Dr. Peter H. Hennings **Professional Summary** October 2026

Peter Hennings' expertise is applied structural geology and geomechanics and his specific interests include induced seismicity, structural systems analysis, subsurface interpretation, fault system characterization, fractured reservoir characterization, reservoir geomechanics, subsurface fluid flow and field geology.

Peter received a B.S. in Geology and M.S. in Structural Geology and Rock Mechanics from Texas A&M University and a Ph.D. in Structure and Tectonics from The University of Texas at Austin.

Beginning in 1991, Peter worked in the petroleum industry as a research structural geologist ultimately achieving the position of Research Fellow. From 2002 through 2015 Peter served as a manager of research and technical services. During his time in industry, Peter was active in the academic realm and in graduate student advising with adjunct professor appointments at Stanford University and the University of Wyoming. He maintained a wide breadth of professional service and was active as a geoscience instructor.

In 2016, Peter joined The University of Texas Bureau of Economic Geology as Principal Investigator to form and grow the Center for Injection and Seismicity Research (CISR). CISR became the UT Jackson School's largest industry-sponsored research program. Peter was also active in the formative years of the Bureau's TexNet Earthquake Monitoring Program where he headed its geological integration efforts. In 2022 Peter was promoted to Senior Research Scientist and then Research Professor in 2023. In 2025 Peter stepped down from the PI role of CISR and then retired from UT in early 2026. Peter continues his affiliation at UT as Research Professor Emeritus, a non-compensated researcher, advisor to CISR, student supervisor, and occasional instructor. Peter also continues to maintain his adjunct professor appointment at the University of Wyoming.

While affiliated with CISR and TexNet, Peter conducted a program of research and collaboration among 60+ coauthors spanning 20 UT research units and external institutions and involving dozens of scientists, research staff, and students at the Bureau and UT. This collaboration propelled CISR to become the leading group globally working to understand the geologically integrated nature of induced seismicity and the impacts of large-scale injection. Peter also established a broad stakeholder partnership spanning industry, regulators, academia, and the public to better understand and mitigate induced seismicity. Under Peter's leadership, CISR raised over $15,000,000 in funding and published ~50 scientific papers. Peter is credited with raising over $11,000,000 of CISR funding.

Dr. Hennings' CISR research efforts have revealed the mechanistic relationship between human activity and earthquakes in key regions of Texas and his basin-scale geologic characterizations now underpin new seismicity hazard assessments state-wide. These research products are directly used by the petroleum industry and its regulators to understand induced seismicity and put protocols in place for mitigation. This work has also led to an improved understanding of fault rupture in general which has significant scientific implications for natural and anthropogenically-altered systems globally.

Peter has taught over 100 classroom courses and field seminars within corporate and professional realms. As a Lecturer in UT's Jackson School from 2016-2025, Peter taught at undergraduate and graduate levels on topics of Seismic Structural Analysis, Reservoir Geomechanics, and Geological Field Methods. Peter continues to teach professionally on the topics of Seismic Structural Analysis, Reservoir Geomechanics, Thrust Belt Exploration, and the geology of West Texas and the Rocky Mountain region.

In 2022, Peter was appointed to the Board of Directors for the Big Bend National Park Conservancy.

Peter and his wife Juli Hennings split their time between Austin, Texas and Crested Butte, Colorado.

Bureau of Economic Geology
Jackson School of Geosciences
The University of Texas at Austin

peter.hennings@beg.utexas.edu
office: 512-471-0156; cell: 832-270-4321
https://www.jsg.utexas.edu/researcher/peter_hennings/

Technical Emphasis and Research Interests

Research program development and leadership, fund raising for research, analysis of induced and triggered seismicity, field and subsurface structural geology, seismic interpretation, characterization and hydraulic modeling of fractured and compartmentalized reservoirs, reservoir geomechanics, fault seal analysis, thrust belt kinematics.

Teaching field and classroom courses and workshops on field geology, seismic structural analysis, induced seismicity, reservoir geomechanics, geology of the Laramide Rockies, and geology of West Texas.

Position History

2026- Research Professor Emeritus & CISR Advisor, Bureau of Economic Geology, UT Austin
- Advisor and research contributor to the Center for Injection and Seismicity Research
- Graduate student supervision and service on graduate student committees
- Service on ad hoc technical committees

2025-26 Research Professor & CISR Senior Advisor, Bureau of Economic Geology, UT Austin
- Advisor and technical contributor to the Center for Injection and Seismicity Research
- Teach *GEO395S Seismic Structural Analysis*
- Student supervision and service on graduate student committees

2023-24 Research Professor and CISR PI, Bureau of Economic Geology, UT Austin
- Principal Investigator for the Center for Injection and Seismicity Research (CISR, *my Lab*)
- Managed CISR industrial affiliate program and grew membership to 30 sponsors
- Stakeholder liaison and management
- Research staff supervision (ultimately 10 individuals 2016 through 2024)
- Lead Instructor *GEO660B Geological Field Camp*

2022- Senior Research Scientist and CISR PI, Bureau of Economic Geology, UT Austin
- see items below

2016-21 Research Scientist and CISR PI, Bureau of Economic Geology, UT Austin
- Subsurface integration leader for the TexNet Seismic Monitoring and Research Program
- see items below

2016-25 Lecturer, Jackson School of Geosciences, UT Austin
- Teach *GEO395S Seismic Structural Analysis* (2016, 2017, 2019, 2021, 2025)
- Teach *GEO660 Geological Field Camp* (2017-2024)

2021-22 Lecturer, Department of Earth and Atmospheric Sciences, University of Indiana
- Teach *AESX498 Geologic Field Camp - Structure Concentration* (2021-22)

2006- Adjunct Professor, Dept. of Geology and Geophysics, University of Wyoming
- Teach structural interpretation short courses and geological field trips
- Service on graduate student committees
- School of Energy Resources Enhanced Oil Recovery Institute Technical Advisory Board (2005-10)

2011-18 Adjunct and Consulting Professor, Dept. of Geophysics, Stanford University
- Collaborative research with the Zoback Stress and Crustal Mechanics Group
- Service on graduate student committees

2005-15 Manager Structure & Geomechanics Group, ConocoPhillips Technology & Projects
- Design and management of a research, applications, and internal consultancy program
- Supervision of a specialty group that grew from 2 to 25 people, staff resource management, career development, budget administration, cross-functional integration, internal and external program communication and marketing
- Coordination and participation in global technical service projects with personal emphasis in NW Shelf Australia, Sumatra, Vietnam, Eastern China, Nigeria, Kazakhstan, Norwegian North Sea, other areas

- Research Fellow specializing in seismic structural analysis, geomechanics, fractured reservoirs
- Developer and lead instructor for corporate structural geology training

2003-05 Sr. Scientist/Team Lead, Reservoir Structure, ConocoPhillips Subsurface Technology
- Same general responsibilities as the item above

2002-03 Manager Structural Analysis Group, ConocoPhillips Upstream Technology
- Same general responsibilities as the item above

1999-02 Structural Geology Technology Leader, Phillips Petroleum Co., Bartlesville, OK.
- Global Structural Geology Advisor
- Research program management
- Staff supervision
- Technical service consultation and projects with personal emphasis in Venezuela, Norwegian North Sea, Nigeria, China, other areas
- Research Scientist in seismic structural analysis, geomechanics, fractured reservoirs
- Developer and lead instructor for corporate structural geology training

1998-99 Structural Geology Program Leader, Mobil Technology Co., Dallas, TX.
- Design and management of a research, applications, and internal consultancy program
- Coordination and participation in global technical service projects with personal emphasis in Sumatra, Vietnam, Nigeria, Kazakhstan, other areas
- Researcher specializing in seismic structural analysis, geomechanics, fractured reservoirs
- Conduct training in Seismic Structural Analysis and Compressional Structures Field Seminar

1991-98 Research Structural Geologist, Mobil Technology Co., Dallas, TX.
- Coordination and participation in global technical service projects with personal emphasis in Italy, Nigeria, US and Canadian Rocky Mountains, Sumatra, Vietnam, Western China, Peru, other areas
- Researcher specializing in seismic structural analysis, complexly deformed reservoirs
- Conduct training in Seismic Structural Analysis and Compressional Structures Field Seminar

1987-90 Texaco Fellow and Teaching Assistant, Dept. of Geological Sciences, UT Austin.
1988-90 Summer Intern, Mobil Research and Development Corp., Dallas, TX.
1987 Hydrogeologist Intern, Espey, Huston, and Assoc., Austin, TX.
1986 Research Assistant, Bureau of Economic Geology, UT Austin.
1984-86 Research and Teaching Assistant, Dept. of Geology, Texas A&M University

Professional Geoscientist, Texas, License Number 3887
Board of Directors – Big Bend Conservancy

Fund Raising 2016-4/2025: $11,213,618

Principal Investigator and Advisor, Center for Injection and Seismicity Research: $6,396,306
Principal Investigator, 2023-25 TX RRC Geophysical Data Acquisition & Research: $2,845,313
Topical Lead 2016-2022, TexNet Earthquake Monitoring Program: $1,971,999

Education

Ph.D. Geology (1991), The University of Texas, Austin; Adviser Dr. Bill Muehlberger
M.S. Geology (1986), Texas A&M University, Center for Tectonophysics, Advisor Dr. John Spang
B.S. Geology (1983), Texas A&M University

Teaching

2016-25: Geo395S Seismic Structural Analysis (UT Austin)
2017-24: Geo660B Geological Field Camp (UT Austin); lead instructor 2022-24
2021-22: Field Camp Structure Concentration (Univ Indiana)
1990-26: Taught over 100 academic and professional field and classroom courses on the topics of Application of Structure and Geomechanics to Reservoir Characterization, Management and Hydraulic Stimulation, Wyoming (TetraTech); Introduction to Petroleum Systems: Sources, Reservoirs, Traps, and Basins of the Laramide Rockies (AAPG, UWY); Thrust Belt Seismic

Interpretation, Montana (TetraTech); Seismic Structural Interpretation (Geologica); Geology of West Texas and the Laramide Rocky Mountains (CRG Circle Ridge Geo).

Honors and Awards

2025 Bureau of Economic Geology Tinker Family Best Paper Award (as co-author)
2024 Bureau of Economic Geology Rain Maker of the Year Award (highest fund-raiser)
2023 Bureau of Economic Geology Tinker Family Best Paper Award (as co-author)
2020 AAPG Division of Environmental Geology Best Paper Award
2019 Walter Award for Outstanding Research, The University of Texas Jackson School of Geosciences
2016 AAPG Distinguished Service Award
2015 AAPG George C. Matson Memorial Award for Best Paper
2013 AAPG Certificate of Merit (service to the association)
2007 ConocoPhillips Technology Achievement Award
2005 ConocoPhillips Outstanding Mentor Award
2001-02 AAPG Distinguished Lecturer
2001 GSA Honorary Fellow
2000 AAPG A. I. Levorsen Memorial Award for Best Paper
1986 AAPG A. I. Levorsen Memorial Award for Pest Paper

External Professional Service

2024 AAPG Bulletin Special Volume Editor
2017-20 Advisory Trustee, Southwest Research Institute
2018-19 AAPG Annual Conference Technical Program Chair
2016-18 AAPG Annual Conference Organizing Committee
2013-17 Founder and President, AAPG Petroleum Structure and Geomechanics Division
2016- Associate Editor, Rocky Mountain Geology
2015-16 AAPG Annual Conference Organizing Committee Theme Chair
2013-16 AAPG Associate Editor
2002-06 AAPG Associate Editor
2001-2 AAPG Distinguished Lecturer
2011-13 AAPG Technical Advisory Committee
2010-12 Chair AAPG Research Committee
2001-07 AAPG Distinguished Lecture Committee
1997-14 AAPG Research Committee
2005-10 Univ WY School of Energy Resources Enhanced Oil Recovery Institute Technical Advisory Board
2008-9 Convener AAPG-SPE-SEG Fractured Reservoir Hedberg Conference & Special Volume Editor
2001-02 AAPG Distinguished Lecturer

Patents

Schultz, R.A., Soofi, K.A., and Hennings, P.H., Satellite Geodesy and Reservoir Performance, Patent #US20160238704 A1, Aug 18, 2016.

Amendt, D.V., Busetti, S., D'Onfro, P.S., and Hennings, P.H., Mechanical Characterization of Core Samples, Patent #US20140373616 A1, Dec 25, 2014.

Committee Service Jackson School of Geoscience

2024-25 Bureau Executive Committee
2023-25 Bureau Promotion Advisory Committee
2023-25 Jackson School Appointments Committee
2023-25 Bureau External Support Leveraging Committee

Advising and Graduate Student Committee Service

Ph.D. Committee Member (2025-), The Univ. Texas at Austin, Hattori, K., Sedimentology of Cretaceous Stratigraphy in the Quitman Mountains, West Texas.

Ph.D. Committee Chair (2024-), The Univ. Texas at Austin, Horne, E., Reinterpretation of the Grenville Orogeny in west Texas.

Ph.D. Committee Member (2024-), The Univ. Texas at Austin, Sathyanath, A., Laboratory Investigations of fault Slip and Friction.

Ph.D. Committee Member (2024-), The Univ. Texas at Austin, Ulfah, M., Dynamic Impact of Massive Injection on Subsurface Reservoirs.

M.S. Committee Member (2024-), The Univ. Texas at Austin, Casazza, M., Dating of Thrusting in the Sawtooth Range, Montana.

Ph.D. Committee Member (2022-24), The Univ. Texas at Austin, Zebker, M., InSAR Analysis of Subsidence of Aquifers in Texas.

Post Doctoral Supervisor (2020-22), The Univ. Texas at Austin, Calle, A., Interpretation of Geologic Models for Dynamic Assessment of Induced Earthquake Triggering, Permian Basin Region of West Texas and Southeast New Mexico.

M.S. Supervisor (2020-22), The Univ. Texas at Austin, McKeighan, C., Relationship between hydraulic fracturing, earthquakes, and fault reactivation in the Eagle Ford, South Texas.

Ph.D. Committee Member (2021-22), The Univ. Texas at Austin, Gutierrez, J., Flat slab subduction in the sedimentary record in the Colombian foreland.

Ph.D. Committee Member (2020-22), The Univ. Texas at Austin, Staniewicz, S., Precision imaging and detection of surface deformation over the Permian Basin using radar interferometry.

Ph.D. Committee Member (2021), The Univ. Texas at Austin, Shakiba, M., Multiscale Spatial Analysis and Modeling of Fracture Arrangements.

Ph.D. Committee Member (2019-2021), Southern Methodist University, Quinones, L., Crustal shear wave splitting and pore fluid pressure in the central United States and modeling injection induced stress changes in the Fort Worth Basin, Texas using 3D coupled geomechanical models.

Ph.D. Committee Member (2018-present), The Univ. Texas at Austin, Forstner, S., Reconstructing fracture pattern evolution.

Ph.D. Committee Member (2018-20), The Univ. Texas at Austin, Mackaman-Lofland, C., Structural architecture and tectonic evolution of the southern Central Andes (31−33°S): implications for Cordilleran deformation modes and driving mechanisms.

Ph.D. Committee Member (2017-20), Stanford University, Lund Snee, J.E., State of stress across the central and eastern USA and geologic controls.

M.S. Committee Member (2017-18), The Univ. Texas at Austin, Gutierrez Tamayo, E.G., Provenance and geochronological insights into Late Cretaceous-Cenozoic foreland basin development in the Sub-Andean Zone and Oriente Basin of Ecuador.

M.S. Committee Member (2016), The Univ. Texas at Austin, Borgfeldt, T., Seismic Velocity Model for Texas.

M.S. Committee Member (2016), The Univ. Texas at Austin, Burton, D., Seismic Tectonic Analysis of South Georgia and South Sandwich Islands.

Ph.D. Committee Member (2012-15), Stanford University, Johri, M., A scaling law to characterize fault-damage zones at reservoir depths.

Ph.D. Committee Member (2008-11), Stanford University, Paul, P., Fluid flow in a fractured reservoir using a geomechanically-constrained fault zone damage model for reservoir simulation and a method to implement permeability anisotropy associated with fault damage zones in reservoir simulation.

M.S. Committee Member (2004-06), Gilbertson, N., 3D geologic modeling and fracture interpretation of the Tensleep Sandstone, Alcova Anticline, Wyoming.

M.S. Committee Member (2004-5), University of Wyoming, Ottemen, A., Structural analysis of a Laramide, basement-involved, foreland fault zone, Rawlins uplift, south-central Wyoming.

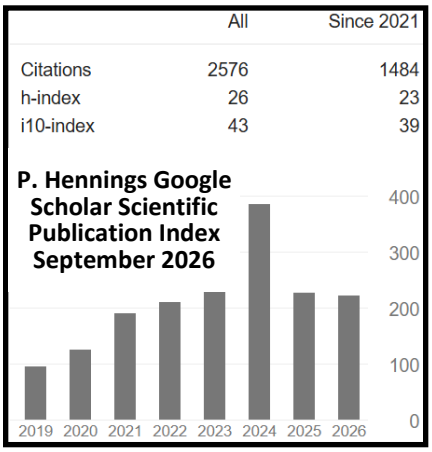
Ph.D. Committee Member (2002-04), Stanford University, Bergbauer, S., Improving curvature analysis of deformed horizons using scale-dependent filtering techniques.

Ph.D. Committee Member (2000-02), Colorado School of Mines, Zahm, C., Kinematics of tear faulting in structurally attenuated strata, Thermopolis Anticline, Wyoming.

M.S. Committee Member (1997-8), Univ. Arizona, Swanberg, K., Fracture analysis of the Circle Cliffs Uplift, Utah.

M.S. Committee Member (1996-8), The Univ. Texas at Arlington, Prine, B., 3D Analysis of Thrust Fault Terminations, Kananaskis, Alberta.

Published Papers



[+]Paper from my "CISR lab" stemming from the time when I was PI, generated the funding, and supervised aspects of the research.
*Paper or abstract where, in my former corporate role, I sponsored the research and served as thesis committee member.

Smye, K., Leng, J., Hoffman, D., Calle, A., Nicot, J-P., and Hennings, P., *in prep*, Injection capacity of the Delaware Mountain Group in the Permian Basin: Implications for Wastewater Management in the World's Most Productive Oilfield, PNAS.

[+]Lee, H., Kholy, S., Smye, K., Chen, J., Nicot, J-P., Hennings, P., *in revision*, Spatial and temporal analysis of pore pressure response from shallow injection using InSAR data inversion in the Delaware Basin, AAPG Bulletin.

[+]Horne, E.A., Callahan, O.A., Smye, K.M., Barnes, M., Eichhubl, P., Breton, C., Hennings, P.H., *in press*, The Structure of the Geologic Basement in Texas, in Callahan, O. A., Eichhubl, P., eds., The Geologic Basement of Texas: a volume in honor of Peter Flawn: The University of Texas at Austin, Bureau of Economic Geology Report of Investigations.

[+]Bolton, D.C., Curry, B., Jin, L., Smye, K., Rich, J., Hennings, P., 2026, High hydraulic diffusivities revealed from in-situ measurements in the Delaware Basin: Implications for Coulomb Stressing and Induced Seismicity, Geophysical Journal International, https://doi.org/10.1093/gji/ggag226.

[+]Horne, E.A. and Hennings, P.H., 2026, Example of well-imaged fault networks that connect deep injection zones to intra-basement seismogenic faults: Part 2 – fault slip hazard, Interpretation, https://doi.org/10.1190/int-2025-0047.

[+]Horne, E.A. and Hennings, P.H., 2026, Example of well-imaged fault networks that connect deep injection zones to intra-basement seismogenic faults: Part 1 – interpretation and characterization, Interpretation, https://doi.org/10.1190/int-2025-0034.

Xiao, Y., Zigler, C., Hennings, P., and Savvaidis, A., 2025, Time-Varying Confounding Bias in Observational Geoscience with Application to Induced Seismicity, https://arxiv.org/abs/2510.16360.

Zoback, M., and Hennings, P., 2025, Implications of earthquakes triggered by massive injection of produced water in saline aquifers for large-scale geologic storage of CO_2, Journal of Greenhouse Gas Control, https://doi.org/10.1016/j.ijggc.2025.104447.

Zebker, M., Chen, J., Smye, K., and Hennings, P., 2025, Injection-related hazards in the Permian Basin as characterized by spaceborne InSAR and in-situ measurements, Geophysical Research Letters, https://doi.org/10.1029/2025GL115231.

[+]Smart, K.J., Smye, K.M., Cawood, A.J., Ferrill, D.A., Hennings, P.H., Horne, E.A., 2025, Geomechanical modeling of reservoir dynamics associated with shallow injection and production in the Delaware Basin, Interpretation, https://doi.org/10.1190/int-2024-0009.1.

Bolton, C., Igonin, N., Chen, Y., Trugman, D., Savvaidis, A., Hennings, P., 2024, Foreshocks to the 2020 Mw 4.8 Mentone Earthquake in west Texas: Insights into earthquake nucleation and earthquake

triggering, Seismica, https://doi.org/10.26443/seismica.v3i2.1420.

[+]Hennings, P., 2024, The Geology of Injection-Induced Earthquakes in the Midland Basin Region: Introduction, AAPG Bulletin, DOI:10.1306/intro10012424106.

[+]Hennings, P., and Smye, K.M., 2024, Knowns, Questions, and Implications of Induced Seismicity in the Permian Basin, USA, AAPG Bulletin, DOI: 10.1306/08292424051.

[+]Smye, K.M., Yut, K., Reedy, R., Scanlon, B, Nicot, J.P., Hennings, P., 2024, Challenges Associated with Water Production and Injection in the Permian Basin Region, AAPG Bulletin, DOI: 10.1306/08082424025.

[+]Hennings, P.H., Ge, J., Horne, E.A., Smye, K.M., and Nicot, J.-P., 2024, Pore Pressure Thresholds from Injection Associated with Seismogenic Fault Rupture in the Midland Basin, West Texas, USA, AAPG Bulletin, DOI: 10.1306/07232424014.

[+]Ge, J., Nicot, J.-P., Smye, K.M. Calle, A. Hennings, P.H., E.A. Horne, and Leng, J., 2024, Modeling the Evolution of Pore Pressure from Deep Wastewater Injection in the Midland Basin, West Texas, USA, AAPG Bulletin, DOI: 10.1306/09102424008.

[+]Calle, A.Z., Smye, K.M., Horne, E.A., Eastwood, R., R. Reedy, 2024, Hennings, P.H., Lithofacies and Porosity Heterogeneity of Ordovician-Pennsylvanian Successions of the Midland Basin: Implications for Wastewater Disposal Reservoir Potential, AAPG Bulletin, DOI: 10.1306/05212424005.

[+]Horne, E., Hennings, P., Smye, K., Calle, A., Morris, A., Huang, G., 2024, Interpretation, Characterization and Fault Slip Hazard Assessment of Faults in the Midland Basin, West Texas, USA, AAPG Bulletin, DOI: 10.1306/01242423080.

[+]Morris, A., Smye, K., and Hennings, P., 2024, Hydraulic fracturing, fault system architecture, and the details of anthropogenic earthquakes in the post-Pennsylvanian Delaware Basin of west Texas, Lithosphere, 116. doi: https://doi.org/10.2113/2024/lithosphere_2024_116.

[+]Smye, K.M., Ge, J., Morris, A., Horne, E.A., Calle, A., Eastwood, R.L., Nicot, J.-P., Hennings, P., 2024, Role of Deep Fluid Injection in Induced Seismicity in the Delaware Basin, West Texas and Southeast New Mexico, Geochemistry, Geophysics, Geosystems, http://doi.org/10.1029/2023GC011260.

[+]Bolton, D.C., Affinito, R., Smye, K., Marone, C., and Hennings, P., 2023, Frictional and poromechanical properties of the Delaware Mountain Group - Insights into induced seismicity in the Delaware Basin, EPSL, https://doi.org/10.1016/j.epsl.2023.118436.

Lee, H.P., Staniewicz, S., Chen, J., Hennings, P., Olson, J.E., 2023, Subsurface deformation monitoring with InSAR and elastic inversion modeling in west Texas, Geoenergy Science and Engineering, doi: https://doi.org/10.1016/j.geoen.2023.212299.

[+]Hennings, P., Staniewicz, S., Smye, K., Chen, J., Horne, E., Nicot, J-P., Ge, J., Reedy, R., and Scanlon, B., 2023, Widespread anthropogenic uplift, subsidence, faulting and earthquakes in the Delaware Basin of Texas and New Mexico, Science of the Total Environment, https://doi.org/10.1016/j.scitotenv.2023.166367.

[+]Hennings, P., and Young, M., 2023, The TexNet-CISR collaboration and steps toward understanding induced seismicity in Texas, Geological Society of America Special Volume on Induced Seismicity, http://dx.doi.org/10.1130/2023.2559(06).

[+]Horne, E., Smye, K., Hennings, P., 2022, Structure and characteristics of the basement in the Fort Worth Basin, in Callahan, O. A., Eichhubl, P., eds., The Geologic Basement of Texas: a volume in honor of Peter Flawn, Texas Bureau of Economic Geology, https://store.beg.utexas.edu/reports-of-investigations/3826-ri0286c7.html.

[+]McKeighan, C., Hennings, P., Horne, E.A., Smye, K., Morris, A.P., 2022, Understanding anthropogenic fault rupture in the Eagle Ford Region, south-central Texas, Bulletin of the Seismological Society of America, doi: 10.1785/0120220074.

[+]Horne, E., Hennings, P., Smye, K., Staniewicz, S., Chen, J., Savvaidis, A., 2022, Structural characteristics of shallow-normal Faults in the Delaware Basin, Texas and New Mexico, Interpretation, https://doi.org/10.1190/INT-2022-0005.1.

[+]Ge, J., Nicot, J.-P., Hennings, P.H., Smye, K.M., Hosseini, S.A., Gao, R.S., and Breton, C.L., 2022,

Recent Water Disposal and Pore Pressure Evolution in the Delaware Mountain Group, Delaware Basin, Southeast New Mexico and West Texas, Journal of Hydrology - Regional Studies, https://doi.org/10.1016/j.ejrh.2022.101041

Shuster, M. W., Zahm, C. K., and Hennings, P. H., 2021, Oil and gas in fractured crystalline igneous and metamorphic rocks: global overview and examples from Texas, in Callahan, O. A., and Eichhubl, Peter, eds., The Geologic Basement of Texas: A Volume in Honor of Peter T. Flawn: The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 286. doi.org/10.23867/RI0286C3.

[+]Hennings, P.H., Dvory, N., Horne, E.A., Li, P., Savvaidis, A., Zoback, M., 2021, Stability of the Fault Systems that Host Induced Earthquakes in the Delaware Basin of West Texas and Southeast New Mexico, The Seismic Record, https://doi.org/10.1785/0320210020

[+]Hennings, P.H., J.P. Nicot, R.S. Gao, H.R. DeShon, J-E. Lund Snee, A.P. Morris, M.R. Brudzinski, E.A. Horne, and C. Breton, 2021, Pore Pressure Threshold and Fault Slip Potential for Induced Earthquakes in the Dallas-Fort Worth Area of North Central Texas, Geophysical Research Letters, https://doi.org/10.1029/2021GL093564

[+]Smye, K.M., Banerji, D.A., Eastwood, R., McDaid, G. and Hennings, P.H., 2021, Lithology and Reservoir Properties of the Delaware Mountain Group of the Delaware Basin and Implications for Saltwater Disposal and Induced Seismicity, Journal of Sedimentary Research, https://doi.org/10.2110/jsr.2020.134

[+]Morris, A.P., Hennings, P.H., Horne, E.A., Smye, K.M., 2021 Stability of Basement-Rooted Faults in the Delaware Basin of Texas and New Mexico, USA, Journal of Structural Geology, https://doi.org/10.1016/j.jsg.2021.104360

[+]Gao, R., Nicot, J.-P., Hennings, P. H., La Pointe, P., Smye, K., Horne, E. A., Dommisse, R., 2021, Low pressure build-up with large disposal volumes of oilfield water A comprehensive hydrogeologic model of pore pressure change in the Ellenburger Group, Fort Worth Basin, North-Central Texas: AAPG Bulletin, https://doi.org/10.1306/03252120159

[+]Smye, K.M., Hennings, P.H., Horne, E.A., 2021, Variations in Vertical Stress in the Permian Basin Region, AAPG Bulletin, https://doi.org/10.1306/10092019189

[+]Horne, E.A., Hennings, P.H., and Zahm, C. K., 2021, Basement-rooted faults of the Delaware Basin and Central Basin Platform, Permian Basin, West Texas and Southeastern New Mexico, in Callahan, O. A., Eichhubl, P., eds., The Geologic Basement of Texas: a volume in honor of Peter Flawn, Texas Bureau of Economic Geology, 10.23867/RI0286C6.

Staniewicz, S., Chen, J. Lee, H., Olson, J., Savvaidis, A., Reedy, R., Breton, C., Rathje, E., Hennings, P., 2020, InSAR reveals complex surface deformation patterns over an 80,000 square kilometer oil-producing region in the Permian Basin, Geophysical Research Letters, https://doi.org/10.1029/2020GL090151

[+]Horne, E.A., Hennings, P.H., Osmond, J.L., DeShon, H., 2020, Structural characterization of potentially seismogenic faults in the greater Fort Worth Basin: Interpretation, v. 8, no. 2, 74 p., https://doi.org/10.1190/int-2019-0188.1

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Invited Presentations – not tracked, estimated at 5 per year from 2000-2025

Abstracts for Conference Presentations including Invited (presenter underlined)

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Smye, K., Hennings, P., Scanlon, B., Nicot, J-P., 2025, Challenges of Water Management in the Permian Basin: Past, Present and Future, GSA Annual Convention, San Antonio, TX.

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3/15/2016	Shaken and Stirred Up - Earthquakes, Fault Lines, Drilling and Floods Stoke Debate over Building Dams in North Texas	Dallas Observer
4/13/2016	Texas faces significant threat of earthquake activity resulting from both natural processes, fracking	Daily Texan; U-Wire
7/22/2016	Scientists offer possible explanation for how oil and gas activity may have triggered Dallas earthquakes	Dallas Morning News
3/30/2017	Why is Texas Shaking?	UT News; Phys.org
3/23/2017	Geologist speaks about testing needed to determine cause of local earthquakes	KWES-TV Midland
3/23/2017	Seismicity studies heat up as TexNet expands	Midland Reporter-Times
3/18/2018	Eighth symposium draws oil-and-gas professionals to oil museum May 2	Kilgore News Herald
4/26/2017	East Texas Energy Symposium set for May 1 at East Texas Oil Museum	The Gilmer Mirror
7/19/2017	TexNet studies causes of earthquakes across Texas	KWES NewsWest 9
10/31/2017	Bureau of Economic Geology completes installation of TexNet earthquake monitoring network	UT Energy Bulletin
10/30/2017	Texas completes new seismic monitoring system	Kallanish Energy
10/25/2017	TexNet Allows Public to Track Earthquakes in Real Time	The Daily Texan
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11/29/2017	Why 2017's West Texas Tremor Tally Is Higher Than The Past Ten Years Combined	Texas Standard
11/16/2017	Alpine puts earthquakes on the map	Alpine Avalanche
12/13/2017	The Railroad Commission remains a non-believer on ties between North Texas earthquakes and injection disposal wells	Dallas Morning News
11/16/2018	Studies Examine A Possible Relationship Between Fracking and Seismic Activity In Texas	Texas Standard
12/14/2018	Researchers study Permian for answers on injection-induced earthquakes	Midland Reporter-Telegram; San Antonio Express-News
7/30/2019	Wastewater injection could trigger earthquakes along a Texas fault system, UT researchers find	KXAN-TV
7/26/2019	News Roundup: Researchers Map North Texas Fault Lines Vulnerable to Oil and Gas Drilling	Texas Standard
7/23/2019	New Map Outlines Seismic Faults Across DFW Region	SMU Research; Bright Surf; EurekAlert; WebNews Academic
7/23/2019	Many Dallas-Fort Worth Area Faults Have the Potential to Host Earthquakes, New Study Finds	UT News; Stanford Report; States News Service; Targeted News Service; Mirage News Australia; Scienmag; Bioengineer; EurekAlert; ENN (Environmental News); Bright Surf; Health medicine Network; NewsCaf; ScienceDaily; LongRoom.com; POST Online Media; PreventionWeb; PressReleasePoint
7/24/2019	New Study Finds Faults Under North Texas Are Sensitive to Earthquakes	NBC 5 Dallas-Fort Worth; KXAS-TV
7/24/2019	New Map Reveals More than 250 Fault Lines in Dallas-Fort Worth Area, Illustrating Potential Earthquake Risk	The Weather Channel
7/25/2019	A Dallas Quake? New Mapping Outlines 251 Faults Across DFW Region	Homeland Security Today
7/25/2019	Wastewater injection can make faults twice as likely to fail, quake study says	Dallas Morning News

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11/20/2019	UT study finds increase in West Texas earthquakes	Sciencemag; Eurekalert; Bright Surf; Bioengineer; Targeted News Service; PreventionWeb
2/22/2020	Researchers getting clearer picture of region's seismicity	Midland Reporter-Telegram; San Antonio Express-News; Gardendale News Breaks
9/2/2020	3.2 magnitude earthquake rattles west Texas	Sciencemag; Eurekalert; Bright Surf; KTRK-TV
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1/10/2025	Understanding Induced Seismicity	AAPG Explorer
1/10/2025	A Look at BEG's Center for Injection and Seismicity Research	AAPG Explorer