Discover what we're all about!

For more information on our Graduate Program, please contact our Graduate Student Coordinator:

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The University of Texas at El Paso

UTEP is located in El Paso, Texas, on the border between the United States and Mexico. UTEP students live and study in the world’s largest binational metropolitan area, pursuing cultural, social, and academic opportunities not available on most university campuses.

In recognition of our success in creating educational opportunities for non-traditional students, the National Science Foundation designated UTEP as a Model Institution for Excellence, one of only six in the country. The Carnegie Foundation also ranks UTEP in the Doctoral/Research University-Intensive category, placing us among the top 7% of all colleges and universities in the United States.

As UTEP was founded in 1914 as the Texas College of Mines, the geological sciences have played a key role in the institution since its inception. Concrete examples of this role are the fact that the Department of Geological Sciences has the oldest Ph.D. program in the university and is housed in a well-equipped 90,000 sq. ft. building that dominates the center of the campus. The department has evolved greatly over the years, but has a long tradition of excellence in both teaching and research. We invite you to tour our campus and get to know us first hand. You will always receive a warm welcome from the UTEP Community!

UTEP Geological Sciences Faculty
Dr. Aaron Velasco (Professor; Chair) Earthquake Seismology, Treaty Verification Seismology
Dr. Elizabeth Anthony (Professor) – Igneous Petrology, Trace-element Geochemistry, Isotopes
Dr. David Borrok (Assistant Professor) – Geomicrobiology and Geochemistry Thermodynamic Modeling
Dr. Diane Doser (Professor) – Earthquake Seismology, Seismotectonics, Geophysics
Dr. Andre Ellis (Assistant Professor) – Hydrogeology, Environmental Isotope Geochemistry
Dr. Thomas Gill (Associate Professor) – Aeolian Processes, Environmental Geology
Dr. Philip Goodell (Associate Professor), Undergraduate Advisor – Geochemistry, Economic Geology, Tectonics
Dr. Jose Hurtado (Associate Professor; Graduate Advisor) – Neotectonics, Remote Sensing, and Geomorphology
Dr. Richard Jarvis (Professor; Provost of Academic Affairs) – Physical Geology
Dr. Jasper Konter (Assistant Professor) - Solid Earth Geochemistry, Petrology, Volcanology
Dr. Richard Langford (Professor; Undergraduate Advisor) - Sedimentology, Geomorphology/Arid Lands
Dr. Kate Miller (Professor) – Seismology, Tectonics
Dr. Terry Pavlis (Professor; Assistant Chair) – Structural Geology, Continental Dynamics, Fold Thrust Belt systems, Fault Zone Studies
Dr. Nicholas Pingitore (Professor) – Carbonate Petrology, Geochemistry, Mathematical Geology
Dr. Laura Serpa (Professor) – Exploration Geophysics, Diversity and Science Education
Dr. Bridget Smith-Kanter (Assistant Professor) – Crustal Deformation Modeling, Seismotectonics, Planetary Physics

Research Faculty
Dr. Steven Harder (Senior Research Scientist) – Seismic Anisotropy, Seismic Data Acquisition, Field Geophysics
Galen Kaip (Field/Technical Technician) – Field Geophysics
Beata Maciejewska (Geochemistry Technician) – Geochemistry Analyses
Carlos Montana (Manager, Computer Systems) - Database Management
Dr. Minghua Ren (Researcher) – Geochemistry, Microprobe

Cooperating Faculty
Dr. Ra’ed Aldouri (Director, Geospatial Information Center) – GIS, Database Management
Dr. Ann Gates (Computer Sciences) – Software Engineering, Runtime Software Monitoring, Data Integrity
Dr. Erik Hagedorn (Physics) – Physical Models, Science Curriculum
Dr. Vladik Kreinovich (Computer Science) – Interval Computations, Intelligent Control, Reasoning Under Uncertainty
Dr. Wen-Yee Lee (Chemistry) – Environmental Geochemistry
Dr. Soeil Nazarian (Civil Engineering) – Geotechnical Engineering, Nondestructive Testing of Infrastructure
Dr. Keith Pannell (Chemistry) – Organometallic Chemistry
Dr. John Walton (Civil Engineering) - Hydrology, Contamination Transport, Environmental Remediation, Desalination

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UTEP Geological Sciences

GEOPHYSICS
GEOCHEMISTRY

http://www.geo.utep.edu
Graduate Program

UTEP’s graduate program in Geology & Geophysics is substantial in size, currently with 18 M.S students, 34 Ph.D. students, 9 full professors, 3 associate professors, and 4 assistant professors. Our program emphasizes efforts to provide an opportunity for personalized, high quality graduate education, meaningful research experiences, and good employment opportunities upon graduation. The majority of our graduate students receive support through research or teaching assistantships. Since the beginning of our program in the 1970s, nearly 100 students have received graduate degrees in geology & geophysics. Our graduates have gone on to pursue successful professional careers in academia, industry, and in government laboratories.

Graduate course offerings in geology include: isotope geology, advanced petrology, atmospheric processes, evolution of Earth’s crust, environmental geochemistry, sedimentary depositional environments, advanced stratigraphy, physical hydrogeology, nuclear waste disposal, applied quaternary geology, geohydrobiology, advanced structure, and volcanology. Graduate course offerings in geophysics include: geophysical field methods, inverse theory, seismology, reflection seismic data processing, computational methods, remote sensing, digital image processing, plate tectonics, well logging, and digital signal processing.

Laboratories and Field Equipment

UTEP’s Geology group maintains mineralogy, petrology, sedimentology, and structural geology laboratories equipped with optical microscopy and other research grade instruments. In addition to basic tools for chemical and textural analysis of sediments and soils (pH, salinity testing, test sieves for grain size), we also have specialized equipment including a Malvern Mastersizer laser diffraction particle sizer, portable meteorological stations, high-volume aerosol samplers, and a DataRAM portable nephelometer. We maintain a wide variety of analytical equipment for solid earth geochemistry and environmental chemistry, including laboratory facilities to prepare samples for isotope analysis and specialized instruments such as an ion chromatographer, UV-visible spectrophotometer, an ICP-OES, and an ICPMS arriving next year.

UTEP’s Geophysics group maintains a seismic observatory and field equipment for magnetic, gravity, seismic refraction (430+ portable seismographs), broad-band seismology (14 state-of-the-art broadband seismometers and digital acquisition systems), borehole seismology, radioactivity, microearthquake, conductivity, slim hole logging, ground penetrating radar, GPS, and DC/AC resistivity surveys. We have 16 handheld GPS units, 2 high-precision handheld GPS units (Trimble Pro XR Mapping Differential GPS), 20 handheld computers, and 6 tablet PCs used for geologic field mapping. We maintain an extensive database of gravity data, magnetic data, and a well log library. A large database of remote sensing images and data are available through the Pan American Center for Earth and Environmental Studies (PACES), housed within the Department of Geological Sciences.

Computational Facilities

UTEP’s Department of Geological Sciences runs a network of Unix workstations, including an 8-node Sun server, terabyte disk capacity, and two computer labs comprised of 25 Windows NT PCs and several Mac workstations. We recently acquired a 4-node dual core Itanium cluster enabled for image-processing and computational modeling, as well as a 3D monitor for visualization display. We are currently developing a geophysical visualization computer lab and a multi-panel visualization display wall.

We maintain a wide variety of commercial seismic data processing, interpretation, and modeling applications, including ProMAX 2D, ProMAX 3D, and Seisworks. We maintain a variety of geophysical software packages, including RAYINVR, FAST, and codes for tomography, reflectivity, gravity, crustal deformation, and finite difference waveform modeling. Also accessible are licenses for ESRI GIS software (ArcView and ArcInfo), ORACLE database software, and four different image processing packages. We maintain a variety of high-end visualization software packages, such as 2D Move, 3D Move, 4D Vista, and IVS Fledermaus Professional.

Cyber-ShARE

UTEP was recently awarded a $5M NSF grant to create the Cyber-ShARE Center of Excellence, to be housed in the Department of Geological Sciences. Cyber-ShARE will address innovative, synergistic collaborations involving cyber infrastructure, scientific research, and data visualization.