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Summary: A nearly half million dollar award from the National Science Foundation will be used for student-faculty research to encourage Native American students to graduate from science, technology, engineering and/or mathematics (STEM) fields.

(October 26, 2007) - James Cotter, professor of geology at the University of Minnesota, Morris (UMM) since 1997, has received a nearly $500,000 award from the National Science Foundation (NSF) STEP program. The NSF STEP (Science, Technology, Engineering, and Mathematics Talent Expansion Program) seeks to increase the number of students (U.S. citizens or permanent residents) receiving associate or baccalaureate degrees in established or emerging fields within science, technology, engineering, and mathematics (STEM). The award will go toward funding a new project, titled "An Initiative to Encourage the Participation of Native Americans in the Sciences." The project, which also involves other UMM science and mathematics faculty, is designed to encourage Native American students to graduate from science, technology, engineering and/or mathematics (STEM) fields. The money will be used for their research projects.

"UMM is good at graduating minority students, but not necessarily in the sciences," said Cotter.

Cotter has received awards from NSF for the past 20 years, one of which included a project to encourage women to pursue a degree in geology. During summer of 2005 and 2007, he traveled to Brazil along with eight female UMM students to research glacial deposits, a main topic in classes he teaches along with landforms. He plans to return to Brazil in 2009. Cotter has also received funding for equipment for the labs and other research done in Brazil.

Cotter has also received the Presidential Award For Excellence In Science, Mathematics, & Engineering Mentoring and the UMM Research Award, among other professional honors.

The good news about this new project, that should attract Native American students, is the opportunity for students to choose their own research project and request a teacher with whom to conduct the research. Any STEM field, such as statistics, geology or biology, among others, is fair game.

"Money will follow the students," Cotter explained, but the research has to be within the limits of the professor’s ability. "You can’t say, ‘I want to go to Mars for my project.’"

The first part of the project is to recruit students to UMM. “Hopefully the potential of doing funded research will be one more incentive to encourage Native American high school students or transfer students to come to UMM,” Cotter said.

The second part will be to encourage Native American students already attending UMM to ask their professor about doing a summer research project. Once that happens, the rest of the process will be easy, according to Cotter. He also is hopeful that on-campus organizations such as American Indians in Science and Engineering (AISES) and the Multi-ethnic Student Program (MSP) will help spread the word.
“So many good things happen when an undergraduate participates in research,” said Cotter. He also said that in doing research, the student will gain a mentor, develop skills, increased self-confidence, a sense of ownership in their career and much more. His hope is that all of these things, with the already existing forms of support and encouragement, will result in increased awareness of what a bachelor’s degree in the sciences can offer.

“The goal of this project is to develop a ‘pipeline’ of young scientists learning from older students and faculty. As their experience increases, they mentor younger students and the result will be a community of Native American scientists working together to learn and achieve goals,” Cotter explained.

For more information about geology research at the University of Minnesota, Morris, visit Geology.

High school students interested in the UMM - STEP program can contact the UMM Admissions office at Admissions or telephone 1-888-866-3382.

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