

## **It's a galaxy-eat-galaxy world, theorizes researcher**

**by Natalie Johnson - Tuesday, January 15, 2008**

<http://www.uwosh.edu/today/347/its-a-galaxy-eat-galaxy-world-theorizes-researcher/>

What could be worse than a dog eat dog world?

Perhaps the “galaxy eat galaxy” theory of the universe that Barton Pritzl, a visiting astronomy professor, studies at the University of Wisconsin Oshkosh.

“My prime research is to study how our galaxy — the Milky Way — was formed,” he said. “It is thought that our galaxy formed, at least in part, by ‘eating up’ smaller dwarf galaxies. To better understand the contributions of dwarf galaxies, we want to study the properties of the stars that they contain.”

Pritzl’s research is supported by more than \$70,000 from the NASA-Space Telescope Science Institute.

To study how the Milky Way formed, Pritzl takes observations of globular clusters, a collection of hundreds of thousands of stars and dwarf galaxies. “The globular clusters contain some of the oldest stars in the universe. They give us information about what our galaxy was like when it was first forming,” he said.

The observations are made with a variety of ground-based telescopes and the Hubble Space Telescope.

One current research project involves studying the stellar populations in M33, also known as the Triangulum Galaxy, a small spiral galaxy. Observations of this galaxy were obtained using the Gemini North telescope at Mauna Kea, Hawaii.

“Given M33’s unique status as kind of a mini-Milky Way galaxy, we are interested in how it formed,” Pritzl said. “To help do this, my collaborators and I are studying a special class of stars called pulsating variable stars. We are looking for stars that pulsate on a regular basis, literally getting larger and smaller over a consistent time period.”

He explained that how a star pulsates tells a lot of information about that star and about the system in which it formed.

On this project, Pritzl collaborates with scientists at the National Optical Astronomy Observatory, the University of Arizona/Steward Observatory and the University of Minnesota.

A second research avenue involves studying the stellar populations in a dwarf galaxy that surrounds the Andromeda galaxy, which is a large, spiral galaxy similar to the Milky Way. This project involves scientists at the W.M. Keck Observatory, the WIYN Observatory and the Australian National University.

“My collaborators and I are interested to see how the properties of the dwarf galaxies surrounding the Andromeda galaxy compare with our own,” he said. “My primary contribution to the project is studying

the pulsating variable stars within the dwarf galaxy.”

In addition to his research, Pritzl will be teaching a physical science workshop; classical physics; and stars, galaxies and the universe, in the spring semester.