

RICH D. KOEHLER, III, Ph.D., P.G.
Associate Professor
Nevada Bureau of Mines and Geology
Mackay School of Earth Science and Engineering
University of Nevada, Reno
Business telephone: (775) 682-8763
Email: rkoehler@unr.edu

Curriculum Vitae

EDUCATION

2009 Ph.D., Geology, University of Nevada, Reno
1997 M.S., Environmental Systems (Geology), Humboldt State University
1992 B.A., Earth Science, University of California, Santa Cruz

PROFESSIONAL EXPERIENCE

2021-date Assoc. Professor, University of Nevada, Reno, NV Bureau of Mines and Geology
2015-2020 Assist. Professor, University of Nevada, Reno, Nevada Bureau of Mines and Geology
2009-2015 State of Alaska, Dept. of Geological & Geophysical Surveys, Earthquake Geologist
2004-2009 Center for Neotectonic Studies, University of Nevada, Reno, Research Assistant
1999-2004 William Lettis & Associates, Inc., Walnut Creek, CA, Staff & Project Geologist
1998-2003 US Geological Survey, project paleoseismologist, Puget Sound, Washington
1994-1997 Humboldt State University, Research Assistant

AWARDS

2009 Top Student Presenter, Seismological Society of America
2008 Outstanding Student Paper Award, American Geophysical Union
2006 Jonathan O. Davis Scholarship, Desert Research Institute
2005 Geological Society of America, student research grant
2005 Outstanding student research award, Geological Society of America

SYNERGISTIC ACTIVITIES

2021-2022 USGS National Seismic Hazards Map, reviewer of Quaternary sources
2013-2020 Western States Seismic Policy Council (WSSPC), Chair, Basin and Range committee
2015-2017 Nevada Earthquake Safety Council (NESC)
2010-date Member, Geotechnical Extreme Events Reconnaissance (GEER)
2010-2015 Alaska Seismic Hazards Safety Commission, member and vice-chair
2017 USGS NEHRP, external grants review panel, Central and Eastern US
2013 USGS NEHRP, external grants review panel, Pacific Northwest/Alaska

AFFILIATIONS AND REGISTRATION

California Professional Geologist, # 7615
Geological Society of America
American Geophysical Union
Seismological Society of America

POST EARTHQUAKE INVESTIGATIONS

2020 M6.5 Monte Cristo Mountains earthquake, Nevada, Field coordinator, surface rupture team

- 2019 Mw6.4 and Mw7.1 Ridgecrest earthquakes, southern California, surface rupture team
- 2018 M7.0 Anchorage Alaska earthquake, Rapid response co-team leader (GEER)
- 2010 M7 Port-au-Prince, Haiti earthquake, NSF rapid response team
- 2008 M6 Wells Nevada earthquake, UNR rapid response team
- 2000 M7.6 Chi-Chi, Taiwan earthquake, Surface rupture and engineering response team

SELECT PUBLICATIONS

*Indicates student working under my advisement

- *Pierce, I. and Koehler, R.D., (2023), 3D paleoseismology from iOS lidar and Structure from Motion photogrammetry: a case study on the Dog Valley fault, California, *Seismica*, 2(1), <https://doi.org/10.26443/seismica.v2i1.208>.
- Hatem, A.E., Collett, C.M., Briggs, R.W., Gold, R.D., Angster, S.J., Field, E.H., Powers, P.M., and **Earthquake Geology Working Group**, 2022, Simplifying complex fault geometries for systems-level analysis: Earthquake geology inputs for the U.S. National Seismic Hazard Model 2023, *Scientific Data*, v.9, p. 506.
- *Chupik, C., **Koehler, R.D.**, and Keen-Zebert, A., 2022, Quaternary mapping, and paleoseismic investigation of the Warm Springs Valley fault, northern Walker Lane, Nevada- northern California, *Bulletin of the Seismological Society of America*, v. 112, no. 1, 575-596.
- Koehler, R.D.**, S. Dee, A. Elliott, A. Hatem, A. Pickering, I. Pierce, G. Seitz, 2021, Field response and surface rupture characteristics of the 2020 M6.5 Monte Cristo Mountains earthquake, central Walker Lane, Nevada: *Seismological Research Letters*, v. 92, 823-839.
- *De Masi, C., **Koehler, R.D.**, Dee, S., Keen-Zebert, A., 2021, Early development of strike-slip faulting: Paleoseismic study along the Petersen Mountain fault, northern Walker Lane, Nevada, *Journal of Quaternary Science*, v. 36, no. 3, 403-414.
- *Pierce, I., and **Koehler, R.D.**, 2021, iPad lidar scanning for 3D trenching: a new methodology for paleoseismologists demonstrated on the Dog Valley fault, Truckee, CA, *Association of Environmental and Engineering Geologist*, AEG News, v.64, no.3., 29-32.
- Hammond, W.C., Blewitt, G., Kreemer, C., **Koehler, R.D.**, and Dee, S., 2020, Geodetic observation of seismic cycles before, during, and after the 2020 Monte Cristo Range earthquake using the MAGNET GPS network, *Seismological Research Letters*, v. 92, 647-662.
- *Pierce, I., Williams, A., **Koehler, R.D.**, and Chupik, C., 2020, High resolution structure-from-motion models and orthophotos of the southern sections of the 2019 Mw7.1 and Mw6.4 Ridgecrest, earthquakes surface ruptures, *Seismological Research Letters*, 91, 4, 2124-2126.
- Ponti, D.J., et al., 2020, Documentation of surface fault rupture and ground deformation features produced by the Ridgecrest M6.4 and M7.1 earthquake sequence of July 4 and 5, 2019, *Seismological Research Letters*, v. 91, no. 5, 2942-2959.
- Koehler, R.D.**, Reger, R.D., Spangler, E.R., and Hubbard, T.D., 2019, Assessment of geomorphology and geologic hazards in the Parks Highway-Minto Flats-Dalton Highway infrastructure corridor: Cook Inlet to Prudhoe Bay, Alaska: Alaska Division of Geological & Geophysical Surveys Report of Investigation 2019-8, 82 p., 4 sheets.
- Koehler, R.D.**, Franke, K.W. (Eds.), and 7 others, 2019, Geotechnical engineering reconnaissance of the 30 November 2018 Mw7.1 Anchorage, Alaska earthquake, Version 2.0, Geotechnical Extreme Events Association (GEER), report number GEER-059b.
- Wong, I., Thomas, P., **Koehler, R.D.**, and Lewandowski, N., 2019, Assessing the seismic hazards in Jamaica incorporating geodetic and Quaternary fault data, *Bulletin of the Seismological Society of America*, v. 109, no. 2, 716-731.

- Anderson, J.G., **Koehler, R.D.**, and 22 others, 2019, A seismic hazards overview of the urban regions of Nevada: Recent advancements and research directions, *Seismological Research Letters*, v. 90, no. 4, 1577-1583.
- Koehler, R.D.**, 2019, Active faulting in the North Valleys region of Reno, Nevada: A distributed zone within the northern Walker Lane, *Geomorphology*, v. 326, 38-53.
- Koehler, R.D.**, and Carver, G.A., 2018, Active faults and Seismic Hazards in Alaska, Alaska Division of Geological & Geophysical Surveys, Miscellaneous Publication MP 160, 59 p.
- Witter, R.C., Briggs, R., Engelhart, S.E., Gelfenbaum, G., **Koehler, R.D.**, Nelson, A., LaSelle, S., Corbett, R., and Wallace, K., 2018, Evidence for frequent large tsunamis spanning locked and creeping parts of the Aleutian megathrust, *Geological Society of America Bulletin*, v. 131, no. 5/6, 707-729.
- Koehler, R.D.**, Reger, R.D., and Spangler, E., and Gould, A.I., 2016, Investigation of potentially active tectonic faults along the route of the proposed ASAP pipeline, Livengood to Anchorage, Alaska, State of Alaska, Division of Geological & Geophysical Surveys, Report of Investigation 2015-4, 71 p.
- Witter, R.C., Carver, G.A., Briggs, R., Gelfenbaum, G., **Koehler, R.D.**, La Selle, S.P., Bender, A., Engelhart, S.E., and Hemphill-Haley, E., 2015, Unusually large tsunamis frequent a currently creeping part of the Aleutian megathrust, *Geophysical Research Letters*, v. 43, Issue 1, 76-84.
- Witter, R.C., Briggs, R.W., Engelhart, S.E., Gelfenbaum, G., **Koehler, R.D.**, and Barnhart, W., 2014, Little late Holocene strain accumulation and release on the Aleutian megathrust below the Shumagin Islands, Alaska, *Geophysical Research Letters*, v. 41, 2359-2367.
- Koehler, R.D.**, Mann, P., Prentice, C.S., Grandison-Wiggins, M., Bedford, B., and Brown, L., 2013, The Enriquillo-Plantain Garden fault in Jamaica: paleoseismology and seismic hazard, *Bulletin of the Seismological Society of America*, v. 103, issue 2a, 971-983.
- Koehler, R.D.**, Farrell, R-E, Burns, P., and Combellick, R., 2012, Quaternary faults and folds of Alaska: A digital database, Alaska Division of Geological & Geophysical Surveys, Miscellaneous Publication MP 141.
- Bemis, S., Carver, G.A., and **Koehler, R.D.**, 2012, The Quaternary thrust system of the Northern Alaska Range, *Geosphere*, v. 8, no. 1, 1-10.
- Koehler, R.D.**, Personius, S.F., Haeussler, P.J., Schwarz, D., and Seitz, G., 2011, A paleoseismic study along the central Denali fault, Chistochina Glacier area, south-central Alaska, Alaska Division of Geological and Geophysical Surveys Report of Investigation 2011-1.
- Prentice, C., Mann, P., Crone, A.J., Gold, R.D., Hudnut, K.W., Briggs, R.W., **Koehler, R.D.**, Jean, P., 2010, Seismic hazard of the Enriquillo-Plantain Garden fault in Haiti inferred from paleoseismology, *Nature Geoscience*, v. 3, 789-793.
- Koehler, R.D.**, and Wesnousky, S.G., 2011, Late Pleistocene regional extension rate derived from earthquake geology of late Quaternary faults across Great Basin, Nevada between 38.5° and 40° N latitude, *Geological Society of America Bulletin*, v. 123, no. 3-4, 631-650.
- Turner, R., **Koehler, R.D.**, Briggs, R.W., and Wesnousky, S.G., 2008, Paleoseismic and slip rate observations along the Honey Lake Fault, northeastern California, *Bulletin of the Seismological Society of America*, v. 98, no. 4, 1730-1736.
- Kelson, K.I., A.R. Streig, **R.D. Koehler**, and Keng-Hao Kang, 2006, Timing of Late Holocene Paleoeearthquakes on the Northern San Andreas Fault at the Fort Ross Orchard Site, Sonoma County, California, *Bulletin of the Seismological Society of America*, 96, 1012-1028.
- Johnson, S.Y., A.R. Nelson, S.F. Personius, R.E. Wells, H.M. Kelsey, B.L. Sherrod, K. Okumura, **R.D. Koehler**, R. Witter, L. Bradley, and D.J. Harding, 2004, Evidence for late Holocene earthquakes on the Utsalady Point fault, northern Puget Lowland, Washington, *Bulletin of the Seismological Society of America*, v. 94, no. 6., 2299-2316.
- Nelson, A.R., Johnson S.Y., Kelsey, H.M., Wells, R.E., Sherrod, B.L., Pezzopane, S.K., Bradley, L.A., **Koehler, R.D.**, and Bucknam, R.C., 2003, Late Holocene Earthquakes on the Toe Jam Hill Fault,

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Seattle Fault Zone, Bainbridge Island, Washington, Geological Society of America Bulletin, v. 115, no. 11, 1388-1403.