Rachel Elizabeth Abercrombie

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Education:

1987 - 1991 Ph.D. University of Reading and British Geological Survey, Edinburgh, U. K.
1984 - 1987 B.A. Trinity Hall, Cambridge University, England

Employment:

2022 –	Research Professor, Boston University
2006 – 2022	Research Associate Professor, Boston University
2014 – 2020	LOA Faculty, Univerity of Nevada, Reno (part time)
2004 – 2005	Associate Professor, Boston University (with Tenure)
2001 – 2003	Assistant Professor, Boston University
1998 – 2001	Research Associate, Harvard University
1995 – 1998	Scientist, Institute of Geological and Nuclear Sciences, Wellington, New Zealand
1994 – 1995	Associate Research Scientist, University of Southern California
1991 – 1994	Research Associate, University of Southern California
1993 – 1994	Four Month Post-doctoral Fellowship at University of Nevada, Reno
July-Sept 1991	Technical Assistant at Fina Exploration Plc., Epsom, U. K.
1987-1990	Research and Teaching Assistant, Reading University

Awards:

Meierjurgen Fellowship for Visiting Scientists, University of Oregon, 2024

Fellow, American Geophysical Union, 2020

Visiting Research Fellowship at the Southern California Earthquake Center, 1991 – 1993

National Environmental Research Council CASE Studentship, 1987-1990

Professional Activities:

- Member of the Scientific Earthquake Studies Advisory Committee (SESAC). The committee was established by the 2000 congressional reauthorization of the National Earthquake Hazards Reduction Program (NEHRP) to advice the Director of the US Geological Survey on matter relating to their participation in this four-agency partnership. 2021-2024
- Board of Directors, Southern California Earthquake Center (an NSF & USGS Center, www.scec.org), 2018-, Chair of Board 2022, Vice Chair of Board 2023-
- America Geophysical Union Seismology Section President (2025-), President Elect (2023-2024), and Council Member (2023-

- Editor, Journal of Geophysical Research – Solid Earth (American Geophysical Union), 2020-,
- Member of American Geophysical Union Fellows Committee, Seismology Section, 2021-2024
- Research Affiliate, MIT Department of Earth, Atmospheric and Planetary Sciences, 2022-
- Graduate Student PhD. Thesis Committee Member outside BU:
  - T. Kartseva, Université Grenoble Alpes, France. November 2024
  - C. Mouchon, Massachusetts Institute of Technology, 2023-
  - A. Tsuchiyama, Massachusetts Institute of Technology, 2021-
  - P. Aravena, Saint Louis University, MO, 2021-
  - H. Chang, Massachusetts Institute of Technology, 2021-
  - A. Neupane, University of Tulsa, OK, 2020-2023 (withdrew from Committee)
  - Dr. E. Beauce, Massachusetts Institute of Technology, 2019-2021
  - Dr. J. Ochoa Chavez, University of Texas, El Paso, April 2019
  - Dr. R. Hatch, University of Nevada, Reno, 2016-2020
  - Dr. P. Moyer, University of New Hampshire, 2012-2020,
  - Dr. C. Ruhl, University of Nevada, Reno, 2014-2016.
- Guest Editor of Bulletin of the Seismology Society of America Special Issue "Improving Measurements of Earthquake Source Parameters", publication date expected June 2025
- Co-Leader (with Dr. A. Baltay) of Southern California Earthquake Center Technical Activity Group: Community Stress Drop Validation Study, https://www.scec.org/research/stress-drop-validation. Organised and led international workshops, virtual and in person in 2021, 2022, 2023, 2024, 2025
  - . https://southern.scec.org/workshops/2021/stress-drop
  - https://southern.scec.org/workshops/2022/stress-drop
  - https://southern.scec.org/workshops/2023/stress-drop
  - https://southern.scec.org/workshops/2024/stress-drop
  - https://www.scec.org/events/2024-scec-stress-drop-workshop/
  - https://www.scec.org/events/2025-scec-stress-drop-workshop/

- Convener of multiple Special Sessions at AGU and SSA meetings, most recently in 2024.
- USGS Early Career Scientists Network: Q&A on Publishing/Reviewing/Editing. 31 May 2023
- Speaking to the media after large earthquakes, most recently January 2025
- Convenor (with co-convenors T. Uchide, K. Ma and K. Somei) of Special Session at Japan Geoscience Union (JpGU) Meeting 2022
- Convener (with co-conveners A. Baltay & W. Fan) of Special Session at Fall AGU Meeting 2021
- Convener (with co-conveners A. Baltay, W. Walter & S. Nielsen) of Special Session S054 at Fall AGU Meeting 2020, entitled *Fifty Years of the Brune Earthquake Source Model: What Have We Learned, and What Is Next?*
- Harvard Associate, 2016-2019: working with Prof. M. Denolle's Research Group
- Member 2018 Nevada Working Group on Seismic Hazards, attending Workshop at University of Nevada, Reno, February 5-6, 2018.
- Participant in, and co-author of ensuing IODP Proposal from IODP "Workshop on Scientific Exploration of Induced SeisMicity and Stress (SEISMS)". Lamont Doherty Earth Observatory, March 2017.
- Member NSF Virtual Panel, 2017, 2015.
- Vice-President, Seismological Society of America, 2007-2009

- Member (adjunct) of Qualifying Examination Committee for PhD student at Tufts University (2007-2009), and University of New Hampshire (2012-).
- Board of Directors, Seismological Society of America, 2003-2005.
- SAFOD Downhole Monitoring Technical Advisory Panel, 2003-2008
- Convened American Geophysical Union Chapman conference on "Radiated seismic energy and the physics of earthquakes", June 2005 Portland Maine, 140 attendees from 14 countries (co convenors: A. McGarr, USGS, and H. Kanamori, Caltech).
- Editor of American Geophysical Union Monograph entitled "Radiated energy and the physics of earthquake faulting", December 2006, co-editors A. McGarr, H. Kanamori, and G. Di Toro.
- Member, NSF Geophysics Panel, September 2002.
- Working Group Leader at Earthscope Meeting, October 2001. Co-author of Earthscope Scientific Targets Report.
- Co-convener (with W. Ellsworth, USGS, H. Ito, GSJ, and P. Malin, Duke University) of International Workshop on *Borehole Instrumentation and Near-Source Seismology*, Tsukuba, Japan, 13-16 March 2001 (Funded by NSF, USGS and Japan).
- American Geophysical Union Fall Meeting Program Committee 2000-2001.
- Judge Outstanding Student Presentations (Seismology), Fall AGU 1999-.
- Member of the American Geophysical Union, the Seismological Society of America and the New Zealand Geophysical Society (Council Member 1997-1998).
- Reviewer for *Nature, Science, Journal of Geophysical Research*, *Geophysical Research Letters*, *Geophysical Journal International*, *Bulletin of the Seismological Society of America*, *Tectonophysics*, and others.
- Reviewer for National Science Foundation and NEHRP Proposals, since 1994. Reviewer for Civilian Research and Development Foundation (since 2002). Reviewer for Broad Agency Announcement by the National Nuclear Security Administration & Air Force (NNSA-AFRL). Reviewer for New Zealand EQC Biennial Grants Program, since 2015. Reviewer for National Research and Development Agency, Chile, 2023. Reviewer for Israel Science Foundation, 2023. Reviewer for German Research Foundation, 2023.

University, College and Departmental Activities:

- AI for Understanding Earthquakes, BU Hariri Foundation Focused Research Program Award (2024-2025): co-PI working with colleagues in Department of Electrical and Computer Engineering to explore promising research directions using Artificial Intelligence, advising students and cross-disciplinary communication.
- AI for Understanding Earthquakes Workshop – Hosted by BU Center for Information and Systems Engineering (CISE), November 2023: Consultant and invited speaker
- Invited speaker at BU's first Earthquake Preparedness Exercise at the BU Biosafety Lab, 19 December, 2013. Run by BU Director of Emergency Planning (S. Morash) for BU Incident Command Response Team (ICRT) and other University and City officials.
- Elected to the Faculty Council, May 2003-2006.

Invited Presentations and Workshops:

- Invited Speaker: Fall AGU Meeting, Washington DC, December 2024, "A Brief Comparison of Seismicity Along the Spectrum of Ocean Transform Faults, and its Implications for Slip Modes"

- Invited Speaker: Keynote presentation at the 39th European Seismological Commission General Assembly, Corfu Greece, September 2024
- Invited Speaker: Invited Speaker: Earthquake Science Center Seminar, USGS Moffett Field, CA, 6 December 2023
- Invited Speaker: *AI for Understanding Earthquakes Workshop* – Hosted by Boston University Center for Information and Systems Engineering (CISE), 10 November 2023.
- Invited Speaker: *SlowFaults: IRP Slow Faults Workshop* (CNRS and MISTI), 3-5 October 2023, Châtenay-sur-Seine, France.
- Invited Speaker: Gordon Research Conference: Rock Deformation. *Combining Laboratory Measurements with Observational Constraints to Understand Tectonic Processes*, August, 2022.
- Invited Speaker: Faults2SHA Learning Series, European Seismological Commission, July 2022.
- Invited Speaker: Northern California Seismic Hazards Workshop. January 2022.
- Invited Speaker: American Physical Society's March Meeting, 2019, Boston. Guest speaker in a Physics for Everyone session entitled 'Physics of Natural Phenomena'.
- Invited Speaker, SAFOD: Reviewing Past Predications, Key Results, and Future Directions" Synthesis Workshop on October 12-14, 2018 at Stanford University in Stanford, CA.
- Invited Speaker: Seismological Society of America Annual Meeting, 2017 concerning earthquake complexity and stress drop.
- Invited Speaker: Fall AGU Meeting, 2015 concerning calculation of earthquake stress drop.
- Scientific Committee, European Centre for Geodynamics and Seismology Workshop 2012, Luxembourg, *"Earthquake Source Physics on Various Scales*", (Invited Talk)
- British Geophysical Association conference, Burlington House, London "Scale Invariance and Scale Dependence in Earth Structure and Dynamics", March 2006, *Are earthquakes scale invariant?* (Invited Talk)
- Fault and Rock Mechanics Workshop, SCEC, Oxnard, September 2003, 2002
- IASPEI International Summer School on "Structure and Tectonics of Active Convergent Margins", Czech Republic, July 2002, *Seismicity and Dynamics of Subduction at the Sunda Arc: Three Unusual Earthquakes* (invited Talk).
- Japan - USA Workshop on Foreshocks and Rupture Initiation, Kyoto, 3-6 October 2000. *Earthquake Initiation and Source Processes at Small Magnitudes*
- 3rd Conference on Tectonic Problems of the San Andreas Fault System, September 2000, *Earthquake Source Complexity and Seismicity at Small Magnitudes*,
- Fluids and Faulting, Trans-Tasman Field Workshop, University of Otago, Dunedin, New Zealand, 20-25 October 1996.
- 7th International Symposium on the observation of Continental crust through drilling, Santa Fe, April 1994: *Earthquake seismology 2.5 km down the Cajon Pass scientific drillhole, southern California.*
- Invited (funded) participant to Workshop on *Developing a Science and Drilling Program to investigate the Chicxulub Multiring Impact Basin*, Puerto Vallarta, 13-14 November 1993.
- Early Workshops on the San Andreas Deep Drilling Project (now called SAFOD) 1992-1995.
- Invited Talks at various Institutions including:
    - University of Leeds, October 2024
    - GSC, Vancouver, Cananda, May 2024

- University of Washington, April 2024
- University of Oregon, March 2024
- Istituto Nazionale di Geofisica e Vulcanologia (INGV), Rome, October 2023
- University of California, San Diego, September 2023
- University of California, Riverside, April 2023
- Texas A&M University, March 2023
- GFZ German Research Centre For Geosciences, Potsdam, Germany, October 2021
- University of California, Berkeley, February 2021
- Tectonic Mondays, Sapienza University of Rome, Italy, January 2021
- University of Oregon, November 2020
- Harvard University, May 2020
- University of Southern California, September 2019
- Istituto Nazionale di Geofisica e Vulcanologia (INGV), Rome, June 2019
- University of Rhode Island, January 2019
- University of Oklahoma, May 2018
- University of Massachusetts, Amherst, October 2017
- McGill University, Montreal, April 2016
- University of Nevada, Reno, October 2015

Courses taught at Boston University:

- ES561: *Mechanics of Earthquakes* Spring 2013, 7 students
- ES561: *Mechanics of Earthquakes* Fall 2005, 8 students
- ES360 *Geodynamics I* Spring 2005, 10 students
- ES660: *Geodynamics: Graduate level* Spring 2005, 4 students.
- ES360: *Geodynamics I* Spring 2004, 16 students
- ES505: *Plate Tectonics and Kinematics* Fall 2003, 9 students. Completely revised course.
- ES561: *Mechanics of Earthquakes* Spring 2003, 4 students. Developed new course
- ES360: *Geodynamics I* Fall 2002, 15 students
- ES660: *Geodynamics: Graduate level* Fall 2002, 4 students. Developed new course
- ES587: *Seminar in Earth Sciences* Fall 2002, 2 students
- ES360: *Geodynamics I* Fall 2001 (co-taught with Prof. G. Abers) 17 students

Prior Teaching Experience:

- At Harvard University (1998-2001) I assisted graduate students, and lectured in undergraduate classes:
  - EPS 6. Introduction to Environmental Science: The Solid Earth, 2000 (~ 30 students)
  - A-43: Environmental Risks and Disasters, 1999 (over 100 students).
- I supervised summer students and advised graduate students and less experienced graduate staff at IGNS, New Zealand.
- At the University of Southern California (1991-1995) I advised:
  - two graduate students: M. Forrest (1997) and D. Adams (1997). I was on the thesis committee for Forrest, and partially funded Adams (Adams & Abercrombie, 1998).
  - two SCEC Summer Interns (H. Hodgetts, 1995; M. Ragan, 1994).
  - Three undergraduate work study students

- Attended SCEC sponsored Workshop for Science and Education Faculty: *Teaching an Earthquake Course with the Punch of M8*, California State University, Fullerton, 6 May 1995.
- Reading University, England (1987-1991):
  - Teaching fellow for classes in Mineralogy, Structural Geology and Geophysics
  - Field Trip leader for Open University Summer field trips 1988.

Graduate Students:

(My focus on advising outside of Boston University simply reflects the current lack of a graduate program at Boston University in my field of expertise).

- Norma A. Contreras (co-advisor), PhD student at UC Riverside, 2024-present
- Pablo Aravena (co-advisor), PhD student at St. Louis University, 2021-present
- Hilary Chang (co-advisor), PhD student at MIT, 2020- present
- Arjun Neupane (co-advisor), University of Tulsa, PhD 2023
- Jiewen Zhang (co-advisor), University of Oklahoma, PhD 2021
- I. Carmen Juarez-Garfias (co-advisor), Victoria University of Wellington, NZ, MA 2021.
- Colin Pennington (co-advisor), University of Oklahoma, PhD 2020
- Rachel Hatch (co-advisor), at University of Nevada, Reno, PhD 2020
- J. Ochoa Chavez (co-advisor), University of Texas, El Paso, PhD 2019
- Jenny Nakai (co-advisor), University of Colorado, Boulder, PhD 2018
- Esteban Chaves (co-advisor), at University of California, Santa Cruz, PhD 2018
- Christine Ruhl (co-advisor & Thesis Committee), at University of Nevada, Reno, PhD 2016
- Kasey Aderhold (primary advisor), Boston University, PhD 2015
- PhD student Maria Kozwovka, visiting Fulbright Scholar from Poland, at Boston University, 2014-2015.
- Gisela Viegas Fernandes (primary advisor), Boston University, PhD 2009
- Maya El-Hariri, (primary advisor), Boston University, MA 2008.
- Katherine Murphy (primary advisor), Boston University, MA 2006
- Jelena Tomic (primary advisor), Boston University, MA June 2004
- Karen Felzer (co-advisor) at Harvard University, PhD 2003.

Post-Doctoral Fellows:

- Dr. Cyril Journeau, 2023- , U Oregon with Prof. Amanda Thomas
- Dr. Shanna Chu, 2022-2024, USGS with Dr. Annemarie Baltay
- Dr. Qingyu Wang, 2020-2023, at MIT with Prof. William Frank
- Dr. Qimin Wu, 2018-2020, at U Oklahoma, with Prof. Xiaowei Chen.
- Dr. Yakuji Yamada, Boston University 2005-2007, Japanese Science and Technology Fellowship.
- Dr. Eleanor Sonley, January-December 2005, NSF and Boston University funding to work on source parameters of Parkfield (California) earthquakes

Advisors:

- PhD. Ian Main, Paul Burton and Alan Douglas
- Post Doctoral: Peter Leary, Jim Brune

Publications:

Underline indicates student and Postdoctoral advisees.

Peer Reviewed Literature:

Abercrombie, R. E., Chen, X., Huang, Y., and Chu, S., (2025) Comparison of EGF methods for Ridgecrest Sequence: Can EGF be used to help resolve ambiguity in isolating source spectra?, *Bulletin of the Seismological Society of America,* http://doi.org/10.1785/0120240161

Abercrombie, R. E., Baltay, A. S., Chu, S. and Taira,T., *et al*., (2025) Overview of The SCEC/USGS Community Stress Drop Validation Study Using the 2019 Ridgecrest Earthquake Sequence, *Bulletin of the Seismological Society of America, in press*

Chang H., **Abercrombie, R. E**., and Nakata, N. (2025) Importance of considering site effects in earthquake source parameter estimates: Insights from shallow attenuation at a dense array in Oklahoma, *Bulletin of the Seismological Society of America,* doi: https://doi.org/10.1785/0120240137

Chu, S., Baltay, A. S., and **Abercrombie, R. E**. (2024), Characterizing Directivity in Small (M3-5) Aftershocks of the Ridgecrest Sequence, *Bulletin of the Seismological Society of America,* doi: https://doi.org/10.1785/0120240146

Calderoni, G., and **Abercrombie, R. E.,** (2024), Combining two distinct methods to resolve spatial variation in attenuation and earthquake source parameters, *Bulletin of the Seismological Society of America,* doi: https://doi.org/10.1785/0120240160

Cochran, E. S., Baltay, A., Chu, S., **Abercrombie, R. E**., Bindi, D., Chen, X., Parker, G. A., Pennington, C., Shearer, P. M. and Trugman, D. T. (2024). SCEC/USGS Community Stress Drop Validation Study: How spectral fitting approaches influence measured source parameters, *Bulletin of the Seismological Society of America*, doi: https://doi.org/10.1785/0120240140

Shearer, P. M., Vandevert, I., Fan, W., **Abercrombie, R. E**., Bindi, D., Calderoni, G., *et al*. (2024) Earthquake source spectra estimates vary widely for two Ridgecrest aftershocks because of differences in attenuation corrections. *Bulletin of the Seismological Society of America,* doi: https://doi.org/10.1785/0120240134.

Kammer, D.S., McLaskey, G.C., Abercrombie, R.E. *et al.* (2024) Earthquake energy dissipation in a fracture mechanics framework. *Nat Commun* **15**, 4736. https://doi.org/10.1038/s41467-024-47970-6

Baltay, A., **Abercrombie, R**., Chu, S., & Taira, T. (2024). The SCEC/USGS Community Stress Drop Validation Study Using the 2019 Ridgecrest Earthquake Sequence. *Seismica*, *3*(1). https://doi.org/10.26443/seismica.v3i1.1009

Fang, H., and **R. E. Abercrombie** (2023) SMatStack to enhance noisy teleseismic seismic phases: validation and application to resolving depths of oceanic transform earthquakes, *Geochemistry, Geophysics, Geosystems*, 24, e2023GC011109. https://doi.org/10.1029/2023GC011109

Chang, H., **Abercrombie, R. E.,** Nakata, N., Pennington, C. N., Kemna, K. B., Cochran, E. S., & Harrington, R. M. (2023). Quantifying site effects and their influence on earthquake source parameter estimations using a dense array in Oklahoma. *Journal of Geophysical Research: Solid Earth*, 128, e2023JB027144. https://doi.org/10.1029/2023JB027144

Ruhl, C. J., **R. E. Abercrombie**, P. M. Shearer (2023). Spatially Consistent Small-Scale Stress Heterogeneity Revealed by the 2008 Mogul, Nevada, Earthquakes. *The Seismic Record* ; 3 (3): 239–248. doi: https://doi.org/10.1785/0320230026

Wang, Q., Frank, W. B., **Abercrombie, R. E.**, Obara, K., & Kato, A. (2023), What makes low-frequency earthquakes low frequency? *Science Advances, 9,* eadh3688. DOI:10.1126/sciadv.adh3688

Calderoni, G., & **Abercrombie, R. E**. (2023). Investigating spectral estimates of stress drop for small to moderate earthquakes with heterogeneous slip distribution: Examples from the 2016–2017 Amatrice

earthquake sequence. *Journal of Geophysical Research: Solid Earth*, 128, e2022JB025022. https://doi.org/10.1029/2022JB025022

Schlaphorst, D., C. Rychert, N. Harmon, S. P. Hicks, P. Bogiatzis, J. M. Kendall and **R. E. Abercrombie**, (2023). Local seismicity around the Chain Transform Fault at the Mid-Atlantic Ridge from OBS observations. *Geophysical Journal International, ggad124, https://doi.org/10.1093/gji/ggad124*

Pennington, C. N., Q. Wu, X. Chen, **R. E. Abercrombie** (2023), Quantifying Rupture Characteristics of Microearthquakes in the Parkfield Area Using a High-Resolution Borehole Network, *Geophysical Journal International,* ggad023, https://doi.org/10.1093/gji/ggad023.

Qin, Y., Chen, X., Chen, T., & **Abercrombie, R. E**. (2022). Influence of fault architecture on induced earthquake sequence evolution revealed by high-resolution focal mechanism solutions. *Journal of Geophysical Research: Solid Earth, 127, e2022JB025040*. https://doi.org/10.1029/2022JB025040

Shearer, P. M., **R. E. Abercrombie,** and D. T Trugman (2022). Improved stress drop estimates for M 1.5 to 4 earthquakes in Southern California from 1996 to 2019, *Journal of Geophysical Research-Solid Earth, 127, e2022JB024243*. https://doi.org/10.1029/2022JB024243

Zhang, J., Chen, X., **Abercrombie, R. E**., (2022) Spatiotemporal variability of earthquake source parameters at Parkfield, California, and their relationship with the 2004 M6 earthquake, *Journal of Geophysical Research-Solid Earth 127, e2021JB022851*. https://doi.org/10.1029/2021JB022851

Pennington, C. N., H. Chang, J. L. Rubinstein, **R. E. Abercrombie**, N. Nakata, T. Uchide and E. S. Cochran (2022), Quantifying the Sensitivity of Microearthquake Slip Inversions to Station Distribution Using a Dense Nodal Array, *Bulletin of the Seismological Society of America 2022;* doi: https://doi.org/10.1785/0120210279.

Hatch-Ibarra, R. L., **R. E. Abercrombie,** C. J. Ruhl, K. Smith, W. C. Hammond and I. Pierce, 2022. The 2016 Nine Mile Ranch Earthquakes: Hazard and Tectonic Implications of Orthogonal Conjugate Faulting in the Walker Lane, *Bulletin of the Seismological Society of America 2022;* doi: https://doi.org/10.1785/0120210149

Abercrombie, R. E., Trugman, D. T., Shearer, P. M., Chen, X., Zhang, J., Pennington, C. N., Hardebeck, J. L., Goebel, T. H., & Ruhl, C. J., 2021. Does earthquake stress drop increase with depth in the crust? *Journal of Geophysical Research: Solid Earth,* 126, e2021JB022314. https://doi.org/10.1029/2021JB022314

Abercrombie, R. E., 2021. Resolution and Uncertainties in Estimates of Earthquake stress drop and Energy Release, *Philosophical Transactions of the Royal Society A,* 379, 20200131. 20200131. *http://doi.org/10.1098/rsta.2020.0131*

Nakai, J., A. Sheehan, **R. E. Abercrombie** and D. Eberhart-Phillips, 2021, Near Trench 3D Seismic Attenuation Offshore Northern Hikurangi Subduction Margin, North Island, New Zealand, *Journal of Geophysical Research-Solid Earth, 126,* e2020JB020810. https://doi.org/10.1029/2020JB020810

Shearer, P. M., and **R. E. Abercrombie,** 2021. Calibrating Spectral Decomposition of Local Earthquakes using Borehole Seismic Records - Results for the 1992 Big Bear Aftershocks in Southern California, *Journal of Geophysical Research: Solid Earth, 126, e2020JB020561. https://doi.org/10.1029/2020JB020561*

Pennington, C., Chen, X., **Abercrombie, R. E**., and Wu, Q., 2021. Cross Validation of Stress Drop Estimates and Interpretations for the 2011 Prague, OK, Earthquake Sequence Using Multiple Methods, *Journal of Geophysical Research: Solid Earth*, 126, e2020JB020888. https://doi.org/10.1029/2020JB020888

Abercrombie, R. E., X. Chen & J. Zhang, 2020. Repeating earthquakes with remarkably repeatable ruptures on the San Andreas Fault at Parkfield, *Geophysical Research Letters, 47, e2020GL089820. https://doi.org/10.1029/2020GL089820*

Moyer, P. A., Boettcher, M. S., Bohnenstiehl, D. R., & **Abercrombie, R. E.,** 2020. Crustal strength variations inferred from earthquake stress drop at Axial Seamount surrounding the 2015 eruption. *Geophys. Res. Lett.*, 47, e2020GL08844, https://doi.org/10.1029/2020GL088447

Chaves, E. J., S. Y. Schwartz & **R. E. Abercrombie,** 2020. Repeating Earthquakes Record Fault Weakening and Healing Following a Megathrust Earthquake*, Science Advances, (32),* eaaz9317 DOI: 10.1126/sciadv.aaz9317

Hicks, S., R. Okuwaki, A. Steinberg, C. Rychert, N. Harmon, **R. Abercrombie**, P. Bogiaztis, D. Schlaphorst, J. Zahradnik, J-M. Kendall, Y. Yagi, K. Shimizu, H. Sudhaus, 2020. Back-propagating super-shear rupture in the 2016 M7.1 Romanche transform fault earthquake, *Nature Geoscience, **13,** 647–653 (2020). https://doi.org/10.1038/s41561-020-0619-9*

Yu, H., R. M. Harrington, H. Kao, Y. Liu, **R. E. Abercrombie**, B. Wang, 2020. Well Proximity Governing Spatial Variation of Stress Drop and Seismic Attenuation Associated with Hydraulic Fracturing Induced Earthquakes, *Journal of Geophysical Research, 125, e2020JB020103. https://doi.org/10.1029/2020JB020103.*

Chen, X., and **R E Abercrombie,** 2020. Improved approach for stress drop estimation and its application to an induced earthquake sequence in Oklahoma, *Geophysical Journal International*, 223, 233-253, https://doi.org/10.1093/gji/ggaa316

Hatch, R. L., **Abercrombie, R. E**., Ruhl, C. J., & Smith, K. D. 2020. Evidence of aseismic and fluid-driven processes in a small complex seismic swarm near Virginia City, Nevada. *Geophysical Research Letters*, 47, e2019GL085477. https://doi.org/10.1029/2019GL085477

Wu, Q., Chen, X., & **Abercrombie, R. E**. 2019. Source complexity of the 2015 Mw 4.0 Guthrie, Oklahoma earthquake. *Geophysical Research Letters, 46*. https://doi.org /10.1029/2019GL082690.

Anderson, J. G., Koehler, R. D., **R. E. Abercrombie**, S. K. Ahdi, S. Angster, J. Bormann, J. N. Brune, *et al.,* 2019. A seismic hazards overview of the urban regions of Nevada: Recent advancements and research directions, 2018, *Seismological Research Letters,* doi: https://doi.org/10.1785/0220180357.

Shearer, P. M., **R. E. Abercrombie,** D. T. Trugman, & W. Wang, 2019. Comparing EGF Methods for Estimating Corner Frequency and Stress Drop from P-wave Spectra. *Journal of Geophysical Research: Solid Earth*, 124. https://doi.org/10.1029/2018JB016957.

Yarce, J., A. F. Sheehan, J.S. Nakai, S.Y. Schwartz, K. Mochizuki, M. K. Savage, L. M. Wallace, S. A. Henrys, S. C. Webb, Y. Ito, **R. E. Abercrombie**, B. Fry, H. Shaddox, E. K. Todd, 2019. Seismicity at the northern Hikurangi Margin, New Zealand, and investigation of the potential spatial and temporal relationships with a shallow slow slip event. *Journal of Geophysical Research: Solid Earth*, 124. https://doi.org/10.1029/2018JB017211

Hatch, R. L., **R. E. Abercrombie**, C. J. Ruhl, and K. D. Smith, 2018, Earthquake Interaction, Fault Structure, and Source Properties of a Small Sequence in 2017 near Truckee, California, *Bulletin of the Seismological Society of America, 108 (5A):* 2580-2593. https://doi.org/10.1785/0120180089.

Frank, W. B., and **R. E. Abercrombie**, 2018. Adapting the matched-filter search to wide-aperture networks: an aftershock sequence and an earthquake swarm in Connecticut, *Bull. Seismol. Soc. Am.*, 108, 524-532, https://doi.org/10.1785/0120170190.

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