



Everything Michigan

National Science Foundation program pairs K-12 teachers with Michigan State University researchers

By Alison Black | Special to the Kalamazoo ...

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Mark Bugnaski | Kalamazoo Gazette

At Kellogg Biological Station, near Hickory Corners, local science teachers and Michigan State University graduate students look at bio-fuel crop plots used for studying the movement of greenhouse gases, which heat up the Earth.

HICKORY CORNERS — A longstanding effort to enrich K-12 science instruction in area schools has won another five years of major funding.

A \$2.65 million National Science Foundation grant will team Michigan State University graduate students with K-12 science teachers from 11 area school districts in a project designed to provide classroom support for local teachers while making college students better science communicators.

The grant will fund eight graduate fellowships per year for five years in the new GK-12 Bioenergy Sustainability Project, organized by MSU researchers at the Kellogg Biological Station, near Hickory Corners in Richland Township. A ninth yearly fellowship will be funded by the MSU Graduate School.

The fellows will come from the fields of science, technology, engineering and math and will collaborate with K-12 teachers to design and help supervise student activities exploring ecologically sustainable energy production, said GK-12 director and MSU zoology professor Tom Getty.

"The goal is to help future scientists become better at communicating their science, to be able to say 'Here is what my research is about' in a way that doesn't sound absurd," Getty said.

The fellows will serve districts already involved in the K-12 Partnership for Science Literacy. This decade-old program links KBS scientists, MSU College of Education faculty members and K-12 science teachers and administrators for the purposes of exposing K-12 teachers to environmental research and training them in inquiry-based teaching methods.

The participating school districts are Comstock, Delton-Kellogg, Galesburg-



Augusta, Gobles, Gull Lake, Harper Creek, Lawton, Martin, Olivet, Plainwell and Vicksburg.

While the NSF grant is focused on serving graduate students, “a happy byproduct” is that it also benefits local students and teachers, Getty said.

“Graduate students will have the opportunity to work with skilled teachers and practice explaining things to different audiences,” Getty said.

“The second tier to this is that nationally we’re struggling to make K-12 science education more effective, and one of the things that might make it more effective is to have college students serve as role models in the classroom.”

Each fellow will spend up to 15 hours per week working with one or more teachers to develop “inquiry activities” — activities designed to address specific, science-related questions and, in turn, generate further questions, Getty said.

The fellows will also work with scientists in the Great Lakes Bioenergy Research Center, a collaboration between MSU and the University of Wisconsin-Madison funded by the U.S. Department of Energy to conduct research in converting natural materials to energy.

An initial GK-12 project, initiated in 2006 and lasting through 2009, focused on the ecology of rural landscapes.

Jean Johnson, an MSU doctoral student in zoology, spent three years working with teachers in Gobles, Plainwell and Galesburg-Augusta schools. She developed a lesson using jellybeans to teach students about organism classification.

Johnson has also organized an annual District Science Night in Plainwell.

“Working with the teachers has taught me to be a better communicator and a better teacher,” Johnson said. “And I love going into classrooms and bucking the stereotypes of who scientists are. I don’t have crazy hair, and I love fashion.”

Becky Drayton, a science teacher at Gobles Middle School, said she has appreciated being able to “to bounce ideas off” Johnson and “team-teach” lessons with her.

“It’s been a wonderful program,” Drayton said. “I think every science teacher would be lucky to work with a graduate student like this.”

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Science teachers
Robb Cahoon, of Comstock Alternative High School, and Sandy Erwin, of Battle Creek’s Harper Creek High School, measure the greenhouse gas carbon dioxide from soil microbes.