

Physics Colloquium

UNIVERSITY OF MISSOURI-KANSAS CITY
DEPARTMENT OF PHYSICS

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Monitoring Earthquakes in the U.S. Midcontinent: From Seismic Hazards to Crustal Structure

The US mid-continent region is part of continental crust that assembled onto North America about 1.9-1.6 billion years ago. This crust is crossed by several failed rift systems that have localized zones of active intraplate seismicity including the New Madrid Seismic zone, the Wabash Valley, and the Nemaha structure that extends for Oklahoma City to Omaha. In this talk I will describe our present understanding of the tectonic history and earthquake potential on these fault zones from geophysical and geologic data. I will also discuss the upcoming NSF EarthScope USArray experiment where approximately 156 transportable three-component, broadband seismometers will be installed every 70 km (43 mi) across Kansas, Nebraska, Iowa, and Missouri. The instruments will record local and global earthquakes for two years to coincide with the bicentennial of the 1811-1812 New Madrid earthquakes. I will also present our regional efforts to organize the Central Plains Earthscope Partnership to facilitate the conversion of array sites to permanent station and promote seismology.

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August 29, 2008

Coffee at 3:10, Colloquium at 3:30 in Room 310