
EDUCATION

Ph.D. Geological Sciences, University of Texas at El Paso, May 2013

Dissertation: "Application of Various Remote Sensing and Aerial Photography Data Sets to Resolve Surface Structure in Areas of Poor Exposure: Examples from the Kamchatka Peninsula, Russia and Katalla Area, Alaska USA"; supervised by Dr. Terry L. Pavlis

M.S. Geological Sciences, University of Texas at El Paso, December 2006

Thesis: "The Quaternary Deformational History of the East Potrillo Fault, Dona Ana County, New Mexico," supervised by Dr. Jose M. Hurtado

B.S. Geological Sciences, University of Texas at El Paso, December 2004

PROFESSIONAL EXPERIENCE

Assistant Professor of Geosciences - Fall 2024 to present

Angelo State University (ASU), Department of Natural Sciences, Geosciences Program

⊕ **Courses:**

- Physical Geology lecture and lab GEOL 1303 and GEOL 1103
- Sedimentology Geology lecture and lab GEOL 3402 and GEOL3402

⊕ **Effectively instruct geosciences to students in all modalities (in-person, online-synchronous, and hybrid) and classroom environments** (online, classroom/hybrid, and in the field).

⊕ **Serves as a science, technology, engineering, and mathematics (STEM) resource** for faculty and students on and off campus.

⊕ **Mentor and instruct students, acting as a facilitator to help them** build a practical understanding of computer and technical applications (including remote sensing and GIS methods) in the geosciences.

⊕ **Serves as a nationwide role model for all students, particularly Hispanic females**, who are underrepresented in geology.

Assistant Professor of Geosciences - Fall 2017 to 2024 (6 years)

University of Houston-Downtown (UHD), Department of Natural Sciences, Geosciences Program

⊕ **Courses Taught:**

- Physical Geology lecture and lab GEOL 1305 and GEOL 1105
- Structural Geology lecture and lab GEOL 3312 and GEOL 3112
- Undergraduate Research GEOL 3300 | I conducted research with **50 students** in my research group to provide training in applying Remote Sensing/GIS methods to research data. Lab was established in 2020.
- GEOL 3306 | Remote Sensing - Geographic Information Systems (GIS)
- Geologic Field Methods GEOL 4303
- Field Geology GEOL 4304 (co-instructor)

⊕ **Provides effective geosciences instruction** to students in **all modalities** (in-person, online-synchronous, and hybrid) and **all classroom environments** (online, classroom/hybrid, and in the field).

✓ **Product: Funded Grants** GEO-TC Geosciences **curriculum redesign** and I3D-TC **integrating** 3D printing.

⊕ **Serves as a science, technology, engineering, and mathematics (STEM) resource** for faculty and students on-and-off campus.

⊕ **Mentor students and instruct them as a facilitator** in helping students build a practical understanding of computer and technical applications (including remote sensing and GIS methods) in the geosciences.

⊕ **Serves as a nationwide role model for all students, particularly Hispanic females**, who are underrepresented in geology.

Consultant/Contractor (Senior Engineer - Geologist) 2016 (one month)

Energy Resourcing Group, Houston, Texas

- ⊕ **Geologist/Geospatial analyst** who multi-tasked and worked cooperatively to **integrate** and **interpret** diverse data for an extensive geohazard, geomorphologic, eco-geomorphologic, fluvial processes, and structural geology mapping assessment, constructed workstation to incorporate seismic, side-scan sonar, PCP, and well-log data.

Senior Engineer - Geologist/Geospatial Analyst 2013 to 2015 (2 years)
INTECSEA, Houston, Texas

- ⊕ **Integrated** and **interpreted data** for an extensive geohazard, geomorphologic, eco-geomorphic, fluvial processes, and structural geology mapping assignment. **Developed** comprehensive **slope stability desktop studies to characterize regional slope failure** of deposits and source areas to identify potentially critical areas for avoidance utilizing good GIS system administration skills to build workstations in ESRI-ArcGIS and ArcScene for 3D visualization. Worked semi-independently to set the groundwork for the project team independently. **Communicated** ideas effectively to the client (**e.g., Shell - Oil & Gas**).

Geologist/Geospatial Analyst/Geomorphologist 2007 - 2008 (1 year)
TRC Solutions Inc., El Paso, Texas

- ⊕ **Fieldwork collecting** soil and stratigraphy samples, mapped surface, and structural features for archeology pedology and paleoenvironment studies.
- ⊕ **Utilized remote sensing methods, GPS, and GPR equipment to survey** the Fort Bliss Military Installation Reservation (US Army) and El Paso region for Prehistoric Native American sites utilizing good Geology and GIS system administration skills to build workstations in ESRI-ArcGIS and ArcScene for 3D visualization.

PUBLICATIONS

- ✓ **Heinlein, S. N., Pavlis, T. L., and Bruhn R. L., (2020)** Development of surface raptures by hanging-wall extension over a thrust ramp along the Ragged Mountain fault, Katalla, Alaska, USA: Applications of high-resolution three-dimensional terrain models, Geosphere.
- ✓ **Heinlein, S. N., (2013)** Application of Various Remote Sensing and Aerial Photography data Sets to Resolve Surface Structure in Areas of Poor Exposure: Examples from Kamchatka Peninsula, Russia and Katalla Area, Alaska USA, ETD Collection for University of Texas, El Paso. Paper AAI3566541.
- ✓ **Cervera Heinlein, S. N., (2013)** Spatial patterns of geomorphic surface features and fault morphology based on diffusion equation modeling of the Kumroch Fault Kamchatka Peninsula, Russia, Journal of Volcanology and Geothermal Research, Elsevier. Vol. 263. Pages 209 - 223.
- ✓ Condon, Peter C., Willi Hermann, Lillian M. Ponce, Javier Vasquez, Seth Sampson, Grant D. Smith, **Sarah N. Cervera**, and Luis Sierra, **(2008)** Assessing Organizational Strategies during the Late Mesilla Phase (ad 600 to 1100): A Data Recovery of Four Prehistoric Sites along the Organ Mountain Alluvial Fans, Dona Ana Firing Complex, Range 48, Fort Bliss Military Installation, Doan Ana County, New Mexico, Historic and Natural Resources Report No. 03-04 TRC Report No.103874-0100. Submitted to the United States Army Fort Bliss Directorate of Public Works, Environmental Division, Conservation Branch Fort Bliss Texas Prepared by TRC Environmental, Inc., El Paso, Texas.
- ✓ Perez, E., Lukowski, P., Husby, M. B., and **Cervera, S. N., (2007)** Archeological Survey of 8,000 Acres in Training Area 26, McGregor Guided Missile Range Fort Bliss, Otero County, New Mexico. Fort Bliss Cultural Resources Report No. 0629.
- ✓ **Cervera, S. N., (2006)** The Quaternary Deformational History of the East Potrillo Mountains, Dona Ana County, New Mexico, ETD Collection for University of Texas, El Paso. Paper AAI1439389.