Curriculum Vitae

Brett M. Carpenter

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Current Position:
Brian E. and Sandra O'Brien Presidential Professor, Willard L. Miller Professor, Associate Professor of Geosciences, University of Oklahoma

Areas of Expertise:
Structural Geology, Rock Mechanics, Experimental Rock Deformation, Fault Mechanics, Earthquake Physics, Continental Scientific Drilling

Professional Appointments:

Associate Professor of Geosciences, University of Oklahoma	07/2023-current
Assistant Professor of Geosciences, University of Oklahoma	08/2017-07/2023
Postdoctoral Researcher, University of Oklahoma	10/2015-08/2017
Postdoctoral Researcher, Istituto Nazionale di Geofisica e Vulcanologia	01/2012-09/2015

Education:

Pennsylvania State University
- Ph.D.: Geosciences — 05/2012
  - Emphasis: Rock Mechanics and Fault Physics
- Master of Science: Geosciences — 05/2007
  - Emphasis: Granular Physics

Mansfield University of Pennsylvania — 05/2005
- Bachelor of Science in Education: Earth & Space Science, Physics Education
  - Majors: Earth and Space Science Education; Physics Education
  - Minor: Geology

Teaching/Courses:
Instructor: Structural Geology Seminar (5970)
Instructor: Graduate Geowriting (5970)
Instructor: Fractures, Faults, and Earthquakes (4153)
Instructor: Geowriting (3333)
Instructor: Structural Geology (3114)
Instructor: Dynamic Earth / Phys. Geol. for Science and Engineering Majors (1104/1114)
Instructor: Introduction to Phys. Geol. – Field Intensive (1104/1114)

Research:
Slip characteristics, hazards, and seismic radiation associated with bi-material faults
The influence of basement structure and strength on OK seismic activity
The petrophysical properties of Midcontinent crystalline basement
Laboratory constraints on fault stability and earthquake nucleation

Society Memberships:
SEG: 2020-Present
AAPG: 2019-Present
GSA: 2019-Present
AGU: 2005-Present
EGU: 2012-Present
NSTA: 2001 - 2005

Honors/Awards:

OU Brian E. and Sandra O'Brien Presidential Professorship	2025
Mewbourne College Faculty Pioneer Award	2020
AAPG Inspirational Geoscience Educator Award	2019
GeoPRISMS AGU Student Prize Honorable Mention	2011
Earthscope National Meeting First Place Student Poster Award	2011

Invited Presentations:

03-28/2025 - Sapienza University of Rome Geosciences: Laboratory Studies of the Micromechanics of Friction and Laboratory and Earthquake Physics at the University of Oklahoma

02/23/24 - University of Wisconsin Geoscience Colloquium: The Susceptibility of Oklahoma's Basement to Seismic Reactivation

10/04/21 - AAPG MidCon Convention: The Fractures of Oklahoma's Basement: Geometry, Alteration, and Associated Sedimentary Sequence Deformation

09/09/21 - Wichita State University EES700: The Susceptibility of Oklahoma's Basement to Seismic Reactivation

03/17/21 - Colorado School of Mines Heiland Lecture: The Susceptibility of Oklahoma's Basement to Seismic Reactivation

10/28/20 - GSA 2020 Connects Online, Session T21: The Fractures of Oklahoma's Basement: From Core to Regional Scale

03/05/20 - Kansas State University Geology Colloquium: The Susceptibility of Oklahoma's Basement to Seismic Reactivation

02/06/20 - University of Texas at Austin Deford Lecture: The Susceptibility of Oklahoma's Basement to Seismic Reactivation

10/16/19 - University of Tulsa Geoscience Colloquium: The Susceptibility of Oklahoma's Basement to Seismic Reactivation

10/08/19 - AAPG Midcontinent Meeting: Critically Oriented Faults and Fluid Pathways: Ingredients for Induced Seismicity in North-Central Oklahoma

03/08/19 – OSU Geology and Geophysics Colloquium: Oklahoma's Basement-Primed for Seismic Reactivation

02/15/19 - AAAS Annual Meeting: Scientific Accomplishments at The San Andreas Fault Observatory at Depth (SAFOD)

08/23/16 - GRC Rock Deformation: Experimental Simulation of Earthquake Rupture Processes

05/21/14 - ETH Zurich Earth Science Colloquium: Frictional Heterogeneities on Carbonate-bearing Normal Faults

12/11/13 - AGU Fall Meeting, Session S23C: Fault Friction and Physics: Lessons from SAFOD

12/05/12 - AGU Fall Meeting, Session T34D: Frictional, Hydraulic, and Acoustic Properties of Alpine Fault DFDP-1 Core

02/29/12 - Università degli Studi di Perugia Colloquium: Fault Strength and Stability: Lessons Learned from the San Andreas Fault in Central California

Publications

underlined denotes advised student or postdoc

---Peer-Reviewed---

submitted or in revision	
	Okamoto, K.K., H.M. Savage, N.M. Beeler, and **B.M. Carpenter** (*accepted)*, To heal or not to heal?: The effect of pore fluid pressure on the frictional healing behavior of Oklahoma lithologies, *Journal of Geophysical Research - Solid Earth.*
	Cochran, E.S., N. Zakharova, B.M. Carpenter, F. Kolawole, N.W. Hayman, H. Sone, D.R. Schmitt, P. Eichhubl, W. Ellsworth, Y. Guglielmi, S. Hickman, and H.J. Tobin (*submitted*), Potential for continental scientific drilling to inform fault mechanics and earthquake science - Opinion Article, *Seismological Review Letters*,
in prep with full draft	
	Kolawole, F., Z. Reches, D. Dangwal, and **B.M. Carpenter** (*in prep*), The anatomy of multi-core basement faults with clustered fracturing: The Mill Creek Fault Zone, Oklahoma.
	Carpenter, B.M., C. Viti, and C. Collettini (*in prep*), Physicochemical processes of frictional strengthening in calcite fault gouge at room temperature.
	Carpenter, B.M., T. Shadoan, Xf. Chen, and Z. Reches, (*in prep*), Seismic radiation during slip along experimental bimaterial faults.
2025	
70)	Salazar Florez, D., **B.M. Carpenter**, and H. Bedle (*2025)*, Revealing the hidden faults of the Oklahoma basement through unsupervised machine learning methods and integration of earthquake data, *Interpretation,* doi: 10.1190/int-2024-0126.1.
69)	Kibikas, W., A. Ghassemi, J. Walter, and **B.M. Carpenter** (*2025)*, Experimental velocity anisotropy in crystalline basement rocks of the midcontinental USA, *Applied Geophysics,* doi:10.1016/j.jappgeo.2025.105907.
68)	Yuan, S., R. Wang, X. Huang, **B.M. Carpenter**, K.J. Marfurt, and Z. Liao (*2025*), Seismic attributes and fault-fold systems: A case study of quantitative analysis of coal seams in the Southern Qinshui Basin, China, *Interpretation, 13,* doi: 10.1190/INT-2024-0104.1.
67)	Blanco Dufau, P., H. Bedle, K. Marfurt, and **B.M Carpenter** (*2025*), Post-migration, seismic data conditioning workflow on a merged dataset, *Interpretation, 13*, doi: 10.1190/INT-2024-0097.1.
2023	
66)	Li, P.. N. Nakata, F. Kolawole, **B.M. Carpenter**, and H. Qiu (*2023*), Towards the usage of quarry blasts as an active seismic source for subsurface imaging, *Geophys. J. Int.,* doi: 10.1093/gji/ggad391.
65)	Wang, Z., M. Behm, P. Persaud, Xw. Chen, and **B.M. Carpenter** (*2023*), New insights on Moho depth and regional lithospheric structure of central Oklahoma based on receiver function analysis from dense seismic networks, *Tectonophys*, doi:10.1016/j.tecto.2023.229818.
2022	
64)	Conrad, E.M., N. Tisato, **B.M. Carpenter**, and G. Di Toro (*2022*), Influence of frictional melt on the seismic cycle: Insights from experiments on rock analog material, *J. Geophs. Res. – Solid Earth*, *128*, doi:10.1029/2022JB025695.
63)	Kolawole, F, T. Vick, E.A. Atekwana, D.A. Laó-Dávila, A.G. Costa, and **B.M. Carpenter** (*2022*), Strain localization and migration during the pulsed lateral propagation of the Shire Rift Zone, East Africa, *Tectonophys*., *839*, doi:10.1016/j.tecto.2022.229499.
62)	Scuderi, M.M., and **B.M. Carpenter** (*2022*), Frictional stability and hydromechanical coupling of serpentinite-bearing fault gouge, *Geophys. J. Int., 231*, doi:10.1093/gji/ggac188.
61)	Chase, B., F. Kolawole, E.A. Atekwana, **B.M. Carpenter**, M. Simpson Turko, M. Abdelsalam, and C. Finn (*2022*), The 180 km-long Meers-Willow fault system in the Southern Oklahoma Aulacogen: A potential US mid-continent seismic hazard, *GSA Bull.,* doi:10.1130/B36363.1.
2021	

60)	Zhang, L., Z. Liao, K. Long, **B.M. Carpenter**, H. Zou, and F. Hao (*2021*), Fundamental constraints of lithologically-controlled fault networks on gas migration and accumulation for fractured carbonates in the western Sichuan Basin, China, *J. Pet. Sci. and Eng., 208,* doi:10.1016/j.petrol.2021.109502.
59)	Kibikas, W.M., A. Ghassemi, and **B.M. Carpenter** (*2021*), Evaluating the mechanical properties of carbonate and evaporite caprocks in the Sichuan Basin, *J. Asian Earth Sciences X*, 6, doi:10.1016/j.jaesx.2021.100063.
58)	Hamilton, M., **B.M. Carpenter**, C. Johnston, F. Kolawole, S. Evans, and D. Elmore (*2021*), Fractured, altered, and faulted basement in northeastern Oklahoma: Implications for induced seismicity, *J. Struc. Geo.,* 147, doi:10.1016/j.jsg.2021.104330.
57)	Ortega-Romo, A., J. Walter, Xw. Chen, and **B.M. Carpenter** (*2021*), Spatially distinct tectonic zones across Oklahoma inferred from shear wave splitting, *Seis. Res. Lett.* doi:10.1785/0220200237.
56)	Karam, P., S. Mitra, K. Marfurt, , and **B.M. Carpenter** (*2021*), Synthetic transfer zone characterization using seismic attributes, Taranaki Basin, New Zealand, *Interpretation,* 9, doi:10.1190/int-2020-0138.1.
2020	
55)	Zoet, L.K., M Ikari, R.B. Alley, C. Marone, S. Anandakrishnan, **B.M. Carpenter** and M. Scuderi *(2020)*, Application of constitutive friction laws to glacier seismicity, *Geophys Res. Lett., 47,* doi:10.1029/2020GL088964.
54)	Ikari, M.J., **B.M. Carpenter,** M.M. Scuderi**,** C. Collettini and A. Kopf *(2020)*, Frictional strengthening explored during non-steady state shearing: Implications for fault stability and slip event recurrence time, *J. Geophs. Res. – Solid Earth, 125,* doi:10.1029/2020JB020015.
53)	Firkins, M., F. Kolawole, K.J. Marfurt, and **B.M. Carpenter** (*2020*), Attribute assisted characterization of basement faulting and the associated sedimentary sequence deformation in north-central Oklahoma, *Interpretation, 8,* doi:10.1190/INT-2020-0053.1.
52)	Liao, Z., L. Hu, X. Huang, **B.M. Carpenter**, S. Vasileva, and Y. Zhou (*2020*), Characterizing damage-zones of normal faults using seismic variance in the Wangxuzhuang Oilfield, China, *Interpretation, 8,* doi:10.1190/INT-2020-0004.1.
51)	Kibikas, W.M., A. Ghassemi, and **B.M. Carpenter** (2020), Mechanical strength and physical properties of Oklahoma's igneous basement, *Tectonophys*. *777*, doi: 10.1016/j.tecto.2020.228336.
50)	Chen, Xf., **B.M. Carpenter,** and Z. Reches (2020), Asperity failure control of stick-slip along brittle faults, *Pure Appl. Geophys. 177,* doi:10.1007/s00024-020-02434-y.
49)	Kolawole, F., M. Simpson Turko, and **B.M. Carpenter** (2020), Basement-controlled deformation of the sedimentary sequences in north-central Oklahoma, *Basin Res., 32,* doi:10.1111/bre.12433.
2019	
48)	Qin, Y., Xw. Chen, J.I. Walter, J. Haffener, D. Trugman, **B.M. Carpenter**, M. Weingarten, and F. Kolawole (2019), Deciphering the stress state of seismogenic faults in Oklahoma and southern Kansas based on an improved stress map,. *J. Geophs. Res. – Solid Earth, 124,* doi:10.1029/2019JB018377.
47)	Kolawole, F., C. Johnston, J.C. Chang, K. Marfurt, D.A. Lockner, Z. Reches, and **B.M. Carpenter** (2019*),* The susceptibility of Oklahoma's basement to seismic reactivation, *Nature Geosc.*, *12*, doi:10.1038/s41561-019-0440-5.
46)	Liao, Z., Liu, H., **B.M. Carpenter**, K.J. Marfurt, and Z. Reches (2019), Analysis of fault damage-zones using 3D seismic coherence in the Anadarko Basin, Oklahoma, *AAPG Bull. 103*, doi:10.1306/1219181413417207.
45)	Chen, Xf, C.B. Morgan, **B.M. Carpenter**, and Z. Reches (2019), Weakening mechanisms of Alpine Fault gouge in high-velocity shear experiments, *J. Geophs. Res. – Solid Earth, 124,* doi:10.1029/2019JB017383.
44)	Reches, Z., X. Zu, and **B.M. Carpenter** (2019), Energy-flux control of the steady-state, creep, and dynamic slip modes of faults, *Sci. Rep., 9,* doi:10.1038/s41598-019-46922-1.
43)	Collettini, C., T. Tesei, M.M. Scuderi, **B.M. Carpenter**, and C. Viti (2019), Beyond Byerlee friction; Weak faults and implications for slip behavior, *Earth and Planet. Sci. Lett., 519,* doi:10.1016/j.epsl.2019.05.011.

	2018
42)	Qin, Y., Xw. Chen, **B.M. Carpenter**, and F. Kolawole (2018), Coulomb stress transfer influences fault reactivation in areas of wastewater injection, *Geophys Res. Lett., 45,* doi:10.1029/2018GL079713
41)	Rabinowitz, H.S., H.M. Savage, R.M. Skarbek, M.J. Ikari, **B.M. Carpenter**, C. Collettini (2018), Frictional behavior of input sediments to the Hikurangi Trench, New Zealand, *Geochem. Geophys. Geosys., 19,* doi:10.1029/2018GC007633.
	2017
40)	Kaneko, Y., **B.M. Carpenter**, and S. Nielsen (2017), Nucleation process of magnitude-2 repeating earthquakes on the San Andreas fault predicted by rate-and-state fault models with SAFOD drill-core data, *Geophys Res. Lett., 44*, doi:10.1002/2016GL071569.
39)	Trippetta, F., **B.M. Carpenter**, S. Mollo, M.M. Scuderi, P. Scarlato and C. Collettini (2017), Physical and transport property variations within carbonate-bearing fault zones: Insights from the Monte Maggio Fault (Central Italy). *Geochem. Geophys. Geosyst., 18,* doi:10.1002/2017GC007097.
38)	Tesei, T., **B.M. Carpenter**, C. Giorgetti, M. Scuderi, P. Scarlato, and C. Collettini (2017), Friction and scale-dependent deformation processes along large experimental carbonate faults, *J. Struc. Geol, 100*, doi:10.1016/j.jsg.2017.05.008.
37)	Savage, H., J. Kirkpatrick, J. Mori, E. Brodsky, W. Ellsworth, **B.M. Carpenter**, Xw. Chen, F. Cappa, and Y. Kano (2017), Workshop report: Scientific Exploration of Induced Seismicity and Stress (SEISMS), *Sci. Dril., 23*, doi:10.5194/sd-23-57-2017.
36)	Kirilova, M V. Toy, N. Timms, A. Halfpenny, C. Menzies, D. Craw, O. Beyssac, R. Sutherland, J. Townend, C. Boulton**, B.M. Carpenter**, A. Cooper, J. Grieve, T. Little, L. Morales, C. Morgan, H. Mori, K. Sauer, A. Schleicher, J. Williams, and L. Craw (2017), Textural changes of graphitic carbon by tectonic and hydrothermal processes in an active plate boundary fault zone, Alpine Fault, New Zealand, in *Advances in the Characterization of Ore-Forming Systems from Geological, Geochemical and Geophysical Data, Geological Society, London, Special Publications, 453*, doi:10.1144/SP453.13.
35)	Toy, V., R. Sutherland, J. Townend, M. Allen, L. Beacroft, A. Boles, C. Boulton, **B.M. Carpenter**, A. Cooper, S. Cox, C. Daube, D. Faulkner, A. Halfpenny, N. Kato, S. Keys, M. Kirilova, Y. Kometani, T. Little, E. Mariani, B. Melosh, C. Menzies, L. Morales, C. Morgan, H. Mori, A. Niemeijer, R. Norris, D. Prior, K. Sauer, A. Schleicher, N. Shigematsu, D. Teagle, H. Tobin, R. Valdez, J. Williams, S. Yeo, L.-M. Baratin, N. Barth, A. Benson, C. Boese, B. C., C. Chamberlain, R. Conze, J. Coussens, L. Craw, M.-L. Doan, J. Eccles, J. Grieve, J. Grochowski, A. Gulley, J. Howarth, K. Jacobs, Lucie Janku-Capova, Tamara Jeppson, Robert Langridge, Deirdre Mallyon, Ray Marx, Cécile Massiot, L. Mathewson, J. Moore, O. Nishikawa, B. Pooley, A. Pyne, M.K. Savage, D. Schmitt, S. Taylor-Offord, P. Upton, K.C. Weaver, T. Wiersberg, M. Zimmer and the DFDP-2B Science Team (2017), Bedrock geology of DFDP-2B, central Alpine Fault, New Zealand, *New Zealand Journal of Geology and Geophysics*, *60*, doi:10.1080/00288306.2017.1375533.
34)	Sutherland, R., J. Townend, V. Toy, P. Upton, J. Coussens, M. Allen, L-M Baratin, N. Barth, L. Becroft, C. Boese, A. Boles, C. Boulton, N. Broderick, L. Capova, **B.M. Carpenter**, B. Celerier, C. Chamberlain, A. Cooper, A. Coutts, S. Cox, L. Craw3, M-L. Doan, J. Eccles, D. Faulkner, J. Grieve, J. Grochowski, A. Gulley, A. Hartog, J. Howarth, K. Jacobs, T. Jeppson, N. Kato, S. Keys, M. Kirilova, Y. Kometani, R. Langridge, W. Lin, T. Little, A. Lukacs, D. Mallyon, E. Mariani, C. Massiot, L. Mathewson, B. Melosh, C. Menzies, J. Moore, L. Morales, C. Morgan, H. Mori, A. Niemeijer, O. Nishikawa, D. Prior, K. Sauer, M. Savage, A. Schleicher, D. Schmitt, N. Shigematsu, S.T. Offord, D. Teagle, H. Tobin, R. Valdez, K. Weaver, T. Wiersberg, J. Williams, N. Woodman, and M. Zimmer (2017), Extreme hydrothermal conditions at an active plate-bounding fault, *Nature*, *546*, doi: 10.1038/nature22355.

33)	Townend, J. R. Sutherland, V. Toy, M.-L. Doan, B. Célérier, C. Massiot, J. Coussens, T. Jeppson, L. Janku-Capova, L. Remaud, P. Upton, D.R. Schmitt, P. Pézard, J. Williams, M. Allen, L.-M. Baratin, N. Barth, L. Becroft, C. Boese, C. Boulton, N. Broderic, **B.M. Carpenter**, C.J. Chamberlain, A. Cooper, A. Coutts, S. Cox, L. Craw, J.D. Eccles, D. Faulkner, J. Grieve, J. Grochowski, A. Gulley, A. Hartog, G. Henry, J. Howarth, K. Jacobs, N. Kato, S. Keys, M. Kirilova, Y.Kometani, R. Langridge, W. Lin, T. Little, A. Lukacs, D. Mallyon, E. Mariani, L. Mathewson, B. Melosh, C. Menzies, J. Moore, L. Morales, H. Mori, A. Niemeijer, O. Nishikawa, O. Nitsch, J. Paris, D. Prior, K. Sauer, M. Savage, A. Schleicher, N. Shigematsu, S. Taylor-Offord, D. Teagle, H. Tobin, R. Valdez, K. Weaver, T. Wiersberg, and M. Zimmer (2017), Petrophysical, geochemical, and hydrological evidence for extensive fracture-mediated fluid and heat transport in the Alpine Fault's hanging-wall damage zone, *Geochem. Geophys. Geosyst., 18,* doi: 10.1002/2017GC007202.
2016	
32)	**Carpenter, B.M.**, M.J. Ikari, and C. Marone (2016), Laboratory observations of time-dependent frictional strengthening and stress relaxation in natural and synthetic fault gouges, *J. Geophys. Res., 121,* doi:10.1002/2015JB012136.
31)	**Carpenter, B.M**., C. Collettini, C. Viti, and A. Cavallo (2016), The influence of normal stress and sliding velocity on the frictional behavior of calcite at room temperature: Insights from laboratory experiments and microstructural observations, *Geophys. J. Int*., *205*, doi:10.1093/gji/ggw038.
30)	Ikari, M.J., **B.M. Carpenter**, C. Vogt and A. Kopf (2016), Elevated time-dependent strengthening rates observed in San Andreas Fault drilling samples, *Earth and Planet. Sci. Lett., 450,* doi:10.1016/j.epsl.2016.06.036.
29)	Ikari, M.J., **B.M. Carpenter**, and C. Marone (2016), A microphysical interpretation of rate- and state-dependent friction for fault gouge, *Geochem. Geophys. Geosyst., 17*, doi:10.1002/2016GC006286.
28)	Kaneko, Y., S. Nielsen, and **B.M. Carpenter** (2016), The onset of laboratory earthquakes explained by nucleating rupture on a rate-and-state fault, *J. Geophys. Res.,* doi:10.1002/2016JB013143.
27)	Wojatchke, J., M.M. Scuderi, L. Warr, **B.M. Carpenter**, D.M. Saffer, and C. Marone (2016), Experimental constraints on the relationship between clay abundance, clay fabric and frictional behavior for the Central Deforming Zone of the San Andreas Fault, *Geochem. Geophys. Geosyst.*, *17*, doi:10.1002/2016GC006500.
26)	Johnson, P.A., J. Carmeliet, H. Savage, M. Scuderi, **B.M. Carpenter**, R.A. Guyer, E. Daub, and C. Marone (2016), Dynamically triggered slip leading to sustained fault gouge weakening under laboratory shear conditions, *Geophys. Res. Lett., 43*, doi:10.1002/2015GL067056.
2015	
25)	**Carpenter, B.M.**, S. Mollo, C. Viti, and C. Collettini (2015) Influence of calcite decarbonation on the frictional behavior of carbonate-bearing gouge: Implications for the instability of volcanic flanks and fault slip, *Tectonophys*., *658*, doi:10.1016/j.tecto.2015.07.015.
24)	**Carpenter, B.M.**, D.M. Saffer, and C. Marone (2015), Frictional properties of the active San Andreas fault at SAFOD: Implications for fault strength and slip behavior, *J. Geophys. Res., 120,* doi:10.1002/2015JB011963.
23)	Giorgetti, C, **B.M. Carpenter**, and C. Collettini (2015), Friction of talc-calcite mixtures, *J. Geophys. Res., 120,* doi:10.1002/2015JB011970.
22)	Scuderi, M.M., **B.M. Carpenter**, P.A. Johnson, and C. Marone (2015), Poromechanics of stick slip frictional sliding and strength recovery on tectonic faults, *J. Geophys. Res., 120,* doi:10.1002/2015JB011983.
21)	Ikari, M.J., S. Trutner, **B.M. Carpenter**, and A.J. Kopf (2015), Shear behavior of DFDP-1 borehole samples from the Alpine Fault, New Zealand under a wide range of experimental conditions, *Int. J. Earth Sci., 104*, doi:10.1007/s00531-014-1115-5.
20)	Scuderi, M.M., H. Kitajima, **B.M. Carpenter**, D.M. Saffer and C. Marone (2015), Evolution of permeability across the transition from brittle failure to cataclastic flow in porous siltstone, *Geochem. Geophys. Geosyst., 16,* doi:10.1002/2015GC005932.

19)	Toy, V.G., C.J. Boulton, R. Sutherland, J. Townend, R.J. Norris, T.A. Little, D.J. Prior, E. Mariani, D. Faulkner, C.D. Menzies, H. Scott, and **B.M. Carpenter** (2015), Fault rock lithologies and architecture of the central Alpine Fault, New Zealand, revealed by DFDP-1 drilling, *Lithosphere, 7*, doi:10.1130/L395.1.
2014	
18)	**Carpenter, B.M.**, M.M. Scuderi, C. Collettini, and C. Marone (2014), Frictional heterogeneities on carbonate-bearing normal faults: Insights from the Monte Maggio Fault, Italy*, J. Geophys. Res., 119,* doi:10.1002/2014JB011337.
17)	**Carpenter, B.M**., H. Kitajima, R. Sutherland, J. Townend, V.G Toy, and D.M. Saffer (2014), Hydraulic and acoustic properties of the active Alpine Fault, New Zealand: Laboratory measurements on DFDP-1 drill core, *Earth and Planet. Sci. Lett., 390*, doi:10.1016/j.epsl.2013.12.023.
16)	Collettini, C., **B.M. Carpenter**, C. Viti, F. Cruciani, S. Mollo, T. Tesei, F. Trippetta, L. Valoroso and L. Chiaraluce (2014), Fault structure and slip localization in carbonate-bearing normal faults: An example from the Northern Apennines of Italy, *J. Struc. Geol., 67*, doi:10.1016/j.jsg.2014.07.017.
15)	Ikari, M.J., **B.M. Carpenter**, A. Kopf, and C. Marone (2014), Frictional strength, rate dependence, and healing in DFDP-1 borehole samples from the Alpine Fault, New Zealand, *Tectonophys.*, *630*, doi:10.1016/j.tecto.2014.05.005.
14)	Scuderi, M.M, **B.M. Carpenter**, and C. Marone (2014), Physicochemical processes of frictional healing: Effects of water on stick-slip stress drop and friction of granular fault gouge*, J. Geophys. Res.,119*, doi:10.1002/2013JB010641.
13)	Collettini, C., G. Di Stefano, **B.M. Carpenter**, P. Scarlato, T. Tesei, S. Mollo, F. Trippetta, C. Marone, G. Romeo, and L. Chiaraluce (2014), A novel and versatile apparatus for brittle rock deformation, *Int. J. Rock Mech. Mining Sci., 66*, doi:10.1016/j.ijrmms.2013.12.005i.
12)	Tesei, T., C. Collettini, M.R. Barchi, **B.M. Carpenter**, and G. Di Stefano (2014), Heterogeneous strength and fault zone complexity of carbonate-bearing thrusts with possible implications for seismicity, *Earth and Planet. Sci. Lett., 408*, doi:10.1016/j.epsl.2014.10.021.
11)	Warr, L.N., J. Wajatschke, **B.M. Carpenter**, C. Marone, A. Schleicher, and B. van der Pluijm (2014), A "slice-and-view" (FIB-SEM) study of clay gouge from the SAFOD creeping section of the San Andreas Fault at ~2.7 km depth, *J. Struc. Geol., 69*, doi:10.1016/j.jsg.2014.10.006.
2013	
10)	Zoet, L., **B.M. Carpenter**, M. Scuderi, R.B. Alley, S. Anandakrishnan, C. Marone, and M. Jackson (2013), The effects of entrained debris on the basal sliding stability of a glacier, *J. Geophys. Res., 118*, doi:10.1002/jgrf.20052.
9)	Barth, N.C., C.J. Boulton, **B.M. Carpenter**, G.E. Bratt, and V.G. Toy (2013), Slip localization on the southern Alpine Fault, New Zealand, *Tectonics, 32*, doi:10.1002/tect.20041.
2012	
8)	**Carpenter, B.M**., D.M. Saffer, and C. Marone (2012), Frictional properties and sliding stability of the San Andreas Fault from deep drill core, *Geology, 40*, doi:10.1130G33007.1.
7)	Boulton, C., **B.M. Carpenter**, V.G. Toy, and C. Marone (2012), Physical properties of surface outcrop cataclastic fault rocks, Alpine Fault, New Zealand, *Geochem. Geophys. Geosyst., 13*, doi:10.1029/2011GC003872.
6)	Johnson, P.A., **B.M. Carpenter**, M. Knuth, B.M. Kaproth, P-Y. Le Bas, E. Daub, and C. Marone (2012). Nonlinear dynamical triggering of slow slip on simulated earthquake faults with implications to Earth, *J. Geophys. Res., 117*, doi:10.1029/2011JB008594.
5)	Tesei, T., C. Collettini, **B.M. Carpenter**, C. Viti, and C. Marone (2012), Frictional strength and healing behaviour of phyllosilicate-rich faults, *J. Geophys. Res., 117*, doi:10.1029/2012JB009204.

4)	Sutherland, R., V.G. Toy, J. Townend, S.C. Cox, J.D. Eccles, D.R. Faulkner, D.J. Prior, R.J. Norris, E. Mariani, C. Boulton, **B.M. Carpenter**, C.D. Menzies, T.A. Little, M. Hasting, G.P. De Pascale, R.M. Langridge, H.R. Scott, Z. Reid-Lindroos, B. Fleming, and A.J. Kopf (2012), Drilling reveals fluid control on architecture and rupture of the Alpine Fault, New Zealand, *Geology, 40*, doi:10.1130/G33614.1.
2011	
3)	**Carpenter, B.M.,** C. Marone, and D.M. Saffer (2011), Weakness of the San Andreas fault revealed by samples from the active fault zone, *Nature Geosci, 4*, doi:10.1038/ngeo1089.
2009	
2)	**Carpenter, B.M**., C. Marone, and D.M. Saffer (2009), Frictional behavior of materials in the 3D SAFOD volume, *Geophys Res. Lett., 36*, doi:10.1029/2008GL036660.
2008	
1)	Marone, C., **B.M. Carpenter**, and P. Schiffer (2008), Transition from rolling to jamming in thin granular layers. *Phys. Rev. Lett., 101*, doi:10.1103/PhysRevLett.101.248001.

---Other---

Karam, P. and **B.M. Carpenter** (2020), Assessing fault sealing potential in 3D using seismic inversion data, *AAPG Explorer Geophysical Corner*, 10/2020.

Kibikas, W.M., **B.M. Carpenter**, and A. Ghassemi (2019), The petrophysical and mechanical properties of Oklahoma's crystalline basement, *ARMA Conference*, Paper 19-A-491.

Kolawole, F., **B.M. Carpenter**, and M. Simpson-Turko (2019), The intra-basement reflectors in the STACK area of Oklahoma: What are they really?, *AAPG Explorer Geophysical Corner*, 04/2019.

Carpenter, B.M. and J. Chester (2019), San Andreas Fault Observatory at Depth: The gold standard for scientific drilling through an active, continental transform fault, *Earthscope Newsletter*, Spring 2019.

Chopra, S., K.J. Marfurt, F. Kolawole, and **B.M. Carpenter** (2018), Nemaha strike-slip fault expressions on 3D seismic data in the SCOOP trend of Oklahoma, *AAPG Explorer Geophysical Corner*, 06/2018.

Carpenter, B.M., (2012), Fault strength and stability: Lessons learned from the San Andreas Fault in central California, PhD Dissertation, Department of Geosciences, The Pennsylvania State University.

Carpenter, B.M., and C. Marone (2012), SAFOD update, *Earthscope inSite Newsletter*, S12.

Carpenter, B.M., C. Marone, and D.M. Saffer (2009), Insights into frictional behavior of materials in and near SAFOD*, Earthscope onSite Newsletter*, SU09.

Carpenter, B.M., (2007), The Transition from jamming to rolling in sheared granular media: The formation of force chains and effects of normal load and velocity. MSc Thesis, Department of Geosciences, The Pennsylvania State University.

---White Papers---

Savage, H. J.D. Kirkpatrick, J.J. Mori, E.E. Brodsky, W.L. Ellsworth, **B.M. Carpenter**, Xw. Chen, F. Cappa, and Y. Kano (2020), Scientific Exploration of Induced Seismicity and Stress (SEISMS), *NSF Solicitation - Competition for Future Research Center(s) to Coordinate Research in Fundamental Earthquake Processes*.

Carpenter, B.M., J. Chester, S. Hickman, J. McGuire, C. Thurber, and H. Sone (2015), Capturing the seismic cycle: Installing a seismic and geodetic observatory directly within an earthquake nucleation patch. *IRIS/Earthscope Workshop on Future Seismic and Geodetic Facility Needs in the Geosciences*, Leesburg, Virginia.

Carpenter, B.M., J. Chester, and S. Hickman (2013), Capturing the seismic cycle: Sampling and instrumenting an earthquake nucleation patch. *NSF Workshop - Drilling Active Tectonics and Magmatism*, Park City, Utah.

Grants/Funding

-----PI/Co-PI Grants-----

Current:

NSF PH 2328485 (10/01/2022-09/30/2025; OU-PI), Collaborative Research: Roles of Rupture Complexity, Geological Structure, Stress Interaction on Earthquake Sequences, $158,903 (OU).

NSF PH 2240418 (03/31/2023-02/28/2026; OU-PI): Collaborative Research: High-velocity and Long-displacement Stick-slips: Experimental Analogs of Earthquake Rupture and the Seismic Cycle, $363,342 (OU).

Chesapeake Energy (09/30/2018-09/30/2025; PI): Using Seismicity to Elucidate Geologic Structure and the Roles of Stress Interaction and Rupture Complexity on Earthquake Sequences and Ground Motion, 16.98 square miles of 3D seismic data located in Pawnee County, Oklahoma.

Pending:

-----Senior Participant Contributions-----

Current:

NSF EAR 2050372 (2021, Senior Participant - Participating Lab), REU Site: Collaborative Research: Research Opportunities in Rock Deformation.

Pending:

Completed:

NSF IF 1940857 (08/01/2020-07/31/2023; PI), GeoTrib: A Tribological Facility for the Analyses of Friction, Wear, and Lubrication of Geosystems, $302,315.

DOE-OFE 1826 (10/01/2018-03/31/2023; OU co-PI): Refining Principal Stress Measurements in Reservoir Underburden in Regions of Induced Seismicity Through Seismological Tools, Laboratory Experiments, and Theory, $495,423 (OU).

Chevron (2019; PI): Laboratory Constraints on Slip Evolution in Sedimentary Lithologies, $70,000.

NSF RAPID (11/2016-11/2019; OU-PI): Collaborative Research: GPS Observations of Post-Seismic Deformation From the 3 Sep 2016, Mw 5.8, Pawnee, Oklahoma Earthquake, $16,187.

Earthscope (2018; PI): EarthScope Synthesis Workshop on SAFOD Reviewing Past Predictions, Key Results, and Future Directions, $16,485.

SCEC (2018; PI): Workshop - Drilling Investigation of Seismogenic Crust in Oklahoma, $4,648.

ICDP Workshop (2017; PI): Drilling Investigation of Seismogenic Crust in Oklahoma, $32,259.

ICDP Workshop (2016; co-PI): Scientific Exploration of Induced SeisMicity and Stress (SEISMS), $50,000.

SCEC (2015; PI): Deformation and Seismic Radiation Along Bimaterial Faults: An Experimental Analysis, $1,000.

Not Funded:

DOE - RENEW (2024; pre-proposal): Elucidating the CO_2 Impact on Fault Properties and Processes

NSF PH (2023; Co-PI), Uncertainty Quantification and Explainable Artificial Intelligence and Machine Learning in Geoscience for Climate Change Mitigation and Low Carbon Energy Solutions, $692,465.

NSF Geohazards (2022, Senior Participant) Track I - Center Catalyst: Geohazards Away from Plate Boundaries (GAPS).

NSF CTGC (2022, Senior Participant), Planning Grant: Building Community in the Geosciences by Focusing on Undergraduate Research for Transfer Students.

NSF PH (2021, OU-PI), Collaborative Research: High-Velocity and Long-Displacement Stick-Slips: Experimental Analogs of Earthquake Rupture and the Seismic Cycle, $362,379 (OU).

USGS EGP (2020; co-PI): Improving Hazard and Risk Assessment in South Oklahoma: Characterizing the Deep Subsurface Structure of Large Fault Systems with Active and Passive Seismic Methods, $99,390.

NSF IUS-GEOPATHS (2020; Senior Participant): BRIDGE (Building Resources for Inclusion and Development in Geoscience Education), $342,385.

NSF PH (2019; co-PI), Collaborative Research: Roles of Rupture Complexity, Geological Structure, Stress Interaction on Earthquake Sequences, $399,775(OU).

US-Israel Energy Center (2019; co-PI): Innovation in Physical and Structural Aspects of Oil & Gas Exploration and Production: From Data Acquisition to Analysis, $17,199,639 (TOTAL), $6,790,850 (US), $5,796,108 (OU), $1,308,130 (CARPENTER).

DOE-EERE 0002083 (2019, co-PI), Engineered Solutions for Lost Circulation Material in Geothermal Drilling, $398,980 (OU).

OU JFF (2018; PI): The Relationship Between Seismic Radiation and Elastic Moduli Along Experimental Faults, $7, 000.

DOE-NETL (2017; co-PI): 3D Thermo-poroelastic Fracture Network Modeling for Geomechanical Analysis of Injection-Related Seismicity in Oklahoma, $1,357,766.

USGS EGP (2017; PI): Workshop: Drilling Investigation of Seismogenic Crust in Oklahoma, $67,270.

USGS EGP (2017; PI): Injection Induced Slip of Oklahoma's Faults: An Experimental Approach, $199,325.

NSF PH (2017; co-PI): Structure, Strength, and Seismic Stability of Oklahoma Basement Faults, $524,992.

SCEC (2016; PI): Seismic Radiation and Elastic Deformation During Slip Along Bimaterial-Faults: An Experimental Analysis.$34,976.

USGS EGP (2016; PI): Induced Seismicity: Field and Experimental Analyses of the Structure and Strength of Basement Faults in Oklahoma, $196,310.

Earthscope (2016; co-PI): EarthScope Synthesis Workshop on SAFOD: Key Results and Future Opportunities.

NSF Tectonics (2016; co-PI): Collaborative Research Proposal: Tectonic and Anthropogenic Effects on Increased Intraplate Seismicity: The Oklahoma Case, $493,017.

NSF PH (2016; PI): Bi-material Faults: Slip Nucleation, Dynamic Friction, and Rupture Propagation in Laboratory Experiments, $336,037.

DOE-EPSCOR (2016; co-PI): Induced Seismicity and Fluid Injection in Reservoir-Rocks and Fault-Zones, $588,586.

OU OGS (2016; co-PI): Induced Seismicity and Fluid Injection in Reservoir and Basement Rocks with Application to Current Activity in Oklahoma, $120,000.

NZ Marsden (2013; Senior Researcher): Deciphering the Nucleation Phase of Laboratory Earthquakes.

Courses Taught and Enrollments

[**Bold** denotes regular 3 or 4 credit course
[*italic* denotes seminar course]
[underline denotes course co-taught]

(number) denotes enrollment

2016

GEOL 1114-003, Physical Geology for Science and Engineering Majors (87)
GEOL 3114-010, Structural Geology (44)
GEOL 3114-011, Structural Geology Lab (44)

2017

GEOL 1114-003, Physical Geology for Science and Engineering Majors (72)
GEOL/GPHY 4970/5970-005, Fractures Faults, and Earthquakes (16)
GEOL 4136-001, Field Geology (6 credits) (30)

----Start Faculty Position---

2017

GEOL 3114-010, Structural Geology (30)
GEOL 3114-011, Structural Geology Lab (30)
GPHY 5970-005, Selected Geophysical Research Topics (12)

2018:

GEOL 1114-003, Physical Geology for Science and Engineering Majors (66)
GEOL 3123-001, Introductory Field Geology (42)
GEOL 6950-003. Research (2)
GPHY 5970-002, Selected Geophysical Research Topics (8)
GEOL 3114-010, Structural Geology (9)
GEOL 3114-011, Structural Geology Lab (9)
GEOL 5970-003, Structural Geology Seminar (5)
GPHY 5970-004, Selected Geophysical Research Topics (8)
GPHY 6950-004, Research (2)

2019:

GEOL/GPHY 4970/5970-004, Fractures Faults, and Earthquakes (16)
GEOL 5970-001, Structural Geology Seminar (5)
GEOL 6950-003. Research (1)
GPHY 5970-002, Selected Geophysical Research Topics (10)
GPHY 5980-002, Research for Master's Thesis (2)
GEOL 1104/1114-100, Dynamic Earth/Physical Geology (Field Intensive) (5)
GEOL 1104/1114-110, Dynamic Earth/Physical Geology Lab (Field Intensive) (5)
GEOL 3114-010, Structural Geology (15)
GEOL 3114-011, Structural Geology Lab (15)
GEOL 5970-003, Structural Geology Seminar (6)
GEOL 6950-011. Research (1)
GEOL 6960-011, Directed Readings (2)

2020:

GEOL 3003-001, Structural Geology and Stratigraphy for Petroleum Engineers (40)
GEOL 5970-001, Structural Geology Seminar (6)
GEOL 6950-003. Research (1)
GEOL 6980-012, Research Doctoral Dissertation (3)
GPHY 3440-001, Mentored Research Experience (2)
GPHY 5970-002, Selected Geophysical Research Topics (5)
GEOL 6980-002, Research Doctoral Dissertation (2)
GEOL 1114-004, Physical Geology for Science and Engineering Majors (38)
GEOL 3114-010, Structural Geology (19)
GEOL 3114-011, Structural Geology Lab (19)
GEOL 5970-003, Structural Geology Seminar (4)
GEOL 5980-011, Research for Master's Thesis (1)
GEOL 6980-002, Research Doctoral Dissertation (2)
GPHY 6950-002, Research (1)

2021:

GEOL 3003-001, Structural Geology and Stratigraphy for Petroleum Engineers (36)
GEOL/GPHY 4970/5970-002, Fractures Faults, and Earthquakes (6)
GEOL 5970-001, Structural Geology Seminar (2)
GEOL 5980-002, Research for Master's Thesis (1)
GEOL 6980-012, Research Doctoral Dissertation (1)
GPHY 5980-002, Research for Master's Thesis (1)
GPHY 6980-005, Research Doctoral Dissertation (1)
GEOL 5980-006, Research for Master's Thesis (1)
GPHY 6980-002, Research Doctoral Dissertation (1)
GEOL 3114-010, Structural Geology (26)
GEOL 3114-011, Structural Geology Lab (26)
GEOL 6950-011, Research (1)
GEOL 6980-002, Research Doctoral Dissertation (1)
GPHY 6980-002, Research Doctoral Dissertation (1)

2022:

GEOL 3333-001, Geowriting (12)
1-COURSE PRE-TENURE RELEASE
GEOL 6980-004, Research Doctoral Dissertation (1)
GPHY 5980-003 Research for Master's Thesis (1)
GPHY 6950-002, Research (1)
GEOL 3114-010, Structural Geology (13)
GEOL 3114-011, Structural Geology Lab (13)
GEOL 6980-005, Research Doctoral Dissertation (2)
GEOL 6980-002, Research Doctoral Dissertation (1)

2023

GPHY 4970/5970-004, Fractures Faults, and Earthquakes (14)
GEOL 3333-001, Geowriting (17)
GEOL 6980-004, Research Doctoral Dissertation (1)
GEOL 6980-002, Research Doctoral Dissertation (2)
GPHY 5980-003 Research for Master's Thesis (1)
GEOL 3114-010, Structural Geology (21)
GEOL 3114-011, Structural Geology Lab (21)
GEOL 6980-002, Research Doctoral Dissertation (1)
GPHY 5980-005 Research for Master's Thesis (1)

2024

GEOL 1104-001, Dynamic Earth (30)
GEOL 3333-001, Geowriting (9)
GEOL 6980-004, Research Doctoral Dissertation (1)
GEOL 1114-001, Physical Geology for Science and Engineering Majors (59)
GEOL 3114-010, Structural Geology (30)
GEOL 3114-011, Structural Geology Lab (30)
GPHY 6960-002, Directed Reading (2)
GEOL 5970-002, Graduate Geowriting (7)
GEOL 6980-002, Research Doctoral Dissertation (1)

2025

on sabbatical during S25 semester
GPHY 5980-003 Research for Master's Thesis (1)
GPHY 6950-002 Research (1)
GEOL 3114-010, Structural Geology (21)
GEOL 3114-011, Structural Geology Lab (21)
GEOL 5970-002, Graduate Geowriting (10)

NOTE: In Fall 2019 (20), Fall 2020 (7), Fall 2021 (14), Fall 2022 (17), Fall 2023 (23), and Fall 2024 (I gave a guest lecture in a graduate level course Topics in Geosciences [GEOL 6970 or GEOL 5001]. In Fall 2019, Fall 2021, and Fall 2022 I was also Co-Leader of a 3-day field trip for the course. In Fall 2023 and Fall 2024, I was the lead organizer of the field trip.

Directed Student Learning

Doctoral Committee Chair or Co-Chair:

1. Ahadul Islam (F25-current)
2. Eva Peza (F20-F24, co-advised, left program)
3. Zhuobo Wang (S23-SU23): RECEIVER FUNCTION IMAGING OF DEEP AND SHALLOW SUBSURFACE STRUCTURES OF OKLAHOMA
4. Pranshu Ratre (S20-F21): INVESTIGATING THE REGIONAL AND LOCAL STRUCTURE OF OKLAHOMA'S CRUST USING INDUCED EARTHQUAKES
5. Will Kibikas (F17-S21): CHARACTERIZING ROCK PROPERTIES AND THEIR IMPACT ON THE MECHANICAL BEHAVIOR OF CRYSTALLINE BASEMENT AND CAPROCKS
6. Pierre Karam (F19-SU20): CHARACTERIZING TRANSFER ZONES WITH SEISMIC AND EXPERIMENTAL MODELS
7. Folarin Kolawole (F17-SU20): THE ROLES OF STRUCTURAL INHERITANCE IN REGIONS OF INDUCED SEISMICITY AND ACTIVE TECTONICS
8. Chance Morgan (F17-S18, departed for industry position)

Masters Committee Chair or Co-Chair:

1. Charles Memmott (F25-current)
2. Milly Hencey (F23-S25): COULOMB STRESS ANALYSIS OF THE SITES HOSTING THE THREE LARGEST RECORDED EARTHQUAKES IN OKLAHOMA HISTORY: PAWNEE, OK AND PRAGUE, OK
3. Alexander Cordero Rincon (S23-F24): CHARACTERIZING STRUCTURAL FEATURES AND HYDROTHERMAL ALTERATION IN THE SPAVINAW GRANITE OF NORTHEASTERN OKLAHOMA
4. Natalie Kongable (F23-S24, changed advisor)
5. Patience Ojoboh (F21-F23, co-advised, left program)
6. Kaycee Schaper (F20-SU22, co-advised): A RETROSPECTIVE, MACHINE-LEARNING ASSISTED ANALYSIS OF SEISMIC SEQUENCE MIGRATIONS IN OKLAHOMA, AND DELINEATING FAULT STRUCTURES
7. Max Firkins (F19-SU21): SEISMIC CHARACTERIZATION OF INTRA-BASEMENT DEFORMATION AND ITS INFLUENCE ON THE OVERLYING SEDIMENTARY STRATA: IMPLICATIONS FOR TECTONIC EVOLUTION AND INDUCED SEISMICITY IN NORTHERN OKLAHOMA
8. Paul Gilbert (F19-S21): FRACTURE CHARACTERIZATION AND ANALYSIS ALONG THE BLAINE ESCARPMENT OF NORTHWESTERN OKLAHOMA
9. Alexandro Vera Arroyo (S19-S19): THE MECHANICAL CHARACTERIZATION OF SUBSURFACE LITHOLOGIES USING AN INTEGRATED APPROACH; COMBINING LABORATORY STUDIES, BOREHOLE & DRILLING DATA AND SEISMIC INFORMATION TO EXPLAIN HYDROCARBON PRODUCTION IN MATURE FIELDS
10. Tanner Shadoan (F17-S19): SEISMIC RADIATION DURING SLIP ALONG BI-MATERIAL FAULTS: AN EXPERIMENTAL INVESTIGATION

Visiting Student:

1. Mengni Wu (S19)

Postdoctoral Researcher:

1) Sai Sandeep Chitta (F19- F20)
2) Xiaofeng Chen (S18-SU19)

Undergraduate Student:

1) David Fleenor (F23-S24)
2) Katherine Bonsell (REU-SU23)
3) Mitchel Soederberg (REU-S23)
4) Joel Legre (F19-F20)
5) Connor Mears (F18-S20)
6) Brittany Stroud (F18-S20)
7) Francisco Sebastian Jr. (F18-F19)
8) Max Firkins (S18-S19)
9) Travis Vick (S18-S19)
10) Candace Johnston (S17-S18)
11) Tanner Shadoan (S17)
12) Addison Self (S17)
13) Cullen Norburg (S17)

Doctoral Committee Member:

1. Pouria Zare (S24-Current, CEES)
2. Ruwantha Ratnayake (F23-Current, MPGE)
3. Steven Bodunde (F22-Current)
4. Ganiyat Shodunke (F22-Current)
5. Anna Turnini (S23-S25)
6. Bobby Buist (F23-F24)
7. Boahua Liu (F22-F24, MPGE)
8. Alex Vera Arroyo (S23-S24)
9. Marta Anson (S20-S23)
10. Raymond Ng (S19-SU23)
11. Steven Adams (F19-S23)
12. Zhuobo Wang (F20-F22)
13. Abidin Berk Caf (F22-F22)
14. Matt Hamilton (S19-F21)
15. Behzad Hemami (S18-SU21; MPGE)
16. Jiewen Zhang (F17-SU21)
17. Yuji Kim (S20-SU20)
18. Eva Peza (S19-S20)
19. Yan Qin (F18-F20)
20. Pranshu Ratre (F18-S20)
21. Collin Pennington (S18-SU20)
22. Zhi Ye (F17-F19; MPGE)
23. Jianjun Li (F17-F19)
24. Gabriel Machado (F17-F19)
25. Benmadi Milad (F18-S19)
26. Sayantan Ghosh (S16-F17)

Masters Committee Member:

1. Evan Jowers (F23-F24)

2. Pamela Blanco Dufau (S23-S24)
3. Diana Salazar Florez (F21-F23)
4. Haoyu Li (F22-SU23)
5. Ahmet Murat Alyaz (S21-S22)
6. Jose Pedro Mora (F20-S21)
7. Edimar Perico (F20-S21)
8. Karelia La Marca Molina (S20-SU20)
9. Angie Ortega Romo (F19-S20)
10. Andrew Layden (F18-S20)
11. Lindy Dingmore (S19-F19)
12. Cy Frazier (S19-F19)
13. Zach Rosson (F18-S19)
14. Travis Plemons (F18-S19)
15. Brian Castro (S18)
16. Yan Qin (S16-S17)
17. Collin Pennington (S16-S17)
18. Wen Qin (S16-S17)

Service Activities

Professional:

***Leadership / Committee Positions*:**

S25-Current: Management Board member of the Geological Society of America South Central Section
F24-Current: Immediate Past Chair - GSA Continental Science Drilling Division
S24-Current: CSD Facility Faults & Earthquakes Working Group Co-Lead
F23-Current: US Continental Scientific Drilling Facility Advisory Committee
SU22-F24: **Chair** - GSA Continental Science Drilling Division
S20-SU22: GSA Continental Science Drilling Division: South Central Section Liaison and Student Grant Evaluator
S20-S22: GSA Continental Science Drilling Division: Nominations Committee

***Grant Review Panels*:**

2023: USGS EGP Earthquake Source Processes (24 proposals)
2020: NSF EAR I/F (40 proposals)

Workshops and Meetings:

F25: AGU National Meeting Session [Session Proposal]: Advances in Understanding Fault Systems through Scientific Drilling.
F24: GSA Connects 2024 Technical Session [Session Proposal, Co-Convener, and Co-Chair (T1)]: Investigating Earth's Past, Present, and Future with Continental Scientific Drilling.
F23: AGU 2023 Fall Meeting Session [Session Proposal and Organizer, (MR016)]: Rupture and Deformation Processes, From Slow to Fast and From Micro to Macro.
F23: GSA Connects 2023 Technical Session [Session Proposal, Co-Convener, and Co-Chair (T97)]: Investigating Earth's Past, Present, and Future with Continental Scientific Drilling.
S23: Field Trip Co-Organizer and Co-Leader for Seismic Reflection Centennial Workshop (April).
F22: AGU 2022 Fall Meeting Session: From Fast to Slow Earthquakes, From Nucleation to Arrest, From the Lab to the Field, and in Between (Session Proposal and Organizer).
F21: AGU 2021 Fall Meeting Session (MR008):Fault Slip Acceleration: From Slow to Fast, From the Lab to the Field, and in Between (Co-Convener).
F21: AAPG Mid-Continent Section Meeting Session: Geophysics of the Mid-Continent - Induced Seismicity of the Mid-Continent (Chair).
F19: AGU 2019 Fall Meeting Session (MR018): Fault Deformation During the Seismic Cycle: From the Field to the Laboratory (Co-Convener).
F18: Earthscope Synthesis Workshop - SAFOD: Reviewing Past Predictions, Key Results, and Future Directions (Primary Convener).
F18: AGU 2018 Fall Meeting Session (T027): Mechanics of Seismic and Aseismic Events From Small-Scale Lab-Experiments to Large Earthquakes (Co-Convener).
S18: ICDP Workshop - DISCO Workshop (Primary Convener).
S18: SSA-LACSC Joint Conference Session: Observed Characteristics of Induced Seismicity: From Laboratory to Field Scale (Co-Convener).
F17: AGU 2017 Fall Meeting Session (S43C): Observing Fault Slip in Its Natural Habitat: Field Experiments of Earthquake Physics Session (Primary Convener).
S17: ICDP Workshop - SEISMS Workshop (Co-Convener).
S16: AGU-SEG Workshop, Upper Crust Physics of Rocks (Organizing Committee)

Manuscript/Grant Reviews Since 08/2017 (n > 70):

2025: Geophysics; Nature Geoscience; NSF SPSE;, ARMA; Journal of Geophysical Research – Solid Earth

2024: NSF-PH; Journal of Structural Geology; Tectonophysics; Swiss National Science Foundation, Journal of Geophysical Research - Solid Earth.

2023: Journal of Structural Geology; US-Israel Binational Science Foundation; NSF-CAREER; Geophysical Research Letters.

2022: Geology; Journal of Geophysical Research - Solid Earth; Geophysical Research Letters; Frontiers in Earth Sciences.

2021: Journal of Geophysical Research - Solid Earth; Texas Bureau of Economic Geology; NSF-PH; NSF-CAREER; Physics of the Earth and Planetary Interiors; Journal of Structural Geology; Geophysical Research Letters.

2020: Journal of Geophysical Research - Solid Earth; G-Cubed; Geophysical Research Letters; Tectonophysics.

2019: NSF-PH; NSF-CAREER; Interpretation; Tectonophysics; Journal of Geophysical Research - Solid Earth; Geophysical Research Letters; ARMA;

2018: Journal of Geophysical Research - Solid Earth; Geophysical Research Letters; Earth and Planetary Science Letters; Swiss National Science Foundation; Netherlands Organization for Scientific Research.

2017: Geophysical Research Letters; Interpretation; Scientific Reports.

Editorial Roles:

Associate Editor, Interpretation (SEG) (06/21/19-11/01/20)

Special Issue (02/01/20-11/01/20): Seismic Interpretation of Fractures in Deep Subsurface

University:

F25: STATEMAP State Advisory Committee

S24: Graduate College Panelist for New GTA Orientation: Teaching Methods to Engage Students

F21: OU-ORS Limited Submissions Internal Review Council (LS-IRC) - Blavatnik Award

S/SU20: Geoscience Faculty Senate Rep

S/F19: Geoscience Faculty Senate Rep

F18: Geoscience Faculty Senate Rep

F17: CRPDE sponsored presentation: Strategies and Groundwork for Obtaining an NSF Rapid Grant

College:

F25: MCEE Academic Appeals Committee

S/F23: Ad Hoc Committee – SEC Geoscape

S/F22: Ad Hoc Committee – SEC Geoscape

S/F21: Ad Hoc Committee – SEC Geoscape

S/F20: Ad Hoc Committee – SEC Geoscape

S/F19: Ad Hoc Committee – SEC Geoscape

F19: MCEE Commercial

School:

F25: Honors and Awards Committee (Chair)
F25: SoG 1010 Committee
S25: SABBATICAL

S/F24: Committee A
S/F24: SoG 1010 Committee
S/SU24: Graduate Affairs Committee (Chair)
S24: GPHY Search Committee

F23: GPHY Search Committee
SU/F23: Committee A
S/F23: Graduate Affairs Committee (Chair)
S/F23: SoG 1010 Committee
S/F23: Ad Hoc Committee - Faculty Evaluations
S23: Communications Committee
S23: Ad Hoc Committee - Seismology RFRA
S23: Ad Hoc Committee - Grad Expectations Committee
S23: Ad Hoc Committee Reflection Seismology Centennial, OU Committee

F22: Data/Energy SRFRA Subcommittee
F22: Communications Committee
F22: Ad Hoc Committee - Grad Expectations Committee
S/F22: Hard Rock Geoscience RFRA/Search Committee
S/F22: Graduate Affairs Committee
S/F22: Ad Hoc Committee - Faculty Evaluation
S/F22: SoG 1010 Committee
S/F22: Reflection Seismology Centennial, OU Committee
S22: Structural Geology / Tectonics Search Committee (Chair)

F21: Ad Hoc Committee - Teaching Evaluation
SU/F21: Structural Geology / Tectonics Search Committee (Chair)
S/F21: Ad Hoc Committee – Grad School Expectations
S/F21: Graduate Affairs Committee
S/F21: Reflection Seismology Centennial, OU Committee
S/F21: SoG 1010 Committee
S21: Env. Geophysics Search Committee

F20: Env. Geophysics Search Committee
F20: Applied Structural Geology / Tectonics Search Committee (Chair, COI moved off)
F20: Graduate Affairs Committee
S/F20: Ad Hoc Committee – Grad School Expectations
SU/F20: Reflection Seismology Centennial, OU Committee
S/SU20: Ad Hoc Committee – Petroleum Geosciences RFRA
S20: Undergraduate Studies Committee
S20: Ad Hoc Committee – Natural Hazards / Geologic Risks Cluster Hire (RFRA) Strategy

S/F19: Undergraduate Studies Committee
S/F19: Ad Hoc Committee – Natural Hazards / Geologic Risks Cluster Hire (RFRA) Strategy
SU/F19: Ad Hoc Committee – Grad School Expectations
SU/F19: Ad Hoc Committee – Faculty Roles and Responsibilities

S/F18: Undergraduate Studies Committee
S/F18: Ad Hoc Committee – Curriculum
S/F18: Ad Hoc Committee – Teaching Evaluation Rubric
S18: Ad Hoc Committee – Research Technologist

F17: Hydrogeology Search Committee