MORE Science at UTSA
Environment Science and Engineering
Spring 2007 Seminar Series

Where: **Loeffler room (3.03.02) in the BioScience Building**
When: **4:00 PM – 5:00 PM on January 26, 2007**

Snack and drinks will be served

Speaker: Dr. Feng Qi

Dr. Feng Qi is currently Assistant Professor of Geography in the Department of Political Science and Geography, UTSA, where she teaches classes in GIS and physical geography. She received her B.Sc. from Peking University in 1997, M.Sc. from the University of Wisconsin-Madison in 2001, and Ph.D. from the University of Wisconsin-Madison in 2005. She joined the faculty at UTSA in 2006.

Dr. Qi's research areas are GIS, spatial analysis, data mining, and environmental modeling. Her recent research projects are focused on soil mapping using GIS and Artificial Intelligence techniques, funded by the USDA.

Topic: **Soil mapping using GIS and Artificial Intelligence techniques**

The traditional method of conducting soil surveys is very inefficient (costly, time-consuming, and of low quality) due to many limitations. With 0.9 billion hectares of land in the United States and a current rate of soil survey updating at approximately 4 million hectares per year, it will take 220 years to update all of the soil surveys in the U.S. This rate of soil information production certainly cannot meet the needs of Information Age land resource management and other geographical analysis. Automated soil mapping techniques are needed to move soil survey to a more acceptable update rate and to a product that can be continually updated efficiently and accurately. GIS and Artificial Intelligence techniques can be utilized for this purpose. Presented here are efforts taken to create detailed soil series maps using 3d visualization, case-based reasoning, and data mining.