

**SAN JOSE STATE UNIVERSITY DEPARTMENT OF GEOLOGY  
FACULTY ACTIVITY REPORT (JANUARY 2009 – AUGUST 2011)**

**PUBLISHED PAPERS:**

Johnson, P.L., and **Andersen, D.W.**, 2009, Concurrent growth of uplifts with dissimilar orientations in the southern Green River basin, Wyoming: Implications for Paleocene-Eocene patterns of foreland shortening: *Rocky Mountain Geology*, v. 44, p. 1-16.

**Gabet, E.J.**, and Bookter, A., 2011, Physical, chemical, and hydrological properties of Ponderosa pine ash: *International Journal of Wildland Fire*, v. 20, p. 443-452

**Gabet, E.J.**, and Mudd, S., 2010, Bedrock erosion by root fracture and tree throw: a coupled bio-geomorphic model to explore the humped soil production function and the persistence of hillslope soils: *Journal of Geophysical Research*, v. 115, F04005, doi:10.1029/2009JF001526.

**Gabet, E.J.**, Wolff-Boenisch, D., Langner, H., Burbank, D.W., and Putkonen, J., 2010, Geomorphic and climatic controls on chemical weathering in the High Himalayas of Nepal: *Geomorphology*, v. 122, p. 205-210.

Wolff-Boenisch, D., **Gabet, E.J.**, Burbank, D.W., Langner, H., and Putkonen, J., 2009, Spatial and temporal variations in chemical weathering and CO<sub>2</sub> consumption in Nepalese High Himalayan catchments during the monsoon season: *Geochimica et Cosmochimica Acta*, v. 73, p. 3148-3170.

**Gabet, E.J.**, and Mudd, S., 2009, A theoretical model coupling chemical weathering rates with denudation rates: *Geology*, v. 37, p. 151-154.

**Hendricks, J. R.**, 2010, The orange pill bottle: *American Paleontologist*, v. 18, p. 5.

**Hendricks, J. R.**, Portell, R.W., and Polites, G.L., 2009, An aberrant sinistral *Conus* (Neogastropoda: Conidae) from the Miocene of Florida, USA: *The Nautilus*, v. 123, p. 317-318.

Miller, C.F., Furbish, D. J., Walker, B.A., Claiborne, L.L., Koteas, G.C., Bleick, H.A., and **Miller, J.S.**, 2011, Growth of plutons by incremental emplacement of sheets in a crystal-rich host: Evidence from Miocene intrusions of the Colorado River region, Nevada, USA: *Tectonophysics*, v. 500, p. 65-77.

Economos, R., Memeti, V., Paterson, S.R., **Miller, J.**, Erdmann, S., and Zak, J., 2009, Causes of compositional diversity in a lobe of the Half Dome granodiorite, Tuolumne batholith, Central Sierra Nevada, CA: *Earth and Environmental Science Transactions of the Royal Society of Edinburgh, The Sixth Hutton Symposium on the Origin of Granites and Related Rocks*, v. 100, p. 1-11.

Gordon, S.M., Bowring, S.A., Whitney, D.L., **Miller, R.B.**, and McLean, N., 2010, Timescales of metamorphism, deformation, and crustal melting in a continental arc, North Cascades, USA: *Geological Society of America Bulletin*, v. 122, p. 1308–1330.

Gordon, S.M., Whitney, D.L., **Miller, R.B.**, McLean, N., and Seaton, N.C.A., 2010, Metamorphism and deformation at different structural levels in a strike-slip fault zone, Ross Lake fault, North Cascades, USA: *Journal of Metamorphic Geology*, v. 28, p. 117–136.

**Miller, R.B.**, and Snoke, A.W., 2009, The utility of crustal cross sections in the analysis of orogenic processes in contrasting tectonic settings, *in Miller, R.B.*, and Snoke, A.W, eds., *Crustal cross sections from the western North America Cordillera and elsewhere: Implications for tectonic and petrologic processes: Geological Society of America Special Paper 456*, p. 1–38.

**Miller, R.B.**, Paterson, S.R., and Matzel, J.P., 2009, Plutonism at different crustal levels: Insights from the ~5-40 km (paleodepth) North Cascades crustal section, Washington, *in Miller, R.B.*, and Snoke, A.W, eds., *Crustal cross sections from the western North America Cordillera and elsewhere: Implications for tectonic and petrologic processes: Geological Society of America Special Paper 456*, p. 125–150.

**Miller, R.B.**, Gordon, S.M., Bowring, S.A., Doran, B.A., McLean, N.M., Michels, Z.D., Shea, E.K., Whitney, D.L., Wintzer, N.E., and Mendoza, M.K., 2009, Linking deep and shallow crustal processes in an exhumed continental arc, North Cascades, Washington, *in O'Connor, J.E.*, Dorsey, R.J., and Maddin, I.P., eds., *Volcanoes to vineyards: Geologic field trips through the dynamic landscape of the Pacific Northwest: Geological Society of America Field Guide 15*, p. 373-406.

Povinec, P.P., Burnett, W.C., Beck, A., Bokuniewicz, H., Charette, M., Conneea, M.E., Groening, M., Ishitobi, T., Kontar, E., Liang Wee Kwong, L., Marie, D.E.P., Moore, W.S., **Oberdorfer, J.A.**, Peterson, R., Ramessur, R., Rapaglia, J., Stieflitz, T., and Top, Z., 2011, Isotopic, geophysical and biogeochemical investigation of submarine groundwater discharge: IAEA-UNESCO intercomparison exercise at Mauritius Island: *Journal of Environmental Radioactivity*, v. 104, p. 24-45.

Peach, C., deCharon, A., Scowcroft, G., Bell, P., Edelson, D., Hood, C., Manduca, C., McDonnell, J., **Reed, D.L.**, Schoedinger, S., and Smith, G., 2011, Meeting Report on Community Meeting on a Future Vision for Centers for Ocean Sciences Education ExcE.ce Program and National Sciences Foundation Ocean Sciences Education:

([http://www.cosee.net/files/coseenet/COSEECCommunityMeetingReport\\_Final.pdf](http://www.cosee.net/files/coseenet/COSEECCommunityMeetingReport_Final.pdf)), 24 p.

Cull, S., **Reed, D.L.**, and Karin, K., 2010, Student motivation and engagement in online courses, Teaching Geoscience Online - A Workshop for Digital Faculty, On the Cutting Edge: Science Education Resource Center, <http://serc.carleton.edu/NAGTWorkshops/online/motivation.html>.

Bangs, N. Schwartz, S., Saffer, D., and **Reed, D.**, 2009, The next decade of the Seismogenic Zone Experiment: MARGINS Newsletter No. 22, Spring 2009, p. 5-10.

Hirtzel, J., Chi' W.-C., **Reed, D.L.**, Chen, L., Liu, C.S., and Lundberg N., 2009, Destruction of Luzon forearc basin from subduction to Taiwan arc–continent collision: Tectonophysics, doi:10.1016/j.tecto.2009.01.032.

**Sedlock, R. L.**, 2009, Planet Earth Lab—Revised course reader for Geology 4L, 120 p.

**Stevens, C.H.**, 2010, New Early Permian colonial rugose corals from the central Cordilleran miogeocline, U.S.A.: *Journal of Paleontology*, v. 84, p. 529-537.

**Stevens, C.H.**, 2010, Distribution of three key Early Permian fossil groups in western USA and northern Mexico and their relevance to interpretation of paleotectonic features along the southwestern margin of Laurentia: *Palaeogeography, Palaeoclimatology, and Palaeoecology*, v. 288, p. 103-107.

**Stevens, C.H.**, and Belasky, P., 2009, Nature of Permian faunas in western North America: A key to the understanding of the history of allochthonous terranes, *in* Ferrare, D.M., and Guiseppi, A.R., eds., *Geomorphology and Plate Tectonics*: Nova Science Publications, Inc., p. 276-310.

Stone, P., Swanson, B.H., **Stevens, C.H.**, Dunne, G.C., and Priest, S.S., 2009, Geologic map of the southern Inyo Mountains and vicinity, Inyo County, California: U.S. Geological Survey Scientific Investigations Map 3094, pamphlet 22 p.

**Stevens, C.H.**, and Stone, P., 2009, New Permian durhaminid corals from east-central California: *Journal of Paleontology*, v. 83, p. 946-953.

**Stevens, C.H.**, 2009, New occurrences of Permian corals from the McCloud Belt in western North America: *Palaeontologia Electronica*, v. 12, issue 2; 7A: 16 p.

**Stevens, C.H.**, and Stone, P., 2009, New fusulinids from Lower Permian turbidites at Conglomerate Mesa, southeastern Inyo Mountains, east-central California: *Journal of Paleontology*, v. 83, p. 399-404.

### **BOOKS:**

**Miller, R.B.**, and Snoke, A.W. (editors), 2009, Crustal cross sections from the western North America Cordillera and elsewhere: Implications for tectonic and petrologic processes: Geological Society of America Special Paper 456, 286 p.

**Reed, D.L.**, 2011, General Oceanography Course Workbook, 274 p.  
([http://oceansjsu.com/105d/workbook\\_download.html](http://oceansjsu.com/105d/workbook_download.html)).

**Reed, D.L.**, 2011, Global Studies 1B Course Workbook, 227 p.  
([http://oceansjsu.com/1B/workbook\\_download\\_1B.html](http://oceansjsu.com/1B/workbook_download_1B.html)).

Speed, R.C, 2011, Geology and geomorphology of Barbados, Geological Society of America Special Paper 485, **Sedlock, R.L.**, and Speed, C., editors.

### **MEDIA PUBLICATIONS:**

**Reed, D.L.**, 2011, Introduction to Global Studies (1B) – Online Course (<http://oceansjsu.com>).

**Reed, D.L.**, 2011, General Oceanography at SJSU - Online Course, San Jose State University, San Jose, CA (<http://oceansjsu.com>).

**Reed, D.L.**, Moore, J.C., and Schwartz, S., 2011, The next decade of the Seismogenic Zone Experiment – Video Presentation Podcasts, NSF MARGINS Mini-Lesson Collection: Science Education Resource Center (<http://serc.carleton.edu/margins/minilessons/53597.html>).

**Reed, D.L.**, Edwards, B., and Gibbons, H., 2010, Case study: Mapping the Arctic: ([http://oceansjsu.com/1B/exped\\_arctic\\_mapping/1.html](http://oceansjsu.com/1B/exped_arctic_mapping/1.html)).

**Reed, D.L.**, 2010, Case Study: Global marine governance and policy ([http://oceansjsu.com/1B/exped\\_governance\\_policy/1.html](http://oceansjsu.com/1B/exped_governance_policy/1.html)).

**Reed, D.L.**, 2010, NanTroSEIZE in 3-D, NSF MARGINS Mini-Lesson Collection: Science Education Resource Center (<http://serc.carleton.edu/margins/minilessons/53588.html>).

#### **ABSTRACTS PUBLISHED:**

**Gabet, E.J.** and Mendoza, M., 2010, Particle transport on rough hillslope surfaces: flume experiments and numerical modeling: EOS Transactions American Geophysical Union, 90(52), Fall Meeting Supplement.

**Gabet, E. J.** and Mudd., 2009, S., A numerical model of bedrock erosion by tree throw: The humped soil production function as an emergent property in coupled bio-geomorphic systems: EOS Transactions American Geophysical Union 90(52), Fall Meeting Supplement.

**Gabet, E.J.**, and Mudd, S., 2009. Tree throw, soil production, and disturbance ecology: A model illustrating a coupling between the geosphere and the biosphere: EOS Transactions American Geophysical Union, v. 90(22), Joint Assembly Supplement.

**Hendricks, J.R.** 2011, The relationship between local species abundance and larval developmental mode in a remarkable sample of *Conus* (Neogastropoda) from the early Pliocene of the Dominican Republic: Geological Society of American Annual Meeting, [http://gsa.confex.com/gsa/2011AM/finalprogram/abstract\\_191994.htm](http://gsa.confex.com/gsa/2011AM/finalprogram/abstract_191994.htm).

**Hendricks, J.R.**, and Dietl, G.P., 2011, A standardized test of the inverse relationship between drilling and repair frequencies: Geological Society of America Annual Meeting, [http://gsa.confex.com/gsa/2011AM/finalprogram/abstract\\_194383.htm](http://gsa.confex.com/gsa/2011AM/finalprogram/abstract_194383.htm).

Saupe, E.E., **Hendricks, J.R.**, Halloran, P., and Lieberman, B.S., 2011, Climate change and marine mollusks: a tale of invasions, immigration and extirpation: Geological Society of America Annual Meeting, [http://gsa.confex.com/gsa/2011AM/finalprogram/abstract\\_193018.htm](http://gsa.confex.com/gsa/2011AM/finalprogram/abstract_193018.htm).

**Hendricks, J. R.**, and Smith, U.E., 2010, Elements of the extant eastern Pacific Conus (Neogastropoda) fauna in the Neogene of the Dominican Republic and southeastern United States: Geological Society of American Annual Meeting, [http://gsa.confex.com/gsa/2010AM/finalprogram/abstract\\_179122.htm](http://gsa.confex.com/gsa/2010AM/finalprogram/abstract_179122.htm).

**Metzger, E.P., Sedlock, R.L.**, and Curren, R.R., 2010, Education for sustainability in the K-12 curriculum: a key role for Earth System Science: Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 590.

**Metzger, E.P.**, and **Sedlock, R.**, 2010, Earth science teacher professional development: lessons learned from two decades of the Bay Area Earth Science Institute: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 109.

**Sanquini, A.**, **Metzger, E.P.**, and McLaughlin, R.J., 2010, A petrographic link between the Late Cretaceous Pigeon Point Conglomerate and felsitic volcanic rocks near Pescadero, California: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 74.

MacDonald, J.H. Jr., **Miller, R.B.**, Dragovich, J.D., **Metzger, E.P.**, **Miller, J.S.**, and Harper, G.D., 2010, Geology and geochemistry of the De Roux unit and possibly correlative tectonostratigraphic terranes within the Cascade Mountains, Washington: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 518.

Bavishi, D.K., **Metzger, E.P.**, and **Miller, J.S.**, 2010, Plagioclase textures and zoning patterns in the Miocene Dowdy Ranch Andesite, Central California Coast Ranges: Implications for open and closed system behavior in magmatic systems: American Geophysical Union, Fall Meeting, abstract #V43C-2390.

Pruett, L.E., Burrell, S., Chidester, C., and **Metzger, E.P.**, 2010, Can skateboarding save the planet? A curricular unit on global climate change developed through the NASA LIFT-OFF Program: American Geophysical Union, Fall Meeting, abstract #ED43A-0666.

**Metzger, E.P.**, Lenkeit-Meezan K., Schmidt, C., and Taketa, R., 2009, A modular web-based GIS for the high school science classroom: American Geophysical Union, Fall Meeting, abstract #ED13B-0602.

Ryan, M., **Miller, J.**, Miller, C., Bromley, S.A., Davies, G.R., and Schmitt, A.K., 2011, Mixing processes and melt sources in the Aztec Wash pluton as revealed by O and Hf isotopic analysis of zircon: Geological Society of America Abstracts with Programs, v. 43, no. 4, p. 58.

Miller, C.F., Pamukcu, A.S., Gualda, G.A.R., Colombini, L.L.S., Flanagan, D.M., Ayers, J.C., and **Miller, J.S.**, 2010, Sphene (titanite) as tracer of processes in felsic magmas: examples from Miocene rocks of the Colorado River Extensional Corridor (CREC), NV-AZ-CA: Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 626.

Burgess, S.D., Bowring, S.A., Petsche, J., Miller, R.B., and **Miller, J.S.**, 2009, High precision U-Pb CA-TIMS geochronology for the Sentinel and Yosemite Creek Granodiorites, Sierra Nevada Batholith, CA: A history of punctuated intrusion and protracted crystallization: Eos Transactions AGU, 90(52), Fall Meeting Supplement, Abstract V42A-05.

**Miller, J.**, Walker, B.A. Jr., Miller, C.F., Claiborne, L.L., Davies, G.R., and Wooden, J.L., 2009, Growth of the Spirit Mountain Batholith (Nevada, USA) as revealed by *in situ* Hf isotopes in zircon: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 60.

Kruijer, T., Fulmer, E.C., **Miller, J.S.**, and Davies, G.R., 2009, Detailed field, geochemical, and isotopic constraints on the assembly of the Sentinel Granodiorite, Sierra Nevada batholith, USA: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 59.

Carley, T.L., Miller, C.F., Charles A., Gualda, G.A.R., Pamukcu, A.S., Wooden, J.L., **Miller, J.**, Gaudio, S.J., and Varga, R., 2009, Supereruption of the Peach Springs Tuff: New insights from caldera-fill and outflow pumice and accessory minerals: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 141.

Miller, C.F., Wooden, J.L., Claiborne, L.L., Colombini, L.L.S., Carley, T.L., **Miller, J.S.**, Gualda, G.A.R., and Pamukcu, A.S., 2009, Accessory minerals in volcanic sequences: Elucidating magma chamber processes and the linkage between plutons and volcanism: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 707.

Miller, C.F., Furbish, D.J., Walker, B.A. Jr., Claiborne, L.L., Bleick, H.A., Koteas, G.C., and **Miller, J.S.**, 2009, Growth of plutons by incremental emplacement of sheets in crystal-rich host: Evidence from

Miocene intrusions of the Colorado River region, Nevada: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 60.

Van Dyne, A., and **Miller, R.**, 2011, Controls on structural patterns in the Yosemite Valley Intrusive Suite, northwestern Yosemite National Park: Geological Society of America Abstracts with Programs, v. 43, no. 4, p. 82.

**Miller, R.B.**, and Gordon, S.M., 2010, Melt impregnation, strain localization, and deformation mechanisms in a fossil oceanic fracture zone (Ingalls ophiolite): American Geophysical Union Fall Meeting, Abstract T21H-05.

**Miller, R.B.**, Bowring, S.A., Tepper, J.H., Umhoefer, P.J., and McLean, N., 2010, Eocene ridge subduction and termination of the North Cascades magmatic arc, Washington: Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 577.

Bowring, S.A., **Miller, R.B.**, McLean, N.M., Matzel, J., Gordon, S.M., Shea, E., and Whitney, D.L., 2010, U-Pb geochronology of the North Cascades – from Mattinson to the present: Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 658.

Collins, W.J., and **Miller, R.**, 2010, Tracking the fugitive Wrangellian arc: Geological Society of America Abstracts with Programs, v. 42, no. 5, p. 575.

Cao, W., Paterson, S.R., Whitesides, A., Memeti, V., and **Miller, R.B.**, 2010, Late Cretaceous shear zones formed by emplacement, regional dextral slip, and strain partitioning around the Tuolumne batholith: Implications for shear zone development in arcs and Cretaceous tectonics: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 107.

Clay, P.J., and **Miller, R.B.**, 2010, Tectonic implications of ductile shear zones in the Jurassic Keiths Dome pluton, northern Sierra Nevada batholith, California: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 99-100.

Burgess, S.D., Bowring, S.A., Petsche, J., **Miller, R.B.**, and Miller, J.S., 2009, High precision U-Pb CA-TIMS geochronology for the Sentinel and Yosemite Creek Granodiorites, Sierra Nevada Batholith, CA: A history of punctuated intrusion and protracted crystallization: Eos Transactions AGU, 90(52), Fall Meeting Supplement, Abstract V42A-05

**Miller, R.B.**, Gordon, S., Bowring, S.A., Doran, B., McLean, N., Shea, E., Whitney, D.L., and Wintzer, N.E., 2009, Linking deep and shallow crustal processes in an exhumed continental arc, North Cascades, Washington: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 353.

McLean, N., Bowring, S., **Miller, R.**, and Gordon, S., 2009, Geochronological constraints on synchronous regional transtension, basin fill, metamorphism, and exhumation of high pressure gneisses in the North Cascades, WA: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 353.

MacDonald, J.H., **Miller, R.B.**, Dragovich, J.D., **Metzger, E.P.**, **Miller, J.S.**, and Harper, G.D., 2009, Geology and geochemistry of the De Roux unit and possibly correlative tectonostratigraphic terranes within the Cascade Mountains, Washington: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 518.

MacDonald, J.H., **Miller, R.B.**, Schoonmaker, A., and Harper, G.D., 2009, Geochemistry of the Late Jurassic Quartz Mountain stock, Manastash inlier, Central Cascades, Washington: Implications for its tectonic setting: Geological Society of America Abstracts with Programs, v. 41, no. 7, p. 114.

Johnson, B., and **Miller, R.**, 2009, Structure and construction of the El Capitan Granite and Yosemite Creek Granodiorite in Yosemite National Park: Geological Society of America Abstracts with Programs, v. 41, no. 5, p. 8-9.

Wintzer, N.E., and **Miller, R.B.**, 2009, Structure of the northern Skagit Gneiss Complex, North Cascades, Washington: Geological Society of America Abstracts with Programs, v. 41, no. 5, p. 8.

Beers, S.R., Herkelrath, W.N., Kharaka, Y.K., Thordsen, J.T., **Oberdorfer, J.A.**, Rauch, H.W., and Ambats, G., 2010, Hydrology and changes in shallow groundwater geochemistry as a result of CO<sub>2</sub> injection at the ZERT Site: Geological Society of America Abstracts with Programs, v. 42, no. 5.

**Reed, D.L.**, Moore, G.F., Bangs, N.L., and Tobin, H., 2010, Virtual research expeditions along plate margins: Examples from an online oceanography course: Eos Transactions., Fall American Geophysical Union Meeting Supplement, Abstract ED44A-07.

**Reed, D.L.**, Bangs, N.L., Moore, G.F., and Tobin, H., 2009, NanTroSEIZE in 3-D: Creating a virtual research experience in undergraduate geoscience courses: Eos Transactions, American Geophysical Union Meeting, 90(52), Fall Meeting Supplement, Abstract ED13D-0618.

Chi, W.-C., Chen, Liu, C.-S., **Reed, D.L.**, and Lundberg, N., 2009, Evolution of Luzon arc forearc basin, offshore southern Taiwan: Eos Transactions, American Geophysical Union Meeting, 90(52), Fall Meeting, Supplement, Abstract T53F-05.

Goodwillie, A.M., **Reed, D.L.**, Ryan, J. Manduca, C., Hickey-Vargas, R., Goodliffe, A., and Abers, G., 2009, Bringing NSF-MARGINS science to the undergraduate classroom: Geological Society of America Abstracts with Programs, v.41, no. 7.

**Stevens, C.H.**, Stone, P., Bishop, K.M., and Blakely, R.J., 2010, A new hypothesis for the origin of the Poverty Hills, Owens Valley, California: Geological Society of America Abstracts with Programs, v. 42, no. 4, p. 55.

#### **TECHNICAL ORAL PRESENTATIONS (Excluding Those with Published Abstracts):**

**Andersen, D.W.**, June 2010, The changing landscape of Santa Clara Valley streams, Guadalupe Coyote Resource Conservation Council (invited presentation).

**Gabet, E.J.**, October 2011, UC Santa Cruz; If a tree falls in the forest, does it make a soil?, UC Santa Cruz (invited presentation).

**Gabet, E.J.**, 2011, If a tree falls in the forest, does it make a soil?, San Francisco State University (invited presentation).

**Gabet, E.J.**, May 2010, If a tree falls in the forest, does it make a soil?, University of Calgary (invited presentation).

**Hendricks, J. R.** February 2011, Integrating paleontological, morphological, and molecular sequence data to reconstruct the phylogenetic positions of extinct species, Department of Geology, UC Davis (invited presentation).

**Miller, J. S.**, January 2010, Winter Field Camp 2010, San Jose State University (invited presentation).

**Miller, J. S.**, September 2010, Summer Field Camp 2010, San Jose State University (invited presentation).

**Miller, J. S.**, November 2010, Beneath the volcano: Miocene plutons of the Eldorado-Newberry Mountains, Nevada, Department of Earth and Planetary Sciences, UC Santa Cruz (invited presentation).

**Miller, R.B.**, April 2011, The North Cascades and Sierra Nevada crustal sections: Insights into magmatism and deformation in the middle to lower crust, Texas Tech University (invited presentation).

**Miller, R.B.**, November 2010, The North Cascades and Sierra Nevada crustal sections: Insights into magmatism and deformation in the middle to lower crust, University of Nevada – Las Vegas (invited presentation).

**Miller, R.B.**, May 2010, The North Cascades crustal section: Insights into magmatism and deformation in the middle to lower crust, University of Wyoming (invited presentation).

**Miller, R.B.**, May 2010, Along-strike variations in Cordilleran-type magmatic arcs: Insights from the Coast Mountains and Sierra Nevada batholiths, Geological Society of America Field Forum, Samos, Greece.

**Miller, R.B.**, April 2010, James Cook University, Australia, Tectonic evolution of the largest North American Cordilleran Arc: Coast Mountains of Canada and United States (invited presentation).

**Reed, D.L.**, March 2011, The 2011 Japan earthquake and tsunami, third grade classes, Edna Maguire School, Mill Valley, CA.

**Reed, D.L.**, 2010, Virtual voyages: Ocean science in an online environment; Teaching Geoscience Online - A Workshop for Digital Faculty, On the Cutting Edge: Science Education Resource Center (<http://serc.carleton.edu/NAGTWorkshops/online2010/index.html>).

**Reed, D.L.**, Moore, G.F., Bangs, N.L., and Tobin H., 2010, March, 2010, Educational opportunities in marine seismology Challenges and Opportunities in Academic Marine Seismology Workshop, Incline Village, NV (invited presentation).

**Oberdorfer, J.A.**, April 2011, Virtual field trips, SJSU eCampus Faculty Showcase (invited presentation).

## GRANTS:

**Gabet, E.J.**, “Eolian Erosion of Burned Mediterranean Landscapes”, National Science Foundation (\$94,000; 8/2009 – 7/2012).

**Hendricks, J. R.**, “Development of a Morphometrics Laboratory and Corresponding Research Experiences for Students at San Jose State University” California State University (CSU) Research Fund (\$4,543, 8/2010- 9/2011).

**Metzger, E.P.** (with Ferdinand Rivera and Resa Kelly), “An Integrative Mathematics/ Science/Technology Approach to Climate Change,” Google (\$21,000, awarded 9/15/11).

**Metzger, E.P.**, “NASA LIFT-OFF: NASA Learning Inspires Fundamental Transformation by Opening Future Frontiers for High School Science”, NASA (via the Alameda County Office of Education) (\$16,391; 5/16/2009-5/15/2012).

**Metzger, E.P.**, “NASA LIFT-OFF: NASA Learning Inspires Fundamental Transformation by Opening Future Frontiers for High School Science”, NASA (via the Alameda County Office of Education) (\$144,513, 5/16/2010-5/15/2011).

**Metzger, E.P.** (with E. Cordero, **R. Sedlock**, and G. Smith), “Improving 6<sup>th</sup> Grade Climate Literacy Using New Media and Teacher Professional Development”, NASA (\$247, 308, 9/01/2011-8/31/2014).

**Metzger, E.P.**, Funding for a half-day conference on May 3, 2011 at SJSU, “Educating for Sustainability - a context for improving student achievement in STEM”, Chevron (\$5,000, 3/8/2011).

**Metzger, E.P.** (with **R. Sedlock**) to support the Bay Area Earth Science Institute

- Intel (\$25,000, awarded 3/14/11)
- Chevron (\$106,300, awarded 6/9/2010)

- Intel (\$24,934, awarded 5/4/2010)

**Miller, J.S.**, “Collaborative Research: Deciphering Sierran Magma Sources and Modes of Diversification Using Trace Element, O, and Hf Isotopic Analyses of Zircon”, National Science Foundation (\$146,011, March 2010-February 2013).

**Miller, J.S.**, “Collaborative Research: Tectonic Links, Magma Fluxes, and Single Mineral Geochemistry in Plutonic Systems From 5-30 km Depth, Cascades Core, Washington” (with **R.B. Miller**, SJSU), National Science Foundation (\$171,532, 6/1/2010-5/31/2013).

**Miller, J.S.**, “Structure and Stratigraphy of the Central and Northern Highland Range, Nevada”, U.S. Geological Survey Educational Component of the National Cooperative Geologic Mapping Program (EDMAP) (\$14,365, April 2010-March 2011).

**Miller, R.B.**, “Collaborative Research: Tectonic Links, Magma Fluxes, and Single Mineral Geochemistry in Plutonic Systems From 5-30 km Depth, Cascades Core, Washington” (with **J.S. Miller**, SJSU), National Science Foundation (\$171,532, 6/1/2010–5/31/2013).

**Miller, R.B.**, “Structure and Emplacement of Cretaceous Plutons, Northwest Yosemite National Park, California”, U.S. Geological Survey (EDMAP) (\$11,915, 6/1/2010–5/31/2011).

**Miller, R.B.**, “Linking Deep and Shallow Crustal Processes, North Cascades, Washington”, National Science Foundation (\$94,926, 7/05-6/30/09).

**Miller, R.B.**, “Structure of Jurassic and Cretaceous Plutons, Tahoe Area, California”, U.S. Geological Survey (EDMAP) (\$11,190, 6/1/2009–5/31/2010).

**Miller, R.B.**, “Structure of the Northern Skagit Gneiss Complex, Diablo Lake Area, Washington”, U.S. Geological Survey (EDMAP) (\$10,538, 6/2008-5/2009).

**Reed, D.L.**, “SJSU Global Studies Course Development”, Monterey Defense Language Institute (\$10,000, 1/1/08-12/31/11).

**Reed, D.L.**, “Collaborative Research: Using MARGINS Research Data Resources in the Classroom: Developing and Testing Multidisciplinary Mini-Lessons (Supplement)”, National Science Foundation (\$8,000, 7/1/2009-12/31/2009).

**Reed, D.L.**, “Collaborative Research: Using MARGINS Research Data Resources in the Classroom: Developing and Testing Multidisciplinary Mini-Lessons”, National Science Foundation (\$41,856, 1/1/2007-12/31/2009).

#### **PROFESSIONAL TRAVEL:**

**Hendricks, J.R.**, June-August, 2011, Research at Paleontological Research Institution, Ithaca, New York.

**Hendricks, J.R.**, November 2010, Geological Society of American Annual Meeting, Denver, Colorado.

**Hendricks, J.R.** June-August 2010, Research at Paleontological Research Institution, Ithaca, New York.

**Metzger, E.P.**, December, 2010, American Geophysical Union Fall Meeting, San Francisco, California.

**Metzger, E.P.**, October, 2010, Geological Society of America Annual Meeting, Denver, Colorado.

**Metzger, E.P.**, May 2010, Geological Society of America Cordilleran Section Meeting, Anaheim, California.

**Metzger, E.P.**, December, 2009, American Geophysical Union Fall Meeting, San Francisco, California.

**Miller, J. S.**, July-August 2011, Field research, North Cascades, Washington with 1 M.S. student and colleague **R.B. Miller**.

**Miller, J. S.**, May 2011, Geological Society of America Cordilleran Section Meeting, Logan, Utah.

**Miller, J. S.**, April 2011, Field research, Black Mountains, Arizona with 1 M.S. student.

**Miller, J. S.**, March 2011: Field research, Black Mountains, Arizona with 1 M.S. student.

**Miller, J. S.**, December 2010: American Geophysical Union Meeting, San Francisco, California.

**Miller, J. S.**, August 2010, Field research, North Cascades, Washington with 1 M.S. student and colleague **R.B. Miller**.

**Miller, J. S.**, August 2010, Lab research, UCLA.

**Miller, J. S.**, July 2010, Field research, Yosemite National Park with M.S. students from Vrije University, Amsterdam.

**Miller, R.B.**, July-August 2011, Field research, North Cascades, Washington with 1 M.S. student, 1B.S. student, and colleague **J.S. Miller**.

**Miller, R.B.**, July 2011, Field research in Sierra Nevada Mountains with 2 M.S. students.

**Miller, R.B.**, June 2011, Taught SJSU field camp (Geology 129, Part II) for entire month in eastern Nevada.

**Miller, R.B.**, March 2011, Taught SJSU field course (Geology 129, Part I) for 10 days in Mojave Desert.

**Miller, R.B.**, December 2010, American Geophysical Union Fall Meeting, San Francisco, California.

**Miller, R.B.**, October 2010, Geological Society of America Annual Meeting, Denver, Colorado.

**Miller, R.B.**, June, July-August 2010, Field research, North Cascades, Washington with 2 M.S. students and colleague **J.S. Miller**.

**Miller, R.B.**, July, August 2010, Field research in Sierra Nevada Mountains with 1 M.S. student.

**Miller, R.B.**, May 2010, Geological Society of America Field Forum on “Significance of along-strike variations for the 3-D architecture of orogens: The Hellenides and Anatolides in the eastern Mediterranean”, Samos Island, Greece and SW Turkey.

**Miller, R.B.**, March-April 2010 (1 month total), Visiting scholar at James Cook University, Australia.

**Miller, R.B.**, December 2009, American Geophysical Union Fall Meeting, San Francisco, California.

**Miller, R.B.**, December 2009, Research with colleague at Western Washington University, Bellingham, Washington.

**Miller, R.B.**, October 2009, Geological Society of America Annual Meeting, Portland, Oregon. Participated in post-meeting field trip on: “Mesozoic sedimentation, magmatism, and tectonics in the Blue Mountains Province, northeastern Oregon.”

**Miller, R.B.**, September-October 2009, Visiting scholar (1 month total) at MIT, Cambridge, Massachusetts.

**Miller, R.B.**, July-September 2009, Field research in Sierra Nevada Mountains with 2 M.S. students.

**Miller, R.B.**, June-August 2009, Field research in North Cascades Mountains with 1 M.S. student.

**Miller, R.B.**, January 2009, Field research (2 weeks) in Oman.

**Reed, D.L.**, April 2011, The 2011 Council on Ocean Affairs, Science and Technology (COAST) Annual Meeting, Office of CSU Chancellor, Long Beach, California.

**Reed, D.L.**, March 2011, Deep Earth Academy Review Panel Meeting, Consortium for Ocean Leadership Office, Washington D.C.

**Reed, D.L.**, December 2010, Fall American Geophysical Union Meeting, San Francisco, California.

**Reed, D.L.**, November 2010, Community Meeting on a Future Vision for Centers for Ocean Sciences Education Excellence Program and National Sciences Foundation Ocean Sciences Education, Washington, DC.

**Reed, D.L.**, September 2010, California and the World Ocean Conference 2010, San Francisco, California.

**Reed, D.L.**, June 2010, The 2010 Council on Ocean Affairs, Science and Technology (COAST) Annual Meeting, Office of CSU Chancellor, Long Beach, California.

**Reed, D.L.**, March 2010, Challenges and Opportunities in Academic Marine Seismology Workshop, Incline Village, Nevada.

**Reed, D.L.**, February 2010, NSF-MARGINS Successor Planning Workshop, San Antonio, Texas.

**Reed, D.L.**, December 2009, Fall American Geophysical Union Meeting, San Francisco, California.

**Reed, D.L.**, October 2009, Education and Outreach for a NSF-MARGINS Successor Program Workshop, Carleton College, Northfield, Minnesota.

**Reed, D.L.**, May 2009, The 2009 Council on Ocean Affairs, Science and Technology (COAST) Annual Meeting, Office of CSU Chancellor, Long Beach, California.

#### **REVIEWING AND EDITORIAL WORK:**

**Gabet, E.J.**, 2011, Associate Editor for Journal of Geophysical Research (handled 9 manuscripts)

**Gabet, E.J.**, 2010 – 2011, served on three 3-day NSF grant review committees, reviewed 75 proposals

**Miller, J. S.**, Journal reviewer for:

Earth and Planetary Science Letters (2)

Journal of Petrology (2)

Geology (2)

Contributions to Mineralogy and Petrology (2)

Geosphere

Geological Society of America Bulletin

Geological Society of America Books Series

**Miller, J. S.**, Peer review of National Science Foundation Proposals (6)

**Miller, R.B.**, Geology Editorial Board – 2010-Present

**Miller, R.B.**, 2004-2011, Associate Editor – *Tectonics* (handled 10-15 manuscripts per year)

**Miller, R.B.**, Journal reviewer for:

Tectonophysics

Journal of Metamorphic Geology

International Journal of Earth Science

Geology

Tectonics

Geological Society of America Books Series

Geological Society of America Field Trip Guide.

Journal of Structural Geology

**Miller, R.B.**, 2009-2011, Peer reviewer for National Science Foundation proposals (4).

**Oberdorfer, J.A.**, 2009, Peer review of National Science Foundation proposal.

**Reed, D.L.**, Peer reviewer of National Science Foundation proposals (2).

**Stevens, C.H.**, 2009-2010, Peer reviewer of National Science Foundation proposals.

**Stevens, C.H.**, 2009-2010, Peer review for Journal of Paleontology.

#### **MISCELLANEOUS SERVICE AND SPECIAL STUDIES:**

**Andersen, D.W.**, June 2011, Mammoth Discovery teacher institute at the Children's Discovery Museum of San Jose.

**Hendricks, J.R.**, March 2009, May 2010, October 2010, and March 2011. Participated in four Bay Area Earth Science Institute (BAESI) workshops.

**Hendricks, J.R.**, May 2010, Earth Sciences Judge: 2010 Intel International Science and Engineering Fair, San Jose, CA.

**Metzger, E.P.**, August 2011, Attended a 3-day Google Faculty Institute at Google's Mountain View campus and was named a "Google Faculty Fellow."

**Metzger, E.P.** (with **R. L. Sedlock**), 1990-Present, Co-Director of the Bay Area Earth Science Institute (BAESI), a professional development program for teachers of grades 4-12.

**Metzger, E.P.** (with Eugene Cordero and Patrick Brown, SJSU Meteorology and Genvieve Dorsey, Herman Intermediate School), July 26-28, 2011, "Earth Science, Sustainability and Society" workshop for 25 middle and high school teachers.

**Metzger, E.P.** (with Sandra Yellenburg, Santa Clara County Office of Education), July 11-15, 2011, "Earth's Changing Climate" workshop for 25 middle and high school teachers.

**Metzger, E.P.** (with **R. Sedlock**), July 5-7, 2011, “California Geology and Geologic Hazards” workshop for 30 teachers.

**Metzger, E.P.**, May 2011, Organized and secured funding for a half-day conference, “Educating for Sustainability - a context for improving student achievement in STEM”, which brought guest speaker Susan Santone from Creative Change Educational Solutions and more than 50 Bay Area educators to the SJSU campus.

**Metzger, E.P.** (with **R. Sedlock**), July, 2010, “California’s Resources” - 3-day workshop for ~ 25 teachers.

**Metzger, E.P.** (with **R. Sedlock**), June, 2010, “California’s Plate-Tectonics History/Transform Faults” – 3-day workshop for ~ 25 teachers.

**Metzger, E.P.** (with **R. Sedlock** and other instructors from SJSU and Chevron), September 2009-May 2011: the Bay Area Earth Science Institute presented 17 full-day Saturday workshops; each workshop enrolled 20-30 teachers.

**Miller, R.B.**, External thesis committee member:

MIT (Ph.D., 2005-Present): 2 students

Oregon State University (M.S., 2010-Present)

Western Washington University (M.S., 2011-Present).

**Miller, R.B.**, October 2009, Led 3-day field trip entitled “Linking deep and shallow crustal processes in an exhumed continental arc, North Cascades, Washington” for Geological Society of America National Meeting (Portland, OR).

**Oberdorfer, J.A.**, 2005 to Present, Expert support to the U.S. Department of Justice in the Antelope Valley, CA Groundwater Adjudication cases.

**Reed, D.L.**, 2011, Online teaching, General Oceanography, Summer Session, 83 students (fee proceeds to university: \$78,435).

**Reed, D.L.**, 2011, Online teaching, General Oceanography, Winter Intersession 2011, 66 students (fee proceeds to university: \$52,470)

**Reed, D.L.**, 2011, One of SJSU representatives to CSU Council on Ocean Affairs, Science and Technology (COAST), 2008-2011.

**Reed, D.L.**, March 2011, Member of decadal review committee of National Science Foundation, Deep Earth Academy (<http://www.oceanleadership.org/education/deep-earth-academy/>).

**Reed, D.L.**, 2010, Session Chair of Symposium, New Resources, Approaches, and Technologies for Teaching About the Deep Earth and Plate Margins II, at 2010 Fall Meeting of American Geophysical Union, San Francisco, California.

**Reed, D.L.**, 2010, Online teaching, Introduction to Global Studies 1B, 2010 Fall Special Session, 6 students (fee proceeds to university: \$6,345).

**Reed, D.L.**, 2010, Online teaching, General Oceanography, Summer Session, 85 students (fee proceeds to university: \$70,000).

**Reed, D.L.**, 2010, Online teaching, General Oceanography, Winter Intersession 2010, 66 students (fee proceeds to university: \$49,500).

**Reed, D.L.**, December 2010, Best Student Paper Judge, NSF-MARGINS-GeoPRISMs, 2010 Fall Meeting of American Geophysical Union, San Francisco, California.

**Reed, D.L.**, 2010, Member of Workshop Steering Committee, Community Meeting on a Future Vision for Centers for Ocean Sciences Education ExcE.ce Program and National Sciences Foundation Ocean Sciences Education.

**Reed, D.L.**, June 2010, Participant; Teaching Geoscience Online - A Workshop for Digital Faculty, On the Cutting Edge: Science Education Resource Center, (<http://serc.carleton.edu/NAGTWorkshops/online2010/index.html>).

**Reed, D.L.**, 2009, Session Chair of Symposium, Using Digital Information Resources and Findings From Major Research Initiatives to Transform Undergraduate Instruction II, at 2009 Fall Meeting of American Geophysical Union, San Francisco, California.

**Reed, D.L.**, 2009, Online teaching, General Oceanography, Fall Special Session 2009, 38 students (fee proceeds to university: \$23,940)

**Reed, D.L.**, 2009, Online teaching, General Oceanography, 2 sections, state-supported Summer Session 2009, 71 students.

**Reed, D.L.**, 2009, Online teaching, General Oceanography, Winter Intersession 2009, 47 students (fee proceeds to university: \$29,610).

**Reed, D.L.**, December 2009, Best Student Paper Judge, NSF-MARGINS, Fall 2009 Meeting of American Geophysical Union, San Francisco, CA.

**Reed, D.L.**, December 2009, Session Chair of Symposium, New Resources, Approaches, and Technologies for Teaching About the Deep Earth and Plate Margins II, Fall Meeting of American Geophysical Union, San Francisco, CA.

**Reed, D.L.**, 2009: Contributor to report: Education & Outreach for a NSF-MARGINS Successor Program:  
([http://www.nsfmargins.org/Planning\\_and\\_review/Vision\\_Statements/Education\\_vision\\_statement\\_final\\_20091201.pdf](http://www.nsfmargins.org/Planning_and_review/Vision_Statements/Education_vision_statement_final_20091201.pdf)).

**Sedlock, R.L.** (with **Metzger, E.P.**), 2000-Present, Co-Director of the Bay Area Earth Science Institute (BAESI), a professional development program for middle- and high-school teachers.

**Sedlock, R. L.**, 2010-2011, Wrote and recorded set of 18 climate-based instructional modules for online use by pre-college teachers; funded by NASA and Chevron.

**Sedlock, R.L.** (with **Metzger, E.P.**), July 2011, co-leader of week-long workshop for 30 middle- and high-school teachers, including two field trips; funded by Chevron.

**Sedlock, R.L.**, Fall 2009–Spring 2011, leader of five Saturday workshops and/or field trips for local middle- and high-school teachers; funded by Chevron.

**Sedlock, R.L.**, November 2010, Invited presentation at retreat for SJSU's Office of International and Extended Studies.

**Sedlock, R.L.**, October 2010, Presentation to alumni at SJSU's Homecoming "Classes Without Quizzes."

**Sedlock, R.L.** (with **Metzger, E.P.**), summer 2010, co-leader of two three-day workshops for 25 middle- and high-school teachers, including field trips; funded by Intel and Chevron.

**Sedlock, R.L.** May 2010, Judge for science fair at Horace Mann elementary school, San José.

**Sedlock, R.L.**, October 2009, Presentation to alumni at SJSU's Homecoming "Classes Without Quizzes."

#### **CONSULTING:**

**Oberdorfer, J.A.**, 2009 – present, Multiple projects related to environmental clean-up at groundwater contamination sites, including groundwater modeling, AECOM, San Jose/Oakland, California.

**Oberdorfer, J.A.**, 2009-2010, Multiple projects related to soil and groundwater contamination as sources of air emissions, Envirocomp, Fremont, CA.

**Oberdorfer, J.A.**, 2009, Investigations of groundwater resources as part of land development, TRC Solutions, Mountain View, CA.