

Gregory P. Waite

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Professional Preparation

St. Norbert College, De Pere, WI, BA in Mathematics awarded 1996
University of Utah, Salt Lake City, UT, MS in Geophysics awarded 1999
University of Utah, Salt Lake City, UT, PhD in Geophysics awarded 2004
US Geological Survey, Menlo Park, CA, Mendenhall Postdoctoral Fellow, research emphasis in volcano seismology, 2004-2007

Appointments

2007-Present Assistant Professor, Michigan Technological University, Houghton MI
2004-2007 Mendenhall Postdoctoral Fellow, US Geological Survey, Menlo Park, CA

Publications (bold type indicates student first author)

(i) Most Relevant

- Nadeau, P. A.**, J. L. Palma, and G. P. Waite (2011), Linking volcanic tremor, degassing, and eruption dynamics via SO₂ imaging, *Geophysical Research Letters*, 38, L01304, doi:10.1029/2010GL045820.
- Lyons, J.J.**, G.P. Waite, W.I. Rose, and G. Chigna (2010), Patterns in open vent, strombolian behavior at Fuego volcano, Guatemala, 2005-2007, *Bulletin of Volcanology*, 72, 1-15, doi:10.1007/s00445-009-0305-7.
- Waite, G. P., and S. C. Moran (2009), V_p Structure of Mount St. Helens, Washington, USA, Imaged with Local Earthquake Tomography, *Journal of Volcanology and Geothermal Research*, 182(1-2), 113-122, doi:10.1016/j.jvolgeores.2009.02.009.
- Waite, G.P., B.A. Chouet, and P.B. Dawson (2008), Eruption Dynamics at Mount St. Helens Imaged from Broadband Seismic Waveforms: Interaction of the Shallow Magmatic and Hydrothermal Systems, *Journal of Geophysical Research*, doi:10.1029/2007JB005259.
- Waite, G.P. and R.B. Smith (2002), Seismic evidence for fluid migration accompanying subsidence of the Yellowstone caldera, *Journal of Geophysical Research*, 107, 2177, doi:10.1029/2001JB000586.

(ii) Additional Relevant Publications

- Dalton, M. P.**, G. P. Waite, I. M. Watson, and P. A. Nadeau (2010), Multiparameter quantification of gas release during weak Strombolian eruptions at Pacaya Volcano, Guatemala, *Geophysical Research Letters*, 37, L09303, doi:10.1029/2010gl042617.
- Richardson, J.P.**, G.P. Waite, K. A. FitzGerald, and W. D. Pennington (2010), Characteristics of seismic and acoustic signals produced by calving, Bering Glacier, AK, *Geophysical Research Letters*, 37, L03503, doi:10.1029/2009GL041113.
- Waite, G.P., R.B. Smith, and R.M. Allen (2006), V_p and V_s structure of the Yellowstone hot spot: evidence for an upper mantle plume, *Journal of Geophysical Research*, 111, B04303, doi:10.1029/2005JB003867.
- Husen, S., R.B. Smith, and G.P. Waite (2004), Evidence for gas and magmatic sources beneath the Yellowstone Volcanic Field from seismic tomographic imaging, *Journal of Volcanology and Geothermal Research*, 131, 397-410, doi:10.1016/S0377-0273(03)00416-5.
- Waite, G.P. and R.B. Smith (2004), Seismotectonics and stress field of the Yellowstone volcanic plateau from earthquake first motions and other indicators, *Journal of Geophysical Research*, 109, B02301, doi:10.1029/2003JB002675.

Synergistic Activities

- Recruiting and mentoring undergraduate and graduate summer interns from the University of Puerto Rico Mayagüez and Michigan Tech in projects such as: volcanic emission and deformation in Central America (2009, 2010 & 2011); siting Earthscope USArray seismic stations in the Northern Michigan and Wisconsin (2010), and seismic and acoustic monitoring of the Bering Glacier and subsequent analysis (2010).
- Developing and delivering a semester-long Volcano Seismology for nonseismologists class over the Internet to students in Canada, Guatemala, Mexico, and the United States. The course was designed to give volcanologists a better quantitative understanding of volcano seismic sources and the use of volcano seismology for eruption forecasting.
- Developing and delivering a laboratory exercise middle school students about the airborne acoustic and seismic energy radiated from volcanic eruptions. The experiment is designed to highlight the interdisciplinary nature of Earth science and the utility of quantitative data. By instrumenting a liquid nitrogen volcano with accelerometers and recording the explosion with an array of microbarometers, students are able to calculate physical parameters related to the explosion.
- Mentoring graduate students in teaching plate tectonics and earthquake seismology lessons to eighth grade Earth science students as part of the preservice training for our Peace Corps Masters International students.
- Received 2009 Editors' Citation for Excellence in Reviewing for Geophysical Research Letters.
- Received NSF CAREER award in 2011 to promote interdisciplinary research on volcano dynamics. The fieldwork will be conducted in Guatemala, together with our partner institution, Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología, which is tasked with monitoring Guatemalan volcanoes and assessing hazards. Among the goals of this work is increased hazard mitigation capacity through improved use of existing monitoring equipment.

Collaborators and other Affiliations

(i) Collaborators (last 5 years)

- Allen, Richard M., Univ. of California-Berkeley
- Anderson, Jake, New Mexico Tech., Socorro
- Carn, Simon, Michigan Tech
- Chang, Wu-Lung, National Central Univ., Jhongli, Taiwan
- Chigna, Gustavo, Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología, Guatemala
- Chouet, Bernard A., USGS, Menlo Park, CA
- D'Auria, Luca, Istituto Nazionale di Geofisica e Vulcanologia - Osservatorio Vesuviano, Naples,
- Dawson, Phillip B., USGS, Menlo Park, CA
- Farrell, Jamie M., Univ. of Utah, Salt Lake City, UT
- Fujita, Kazuya, Michigan State, East Lansing
- Garces, Milton, Infrasound Laboratory (ISLA), University of Hawaii, Manoa
- Hill, David P., USGS, Menlo Park, CA
- Husen, Stephan, ETH, Zürich
- Johnson, Jeffrey, B., New Mexico Tech., Socorro
- Lees, Jonathan M., University of North Carolina, Chapel Hill
- Matoza, Robin S., Scripps Inst. of Oceanography, Univ. of California San Diego
- Moran, Seth C., USGS, Vancouver, WA
- Palma Lizana, José Luis, Michigan Tech
- Puskas, Christine, M., Univ. of Utah, Salt Lake City
- Rose, William I., Michigan Tech
- Smith, Robert B., Univ. of Utah, Salt Lake City

(ii) Graduate Advisors and Postdoctoral Sponsors

- Hill, David P., USGS, Menlo Park, CA (principal postdoctoral advisor)
- Smith, Robert B., Univ. of Utah, Salt Lake City, UT (principal graduate advisor)

(iii) Principal Thesis Advisees

- Avouris, Dulcinea M., Michigan Tech (MS *current*)
- Brill, Kyle A., Michigan Tech (MS *current*)
- Erdem, Jemile E., Michigan Tech (MS 2010)
- Hetland, Brianna R., Michigan Tech (MS *current*)
- Lyons, John J., Michigan Tech (PhD 2011)
- McKee, Kate M., Michigan Tech (MS *current*)
- McMahon, Nichole D., Michigan Tech (MS 2011)
- Nadeau, Patricia A., Michigan Tech (MS *current*)
- Olson, Justin, Michigan Tech (MS *current*)
- Richardson, Joshua P., Michigan Tech (MS 2010, PhD *current*)