

Team



Dr. Diane Doser



Dr. Hector Gonzalez-Huizar



Dr. Steve Harder



Dr. Jose Hurtado



Dr. Marianne Karplus



Dr. Terry Pavlis



Dr. Laura Serpa



Dr. Aaron Velasco

Focus

We study the Earth **from the crust to the core** using techniques ranging from **remote sensing** of the earth's surface to **geophysical imaging** of the earth's interior. We study processes with a focus on **active deformation determined from seismology** (controlled source and earthquakes), **paleoseismology**, **potential field geophysics**, and **satellite-based measurements**.



Core Equipment Unit (CSEU)

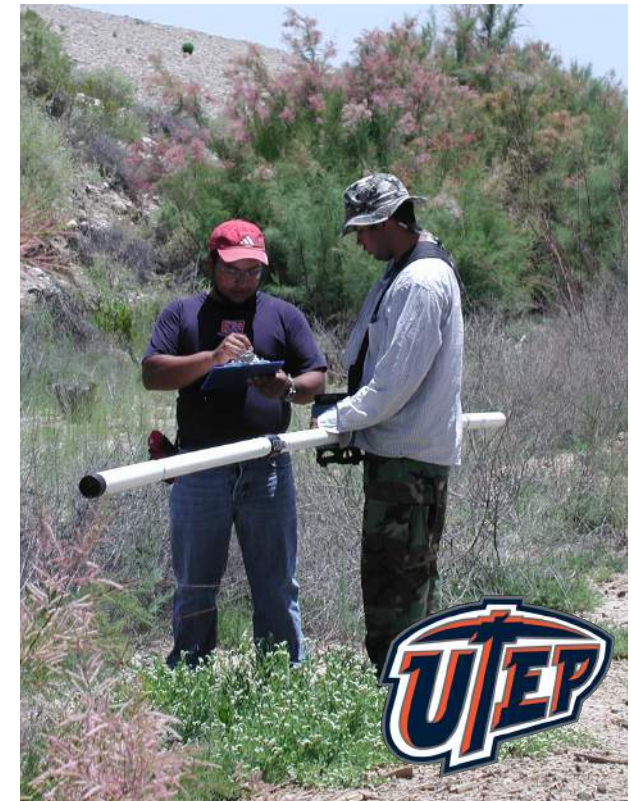
Providing state-of-the-art for teaching and research:

The group currently owns **leading edge geophysical/seismological equipment for planned and spontaneous field campaigns**, including 400 short period instruments (Texans), 13 broadband earthquake sensors, gravimeters, and magnetometers.

Solid Earth & Geophysics

*Petroleum Geophysics • Seismology •
Paleoseismology • Potential Field
Geophysics • Satellite Measurements*

**The heartbeat of Earth - Earthquakes,
its inner state - Gravimetry,
our Stethoscope - Seismology.**



Current Projects

Reaching Across Disciplines and Borders:

Earthquake Hazards of the El Paso Region: this group has active and pending projects evaluating seismic hazards in the El Paso region through shallow geophysical studies, paleoseismic studies, and seismicity studies.

Forearc Deformation in Alaska: Dr's Doser and Pavlis are studying forearc deformation in Alaska ranging from studies of the St. Elias collisional system to connections between forearc basin subsidence and uplift of the coastal mountains of southern Alaska. These projects involve a range of geophysical data from potential field data, seismicity data, and reflection seismic data.

Crustal structure and seismotectonic characterization of the Himalayan Fold-Thrust Belt, Bhutan: Dr. Velasco and Dr. Hurtado integrate seismology, paleoseismology, tectonic geomorphology, and Quaternary geochronology to study crustal structure beneath the Bhutan Himalaya and the style of deformation for assessing seismic hazards that the region is exposed.

National Seismic Source Facility: Dr. Harder leads a research unit that contributes to many national and international controlled source projects.

Dynamic Earthquake/Tremor Triggering: Dr. Gonzalez-Huizar and Dr. Velasco study dynamic triggering of earthquakes and tectonic tremor throughout the world. Both are developing new approaches to investigating this relatively new discovery.

Developing 3-D Earth Models from Multiple Geophysics Datasets: As part of CyberShare Center of Excellence, this multidisciplinary group, led by Dr. Velasco, explores new techniques to fuse different data sets to create 3-D Earth models.

Our group publishes in leading edge journals, including the Bulletin of the Seismological Society of America, the Journal of Geophysical Research, Nature Geoscience, Geophysical Research Letters, Tectonics, etc.

Recent Highlights

Dr. Doser is the current editor for the Bulletin of the Seismological Society of America (BSSA)

Dr. Harder was recently awarded \$2.1M for the National Seismic Source Facility

Dr. Marianne Karplus joins the faculty in January, 2015

In 2014, our Students have made numerous presentations of their research at major national conferences.



JOIN US!

Our department offers B.S. degrees in Geological Sciences and Environmental Science, M.S. degrees in Geological Sciences, Geophysics, and Environmental Science, and the Ph.D. in Geological Sciences.

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