MORE Science at UTSA
Earth and Environmental Sciences
2007 Seminar Series Special Talk

Where: BSE 1.110 (College of Sciences conference room)
When: 9:30 am – 11:30 am, June 14, 2007

Speaker: Dr. Zuji Qiang

Professor Zuji Qiang, PhD, is a well-respected professor in the earthquake prediction community of the world and was the lead (retired now) of the Earthquake Prediction Group at the Institute of Geology, China Seismological Bureau. His specialty is using satellite thermal infrared anomalies for earthquake prediction in short-term and imminent predictions. Dr. Qiang was among the first in the world to not only describe the satellite-based thermal infrared anomalies induced by the pre-earthquake motions, but also has used the technique for earthquake prediction since 1980's. As a result, Dr. Qiang and his group have successfully predicted over 100 earthquakes for their approximate epicenters and magnitudes.

He got his PhD in Mineral and Geology from Moscow's University in 1961 and Bachelor of Geology in Peking Institute of Geology in 1953.

Topic: **The Tectonic Stress and Heat Stress Field in Pre-Earthquake**

Pre-earthquake processes (mechanical and chemical) result in an increase of thermal energy accumulation in the Earth's crust and its gradual release into the atmosphere. Therefore, measuring and monitoring temperature changes over time and space using satellite-based thermal infrared images could be potentially applied to detect tectonic stress and heat fields, and to predict impending earthquakes. This methodology will raise the art of earth tectonic heat stress field and earthquake predictions to a new level.

In this talk, he will first introduce you the five gas-sphere of the Earth, then discuss three hypotheses (red swelling, gas thermal, and positive hole) proposed as mechanisms of temperature increase prior to earthquakes and volcanic eruptions. Over 10 examples of strong earthquakes and volcanic eruptions will be presented to show you how well the thermal anomaly high detected by satellite remote sensing have being used to predict them.