

## NSF BIOGRAPHICAL SKETCH

NAME: Waite, Gregory

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POSITION TITLE & INSTITUTION: Professor, Department of Geological and Mining Engineering and Sciences

### (a) PROFESSIONAL PREPARATION

INSTITUTION	LOCATION	MAJOR / AREA OF STUDY	DEGREE (if applicable)	YEAR YYYY
St. Norbert College	De Pere, WI	Mathematics	AB	1996
University of Utah	Salt Lake City, UT	Geophysics	MS	1999
University of Utah	Salt Lake City, UT	Geophysics	PHD	2004
US Geological Survey	Menlo Park, CA	Mendenhall	Postdoctoral Fellow	2004 - 2007

### (b) APPOINTMENTS

- 2021 - present Professor, Department of Geological and Mining Engineering and Sciences, Michigan Technological University, Houghton, MI
- 2018 - 2018 Affiliate Scientist, Hawaiian Volcano Observatory, US Geological Survey
- 2013 - 2021 Associate Professor, Department of Geological and Mining Engineering and Sciences, Michigan Technological University, Houghton, MI
- 2007 - 2013 Assistant Professor, Department of Geological and Mining Engineering and Sciences, Michigan Technological University, Houghton, MI

### (c) PRODUCTS

#### Products Most Closely Related to the Proposed Project

1. Waite G, Lanza F. Nonlinear inversion of tilt-affected very long period records of explosive eruptions at Fuego volcano. *Journal of Geophysical Research: Solid Earth*. 2016 October; 121(10):7284-7297. Available from: <http://doi.wiley.com/10.1002/2016JB013287> DOI: 10.1002/2016JB013287
2. Waite G, Nadeau P, Lyons J. Variability in eruption style and associated very long period events at Fuego volcano, Guatemala. *Journal of Geophysical Research: Solid Earth*. 2013 April; 118(4):1526-1533. Available from: <http://doi.wiley.com/10.1002/jgrb.50075> DOI: 10.1002/jgrb.50075
3. Lyons J, Waite G, Ichihara M, Lees J. Tilt prior to explosions and the effect of topography on ultra-long-period seismic records at Fuego volcano, Guatemala. *Geophysical Research Letters*. 2012 April; 39(8):n/a-n/a. Available from: <http://doi.wiley.com/10.1029/2012GL051184> DOI: 10.1029/2012GL051184
4. Nadeau P, Palma J, Waite G. Linking volcanic tremor, degassing, and eruption dynamics via  $SO_2$  imaging. *Geophysical Research Letters*. 2011 January 16; 38(1):n/a-n/a. Available from: <http://doi.wiley.com/10.1029/2010GL045820> DOI: 10.1029/2010GL045820
5. Lyons J, Waite G, Rose W, Chigna G. Patterns in open vent, strombolian behavior at Fuego volcano, Guatemala, 2005–2007. *Bulletin of Volcanology*. 2009; 72(1):1-15. Available from: <http://link.springer.com/10.1007/s00445-009-0305-7> DOI: 10.1007/s00445-009-0305-7

### **Other Significant Products, Whether or Not Related to the Proposed Project**

1. Brill K, Waite G. Characteristics of Repeating Long-Period Seismic Events at Fuego Volcano, January 2012. *Journal of Geophysical Research: Solid Earth*. 2019 August 14; 124(8):8644-8659. Available from: <https://onlinelibrary.wiley.com/doi/10.1029/2019JB017902> DOI: 10.1029/2019JB017902
2. Brill K, Waite G, Chigna G. Foundations for Forecasting: Defining Baseline Seismicity at Fuego Volcano, Guatemala. *Frontiers in Earth Science*. 2018; 6:-. Available from: <https://www.frontiersin.org/article/10.3389/feart.2018.00087/full> DOI: 10.3389/feart.2018.00087
3. Lyons J, Waite G. Dynamics of explosive volcanism at Fuego volcano imaged with very long period seismicity. *Journal of Geophysical Research*. 2011 September 13; 116(B9):- . Available from: <http://doi.wiley.com/10.1029/2011JB008521> DOI: 10.1029/2011JB008521
4. Dalton M.P., Waite G.P., Watson I.M., Nadeau P.A.. Multiparameter quantification of gas release during weak Strombolian eruptions at Pacaya Volcano, Guatemala. *Geophysical Research Letters*. 2010; 37(9). Available from: <http://www.scopus.com/inward/record.url?eid=2-s2.0-77952168946&partnerID=MN8TOARS> DOI: 10.1029/2010GL042617
5. Johnson J, Sanderson R, Lyons J, Escobar-Wolf R, Waite G, Lees J. Dissection of a composite volcanic earthquake at Santiaguito, Guatemala. *Geophysical Research Letters*. 2009 August 28; 36(16):- . Available from: <http://doi.wiley.com/10.1029/2009GL039370> DOI: 10.1029/2009GL039370

### **(d) SYNERGISTIC ACTIVITIES**

1. Recruiting and mentoring undergraduate and graduate summer interns from historically underrepresented groups. This work has drawn geology students primarily from the University of Puerto Rico Mayagüez to Michigan Tech and provided mentored research experiences in volcano seismology. The undergraduate students have typically gone on to graduate school at Michigan Tech and elsewhere.
2. Received NSF CAREER award in 2011 to promote teaching, outreach, and interdisciplinary research on volcano dynamics. The fieldwork was conducted at open-vent volcanoes Fuego and Pacaya in Guatemala, together with the 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.
3. Outreach to K-12 students and educators: Led week-long workshop for formal and informal educators during summer 2014 on the geology and geophysics of the Mid-continent Rift System. Developed and continuing to deliver a laboratory exercise about the energy radiated from volcanic eruptions to nearly 200 eighth grade Earth science students in rural Michigan annually. The experiment highlights the interdisciplinary nature of Earth science and the utility of quantitative data.
4. Recognized as the Michigan Technological University Outstanding Graduate Faculty Mentor for the 2012-2013 academic year.
5. Currently Associate Editor of *Journal of Geophysical Research: Solid Earth* and Associate Editor, *Bulletin of Volcanology* collection on 2018 Kīlauea eruption.