

BioME brings science to Tucson schools

Program pairs K-12 teachers with UA graduate students

LA MONICA EVERETT-HAYNES

Alexis Delbridge knows her students need science instruction that's exciting and interesting.

But the Lynn/Urquides Elementary School teacher has found it difficult to teach science that way in her classroom.

When school begins next month, Delbridge will have an expert on hand to help: Jennifer Jandt, a University of Arizona doctoral student.

Delbridge and Jandt are part of a larger program that will pair K-12 science teachers with university graduate students for the academic year.

UA's new Biodiversity from Molecules to Ecosystems, or BioME, program is a different way of approaching K-12 science education, and it's happening because of a five-year, \$2.96 million grant from the National Science Foundation. Part of the grant is used to pay each graduate student a \$30,000 stipend.

This year, 20 teachers from Tucson Unified, Sunnyside, Amphitheater and Vail school districts - along with AmeriSchools, which operates several charter schools, - are participating with the 10 graduate students.

"I'm looking at it as a team teaching experience and allowing my fellow to help me become a scientist," Delbridge said. "It will make me a better teacher."

UA graduate students from various science-based departments will help develop lesson plans, create activities and initiate projects.

Without these things, "we sort of kill the interest and curiosity in little kids," said Tucson High Magnet School biology teacher Margaret Wilch. "This program is wonderful because it's more than hands on; it's getting in the mind."

The program is expected to educate more than 500 students each year while improving instruction in areas including biotechnology, genomics, ecology and evolution. In many cases, live insects and new technology will be taken to classrooms., according to the BIO5 Institute Web site.

The program also will help future scientists better

communicate the importance of their research to the public, according to the BIO5 Institute Web site.

"There are huge gaps between what scientists know and what the public knows," said Judie Bronstein, BioME director and the grant's principal investigator.

"More and more of their work is affecting the public

- in the environment, health and our general knowledge," she said. "The idea is that science is moving very rapidly, and it is very difficult for even our best educators to keep up."

BioME will help especially in schools that can't afford necessary equipment and other resources, according to the BIO5 Institute Web site.

"Rather than paying for buses to have classes come (to UA), we can bring it to their classrooms," said Jesse Hardin, a doctoral student in entomology.

Given recent events, some said it's perfect timing.

States are now required to include science in standardized exams such as Arizona's AIMS test.

This year, UA opened its Bio5 Institute, a collaborative bioresearch program that combines research from agriculture, medicine, pharmacy, basic science and engineering to solve complex biological problems. UA also manages Biosphere 2.

In a state that is trying to position itself as a national leader in biological sciences, BioME serves as a model, said Stacey A. Forsyth, life sciences outreach coordinator for the Bio5 Institute.

"The main goal is to educate the next generation of scientists so that they will be able to articulate their research and understand challenges we face today," she said.

It may also help encourage women and minorities,



High school teacher Margaret Wilch and Kevin Vogel, a UA graduate student, review a DNA experiment as part of UA's BioME program.

BioME brings science to Tucson schools

continued . . .

said Latifa Borgelin, a doctoral student in ecology and evolutionary biology.

"Both my parents were professors, so I got all the motivation, but so many people don't," said Borgelin, who will work at Sunnyside High School.

"There is no reason why science should be limited to anybody. There is only one requirement, and that's curiosity," she said. "And it's extra important that high school students know that because they are at a critical point where they are thinking about college."

ADDITIONAL INFORMATION

About the Biodiversity from Molecules to Ecosystems, or BioME, program:

BioME is funded through a five-year, \$2.96 million National Science Foundation grant.

The program involves 10 graduate students and nearly 20 teachers from area schools.

UA graduate students are studying molecular and cellular biology, ecology and evolutionary biology, cancer biology, neuroscience, entomology, biochemistry or insect science.

Nearly 20 teachers from Tucson Unified, Sunnyside, Amphitheater and Vail school districts - along with AmeriSchools - are participating with the 10 graduate students.

Graduate students will work with educators in elementary, middle and high schools on a one-to-one basis or in teams.