education. An Iowa leadership team consisting of Department of Education officials, K-12 and AEA representatives, university faculty, and IMSEP staff will join other state teams to craft action plans. For more information, go to **http://www.stemequitypipeline.org/**

STEM for Students with Disabilities will be the subject of an April 1 & 2 summit held at the University of Northern Iowa, conducted by IMSEP grantees Dr. Greg Stefanich and Dr. Audrey Rule. Contact Professor Rule at audrey.rule@uni.edu for more information.