JESSE MOORE KELSCH, M.S.

Geology Instructor, Sul Ross State University (SRSU), Alpine Texas
PhD Candidate in Geological Sciences, University of Texas at El Paso (UTEP)
jkelsch@sulross.edu | 432-837-8657 | Alpine, Texas

GEOSCIENCE EDUCATION COMPLETED

University of New Mexico, M.S. Earth and Planetary Sciences, Albuquerque NM, 2000
'Tectonics and volcanism during deposition of the Oligocene-lower Miocene Abiquiu Formation in northern New Mexico'
University of Arizona, B.S. Geosciences, Tucson AZ, 1996
Graduated cum laude

EMPLOYMENT HISTORY

Instructor, Sul Ross State University, Aug 2019 – present
Was promoted from Lecturer upon entrance to UTEP's PhD program
Graduate Teaching Assistant, University of Texas at El Paso, Aug 2019 – present
TA for Structural Geology and Field Camps
Lecturer, Sul Ross State University, Aug 2014 – Aug 2019
Taught 12 credit hours per semester; advised three undergraduates in research; created two graduate student thesis projects
Adjunct Lecturer, Sul Ross State University, Jan 2012 – July 2014
Was asked to pick up classes on faculty shortage
Activity Director, Title V Distance-Education grants, Sul Ross State University, Jan 2009 – Aug 2013
Enabled community college students to complete bachelor's degrees from off campus
Owner and Lead Instructor, Granada Yoga Studio, Alpine TX, May 2007 – Aug 2013
Achieved Iyengar Yoga Level II Teaching Certification through teacher trainings and assessments
Taught 3 classes per week while building a house and landscaping property with my husband
Hydrogeologist, John Shomaker & Associates, Inc. (JSAI), Albuquerque NM, Sep 2003 – Jan 2007
Constructed structural cross sections to site future water wells
Provided geological guidance to drilling operations on site
Exploration Geologist, ExxonMobil Exploration Company, Houston TX, Sep 2000 – Aug 2003
Worked in New Hire Development Program; Geophysical User Support; Alaska Production; and Gulf of Mexico Exploration
Graduate Teaching Assistant, University of New Mexico, Aug 1997 – May 2000
TA for Physical Geology, Structural Geology, and Field Camp
Research Assistant, University of New Mexico, Jun 1997 – Aug 1997
Paleomagnetism lab work resulting in talk at AGU
Research Assistant, University of Arizona Dept. of Geosciences, Tucson AZ, Jun 1996 – May 1997
Gap-year basement-rock study with Dr. Peter Coney funded by BHP Minerals

INVITED GEOSCIENCE PRESENTATIONS TO NON-GEOLOGISTS

Invited presenter to Valentine ISD high school geography class; April 2021
Asked to teach about landscape evolution and deep time

Invited presenter for Texas Tech University summer Interdisciplinary Arts camp in Marfa; Jul 2019
Asked to teach art students about local landscape and deep time

Invited presenter at Chihuahuan Desert Research Institute (CDRI) for Region-18 K-12 teachers; Sep 2017
Asked to lead discussion with Region 18 K-12 teachers about local geology and geologic time

Interviewed for Marfa Public Radio's "Nature Notes" program: Oct 2016
Archived at: https://marfapublicradio.org/blog/nature-notes/the-laramide-orogeny-the-tectonic-story-of-the-trans-pecos/

Invited presenter for Ballroom Marfa's Interdisciplinary Arts talk at CDRI; Nov 2015
Asked to summarize local geology and geologic time to members of art community

Interviewed for Marfa Public Radio's "Nature notes" program: Feb 2015
Archived at: https://marfapublicradio.org/blog/nature-notes/rio-grande-rift/

PROFESSIONAL PUBLICATIONS

PEER-REVIEWED

Smith, G.A., Moore, J.D., McIntosh, W.C., 2002, Assessing roles of volcanism and basin subsidence in causing Oligo.-Lower Mio. sedimentation in the northern Rio Grande Rift, NM, USA: Journal of Sedimentary Research, v. 72, p. 836-848.
-Publication of MS thesis data with primary advisor

NON-PEER-REVIEWED

Kelley, S.A., Osburn, G.R., Ferguson, C., Moore, J., and Kempter, K, 2005, Preliminary geologic map of the Caňones 7.5' quadrangle, Rio Arriba County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Digital Geologic Map OF-GM 107, scale 1:24,000.
-Extracurricular field work for NMBGMR upon move to NM from Houston

Koning, D., Skotnicki, S., Kelley, S., and Moore, J., 2005, Preliminary Geologic Map of the Chili Quadrangle, Rio Arriba County, New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file Digital Geologic Map OF-GM 103, scale 1:24,000.
-Extracurricular field work for NMBGMR upon move to NM from Houston

ABSTRACTS

Kelsch, J.M., Ricketts, J.W., and Ma, L., 2022, Kinematic and geochronologic analysis of late Cenozoic fault surfaces from the southern segment of the Rio Grande rift in the Big Bend region of western Texas and northern Chihuahua: Geological Society of America Annual Meeting, Abstracts with Programs, GSA 2022 Connects.

-First presentation of preliminary PhD research

Neufeld, T. and Kelsch, J.M., 2022, Geochronologic analysis of multiple occurrences of fault-related calcite on a variable-slip-direction fault in Big Bend National Park, Texas: Geological Society of America Annual Meeting, Abstracts with Programs, GSA 2022 Connects.

-Co-authored with undergraduate McNair research scholar

Rodriguez, R. and Kelsch, J.M., 2022, Strain analysis and geochronology of a shear zone and slickenlines along a section of the Boquillas fault in Big Bend National Park, Texas: Geological Society of America Annual Meeting, Abstracts with Programs, GSA 2022 Connects.

-Co-authored with undergraduate McNair research advisee

Hurtado Jr., Jose Miguel, Kelsch, Jesse Moore and Conley, Aaron T., 2020, Simulated planetary rover operations as a model for teaching Field Geology to students who cannot go to the field: Geological Society of America Annual Meeting, Abstracts with Programs, GSA 2020 Connects Online.

-Collaboration with UTEP faculty and TA partner following May 2020 field camp

Helesic, J.B., Petronis, M.P., Kelsch, J.M., Urbanczyk, K.M., and Dickerson, P.W., 2018, A paleomagnetic analysis of vertical axis rotation along the Tascotal Mesa fault in far West Texas: Geological Society of America Annual Meeting, Abstracts with Programs, Denver, CO.
-SRSU MS thesis that I conceptualized

Roberts, B.T. and Kelsch, J.M., 2016, Localized strain orientations exposed in a footwall syncline in Big Bend National Park: Geological Society of America South Central Section Meeting, Baton Rouge, LA.
- Co-authored with undergraduate research advisee

Branson, Nicholas and Kelsch, Jesse Moore, 2015, Joint Analysis of the Crossen Trachyte on Hancock Hill, Alpine, TX: West Texas Geological Society Annual Symposium, Midland, Texas.
- Co-authored with undergraduate research advisee

Moore, J.D., Smith, G.A., 1999, Syntectonic deposition of the Oligocene-lower Miocene Abiquiu Formation in the northern Rio Grande rift: SEPM Research Conference, Bozeman, MT.
-poster presentation of MS thesis

Moore, J.D., Geissman, J.W., Smith, G.A., 1997, Paleomagnetic Emplacement-Temperature and Thermal-Profile Estimates for Nonwelded Pyroclastic-Flow Deposits, Miocene Peralta Tuff, Jemez Mountains, New Mexico, Abstract, presented at 1997 Fall Meeting, AGU, San Francisco, Calif., 8-12 Dec.
-Presentation of work from summer 1997 RA at UNM

ACTIVE RESEARCH

Active Research-Trans-Pecos Texas and northern Coahuila—present
A kinematic analysis of Rio Grande rift faults to calculate regional strain orientation and to assess models of lithospheric extension
As part of PhD research for UTEP and in collaboration with co-PI's Shiller and Urbanczyk at SRSU; Satterfield and Pinon-Villareal at Angelo State University; and Villalobos and Espejel at Universidad Autónoma de Chihuahua

Active Research-Dog Canyon of Big Bend National Park—present
Strain analysis of a footwall syncline to test theoretical strain partitioning and to investigate kinematic indication of transpressive stress during the Laramide Orogeny in the Sierra del Carmen
As part of PhD research for UTEP

Active Research-Classroom educational study—present
A comparison of the results of two different sources of geoscientific data used in classroom active-learning exercises on the outcomes of critical-thinking skills in students of all majors in introductory geology courses
As part of PhD research for UTEP

PROFESSIONAL ASSOCIATION MEMBERSHIPS

Geological Society of America
American Association for the Advancement of Science
National Association of Geoscience Teachers
Association for Women Geoscientists

OTHER AFFILIATIONS AND INVOLVEMENT

President, Alpine Humane Society, January 2015 – December 2018
Board Member, Alpine Humane Society, October 2013 – present