

**Peer reviewed geoscience publications resulting from data acquired from
the UW-Madison Electron Microprobe Lab 1993-2013**

- Ackerman, L., Jelínek, E., & Medaris, L.G. Jr. (2011) Peridotite and pyroxenite boudins in the Bory Granulite, Horní Bory, p. 123-126 in Faryad, S.W. & Medaris, L.G. Jr., eds.: High-Pressure/Ultrahigh-Pressure Rocks in the Bohemian Massif: Geolines, v. 23.
- Ackerman, L., Jelínek, E., Medaris, G. Jr., Jezek, J., Siebel, W., and Strnad, L. (2009) Geochemistry of Fe-rich peridotites and associated pyroxenites from Horní Bory, Bohemian Massif: insights into subduction-related melt-rock reactions: *Chemical Geology*, v. 259, 152-167
- Ackerman, L., Mahlen, N., Jelínek, E., Medaris, G. Jr., Ulrych, J., Strnad, L., and Mihaljevic, M. (2007) Geochemistry and evolution of subcontinental lithospheric mantle in central Europe: Evidence from peridotite xenoliths of the Kozákov Volcano, Czech Republic: *Journal of Petrology*, v. 48, 2235-2260.
- Aswasereelert, W., Simo, J.A., and LePain, D.L., 2008 Deposition of the Cambrian Eau Claire Formation, Wisconsin: Hydrostratigraphic implications of fine-grained cratonic sandstones. *Geoscience Wisconsin, Wisconsin Geological and Natural History Survey*, v. 19, p. 1–21.
- Banfield, J. F., Barker, W. W., Welch, S. A., & Taunton, A. (1999). Biological impact on mineral dissolution: application of the lichen model to understanding mineral weathering in the rhizosphere. *Proceedings of the National Academy of Sciences*, 96(7), 3404-3411.
- Barker, W. W., and J. F. Banfield. "Zones of chemical and physical interaction at interfaces between microbial communities and minerals: a model." *Geomicrobiology Journal* 15.3 (1998): 223-244.
- Barker, W. W., et al. "Experimental observations of the effects of bacteria on aluminosilicate weathering." *American Mineralogist* 83.11-12 Part 2 (1998): 1551-1563.
- Barker, William W., Susan A. Welch, and Jillian F. Banfield. "Biogeochemical weathering of silicate minerals." *Reviews in Mineralogy and Geochemistry* 35.1 (1997): 391-428.
- Baumgartner LP, Valley JW (2001) Stable Isotope Transport and contact Metamorphic Fluid Flow: In: Valley JW and Cole DR (eds) Stable Isotope Geochemistry, *Reviews In Mineralogy and Geochemistry*, vol. 43, p. 415-468.
- Baur, R.L., Czeck, D.M., Hudleston, P.J., and Tikoff, B. (2011) Structural geology of the subprovince boundaries in the Archean Superior Province of northern Minnesota and adjacent Ontario, in Miller, J.D., Jr., Hudak, G.J., Wittkop, C., and McLaughlin, P.I., eds.: *Geological Society of America Field Guide* 24, p. 203–241, doi:10.1130/2011.0024(10).
- Beard, B.L., Medaris, L.G. Jr., Johnson, C.M., Jelínek, E., Tonika, J. and Riciputi, L.R. (1995) Geochronology and geochemistry of eclogites from the Mariánské Lázně Complex, Czech Republic: Implications for Variscan orogenesis: *Geol. Rundsch.*, v. 84, 552-567.
- Beard, BL and Johnson, CM (2004) Inter-mineral Fe isotope variations in mantle derived rocks and implications for the Fe geochemical cycle. *Geochim. Cosmochim. Acta.* 68:4727-4743.
- Beard, BL, Handler, RM, Scherer, MM, Wu, L, Czaja, AD, Heimann, A, and Johnson, CM (2010) Iron isotope fractionation between aqueous ferrous iron and goethite. *Earth Planet. Sci. Lett.* 295:241-250.
- Beard, BL, Ludois, JM, Lapen, TJ, and Johnson, CM (2013) Pre-4.0 billion year weathering on Mars constrained by Rb-Sr geochronology on meteorite ALH84001. *Earth Planet. Sci. Lett.* 361:173-182.
- Bindeman IL, Fournelle JH, Valley JW (2001) Low- $\delta^{18}\text{O}$ tephra from a compositionally zoned magma body: Fisher caldera, Unimak Island, Aleutians. *J. Volcan. Geotherm. Res.* 111:35-53.
- Bindeman IN, Fu B, Kita NT, Valley JW (2008) Origin and evolution of silicic magmatism at Yellowstone based on Ion microprobe analysis of isotopically zoned zircons. *J Pet* 49: 163-193.

- Bindeman IN, Ponomareva VV, Bailey JC, Valley JW (2004) Volcanic arc of Kamchatka: a province with high $\delta^{18}\text{O}$ magma sources and large-scale $^{18}\text{O}/^{16}\text{O}$ depletion of the upper crust. *Geochim. Cosmochim. Acta.* 68:841-865.
- Bindeman IN, Schmidt AK, Valley JW (2006) U-Pb geochronology of silicic tuffs from Timber Mt./Oasis Valley caldera complex, Nevada: rapid generation of large volume magmas by shallow-level remelting. *Contr. Min. Pet.* 152:649-665.
- Bindeman, I.N, Valley, J.W. (2001) Low $\delta^{18}\text{O}$ rhyolites from Yellowstone: magmatic evolution based on analysis of zircons and individual phenocrysts. *J. Petrol.* 42:1491-1517.
- Bindeman, I.N. and Valley, J.W. (2000) Formation of low- $\delta^{18}\text{O}$ rhyolites after caldera collapse at Yellowstone, Wyoming, USA. *Geology*, 28, 719-722.
- Bindeman, I.N., Valley, J.W., Wooden, J.L., Persing, H.M. (2001) Post-caldera volcanism: in situ measurement of U-Pb age and oxygen isotope ratio in Pleistocene zircons from Yellowstone caldera. *Earth and Planetary Science Letters* 189:197-206.
- Bindeman, IN, Valley, JW (2002) Oxygen isotope study of the Long Valley magma system, California: isotope thermometry and convection in large silicic magma bodies. *Contr Min Petrol* 144: 185-205.
- Bindeman, IN, Valley, JW (2003) Rapid generation of high- and low- $\delta^{18}\text{O}$, in large-volume silicic magmas at the Timber Mountain/oasis Valley caldera complex, Nevada. *GSA Bulletin* 115: 581-595.
- Bindeman, IN, Vinogradov, VI, Valley, JW, Wooden, JL, Natal'in, BA (2002) Archean protolith and accretion of crust in Kamchatka: SHRIMP dating of zircons from Sredinny and Ganal massifs. *J. Geol.* 110: 271-289.
- Blake, D.E., Gray, K.D., Giorgis, S., and Tikoff, B. (2009) A tectonic transect through the Salmon River suture zone along the Salmon River Canyon in the Riggins region of west- central Idaho, in O'Conner, J.E., Dorsey, R.J., and Madin, I.P., eds., *Volcanoes to Vineyards: Geologic Field Trips through the Dynamic Landscape of the Pacific Northwest*. Geological Society of America Annual Meeting Field Trip Guide 15, p. 345-372, doi:10.1130/2009.fld015(18).
- Bohlen, S. R., McLelland, J., Valley, JW, and Chiarenzelli, J. (1992) Petrology and geochronology of the Adirondack Mountains, *Int. Geol. Correlation Proj.* 304, 125 pp.
- Bol, L. C. G., Nijland, T. G., Sauter, P. C. C., Jansen, J. B. II, and Valley, J. W. (1995) Preservation of premetamorphic oxygen and carbon isotopic trends in granulite facies marbles from Rogaland, southwest Norway. *Amer. Jour. Science* v. 295, 1179-1219.
- Bonamici CE, Kozdon R, Ushikubo T, and Valley JW (2011) High-resolution P-T-t paths from $\delta^{18}\text{O}$ zoning in titanite: A snapshot of late-orogenic collapse in the Grenville of New York. *Geology*, 39: 959-962.
- Bonamici, C.E., Tikoff, B., and Goodwin, L.B. (2011) Anatomy of a 10 km scale sheath fold, Mount Hay ridge, Arunta Region, central Australia: The structural record of deep crustal flow. *Tectonics*, v. 30, doi:10.1029/2011TC002873.
- Bouvier A-S, Ushikubo T, Kita NT, Cavosie AJ, Kozdon R, Valley JW (2011) Li isotopes and trace elements as a petrogenetic tracer in zircon: insights from Archean TTG's and sanukitoids. *Contr. Min. Pet.* Doi 10.1007/s00410-011-0697-1
- Brueckner, H.K. and Medaris, L.G. Jr. (1998) A tale of two orogens - the contrasting T-P-t history and geochemical evolution of mantle in high- and ultrahigh-pressure metamorphic terranes of the Norwegian Caledonides and the Czech Variscides: *Schweiz. Mineral. Petrogr. Mitt.*, v. 78, 293-307.
- Carson, E.C., Fournelle, J.H., Miller, T.P., and Mickelson, D.M., 2002: Holocene tephrochronology of the Cold Bay area, southwest Alaska Peninsula, *Quaternary Science Reviews*, 21, 2185-2200.

- Cartwright, I. and Valley, J. W. (1992) Oxygen isotope geochemistry of the Scourian Complex, NW Scotland. *Journal of the Geological Society, London* 149, 115-126.
- Cartwright, I., Valley, J. W., and Hazelwood, A. M. (1993) Resetting of oxy-barometers and oxygen isotope ratios in granulite facies orthogneisses during cooling and shearing, Adirondack Mts., N.Y. *Contrib. Mineral. Petrol.* 113, 208-225.
- Cavosie AJ, Valley JW, Kita NT, Spicuzza MJ, Ushikubo T, Wilde SA (2011) The origin of high $\delta^{18}\text{O}$ zircons: Marbles, megacrysts, and metamorphism. *Contr Min Pet*, 162: 961-974, doi.org/10.1007/s00410-011-0634-3
- Cavosie AJ, Valley JW, Wilde SA (2007) The oldest terrestrial mineral record: A review of 4400 to 4000 Ma detrital zircons from the Jack Hills, Western Australia. In: MJ van Kranendonk, RH Smithies, VC Bennett (eds). *Earth's Oldest Rocks. Devel Precam Geol* 15: 91-111.
- Cavosie AJ, Valley JW, Wilde SA, EIMF (2006) Correlated microanalysis of zircon: Trace element, $\delta^{18}\text{O}$, and U-Th-Pb isotopic constraints on the igneous origin of complex >3900 Ma detrital grains. *Geochim Cosmochim Acta* 70: 5601-5616.
- Cavosie AJ, Valley, JW, Wilde, SA (2005) Magmatic $\delta^{18}\text{O}$ in 4400-3900 Ma detrital zircons: A record of the alteration and recycling of crust in the Early Archean. *Ear. Plan. Sci. Lett.* 235:663-681.
- Cavosie AJ, Wilde SA, Liu D, Valley JW, Weiblen PW (2004) Internal zoning and U-Th-Pb chemistry of the Jack Hills detrital zircons: a mineral record of early Archean to mesoproterozoic magmatism. *Precambrian Research*, 135:231-279.
- Cavosie, AJ, Kita NT, and Valley JW (2009) Primitive oxygen isotope ratio recorded in magmatic zircons from the Mid-Atlantic Ridge. *Am. Mineral.* 94: 926-934.
- Chetel L., Simo, J.A., Singer, 2005 B., 40Ar/39Ar Geochronology and Provenance of detrital K-feldspars, Ordovician, Upper Mississippi Valley. *Sedimentary Geology* 182, p. 163-181
- Chetel, L., Janecke, S.U., Carroll, A.R., Beard, B.L., Johnson, C.M., Singer, B.S. (2011) Paleogeographic reconstruction of the Eocene Idaho River, North American Cordillera. *Geological Society of America Bulletin*. V. 123, p. 71-88. doi: 10.1130/B30213.1.
- Choi, Yong Seok; Simo, J. A.; Saylor, Beverly Z. 1999, *Advances in carbonate sequence stratigraphy; application to reservoirs, outcrops and models*. Harris, Paul M. [editor] (Chevron Petroleum Technology Company, Houston, TX, United States) ; Saller, Arthur H. [editor]; Simo, J. A. [editor]; Special Publication - Society for Sedimentary Geology, November, , Vol. 63, pp. 275-289
- Christensen, N.I., Medaris, L.G. Jr., Wang, H.F. and Jelinek, E. (2001) Depth variation of seismic anisotropy and petrology in central European lithosphere: A tectonothermal synthesis from spinel lherzolite: *Jour. Geophys. Res.*, v. 106, B1, 645-664.
- Clechenko, CC and Valley, JW (2003) Oscillatory zoning in garnet from Willsboro wollastonite skarn, Adirondack Mts, NY: a record of shallow hydrothermal processes preserved in a granulite facies terrane. *J Meta. Geol.* 21: 771-784.
- Clechenko, CC, Valley, JW, McLelland, J (2002) Timing and depth of intrusion of the Marcy anorthosite massif: Implications from field relations, geochronology, and geochemistry at Woolen Mill, Jay Covered Bridge, Split Rock Falls, and the Oak Hill Wollastonite Mine. *New England Intercol. Geol. Conf./ NY State Geol. Assoc.*, C1-1 – C1-17.
- Crowe, D. E. and Valley, J. W. (1992) Laser microprobe study of sulfur isotope variation in a seafloor hydrothermal spire, Axial Seamount, Juan de Fuca Ridge, E. Pacific. *Chemical Geology/Isotope Geoscience* 101, 63-70.
- Crowe, D. E., Nelson, S., Brown, P. E., Shanks, W. C., and Valley, J. W. (1992) Geology and geochemistry of volcanogenic massive sulfide deposits and related igneous rocks, Prince William Sound, S. Central Alaska. *Econ. Geol.* 87, 1722-1746.

- Czaja, AD, Johnson, CM, Beard, BL, Roden, EE, Voegelin, AR, Nägler, TF, and Beukes, NJ (2012) Evidence for free oxygen in the Neoproterozoic ocean based on coupled iron-molybdenum isotope fractionation. *Geochim. et Cosmochim. Acta.* 86:118-137.
- Deino, A., Scott, G., Saylor, B.Z., Alene, M., Haille-Selassie, Y., Angelini, J., 2010, $^{40}\text{Ar}/^{39}\text{Ar}$ dating, paleomagnetism, and tephrochemistry of Pliocene strata of the hominid-bearing Woranso-Mille area, west central Afar Rift, Ethiopia, *Journal of Human Evolution*, v. 58, p. 111-126.
- Desbois G, Ingrin J, Kita NT, Valley JW, And Deloule E (2007) New constraints on metamorphic history of Adirondack diopsides (NY, USA): Al and $\delta^{18}\text{O}$ profiles. *Am. Mineral.* 93:453-459.
- Doebbert, A, Carroll, A, and Johnson, C (2012) The sandstone-derived provenance record of the Gualala Basin, Northern California. *Jour. Sed. Res.* 82:841-858.
- Drzewiecki, P. E., Simo, J. A., Brown, P. E., Castrogiovanni, E., Nadon, G. C., Sheppard, L., Valley, J.W., Vandrey, M. R., Winter, B., and Barnes, D., (1994) Diagenesis, Diagenetic Banding, and Porosity evolution of Middle Ordovician St. Peter Sandstone and Glenwood Formations in the Michigan Basin. In: P. Ortoleva (ed.) *Basin Compartments and Seals*, Am. Assoc. Petrol Geol. Mem. 61, 179-199.
- Drzewiecki, Peter A; Simo, J. A. *Journal of Sedimentary Research*, July, 1997, Vol. 67, Issue 4, pp. 698-714
- Drzewiecki, Peter A; Simo, J. Antonio, 2002 *Growth strata*. Marzo, M. [editor] (Universitat de Barcelona, Departament Estratigrafia i Paleontologia, Barcelona, Spain), *Sedimentary Geology*, January 01, , Vol. 146, Issue 1-2, pp. 155-189
- Drzewiecki, Peter A.; Simo, J. A. 1997; *Journal of Sedimentary Research*, July, Vol. 67, Issue 4, pp. 698-714
- Drzewiecki, Peter A.; Simo, J. A. Toni, 2000; *Sedimentology*, June, , Vol. 47, Issue 3, pp. 471-495
- Drzewiecki, Peter A.; Simo, J. Antonio; Brown, P. E.; Castrogiovanni, E.; Nadon, Gregory C.; Shepherd, Lisa D.; Valley, J. W.; Vandrey, M. R.; Winter, B. L.; Barnes, D. A. 1994; *Basin compartments and seals*. Ortoleva, Peter J. [editor] (Indiana University, Department of Chemistry, Bloomington, IN, United States) *AAPG Memoir*, Vol. 61, pp. 179-199
- Dunn, S. R. and Valley, J. W. (1992) Calcite-graphite isotope thermometry: A test for polymetamorphism in marble, Tudor Gabbro aureole, Ontario. *Jour. Meta. Geol.* 10, 487-501.
- Dunn, S. R. and Valley, J. W. (1996) Polymetamorphic fluid-rock interaction, the Tudor gabbro and adjacent marble, Ontario. *Amer. Jour. Science*, v. 296, 244-295.
- Edwards, K. J. and Valley, J. W. (1998) Oxygen isotope diffusion and zoning in diopside: The importance of water fugacity during cooling. *Geochim. Cosmochim. Acta*, 62, 2265-2277.
- Edwards, K. J., Goebel, B. M., Rodgers, T. M., Schrenk, M. O., Gihring, T. M., Cardona, M. M., & Banfield, J. F. (1999). Geomicrobiology of pyrite (FeS_2) dissolution: case study at Iron Mountain, California. *Geomicrobiology Journal*, 16(2), 155-179.
- Eiler, J. M. and Valley, J. W. (1994) Preservation of Pre-metamorphic Oxygen Isotope Ratios in Granitic Orthogneiss from the Adirondack Mts., N.Y. *Geochim. Cosmochim. Acta* 58, 5525-5535.
- Eiler, J. M., Baumgartner, L. P., and Valley, J. W. (1992) Intercrystalline stable isotope diffusion: A fast grain boundary model. *Contrib. Mineral. Petrol.* 112, 543-557.
- Eiler, J. M., Graham, C., and Valley, J. W. (1997) SIMS analysis of oxygen isotopes: matrix effects in complex minerals and glasses. *Chemical Geol.* 138, 221-244.
- Eiler, J. M., Valley, J. W., and Graham, C. M. (1997) Oxygen and carbon isotope analysis by SIMS: A case study of the Martian Meteorite ALH84001. In: Gillen, G., Larean, R., Bennett, J., and Stevie, F. (eds.) *SIMS XI Meeting*, Wiley, NY, 47-50.

- Eiler, J. M., Valley, J. W., Graham, C. M., and Baumgartner, L. P. (1995) The Oxygen Isotope Anatomy of a Slowly Cooled Metamorphic Rock. *Amer. Mineral.* 80, 757-764.
- Eiler, J. M., Valley, J. W., Graham, C. M., and Baumgartner, L. P. (1995) Ion Microprobe Evidence for the Mechanisms of Stable-Isotope Retrogression in High-Grade Metamorphic Rocks. *Contr. Mineral. Petrol.* 118, 365-378.
- Eiler, JM, Valley, JW, Graham, CM, Fournelle, J (2002) Two populations of carbonate in ALH84001: Geochemical evidence for discrimination and genesis. *Geochim. Cosmochim. Acta* 66:1285-1303.
- Elsenheimer, D. and Valley, J. W. (1992) In situ oxygen isotope analysis of feldspar and quartz by Nd YAG laser microprobe. *Chemical Geology/Isotope Geoscience* 101, 21-42.
- Elsenheimer, D. and Valley, J. W. (1993) Sub-millimeter Scale Zonation of $\delta^{18}\text{O}$ in Quartz and Feldspar, Isle of Skye, Scotland. *Geochim. Cosmochim. Acta* 57, 3669-3676.
- Emerson, N. R., Simo, J. A., Byers, C. W., and Fournelle, J., 2004, Correlation of (Ordovician, Mohawkian) K-bentonites in the Upper Mississippi Valley by using apatite chemistry: implication for stratigraphic interpretations of the mixed carbonate-siliciclastic Decorah Formation, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 210, 215-233.
- Emerson, N.R., Simo, JA, Byers CW and Ludvigson, GA, 2003, Anatomy of an embayment in an Ordovician epeiric sea, Upper Mississippi Valley, USA. *Geology*, 31, 545-548
- Essam Sharaf, J.A. (Toni) Simo, A. R. Carroll, and M. Shields, 2005 Stratigraphic Evolution of Oligocene-Miocene Carbonates and Siliciclastics, East Java Basin, Indonesia, *AAPG Bull*, 89, 799-819 p.
- Feary, David A.; Hine, Albert C.; Malone, Mitchell J.; Andres, Miriam; Betzler, Christian; Brooks, Gregg R.; Brunner, Charlotte A.; Fuller, Michael; Molina Garza, Roberto S.; Holbourn, Ann E.; Huuse, Mads; Isern, Alexandra R.; James, Noel P.; Ladner, Bryan C.; Li, Qianyu; Machiyama, Hideaki; Mallinson, David J.; Matsuda, Hiroki; Mitterer, Richard M.; Robin, Cecile; Russell, Joellen L.; Shafik, Samir; Simo, J. A.; Smart, Peter L.; Spence, Guy H.; Surlyk, Finn C.; Swart, Peter K.; Wortmann, Ulrich G. Ocean Drilling Program, Leg 182, Shipboard Scientific Party, College Station, TX, United States
- Ferreira, VP, Valley, JW, Sial, AN, Spicuzza, MJ (2003) Oxygen isotope compositions and magmatic epidote from two contrasting metaluminous granitoids, NE Brazil. *Contr. Min. Pet.* 145: 205-216.
- Ferry JM, Ushikubo T, Valley JW (2011) Formation of forsterite by silicification of dolomite during contact metamorphism. *J. Petrol.* 52:1619-1640. [Doi.10.1093/petrology/egr021](https://doi.org/10.1093/petrology/egr021)
- Fisher, C.M., Hanchar, J.M., Dhuime, B., Samson, S.D., Blichert-Toft, J., Vervoort, J.D. and Lam, R. (2011) Synthetic zircon doped with hafnium and rare earth elements for use as reference material for hafnium isotopic analyses. *Chemical Geology*, 286: 32-47; [doi:10.1016/j.chemgeo.2011.04.013](https://doi.org/10.1016/j.chemgeo.2011.04.013).
- Fisher, C.M., McFarlane, C.R.M., Hanchar, J.M., Schmitz, M.D., Sylvester, P.J. and Lam, R. (2011) Sm-Nd isotope systematics by laser ablation-multicollector-inductively coupled plasma mass spectrometry: Methods and potential natural and synthetic reference materials. *Chemical Geology*, 284: 1-20; [doi:10.1016/j.chemgeo.2011.01.012](https://doi.org/10.1016/j.chemgeo.2011.01.012).
- Fournelle, J., R. Carmody, and A. Daag, 1996, Anhydrite-bearing pumices from the June 15, 1991, eruption of Mount Pinatubo: Geochemistry, mineralogy and petrology, in Punongbayan and Newhall (ed.), *Fire and Mud: Eruptions and Lahars of the Mount Pinatubo, Philippines*, PHIVOLCS-University of Washington, 845-863.
- Fournelle, J.H., Kim, S. and Perepezko, J.H., 2005, Monte Carlo simulation of Nb Ka secondary fluorescence in EPMA: comparison of PENELOPE simulations with experimental results, *Surface and Interface Analysis*, 37, 1012-1016.

- Fournelle, John, 2007, Book Review of Energy Dispersive Spectrometry of Common Rock Forming Minerals by Kenneth P. Severin, *American Mineralogist*, 92, 2006.
- Fu B, Mernagh TP, Kita NT, Kemp AIS and Valley JW (2009). Distinguishing magmatic zircon from hydrothermal zircon: a case study from the Gidginbung high-sulphidation Au-Ag-(Cu) deposit, SE Australia. *Chemical Geology* 259: 131-142. doi:10.1016/j.chemgeo.2008.10.035
- Fu, B., Page, F.Z., Cavosie, A.J., Fournelle, J., Kita, N.T., Lackey, J-S., Wilde, S.A., and Valley, J.W., 2008, Ti-in-zircon thermometry: Applications and limitations: *Contributions to Mineralogy and Petrology*, 156 (2), 197-215.
- Fu, B., Valley, J. W., Kita, N. T., Spicuzza, M. J., Paton, C., Tsujimori, T., Bröker, M., and Harlow, G. E. (2009) Origin of zircons in jadeitite. *Contrib. Min. Pet.*, DOI 10.1007/s00410-009-0453-y
- Gage, J.R., Goodwin, L.B., and Tikoff, B. (2011) High-grade metamorphism and deformation on Mt. Chapple, Arunta Inlier, central Australia: A record of multiple tectonic events. *J. Australian Earth Sciences*, v. 58 p. 273-284.
- Garlick, S.R., Medaris, L.G. Jr., Snoke, A.W., Schwartz, J.J., and Swapp, S.M. (2009) Granulite- to amphibolite-facies metamorphism and penetrative deformation in a disrupted ophiolite, Klamath Mountains, California: A deep view into the basement of an accreted oceanic arc, in Miller, R.B., and Snoke, A.W., eds.: *Crustal cross sections from the western North American Cordillera and elsewhere: Implications for tectonic and petrologic processes: Geological Society of America Special Paper 456*, p. 151-186
- Gerdes, M. L. and Valley, J. W. (1994) Fluid Flow and Mass Transport at the Valentine Wollastonite Deposit, Adirondack Mountains, N.Y. *Jour. Meta. Geol.* 12, 589-608.
- Gerdes, M.L., Baumgartner, L.P., and Valley, J.W. (1999) Stable isotopic evidence for limited fluid flow through Dolomitic Marble in the Adamello Contact Aureole, Cima Uzza, Italy. *Journal of Petrology*, 40, 6, 853-872.
- Gilbert, B., Frazer, B.H., Naab, F., Fournelle, J. and Valley, J.W., and DeStasio, G., 2003, X-ray absorption spectroscopy of silicates for in situ, sub-micrometer mineral identification, *American Mineralogist*, 88, 763-769.
- Gilliam, C. E. and Valley, J. W. (1997) Low $\delta^{18}\text{O}$ magma, Isle of Skye, Scotland: Evidence from Zircons. *Geochim. Cosmochim. Acta*, 61, 4975-4981.
- Giorgis, S., McClelland, W., Fayon, A., Singer, B., and Tikoff, B. (2008) Timing of deformation and exhumation in the western Idaho shear zone, McCall, Idaho. *Geological Society of America Bulletin*, v. 120, p. 1119-1133.
- Gopon, P., Fournelle, J., Sobol, P.E., and Llovet, X., 2013/In review, Low voltage soft x-ray EPMA of Fe-Si compounds, *Microscopy and Microanalysis*
- Gotkowitz, Madeline B. (Wisconsin Geological and Natural History Survey, Madison, WI, United States); Schreiber, Madeline E.; Simo, J. A. 2004; *Ground Water*, August, , Vol. 42, Issue 4, pp. 568-575
- Graham, C. M., Valley, J. W., and Winter, B. L. (1996) Ion microprobe analysis of $^{18}\text{O}/^{16}\text{O}$ in authigenic and detrital quartz in St. Peter sandstone, Michigan Basin and Wisconsin Arch, USA: Contrasting diagenetic histories. *Geochim. Cosmochim. Acta*, 24. 5101-5116.
- Gribb, A. A., & Banfield, J. F. (1997). Particle size effects on transformation kinetics and phase stability in nanocrystalline TiO_2 . *American Mineralogist*, 82(7), 717-728.
- Grimes CB, Ushikubo T, John BE, Valley JW (2011) Uniformly mantle-like $\delta^{18}\text{O}$ in zircons from oceanic plagiogranites and gabbros, *Contr. Min. Pet.*, DOI 10.1007/s00410-010-0519-x. 161:13-33.
- Hagemann, S.G., and Brown, P.E., 1996, Geobarometry in Archean lode-gold deposits. *European Jour. of Mineralogy* 8, 937-960.

- Hagemann, S.G., Brown, P.E., Ridley, J.R., Stern, P. and Fournelle, J.F., 1998, Ore petrology, chemistry and timing of electrum in the Archean hypozonal Transvaal lode-gold deposit, Western Australia. *Economic Geology* 93, 271-291.
- Hauzenberger, C. A., Baumgartner, L. P., & Pak, T. M. (2001). Experimental study on the solubility of the “model”-pelite mineral assemblage albite+ K-feldspar+ andalusite+ quartz in supercritical chloride-rich aqueous solutions at 0.2 GPa and 600 C. *Geochimica et cosmochimica acta*, 65(24), 4493-4507.
- Heck P. R., Ushikubo T., Schmitz B., Kita N. T., Spicuzza M. J., and Valley J. W. (2010) A Single Asteroidal Source for Extraterrestrial Ordovician Chromite Grains from Sweden and China: High-Precision Oxygen Three-Isotope SIMS Analysis. *Geochim. Cosmochim. Acta* 74, 497-509.
- Heck PR, Huberty JM, Kita NT, Ushikubo T, Kozdon R, Valley JW (2011) High-Precision Silicon and Oxygen Isotope SIMS analyses of Quartz in Archean and Paleoproterozoic Banded Iron Formations. *Geochim Cosmochim Acta*. doi:10.1016/j.gca.2011.07.023 .
- Heck PR, Ushikubo T, Schmitz B, Kita NT, Spicuzza MJ, Valley JW (2010) A Single Asteroidal Source For Extraterrestrial Ordovician Chromite Grains from Sweden and China: High-Precision Oxygen Three-Isotope SIMS Analysis. *Geochimica et Cosmochimica Acta*, 74: 497-509.
- Heimann A, Johnson CM, Beard BL, Valley JW, Roden EE, Spicuzza MJ, Beukes NJ (2010) Fe, C, and O isotope compositions of banded iron formation carbonates demonstrate a major role for dissimilatory iron reduction in ~2.5 Ga marine environments. *Ear. Plan. Sci. Lett.*, doi:10.1016/j.epsl.2010.02.015, 294: 8-18.
- Heimann, A, Beard, BL, and Johnson, CM (2008) The role of volatile exsolution and sub-solidus fluid/rock interactions in producing high $^{56}\text{Fe}/^{54}\text{Fe}$ ratios in siliceous igneous rocks. *Geochim. Cosmochim. Acta* 72:4379-4396.
- Hill, T. R., Konishi, H., and Xu, H. (2013) Low pressure α -cristobalite and silicate glass precipitates in UHP clinopyroxene from a Bohemian Massif garnet pyroxenite: an HRTEM study. *American Mineralogist* (in revision).
- Hill, T. R., Konishi, H., and Xu, H. (2013) Natural occurrence of keatite precipitates in UHP clinopyroxene from the Kokchetav Massif: A TEM investigation. *American Mineralogist* 98, 187-196.
- Holbourn,; Kuhnt, Wolfgang; Simo, J. A.; Li, Qianyu 2004, *Palaeogeography, Palaeoclimatology, Palaeoecology*, May 31, , Vol. 208, Issue 1-2, pp. 1-22
- Hora, J.M., Singer, B.S., and Worner, G. (2007) Eruptive flux through thick crust of the Andean central volcanic zone: $^{40}\text{Ar}/^{39}\text{Ar}$ constraints from Volcán Parínacota, Chile. *Geological Society of America Bulletin*, v. 119, p. 343-362. doi: 10.1130/B25954.1.
- Hora, J.M., Singer, B.S., Worner, G., Beard, B.L., Jicha, B.R., Johnson, C.L. (2009) Shallow and deep control on differentiation of calc-alkaline and tholeiitic magma. *Earth and Planetary Science Letters* v. 285, p. 75-86.
- Hora, JM, Singer, BS, Jicha, BR, Beard, BL, Johnson, CM, de Silva, S, and Salisbury, M (2010) Biotite-sanidine $^{40}\text{Ar}/^{39}\text{Ar}$ age discordances reflect complex Ar partitioning and pre-eruption closure in biotite. *Geology* 38:923-926.
- Huberty JM, Kita NT, Kozdon R, Heck PR, Fournelle JH, Spicuzza MJ, Xu H, Valley JW (2010) Crystal Orientation Effects on Instrumental Bias of $\delta^{18}\text{O}$ in Magnetite by SIMS, *Chem. Geol.* 276: 269-283. doi:10.1016/j.chemgeo.2010.06.012.
- Huberty JM, Konishi H, Heck PR, Fournelle JH, Valley JW, Xu H (2012) Silician Magnetite from the Dales Gorge Member of the Brockman Iron formation, Hamersley Group, Western Australia. *Am Mineral*, 97: 26-37. DOI:10.2138/am.2012.3864.2011

- Hyslop, EV, Valley, JW, Johnson, CM, and Beard, BL (2008) The effects of metamorphism on O and Fe isotope compositions in the Biwabik iron-formation, northern, Minnesota. *Contrib. Mineral. Petrol.* 155:313-328.
- Jakubowski, R. T., Fournelle, J., Welch, S., Swope, R.J. and Camus, P., 2002, Evidence for magmatic vapor deposition of anhydrite prior to the 1991 climactic eruption of Mt. Pinatubo, Philippines, *American Mineralogist*, 87, 1029-1045.
- James, Noel P; Feary, David A.; Surlyk, Finn; Simo, J. A. Toni; Betzler, Christian; Holbourn, Ann E.; Li, Qianyu; Matsuda, Hiroki; Machiyama, Hideaki; Brooks, Gregg R.; Andres, Miriam S.; Hine, Albert C.; Malone, Mitchell J. 2000, Ocean Drilling Program, Leg 182, Shipboard Scientific Party, College Station, TX, United States; *Geology* [Boulder], July, , Vol. 28, Issue 7, pp. 647-650
- Jicha BR, Hart GL, Johnson CM, Hildreth W, Beard BL, Shirey SB, Valley JW (2009) Isotopic and Trace Element Constraints on the Petrogenesis of Lavas from the Mount Adams Volcanic Field, Washington. *Contr. Min. Petrol.* DOI 10.1007/s00410-008-0329-6, 157: 189-207.
- Jicha, B R; Singer, B S; Brophy, J G; Fournelle, J H; Johnson, C M; Beard, Brian L; Lapen, T J; Mahlen, N J., 2004, Variable impact of the subducted slab on Aleutian island arc magma sources: evidence from Sr, Nd, Pb, and Hf isotopes and trace element abundances, *Journal of Petrology*, 45, 1845-1875.
- Jicha, BR, Singer, BS, Beard, BL, Johnson, CM (2005) Contrasting timescales of crystallization and magma storage beneath the Aleutian Island arc. *Earth Planet. Sci. Lett.* 236:195-210.
- Jicha, BR, Singer, BS, Beard, BL, Johnson, CM, Roa, HM, and Naranjo, JA (2007) Rapid magma ascent and generation of ²³⁰Th excesses in the lower crust at Puyehue-Cordón Caulle, Southern Volcanic Zone, Chile. *Earth Planet. Sci. Letts.* 255:229-242.
- Jicha, BR, Smith, KE, Singer, BS, Beard, BL, Johnson, CM, and Rogers, NW (2010) Crustal assimilation no match for slab-fluids beneath Volcan de Sante Maria, Guatemala. *Geology* 38:859-862.
- Johnson, CM, Beard, BL, Beukes, NJ, Klein, C, and O'Leary, JM (2003) Ancient Geochemical Cycling in the Earth as Inferred From Fe Isotope Studies of Banded Iron Formations from the Transvaal Craton. *Contrib. Mineral. Petrol.* 144:523-547.
- Johnson, CM, Beard, BL, Klein, C, Beukes, NJ, and Roden, EE (2008) Iron isotopes constrain biologic and abiologic processes in banded iron formation genesis. *Geochim. Cosmochim. Acta* 72:151-169.
- Johnson, CM, Bell, K, Beard, BL, and Shultis, AI (2010) Iron isotope compositions of carbonatites record melt generation, crystallization, and late-stage volatile-transport processes. *Mineralogy and Petrology* 98:91-110.
- Johnson, CM, Roden, EE, Welch, SA, and Beard, BL (2005) Experimental constraints on Fe isotope fractionation during magnetite and Fe carbonate formation coupled to dissimilatory hydrous ferric oxide reduction. *Geochim. Cosmochim. Acta* 69: 963-993.
- Kay, S.M., Coira, B., Worner, G., Kay, R.W., Singer, B.S. (2011) Geochemical, isotopic and single crystal ⁴⁰Ar/³⁹Ar age constraints on the evolution of the Cerro Galán ignimbrites. *Journal of Volcanology and Geothermal Research*, v. 73, p. 1487-1511.
- Kelly JL, Fu B, Kita NT, Valley JW (2007) Optically Continuous Silcrete Cements Of The St. Peter Sandstone: Oxygen Isotope Analysis By Ion Microprobe And Laser Fluorination. *Geochem. Cosmochim. Acta.* 71:3812-3832.
- Killian, C.E., Metzler, R.A., Gong, Y., Churchill, T.H., Olson, I.A.C., Trubetskoy, V., Christensen, M.B., Fournelle, J.H., De Carlo, F., Cohen. S., Mahamid, J., Scholl, A., Young, A. Doran, A., Wilt, F.H., Coppersmith, S.N. and Gilbert, P.U.P.A., 2011, Self-sharpening mechanism of the sea urchin tooth, *Advanced Functional Materials*, 20, 1-9.

- King EM, Beard BL, Valley JW (2007) Strontium and oxygen isotopic evidence for strike/slip movement of accreted terranes in the Idaho Batholith. *Lithos*, 96:387-401.
- King EM, Trzaskus AP, Valley JW (2008) Oxygen isotope evidence for magmatic variability and multiple alteration events in the Proterozoic St. Francois Mountains, Missouri. *Precam. Res.*, 165: 49-60.
- King EM, Valley JW (2001) Source, magmatic contamination, and alteration of the Idaho batholith. *Contrib. Mineral Petrol.* (2001) 142: 72-88.
- King, E. M., Barrie, C. T., and Valley, J. W. (1998) Hydrothermal alteration of oxygen isotope ratios in quartz phenocrysts, Kidd Creek mine, Ontario: Magmatic values preserved in zircons: Comment and Reply. *Geology*, 763-764.
- King, E. M., Barrie, C. T., and Valley, J. W. (1997) Hydrothermal alteration of oxygen isotope ratios in quartz phenocrysts, Kidd Creek mine, Ontario: Magmatic values are preserved in zircon. *Geology*, 25, 1079-1082.
- King, E.M., Valley, J.W., and Davis, D.W. (2000) Oxygen isotope evolution of volcanic rocks at the Sturgeon Lake volcanic complex, Ontario. *Can. J. Earth Sci.*, 37, 39-50.
- King, E.M., Valley, J.W., Davis, D.W. Kowalis, B.J. (2001) Empirical determination of oxygen isotope fractionation factors for titanite with respect to zircon and quartz. *Geochimica et Cosmochimica Acta* 65:3165-3175.
- King, E.M., Valley, J.W., Davis, D.W., and Edwards, G.R. (1998) Oxygen isotope ratios of Archean plutonic zircons from granite-greenstone belts of the Superior Province; Indicator of magmatic source. *Precambrian Research*, 92, 4, 365-387.
- King, EM, Valley, JW, Stockli, DF, and Wright, JE (2004) Oxygen isotope trends of granitic magmatism in the Great Basin: Location of the Precambrian boundary as reflected in zircons. *Geol. Soc. Am. Bull.* 116: 451-462.
- Kita, N. T., Ushikubo T., Knight K. B., Mendybaev R. A., Davis A. M., Richter F. M., and Fournelle J. H. (2012) Internal 26Al-26Mg isotope systematics of a Type B CAI: Remelting of refractory precursor solids. *Geochim. Cosmochim. Acta* 86, 37-51.
- Kita, N.T., Huberty JM, Kozdon R, Beard BL, and Valley JW (2011) High precision SIMS oxygen, sulfur and iron stable isotope analyses of geological materials: Accuracy, surface topography and crystal orientation. *SIMS XVII Proceedings, Surface and Interface Analysis*, v 43: 427-431
- Kita, N.T., Nagahara H, Tachibana S, Tomomura S, Spicuzza MJ, Founelle JH and Valley JW (2010). High precision SIMS oxygen three isotope study of chondrules in LL3 chondrites: Role of ambient gas during chondrule formation. *Geochim. Cosmochim. Acta* 74, 6610-6635. doi.org/10.1016/j.gca.2010.08.011,
- Kita, N.T., Takayuki Ushikubo, Bin Fu and John W. Valley (2009) High Precision SIMS Oxygen Isotope Analyses and the Effect of Sample Topography, *Chemical Geology*, doi:10.1016/j.chemgeo.2009.02.012. 264: 43-57.
- Kitajima K, Ushikubo T, Kita NT, Maruyama S and Valley JW (2012) Trace elements and oxygen isotope ratios of zircon from Archean rhyolite, Panorama Formation, North Pole Dome, Pilbara Craton, Western Australia. *Chem. Geol.*, v 332-333, p 102-115.
- Kitchen, N. E. and Valley, J. W. (1995) Carbon isotope thermometry in marbles of the Adirondack Mountains, New York. *Jour. Meta. Geol.* 13, 577-594
- Kohn, M. J. and Valley, J. W. (1994) Oxygen Isotope Constraints on Metamorphic Fluid Flow, Townshend Dam, Vermont, USA. *Geochim. Cosmochim. Acta* 58, 5551-5566.
- Kohn, M. J. and Valley, J. W. (1998) Effects of cation substitutions in garnet and pyroxene on equilibrium oxygen isotope fractionations. *J. Metamorphic Geol.*, 16, 625-639.

- Kohn, M. J. and Valley, J. W. (1998) Oxygen isotope geochemistry of the amphiboles: Isotope effects of cation substitutions in minerals. *Geochim Cosmochim Acta*, 62, 11, 1947-1958.
- Kohn, M. J., Schoeninger, M. J., and Valley, J. W., (1996) Herbivore tooth oxygen isotope compositions: Effects of diet and physiology. *Geochim. Cosmochim. Acta*, 60, 3889-3896.
- Kohn, M. J., Spear, F. S., and Valley, J. W. (1997) Dehydration-Melting and Fluid Recycling during Metamorphism: Rangeley Formation, New Hampshire, USA. *Jour. Petrol.*, 38, 9, 1255-1277.
- Kohn, M. J., Valley, J. W., Elsenheimer, D., and Spicuzza, M. (1993) Oxygen Isotope Zoning in Garnet and Staurolite: Evidence for Closed System Mineral Growth During Regional Metamorphism. *Amer. Mineral.* 78, 988-1001.
- Kohn, M.J. and Valley, J.W. (1998) Obtaining equilibrium oxygen isotope fractionations from rocks: theory and examples. *Contrib. Mineral Petrol.* 132, 209-224.
- Kozdon R, Kelly DC, Kita NT, Fournelle JH, Valley JW (2011) Use of Ion Microprobe Technique to Minimize the Effects of Diagenesis on Oxygen Isotope Records from Early Paleogene Planktonic Foraminifera. *Paleoceanography*, v26: doi:10.1029/2010PA002056.
- Kozdon R, Kita NT, Huberty JM, Fournelle JH, Valley JW (2010) In situ sulfur isotope analysis of sulfide minerals by SIMS: Precision and Accuracy. *Chem. Geol.*, doi:10.1016/j.chemgeo.2010.05.015, 275: 243-253.
- Kozdon R; Ushikubo T; Kita NT; Spicuzza M; Valley JW (2009) Intratest oxygen isotope variability in planktonic foraminifera: New insights from in situ measurements by ion microprobe. doi:10.1016/j.chemgeo.2008.10.032, *Chem. Geol.*, 258, 327-337.
- Kozdon, R., Kelly, D.C., Kita, N.T., Fournelle, J.H., and Valley J.W., 2011, Planktonic foraminiferal oxygen isotope analysis by ion microprobe technique suggests warm tropical sea surface temperatures during the early Paleogene, *Paleoceanography*, 26, PA3206, doi:10.1029/2010PA002056.
- Kruger, J. M.; Simo, J. A. 1994; *Dolomites; a volume in honour of Dolomieu*. Purser, Bruce [editor] (Universite de Paris Sud, Laboratoire de Petrologie Sedimentaire, Orsay, France); Tucker, Maurice [editor]; Zenger, Donald [editor], Special Publication of the International Association of Sedimentologists, , Vol. 21, pp. 387-405
- Lackey JS, Romero GA, Bouvier AS, Valley JW (2012) Dynamic Growth of Garnet in Granitic Magmas. *Geology*, doi:10.1130/G32349.1
- Lackey JS, Valley JW, Chen JH, Stockli DF (2008) Dynamic Magma Systems, Crustal Recycling, and Alteration in the Central Sierra Nevada Batholith: The Oxygen Isotope Record. *J Petrol.* Doi:10.1093/petrology/egn030, 49:1397-1426.
- Lackey JS, Valley JW, Hinke HJ (2006) Deciphering the source and contamination history of peraluminous magmas using $\delta^{18}\text{O}$ of accessory minerals: examples from garnet bearing plutons of the Sierra Nevada batholith. *Contr. Mineral. Petrol.* 151: 20-44.
- Lackey JS, Valley JW, Saleeby JB (2005) Supracrustal input to magmas in the deep crust of the sierra Nevada batholith: Evidence from high $\delta^{18}\text{O}$ zircon. *Ear. Plan. Sci. Lett.* 235:315-330.
- Lackey, JS and Valley, JW (2004) Complex patterns of fluid flow during wollastonite formation in calcareous sandstones at Laurel Mountain, Mt. Morrison pendant, California. *Geol. Soc. Am. Bull* 116: 76-93
- Lancaster PJ, Fu B, Page FZ, Kita NT, Bickford ME, Hill BM, McLelland JM, Valley JW (2009) Genesis of metapelitic migmatites in the Adirondack Mts., New York, *J Meta Geol*, 27: 41-54.
- Lapen, T.J., Medaris, L.G. Jr., Beard, B.L., and Johnson, C.M. (2009) The Sandvik peridotite, Gurskøy, Norway: Three billion years of mantle evolution in the Baltica lithosphere: *Lithos*, v. 109, 145-154

- Lapen, T.J., Johnson, C.M., Baumgartner, L.P., Dal Piaz, G.V., Skora, S., and Beard, B.L. (2007) Coupling of oceanic and continental crust during Eocene eclogite-facies metamorphism: Evidence from the Monte Rosa nappe, western Alps. *Contrib. Mineral. Petrol.* 153:139-157.
- Lapen, T.J., Johnson, C.M., Baumgartner, L.P., Mahlen, N.J., Beard, B.L., and Amato, J.M. (2003) Burial rates during prograde metamorphism of an ultra-high-pressure terrane: an example from Lago di Cignana, western Alps, Italy. *Earth Planet. Sci. Lett.* 215:57-72.
- Lapen, T.J., Medaris, L.G. Jr, Johnson, C.M., and Beard, B.L. (2005) Archean to Middle Proterozoic evolution of Baltica subcontinental lithosphere: evidence from combined Sm-Nd and Lu-Hf isotope analyses of the Sandvik ultramafic body, Norway. *Contrib. Mineral. Petrol.* 150:131-145.
- Li, W., Beard, B.L., and Johnson, C.M. (2012) U-Th-Pb isotope data indicate Phanerozoic age for oxidation of 3.4 Ga basalts from Marble Bar, Pilbara Craton, NW Australia. *Earth Planet. Sci. Lett.* 319-320: 197-206.
- Li, W., Beard, B.L., and Johnson, C.M. Exchange and fractionation of Mg isotopes between epsomite and saturated MgSO₄ solution (2011). *Geochim. Cosmochim. Acta* 75:1814-1828.
- Li, W., Chakraborty, S., Beard, B.L., Romanek, C.S., and Johnson, C.M. (2012) Temperature-dependent Mg isotope fractionation during precipitation of inorganic calcite under laboratory conditions. *Earth Planet. Sci. Lett.* 333/334:304-316.
- Llovet, X., Heikinheimo, E., Nunez, A., Merlet, C., Almagro, J., Richter, S., Fournelle, J. and van Hoek, C.J.G., 2012, An inter-laboratory comparison of EPMA analysis of alloy steel at low voltage, Institute of Physics Conference Series: Materials Science and Engineering, 32, Conf 012014, 1-15.
- Loper, C.R. Jr, J. Park and J. Fournelle, 2001, Effect of calcium on the Widmanstätten graphite formation in lead-contaminated gray cast iron, American Foundry Society Transactions 01-095, 1249-1279.
- Maes, S.M., Ferré, E.C., Tikoff, B., Brown, P.E. and Marsh, J.S., 2008, Rock magnetic stratigraphy of a mafic layered sill: A key to the Karoo volcanics plumbing system, *JVGR Special Issue: Physical Volcanology of Large Igneous Provinces*, v. 172, 75-92.
- Maes, S.M., Tikoff, B., Ferré, E.C., Brown, P.E. and Miller, J.D., 2007, The Sonju Lake layered intrusion, NE Minnesota: Internal structure and emplacement history inferred from magnetic fabrics. *Precambrian Research*, 269-288.
- Mahlen, N.J., Johnson, C.M., Baumgartner, L.P., and Beard, B.L. (2005) Provenance of Jurassic Tethyan sediments in the HP/UHP Zermatt-Saas Ophiolite, Western Alps. *Bull. Geol. Soc. Amer.* 117:530-544.
- Marma, J. and Brown, P.E., 2003, Magmatic and hydrothermal PGE mineralization of the Birch Lake Cu-Ni-PGE deposit in the South Kawishiwi Intrusion, Duluth Complex, northeast Minnesota. *NRRI Technical Report* 2003-39.
- McConnell, V. S., Valley, J. W., and Eichelberger, J. C., (1997) Oxygen isotope compositions of intracaldera rocks: Hydrothermal history of the Long Valley Caldera, California. *Jour. Vol. Geotherm. Res.*, 76, 83-109.
- McHenry, L.J., 2009. Element mobility during zeolitic and argillic alteration of volcanic ash in a closed-basin lacustrine environment: Case study Olduvai Gorge, Tanzania. *Chemical Geology* 265: 540-552. doi:10.1016/j.chemgeo.2009.05.019
- McHenry, L.J., 2010. Element distribution between coexisting authigenic mineral phases in argillic and zeolitic altered tephra, Olduvai Gorge, Tanzania. *Clays and Clay Minerals* 58(5): 627-643. doi: 10.1346/CCMN.2010.0580504
- McHenry, L.J., 2011. Geochemistry and mineralogy of Laetoli area tuffs: Lower Laetoli through Naibadad Beds. In: Harrison, T. (Ed.) *Paleontology and Geology of Laetoli, Tanzania: Human*

Evolution in Context. Volume 1: Geology, Geochronology, Paleoecology and Paleoenvironment. Springer series Vertebrate Paleobiology and Paleoanthropology. 121-141. doi:10.1007/978-90-481-9956-3_6

- McHenry, L.J., 2013 In Press. A revised stratigraphic framework for Olduvai Gorge Bed I based on tuff geochemistry. *Journal of Human Evolution*. Doi: 10.1016/j.jhevol.2011.04.010
- McHenry, L.J., Chevrier, V., Schröder, C., 2011. Occurrence of jarosite in a saline-alkaline paleo-lake deposit: implications for Mars aqueous geochemistry. *Journal of Geophysical Research* 116: E04002. doi:10.1029/2010JE003680
- McHenry, L.J., Luque, L., Gómez, J.A., Diez-Martín, F., 2011. Promise and pitfalls for characterizing and correlating the zeolitically altered tephra of the Pleistocene Peninj Group, Tanzania. *Quaternary Research* 75: 708-720. doi:10.1016/j.yqres.2010.11.008
- McHenry, L.J., Mollel, G.M., and Swisher, C.C. III, 2008. Compositional and textural correlations between Olduvai Gorge Bed I tephra and volcanic sources in the Ngorongoro Volcanic Highlands, Tanzania. *Quaternary International* 178: 306-319. doi:10.1016/j.quaint.2007.01.004
- McLelland JM, Bickford ME, Hill BM, Clechenko CC, Valley JW, Hamilton MA (2004) Direct dating of Adirondack massif anorthosite by U-Pb SHRIMP analysis of igneous zircons: Implications for AMCG complexes. *Geol. Soc. Am. Bull* 116: 1299-1317.
- McLelland, J.M., Valley, J.W., Essene, E.J. (2001) Very high temperature, moderate pressure metamorphism in the New Russia gneiss complex, metamorphic aureole to the Marcy anorthosite: Discussion. *Can. J. Earth Sci.* 38: 465-470.
- Medaris L. G., H.F. Wang, J. H. Fournelle, J. H. Zimmer and E. Jelinek, 1999, A cautionary tale of spinel peridotite thermobarometry: an example from xenoliths of Kazakov Volcano, Czech Republic, *Geoline*, 9, 92-96.
- Medaris L.G., Dott R.H., Singer B.S., Van Schmus, W.R., Holm, D.K. (2008) Reply to N. Van Wyck's Comment on "Two Paleoproterozoic (Statherian) siliciclastic metasedimentary sequences in central Wisconsin: The end of the Penokean Orogeny and cratonic stabilization of the southern Lake Superior region" [*Precamb. Res.* 157 (2007) 188-202]. *Precambrian Research*, v. 164, p. 236-238.
- Medaris, Gordon., Jr., Wang, Herb, Jelínek, Emil, Mihaljevic, Martin, and Jakeš, Petr (2005) Characteristics and origins of diverse Variscan peridotites in the Gföhl Nappe, Bohemian Massif, Czech Republic: *Lithos*, v. 82, 1-23.
- Medaris, L. G., Beard, B. L., Johnson, C. M., Valley, J. W., Spicuzza, M. J. and Misar, Z. (1995) Garnet pyroxenite and eclogite in the Bohemian Massif: geochemical evidence for Variscan recycling of subducted lithosphere. *Geol. Rundsch.* 84, 489-505.
- Medaris, L.G. and Fournelle, J.H., 2012, Pseudorutile in the Baraboo Range, Wisconsin: First recognition of metamorphic pseudorutile, *Canadian Mineralogist*, 50(5), 1165-1172
- Medaris, L.G. Jr, Ghent, E.D., Wang, H.F., Fournelle, J.H. and Jelinek, E., 2006, The Spatice eclogite: constraints on the P-T-t history of the Gfohl granulite terrane, Moldanubian Zone, Bohemian Massif, *Minerology and Petrology*, 86, 203-220.
- Medaris, L.G. Jr. (1999) Garnet peridotites in Eurasian HP and UHP terranes: a diversity of origins and thermal histories: *Int. Geol. Rev.*, v. 41, p. 799-815.
- Medaris, L.G. Jr. and Brueckner, H.K. (2003) Chapter 6: Excursion to the Almklovdalen Peridotite: p. 109-125 in Carswell, D.A. et al. (eds.) *Guidebook to the Field Excursion in the Nordfjord-Stadlandet-Almklovdalen Area*, Geological Survey of Norway Report No. 2003.056.
- Medaris, L.G. Jr. and Jelínek, E. (2011) The Mohelno and Nové Dvory peridotites: two contrasting types of peridotite in the Gföhl Unit, p. 115-119 in Faryad, S.W. & Medaris, L.G. Jr., eds.: *High-Pressure/Ultrahigh-Pressure Rocks in the Bohemian Massif: Geolines*, v. 23.

- Medaris, L.G. Jr. and Syada, G. (1998) Spinel peridotite xenoliths from Al Ashaer volcano, Syria: a contribution to the elemental composition and thermal state of subcontinental lithosphere in the Arabian plate: *Int. Geol. Rev.*, v. 40, 305-324
- Medaris, L.G. Jr. and Syada, G. (1999) Pyroxenite xenoliths from Al Ashaer volcano, Syria: constraints on the thermal state of the subcontinental Arabian lithosphere: *Int. Geol. Rev.*, v. 41, 895-905.
- Medaris, L.G. Jr., Ackerman, L., Jelínek, E., Toy, V., Siebel, W., and Tikoff, B. (2009) The Sklené garnet peridotite: petrology, geochemistry, and structure of a mantle-derived boudin in Moldanubian granulite: *Journal of Geosciences*, v. 54, 301-323.
- Medaris, L.G. Jr., Beard, B.L., and Jelínek, E. (2006) Mantle-derived, UHP garnet pyroxenite and eclogite in the Moldanubian Gföhl Nappe, Bohemian Massif: A geochemical review, new P-T determinations, and tectonic interpretation: *International Geology Review*, v. 48, 765-777.
- Medaris, L.G. Jr., Beard, B.L., Johnson, C.M., Valley, J.W. Spicuzza, M.J., Jelínek, E. and Míсар, Z. (1995) Garnet pyroxenite and eclogite in the Bohemian Massif: geochemical evidence for Variscan recycling of subducted lithosphere: *Geol. Rundsch.*, v. 84, 489-505.
- Medaris, L.G. Jr., Ducea, M., Ghent, E. and Iancu, V. (2003) Conditions and timing of high-pressure Variscan metamorphism in the South Carpathians, Romania: *Lithos*, v. 70, 141-161.
- Medaris, L.G. Jr., Fournelle, J.H. and Henry, D. J., 2003, Tourmaline-bearing quartz veins in the Baraboo Quartzite, Wisconsin: Occurrence and significance of foitite and ‘oxy-foitite’, *The Canadian Mineralogist*, 41, 749-758.
- Medaris, L.G. Jr., Fournelle, J.H., Ghent, E.D., Jelínek, E. and Míсар, Z. (1998) Prograde eclogite in the Gföhl Nappe, Czech Republic: new evidence on Variscan high-pressure metamorphism: *Jour. metamorphic Geol.*, v. 16, 563-576.
- Medaris, L.G. Jr., Fournelle, J.H., Wang, H.F. and Jelínek, E. (1997) Thermobarometry and Reconstructed Chemical Compositions of Spinel-Pyroxene Symplectites: Evidence for Pre-Existing Garnet in Lherzolite Xenoliths from Czech Neogene Lavas: *Russian Geol. & Geophys.*, v.38 (Proceedings 6th International Kimberlite Conference), 277-286.
- Medaris, L.G. Jr., Ghent, E.D., Wang, H.F., Fournelle, J.H., and Jelínek, E. (2006) The Spacice eclogite: constraints on the P-T-t history of the Gföhl granulite terrane, Moldanubian Zone, Bohemian Massif: *Mineralogy and Petrology*, v. 86, 203-220.
- Medaris, L.G. Jr., Jelínek, E. and Míсар, Z. (1995) Czech eclogites: Terrane settings and implications for Variscan tectonic evolution of the Bohemian Massif: *Eur. Jour. Mineral.*, v. 7, 7-28.
- Medaris, L.G. Jr., Jelínek, E., Faryad, S.W., & Singer, B.S. (2011) The eclogitic Mariánské Lázně Complex: a vestige of an Early Paleozoic ocean, p. 71-83 in Faryad, S.W. & Medaris, L.G. Jr., eds.: *High-Pressure/Ultrahigh-Pressure Rocks in the Bohemian Massif: Geolines*, v. 23.
- Medaris, L.G. Jr., Jelínek, E., Jakeš, P. and Míсар, Z. (2003) Ultramafic and Mafic Boudins in Granulite, Horní Bory Quarry: p. 41-46 in Kotková, Jana (ed.) *Geology Without Frontiers, Excursion Guide*, Czech Geological Survey
- Medaris, L.G., Singer, B.S., Dott, R.H., Naymark, A., Johnson, C.M., and Schott, R.C. (2003) Late Paleoproterozoic climate, tectonics and metamorphism in the southern Lake Superior region and Proto-North America: Evidence from Baraboo interval quartzites. *Journal of Geology*, v. 111, p. 243-257.
- Meyers, S.R., Siewert, S.E., Singer, B.S., Sageman, B.B., Condon, D., Obradovich, J.D., Jicha, B.R., Sawyer, D.A. (2012) Intercalibration of Radioisotopic and Astrochronologic Time Scales for the Cenomanian/Turonian Boundary Interval, Western Interior Basin, USA. *Geology*, v. 40, p. 7-10.

- Mollet G.F., Swisher, C.C. III, McHenry, L.J., Feigenson, M.D., Carr, M.J., 2009. Petrogenesis of basalt-trachyte lavas from Olmoti Crater, Tanzania. *Journal of African Earth Sciences* 54: 127-143. doi: 10.1016/j.jafrearsci.2009.03.008
- Monani, S, Valley JW. (2001) Oxygen isotope ratio of zircon: magma genesis of low $\delta^{18}\text{O}$ granites from the British Tertiary Igneous Province, western Scotland. *Earth and Planetary Science Letters*, 184, 377-392.
- Mutti, M.; Simo, J. A. 1994; Dolomites; a volume in honour of Dolomieu. Purser, Bruce [editor] (Universite de Paris Sud, Laboratoire de Petrologie Sedimentaire, Orsay, France) ; Tucker, Maurice [editor]; Zenger, Donald [editor], Special Publication of the International Association of Sedimentologists, Vol. 21, pp. 91-107
- Nadon, G. C.; Simo, J. A. Toni; Dott, R. H.; Byers, C. W. 2000; AAPG Bulletin, July, , Vol. 84, Issue 7, pp. 975-996
- Nakashima D, Ushikubo T, Gowda RN, Kita NT, Valley JW, and Nagao K (2011) Ion microprobe analyses of oxygen three isotope ratios in chondrules from the Sayh al Uhaymir 290 CH chondrite using a multiple hole disk. *Meteoritics & Plan. Sci.*, 46: 857-874, doi:10.1111/j.1945-5100.2011.10198.x.
- Olsen, S.N., Johnson, C. M., Beard, B.L., and Baumgartner, L.P., 2000. New U-Pb zircon data and constraints on the age and mode of migmatization in the Aar massif, Central Alps. *Eur. J. Mineral.* 12, 1245-1260.
- Orland IJ, Bar-Matthews M, Ayalon A, Matthews A, Kozdon R, Ushikubo T, Valley JW (2012) Seasonal resolution of Eastern Mediterranean climate change since 34 ka from a Soreq cave speleothem. *Geochim Cosmochim Acta*, 89: 240-255. DOI.10.1016/j.gca.2012.04.035.
- Orland IJ, Bar-Matthews M, Kita NT, Ayalon A, Matthews A, Valley JW (2009) Climate deterioration in the eastern Mediterranean from 200 BC to 1100 AD as revealed by ion microprobe analysis of speleothems from Soreq Cave, Israel. *Quat. Res.*, 71: 27-35.
- Page F., Kita N., and Valley J. W. (2010) Ion Microprobe Analysis of Oxygen Isotopes in Garnets of Complex Chemistry. *Chemical Geology* 270, 9-19.
- Page FZ, Fu B, Kita NT, Fournelle F, Spicuzza MJ, Schulze DJ, Viljoen F, Basei M A S and Valley J W, 2007, Zircons from kimberlite: new insights from oxygen isotopes, trace elements, and Ti in zircon thermometry, *Geochim. Cosmochim. Acta*, 71, 3887-3903.
- Page FZ, Ushikubo T, Kita NT, Riciputi LR, Valley JW (2007) High precision oxygen isotope analysis of picogram samples reveals 2- μm gradients and slow diffusion in zircon. *Am. Mineral.* 92:1772-1775.
- Page, F.Z., Kita, N.T., and Valley, J.W. (2010) Ion microprobe analysis of oxygen isotopes in garnets of complex chemistry. *Chem. Geol.*, doi.org/10.1016/j.chemgeo.2009.11.001, 270: 9-19.
- Pak, T. M., Hauzenberger, C. A., & Baumgartner, L. P. (2003). Solubility of the assemblage albite+ K-feldspar+ andalusite+ quartz in supercritical aqueous chloride solutions at 650 C and 2 kbar. *Chemical geology*, 200(3), 377-393.
- Peck WH Valley JW (2004) Quartz-garnet thermometry in the Adirondack Highlands. *J Meta. Petrol* 22:763-773.
- Peck WH, Clechenko CC, Hamilton MA, Valley JW (2010) Oxygen Isotopes In The Grenville And Nain AMCG Suites: Regional Aspects Of The Crustal Component In Massif Anorthosites. *Canad. Min*, DOI : 10.3749/canmin.48.4.000, 48: 763-786.
- Peck WH, Valley JW, Corriveau L, Davidson A, McLelland J, Farber DA (2004) Oxygen-isotope constraints on terrane boundaries and origin of 1.18-1.13 Ga granitoids in the southern Grenville Province. *Geol. Soc. Am. Mem.* 197: 163-182.

- Peck, W. H. and Valley, J. W. (1996) The Fiskenaasset Anorthosite Complex: Stable isotope evidence for shallow emplacement into Archean ocean crust. *Geology*, v. 24, n. 6, 523-526.
- Peck, W.H. and Valley, J.W. (2000) Genesis of cordierite-gedrite gneisses, central metasedimentary belt boundary thrust zone, Grenville Province, Ontario, Canada. *The Canadian Mineralogist*, 38, 511-524.
- Peck, W.H. and Valley, J.W. (2000) Large crustal input to high $\delta^{18}\text{O}$ anorthosite massifs of the southern Grenville Province: New evidence from the Morin Complex, Quebec. *Contrib. Mineral. Petrol.*, 139, 402-417.
- Peck, W.H., King, E.M., and Valley, J.W. (2000) Oxygen isotope perspective on Precambrian crustal growth and maturation. *Geology*, 28, 4, 363-366.
- Peck, W.H., Valley, J.W., Wilde, S.A., Graham, C.M. (2001) Oxygen isotope ratios and rare earth elements in 3.3 to 4.4 Ga zircons: Ion microprobe evidence for high $\delta^{18}\text{O}$ continental crust and oceans in the Early Archean. *Geochim. Cosmochim. Acta.* 65; 4215-4229
- Peck, WH, Valley, JW, Graham, CM (2003) Slow oxygen diffusion rates in igneous zircons from metamorphic rocks. *Am. Mineral.* 88: 1003-1014.
- Percak-Dennett, EM, Roden, EE, Beard, BL, and Johnson, CM (2011) Iron isotope fractionation during microbial dissimilatory iron reduction in simulated Archean seawater. *Geobiology* 9:205-220.
- Pietras, J. T., and Carroll, A. R., 2006, Sequence stratigraphy of an underfilled lacustrine basin: evidence for tectonic controls on the saline Wilkins Peak Member of the Green River Formation, Wyoming: *Journal of Sedimentary Research*, v. 76, p.
- Pollington, A.D., Kozdon, R., and Valley, J.W. (2011) Evolution of quartz cementation in the Illinois Basin during burial of the Cambrian Mt. Simon Sandstone: In situ microanalysis of $\delta^{18}\text{O}$. *Geology*, 39: 1119-1122.
- Putlitz, B, Katzir, Y, Matthews, A, Valley, JW (2001) Oceanic and orogenic fluid-rock interaction in $^{18}\text{O}/^{16}\text{O}$ -enriched metagabbros of an ophiolite (Tinos, Cyclades). *Earth and Plan. Sci. Lett.* 193: 99-113.
- Raatz, William D.; Simo, J. 1998; A.Las Cruces Country II. Mack, Greg H. [editor]; Austin, George S. [editor]; Barker, James M. [editor], Guidebook - New Mexico Geological Society, , Vol. 49, pp. 161-176
- Rey, O. (Universidad Central de Venezuela, Departamento de Geologia, Caracas, Venezuela); Simo, J. A.; Lorente, M. A. 2004: *Sedimentary Geology*, , Vol. 170, Issue 1-2, pp. 85-105
- Rhodes, M. R., Carroll, A. R., Pietras, J. T., Beard, B. L., and Johnson, C. M., 2002, Strontium Isotopic Variation During Lake Level Change, Laney Member of the Eocene Green River Formation: *Geology*, v. 30, p. 167-170.
- Richardson, C.D., Hinman, N.W., McHenry, L.J., Kotler, J.M., Knipe, D.L., Scott, J.R., 2012 In Press. Secondary Sulfate Mineralization and Basaltic Chemistry of Craters of the Moon National Monument, Idaho: Potential Martian Analog. *Planetary and Space Science*. doi:10.1016/j.pss.2012.02.002
- Riederer, M. and Brown, P.E., 2008, Paragenetic and fluid inclusion study of the Midas low-sulfidation epithermal Au/Ag deposit, Elko County, Nevada: in Spencer, J.E. and Titley, S.R., eds., *Ores and orogenesis: Circum-Pacific tectonics, geological evolution, and ore deposits*: Arizona Geological Society Digest 22, 561-572.
- Roselle, G. T., & Baumgartner, L. P. (1995). Experimental determination of anorthite solubility and calcium speciation in supercritical chloride solutions at 2 kb from 400 to 600 C. *Geochimica et cosmochimica acta*, 59(8), 1539-1549.

- Roselle, G. T., Baumgartner, L. P., & Chapman, J. A. (1997). Nucleation-dominated crystallization of forsterite in the Ubehebe Peak contact aureole, California. *Geology*, 25(9), 823-826.
- Roselle, G.T., Baumgartner, L.P., and Valley, J.W. (1999) Stable Isotope Evidence of Heterogeneous Fluid Infiltration at the Ubehebe Peak Contact Aureole, Death Valley National Park, California. *American Journal of Science*, 299, 93-138.
- Rudraswami N. G., Ushikubo T., Nakashima D., and Kita N. T. (2011) Oxygen isotope systematics of chondrules in Allende CV3 chondrite: High precision ion microprobe studies. *Geochim. Cosmochim. Acta* 75, 7596-7611.
- Russell AK, Kitajima K, Strickland A, Medaris Jr. LG, Schulze DJ, and Valley JW (2012) Eclogite-facies Fluid Infiltration: Constraints from $\delta^{18}\text{O}$ Zoning in Garnet. *Contr. Min. Pet.*, DOI 10.1007/s00410-012-0794-9.
- Safonov, O. G., Valley, J. W., and Perchuk, L. L. (1995) Isotopic and chemical composition of coexisting minerals in the metagabbro of the highland series, Sri Lanka: P-T interpretation. *Petrology* v. 3, n. 5, 478-486.
- Sageman, B.B., Singer, B.S., Siewert, S.R., Meyers, S.R, Condon, D.J., Jicha, B.R., Obradovich, J.D., Sawyer, D.A., Integrating $^{40}\text{Ar}/^{39}\text{Ar}$, U-Pb, and astronomical clocks in the Cretaceous Niobrara Formation, Western Interior Basin, USA. *Geological Society of America Bulletin* (in preparation).
- Salisbury, M.J., Jicha, B.R., de Silva, S.L., Singer, B.S., Jiménez, N.C., Ort, M.H. (2011) $^{40}\text{Ar}/^{39}\text{Ar}$ chronostratigraphy of Altiplano-Puna Volcanic Complex ignimbrites reveals the development of a major magmatic province. *Geological Society of America Bulletin*, v. 123, p. 821-840.
- Saylor, B.Z., Poling, J.M.*, 2005, Huff, W., Stratigraphic and geochemical correlation of ash beds in the Terminal Proterozoic Nama Group, Namibia, *Geological Magazine*, v. 142, p. 519-538.
- Schmitz B., Heck P. R., Alwmark C., Kita N. T., Meier M. M. M., Peucker-Ehrenbrink B., Ushikubo T., and Valley J. W. (2011) Determining the impactor of the Ordovician Lockne Crater: Oxygen and Neon isotopes in chromite versus sedimentary PGE signatures. *Earth Planet. Sci. Lett.* 306, 149-155. DOI 10.1016/j.epsl.2011.04.028.
- Schoeninger, M.J., Hallin, K., Reeser, H., Valley J.W. and Fournelle, J., 2003, Isotopic alteration of mammalian tooth enamel, *International Journal of Osteoarchaeology*, 13, 11-19.
- Schoeninger, M.J., Kohn, M.J. and Valley, J.W. (2000) Tooth oxygen isotope ratios as paleoclimate Monitors in Arid Ecosystems. In: Ambrose and Katzenberg (eds) *Biogeochemical Approaches to Paleodiet Analysis*, Kluwer, 117-140.
- Schott, RC and Johnson, CM (2001) Garnet-bearing trondhjemite and other conglomerate clasts from the Gualala basin, California: Constraints on Eocene provenance, Paleogene tectonics, and Early Cretaceous magmatism. *Geol. Soc. Amer. Bull.* 113:870-880.
- Schott, RC, Johnson, CM, and O'Neil, JR (2004) Late Cretaceous tectonic history of the Sierra-Salinia-Mojave arc as recorded in conglomerates of the Upper Cretaceous and Paleocene Gualala Formation, northern California *Jour. Geophys. Res.* 109:B02204, doi:10.1029/2003JB002845.
- Schreiber, M. E.; Gotkowitz, M. B.; Simo, J. A.; Freiberg, P. G. 2003; in *Arsenic in ground water*. Welch, Alan H. ; Stollenwerk, Kenneth G., pp. 259-280
- Schreiber, M. E.; Simo, J. A.; Freiberg, P. G. 2000; *Hydrogeology Journal*, April, , Vol. 8, Issue 2, pp. 161-176
- Sharaf, Essam F.; BouDagher-Fadel, Marcelle K.; Simo, J. A.; Carroll, A. R.; *Stratigraphy*, , 2006, Vol. 2, Issue 3, pp. 239-257
- Shen, Z., Hiromi Konishi, Philip E. Brown, and Huifang Xu (2013) STEM investigation of exsolution lamellae and “c”-reflections in calcian dolomite from the Platteville Formation, West Wisconsin. *American Mineralogist* (in press).

- Simo, J. A. (University of Wisconsin, Department of Geology and Geophysics, Madison, WI, United States); Johnson, C. M.; Vandrey, M. R.; Brown, P. E.; Castrogiovanni, E.; Drzewiecki, P. E.; Valley, J. W.; Boyer, J. 1994; Burial dolomitization of the middle Ordovician Glenwood Fm. by Evaporite brines, Michigan Basin. In: *Dolomites; a volume in honour of Dolomieu*; Special Publication of the International Association of Sedimentologists, , Vol. 21, pp. 169-186
- Simo, J. A. Toni; Frieberg, P. G.; Schreiber, M. E. 1997; Groundwater Research Report - University of Wisconsin System, Groundwater Research Program,
- Simo, J. A., Slatter, N. M. 2004 Ocean Drilling Program, Leg 182, Shipboard Scientific Party, College Station, TX, United States
- Simo, J. A.; Emerson, Norlene R.; Byers, Charles W.; Ludvigson, Gregory A. 2003; *Geology [Boulder]*, June, , Vol. 31, Issue 6, pp. 545-548
- Simo, J. A.; Lehmann, Patrick J. 2000; *Journal of Sedimentary Research*, July, , Vol. 70, Issue 4, pp. 937-951
- Singer B, Jicha B, Fournelle J, Beard B, Johnson C, Smith K, Greene S, Kita N, Valley J, Spicuzza M, Rogers N (2012) Lying in Wait: Deep and shallow evolution of dacite beneath Volcan de Santa Maria, Guatemala, in: Georg F. Zellmer (ed) *Orogenic Andesites and Crustal Growth*, Geol. Soc. Lond., accepted
- Singer, B.S., Ackert, R.P. Jr., and Guillou, H. (2004) $^{40}\text{Ar}/^{39}\text{Ar}$ and K-Ar chronology of Pleistocene glaciations in Patagonia. *Geological Society of America Bulletin*, v. 116, p. 434-450.
- Singer, B.S., Jicha, B.R. Fournelle, J.H. Beard, B.L. Johnson, C.M. Smith, K.E. Greene, S.E. Kita N.T.
- Singer, B.S., Jicha, B.R., Kirby, B.T., Geissman, J.W, Herrero-Bervera, E. (2008) $^{40}\text{Ar}/^{39}\text{Ar}$ dating links Albuquerque Volcanoes to the Pringle Falls excursion and the Geomagnetic Instability Time Scale. *Earth and Planetary Science Letters*, v. 267, p. 584-595. doi:10.1016/j.epsl.2007.12.009.
- Singer, B.S., Smith, K.E., Jicha, B.R., Johnson, C.M., Beard, B.L., Rogers, N.W. (2011) Tracking open-system differentiation during the growth of Santa María Volcano, Guatemala. *Journal of Petrology*, v. 52, p. 2335-2363.
- Singer, BS, Guillou, H, Jicha, BR, Laj, C, Kissell, C, Beard, B, and Johnson, CM (2009) $^{40}\text{Ar}/^{39}\text{Ar}$, K-Ar and ^{230}Th - ^{238}U dating of the Laschamp excursion: A radioisotopic tie-point for ice core and climate chronologies. *Earth Planet. Sci. Lett.* 286:80-88.
- Singer, BS, Smith, KE, Jicha, BR, Beard, BL, Johnson, CM, and Rogers, NW (2011) Tracking open-system differentiation during growth of Santa María volcano, Guatemala. *Jour. Petrol.* 52:2335-2363.
- Sitzman, SD, Banfield, J.F., and Valley, J.W. (2000) Microstructural characterization of metamorphic magnetite crystals with implications for oxygen isotope distribution. *American Mineralogist*, 85, 14-21.
- Skulan JL, Beard BL, Johnson CM (2002) Kinetic and equilibrium Fe isotope fractionation between aqueous Fe(III) and hematite. *Geochim. et Cosmochim. Acta.* 66:2995-3015.
- Smith, George L; Simo, J. Antonio, 1997; *Geoscience Wisconsin*, , Vol. 16, pp. 1-16
- Smith, M. E., Singer, B., and Carroll, A. R., 2003, $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of the Eocene Green River Formation, Wyoming: *Geological Society of America Bulletin*, v. 115, p. 549-565.
- Smith, M.E., Carroll, A.R., and Singer, B.S., (2008) Synoptic reconstruction of a major ancient lake system: Eocene Green River Formation, Western United States, *Geological Society of America Bulletin*, v. 120, p. 54-84, doi: 10.1130/B26073.1.
- Smith, M.E., Chamberlain, KR., Singer, BS, Carroll, AE. (2010) Eocene clocks agree: Coeval $^{40}\text{Ar}/^{39}\text{Ar}$, U-Pb and astronomical clocks from the Green River Formation. *Geology*, v. 38, p. 527-530.

- Smith, M.E., Singer, B.S., Carroll, A.R., and Fournelle, J. H., 2006, High-resolution calibration of Eocene strata; $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of biotite in the Green River Formation: *Geology*, v. 34, p. 393-396.
- Smith, M.E., Singer, B.S., Carroll, A.R., and Fournelle, J.H., 2008, Precise dating of biotite in distal volcanic ash; isolating subtle alteration using $^{40}\text{Ar}/^{39}\text{Ar}$ laser incremental heating and electron microprobe techniques: *American Mineralogist*, v. 93, p.784-795.
- Sobolev NV, Schertl HP, Valley JW, Page FZ, Kita NT, Spicuzza MJ, Neuser RD, Logvinova AM (2011) Oxygen isotope variations of garnets and clinopyroxenes in a layered diamondiferous calcsilicate rock from Kokchetav Massif, Kazakhstan: a window into the geochemical nature of deeply subducted UHPM rocks. *Contr Min Pet.* DOI 10.1007/s00410-011-0641-4.
- Spicuzza MJ, Day JMD, Taylor LA, Valley JW (2007) Oxygen Isotope constraints on the origin and differentiation of the Moon. *Ear Plan Sci Lett* 253:254-265.
- Stephens, N. P., and Carroll, A. R., 1999, Salinity stratification in the Permian Phosphoria sea; a proposed oceanographic model: *Geology*, v. 27, p. 899-902.
- Stoklosa, M., Simo, J. A., 2008 Tectonic controls on Oligocene carbonate platform-basin deposition, Costa Blanca, southeast Spain. In *SEPM Special Publication Vol 89*, p. 171-184
- Strickland A, Miller EL, Wooden JL, Valley JW (2011) Syn-extensional plutonism and peak metamorphism in the Albion-Raft-River-Grouse Creek metamorphic core complex. *Am J Sci*, 311: 261-314.
- Suzuki, Y., & Banfield, J. F. (1999). Geomicrobiology of uranium. *Reviews in Mineralogy and Geochemistry*, 38(1), 393-432.
- Swart, Peter K.; James, Noel P.; Mallinson, David; Malone, Mitchell J.; Matsuda, Hiroki; Simo, Toni Swenson, D., Nieh, T-G; Fournelle, J.H., 1998, Solid-state phase relationships in the calcia-titania-zirconia system at 1200 degrees C, *Journal of the American Ceramic Society*, 81, 3249-3252
- Swenson,-D.; Nieh,-T.-G.; Fournelle,-J.-H., 1996, The CaO-TiO₂-ZrO₂ system at 1200 degrees C and the solubilities of Hf and Gd in zirconolite, in *Scientific-Basis-for-Nuclear-Waste-Management-XIX.-Symposium* (Eds: Murphy,-W.-M.; Knecht,-D.-A.), 337-44
- Tangalos, GE, Beard, BL, Johnson, CM, Alpers, CN, Shelobolina, ES, Xu, H, Konishi, H, and Roden, EE (2010) Microbial production of isotopically light iron(II) in a modern chemically-precipitated sediment and implications for isotopic variations in ancient rocks. *Geobiology* 8:197-208.
- Taunton, A. E., Welch, S. A., & Banfield, J. F. (2000). Microbial controls on phosphate and lanthanide distributions during granite weathering and soil formation. *Chemical Geology*, 169(3), 371-382.
- Taylor, Kevin G.; Simo, J. A.; Yocum, Dan; Leckie, Dale A. 2002; *Journal of Sedimentary Research*, March, , Vol. 72, Issue 2, pp. 316-327
- Tenner T. J., Ushikubo T., Kurahashi E., Nagahara H., and Kita N. T. (2013) Oxygen isotope systematics of chondrule phenocrysts from the CO3.0 chondrite Yamato 81020: Evidence for two distinct oxygen isotope reservoirs. *Geochim. Cosmochim. Acta* 102, 226-245.
- Thornburg K. and Sahai N. (2004) Arsenic occurrence, mobility, and retardation in sandstone and dolomite formations of the Fox River Valley, Wisconsin. *Environ. Sci. Technol.* 38, 5087-5094.
- Titus, S.J., Medaris, L.G., Wang, H., and Tikoff, B. (2007) Continuation of the San Andreas fault system into the upper mantle: Evidence from spinel peridotite xenoliths in the Coyote Lake Basalt, central California. *Tectonophysics*, v. 429, p. 1-20.
- Ushikubo T, Kimura M, Kita NT, and Valley JW (2012) Primordial oxygen isotope reservoirs of the solar nebula recorded in chondrules in Acfer 094 carbonaceous chondrite. *Geochim. Cosmochim. Acta*, doi.org/10.1016/j.gca. 90: 242-264.

- Ushikubo T, Kita NT, Cavosie AJ, Wilde SA, Rudnick RL, and Valley JW (2008) Lithium in Jack Hills zircons: Evidence for extensive weathering of Earth's earliest crust. *Ear. Plan. Sci. Lett.*, 272: 666-676.
- Valaas Hyslop E, Valley JW, Johnson CM, Beard BL (2008) The effects of metamorphism on O and Fe isotope compositions in the Biwabik Iron formation, northern Minnesota. *Contr Min Pet*, DOI 10.1007/s00410-007-0244-2, 155: 313-328.
- Valley JW (2001) Stable Isotope Thermometry at High Temperatures: In: Valley JW and Cole DR (eds). *Stable Isotope Geochemistry, Reviews In Mineralogy and Geochemistry*, vol. 43, p. 365-414.
- Valley JW (2005) A Cool Early Earth? *Scientific American*, October 2005, 58-65.
- Valley JW (2006) Early Earth. *Elements* 2:201-204.
- Valley JW (2006) Urerde- Sauna oder Glutholle? *Spektrum der Wissenschaft*. p. 70-81.
- Valley JW and Kita NT (2009) In situ Oxygen Isotope Geochemistry by Ion Microprobe, In: Fayek M. (ed) *MAC Short Course: Secondary Ion Mass Spectrometry in the Earth Sciences*, v 41, 19-63
- Valley JW, Cavosie AJ, Fu B, Peck WH, Wilde SA (2006) Comment on "Heterogeneous Hadean Hafnium: Evidence of Continental Growth at 4.4 to 4.5 Ga". *Science* 312:1139a.
- Valley JW, Lackey JS, Cavosie AJ, Clechenko CC, Spicuzza MJ, Basei MAS, Bindeman IN, Ferreira VP, Sial AN, King EM, Peck WH, Sinha AK, Wei CS (2005) 4.4 billion years of crustal maturation: Oxygen isotopes in magmatic zircon. *Contr. Mineral. Petrol.* 150:561-580.
- Valley, J. W. (1992) Granulite formation is driven by magmatic processes in the deep crust. *Earth Science Reviews* 32, 145-146.
- Valley, J. W. (1993) Granulites: Melts and fluids in the deep crust. In: B.P. Radhakrishna (ed.), *Continental Crust of South India*. Geol. Soc. India, Bangalore, p. 301-302.
- Valley, J. W. and Graham, C. M. (1993) Cryptic Grain-Scale Heterogeneity of Oxygen Isotope Ratios in Metamorphic Magnetite. *Science* 259, 1729-1733.
- Valley, J. W. and Graham, C. M. (1996) Ion microprobe analysis of oxygen isotope ratios in quartz from Skye granite: healed micro-cracks, fluid flow, and hydro-thermal exchange. *Contr. Mineral. Petrol.*, 124, 3/4, 225-234
- Valley, J. W., Chiarenzelli, and McLelland, J. M. (1994) Oxygen Isotope Geochemistry of Zircon. *Earth. Planet. Sci. Letts.* 126, 187-206.
- Valley, J. W., Eiler, J. M., Graham, C. M., Gibson, E. K., Romanek, C. S., and Stolper, E. M. (1997) Low temperature carbonates in the Martian meteorite, ALH84001. *Science*, 275, 1633-1638.
- Valley, J. W., Graham, C. M., Harte, B., Kinny, P., and Eiler, J. M. (1998) Ion microprobe analysis of oxygen, carbon, and hydrogen isotope ratios. In: McKibben, M.A., et al. (eds), *Soc. Econ. Geol. Rev. in Econ. Geol.* 7, 73-98.
- Valley, J. W., Kinny, P. D., Schulze, D. J., and Spicuzza, M. J. (1998) Zircon Megacrysts from Kimberlite: Oxygen isotope heterogeneity among mantle melts. *Contr. Min. Petrol.*, 133, 1-11.
- Valley, J. W., Kitchen, N. E., Kohn, M. J., Niendorf, C. R., and Spicuzza, M. J. (1995) UWG-2, A Garnet Standard for Oxygen Isotope Ratio: Strategies for High Precision and Accuracy with Laser Heating. *Geochim. Cosmochim. Acta* 59, 5223-5231.
- Valley, J.W., Spicuzza M.J. Rogers, N.W. Lying in wait: Deep and shallow evolution of dacite beneath Volcán de Santa María, Guatemala. in: *Orogenic Andesites and Crustal Growth*, eds. A. Tuena-Gomez, S. Straub, G. Zellmer, Geological Society of London Special Publication. (in press).
- Valley, JW (2003) Oxygen isotopes in zircon. In: Hanchar, JM and Hoskin, PWO (eds) *Zircon. Rev. Mineral. Geochem.* 53: 343-385.
- Valley, JW, Bindeman, IN, Peck, WH (2003) Empirical calibration of oxygen isotope fractionation in zircon (2003) *Geochim. Cosmochim. Acta* 67: 3257-3266.

- Valley, JW, Peck, WH, King, EM, Wilde, SA (2002) A cool early Earth. *Geology* 30: 351-354.
- Valley, P.M., Hanchar, J.M. and Whitehouse, M.J. (2011) New insights on the evolution of the Lyon Mountain Granite and associated magnetite-apatite “Kiruna-type” deposits, Adirondack Mountains, New York State. *Geosphere*, 7: 357–389; doi: 10.1130/GES00624.1.
- Van Wyck, N., Valley, J. W., and Austrheim, H. (1996) Oxygen and carbon isotopic constraints on the development of eclogites, Holsnøy, Norway. *Lithos*, v. 38, 129-145.
- Wartes, M. A., Carroll, A. R., and Greene, T. J., 2002, Permian Stratigraphic Evolution of the Turpan-Hami Basin and Adjacent Regions, Northwest China: Constraints on Post-amalgamation Tectonic Evolution: *Geological Society of America Bulletin*, v. 114, p. 131-152.
- Wartes, M. A., Carroll, A. R., Greene, T. J., Cheng, K., and Hu, T., 2000, Permian lacustrine deposits of northwest China: *American Association of Petroleum Geologists Memoir*, in Gierlowski-Kordesch, E. H., and Kelts, K., eds., *Lake Basins Through Space and Time: AAPG Studies in Geology #46*, p. 123-132.
- Waters-Tormey, C., and Tikoff, B. (2007) Characteristics of a kilometer-scale high strain zone in the lower continental crust: Mt. Hay block, central Australia. *Journal of Structural Geology*, v. 29, p. 562-579.
- Webber, C.E., Little, T., Newman, J., and Tikoff, B. (2008) Fabric superposition in upper mantle peridotite, Red Hills, New Zealand. *Journal of Structural Geology*, v. 30, p. 1412-1428.
- Webber, C.E., Newman, J., Holyoke, C., Little, T., and Tikoff, B. (2010) Fabric development in cm-scale shear zones in ultramafic rocks, Red Hills, New Zealand. *Tectonophysics*, v. 489, p. 55-75.
- Wei, C.S., Zheng, Y., Zhao, Z., Valley, J.W. (2001) Oxygen isotope Evidence for two-stage water-rock interactions of the Nianzishan a-type granite in NE China. *Chinese Sci. Bull.* 46: 727-731.
- Wei, CS, Zheng, YF, Zhao, ZF, Valley, JW (2002) Oxygen and neodymium isotope evidence for recycling of juvenile crust in Northeast China. *Geology* 30: 375-378
- Wiesli, RA, Beard, BL, and Johnson, CM (2004) Experimental determination of Fe isotope fractionation between aqueous Fe(II), siderite, and “green rust” in abiotic systems. *Chem. Geol.* 211:343–362.
- Wilde, S.A., Valley, J.W., Peck, W.H., and Graham, C.M. (2001) Evidence from detrital zircons for the Existence of continental crust and oceans on the Earth 4.4 Gyr ago. *Nature*, 409, 175-178.
- Williford KH, Van Kranendonk MJ, Ushikubo T, Kozdon R, Valley JW (2011) Sulfur three-isotope micro-distribution in pyrite deposited during Paleoproterozoic atmospheric oxygenation in glaciogenic sediments of the Turee Creek Group, Western Australia. *Geochim. Cosmochim. Acta*, doi:10.1016/j.gca.2011.07.010.
- Winter, B. L., Johnson, C. M., Simo, J. A., and Valley, J. W. (1995) Paleozoic Fluid History of the Michigan Basin: Evidence from Dolomite Geochemistry in the Middle Ordovician St. Peter Sandstone. *Jour. Sediment. Research* A65, n. 2, 306-320
- Winter, B. L., Valley, J. W., Simo, A., Nadon, G. C., and Johnson, C. M. (1995) Hydraulic Seals Their Origin: Evidence from the Stable Isotope Geochemistry of Dolomites in the Middle Ordovician St. Peter Sandstone, Michigan Basin. *AAPG Bull.* 79, n. 1, 30-48.
- Winter, Bryce L.; Valley, John W.; Simo, J. A.; Nadon, Gregory C.; Johnson, Clark M. 1995; *AAPG Bulletin*, January, , Vol. 79, Issue 1, pp. 30-48
- Wu, L, Beard, BL, Roden, BL, and Johnson, CM (2011) Stable iron isotope fractionation between aqueous Fe(II) and hydrous ferric oxide. *Environ. Sci. Technol.* 45:1847-1852.
- Wu, L, Beard, BL, Roden, EE, and Johnson, CM (2009) Influence of pH and dissolved Si on Fe isotope fractionation during dissimilatory microbial reduction of hematite. *Geochim. Cosmochim. Acta* 73:5584-5599.

- Wu, L, Beard, BL, Roden, EE, Kennedy, CB, and Johnson, CM (2010) Stable Fe isotope fractionations produced by aqueous Fe(II)-hematite surface interactions. *Geochim. Cosmochim. Acta* 74:4249-4265.
- Wu, L, Druschel, G, Findlay, A, Beard, BL, and Johnson, CM (2012) Experimental determination of iron isotope fractionations among Fe²⁺-aq-FeSaq-mackinawite at low temperatures: Implications for the rock record. *Geochim. Cosmochim. Acta* 89:46-61.
- Wu, L, Percak-Dennett, EM, Beard, BL, Roden, EE, and Johnson, CM (2012) Stable iron isotope fractionation between aqueous Fe(II) and model Archean ocean Fe-Si coprecipitates and implications for iron isotope variations in the ancient rock record. *Geochim. Cosmochim. Acta*. 84:14-28.
- Yardley, B. W. D. and Valley, J. W. (1994) How wet is the Earth's crust? *Nature* 371, 205-206.
- Zhang N., Molenda J., Fournelle J., Murphy W. and Sahai N. (2010) Effects of pseudowollastonite (b-CaSiO₃) on human mesenchymal stem cell activity. *Biomaterials* 31, 7653-7665.
- Zhang, F., Xu, H., Konishi, H., and Roden, E. E. (2010) A relationship between d-104 value and composition in the calcite – disordered dolomite solid solution series. *American Mineralogist*, 95, 1650-1656.
- Zhu, J., Zhang, C., Ballard, D., Martin, P., Fournelle, J., Cao, W., Chang, Y., 2010, Study of the Ni-rich multi-phase equilibria in the Ni-Al-Pt alloys using the cluster/site approximation for the face-centered cubic phases, *Acta Materialia*, 58(1), 180-188.