

**Name:** SIEDCAR (Seismic Investigation of Edge Driven Convection Associated with the Rio Grande Rift)  
**Date:** June 27 – July 3 and July 7-12, 2008  
**Location:** University of Texas at Austin (training), W and NW Texas and New Mexico for field work  
**Number of Participant Spaces:** 15  
**Description:**

The evolution of distinct tectonic provinces in southwestern United States and mountainous terrain has been linked to subduction of an ancient ocean plate, the Farallon plate, under North American from about 80 million years ago to 40 million years ago. The National Science Foundation has awarded a grant to Jackson School scientists Jay Pulliam and Steve Grand to investigate whether renewed tectonic activity in the Southern Rockies during the past 10 million years can be linked to convection processes in the mantle occurring along the edge of the North American craton and the subducted Farallon plate. **To carry out the SIEDCAR project, Pulliam and Grand need your help to deploy a suite of 75 broadband seismographs along the western edge of the Great Plains in New Mexico and Texas in the summer of 2008 and to analyze the data in summer 2009.** These seismographs will augment the EarthScope USArray, a broadband seismic array that is marching across the country over ten years and which will move through Texas between 2008 and 2011. EarthScope is a major geoscience initiative supported by the National Science Foundation. The results of the project will yield estimates of the size, geometry, location, and density contrasts in the mantle, which will be used to model the effects of deep features that are resolved in the data on surface deformation.

NOTE: This research is outside in the summer sun, and involves some walking and some physical work. Be prepared!

Please visit Tanya Atwater's web page to download an animation of the subduction of the Farallon Plate (<http://emvc.geol.ucsb.edu/download/pacnorth.php>).

To see models of the remnants of the Farallon Plate under North America, please visit <http://svs.gsfc.nasa.gov/vis/a000000/a002400/a002410/index.html>.

#### **SCHEDULE**

- Orientation: June 27 –July 3
- Field work: July 7 - 12

**Responsibilities:** Participants are responsible for attending each day of the training and working in the field as part of a team under the direction of Jay Pulliam. We expect a subset of participants to return the following year to help analyze the data gather by the seismic array. Participants are also encouraged to conduct project-related outreach (i.e., give a presentation at a TXESS Revolution PDA).

**Financial considerations:** The SIEDCAR project will cover transportation costs to and from Austin for the training and travel in the field. The project will also cover lodging in a UT-Austin (two per room), lodging in the field and all meals. Participants will receive a stipend of \$500 per week for their participation.

**Application Deadline:** April 5, 2008

**Application:** (document attached)

Applications should be e-mailed or FAXed to Kathy Ellins at [kellins@ig.utexas.edu](mailto:kellins@ig.utexas.edu) or (512) 471-8844

**Contact :**

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