Program means progress for research projects

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A special research initiative at the University of Wisconsin Oshkosh is giving seven faculty and staff members extra support to investigate mysteries located deep in the earth, high in the sky and everywhere in between.

The new University Research Professor/Associate Program helps mid-career and senior faculty who have established research programs take their studies to the next level.

The program, backed by $100,000 in funding, is an outgrowth of the University's External Grants Expansion Planning Team, charged by Chancellor Richard H. Wells in fall 2007.

"Investing in the research, creative and intellectual talent of our faculty will enable them to be more competitive in obtaining future federal and state grant support," Wells said. "It is not unreasonable to expect a tenfold return on the dollars invested in the form of future grants and contracts."

UW Oshkosh students will benefit as well.

"This investment also allows the faculty to invigorate the learning experience by providing both graduate and undergraduate students with invaluable hands-on research and creative opportunities," he said.

The first recipients of the award include:

- Michael Briley, professor and chair, physics and astronomy department, studies galaxy-building clusters in the Milky Way and other galaxies — most notably the Sagittarius dwarf galaxy, which is colliding with the Milky Way. The goal is to better constrain theories of galaxy formation by using these clusters as tracers of the original galactic building blocks.

- Charles Gibson, professor, chemistry department, investigates electrical energy storage. This project is the first stage of a four- to five-year research program, which will lead to developing nanostructured, high-performance energy storage and conversion devices.

- Eric Hiatt, associate professor, geology department, studies early marine life, bioessential elements, biomineralization and paleoenvironments of the 1.9-billion-year-old Paleoproterozoic Labrador Trough. This work began in June 2007, when he traveled to northern Quebec, collected samples, measured and described stratigraphic sections, and interpreted primary paleoenvironments. He now will analyze the geochemical properties of the samples collected, using petrographic and scanning electron microscopy.

- Michelle Michalski, assistant professor, biology and microbiology department, studies mosquito infectivity determinants in Brugia malayi. The insect-borne parasitic worms cause a number of

diseases in man and animals. For example, canine heartworm infects dogs, cats, wolves and coyotes in the Midwest.

- Katherine Short-Meyerson, instructor and ad hoc faculty member of the educational foundations department, looks at gender issues in science and engineering. She investigates some of the basic cognitive skills and strategies that young elementary school-age children may be developing, or in the case of some girls, struggling to develop. The study also will determine what role, if any, parents play in socializing their children toward science education and very early career preferences.

- Dana Vaughan, associate professor, biology and microbiology department, researches vision, specifically in the retina. She wants to learn why the ground squirrel nervous system is so resistant to disease and injury. Ground squirrels spend half of their lives in hibernation and have eye retinas and visual function similar to that of humans. Modern medicine may be able to harness the healing power of hibernation, without actually putting patients through the process.

- Jennifer Wenner, associate professor, geology department, studies quantitative learning in the geosciences with The Math You Need When You Need It program. The project involves collecting student-learning data, assessing student success in quantitative skills necessary for introductory geoscience courses and recruiting other institutions to use and test the modules.