Jacob I. Walter

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Education

2012 Ph.D. Earth Sciences
University of California, Santa Cruz, CA
Thesis title: *The influence of small stresses on the dynamics of glaciers and subduction zones*

2006 B.A. Geology (Magna cum laude)
University of Colorado, Boulder, CO

Appointments

2016 - **Geophysicist/State Seismologist**, Oklahoma Geological Survey, University of Oklahoma

2020 - **Affiliate Faculty**, School of Geosciences, University of Oklahoma

2014 - 2017 **Research Associate**, Institute for Geophysics, University of Texas at Austin

2012 - 2013 **Postdoctoral Fellow**, Georgia Institute of Technology

Teaching Experience

Spring 2026 **Instructor,** OU Geophysics 4553 – Introduction to Seismology
Spring 2024 **Instructor,** OU Geophysics 4553 – Introduction to Seismology
Spring 2023 **Co-instructor,** 20%, OU Geophysics 2013 – Frontiers of Geophysics
Spring 2018 **Co-instructor**, 50%, OU Geophysics 4970 – Introduction to Seismology
2017 - 2023 **Co-instructor**, 20%, OU Geophysics 5970 - Graduate seminar on Geophysics
2014 **Guest Instructor (1 lecture)**, UT, Intro. to the Cryosphere (Fall 2014)
2013 **Guest Instructor (3 lectures)**, GT, Seismology (Fall 2013)
2012 **Guest Instructor (1 lecture)**, UCSC, Glaciology
2011, 2009 **Teaching Assistant,** UCSC EART 110C: The Dynamic Earth (Geophysics course for Senior Undergraduate and Graduate Students)

Professional Experience

2006 - 2007 **Geologist**, Trihydro Corporation, Laramie, WY

Publications – peer-reviewed (* denotes student advisee)

61. L. Gonzalez, **J. I. Walter**, M. S. Karplus, A. D. Booth, E. C. Smith, and N. Nakata (in prep), Intraplate seismicity at the ridge between Thwaites and Pine Island Glaciers, West Antarctica

60. Zhang, Z., N. Nakata, M. Karplus, P. Christoffersen, P. Summers, J. Suckale, T. J. Young, Z. Bi, D. May, L. Gonzalez, D. Schroeder, A. Booth, E. Smith, **J. I. Walter**, G. Kaip and S. Tulaczyk (in review), Hydrologic controls on the eastern shear margin of Thwaites Glacier, West Antarctica, revealed by 3D seismic imaging

59. Ho, L., J. L. Sanchez Roldan, S. Hansen, and **J. I. Walter** (in review), Upper Mantle Earthquakes beneath East Antarctica Verify Intraplate Geodynamic Predictions

58. Le, H., F. Kolawole, K. Key, M. Mayle, E. A. Atekwana, R. L. Evans, and **J. I. Walter** (in review), Magnetotelluric Imaging Suggests Minimal Downward Saline Fluid Migration in the Region of the Largest-Known Injection-Induced Earthquake, Oklahoma

57. **Walter, J. I.**, H. R. DeShon, and P. Neupane (in review), Solid earth tides modulate earthquake activity in the New Madrid Seismic Zone

56. Muñoz-Santos, L. F., **J. I. Walter**, J. Pulliam, J. Leonel, E. Polanco, and J. Rodríguez (in review), Active crustal and slab seismicity in Hispaniola revealed through a unified machine-learning derived earthquake catalog

55. Xiao, H. **J. I. Walter**, P. Ogwari, L. M. Ho, A. Thiel, N. Gregg, B. Mace, and I. Woelfel (in review), Transfer Learning and Benchmarking for Induced Seismic Events Detection: Insights from Oklahoma

54. Morency, C., K. Kroll, **J. I. Walter**, and E. Matzel (in review), Virtual seismometer method for moment tensor inversion, *Geophysics*

53. McKnight, J., P. Ogwari, **J. I. Walter**, R. Ng, D. Mansourian, and S. Saneiyan (in review), Geophysical assessment of surface sediment amplification of hydraulic-fracture triggered seismic ground motions, *Natural Hazards*

52. Ogwari, P., **J. I. Walter**, X. Chen, I. Woelfel, A. Thiel, and F. Ferrer (2025), Hydraulic-fracturing enhances wastewater disposal seismicity in Eastern Oklahoma, Seismological Research Letters, doi:https://doi.org/10.1785/0220250170.

51. Kibikas, W., A. Ghassemi, **J. I. Walter**, B. Carpenter (in review), Experimental Velocity Anisotropy in Crystalline Basement Rocks of the Midcontinental USA, *Journal of Applied Geophysics*, 242, 105907, https://doi.org/10.1016/j.jappgeo.2025.105907.

50. Allen, B., K. Murray, P. Ogwari, F. Suriamin, **J. I. Walter**, and N. W. Hayman (2024), Pressure monitoring of disposal reservoirs in North-Central Oklahoma: implications for seismicity and geostorage, *JGR-Solid Earth*, 129, doi:10.1029/2024JB029200.

49. Regmi, N., N. Webb, **J. I. Walter**, and N. W. Hayman (2024), Mapping Landforms of a Hilly Landscape Using Machine Learning and High-Resolution LiDAR Topographic Data, *Applied Computing and Geosciences,* 24, 100203, https://doi.org/10.1016/j.acags.2024.100203.

48. Regmi, N., **J. I. Walter**, J. Jiang, A. Orban, and N. W. Hayman (2024), Spatial Patterns of Landslides in a Modest Topography of the Ozark and Ouachita Mountains, USA, *Catena*, Volume 245, 108344, https://doi.org/10.1016/j.catena.2024.108344.

47. Ho, L. M.*, **J. I. Walter**, S. E. Hansen, and J. L. Sanchez Roldan (2024), Evaluating Automated Seismic Event Detection Approaches: An Application to Victoria Land, East Antarctica, *Journal of Geophysical Research: Machine Learning and Computation*, 1, e2024JH000185, https://doi.org/10.1029/2024JH000185.

46. Ng, R.*, X. Chen, N. Nakata, and **J. I. Walter** (2024), Precise relative magnitude measurement improves fracture characterization during hydraulic fracturing, *Geophysical Journal International*, 238(2), 1040–1052, https://doi.org/10.1093/gji/ggae204.

45. Karplus, M. S., N. Nakata, G. Kaip, S. Harder, L. F. Gonzalez, A. Booth, E. Smith, S. Veitch, **J. I. Walter**, P. Christoffersen, and S. Tulaczyk (2024), Signal characteristics of surface seismic explosive sources near the West Antarctic Ice Sheet divide, *Journal of Glaciology*

44. Murray, K. E., C. Brooks, **J. I. Walter**, and P. O. Ogwari (2023), Oklahoma's coordinated response to more than a decade of elevated seismicity, *GSA Special Paper* 559 in Recent Seismicity in the Southern Midcontinent, USA: Scientific, Regulatory, and Industry Responses, https://doi.org/10.1130/2023.2559.

43. Ogwari, P., **J. I. Walter**, X. Chen, A. Thiel, F. Ferrer, and I. Woelfel (2022), Distinguishing Unique Earthquakes with Overlapping Signals in Oklahoma, *Seismol. Res. Lett.*, https://doi.org/10.1785/0220220065.

42. Carmichael, J. D., A. D. Thiel, P. S. Blom, **J. I. Walter**, F. K. D. Dugick, S. J. Arrowsmith, and C. G. Carr (2022), Persistent, "Mysterious" Seismoacoustic Signals Reported in Oklahoma State during 2019, *Bull. Seismol. Soc. Am.*, doi: 10.1785/0120210145.

41. Li, C., Z. Peng, J. A. Chaput, **J. I. Walter**, and R. C. Aster (2021), Remote Triggering of Icequakes at Mt. Erebus, Antarctica by Large Teleseismic Earthquakes, *Seismol. Res. Lett.*, 92, 2866–2875, doi: 10.1785/0220210027.

40. Ortega-Romo, A. D.*, **J. I. Walter**, X. Chen, and B. M. Carpenter (2021), Spatially distinct tectonic zones across Oklahoma inferred from shear wave splitting, *Seismol. Res. Lett.*, doi:10.1785/0220200237.

39. Patel, S., F. Kolawole, **J. I. Walter**, X. Chen, and K. J. Marfurt (2021), Seismic illumination of small-offset seismogenic faults, Anadarko Basin, Oklahoma, *Interpretation*, 9(2), 1-50, https://doi.org/10.1190/int-2020-0135.1

38. **Walter, J. I.**, P. Ogwari, A. Thiel, F. Ferrer, and I. Woelfel (2021), easyQuake: Putting machine learning to work for your regional seismic network or local earthquake study, *Seismol. Res. Lett*., https://doi.org/10.1785/0220200226.

37. Behm, M., **J. I. Walter**, D. Binder, F. Cheng, B. Kulessa, K. Langley, P. Limpach, S. Mertl, W. Schöner, M. Tamstorf, and G. Weyss (2020), Seismic Characterization of a Rapidly-Rising Jökulhlaup Cycle at the A.P. Olsen Ice Cap, NE-Greenland, *Journal of Glaciology*, 66(256), 329–347, doi:https://doi.org/10.1017/jog.2020.9.

36. Qin, Y., X. Chen, **J. I. Walter**, J. Haffener, D. T. Trugman, B. M. Carpenter, and M. Weingarten (2019), Deciphering the stress state of seismogenic faults in Oklahoma and southern Kansas based on high-resolution stress maps, *J. Geophys. Res. Solid Earth*, doi:10.1029/2019JB018377.

35. Frohlich, C. F., C. Hayward, J. Rosenblit, C. Aiken, P. Hennings, A. Savvaidis, C. Lemons, E. Horne, **J. I. Walter**, and H. R. DeShon (2020), Onset and cause of increased seismic activity near Pecos, West Texas, USA from observations at the Lajitas TXAR Seismic Array, *J. Geophys. Res. Solid Earth*, 125, https://doi.org/10.1029/2019JB017737.

34. **Walter, J. I.**, P. Ogwari, A. Thiel, F. Ferrer, I. Woelfel, J. C. Chang, A. P. Darold, and A. A. Holland (2020), The Oklahoma Geological Survey Statewide Seismic Network, *Seismol. Res. Lett.*, 91 (2A): 611–621, doi: https://doi.org/10.1785/0220190211.

33. Huang, G. D., A. Savvaidis, and **J. I. Walter** (2019), Mapping the 3-D Lithospheric Structure of the Greater Permian Basin in West Texas and Southeast New Mexico for Earthquake Monitoring, J. *Geophys. Res. Solid Earth*, https://doi.org/10.1029/2019JB018351.

32. Rosson, Z.*, **J. I. Walter**, T. Goebel, and X. Chen (2019), Narrow spatial aftershock zones for induced earthquake sequences in Oklahoma, *Geophys. Res. Lett.*, https://doi.org/10.1029/2019GL083562.

31. Goebel, T., Z. Rosson*, E. E. Brodsky, and **J. I. Walter** (2019), Aftershock deficiency of induced earthquake sequences during rapid mitigation efforts in Oklahoma, *Earth and Planet. Sci. Lett.*, 522: 135-143, https://doi.org/10.1016/j.epsl.2019.06.036.

30. Regmi, N. and **J. I. Walter** (2019), Detailed Mapping of Shallow Landslides in Eastern Oklahoma and Potential Triggering by Oklahoma Earthquakes, *Geomorphology*, , https://doi.org/10.1016/j.geomorph.2019.05.026.

29. Skoumal, R. J., J. O. Kaven, and **J. I. Walter** (2019), Characterizing Seismogenic Fault Structures in Oklahoma Using a Relocated Template-Matched Catalog, *Seismol. Res. Lett*., doi: https://doi.org/10.1785/0220190045.

28. Vore, M. E., T. C. Bartholomaus, J. P. Winberry, **J. I. Walter**, and J. M. Amundson (2019), Seismic tremor reveals spatial organization and temporal changes of subglacial water system, *J. Geophys. Res. Earth Surface*, https://doi.org/10.1029/2018JF004819.

27. Walton, M. A. L., E. C. Roland, **J. I. Walter**, S. P. S. Gulick, and P. J. Dotray (2019), Seismic velocity structure across the 2013 Craig, Alaska rupture from aftershock tomography: Implications for seismogenic conditions, *Earth and Planet. Sci. Lett*., 507: 94-104, https://doi.org/10.1016/j.epsl.2018.11.021.

26. **Walter, J. I.**, C. Frohlich, and T. Borgfeldt* (2018), Natural and induced earthquakes in the Texas and Oklahoma Panhandles, *Seismol. Res. Lett*., 89 (6): 2437-2446, https://doi.org/10.1785/0220180105.

25. Barcheck, G. C., S. Tulaczyk, S. Y. Schwartz, **J. I. Walter**, and J. P. Winberry (2018), Implications of basal micro-earthquakes and tremor for ice stream mechanics: stick-slip basal sliding and till erosion, *Earth and Planet. Sci. Lett*., 486: 54-60, doi:10.1016/j.epsl.2017.12.046.

24. Scales, M. M., H. R. DeShon, M. B. Magnani, **J. I. Walter**, L. Quinones, T. L. Pratt, and M. J. Hornbach (2017), A Decade of Induced Slip on the Causative Fault of the 2015 MW 4.0 Venus Earthquake, Northeast Johnson County, Texas, *J. Geophys. Res.: Solid Earth*, 122, doi:10.1002/2017JB014460.

23. Goebel, T. H. W., **J. I. Walter**, K. Murray, and E. E. Brodsky (2017), Comment on "How will induced seismicity in Oklahoma respond to decreased saltwater injection rates?" by C. Langenbruch and M. D. Zoback, *Science Advances*, 3:8, doi:10.1126/sciadv.1700441.

22. Chen, X., C. Pennington, J. Haffener, J. C. Chang, X. He, Z. Zhan, S. Ni, and **J. I. Walter** (2017), The Pawnee earthquake as a result of the interplay among injection, faults and foreshocks, *Scientific Reports*, 7: 4945, doi:10.1038/s41598-017-04992-z.

21. **Walter, J. I.**, J. C. Chang, and P. J. Dotray (2017), Foreshock seismicity suggests gradual differential stress increase in the months prior to the 3 September 2016 Mw 5.8 Pawnee earthquake, *Seismol. Res. Lett*., 88(4), doi:10.1785/0220170007.

20. Yao, D., **J. I. Walter**, X. Meng, T. E. Hobbs, Z. Peng, A. V. Newman, S. Y. Schwartz, and M. Protti (2017), Detailed Spatio-Temporal Evolution of Microseismicity and Repeating Earthquakes following the 2012 Mw7.6 Nicoya Earthquake, *J. Geophys. Res. Solid Earth*, 121, doi:10.1002/2016JB013632.

19. Holland, D.M., D. Voytenko, K. Christianson, T.H. Dixon, M.J. Mei, B.R. Parizek, I. Vaňková, R.T. Walker, **J.I. Walter**, K. Nicholls, and D. Holland (2016), An intensive

observation of calving at Helheim Glacier, East Greenland, *Oceanography* 29(4):46–61, doi.org/10.5670/oceanog.2016.98.

18. Frohlich, C., H. R. DeShon, B. W. Stump, C. Hayward, M. J. Hornbach, and **J. I. Walter** (2016), Reply to "Comment on 'A historical review of induced earthquakes in Texas' by Steve Everley", *Seismol. Res. Lett.*, 87, 1381-1383, doi:10.1785/0220160148.

17. Frohlich, C. F., H. DeShon, B. Stump, C. Hayward, M. J. Hornbach, and **J. I. Walter** (2016), A historical review of induced earthquakes in Texas, *Seismol. Res. Lett.*, 87(4), doi:10.1785/0220160016.

16. Gimbert, F., V. C. Tsai, J. M. Amundson, T. C. Bartholomaus, and **J. I. Walter** (2016), Sub-seasonal changes in pressure, geometry, and sediment transport observed in subglacial channels, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL068337.

15. **Walter, J. I.**, P. J. Dotray*, C. Frohlich, and J. F. W. Gale (2016), Earthquakes in northwest Louisiana and the Texas-Louisiana border possibly induced by energy resource activities within the Haynesville shale play, *Seismol. Res. Lett.*, 87(2A), doi:10.1785/0220150193.

14. **Walter, J. I.**, Z. Peng, X. Meng, A. V. Newman, S. Y. Schwartz, and J. Marino Protti (2015), Far-field triggering of foreshocks near the nucleation zone of the 5 September 2012 (Mw 7.6) Nicoya Peninsula, Costa Rica earthquake, *Earth and Planet. Sci. Lett*., 431: 75-86, doi:10.1016/j.epsl.2015.09.017.

13. Bartholomaus, T. C., J. M. Amundson, **J. I. Walter**, S. O'Neel, M. E. West, and C. F. Larsen (2015), Subglacial discharge at tidewater glaciers revealed by seismic tremor, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL064590.

12. Malservisi, R., S. Y. Schwartz, N. Voss, M. Protti, V. Gonzalez, T. H. Dixon, Y. Jiang, A. V. Newman, J. Richardson, **J. I. Walter**, and D. Voyenko (2015), Multiscale postseismic behavior on a megathrust: The 2012 Nicoya earthquake, Costa Rica, *Geochem. Geophys. Geosyst*., 16, doi:10.1002/2015GC005794.

11. Aiken, C., J. P. Zimmerman, Z. Peng, and **J. I. Walter** (2015). Triggered seismic events along the eastern Denali fault in northwest Canada following the 2012 Mw 7.8 Haida Gwaii, 2013 Mw 7.5 Craig, and two Mw>8.5 teleseismic earthquakes, *Bull. Seismol. Soc. Am*., 105, no. 2B, doi: 10.1785/0120140156.

10. Frohlich, C., **J. I. Walter**, and J. F. W. Gale (2015), Analysis of transportable array (USArray) data shows earthquakes are scarce near injection wells in the Williston Basin, 2008-2011, *Seismol. Res. Lett.*, 86, 492-499.

9. **Walter, J. I.**, I. Svelitsky, S. Tulaczyk, J. Fineberg, E. E. Brodsky, and S. P. Carter (2015), Rupture speed dependence on initial stress profiles: Insights from glacier and laboratory stick-slip, *Earth and Planet. Sci. Lett*., 411: 112-120, http://dx.doi.org/10.1016/j.epsl.214.11.025.

8. Peng, Z., **J. I. Walter**, R. Aster, D. A. Wiens, S. Anandakrishnan, and A. Nyblade (2014), Antarctic icequakes triggered by the 2010 Maule earthquake in Chile, *Nature Geosci*., 7, 677–681, doi:10.1038/ngeo2212.

7. Protti, M., V. Gonzalez, A. V. Newman, T. H. Dixon, S. Y. Schwartz, J. S. Marshall, L. Feng, **J. I. Walter**, R. Malservisi, and S. E. Owen (2014), Nicoya earthquake rupture anticipated by geodetic measurement of the locked plate interface, *Nature Geosci*., 7, 117–121, doi:10.1038/ngeo2038.

6. **Walter, J. I.**, S. Y. Schwartz, M. Protti, and V. Gonzalez (2013), The synchronous occurrence of shallow tremor and very low frequency earthquakes offshore of the Nicoya Peninsula, Costa Rica, *Geophys. Res. Lett.*, 40, 1517–1522, doi:10.1002/grl.50213.

5. Horgan, H. J., S. Anandakrishnan, R. W. Jacobel, K. Christianson, R. B. Alley, D. S. Heeszel, S. Picotti, and **J. I. Walter** (2012), Subglacial Lake Whillans – Part 1: Imaging a Shallow Active Reservoir Beneath a West Antarctic Ice Stream, *Earth and Planet. Sci. Lett.*, 331: 201-209.

4. **Walter, J. I.**, J. E. Box, S. Tulaczyk, E. E. Brodsky, I. M. Howat, Y. Ahn, and A. Brown (2012), Oceanic mechanical forcing of a marine-terminating Greenland glacier, *Ann. Glaciol*., 53(60), 181-192(12), doi:10.3189/2012AoG60A083.

3. **Walter, J. I.**, E. E. Brodsky, S. Tulaczyk, S. Y. Schwartz, and R. Pettersson (2011), Transient slip events from near-field seismic and geodetic data on a glacier fault, Whillans Ice Plain, West Antarctica, *J. Geophys. Res. Earth Surface*, 116, F01021, doi:10.1029/2010JF001754.

2. **Walter, J. I.**, S. Y. Schwartz, J. M. Protti, and V. Gonzalez (2011), Persistent tremor of the northern Costa Rica seismogenic zone, *Geophys. Res. Lett.*, 38, L01307, doi:10.1029/2010GL045586.

1. Outerbridge, K. C., T. H. Dixon, S. Y. Schwartz, **J. I. Walter**, M. Protti, V. Gonzalez, J. Biggs, M. Thorwart, and W. Rabbel (2010), A tremor and slip event on the Cocos-Caribbean subduction zone as measured by a GPS and seismic network on the Nicoya Peninsula, Costa Rica, *J. Geophys. Res.*, 115, B10408, doi:10.1029/2009JB006845.

Funding and Grants

Current External Research Grants

“The Oklahoma Carbon Hub”, Department of Energy CarbonSAFE Phase III, $23,432,658, co-PI, intent to fund announced 10/2024, no update as of 12/2025 DOE

"Oklahoma Geological Survey coordination of mid-continent carbon management,” Department of Energy, $1,245,001, co-PI.

"Monitoring Hillslope Dynamics Using SAR Time Series and Machine Learning," co-PI, NASA, $279,991, 9/1/22-8/31/25, 0.25 months salary/yr for 3 years (no-cost extension)

"NSFPLR-NERC: TIME (Thwaites Interdisciplinary Margin Evolution) - The Role of Shear Margin Dynamics in the Future Evolution of Thwaites Drainage Basin," co-PI with 8 other co-PIs at 4 other institutions, 1 OU co-PI (N. Nakata – now at MIT), NSF, $512,170 to OU, 1 month salary/yr, 5/1/18-4/30/23; supplemental funding through 2026.

Pending External Research Proposals

"State earthquake hazard communication grant" – FEMA, estimated ~ $55k

Recently Declined Research Proposals – To Be Resubmitted
"Track I – Center Catalyst: Spotlighting Hazards of the Intraplate as a New Endeavor (SHINE)," NSF Centers for Innovation and Community Engagement in Solid Earth Geohazards, lead PI with several institutions, $499,325 to OU, 1 month salary/yr for 2 years.

"Collaborative Research: Near-Trench Seismogenesis (NeTSeis)--Lessons from the western Solomon Islands," lead PI with 1 other US inst., ~$260k to OU, requested from NSF-Geophysics.

Past External Research Grants
"Equipment: Acquisition of the IRIS instruments FullWaver device for monitoring active landslides in Oklahoma," NSF Instrumentation and Facilities, $204,935, co-PI with Sina Saneiyan.

"Leveraging machine-learning detection and detailed event relocation to probe New Madrid seismogenesis: Collaborative Research with Southern Methodist University, and University of Oklahoma," USGS, $46,113 to OU, 9/1/22-8/31/23 (no cost extension)

"Refining Principal Stress Measurements in Reservoir Underburden in Regions of Induced Seismicity through Seismological Tools, Laboratory Experiments, and Theory," lead PI at OU with 2 other co-PIs (Carpenter and Ghassemi) and federal lab collaborators, US Department of Energy, $495,423 to OU, 1 month salary/yr, 10/1/18-3/31/23

"Mapping Characteristics of Eastern Oklahoma Landslides," co-PI with OGS scientist N. Regmi, FEMA through Oklahoma Department of Emergency Management, $64,000 awarded, 5/3/19-11/22/23.

"NSF Convergence Accelerator: Workshop on technological and societal hurdles facing carbon capture," lead PI with 1 other OU co-PI, NSF, $97,484 to OU.

"Roles of stress heterogeneity and stress interaction in induced seismicity: example from the Fairview/Woodward area in Oklahoma," co-PI, lead PI is X. Chen (OU), USGS, $52,705, 5/1/18-12/31/19.

"Collaborative Research: Triggering of Antarctic Icequakes, Slip Events, and other Tectonic Phenomena by Distant Earthquakes," lead PI with Z. Peng (Georgia Tech), NSF-Antarctic Earth Sciences, $189,702 awarded, 2 months salary/yr, 6/1/16-5/31/20 (no cost extension).

"Probing dynamic interactions between the Haida Gwaii and Craig earthquakes and implications for Southeast Alaska faults," lead PI with Z. Peng (Georgia Tech), USGS-NEHRP, $49,996 awarded to UT, 2 months salary, 3/1/15-2/29/16.

"Collaborative Research: MIDGE: Minimally Invasive Direct Glacial Exploration of Biogeochemistry, Hydrology and Glaciology of Blood Falls, McMurdo Dry Valleys," NSF-AISS, subaward in amount of $15,353 awarded, 0.78 months salary.

Past Internal Research Grants

"Probing variations in deformation rate and seismicity along the forearc of the uniquely accessible Western Solomon Islands," lead PI, JSG seed grant, 0.5 months salary, $34,214.

Students

Graduate advisor

David Fleenor	MS	OU	2025-present
Luis Muñoz-Santos	PhD	OU	2024-present
Raymond Ng	PhD	OU	2023
Kaycee Schaper	MS	OU	2022
Zach Rosson	MS	OU	2019
Taylor Borgfeldt	MS	UT Austin	2017

Graduate thesis committee member

Milly Hencey	MS	OU	2024
Manoj Thapa	PhD	OU	2023-present
Jose Viteri Lopez	MS	OU	2024
Segun Bodunde	PhD	OU	2022-present
Haoyu Li	MS	OU	2023
Lucia Gonzalez	PhD	UTEP	2021-present
Tyler Tripplehorn	PhD	U. Tulsa	2021-2023
Long Ho	PhD	U. Alabama	2021-present
Angie Ortega Romo	MS	OU	2020
Yan Qin	PhD	OU	2020
Colin Pennington	PhD	OU	2020
Jiewen Zhang	PhD	OU	2021
Stephen Marsh	MS	OU	2018
Rob Skoumal	PhD	Miami U (OH)	2016
Mason Fried	PhD	UT Austin	2018

Undergraduate research supervising

Natalie Miller	2025-2026	OU
Will Longhauser	2025-2026	OU

Thomas Givens	2019 Spring research	OU
Sarah Sundberg	2018 Summer research	OU
Angie Ortega Romo	2018 Summer research	OU
Roberto Clairmont	2018 Summer research	OU
Shawn Lee	2015 IRIS summer intern	UC Berkeley, Geophysics
Julie Gerzina	Fall 2015 – Spring 2016	UT Austin, Physics
Peter Dotray	Fall 2014 – Fall 2016	UT Austin, JSG

Invited/Special Seminars

Seismic hazard considerations as Oklahoma approaches nearly a decade since peak injection, Oklahoma State University, April 2024.

Seismic hazard considerations as Oklahoma approaches nearly a decade since peak injection, Tulsa Geophysical Society, April 2024.

Mitigating the next wave of induced seismicity with next-generation earthquake monitoring, University of Tulsa Geosciences Seminar, November 2023.

De-risking carbon storage with next generation earthquake monitoring, Southern Methodist University Earth Sciences Seminar, September 2022.

Regional seismic monitoring and hydraulic fracturing: lessons from Oklahoma, Tulsa Geological Society Virtual Seminar, December 2021.

Regional seismic monitoring and hydraulic fracturing: lessons from Oklahoma, American Rock Mechanics Association Virtual Seminar, February 2021.

The long tail of induced seismicity, Colorado School of Mines Geophysics Department Seminar, October 2020.

The past and future seismic hazard in Oklahoma, Kansas Geological Society Seminar, September 2020.

Regional Induced Seismicity Collaboration (RISC) Webinar on Oklahoma seismicity, 1 hour duration, 100+ remote participants, October 2019.

URTEC Workshop: Optimizing Oklahoma from Execution to Production, Induced Seismicity Panel, June 2019.

Future seismic hazard in Oklahoma, University of Tulsa, Spring 2019.

Identifying hydraulic-fracture triggered earthquakes amongst other earthquakes in Oklahoma, Keynote presentation, Microseismic Industry Consortium, Calgary, Alberta, November 2018

Hydraulic-fracture triggered earthquakes in Oklahoma, Oklahoma City Geophysical Society, Oklahoma City, OK, October 2018.

Keynote on Oklahoma earthquakes, SEG Technical Workshop on Earthquake damage to Infrastructure, August 2018

The past and future seismic hazard in Oklahoma and how we can change the outlook, Oklahoma State University Geology Seminar, Spring 2018.

Oklahoma, America's earthquake hotbed?, UC Riverside Geology Department Seminar, Fall 2017

Oklahoma Geological Survey: Monitoring and studying seismicity in Oklahoma, Oklahoma State University, National Earthquake Program Manager's Meeting, Spring 2017.

A myriad of mechanisms for inducing Texas earthquakes in the last century, Baylor University, September 2016.

Towards observing the full spectrum of fault slip behavior, from slow slip to megathrust earthquakes, University of Montana, March 2016.

Antarctica Now: Hot Science in a Changing World, SXSW Eco, Austin, TX, October 2014.

The spatio-temporal evolution of seismic activity preceding and following the 5 September 2012 Nicoya Peninsula earthquake, Pacific Geoscience Centre, February 2014.

Dynamics of ice sheets on seismic (and slightly longer) timescales, University of Illinois Chicago, October 2013.

The spatio-temporal evolution of seismic activity preceding and following the 5 September 2012 Nicoya Peninsula earthquake, Institute of Geophysics, Chinese Earthquake Administration, August 2013.

Dynamics of ice sheets on seismic (and slightly longer) timescales, Earthquake Research Institute, University of Tokyo, August 2013.

Selected Recent Conference Presentations

Walter, J. I. (Oral), Seismic Hazard Analysis for Hydraulic-Fracture Triggered Earthquakes in Oklahoma, Seismological Society of America Annual Meeting 2024, Anchorage, Alaska.

Walter, J. I. (Oral), Hydraulic-Fracture Triggered Earthquakes in Oklahoma, AGU Fall Meeting 2023, San Francisco, California.

Walter, J. I., L. Gonzalez, E. Smith, M. Karplus, A. Booth, and N. Nakata (Poster), Initial insights from two broadband arrays straddling the Thwaites Glacier eastern shear margin, AGU Fall Meeting 2022, Chicago, Illinois.

Walter, J. I., P. Ogwari, B. Allen, N. Hayman, and L. Jackson (Poster), De-risking carbon storage: the Oklahoma perspective, AGU Fall Meeting 2022, Chicago, Illinois.

Walter, J. I., P. Ogwari, X. Chen, R. Ng, F. Ferrer, A. Thiel, and I. Woelfel (Talk), The role of nodal deployments in regional seismic network monitorings, SSA Annual Meeting, Bellevue, WA, 2022.

Walter, J. I., P. Ogwari, F. Ferrer, A. Thiel, and I. Woelfel (Talk), Implementing machine-learning earthquake detection to augment the public regional seismic network in Oklahoma, SSA Annual Meeting, Virtual, 2021.

Walter, J. I., P. Ogwari, F. Ferrer, A. Thiel, and I. Woelfel (Invited Talk), Elevated Potential for Damaging Earthquakes Across the Mid-Continent, *AAPG Mid-Continent Meeting*, Wichita, KS, 2019.

Walter, J. I. and Z. Rosson (Talk), Estimating the decadal-level seismic hazard in Oklahoma, *GSA Joint Section Meeting*, Manhattan, KS, 2019.

Walter, J. I., P. Ogwari, F. Ferrer, A. Thiel, and I. Woelfel (Poster), Oklahoma Geological Survey regional network, *SSA Meeting*, Seattle, WA, 2019.

Walter, J. I., Z. Peng, Z. Rosson, S. Sundberg, and S. Hansen (Poster), Microseismicity detection across the Antarctic continent, *SSA Meeting*, Seattle, WA, 2019.

Walter, J. I., J. C. Chang, and K. Murray (Talk), Earthquakes and human activities to induce them in Oklahoma, *SSA Meeting*, Miami, FL, 2018.

Walter, J. I., and K. Murray (Talk), Evolving spatio-temporal associations between earthquakes and wastewater injection wells in Oklahoma, *GSA South-Central Meeting*, Little Rock, AR, 2018.

Walter, J. I., Z. Peng, S. Hansen, Z. Rosson (Poster), Repeating ice-earthquakes beneath David Glacier from the 2012-2015 TAMNNET array, *AGU Fall Meeting*, New Orleans, December 2017.

Walter, J. I., J. C. Chang, P. J. Dotray (Poster), The spatio-temporal evolution of seismic activity leading up to the 3 September 2016 Mw 5.8 Pawnee earthquake, *AGU Fall Meeting*, San Francisco, CA, December 2016.

Walter, J. I., C. Frohlich, T. Borgfeldt, P. J. Dotray, S. Bilek (Talk), West Texas-New Mexico seismicity: induced and natural sequences along old tectonic features, *GSA Meeting*, Denver, CO, October 2016.

Walter, J. I., Z. Peng, H. Kao, X. Meng, T. Hobbs, P. Dotray, T. Mulder (Talk), Dynamic interactions between the late October 2012 Haida Gwaii and early January 2013 Craig earthquakes and other faults in Southeast Alaska, *AGU Fall Meeting*, San Franscisco, CA, December 2015.

Walter, J. I., Z. Peng, S. Tulaczyk, and L. Beem (Talk), Ice stream slip triggered by distant earthquakes, *AGU Fall Meeting*, San Franscisco, CA, December 2014.

Walter, J. I., I. Svetlizky, J. Fineberg, E. E. Brodsky, S. Tulaczyk, and S. P. Carter (Talk), Interfacial stresses at the grounding line of the Whillans Ice Plain control the initial stick-slip rupture speed, *Western Antarctic Ice Sheet Workshop*, San Diego, CA, September 2014.

Walter, J. I., H. Kao, Z. Peng, C. Aiken, X. Meng, J. Zimmerman (Talk), Investigating dynamic interactions between the October 2012 Haida Gwaii and January 2013 Craig earthquakes, *Seismological Society of America Meeting*, Anchorage, AK, May 2014.

Walter, J. I., J. Amundson, Z. Peng, S. Prejean, and P. Morgan (Invited Talk), The seismic signature of glacier outburst floods, *AGU Fall Meeting*, San Franscisco, CA, December 2013.

Walter, J. I., Z. Peng, X. Meng, C. Kyriakopoulos, A. V. Newman, R. Malservisi, L. Feng, S. Y. Schwartz, T. H. Dixon, M. Protti, and Z. Kannan, Spatio-temporal patterns of post-earthquake seismicity and afterslip following the 5 September 2012 (Mw 7.6) Nicoya Peninsula earthquake (Talk), *AGU Fall Meeting*, San Franscisco, CA, December 2013.

Walter, J. I., Z. Peng, S. Y. Schwartz, X. Meng, A. Newman, and M. Protti (Invited Talk), Tremor, slow slip, and the spatio-temporal evolution of seismic activity at the fringes of a megathrust earthquake at the Nicoya Peninsula, Costa Rica, *Seismological Society of America Meeting*, Salt Lake City, UT, April 2013.

Earthquake risk/Antarctica/Scientist as a career outreach talks

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Tahlequah 2nd Grade, Tahlequah, OK, December 2024

Plaza Towers Elementary School, Moore, OK, October 2024

Crain Elementary School, Clayton, OK, September 2024

Byng Elementary School, April 2024

Ada Rock Club, April 2024

Oklahoma School of Science and Mathematics, November 2023

St Eugene Catholic School, Oklahoma City, OK, November 2023

Union City Middle School, Union City, OK, January 2023

Midwest City Middle School, Midwest City, OK, December 2022

St Eugene Catholic School, Oklahoma City, OK, December 2022

Wilson Elementary School (Virtual), Denton, TX, February 2021

Holy Trinity Lutheran School (Virtual), Oklahoma City, OK, April 2020

Thelma Parks Elementary, Oklahoma City, OK, November 2019

Taft Middle School, Oklahoma City, OK, November 2019

Tishomingo High School, Tishomingo, OK, November 2019

Temple Middle/High School, Temple, OK, November 2019

Eisenhower Elementary, Norman, OK, October 2019

Teen program, Southwest Oklahoma City Library, July 2019

STEM Middle School summer camp, Hartshorne, OK, June 2019

Jones Academy Elementary School, Hartshorne, OK, March 2019

Norman Science Cafe, Norman Central Library, OK, March 2019

Wilson Elementary, Norman, OK, March 2019

Will Rogers Elementary, Putnam City, OK, February 2019

Timber Creek Elementary, Moore, OK, January 2019

Geology and Geophysics Colloquium, "Life after Grad School," Norman, OK January 2019

Frontier Elementary, Edmond, OK, November 2018

Public talk, Norman Frontier West Public Library, October 2018.

Public talk, Enid First Baptist Church, August 2018.

Skype with a Scientist, Jenks Elementary School, Jenks, OK, May 2018.

Cross Timbers Elementary, Earthquakes in Oklahoma!, Tecumseh, OK, March 2018

What is an earthquake? What is a scientist? Various earthquake activities, Jones Academy STEM Summer Science Camp visit to OU and Norman, June 2018

Raspberry Shake program training to teachers, Enid, OK, June 2018

Public talk, Okmulgee Lions Club, June 2018.

Earthquake risk in Oklahoma, Ready Business Quakesmart Workshop, Midwest City, OK, October 2017

Earthquake risk in Oklahoma, Oklahoma County Local Emergency Planning Committee Tabletop Exercise, OK, October 2017

Earthquake risk in Oklahoma, East Oklahoma County Rotary Club, Choctaw, OK, October 2017

McKinley Elementary, Great Central US Shakeout – What to do in an Earthquake?, Norman, OK, October 2017

What is an earthquake? What is a scientist? Various earthquake activities, Jones Academy STEM Summer Science Camp, Hartshorne, OK, July 2017

Service

Reviewer	Science, Nature Geoscience, Earth and Planetary Sciences Letters, Geophysical Research Letters, Seismological Research Letters, Journal of Geophysical Research-Earth Surface/Solid Earth, Geology, Journal of Glaciology, Bulletin of the Seismological Society of America, Polar Science, National Geographic (ad-hoc), NSF Arctic Natural Sciences and Antarctic Glaciology (ad-hoc and panel), NSF Geophysics (ad-hoc), NSF GeoPRISMS (ad-hoc), USGS Earthquake Hazards Program (panel), SEG Technical Abstracts
Committee	Seismological Society of America Treasurer (2022-present), PASSCAL Scientific Standing Committee Member (2015-2017), Polar Networks Science Committee (joint IRIS/UNAVCO), Institutional Representative to IRIS (now Earthscope) consortium of Universities conducting seismological research (2015-present), UTIG Annual Review Committee (2016), UTIG Seminar Committee (2016)
Outreach	STEM summer science camp instructor to Choctaw Nation students; Various outreach talks to local schools (10-14 per year in Oklahoma; Adult-oriented evening public lectures (10-11 per year); Contributed to Ice Stories, an Exploratorium (science museum in San Francisco) project and website featuring contributions from Antarctic researchers
Organizer	Eastern Section of the Seismological Society of America 2017 Meeting

Awards as a Graduate Student

2011 - 2012	Chancellor's Dissertation Year Fellowship ($21,000 plus student fees)
2011	Earthscope Annual Meeting Student Presentation Award
2010	Waters Award (Best Department Thesis Proposal ~$4,000)
2009 - 2012	NASA Earth and Space Science Fellowship ($90,000)
2010	US Antarctic Service Medal

Fieldwork experience

Field party participant and leader of smaller sub-groups during work: Costa Rica, 5 trips during PhD; Greenland, 2008; Whillans Ice Plain, 2008 and 2010; Taylor Glacier, Dry Valleys, December 2014; Solomon Islands, April 2015

Field team leader (or co-leader), responsible for all aspects of safety and logistics: Helheim Glacier, August 2014; Solomon Islands, September 2015; Taku Glacier, March 2016; Thwaites Glacier, Antarctica, 2019/20

Certifications/skills: First-Aid CPR with AED (January 2016 recertification), glacier roped-travel, crevasse rescue training