

**SAN JOSE STATE UNIVERSITY DEPARTMENT OF GEOLOGY
FACULTY AND *STUDENT ACTIVITY (January 2017 – December 2017)**

PAPERS AND BOOKS PUBLISHED:

Oskin, M.E., Longinotti, N. E., Peryam, T., Dorsey, B., DeBoer, C., Housen, B., and **Blisniuk, K.**, 2017, Steady ¹⁰Be-derived paleo-erosion rates across the Plio-Pleistocene climate transition, Fish Creek-Vallecito basin, California: *Journal of Geophysical Research*.

Redd, J and **Blisniuk, K.**, 2017, Teaching photogrammetry and Agisoft in the classroom to assess earthquake hazard: *Geospatial Review*.

Curren, R. and **Metzger, E.**, 2017, *Living Well Now and in the Future: Why Sustainability Matters*: Cambridge, The MIT Press, 312 p.

Curren, R., and **Metzger, E.**, 2017, Preserving opportunity: A précis of living well now and in the future: why sustainability matters: *Ethics, Policy and Environment*, v. 20, p. 227-239.

Metzger, E.P., Blockstein, D. E., and Callahan, N., 2017, Interdisciplinary teaching and sustainability: An introduction: *Journal of Geoscience Education*, v. 65, p. 81-85.

Metzger, E. P. And Curren R.R., 2017, Sustainability: Why the language and ethics of sustainability matter in the geoscience classroom: *Journal of Geoscience Education*, v. 65, 93-100.

Sauer, K.B., Gordon, S.M., **Miller, R.B.**, Vervoort, J.D., and Fisher, C.M., 2017, Transfer of metasupracrustal rocks to midcrustal depths in the North Cascades continental magmatic arc, Skagit Gneiss Complex, Washington: *Tectonics*, 10.1002/2017TC004728:

Sauer, K.B., Gordon, S.M., **Miller, R.B.**, Vervoort, J.D., and Fisher, C.M., 2017, Evolution of the Jura-Cretaceous North American Cordilleran margin: Insights from detrital-zircon U-Pb and Hf isotopes of sedimentary units of the North Cascades Range, Washington: *Geosphere*, v. 13, no. 6, p. 2094-2118, doi. doi.org/10.1130/GES01501.1

Chan, C.F., Shea, E.K., Kent, A.J.R., **Miller, R.B.**, **Miller, J.S.**, and Bowring, S.A., 2017, Formation of a sheeted intrusive complex within the deep-crustal Tenpeak pluton: *Geosphere*, v. 13, no. 5, doi: 10.1130/GES01323.1.

Eddy, M.P., Umhoefer, P.J., **Miller, R.B.**, Donaghy, E.E., Gundersen, M., and ***Senes, F.I.**, Sedimentary, volcanic, and structural processes during triple-junction migration: Insights from the Paleogene record in Central Washington, *in* Haugerud, R.A., and Kelsey, H.M., eds., *From the Puget Lowland to East of the Cascade Range: Geological Excursions in the Pacific Northwest*: Geological Society of America Field Guide 49, p. 143-173.

Gordon, S.M., **Miller, R.B.**, and Sauer, K.B., 2017, Incorporation of sedimentary rocks into the deep levels of continental magmatic arcs: Links between the North Cascades arc and surrounding sedimentary terranes, *in* Haugerud, R.A., and Kelsey, H.M., eds., From the Puget Lowland to East of the Cascade Range: Geological Excursions in the Pacific Northwest: Geological Society of America Field Guide 49, p. 101-141.

Pietsch, C., Ritterbush, K.A., Thompson, J.R., Petsios, E., and Bottjer, D.J., 2017, Evolutionary models in the Early Triassic marine realm. *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Clague, D. A., Paduan, J. B., Caress, D. W., Chadwick Jr, W. W., Le Saout, M., Dreyer, B. M., and **Portner, R. A.**, 2017, High-resolution AUV mapping and targeted ROV observations of three historical lava flows at Axial Seamount: *Oceanography*, v. 30, no. 4, p. 82-99.

*Student Author

GRANTS:

Blisniuk, K., “Understanding Strain Accumulation and Transfer between the SSAF, San Geronio Pass and the ECSZ”, Southern California Earthquake Center/USC (\$50,000, 0/4/01/2017-04/31/2018).

Metzger, E.P. (E. Cordero, PI, with D. Chai, G. Smith, and E. Walsh), “The Youth Digital Storytelling STEM Academy”, National Science Foundation (\$1,099,567, 9/15/15-8/31/18),

Miller, R.B., “Incorporation of Metasedimentary Rocks into the Deep Levels of Continental Arcs: Insights From the North Cascades”, National Science Foundation (\$79,956, 8/1/2014-7/31/2018).

Miller, R.B., “Movement History of the Pasayten Fault Zone: Implications for Large-scale Transport of Terranes Along the Margin of Western North America”, SJSU RSCA (\$4999, 6/1/2017-5/31/2018)

Portner, R.A., “Fingerprinting Source-to-Sink Associations for Deep-marine Vitriclastic Deposits and Their Association to Caldera Formation on Axial Seamount”, National Science Foundation (\$198,640; 9/12/2017-9/11/2020)

Portner, R.A., “Hydrothermal Sedimentation in the Gulf of California”, SJSU RSCA (\$5,000; 5/15/17-5/14/18)

ABSTRACTS PUBLISHED WITH PRESENTATIONS:

*Guns, K., Bennett, R., and **Blisniuk, K.**, 2017, Investigating strain transfer along the southern San Andreas fault: A geomorphic and geodetic study of block rotation in the Eastern Transverse Ranges, Joshua Tree National Park, CA: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Blisniuk K., Re-evaluating fault zone evolution, geometry, and slip rate along the restraining bend of southern San Andreas Fault zone: Geological Society of America Abstracts with Programs, v. 49, no. 6 (invited presentation).

***Waco, J.**, and **Blisniuk, K.**, 2017, Evidence for an active and evolving left-stepping San Andreas fault (Mission Creek fault strand) from the Little San Bernardino Mountains to Yucaipa Ridge: Southern California Earthquake Center Meeting.

Gabet, E.J., and **Tipp, C.***, 2017, Late Cenozoic uplift of the northern Sierra Nevada is not supported by the geomorphic evidence: Geological Society of America Abstracts with Programs, v. 49, no. 4.

Curren, R.R., and **Metzger, E.P.**, 2017, How Earth Educators Can Help Students Develop a holistic understanding of sustainability (Abstract ED44A-0): 2017 AGU Fall Meeting, New Orleans, LA.

*Swanson, B, Leech, M. and **Metzger, E.P.**, 2017, Kyanite-bearing migmatites at Ledge Mountain, Adirondack Highlands (Abstract V31B-0512): 2017 AGU Fall Meeting, New Orleans, LA.

***Boyles, J.L.**, Sisson, T.W., and **Miller, J.S.**, 2017, Experimental petrology of the K-feldspar megacryst-bearing Cathedral Peak Granodiorite, Tuolumne Intrusive Suite, Yosemite National Park, CA: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Miller, J.S., Lackey, J.S., ***Sendek, C.L.**, and Davies, G.R., 2017, Zircon trace element and isotopic records of Sierra Nevadan arc magmatism during an archetypal magmatic flare-up: Geological Society of America Abstracts with Programs, v. 49, no. 4.

Miller, R.B., ***Bryant, K.**, ***Doran, B.**, Eddy, M.P., ***Sylva, N.**, ***Raviola, F.**, and Umhoefer, P.J., 2017, Eocene transtension and strain patterns from dike swarms and strike-slip faults in the Washington Cascades: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Gordon, S.M., Sauer, K.B., **Miller, R.B.**, Vervoort, J.D., and Fisher, C.M., 2017, Contributions of metasedimentary rocks to small scale melts within the deep levels of continental arcs: Insights from the Swakane and Skagit metasedimentary rocks and associated melt generations: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Shea, E.K., **Miller, J.S., Miller, R.B.**, Chan, C., and Kent, A.J., 2017, Geochemical evidence for the development of a garnet-bearing crustal root in the Cretaceous North Cascades magmatic arc, WA: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Umhoefer, P.J., Eddy, M.P., **Miller, R.B.**, Tepper, J., and Skinner, L.A., 2017, Upper plate response to ridge and plateau subduction, Washington Cascades, USA: Implications for plate tectonic evolution of the Pacific Northwest: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Umhoefer, P.J., Donaghy, E.E., Eddy, M.P., and **Miller, R.B.**, 2017, Stratigraphic record of the middle Eocene fault-bounded Chumstick basin, central Washington, synchronous with an episode of major strike-slip faulting across the Cascades: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Sauer, K.B., Gordon, S.M., **Miller, R.B.**, Vervoort, J.D., and Fisher, C.M., 2017, Incorporation of metasedimentary units into the deepest exposed levels of the North Cascades continental arc: Comparison of the Skagit and Swakane Gneisses: Geological Society of America Abstracts with Programs, v. 49, no. 6.

***Budimirovic, N.**, and **Miller, R.B.**, 2017, Displacement history of the Pasayten fault zone in the North Cascades, Washington and British Columbia: Geological Society of America Abstracts with Programs, v. 49, no. 4.

Attia, S., Paterson, S.R., Jiang, D., and **Miller, R.B.**, 2017, Deformation partitioning: The missing link between outcrop-scale observations and orogen-scale processes: Fall Meeting, AGU, New Orleans, LA.

Petsios, E., Thompson, J. R., **Pietsch, C.**, and Bottjer, D. J., 2017. Biotic impacts of temperature before, during, and after the end-Permian mass extinction: A multi-metric and multiscale approach to modeling extinction and recovery dynamics: Geological Society of America Abstracts with Programs, v. 49, no. 6.

Pietsch, C., Brendan, A. M., Maistros, L. M., Aglevis, M., and Allmon, W. D., 2017, Evaluating ecological function and convergent evolution of extreme parietal callus in marine gastropods: Geological Society of America Abstracts with Programs, v. 49, no. 6.

*Student Author

TECHNICAL ORAL PRESENTATIONS (No Published Abstracts):

Blisniuk K., 2017, “Re-evaluating fault zone evolution, geometry, and slip rate along the restraining bend of southern San Andreas Fault zone”, presented to Department of Earth and Planetary Sciences, UC Santa Cruz (invited presentation).

Portner, R.A., 2017, “What can mid-ocean ridge sediments (MOR_SED) tell us about deep-sea volcanism”, presented to Earth and Planetary Sciences UC Santa Cruz (invited presentation).

PROFESSIONAL REVIEWS:

Blisniuk K., Peer Reviewer
National Science Foundation
Geophysical Research Letters

Gabet, E.J., Peer Reviewer
JGR – Earth Surface
Geology
Water Resources Research
Earth Surface Processes and Landforms (2)
National Science Foundation

Metzger, E.P., Associate Editor, Journal of Geoscience Education

Miller, J.S., Peer Reviewer
Geology
Journal of Petrology
Earth and Planetary Science Letters

Miller, R.B., Associate Editor of Geosphere

Miller, R.B., Peer Reviewer
Geological Society of America Special Paper
Geosphere (2)
Lithos
Tectonics
National Science Foundation (2)

Pietsch, C.P., Peer Reviewer
National Science Foundation
Palaeogeography, Palaeoclimatology, Palaeoecology

Portner, R.A., Peer Reviewer
Sedimentology
Science
Geochemistry, Geophysics and Geosystems
National Science Foundation (2)

Reed, D.L., Peer Reviewer
Institute of Earth Sciences, Academia Sinica, Republic of China

MISCELLANEOUS ACTIVITIES – AWARDS, CONSULTING ACTIVITIES, MEDIA PUBLICATIONS, SPECIAL STUDIES, TRAVEL:

Blisniuk, K., Interviewed about seismic hazards by numerous media outlets including the New York Times, CBS and ABC news

Blisniuk, K., Invited to National Center for Airborne Lasers with Mapping workshop: "Identifying future directions for LIDAR research". Houston, Texas.

Miller, J.S., August 2017, Interview on KTVU about possible volcanic activity in California.

Miller, J.S., April 2017, Co-participant in nomination of Calvin F. Miller for Distinguished Career Award from the Mineralogy, Geochemistry, Petrology, Volcanology Division of the Geological Society of America (nomination was successful and award will be conferred in 2018).

Miller, R.B., December 2017, Nominating Committee for vice-chair of Cordilleran Section of the Geological Society of America.

Miller, R.B., December 2017, Evaluated application for promotion to professor at the CSU Northridge.

Miller, R.B., October 2017, Co-led a pre-meeting 3-day field trip (~30 professional participants) to the North Cascades associated with the Annual Meeting of the Geological Society of America.

Miller, R.B., October 2017, Co-led a post-meeting 3-day field trip (~25 professional participants) to the central Washington Cascades associated with the Annual Meeting of the Geological Society of America.

Miller, R.B., September 2017, Evaluated tenure application for Idaho State University.

Miller, R.B., June – August, 2017, Field research in Washington Cascades and Coast Mountains of southern British Columbia; conducted with two SJSU M.S. students and colleagues from Northern Arizona University and the Geological Society of Canada.

Portner, R.A., 2017, Program Committee member, 2017 American Geophysical Union Chapman Conference, Hobart, Tasmania, Australia

Reed, D.L., 2017, Winter Intersession course offering – GEOL105, General Oceanography, online, January 3-20, 2017, 44 students, \$46,200 in fee revenue

Reed, D.L., 2017, Winter Intersession course offering – GEOL112, Hazards of Earthquakes and Volcanoes, online, January 3-20, 2017, 35 students, \$37,750 in fee revenue

Reed, D.L., 2017, Spring Spartans Online Special Session course offering – GEOL105, General Oceanography, online, March 13-May 26, 2017, 22 students, \$23,100 in fee revenue

Reed, D.L., 2017, Summer course offering – GEOL105, General Oceanography, online, June 5-July 7, 2017, 20 students, \$28,350 in fee revenue

Reed, D.L., 2017, Summer course offering – GEOL112, Hazards of Earthquakes and Volcanoes, online, June 5-July 7, 2017, 20 students, \$27,000 in fee revenue

Reed, D.L., 2017, Summer course offering – GEOL105, General Oceanography, online, July 10-August 11, 2017, 20 students, \$27,000 in fee revenue

Reed, D.L., 2017, Summer course offering – GEOL112, Hazards of Earthquakes and Volcanoes, online, July 10-August 11, 2017, 19 students, \$25,650 in fee revenue