

## **Professor, student research ancient ocean basin in China**

**by Natalie Johnson - Tuesday, February 09, 2010**

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Not every undergraduate student would trade a relaxing winter break for an intense, five-week geological field study in China.

But University of Wisconsin Oshkosh senior Paula Richter, of Oshkosh, wouldn't have wanted to spend the holidays any other way.

Working with UWO geologist Dan Lehrmann and an international field team, Richter spent long days studying the ancient oceanography of a large marine sedimentary basin in southern China.

Lehrmann said the comprehensive, three-year study — funded by the Petroleum Research Fund of the American Chemical Society and Shell International Exploration and Production Co. — seeks to determine the evolution of the Nanpanjiang basin and to answer questions about southern China's plate tectonics.

“Basically, we are looking at sediment that eroded from high lands around the periphery of the basin and were delivered by river systems and gravity flows to the deep parts of the basin,” he explained.

These events took place 220 million to 255 million years ago, during the Triassic period.

A typical day for the field team started with a breakfast of noodles or dumplings at or before 7:30 a.m. Then they headed out by minivan to the field sites, where they often had to hike high into the mountains.

“The field work included geologic mapping to get a general idea of the area's geometry, using a Jacob's staff to measure the different types of rocks that tell the history of the sediment and taking samples of the rocks for further study under the microscope back in the lab,” Richter said.

Professor Lehrmann said the overall study's results will provide a model for frontier petroleum exploration in other regions of the world.

For her part, Richter is conducting an independent research project on the rock samples, known as thin sections, to date their provenance or the source area from which the rock came. Her work continues back on campus with laboratory analysis of the thin sections.

Throughout the trip, the field team covered many miles and stayed in a number of hotels along the way. “We basically lived out of our backpacks and sometimes had to wash our laundry in the hotel sinks,” Lehrmann explained.

Richter already knew what to expect because this was her third opportunity to travel with “Dr. Dan” to China; she previously had taken part in two class field trips during the summers of 2007 and 2009.

Despite long hours in the field, however, the team did get to experience Chinese culture.

Richter was honored to be invited to attend a Buyi wedding, which was held at one of the hotels the team stayed at during the trip. The Buyi people are a Chinese minority group who live in the plains and on the mountain slopes.

Richter also enjoyed learning how to make Chinese dumplings and to play mahjong, which was described to her as “Chinese poker.”

[See more photos of Lehrmann and Richter's trip.](#)