

Lindsay J. McHenry

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Professional preparation

- Rutgers University Geological Sciences Ph.D. – 2004
Characterization and correlation of altered Plio-Pleistocene tephra using a “multiple technique” approach: Case study at Olduvai Gorge, Tanzania
- Dartmouth College Earth Sciences M.S. – 2000
The Geochemistry of Neogene Siwalik tephra units of India and Pakistan: Alteration and possibilities for fingerprinting
- Dartmouth College Earth Sciences B.A. – 1998

Appointments

- Professor University of Wisconsin- Milwaukee 2019 – Present
- Associate Professor University of Wisconsin- Milwaukee 2011 - 2019
- Assistant Professor University of Wisconsin- Milwaukee 2005 – 2011
- Part-Time Lecturer Rutgers University 2003 – 2005
- Graduate Teaching Assistant Rutgers University 2000 – 2001
- Graduate Teaching Assistant Dartmouth College 1998 – 1999
- Undergraduate Research Assistant Dartmouth College 1994 - 1998

Research Interests

Broad areas: Potential Mars analogues, tephrostratigraphy, and geoarchaeology

Specific topics: Using tephrostratigraphy to provide improved stratigraphic and geochronologic control in archaeological contexts, developing methods to fingerprint highly altered tephra, and hydrothermal alteration of volcanic materials as potential analogues for Mars surface rock compositions. The mineralogy and geochemistry of saline-alkaline lakes.

Teaching

At University of Wisconsin- Milwaukee

- Principles of Mineralogy- majors level course.
- Introduction to the Earth- introductory geology lecture course for majors and non-majors.
- Geology of the Planets- introductory planetary geology course for non-majors (online and hybrid).
- Planetary Geology- upper level undergraduate and graduate level course.

- X-ray Analytical Methods- upper level undergraduate and graduate level course.
- Geochronology- upper level undergraduate and graduate level course.

At Rutgers University

- Introductory Geology I: Physical- introductory geology lecture course for majors and non-majors.

Research Experience

Laboratory

- Established and direct the UW-Milwaukee Geosciences X-ray Fluorescence and X-ray Diffraction lab. Extensive experience with sample preparation and XRF and XRD analytical techniques.
- Extensive experience with electron probe microanalysis, with emphasis on difficult-to-analyze volcanic glass, melt inclusions, and authigenic minerals.
- Experience with sample preparation techniques for microanalysis and radiometric dating.
- Experience with SEM, ICP-MS, ICP-OES, TIMS, ⁴⁰Ar-³⁹Ar dating, and Synchrotron XRF.
- Full-time/ Part-time clean laboratory assistant, familiar with clean laboratory procedures and geochemical sample preparation (Spring 1996- Summer 1998).
- Paleomagnetism laboratory internship (Academic Year 1994-1995).

Field

- Olduvai Gorge Coring Project (OGCP): Fieldwork and core sampling analysis of paleolake cores from Olduvai (2014-present).
- Planetary geology fieldwork in evaporitic lakes and paleolakes of SE California (2018-present).
- Co-Director of the Olduvai Geochronology and Archaeology Project (OGAP), an international team pursuing new archaeological excavations in Bed II at Olduvai Gorge, Tanzania. (2009-present).
- Planetary geology field research on hydrothermal sites in Iceland (2013-present).
- Planetary geology field research at Lassen Volcanic National Park and Lava Beds National Monument, California (2012-present).
- Planetary geology field research at Kilauea and Mauna Loa, Hawaii (2011- 2013).
- Planetary geology field research at Craters of the Moon National Monument, Idaho (2007-2010).
- Geoarchaeology/volcanology field research at Peninj and Oldoinyo Lengai volcano, Tanzania (2007, 2008, 2010-2012).
- Geoarchaeology field research at Olduvai Gorge, Tanzania (1999, 2001, 2002, 2006-present).
- 5 week New Zealand oceanographic research cruise (2005).
- Geoarchaeology field research at Laetoli, Tanzania (2004, 2016).
- Dartmouth College field school, Western U.S., Hawaii, Mexico (3 months full-time, Fall 1996).

Peer-reviewed Publications

Published and in Press, student authors in italics

- 2019 Zaitsev, A.N., **McHenry**, L.J., Savchenok, A.I., Strekopytov, S., Spratt, J., Humphreys-Williams, E., Sharygin, V.V., Bogomolov, E.S., Chakhmouradian, E.R, Zaitseva, O.A., Arzamastsev, A.A., Reguir, E.P., Leach, L., Leach, M., Mwankunda, J., 2019. Stratigraphy, mineralogy and geochemistry of the Upper Laetolil Tuffs including a new Tuff 7 site with footprints of *Australopithecus afarensis*, Laetoli, Tanzania. Journal of African Earth Sciences 158: 103561

- 2019 *Pauls, K.N., Isbell, J.L., McHenry, L.J., Limarino, C.O., Moxness, L.D., Schenckman, L.J., 2019. A paleoclimatic reconstruction of the Carboniferous-Permian paleovalley fill in the eastern Paganzo Basin: Insights into glacial extent and deglaciation of southwestern Gondwana. Journal of South American Earth Sciences 95: 102236.*
- 2019 *Byers, H.L., McHenry, L.J., Grundl, T.J., 2019. XRF techniques to quantify heavy metals in vegetables at low detection limits. Food Chemistry: X 1. DOI: 10.1016/j.fochx.2018.100001*
- 2018 *McHenry, L.J., Stanistreet, I.G., 2018. Tephrochronology of Bed II, Olduvai Gorge, Tanzania, and placement of the Oldowan–Acheulean transition. Journal of Human Evolution 120: 7-18. DOI: 10.1016/j.jhevol.2017.12.006*
- 2018 *McHenry, L.J., de la Torre, I., 2018. Hominin raw material procurement in the Oldowan-Acheulean transition at Olduvai Gorge. Journal of Human Evolution. 120: 378-401. DOI: 10.1016/j.jhevol.2017.11.010.*
- 2018 *Stainstreet, I.G., McHenry, L.J., Stollhofen, H., de la Torre, I., 2018. Bed II Sequence Stratigraphic context of EF-HR and HWK EE archaeological sites, and the Oldowan/Acheulean succession at Olduvai Gorge, Tanzania. Journal of Human Evolution 120: 19-31. DOI: 10.1016/j.jhevol.2018.01.005*
- 2018 *de la Torre, I., McHenry, L.J., Njau, J.K., 2018. From the Oldowan to the Acheulean at Olduvai Gorge, Tanzania- An introduction to the special issue. Journal of Human Evolution 120: 1-6. DOI: 10.1016/j.jhevol.2018.03.012*
- 2018 *de la Torre, I., Albert, R.M., Macphail, R., McHenry, L.J., Pante, M.C., Rodríguez-Cintas, Á., Stanistreet, I.G., Stollhofen, H., 2018. The contexts and early Acheulean archaeology of the EF-HR paleo-landscape (Olduvai Gorge, Tanzania). Journal of Human Evolution 120: 274-297. DOI: 10.1016/j.jhevol.2017.06.012*
- 2018 *de la Torre, I., Albert, R.M., Arroyo, A., Macphail, R., McHenry, L.J., Mora, R., Njau, J.K., Pante, M.C., Rivera-Rondón, C.A., Rodríguez-Cintas, Á., Stanistreet, I.G., Stollhofen, H., Wehr, K., 2018. New excavations at the HWK EE site: Archaeology, paleoenvironment and site formation processes during late Oldowan times at Olduvai Gorge, Tanzania. Journal of Human Evolution 120: 140-202. DOI: 10.1016/j.jhevol.2017.07.018*
- 2017 *McHenry, L.J., Carson, G.L., Dixon, D. T., Vickery, C.L., 2017. Secondary minerals associated with Lassen fumaroles and hot springs: Implications for martian hydrothermal deposits. American Mineralogist 102: 1418-1434. DOI: 10.2138/am-2017-5839*
- 2016 *Novek, J.M., Dornbos, S.Q., McHenry, L.J., 2016. Paleoredox geochemistry and bioturbation levels of the exceptionally preserved Early Cambrian Indian Springs biota. Lethaia 49: 604-616. DOI: 10.1111/let.12169*
- 2016 *Byers, H., McHenry, L.J., Grundl, T.J. 2016. Forty-nine major and trace element concentrations measured in Soil Reference Materials NIST SRM 2586, 2587, 2709a, 2710a and 2711a using ICP-MS and Wavelength Dispersive-XRF. Geostandards and Geoanalytical Research 40: 433-445. doi: 10.1111/j.1751-908X.2016.00376.x*

- 2016 **McHenry**, L.J., Njau, J.K., de la Torre, I., Pante, M.C., 2016. Geochemical “fingerprints” for Olduvai Gorge Bed II tuffs and implications for the Oldowan–Acheulean transition. *Quaternary Research* 85: 147-158. 10.1016/j.yqres.2015.10.005
- 2016 *Habermann, J.M., McHenry, L.J., Stollhofen, H., Tolosado-Delgado, R., Stanistreet, I.G., Deino, A.L., 2016. Discrimination, correlation, and provenance of Bed I tephrostratigraphic markers, Olduvai Gorge, Tanzania, based on multivariate analyses of phenocryst compositions. Sedimentary Geology* 339: 115-133. Doi: 10.1016/j.sedgeo.2016.03.026
- 2015 *Kloss, T.J., Dornbos, S. Q., Chen, J.-Y., McHenry, L. J., Marenco, P. J., 2015. High-resolution geochemical evidence for oxic bottom waters in three Cambrian Burgess Shale-type deposits. Palaeogeography, Palaeoclimatology, Palaeoecology* 440: 90-95.
- 2014 Benito-Calvo, A., Barford, D.N., **McHenry**, L.J., de la Torre, I., 2014. The geology and chronology of the Acheulean deposits in the Mieso area (East-Central Ethiopia). *Journal of Human Evolution* 76: 26-38.
- 2013 **McHenry**, L.J., Stollhofen, H., Stanistreet, I.G., 2013. Use of single-grain geochemistry of cryptic tuffs and volcanoclastic sandstones improves the tephrostratigraphic framework of Olduvai Gorge, Tanzania. *Quaternary Research* 80: 235-247. doi: 10.1016/j.yqres.2013.05.006
- 2012 **McHenry**, L.J., 2012. A revised stratigraphic framework for Olduvai Gorge Bed I based on tuff geochemistry. *Journal of Human Evolution* 63: 284-299. Doi: 10.1016/j.jhevol.2011.04.010
- 2012 Blumenschine, R.J., Stanistreet, I.G., Njau, J.K., Bamford, M.K., Masao, F.T., Albert, R.M., Stollhofen, H., Andrews, P., Prassack, K.A., **McHenry**, L.J., Fernández-Jalvo, Y., Camilli, E.L., and Ebert, J.I., 2012. Environments and hominin activities across the FLK Peninsula during *Zinjanthropus* times (1.84 Ma), Olduvai Gorge, Tanzania. *Journal of Human Evolution* 63: 364-383. doi:10.1016/j.jhevol.2011.10.001
- 2012 *Richardson, C.D., Hinman, N.W., McHenry, L.J., Kotler, J.M., Knipe, D.L., Scott, J.R., 2012. Secondary Sulfate Mineralization and Basaltic Chemistry of Craters of the Moon National Monument, Idaho: Potential Martian Analog. Planetary and Space Science* 65: 93-103. doi:10.1016/j.pss.2012.02.002
- 2012 de la Torre, I., **McHenry**, L., Njau, J., Pante, M., 2012. The origins of the Acheulean at Olduvai Gorge (Tanzania): A new paleoanthropological project in East Africa. *Archaeology International* 15: 89-98. doi:10.5334/ai.1505
- 2011 **McHenry**, L.J., Chevrier, V., Schröder, C., 2011. Jarosite in a Pleistocene East African saline-alkaline paleolacustrine deposit: Implications for Mars aqueous geochemistry. *Journal of Geophysical Research* 116: E04002. doi:10.1029/2010JE003680
- 2011 **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
- 2011 **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

- 2010 **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
- 2010 *Henry*, L.C., Isbell, J.L., Limarino, C.O., **McHenry**, L.J., Fraiser, M.L., 2010. Mid-Carboniferous deglaciation of the Protoprecordillera, Argentina recorded in the Agua de Jagüel paleovalley. *Palaeogeography, Palaeoclimatology, Palaeoecology* 298: 112-129. doi:10.1016/j.palaeo.2010.03.051
- 2009 **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
- 2009 Mollé, 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
- 2008 **McHenry**, L.J., Mollé, 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
- 2008 Stollhofen, H., Stanistreet, I.G., **McHenry**, L.J., Mollé, G.F., Blumenshine, R.J., Masao, F.T., 2008. Fingerprinting facies of the Tuff IF marker, catastrophe for early hominin palaeoecology, Olduvai Gorge, Tanzania. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 259: 382-409. doi:10.1016/j.palaeo.2007.09.024
- 2007 **McHenry**, H.M., Brown, C.C., and **McHenry**, L.J., 2007. Fossil Hominin Ulnae and the Forelimb of Paranthropus. *American Journal of Physical Anthropology* 134: 209-218. DOI: 10.1002/ajpa.20656
- 2005 **McHenry**, L.J., 2005. Phenocryst composition as a tool for correlating fresh and altered tephra, Bed I, Olduvai Gorge, Tanzania. *Stratigraphy* 2(2):101-115.
- 2003 Blumenshine, R.J., Peters, C.R., Masao, F.T., Clarke, R.J., Deino, A.L., Hay, R.L., Swisher, C.C., Stanistreet, I.G., Ashley, G.M., **McHenry**, L.J., Sikes, N.E., van der Merwe, N.J., Tactikos, J.C., Cushing, A.E., Deocampo, D.M., Njau, J.K., Ebert, J.I. 2003. Late Pliocene Homo and hominid land use from western Olduvai Gorge, Tanzania. *Science*, v. 299 p. 1217-1221.

In revision or review

In preparation

Carson, G.L., McHenry, L.J., Glenister, C., Hynek, B.M., Cameron, B.I., in preparation. The Námafjall geothermal system, Iceland: mineralogical and geochemical analog for Mars. For submission to *Astrobiology*.

Ruffini, J.J., McHenry, L.J., in preparation. Hematite and sulfate minerals in lava tubes at Craters of the Moon, Idaho: An analog for Martian basalt diagenesis. For submission to Planetary and Space Science.

Zaitsev, A., **McHenry, L.J., Zaitseva, H., in preparation.** Mineralogical approaches to the study of anthropological, archeological and paleontological sites in volcanic rocks of East Africa. For submission to Mineralogical Magazine.

Non peer reviewed

2013 **McHenry, L.J., Gerard, T.L., Walters, G.L., 2013.** Lassen Volcanic Fumaroles and Hot Springs: Analog for Mars. Proceedings of the 23rd annual Wisconsin Space Conference, 10 pp.

2008 **McHenry, L.J., 2008.** Unusual sulfate cave mineral deposits at Craters of the Moon National Monument, Idaho: Potential analogue for Meridiani Planum, Mars. Proceedings of the 18th annual Wisconsin Space Conference, 10 pp.

Conference presentations/ abstracts

2019 **McHenry, L.J., Kodikara, G.L., Vickery, C.L., Njau, J.K., Stanistreet, I.G., Stollhofen, H., Deocampo, D., Schick, K., Toth, N., 2019.** Core-derived zeolites record changing environmental conditions in Pleistocene paleolake Olduvai, Tanzania. Geological Society of America Annual meeting, Phoenix, AZ, September 2019.

2019 *Doung, L., Bash, J.G., Gebregiorgis, D., Deocampo, D.M., Njau, J.K., McHenry, L.J., Stanistreet, I.G., Stollhofen, H., Schick, K.D., Toth, N., Deino, A., 2019.* Paleo-lake Olduvai: Fresher or saline? New results from clay chemistry. Geological Society of America Annual meeting, Phoenix, AZ, September 2019.

2019 *Carson, G.L., McHenry, L.J., Hynek, B.M., Cameron, B.I., Glenister, C.T., 2019.* Leaching, precipitation, and oxidation in an Icelandic hydrothermal system: comparison to Columbia Hills, Mars. Lunar and Planetary Science Conference, Houston, Texas, March 2019.

2018 **McHenry, L.J., Kodikara, G.L., Vickery, C.L., Njau, J.K., Stanistreet, I.G., Schick, K., Toth, N.** Bulk mineralogy as a proxy for paleogeography and paleolake conditions: a core-based XRD record from Olduvai Gorge, Tanzania. Geological Society of America Annual meeting, Indianapolis, Indiana, November 2018.

2018 **McHenry, L.J., 2018.** Google Mars in the Online “Classroom.” Wisconsin Space Conference, Menasha, Wisconsin, August 2018.

2018 *Kodikara, G.R.L., McHenry, L.J., 2018.* Application of machine learning methods for mapping surface composition of the Taurus-Littrow and surrounding area of the Moon. Lunar and Planetary Science Conference, Houston, Texas, March 2018.

2018 *Glenister, C.T., McHenry, L.J.*, Cameron, B.I., Hynek, B.M., 2018.* A mineralogical and hydrological evaluation of various hydrothermal environments at the Nesjavellir geothermal field in Southwest Iceland. Lunar and Planetary Science Conference, Houston, Texas, March 2018.

- 2018 *Black, S.R., Hynek, B.M., McHenry, L.J., Glenister, C., Cameron, B.I., McCollom, T.M., Ludyman, J., 2018. Bulk mineralogy of surficial hydrothermal acid-sulfate deposits at Námafjall, Peistareykir geothermal field, and Hengill volcano, Iceland: Implications for the identification and interpretation of hydrothermal deposits on Mars. Lunar and Planetary Science Conference, Houston, Texas, March 2018.*
- 2017 *McHenry, L., Carson, G., Dixon, D., Gerard, T., Ludyman, J., Stewart, A., Vickery, C., Walters, G., Wanta, A. 2017. Volcanic hydrothermal alteration on Earth and Mars: case study Lassen Volcanic National Park. Wisconsin Space Conference, La Crosse, WI, August 2017.*
- 2017 *McHenry, L.J., Njau, J.L., Stanistreet, I.G., Stollhofen, H., Deino, A.L., Schick, K., Toth, N., 2017. Using tephrostratigraphy to link cores to outcrops at Olduvai Gorge, Tanzania. Annual meeting of the Paleoanthropology Society, Vancouver, BC, Canada, April 2017.*
- 2017 *Pante, M., Njau, J., de la Torre, I., McHenry, L., 2017. The feeding behavior of early *Homo* at HWK-EE, Bed II, Olduvai Gorge. Annual meeting of the Paleoanthropology Society, Vancouver, BC, Canada, April 2017.*
- 2017 *McHenry, L.J., Dixon, D.T., Carson, G.L., Vickery, C.L., 2017. Diverse hydrothermal conditions at Little Hot Springs Valley, Lassen: Comparison to Home Plate, Mars. Lunar and Planetary Science Conference, Houston, Texas, March 2017.*
- 2017 *Black, S.R., Hynek, B.M., McHenry, L.J., McCollom, T., Cameron, B.I., Ludyman, J., 2017. Alteration mineralogy and the effect of parent lithology at hydrothermal Mars analog sites: Hengill and Krafla volcanoes, Iceland. Lunar and Planetary Science Conference, Houston, Texas, March 2017.*
- 2017 *El-Maarry, M.R., Black, S., Hynek, B.M., McHenry, L.J., 2017. Mineralogy of fumarolic deposits from Iceland as analogs for ancient hydrothermal systems on Mars: role of temperature. Lunar and Planetary Science Conference, Houston, Texas, March 2017.*
- 2017 *Glenister, C.T., McHenry, L.J., Cameron, B.I., Hynek, B.M., 2017. Mineralogical examination of a seawater influenced hydrothermal area on the Reykjanes Peninsula, Iceland. Lunar and Planetary Science Conference, Houston, Texas, March 2017.*
- 2016 *McHenry, L.J., Njau, J.K., Stanistreet, I.G., Stollhofen, H., Deino, A.L., Schick, K., Toth, N., 2016. A Tuff job: Linking cores to outcrop using tephrostratigraphy at Pleistocene Olduvai Gorge, Tanzania. Geological Society of America annual meeting, Denver, CO, October 2016.*
- 2016 *McHenry, L.J., Vickery, C.L., 2016. Exceptional preservation of secondary minerals in Hawaiian lava tubes. Geological Society of America annual meeting, Denver, CO, October 2016.*
- 2016 *Stanistreet, I.G., Njau, J.K., Schick, K., Toth, N., Stollhofen, H., McHenry, L.J., Deino, A.L., 2016. Correlating known hominin sites and paleolandscapes to the OGCP cores, Olduvai Gorge, Tanzania. Geological Society of America annual meeting, Denver, CO, October 2016.*
- 2016 *McHenry, L.J., Carson, G.L., Hynek, B.M., 2016. Assessing Icelandic fumaroles and hot springs as analogs for Mars. Lunar and Planetary Science Conference, Houston, Texas, March 2016.*
- 2015 *McHenry, L.J., Njau, J.K., de la Torre, I., Pante, M.C., 2015. Detailed stratigraphic correlations across the Pleistocene Olduvai basin, Northern Tanzania, at the Oldowan-Acheulean*

- technological transitions. Geological Society of America annual meeting, Baltimore, MD, November 2015.
- 2015 Njau, J.K., Stanistreet, I.G., Toth, N., Schick, K., **McHenry**, L.J., Stollhofen, H. 2015. New investigations on hominin paleolandscapes, paleoenvironments and paleoclimates through scientific coring at Olduvai Gorge, Tanzania. Geological Society of America annual meeting, Baltimore, MD, November 2015.
- 2015 de la Torre, I., **McHenry**, L.J., Njau, J.K., Pante, M.C., 2015. Excavations in the EFHR complex (Olduvai Gorge, Tanzania). Implications for the emergence of the Acheulean in East Africa. European Society for the Study of Human Evolution, London, UK, September 2016.
- 2015 Habermann, J.M., Stollhofen, H., **McHenry**, L.J. 2015. Multivariate analyses of phenocryst compositional data refine the Bed I tephrostratigraphic framework of Olduvai Gorge, Tanzania. International Association for Mathematical Geoscience. Freiberg, Germany, September 2015.
- 2015 **McHenry**, L.J., 2015. Developing impact cratering labs for an online introductory Planetary Geology course. Wisconsin Space Conference, Oshkosh, WI, August 2015.
- 2015 **McHenry**, L.J., de la Torre, I., Njau, J.K., Pante, M.C., 2015. Improved stratigraphic framework for the Oldowan-Acheulean transition at Olduvai Gorge, Tanzania. East African Association of Paleoanthropology and Paleontology meeting, Dar es Salaam, Tanzania, August 2015.
- 2014 Njau, J.K., Pante, M.C., de la Torre, I., **McHenry**, L.J. 2014. The Paleoenvironments of Bed II, Olduvai Gorge. Society of Vertebrate Paleontology, Berlin, Germany, October 2014.
- 2014 **McHenry**, L.J., *Gerard, T.L., Carson, G.L.*, 2014. Acid-sulfate fumarole alteration and near-neutral sinter precipitation at Lassen- potential analog for Gusev Crater, Mars. Geological Society of America Annual Meeting, Vancouver, Canada, October 2014.
- 2014 *Carson, G.L., McHenry, L.J., Cameron, B.I.*, 2014. Mineralogical and chemical trends during acid-sulfate alteration of high-Fe basalts and hyaloclastite at Krafla and Námafjall, Iceland: Implications for Mars. Geological Society of American Annual Meeting, Vancouver, Canada, October 2014.
- 2014 *Greenwood, S.M., McHenry, L.J.*, 2014. Embagai caldera, Ngorongoro Volcanic Highlands, Tanzania: A potential volcanic source for Olduvai Gorge Bed III. Geological Society of America Annual Meeting, Vancouver, Canada, October 2014.
- 2014 Dornbos, S.Q., *Kloss, T.J.*, Chen, Y., McHenry, L.J., Marenco, P.J. 2014. High-resolution geochemical evidence for oxic bottom waters in multiple Cambrian Burgess Shale-type deposits. Geological Society of America Annual Meeting, Vancouver, Canada, October 2014.
- 2014 *Novek, J.M.*, Dornbos, S.Q., McHenry, L.J. 2014. Paleoredox geochemistry and bioturbation levels of the early Cambrian Indian Springs Lagerstätte, Poleta Formation, Nevada. Geological Society of America Annual Meeting, Vancouver, Canada, October 2014.
- 2014 **McHenry**, L.J., *Gerard, T.L., Carson, G.L., Walters, G.L.*, 2014. Mineralogy of acid sulfate fumarole vs. near neutral sinter deposits at Lassen Volcanic National Park: Comparison to Gusev Crater, Mars. Lunar and Planetary Science Conference, Houston, TX, March 2014.

- 2014 *Gerard, T.L., McHenry, L.J., Carson, G.L., Cameron, B.I., 2014. Mineralogy and Geochemistry of an Icelandic fumarole: Analog to Mars hydrothermal alteration. Lunar and Planetary Science Conference, Houston, TX, March 2014.*
- 2014 Hynek, B.M., McCollom, T.M., **McHenry, L.J.**, Alvarado, G.E., 2014. Assessing hydrothermal alteration on early Mars through analog environments in Nicaragua, Costa Rica, Iceland, and Hawaii. Lunar and Planetary Science Conference, Houston, TX, March 2014.
- 2013 **McHenry, L.J.**, 2013. Correlation between archaeological sites using single-grain volcanic mineral geochemical fingerprints, Olduvai Gorge, Tanzania. Presented at GSA annual meeting, Denver, CO, October 2013.
- 2013 **McHenry, L.J., Gerard, T.L., Walters, G.L., 2013. Lassen Volcanic Fumaroles and Hot Springs: Analog for Mars. Wisconsin Space Conference, Milwaukee, WI, August 2013.**
- 2013 *Gerard, T.L., McHenry, L.J., 2013. Fumarole alteration of Hawaiian basalts: A potential Mars analog. Wisconsin Space Conference, Milwaukee, WI, August 2013.*
- 2013 **McHenry, L.J., de la Torre, I., Njau, J.K., Pante, M., 2013. New insights into the stratigraphy and archaeology of the late Oldowan and early Acheulean at Olduvai Gorge, Tanzania. 2013 PaleoAnthropology Society conference in Honolulu, HI, April 2013.**
- 2013 **McHenry, L.J., Ruffini, J.M., Gerard, T.L., Walters, G.L., 2013. Secondary minerals in basaltic caves: Analog for Mars surface and subsurface mineralogy. Lunar and Planetary Science Conference, Houston, TX, March 2013.**
- 2012 **McHenry, L.J., Greenwood, S.M., 2012. Volcanic sources for Olduvai Gorge tuffs: Implications for geochronology and the effect of volcanism on hominin paleoenvironments. Presented at GSA annual meeting, Charlotte, NC, November 2012.**
- 2012 *Greenwood, S.M., McHenry, L.J., 2012. Geochemical analysis of Pleistocene volcanics around the Peninj area, Natron Basin, Tanzania. Presented at GSA annual meeting, Charlotte, NC, November 2012.*
- 2012 *Gerard, T.L., McHenry, L.J., 2012. Fumarole alteration of Hawaiian basalts: Potential Mars analog. Presented at GSA annual meeting, Charlotte, NC, November 2012.*
- 2012 **McHenry, L.J., 2012. Evolving tephra compositions over time at Olduvai Gorge: implications for a changing volcanic source. Presented at the 2012 PaleoAnthropology Society conference, Memphis, TN, April 2012.**
- 2012 **McHenry, L.J., Chevrier, V.F., Schröder, C., 2012. Spatial vs. temporal distribution of K-jarosite in a saline-alkaline paleolake deposit: Implications for the distribution and longevity of jarosite on Mars. Lunar and Planetary Science Conference, The Woodlands, TX, March 2012.**
- 2012 **McHenry, L.J., co-presenting with Allen, J., and Galindo, C., 2012. NASA Antarctic Meteorite Educational Kit and NASA Lunar Disks. Planetary Science Faculty Workshop at Lunar and Planetary Science Conference, The Woodlands, TX, March 2012.**

- 2011 **McHenry**, L.J., Stanistreet, I.G., Stollhofen, H., 2011. A cryptic volcanic source: improving the tephrostratigraphic resolution of the “Zinjanthropus” archeological surface at Olduvai Gorge, Tanzania. Presented (oral) at GSA annual meeting, Minneapolis, MN, October 2011.
- 2011 *Finn, K.D.*, **McHenry**, L.J., 2011. Melilite-bearing lapilli from Oldoinyo Lengai, Tanzania: Evidence of changing mineralogy within a single eruption. GSA annual meeting, Minneapolis, MN, October 2011.
- 2011 **McHenry**, L.J., Torre, I. de la, Pante, M.C., Njau, J.K., 2011. New archaeological and geological research on the origins of the Acheulean at Olduvai Gorge, Tanzania. East African Association for Paleoanthropology and Paleontology. Addis Ababa, Ethiopia, August 2011.
- 2011 Torre, I. de la, **McHenry**, L.J., Pante, M.C., Njau, J.K., 2011. New archaeological research on the origins of the Acheulean at Olduvai Gorge, Tanzania. PaleoAnthropology Society conference, Minneapolis, MN, April 2011.
- 2011 **McHenry**, L. J., Chevrier, V. F., Schröder, C., Ephemeral K-jarosite in a saline-alkaline paleolake deposit: Implications for the long-term survival of jarosite on Earth and Mars. Presented (poster) at 2011 Lunar and Planetary Science Conference, March 2011.
- 2010 Hinman, N.W., *Richardson*, C.D., **McHenry**, L.J., Scott, J.R., 2010. Basaltic caves at Craters of the Moon National Monument and Preserve as analogs for Mars. AGU Fall meeting, San Francisco, California, December 2010.
- 2010 **McHenry**, L.J., 2010. Element distribution between coexisting authigenic mineral phases in argillic and zeolitic altered tephra, Olduvai Gorge, Tanzania. Presented (oral) at GSA Annual Meeting, Denver, Colorado, November 2010.
- 2010 *Ruffini*, J.J., **McHenry**, L.J., 2010. Hematite & sulfate minerals in lava tubes: potential Mars analogues. GSA Annual Meeting, Denver, Colorado, October/November 2010.
- 2010 *Kloss*, T.J., Dornbos, S.Q., **McHenry**, L.J., 2010. Paleoredox geochemistry of the Middle Cambrian Wheeler Shale (Utah, USA): Implications for Early Cambrian environments. GSA Annual Meeting, Denver, CO, November 2010.
- 2010 Hinman, N.W., Aspden, D., Kotler, J.M., *Richardson*, C.D., **McHenry**, L.J., Scott, J.R., Potential for finding evidence of bio/organic compounds in extraterrestrial materials. 2010 Astrobiology Science Conference (AbSciCon), April 2010.
- 2010 **McHenry**, L.J., Creating a tephrostratigraphic framework for the Oldowan-Acheulean transition in Bed II, Olduvai Gorge, Tanzania. Presented (oral) at 2010 Paleoanthropology Society Conference, April 2010.
- 2010 **McHenry**, L.J., Chevrier, V.F., Schröder, C., The formation and destruction of jarosite in a saline-alkaline paleolake deposit: Implications for Mars. Presented (poster) at 2010 Lunar and Planetary Society Conference (LPSC), March 2010.
- 2010 **McHenry**, L.J., *Richardson*, C.D., Hinman, N.W., Sulfate minerals, hematite, and silica in Craters of the Moon, Idaho basaltic lava tubes: A potential analog for Mars. Presented (poster) at 2010 Lunar and Planetary Society Conference (LPSC), March 2010.

- 2009 **McHenry**, L.J., *Richardson*, C.D., Hinman, N.W., Sulfate minerals, hematite, and silica in basaltic caves at Craters of the Moon National Monument, Idaho: a potential Mars analog. Geological Society of America Abstracts with Programs. Presented (oral) at GSA Annual Meeting: Portland Oregon, October 2009.
- 2009 **McHenry**, L.J., High- resolution tephrostratigraphy of Bed II, Olduvai Gorge: reconstructing landscapes at the Oldowan/Acheulean transition. Geological Society of America Abstracts with Programs. Presented (poster) at GSA Annual Meeting: Portland Oregon, October 2009.
- 2009 **McHenry**, L.J., Establishing a high-resolution stratigraphic framework for Olduvai Bed II using tephra correlation. 2nd East African Association for Palaeoanthropology and Palaeontology (EAAPP) Conference, Arusha, Tanzania. August 2009.
- 2009 Blumenschine, R.J., Stanistreet, I.G., Njau, J.K., Bamford, M.K., Masao, F.T., Albert, R.M., Stollhofen, H., Andrews, P., Prassack, K.A., **McHenry**, L.J., Fernández-Jalvo, Y., Camilli, E.L., Ebert, J.I., Environments and hominin activities across the FLK area during *Zinjanthropus* times (1.84 Ma), Olduvai Gorge, Tanzania. 2nd East African Association for Palaeoanthropology and Palaeontology (EAAPP) Conference, Arusha, Tanzania. August.
- 2009 **McHenry**, L.J., Luque, L., Gómez, J.A., Diez-Martín, F., Progress towards a regional tephrostratigraphic framework for Northern Tanzania: potential correlations between Olduvai, Laetoli, and Peninj. Presented (oral) at Paleoanthropology Society Conference, Chicago, IL, March 2009.
- 2009 **McHenry**, L. J., Chevrier, V. F., Schröder, C., 2009. Jarosite in an East African Saline-Alkaline Paleolake Deposit: Implications for Mars. Presented (oral) at Lunar and Planetary Science Conference, March 2009..
- 2008 **McHenry**, L.J., Chevrier, V., Occurrence of jarosite in a saline-alkaline paleo-lake deposit: implications for Mars aqueous geochemistry. Geological Society of America Abstracts with Programs. GSA Annual Meeting: Houston, October 2008.
- 2008 *Henry*, L.C., Isbell, J.L., Limarino, C.O., **McHenry**, L.J., Fraiser, M.L., Deglaciation in a Pennsylvanian paleovalley of western Argentina: the Agua de Jagüel Formation. Geological Society of America Abstracts with Programs. GSA Annual Meeting: Houston, October 2008.
- 2008 **McHenry**, L.J., Diez-Martin, F., Establishing a chronostratigraphic framework for hominin-bearing sites in Northern Tanzania: potential tephra correlations between Olduvai, Peninj, and Laetoli. Annual meeting of the Geologische Vereinigung. V. and Deutsche Gesellschaft für Geowissenschaften. Aachen, Germany, September 2008.
- 2008 Stollhofen, H., Stanistreet, I.G., **McHenry**, L.J., Mollé, G.F., Blumenschine, R.J., Masao, F.T., Fingerprinting facies of the Tuff IF marker, with implications for early hominin palaeoecology, Olduvai Gorge, Tanzania. Annual meeting of the Geologische Vereinigung. V. and Deutsche Gesellschaft für Geowissenschaften. Aachen, Germany, September 2008.
- 2008 **McHenry**, L.J., Unusual Sulfate Cave Mineral Deposits at Craters of the Moon National Monument, Idaho: Potential Analogue for Meridiani Planum, Mars. Wisconsin Space Conference: UW Fox Valley, August, 2008.

- 2007 **McHenry**, L.J., Element mobility and authigenic zeolite and clay formation during alteration of Olduvai marker Tuff IF in different diagenetic environments. Geological Society of America Abstracts with Programs, Vol. 39, No. 6, p. 173. GSA Annual Meeting: Denver, October 2007.
- 2006 **McHenry**, L.J., Testing proposed correlations between Olduvai Gorge and Laetoli, Tanzania using tephra composition. EOS Trans. AGU, 87(52), Fall Meet. Suppl., Abstract V33B-0670. December 2006. AGU Fall Meeting: San Francisco, December 2006.
- 2005 **McHenry**, L.J., Direct compositional correlations between Olduvai Gorge Bed I tephra layers and volcanic sources in the Ngorongoro Volcanic Highlands, Tanzania. Geological Society of America Abstracts with Programs. GSA Annual Meeting: Salt Lake City, October 2005.
- 2005 Mollel, G.F., Swisher, C.C., **McHenry**, L.J., and Feigenson, M.D., Geochronology and Geochemistry of lavas from Olmoti Crater, Tanzania: Implications for Olduvai Bed I Tephra and lava sources. Geological Society of America Abstracts with Programs. GSA Annual Meeting: Salt Lake City, October 2005.
- 2004 Mollel, G.F., and **McHenry**, L.J., Temporal evolution of the Ngorongoro Volcanic Highland (NVH) in relation to Bed I of Olduvai Gorge, Tanzania: A progress report. Paleoanthropology Society Annual Meeting: Montreal, April 2004.
- 2003 **McHenry**, L.J., Geochemistry of tephra from Bed I, Olduvai Gorge, Tanzania: Stratigraphic correlations and implications for magmatic evolution. AGU Spring meeting: Nice, France, April 2003.
- 2001 **McHenry**, L.J., The geochemistry of feldspar, fresh glass, and melt inclusions within feldspar as potential tools for correlating fresh and altered tuffs at Olduvai Gorge, Tanzania. AGU Fall meeting: San Francisco, December 2001.
- 2000 **McHenry**, L.J., A statistical approach to the geochemical fingerprinting of two Pliocene Siwalik bentonites, Pakistan and India- the problem of alteration. Northeast GSA section meeting: New Brunswick, New Jersey, March 2000.
- 1998 **McHenry**, L.J., Blum, J.D., Johnson, G.D., Trace element fingerprinting of Miocene-Pleistocene Siwalik tephtras, Pakistan. Abstracts with Programs- Geological Society of America annual meeting. v. 30 # 7 p. 388. GSA Annual Meeting: Toronto, Canada, October 1998.

Grant Funding

Current grants

- Collaborative Research: An Examination of Behavioral and Biological Change in an Extended Chronological Context. National Science Foundation, BCS-Archeology. 6/16 – 5/18. Role: PI (Collaborative with Indiana University). \$75,088 to UWM.
- Understanding relict Martian hydrothermal systems using Icelandic analogs. NASA Habitable Worlds. 5/16 – 4/19. Role: PI. \$539,539.
- Reconciling orbital vs. in-situ mineralogy: Californian vs. Martian paleolakes. Wisconsin Space Grant Consortium, Research Infrastructure. 6/19 – 5/20. Role: PI. \$10,000.

- Using Planetary Geology to teach science communication. Wisconsin Space Grant Consortium, Higher Ed Incentives. 6/19 – 5/20. Role: PI. \$9854.
- Paleolake Tecopa: An alkaline analog for early Mars. Wisconsin Space Grant Consortium, Research Infrastructure. 6/18 – 5/19. Role: PI. \$9998.

Pending Grants

- Source-to-sink mineralogy and geochemistry of an East African Rift lake delta as an analog for Jezero crater, Mars. UWM Discovery and Innovation Grant (DIG). 7/20 – 6/21. Role: PI. \$124,986.
- Dry and salty- Great Basin playas and Hesperian Mars. Wisconsin Space Grant Consortium, Research Infrastructure. 6/20 – 6/21. Role: PI. \$9993.
- Bringing Planetary Science research into the classroom. Wisconsin Space Grant Consortium, Higher Ed Incentives. 6/20 – 5/21. Role: PI. \$9999.

Previous Grants

- Astrobiology at Lassen Volcanic National Park. Wisconsin Space Grant Consortium, Research Infrastructure. 6/17 – 5/18. Role: PI. \$9961.
- Hot water at Lassen: analog for early Mars. Wisconsin Space Grant Consortium, Research Infrastructure. 6/16 – 5/17. Role: PI. \$9983.
- Google Mars for an intro-level online Geology of the Planets course. Wisconsin Space Grant Consortium, Higher Ed Incentives. 6/16 – 5/17. Role: PI. \$7881.
- Incorporating astrobiology into an intro--level online Geology of the Planets course. Wisconsin Space Grant Consortium, Higher Ed Incentives. 6/15 – 5/16. Role: PI. \$7962.
- Identifying and characterizing source volcanoes for Olduvai Bed II tuffs. L.S.B. Leakey Foundation. 4/13 – 6/16. Role: PI. \$20,000.
- The origins of the Acheulean in East Africa. European Research Council (ERC), 6/11-5/16. Role: Team Member (PI: I. de la Torre, UCL). \$2,250,000.
- Acidic vs. neutral hydrothermal alteration at Lassen: potential Mars analog. Wisconsin Space Grant Consortium Research Infrastructure. 5/13 -5/16. Role: PI. \$5000.
- Developing online lab exercises for an intro Geology of the Planets course. Wisconsin Space Grant Consortium, Higher Ed Incentives. 6/14 – 5/15. Role: PI. \$7962.
- Hydrothermal alteration of high--Fe Icelandic basalts, analog for Mars aqueous processes. UWM Research Growth Initiative. 7/13 – 6/15. Role: PI. \$97,642.

- Modernization and Upgrade of Geosciences Instructional Petrographic Microscopes. UWM College of Letters and Sciences Lab Modernization grant. 5/13 -5/15. Role: PI. \$89,241.
- Solfatara alteration of Hawaiian basalts: potential Mars analog. Wisconsin Space Grant Consortium Special Research Seed. 4/11-3/12. Role: PI. \$10,000.
- The preservation of fumarole deposits at Kilauea: analog for Mars. Wisconsin Space Grant Consortium Research Infrastructure. 6/12 – 5/13. Role: PI. \$5000.
- Developing an online, intro-level lab course on the geology of the planets. Wisconsin Space Grant Consortium Higher Education Initiatives. 8/12 – 5/13. Role: PI. \$5000.
- Hydrothermal alteration at Lassen Volcano: implications for Mars. Wisconsin Space Grant Consortium Research Seed Grant. 8/12 – 5/13. Role: PI. \$5000.
- New stratigraphic and archaeological investigations on the origin of the Acheulean at Olduvai Gorge. Funded by NSF Archaeology. 03/01/09–02/28/11. Role: PI. \$223,510.
- Authigenic sulfate minerals in basaltic caves at Craters of the Moon National Monument: A potential Mars analogue. Funded by NASA through the Wisconsin Space Grant Consortium. 5/08 – 5/11. Role: PI. \$8000.
- Element mobility during zeolitic alteration of volcanic ash: Implications for tephra correlation in sedimentary basins. Funded by the American Chemical Society Petroleum Research Fund. 6/08-8/11. Role: PI. \$50,000.
- Introducing planetary geology to UW-Milwaukee undergraduate students. Funded by Wisconsin Space Grant Consortium. 5/10-5/11. Role: PI. \$7669.
- MRI: Acquisition of a High-Resolution Scanning Electron Microscope for an Interdisciplinary, Multi-User Facility Serving Life, Physical, and Materials Sciences. NSF MRI. 9/07-8/10. Role: Collaborator. \$603,617.
- Geochemical correlation of Peninj and Olduvai Bed II and III tuffs. Funded by L.S.B. Leakey Foundation. 5/07-5/10. Role: PI. \$22,000.
- Sulfate diagenesis of high-Fe basalt at Craters of the Moon National Monument: analogue for the origin of sediments at Meridiani Planum, Mars. Funded by NASA through the Wisconsin Space Grant Consortium. 5/07-5/08. Role: PI. \$5000.
- Improving stratigraphic and chronologic control for Olduvai Bed II archaeological sites using tephra geochemistry. Funded by University of Wisconsin-Milwaukee Research Growth Initiative. 7/07-6/08 (extended to 6/09). Role: PI. \$49,117.
- Geological Society of America grants in aid of research (2001, 2002)
- L.S.B. Leakey Foundation research grant (2001)
- Sigma Xi grant in aid of research (2000)
- Richter and Mellon Foundation grants for undergraduate research (1998)

Honors and awards

- Graduate School/UWM Foundation Research Award 2010
- UW Milwaukee Graduate School Research Fellow 2009
- Certificate in Quaternary Studies, Rutgers University 2004
- Bevier/University Fellowship, Rutgers University 2002
- Graduate School Fellowship, Rutgers University 2001
- High Honors in the major (Earth Sciences), Dartmouth College 1998

Invited talks

- Volcanic Tephra and the Stratigraphy of the Oldowan-Acheulean Transition, (~1.6Ma), Olduvai Gorge, Tanzania. Colloquium talk at University of Liverpool, UK, May 2014.
- The minerals of Olduvai Gorge: implications for stratigraphy, paleoanthropology, and Mars geology. Colloquium talk at Indiana University- Bloomington. March 2013.
Colloquium talk at UW La Crosse. February 2014.
- Bones and stones: Using the volcanic record of northern Tanzania to constrain hominid activities at Olduvai Gorge. Presented in the “Academic Adventurers” lecture series at the American Geographical Society Library, UWM, November 2011.
- Olduvai Gorge, Tanzania: using XRF and XRD to study the geological context of early man and early Mars. Presented at the XRF2010-20th Anniversary Celebration Symposium at the University of Western Ontario in June 2010.
- Dating hominin-bearing sites in Tanzania: Correlations between Olduvai, Peninj, & Laetoli. Given at UW-Milwaukee Anthropology colloquium, April 2009.
- Establishing a chronostratigraphic framework for hominin-bearing sites in Northern Tanzania: potential tephra correlations between Olduvai, Peninj, and Laetoli. Keynote talk at the annual meeting of the Geologische Vereinigung. V. and Deutsche Gesellschaft für Geowissenschaften. Aachen, Germany, September 2008.
- How we use volcanoes to correlate and date archaeological sites in East Africa. Case Study: Olduvai Gorge. Given at UW-Milwaukee Geography colloquium, March 2007 and at UW-Oshkosh, October 2006.
- Techniques in altered tephra correlation: The Olduvai Gorge, Tanzania, case study. Given at Dartmouth College, May 2006, CSU Fullerton, February 2005, and Los Alamos National Labs, March 2004.
- High-resolution stratigraphy at Olduvai Gorge based on tephra correlation. Given at the University of Delaware, November 2004.

Undergraduate and graduate research projects, theses, and dissertations directed

2017-Present Gayantha Loku Kodikara – University of Wisconsin Milwaukee, Ph.D. Title TBD.

- 2015-Present Jordan Ludyan – University of Wisconsin Milwaukee, BS., MS. BS research title: “Assessment of secondary chemical and mineralogical trends at Lassen Volcano: Relevance to early Mars hydrothermalism.” MS title TBD.
- 2018-Present Jason Carman – University of Wisconsin Milwaukee, MS. Title TBD.
- 2017-2018 Mark Eskritt – University of Wisconsin Milwaukee, BS. “Theistareykir: Analogue for Conditions and Alteration Processes of Ancient Mars.”
- 2016-Present Chase Glenister – University of Wisconsin Milwaukee, MS 2018, Ph.D in progress. “Analysis and modeling of acid-sulfate alteration, near-neutral deposition, and their interactions at Nesjavellir geothermal field, SW Iceland.”
- 2016-2018 Andrew Wanta – University of Wisconsin Milwaukee, MS. “Hydrothermal alteration at Devil’s Kitchen in the Lassen Volcanic National Park: A Mars Analogue.”
- 2011- Present Teri Gerard – University of Wisconsin Milwaukee, Ph.D. “Acid-sulfate alteration of volcanic rocks in Hawaii and Lassen, implications for Mars aqueous geochemistry.” Not completed.
- 2015-Present Ashley Stewart – University of Wisconsin Milwaukee, BS 2018, MS in progress. “XRF analysis of elemental mobility at Hengill volcano system, Iceland: Analog for Mars.”
- 2015-2016 Detaya Johnson – University of Wisconsin Milwaukee, BS. “Geochemistry of Seine River metaconglomerates from Mine Centre, Ontario: interpreting fluid flow and volume changes during deformation with implications for strain analysis.” Co-directed with Dr. Czeck.
- 2015 – 2016 Candice Marsh – University of Wisconsin Milwaukee, BS. “XRD and XRF of altered hydrothermal deposits and the potential of similar aqueous conditions on Mars.”
- 2013 – 2015 George “Kit” Carson – University of Wisconsin Milwaukee, MS. “Hydrothermal acid-sulfate alteration at Krafla and Námafjall, NE Iceland: Implications for Gusev Crater and Meridiani Planum, Mars.”
- 2014 – 2015 Darian Dixon, Christopher Vickery, and Michael Sara – University of Wisconsin Milwaukee, BS. “Mineralogical analysis of the hydrothermal regime at Little Hot Springs Valley, Lassen Volcanic National Park.”
- 2014 – 2015 Darian Dixon – University of Wisconsin Milwaukee, BS. “Geochemical Analysis of Hveragerdi, Iceland - Distinguishing Mars Analog Regions and the Implications for Ancient Hydrothermal Microbial Ecosystems in the Gusev Crater on Mars.”
- 2014 – 2015 Christopher Vickery – University of Wisconsin Milwaukee, BS. “Mineralogical and geochemical analysis of altered basalts from the Hverir geothermal site, Iceland, and potential as a Mars analog.”
- 2011 – 2014 Steven Greenwood – University of Wisconsin Milwaukee, MS. “Mineralogy, petrology, and geochemistry of Pleistocene volcanics at Embagai Caldera and Natron Basin, Tanzania: Potential constraints on the stratigraphy of Olduvai Gorge.”

- 2013 – 2014 Joel Shultis and Christopher Vickery – University of Wisconsin Milwaukee, BS. “Lab research project on unusual mineral deposits in lava tubes on Mauna Loa, Hawaii”
- 2012 – 2013 Gabrielle Walters and Michael Frunza – University of Wisconsin Milwaukee, BS. “The Alteration of Basalts from Fumarole Vents at the Kilauea Iki 1959 Lava Flow.”
- 2010 – 2011 Kiel Finn – University of Wisconsin Milwaukee, BS. “Analysis of a 2008 Eruption at Oldoinyo Lengai”
- 2009 – 2011 Joseph Ruffini – University of Wisconsin Milwaukee, MS. “Hematite and sulfate minerals in lava tubes: an analog to diagenesis at Meridiani Planum, Mars.”

Service and leadership

University and department service

- UWM Geosciences Undergraduate Coordinator 2010-15, 2018-Present
- Chair, Geosciences Department Scholarship Committee 2017-Present
- Member, College of Letters and Science Divisional Committee (Natural Sciences) 2019-Present
- Member, College of Letters and Sciences Dean’s Advisory Task Force, UWM 2015-2017
- Department Chair, Department of Geosciences, UWM 2016-2017
- Chair, University Academic Program and Curriculum Committee (APCC), UWM 2015-2017
- Member, University Academic Planning and Budget Committee (APBC), UWM 2015-2017
- Member, University Academic Policy Committee (APC), UWM 2015-2017
- Member, Natural Sciences Executive Committee, UWM 2015-2017
- Chair, College of L&S Academic Program and Curriculum Committee, UWM 2014-2017
- Member, Academic Program and Curriculum Committee (APCC), UWM 2011-2017
- Member, General Education Requirement subcommittee of APCC, UWM 2011-Present
- UWM College of Letters and Sciences degree requirements review committee 2011-Present
- Chair, University Library Committee, UWM 2009-2015
- Member, University Library Committee, UWM 2007-2017, 2019-Present
- President, Rutgers Quaternary Studies Graduate Student Association 2002-2004

Conference and professional service

- Associate Editor, Palaeogeography, Palaeoclimatology, Palaeoecology (special volume: Olduvai coring) 2018-Present
- Associate Editor, American Mineralogist 2015-Present
- Associate Editor, Journal of Human Evolution 2014-2019
- Associate Director, Wisconsin Space Grant Consortium 2012-Present
- Session Chair, Wisconsin Space Conference 2017
- Mineralogical Society of America distinguished lecturer search committee 2012-2015
- Dwornik (student) award judge, Lunar and Planetary Science Conference 2010-2017
- Panelist, Women in Planetary Sciences, UG Research symposium, LPSC 2012
- Session Chair, Lunar and Planetary Science Conference 2009
- Co-convener of session at EGS-AGU-EUG Joint Assembly, Nice 2003

Grant proposal reviewing

- Peer Reviewer, NASA (MDAP, SSW, HW, NAI, Postdoctoral) 2012-Present
- Peer Reviewer, NSF 2006-2018
- Grant proposal review panelist, NASA MDAP, SSW programs (4 panels) 2013-2017
- Reviewer for student grant proposals for 2 Wisconsin-based funding organizations 2010
- Peer Reviewer, L.S.B. Leakey Foundation 2008
- Peer Reviewer, Petroleum Research Fund 2006

Manuscript reviewing

- Peer Reviewer, *Journal of Human Evolution* 2009-Present
- Peer Reviewer, *American Mineralogist* 2015-Present
- Peer Reviewer, *Icarus* 2019
- Peer Reviewer, *Astrobiology* 2018
- Peer Reviewer, *Clays and Clay Minerals* 2011, 2018
- Peer Reviewer, *Journal of Archaeological Science* 2017
- Peer Reviewer, *Environmental Science and Pollution Research* 2017
- Peer Reviewer, *Springer Vertebrate Paleobiology and Paleoanthropology* 2007, 2017
- Peer Reviewer, *Science* 2016
- Peer Reviewer, *Palaeogeography, Palaeoclimatology, Palaeoecology* 2016-Present
- Peer Reviewer, *Quaternary Science Reviews* 2014-2016
- Peer Reviewer, *Arabian Journal of Geosciences* 2015
- Peer Reviewer, *Journal of Geophysical Research-Planets* 2013-Present
- Peer Reviewer, *Quaternary Research* 2013
- Peer Reviewer, *Journal of African Earth Sciences* 2012-Present
- Peer Reviewer, *Geochimica et Cosmochimica Acta* 2012
- Peer Reviewer, *European Journal of Mineralogy* 2012
- Peer Reviewer, *Lithos* 2011
- Peer Reviewer, *Quaternary International* 2006-2011
- Peer Reviewer, *Geology* 2008-2009

Memberships

- Geological Society of America (GSA)
Planetary Geology division
Mineralogy, Geochemistry, Petrology, and Volcanology division
- American Geophysical Union (AGU)
- Mineralogical Society of America (MSA)
- East African Association for Palaeoanthropology and Palaeontology (EAAPP)
- Clay Minerals Society (CMS)
- Association of Women Geoscientists (AWG)
- American Association for the Advancement of Science (AAAS)

Outreach

- Faculty mentor, WiscAMP/ STEM – Inspire program (for improving the recruitment, retention, and success of underrepresented students in the sciences). 2018-Present

- Wisconsin Science Olympiad: Rocks and Minerals event organizer. 2006-2007
- Interviews by Tanzanian newspaper “The Citizen,” in 2007 and 2008. Articles entitled “Scientist speaks on Oldoinyo Lengai,” and “Volcano spewing smoke a year on.”
- Interviewed by French journalist Laurent DeCloitre in Tanzania in July 2007, article available at <http://www.liberation.fr/culture/tentations/voyages/275336.FR.php>
- Interviewed by Stormonth Elementary School students about minerals and Mars. 2009
- Featured article in the Spring 2010 UWM Collegium (faculty and staff newsletter) entitled “Summer Research on Tanzania’s Serengeti Plain.”
- Featured article on the UWM web page, October 2010, entitled “Geologist solves archaeological time puzzles.”