

Competitive Grants = Impact x 10

Many of Iowa's best science and mathematics education thinkers have been drawn into the Iowa Mathematics and Science Education Partnership (IMSEP) through the incentive of competitive grants. Nearly 100 university faculty members, collaborating with partners in schools, AEAs, businesses and elsewhere, have increased by a power of 10 the reach and impact of IMSEP. Over its first two years, the program has funded three dozen evaluated projects, most of which will be on display at the Iowa State Capitol on IMSEP Day, March 24. The goals of this vital program are to (1) leverage the human capital of the public universities, working with broad education partners, to help accomplish the IMSEP goals of math and science teacher recruitment and of improved learner performance; and (2) to inspire creative and innovative programmatic solutions to Iowa's science and math education challenges for possible scale up. This year, about 38 percent of the IMSEP budget is devoted to faculty projects to improve teacher content or technology backgrounds, to improve learner interest and abilities in STEM and to recruit talented youth into STEM majors, including teaching. Through competitive grants 10 times as many faculty engage 10 times the number of teachers and 10 times the number of students, with only about one-third of IMSEP's operational pie.



Pre-service teachers work with elementary age math and science learners through an IMSEP competitive grant.

I-TEACH Recruitment Coordinators Discuss Best Practices



Dr. Catherine Miller talks with I-Teach seminar student Laura Tucker after class.

Coordinators from the four campuses currently offering components of the *I-Teach Math and Science Teacher Recruitment* program — the University of Northern Iowa (UNI), Iowa State University (ISU), North Iowa Area Community College (NIACC) and Hawkeye Community College (Hawkeye CC) — gathered at UNI on February 12 to discuss how program aspects are maturing at each campus. Main focal points for improving the program included recruitment strategies of incoming mathematics and science majors, tracking *I-Teach* graduates into and through the college systems, identifying key programmatic features and expanding the *I-Teach* seminar to other campuses, especially to additional community college campuses. Other best practices shared included incorporating student feedback to create content that is tailor-made for each individual class's interests. Another successful practice is the time that students, who are typically freshman, spend in the

classroom with youth. Classroom time can make or break a student's decision to switch majors and redirect her or his career into teaching. As of January 2010, over 150 students have participated in the *I-Teach* program, and the number of science and mathematics teaching majors at ISU and UNI has grown significantly since last year.

IMSEP Partner Corner: Iowa Academy of Science

IMSEP Partner Corner highlights one of the many public and private organizations affiliated with IMSEP to advance mathematics and science education across the state. The Iowa Academy of Science brings together scientists, science educators and engineers from all fields to promote a mission of furthering scientific research science education and public understanding of science and to recognize excellence in these endeavors. Since 1875, membership in the Academy has served as a means to bring Iowa's scientific community together. Thank you to IMSEP for financially supporting the State Science Fair of Iowa participants' attendance at the Academy's 2009 Iowa Junior Academy of Science competition. To learn more, visit www.iacad.org.



Northwest Iowa Community College STEM Education Career Day

The next *Teaching Mathematics and Science in Community College Career Day* will be held on **Wednesday, April 28, 2010**, at **Western Iowa Tech Community College (WITCC) in Sioux City**. Sponsored by IMSEP and ISU's Community College Leadership Program, the one-day workshop encourages students and professionals to consider teaching mathematics and science courses at a community college level. Barbara Dougherty, Director, Center for Excellence in Science, Mathematics and Engineering Education, ISU, will keynote the session. Register today by contacting Marisa Rivera, CC-STEM Preparation & Updates Project Coordinator, at mriviera@iastate.edu.

FIRST Tech Challenge (FTC) 3-Day Coaches Workshop

Want to start a FIRST Technology Challenge (FTC) Robotics Team in your school or community? Then join your peers at the **FTC 3-Day Coaches Workshop on June 13-15, 2010**, co-sponsored by the 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.

Registration deadline is Friday, March 5, and seating is limited. For more information, contact Rebecca Whitaker, the U of I College of Engineering K-12 Outreach Coordinator, at ftc.iowa@gmail.com or register online by clicking [here](#).

Start STEM Early: Dr. Zan's Talent with Toddlers

Ask Betty Zan, PhD, associate professor of curriculum and instruction and director of the Regents Center for Early Development Education and the Center for Early Education in Science, Technology, Engineering and Mathematics (STEM) at UNI, what the core mission of her work is and she'll tell you – she's creating Iowa's engineers for 2026. "When children are engaged in their own process of discovery through trial and error and are allowed to draw their own conclusions, they come away with a new understanding of the way the world works. This is what scientists do...this is called inquiry." Through a grant from IMSEP, Betty's staff now travels the state, training early childhood teachers (pre-K through third grade) and childcare providers to create hands-on, interactive classroom activities that encourage young children to develop and use scientific inquiry processes to explore and better understand their environments. Since June 2009, this statewide outreach has trained 190 teachers. "We are conveying the attitude that science is doable, and as teachers, we need to engage kids from ages three and up. Activities that are long on fun and intellectual rigor are the types of activities that lay the foundation for scientific literacy for the next generation." For more information about Dr. Zan's work, visit <http://www.uni.edu/coe/regentsctr/>.



Dr. Betty Zan shares how playing with inclines and marbles instills STEM-related concepts in children at a young age.

"Make Me a World in Iowa" with IMSEP

IMSEP joined UNI and ISU at last month's 12th annual "I'll Make Me a World in Iowa," Iowa's African American festival. Approximately 700 students from middle and high schools from around the state attended the education portion of this two-day event. The event offered students a glimpse of career possibilities available to them in the fields of education, business, mathematics, science and social services while learning about the accomplishments of African Americans. Among the workshops provided by UNI faculty, Recayi "Reg" Pecan and Latricia Hylton presented "Power to the People," hands-on activities regarding wind and solar power, and Professor Greg Stefanich partnered with Janet McClain to present a hands-on approach to learning the parts of the body. According to IMSEP Executive Board member Latricia Hylton, "...it was important for IMSEP to participate in this event because of our goals to increase the ethnic, racial and socioeconomic diversity of mathematics and science teachers in Iowa and to increase the number and diversity of students who major in mathematics and science fields. 'I'll Make Me a World' was THE educational event that gave us this opportunity."



UNI's Reg Pecan delivers alternative energy concepts at "I'll Make Me a World in Iowa."

DuPont CEO to Speak in Iowa

Ellen Kullman, chair of the board and CEO of DuPont, a leading international science-based products and services company to which Iowa's Pioneer Hi-Bred International Inc. is a subsidiary, will speak at 2:00 p.m. March 4 (Thursday) at the Gallagher Bluedorn Performing Arts Center in Cedar Falls. Named in 2009 the 7th most powerful woman according to both Fortune and Forbes, Kullman leads a company operating in more than 70 countries offering a wide range of innovative products and services for markets including agriculture and food; building and construction; communications; and transportation. Her lecture is free and open to the public. If you come from out of town, be sure to drop in at the IMSEP headquarters in the Center for Energy and Environmental Education.

IMSEP Executive Board Mid-Year Change

A founding member of the IMSEP Executive Board, dating back to its days as a "Steering Committee," Joel Haack has taken on new responsibilities at UNI and, thus, relinquished the remainder of his board term. We are indebted to Dean Haack for his invaluable contributions to the formation of IMSEP and will miss his contributions to our cause. Simultaneously, we are very appreciative of Dr. Catherine Miller, Associate Professor in Mathematics at UNI, for willingly stepping in to complete the term of Dean Haack.

IMSEP Day at the Capitol Fast Approaching

Join us on **Wednesday, March 24**, for **IMSEP Day at the Capitol**. From 9:00 a.m. through 2:00 p.m., 43 math and science advocates and organizations will be on hand in the Rotunda to demonstrate many great things happening in Iowa regarding mathematics and science education. Don't forget Project Lead the Way (PLTW) Day at the Capitol is the day before on Tuesday, March 23. For more details, call IMSEP communications specialist Tonja Richards at 319-273-2716 or at tonja.richards@uni.edu.