

Appendix A. Core Geophysics Faculty

Dr. Sue J. Beske-Diehl
Michigan Tech
Geological & Mining Engineering & Sciences
(906) 487-2534
Email: sbeske-d@mtu.edu

Education

PhD, University of Wyoming, 1977. Major: Geology
MS, Western Washington University, 1972. Major: Geology
BA, University of Minnesota, 1967. Major: Anthropology

Professional Positions

Professor – Geological & Mining Engineering & Sciences (1979-2010)
Western Washington University; Sabbatical Leave; 8/87-6/88
University of Minnesota; Research Associate; 1/77-6/79

Professional Memberships

American Geophysical Union.
Association for Women Geoscientists.
Geological Society of America.
National Center for Science Education.
National Association of Geoscience Teacher. (December 2008).

Administrative Assignments

Director. (August 27, 1990 - August 14, 2008).
Director. (July 31, 2005 - September 30, 2005).
Director. (January 2, 2005 - May 21, 2005).
Director. (December 27, 2004 - May 6, 2005).

Development Activities Attended

Conference Attendance, "American Geophysical Union Fall Meetings," American Geophysical Union.
Fellow, "Institute of Rock Magnetism," University of Minnesota. (2003 - Present).
Conference Attendance, "Cordilleran Section Meeting," Geological Society of America. (May 2007).
Conference Attendance, "10th Caste Meeting on Paleomagnetism, Rock Magnetism, & Env. Magnetism." (September 3, 2006 - September 8, 2006).

TEACHING

Teaching Experience

Michigan Tech

GE 2500, Introduction to Oceanography, 18 courses.

GE 3100, Depositional Systems, 2 courses.
GE 4100, Geomorph & Glacial Geology, 8 courses.
GE 4931, Depositional Syst. II, 2 courses.
GE 5100, Adv Geomorph & Glacial Geo, 8 courses.
GE 5140, Paleoclimatology, 4 courses.

Graduate Student Advising

Masters' Advisory Committee Member, Civil & Environmental Engineering. (September 5, 2006 - August 14, 2009).

Advised: Jennifer Heglund

Doctoral Advisory Committee Member, School of Forest Resources & Environmental Science. (May 19, 2003 - August 17, 2007).

Advised: Cinzia Fissore

Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (September 9, 1991 - August 17, 2007).

Advised: Pavel Sroubek

Doctoral Advisory Committee Member, Electrical & Computer Engineering. (March 6, 2000 - December 18, 2004).

Advised: Hanyi Li

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles

Kadlec, J., Grygar, T., Svetlik, I., Ettler, V., Mihaljevic, M., Diehl, J. F., Beske-Diehl, S. J., Svitavska-Svobodova, H. (2009). "Morava River flood plain development during the last millennium (Straznicke Pomoravi, Czech Republic)", *The Holocene* (vol. 19, 3 #, pp. 499-509).
hol.sagepub.com/cgi/content/abstract/19/3/499

Journal Articles

Breckenridge, A., Johnson, T. C., Beske-Diehl, S. J., Mothersill, J. S. (2004). "The timing of regional Lateglacial events and post-glacial sedimentation rates from Lake Superior", *Quaternary Science Reviews* (23 #, pp. 2355-2367).

Contracts, Grants and Sponsored Research

Research-Equipment

Beske-Diehl, Suzanne J (Co-Principal), "Acquisition of a Sensitive Magnetic Susceptibility System and a Thermal Demagnetization Device," Sponsored by Federal. (September 1, 2008 - August 31, 2010; Date Submitted: February 11, 2008). (Pending).

SERVICE

Editorial and Review Activities

Reviewer, Journal Article, *Geophysical Journal International*.

General Service

Department

GMES Executive Committee, Member.
GMES Geology Curriculum Committee, Member.
GMES Grievance Committee, Member.
GMES Mining Search Committee, Member.
GMES Promotion, Tenure, and Reappointment Committee, Member.
GMES Undergraduate Recruitment Committee, Member.
GMES Associate Chair. (May 2003 - Present).

University

MTU Child Care Board, Member.
MTU Dean of Engineering Evaluation Committee, Member.
MTU Faculty Success and Diversity Task Force, Member.
MTU Faculty Success Subcommittee, Member.
MTU Presidential Commission for Women, Member.
MTU Professional Staff Salary Review Oversight Committee, Member.
MTU REF Selection Committee, Member.
MTU Search Committee for Assistant to the Dean, College of Engineering, Member.
MTU Senate Task Force to Revise Tenure Policy of the Board of Control, Member.
MTU Undergraduate Student Research Award Selection Committee, Member.
MTU Women in Science and Engineering (WISE) Faculty Group, Member.

Dr. Jimmy F. Diehl
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Education

PhD, University of Wyoming, 1977. Major: Geology
MS, Western Washington University, 1972. Major: Geology
BA, Western Washington University, 1968. Major: Geology

Professional Positions

Professor – Geological & Mining Engineering & Sciences (2003-2010)
Western Washington University; Sabbatical Leave; 8/88-6/89
University of Wisconsin-River Falls; Assistant Professor; 8/76-6/79

Professional Memberships

American Geophysical Union.
Geological Society of America.
National Center for Science Education.
National Association of Geoscience Teachers. (December 31, 2008).
Society of Exploration Geophysicists. (December 31, 2008).

Development Activities Attended

Conference Attendance, "Cordilleran Section Meeting," Geological Society of America. (May 2007).

TEACHING

Teaching Experience

Michigan Tech

GE 2400, Intro to App & Env Geophysics, 2 courses.
GE 3040, Fundamentals of Geophysics, 4 courses.
GE 3900, Field Geophysics, 2 courses.
GE 4000, Earth Science Teaching Exper, 2 courses.
GE 4500, Plate Tec & Global Geophysics, 3 courses.
GE 4550, Gravity and Magnetic Methods, 1 course.
GE 4931, Special Topics in Geology, 1 course.
GE 4933, Special Topics in Geophysics, 1 course.
GE 4961, Independent Geology Res Proj, 1 course.
GE 4962, Independent Geophysics Res Pr, 2 courses.
GE 5400, Global Geophysics & Geotech, 2 courses.
GE 5500, Paleomagnetism & Envr Magnet, 1 course.
GE 5999, Master's Graduate Research, 5 courses.

Graduate Student Advising

Masters' Advisory Committee Chair, Geological & Mining Engineering & Sciences. (May 9, 2005 - August 18, 2007).
Advised: Rudiger Escobar Wolf

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (January 10, 2005 - December 23, 2006).
Advised: Baron Colbert

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 25, 2003 - April 29, 2006).
Advised: Elisabet Head

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 29, 2005 - May 1, 2009).
Advised: Jemile Erdem

Masters' Advisory Committee Member, Civil & Environmental Engineering. (September 5, 2006 - May 2, 2008).
Advised: Anne Peairs

Doctoral Advisory Committee Chair, Geological & Mining Engineering & Sciences. (September 9, 1991 - August 17, 2007).
Advised: Pavel Sroubek

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 30, 2004 - December 22, 2006).
Advised: Sean Trisch

Masters' Advisory Committee Member, Cognitive & Learning Sciences. (May 21, 2001 - August 13, 2005).
Advised: Charles Schepke

Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 28, 2000 - August 13, 2005).
Advised: Sean Wagner

Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (September 5, 1995 - August 7, 2004).
Advised: William Everham

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (December 2, 1991 - May 8, 2004).
Advised: Michael Dolan

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles

Kadlec, J., Grygar, T., Svetlik, I., Ettler, V., Mihaljevic, M., Diehl, J. F., Beske-Diehl, S. J., Svitavska-Svobodova, H. (2009). "Morava River flood plain development during the last millennium (Straznicke Pomoravi, Czech Republic)", *The Holocene* (vol. 19, 3 #, pp. 499-509).
hol.sagepub.com/cgi/content/abstract/19/3/499

Sroubek, P., Diehl, J. F., Kadlec, J. (2007). "Historical Climatic Record from Flood Sediments Deposited in the Interior of Spiralka Cave, Czech Republic", *Palaeogeography, Palaeoclimatology, Palaeoecology* (251 #, pp. 547-562).
www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V6R-4NR18P9-1&_user=4019097&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000062079&_version=1&_urlVersion=0&_userid=4019097&md5=8d74e3b5b3a247fa9302de28850c8017

Mayer, A. S., May, W., Lukkarila, C., Diehl, J. F. (2007). "Estimation of fault-zone conductance by calibration of a regional groundwater flow model: Desert Hot Springs, California", *Hydrogeology Journal* (vol. 15, 6 #, pp. 1093-1106). www.springerlink.com/content/9g73601x70386w55

Escobar Wolf, R., Diehl, J. F., Singer, B. S., Rose, W. I. "Radioisotopic ($^{40}\text{Ar}/^{39}\text{Ar}$) and paleomagnetic constraints on the evolution of Santa Maria, Guatemala", *Geological Society of America Bulletin*.

Presentations Given

Smirnov, A. V. (Presenter & Author), Diehl, J. F. (Co-Author), American Geophysical Union Meeting 2009, "Geomagnetic Reversal Asymmetry at ~ 1.1 Ga: New Tests from Old Rocks" American Geophysical Union. (2008 - May 24, 2009).

Diehl, J. F. (Presenter & Author), Sroubek, P. (Co-Author), Kadlec, J. (Co-Author), "Mineral Magnetic Properties of Cave Sediments from the Moravian Karst, Czech Republic: Records of Environmental Change". (2006).

Contracts, Grants and Sponsored Research

Research

Diehl, Jimmy F (Principal), "DRIC Gravity Measurement Interpretation," Sponsored by State Pass-Through, Amount Awarded: \$250,753.00. (November 1, 2006 - December 31, 2008; Date Submitted: October 31, 2006). (Submitted & Funded).

Research-Equipment

Diehl, Jimmy F (Co-Principal), "Acquisition of a Sensitive Magnetic Susceptibility System and a Thermal Demagnetization Device," Sponsored by Federal. (September 1, 2008 - August 31, 2010; Date Submitted: February 11, 2008). (Pending).

Research-Research

Diehl, Jimmy F (Co-Principal), "Is an Asymmetrical Reversal Recorded Within Individual Mafic Dikes of Baraga County, Michigan? A Paleomagnetic, Paleointensity and Geochronological Investigation," Sponsored by Federal. (September 1, 2009 - August 31, 2011; Date Submitted: December 1, 2008). (Pending).

SERVICE

Editorial and Review Activities

Reviewer, Book, Blackwell Publishing.

Reviewer, Grant Proposal, National Science Foundation.

General Service

Department

GMES Geophysics Curriculum Committee, Member.

GMES Graduate Committee, Member.

Department Solicitor, United Way.

University

Campus Representative, Geological Society of America.
Faculty Representative for GMES Dept., MTU Graduate Student Council.

Dr. Wayne D. Pennington
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Education

PhD, University of Wisconsin, 1979. Major: Geophysics & Geology
MS, Cornell University, 1976. Major: Geophysics & Geology
AB, Princeton University, 1972. Major: Geology & Geophysics

Professional Positions

Professor – Geological & Mining Engineering & Sciences (1994-2010)
Sabbatical leave at Schlumberger Cambridge Research Center in Cambridge, UK, 2001-2002, as
visiting scientist
Marathon Oil Company; Advanced Senior Research Geophysicist, positions in exploration and in
engineering at their Petroleum Technology Center; 6/85-8/94
Dept. Geological Sciences, University of Texas at Austin; Assistant Professor; 9/79-6/85

Academic

Director, Board of Heads & Chairs of Earth & Space Science Departments, American Geophysical
Union. (2008 - Present).

Representative to the American Geological Institute, Society of Exploration Geophysicists. (2004 -
2008).

Representative to the American Geological Institute, Society of Exploration Geophysicists. (2004 -
2008).

Representative to the American Geological Institute's Government Affairs Program Advisory
Committee, Society of Exploration Geophysicists. (2004 - 2007).

First Vice President, Society of Exploration Geophysicists. (2002 - 2003).

Chairman, SEG Development & Production Committee. (1994 - 1996).

Administrative Assignments

Chair. (August 18, 2006 - August 17, 2009).

Chair. (August 18, 2004 - August 17, 2006).

Chair. (August 18, 2003 - August 17, 2004).

Awards and Honors

Service, Professional

Jefferson Science Fellowship, US State Department, operated by National Academies. (April 2009).

TEACHING

Teaching Experience

Michigan Tech

GE 1100, Geo Eng & Sci Orientation, 4 courses.
GE 4600, Reflection Seismology, 10 courses.
GE 4610, Formation Eval & Petrol Engg, 10 courses.
GE 4900, Geological Engg Design Proj I, 1 course.
GE 4910, Geological Engg Design Proj II, 1 course.
GE 4931, Geology Field Guide, 1 course.
GE 4961, Independent Geology Res Proj, 1 course.
GE 5600, Adv Reflection Seismology, 4 courses.
GE 5940, Special Topics in Geology, 1 course.
GE 5950, Seismic Petrophysics, 1 course.
GE 5999, Master's Graduate Research, 6 courses.
GE 6999, Doctoral Graduate Research, 13 courses.

Non-Credit Instruction

Formation Evaluation Society of Queensland, the Formation Evaluation Society of Western Australia, & the Australian Society of Geophysicists.

Network of Excellence in Training (NExT).

Columbian National Oil Company, Ecopetrol. (2004).

Graduate Student Advising

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (January 10, 2005 - December 23, 2006).

Advised: Baron Colbert

Masters' Advisory Committee Member, Mathematical Sciences. (August 25, 2003 - August 13, 2005).

Advised: Sapna Kumari

Doctoral Advisory Committee Chair, Geological & Mining Engineering & Sciences. (May 8, 2006 - December 18, 2009).

Advised: Mohamed Ibrahim

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 25, 2003 - April 29, 2006).

Advised: Marika Dalton

Doctoral Advisory Committee Chair, Geological & Mining Engineering & Sciences. (March 8, 1999 - December 19, 2008).

Advised: David Forel

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (November 27, 1995 - December 23, 2006).

Advised: Christine Williams

Masters' Advisory Committee Chair, Geological & Mining Engineering & Sciences. (August 30, 2004 - December 22, 2006).

Advised: Sean Trisch

Masters' Advisory Committee Chair, Geological & Mining Engineering & Sciences. (January 14, 2002 - April 29, 2006).

Advised: James Stewart

Doctoral Advisory Committee Chair, Geological & Mining Engineering & Sciences. (August 28, 2000 - August 13, 2005).

Advised: Sean Wagner

Masters' Advisory Committee Chair, Geological & Mining Engineering & Sciences. (August 26, 2002 - December 18, 2004).

Advised: Christopher Schmidt

Masters' Advisory Committee Chair, Geological & Mining Engineering & Sciences. (January 14, 2002 - December 18, 2004).

Advised: Douglas Moore

RESEARCH

Published Intellectual Contributions

Book Chapters

Pennington, W. D. (2007). "Reservoir Geophysics, chapter in the Petroleum Engineering Handbook" (pp. VI-1 to VI-50). Richardson, TX: Society of Petroleum Engineers.

Refereed Journal Articles

Richardson, J.P., G.P. Waite, K. FitzGerald, and W.D. Pennington (2010), Characteristics of seismic and acoustic signals produced by calving, Bering Glacier, AK, *Geophys. Res. Lett.*, *in press*.

Pennington, W. D. (2005). "The rapid rise of reservoir geophysics". The Leading Edge, Special issue for 75th anniversary.

Beresnev, I. A., Vigil, R. D., Li, W., Pennington, W. D., Turpening, R. M., Iassonov, P. P., Ewing, R. P. (2005). "Elastic Waves Push Organic Fluids from Reservoir Rock". Geophysical Research Letters.

Other

Pennington, W. D. (2009). "A brief history and overview of reservoir geophysics; Reservoir Geophysics, D. Johnston, ed.". Tulsa, OK: Society of Exploration Geophysicists.

Mabrouk W. M., Pennington, W. D. (2009), "Compressional and shear wave velocity in terms of petrophysical parameters in clean formations", Journal of Petroleum Science and Engineering, vol. 65, Issue 1-2, pp. 62-66.

Wagner, S. R., Pennington, W. D., MacBeth, C. (2006). "Gas saturation prediction and effect of low frequencies on acoustic impedance images at Foinaven Field". Geophysical Prospecting.

Forel, D., Benz, T., Pennington, W. D. (2005). "Seismic Data Processing with Seismic Un*x: A 2D Seismic Data Processing Primer" (pp. 273). Tulsa, OK: Society of Exploration Geophysicists.

Pennington, W. D., Minaeva, A., Len, S. M. (2004). "Uses and abuses of phantom horizons" (23, pp. 454-456). The Leading Edge.

Contracts, Grants and Sponsored Research

Research

Pennington, Wayne D (Co-Principal), "Joint Industry Program - Testing & Calibration of Permanent, Downhole, Seismic Sources," Sponsored by Industry, Amount Awarded: \$200,000.00.

(December 15, 2005 - August 31, 2007; Date Submitted: December 15, 2005). (Submitted & Funded).

Pennington, Wayne D (Principal), "Inverting Multi-Component Time-Lapse Seismic Data for Fluid Phases and Pressure in Hydrocarbon Reservoirs," Sponsored by Other, Amount Awarded: \$80,000.00. (August 1, 2003 - August 31, 2006; Date Submitted: December 20, 2002). (Submitted & Funded (Closed)).

Research-Research

Pennington, Wayne D (Co-Principal), "Optimizing a Framework for Non-Invasive Data Acquisition through Modeling for CO₂ Geologic Sequestration in Saline Aquifers," Sponsored by FPT-University. (January 1, 2010 - December 31, 2012; Date Submitted: December 30, 2008). (Pending).

Intellectual Contributions in Submission

Other

Richardson, J. P., FitzGerald, K. A., Waite, G. P., Pennington, W. D. (2009). "Acoustic and seismic observations of calving events at Bering Glacier, AK, in Bering Glacier: Interdisciplinary Studies of Earth's Largest Temperate Surging Glacier", R.A. Shuchman and E.G. Josberger, Geological Society of America. (Submitted).

SERVICE

Editorial and Review Activities

Associate Editor, "Society of Petroleum Engineers." (2001 - 2009).

Consulting

Training/Education, NEXt - Network of Excellence in Training, varied, see "extracurricular teaching" for details. (January 1, 2007 - August 14, 2009).

Dr. Aleksey V. Smirnov
Michigan Tech
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Email: asmirnov@mtu.edu

Education

PhD, University of Rochester, 2002. Major: Geophysics
MS, University of Rochester, 2000. Major: Geophysics
CAN, Saint-Petersburg State University, 1991. Major: Physics & Mathematics
Degree of Specialist in Geophysics, Saint Petersburg State University, 1987.

Professional Positions

Assistant Professor – Geological & Mining Engineering & Sciences (2007-2010).

Academic

Research Scientist, Yale University. (2005 - 2007).
Research Scientist, University of Rochester, Department of Earth and Environmental Sciences. (2003 - 2005).
University of Rochester, Department of Earth and Environmental Sciences, Postdoctoral Fellow. (2002 - 2003).
Saint-Petersburg University, Department of Earth Physics, Scientist and Lecturer. (1991 - 1998).

Professional Memberships

American Geophysical Union.
Geological Society of America.

Development Activities Attended

Workshop, "NSF CAREER workshop," Michigan Tech/NSF. (February 28, 2009).
Workshop, "NSF CAREER Proposal Workshop," Michigan Tech. (April 29, 2008).
Workshop, "NSF day," Michigan Tech/NSF. (April 10, 2008).
Workshop, "Research Accounting Post-Award Workshop," Michigan Tech. (March 20, 2008).
Research/Writing Presentation, "NSF Office of Inspector General presentation," National Science Foundation / Michigan Tech. (February 12, 2008).

Awards and Honors

Creative/Scholarship/Research

Visiting Fellowships, Institute of Rock Magnetism, Univ. of Minnesota. (2005).
Outstanding Professor or Researcher, U.S. Immigration. (2004).

Connections and Partnerships

Field Trip

Yale University, New Haven, CT, USA. (July 2008).

TEACHING

Teaching Experience

Michigan Tech

GE 3250, Computational Geosciences, 4 courses.
GE 4500, Plate Tec & Global Geophysics, 1 course.
GE 4932, Mineralization Study/Sturg Riv, 2 courses.
GE 4961, Independent Geology Res Proj, 1 course.
GE 5400, Global Geophysics & Geotech, 1 course.
GE 6999, Doctoral Graduate Research, 2 courses.

Graduate Student Advising

Doctoral Advisory Committee Chair, Geological & Mining Engineering & Sciences. (May 11, 2009 - August 14, 2009).
Advised: Elisa Piispa

RESEARCH

Published Intellectual Contributions

Book Chapters

Raub, T. D., Evans, D. A., Smirnov, A. V. (2007). "Siliciclastic prelude to Elatina-Nuccaleena deglaciation: Lithostratigraphy and rock magnetism of the base of the Ediacaran system", *The Rise and Fall of the Ediacaran Biota. Geological Society, London, Special Publications*, In Vickers-Rich, P., Komarower, P., (286, pp. 53-76). London:.

Tarduno, J. A., Smirnov, A. V. (2004). "The paradox of low field values and the long-term history of the geodynamo", *Timescales of the Paleomagnetic Field / AGU Geophysical Monograph Series 145*, In Channell, J. E., Kent, D. V., Lowrie, W., Meert, J. G., (145, pp. 75-84).

Refereed Journal Articles

Peppe, D., Evans, D. A.D., Smirnov, A. V. (2009). "Magnetostratigraphy of the Ludlow Member of the Fort Union Formation (Lower Paleocene) of the Williston Basin in North Dakota", *The Geological Society of America Bulletin* (vol. 121, pp. 65-79).

Smirnov, A. V. (2009). "Grain size dependence of low-temperature remanent magnetization in natural and synthetic magnetite: Experimental study", *Earth, Planets and Space* (vol. 61, 1 #, pp. 119-124).

Schumann, D., Raub, T. D., Kopp, R. E., Guerquin-Kern, J. -, Wu, T. -, Rouiller, I., Smirnov, A. V., Sears, S. K., Lücken, U., Tikoo, S. M., Hesse, R., Kirschvink, J. L., Vali, H. (2008). "Gigantism in Unique Biogenic Magnetite at the Paleocene-Eocene Thermal Maximum" (vol. 105, pp. 17648-17653). *Proceedings of the National Academy of Sciences of the United States of America*.

Kopp, R. E., Raub, T. D., Schumann, D., Vali, H., Smirnov, A. V., Kirschvink, J. L. (2007). "Magnetofossil spike during the Paleocene-Eocene thermal maximum: Ferromagnetic resonance, rock magnetic, and electron microscopy evidence from Ancora, New Jersey, United States", *Paleoceanography* (vol. 22, pp. PA4103).

- Smirnov, A. V. (2007). "Effect of the magnetic field applied during cooling on magnetic hysteresis in the low-temperature phase of magnetite: First-order reversal curve (FORC) analysis", *Geochemistry, Geophysics, Geosystems* (vol. 8, pp. Q08005).
- Jackson, M. J., Williams, W., Smirnov, A. V. (2006). "Introduction to the special section on Fundamental and Frontier Research in Rock Magnetism", *Journal of Geophysical Research* (vol. 111, pp. B12S01).
- Smirnov, A. V. (2006). "Low-temperature magnetic properties of magnetite using first-order reversal curve analysis: Implications for the pseudo-single domain state", *Geochemistry, Geophysics, Geosystems* (vol. 7, pp. Q11011).
- Smirnov, A. V. (2006). "Memory of the magnetic field applied during cooling in the low-temperature phase of magnetite: Grain-size dependence", *Journal of Geophysical Research* (vol. 111, pp. B12S04).
- Tarduno, J. A., Cottrell, R. D., Smirnov, A. V. (2006). "The paleomagnetism of single silicate crystals: Recording geomagnetic field strength during mixed polarity intervals, superchrons, and inner core growth", *Reviews of Geophysics* (vol. 41, pp. RG1002). RG1002
- Smirnov, A. V., Tarduno, J. A. (2005). "Thermochemical remanent magnetization in Precambrian rocks: Are we sure the geomagnetic field was weak?", *Journal of Geophysical Research* (vol. 110, pp. B06103).
- Smirnov, A. V., Tarduno, J. A. (2004). "Secular variation of the Late Archean-Early Proterozoic geodynamo", *Geophysical Research Letters* (vol. 31, pp. L16607).

Presentations Given

- Piispa, E. J. (Presenter & Author), Pesonen, L. J. (Co-Author), Smirnov, A. V. (Co-Author), Lingadevaru, M. S. (Co-Author), Anantha Murthy, K. S. (Co-Author), Devaraju, T. C. (Co-Author), De, S. K. (Co-Author), Klein, R. (Co-Author), American Geophysical Union Meeting 2009, "*Paleomagnetism of Paleoproterozoic Cross-Cutting Dike Swarms from Dharwar Craton, India*" American Geophysical Union. (May 26, 2009).
- McCausland, P. G. (Presenter & Author), Smirnov, A. V. (Co-Presenter), Evans, D.A.D. (Co-Author), Izard, C. (Co-Author), Raub, T.D. (Co-Author), American Geophysical Union Meeting 2009, "*Low-latitude Laurentia at 615 Ma: Paleomagnetism of the Long Range Dykes and Coeval Lighthouse Cove Formation, Northern Newfoundland and SE Labrador*" American Geophysical Union. (May 25, 2009).
- Smirnov, A. V. (Presenter & Author), Diehl, J. F. (Co-Author), American Geophysical Union Meeting 2009, "*Geomagnetic Reversal Asymmetry at ~1.1 Ga: New Tests from Old Rocks*" American Geophysical Union. (2008 - May 24, 2009).
- Smirnov, A. V. (Presenter & Author), Physics Department Colloquium, "*Reading magnetic fingerprints from deep time: An insight into the geodynamo and early Earth evolution*" Michigan Technological University. (April 2009).
- Smirnov, A. V. (Presenter & Author), American Geophysical Union Meeting 2008, "*Magnetism of Magnetite at Low Temperatures: Are we Getting Hotter?*" Eos Transactions, AGU. (2008 - May 2008).
- Smirnov, A. V. (Presenter & Author), Evans, D.A.D. (Co-Author), Australian Earth Science Convention 2008, "*Were there two or three Proterozoic supercontinents? Quantitative tests of craton connections in Geon 24*", Perth, Australia. (July 2008).

- Smirnov, A. V. (Presenter & Author), Tarduno, J. A. (Co-Author), American Geophysical Union Meeting 2007, "*Estimating reliability of paleointensity record based on the physical mechanisms of recording and preserving paleointensity signal*" AGU, Eos Trans.. (2007).
- Smirnov, A. V. (Presenter & Author), American Geophysical Union Meeting 2007, "*Proterozoic geomagnetic field: Intensity, Morphology and stability*" Eos Trans. AGU, 88(52), Fall Meet.. (2007).
- Catelani, E.L. (Presenter & Author), Smirnov, A. V. (Co-Author), Evans, D.A.D. (Co-Author), Trindade, R.I. (Co-Author), D'Agrella-Filho, M.S. (Co-Author), Heaman, L.M. (Co-Author), American Geophysical Union Meeting 2007, "*Revisiting the Meso-Neoproterozoic dykes of Bahia, Brazil*" Eos Transactions, AGU, 88 (36). (2007).
- Tikoo, S. M. (Presenter & Author), Kopp, R. E. (Co-Author), Smirnov, A. V. (Co-Author), Raub, T. D. (Co-Author), Schumann, D. (Co-Author), Vali, H. (Co-Author), Kirschvink, J. L. (Co-Author), American Geophysical Union Meeting 2007, "*Testing the Paleocene-Eocene Thermal Maximum Magnetofossil Spike Hypothesis*" AGU, Eos Trans.. (2007).
- Smirnov, A. V. (Presenter & Author), American Geophysical Union Meeting 2007, "*Titanomagnetite Oxyexsolution and Thermochemical Remanent Magnetization: A Warning Sign on the Road to Paleointensity Determination?*" Eos Transactions AGU. (2007).
- Smirnov, A. V. (Presenter & Author), Evans, D.A.D. (Co-Author), Geological Society of American, Annual Meeting 2007, "*Precambrian Geomagnetic Field: Intensity, Morphology and Stability*" AGU, Eos Transactions, Denver. (October 2007).
- Smirnov, A. V. (Presenter & Author), Evans, D. A. (Co-Author), American Geophysical Union Meeting, 2006, "*Paleomagnetism of the ~2.4 Ga Widgiemooltha Dike Swarm (Western Australia): Preliminary Results*" Eos Trans. AGU, 87(36). (May 2006).
- Smirnov, A. V. (Presenter & Author), Bauch, D. G. (Co-Author), Tarduno, J. A. (Co-Author), American Geophysical Union Meeting 2005, "*Temperature dependence of magnetic susceptibility as a potential indicator of fine-scale oxyexsolution in igneous rocks*" Eos Trans. AGU, 86(52), Fall Meeting. (December 2005).
- Smirnov, A. V. (Presenter & Author), Tarduno, J. A. (Co-Author), Morgan, J. P. (Co-Author), Chapman conference 2005/The Great Plume Debate: The Origin and Impact of LIPs and Hot Spots, "*Co-location of Eruption Sites of the Siberian Traps and North Atlantic Igneous Province: Implications for the Nature of Hotspots and Mantle Plumes*", Fort William. (2005).
- Smirnov, A. V. (Presenter & Author), Tarduno, J. A. (Co-Author), American Geophysical Union Meeting 2005, "*Memory of the magnetic field applied during cooling in stoichiometric magnetite: Grain-size dependence and inferences on the physical processes*" Eos Trans. AGU 86(18). (May 2005).
- Smirnov, A. V. (Presenter & Author), Tarduno, J. A. (Co-Author), Goree, W. S. (Co-Author), American Geophysical Union Meeting 2004, Fall, "*Directional Behavior of Remanent Magnetization at Low Temperatures Measured With a New SQUID Magnetometer Probe*" Eos Trans. AGU, 85(47). (December 2004).
- Tarduno, J. A. (Presenter & Author), Smirnov, A. V. (Co-Author), American Geophysical Union Meeting 2004, "*The Long-term Strength of the Geomagnetic Field*" Eos Trans. AGU, 84(46), Fall Meet.. (December 2004).

Contracts, Grants and Sponsored Research

Research-Equipment

Smirnov, Aleksey Victorovich (Principal), "Acquisition of a Sensitive Magnetic Susceptibility System and a Thermal Demagnetization Device," Sponsored by Federal. (September 1, 2008 - August 31, 2010; Date Submitted: February 11, 2008). (Pending).

Research-Research

Smirnov, Aleksey Victorovich (Principal), "Is an Asymmetrical Reversal Recorded Within Individual Mafic Dikes of Baraga County, Michigan? A Paleomagnetic, Paleointensity and Geochronological Investigation," Sponsored by Federal. (September 1, 2009 - August 31, 2011; Date Submitted: December 1, 2008). (Pending).

Unrestricted Sponsored Programs

Smirnov, Aleksey Victorovich (Principal), Sergeyev, Aleksandr Vladimirovich (Co-Principal), "Development and implementation of a laser-based system for paleomagnetic and paleointensity analyses of single silicate crystals," Amount Requested: \$31,742.00 Donor: Michigan Technological University. (;), (Submitted & Rejected).

SERVICE

Editorial and Review Activities

Reviewer, Journal Article, Earth, Planets, and Space.
Reviewer, Journal Article, Geochemistry, Geophysics, and Geosystems (G-cubed).
Reviewer, Journal Article, Geophysical Journal International.
Reviewer, Journal Article, Journal of Geophysical Research.
Ad Hoc Reviewer, NSF - Earth Science/Instrumentation and Facilities (EAR/IF).
Ad Hoc Reviewer, NSF - Geophysics.
Reviewer, Journal Article, Physics of the Earth and Planetary Interiors.
Reviewer, Journal Article, Precambrian Research.
Reviewer, Journal Article, Science.
Associate Editor, Journal of Geophysical Research - Solid Earth. (2005 - Present).

General Service

Department

Committee Member, Executive Committee, Member. (September 2008 - Present).
Committee Member, Graduate Committee, Member. (September 2007 - Present).
Lab Maintenance, GMES Department/Lab Maintenance. (2009).
Committee Member, Faculty Search Committee. (September 2007 - May 2008).

Other

Conference Session Chair, Joint Assembly of the American Geophysical Union 2009. (May 2009).
Invited by AGU, Joint Assembly of the American Geophysical Union. (2008).

Public/Community

D'Appolonia consulting project. (2009).

Dr. Roger M. Turpening
Michigan Tech
Geological & Mining Engineering & Sciences
(906) 487-1784
Email: roger@mtu.edu

Education

PhD, University of Michigan, 1966. Major: Geology
MS, University of Michigan, 1963. Major: Geology
BS, University of Michigan, 1961. Major: Geology

Professional Positions

Research Professor – Geological & Mining Engineering & Sciences (2000-2010).
U.S. Department of Energy 2000-2003
Office of Science, Basic Energy Sciences, Geosciences Program

Massachusetts Institute of Technology 1982-2000
Research Associate, ERL, Dept. Earth, Atmos & Planet. Sci.
Associate Director, Earth Resources Laboratory (ERL) 1982-1997
Created, led Reservoir Delineation Industry Consortium 1982-1997

Lincoln Laboratories, M.I.T. 1978-1982

Environmental Research Institute of Michigan (Willow Run 1967-1978
Laboratories, University of Michigan) Ann Arbor, Michigan
Research Geophysicist

Professional Memberships

American Association of Petroleum Geologists,
American Geophysical Union
European Association of Geoscientists & Engineers
Society of Automotive Engineers
Society of Exploration Geophysicists
Society of Petroleum Engineers

TEACHING

Teaching Experience

Michigan Tech

GE 5940, Volcanic Seismology, 1 course.

Graduate Student Advising

Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (March 8, 1999 - December 19, 2008).

Advised: David Forel

Masters' Advisory Committee Member, Civil & Environmental Engineering. (August 29, 2005 - May 2, 2008).

Advised: Charles Schulz

Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 27, 2001 - December 21, 2007).
Advised: Yvonne Branan

Masters' Advisory Committee Co-Chair, Geological & Mining Engineering & Sciences. (August 30, 2004 - December 22, 2006).
Advised: Sean Trisch

Masters' Advisory Committee Member, Social Sciences. (August 30, 2004 - August 11, 2006).
Advised: Mirit Shamir

Masters' Advisory Committee Member, School of Business & Economics. (August 30, 2004 - April 28, 2006).
Advised: Andon Blake

Masters' Advisory Committee Member, School of Business & Economics. (August 30, 2004 - April 28, 2006).
Advised: Jose Luis Miramontes Fraga

Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 28, 2000 - August 13, 2005).
Advised: Sean Wagner

Masters' Advisory Committee Member, Civil & Environmental Engineering. (January 13, 2003 - April 30, 2005).
Advised: Sara Leow

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 26, 2002 - December 18, 2004).
Advised: Christopher Schmidt

Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (January 14, 2002 - December 18, 2004).
Advised: Douglas Moore

RESEARCH

Published Intellectual Contributions

Other

Beresnev, I. A., Vigil, R. D., Li, W., Pennington, W. D., Turpening, R. M., Iassonov, P. P., Ewing, R. P. (2005). "Elastic Waves Push Organic Fluids from Reservoir Rock". *Geophysical Research Letters*.

Turpening, R. (2005), Notes from the Field, *Comparative Tech. Trans. & Society* Vol. 3, No. 3 pp 301-302

Contracts, Grants and Sponsored Research

Research

Turpening, Roger Munson (Principal), "Data Acquisition and Interpretation for DRIC," Sponsored by Foreign, Amount Awarded: \$116,217.00. (November 1, 2006 - December 31, 2008; Date Submitted: October 31, 2006). (Submitted & Funded).

Turpening, Roger Munson (Principal), "Detroit River International Crossing -- Brine Well Investigation," Sponsored by State Pass-Through, Amount Awarded: \$114,526.00. (December 19, 2005 - December 31, 2008; Date Submitted: July 27, 2006). (Submitted & Funded).

Turpening, Roger Munson (Principal), "DRIC Brine Well Investigation," Sponsored by State Pass-Through, Amount Awarded: \$270,588.00. (December 19, 2005 - December 31, 2008; Date Submitted: January 16, 2007). (Submitted & Funded).

Turpening, Roger Munson (Principal), "DRIC Brine Well Investigation," Sponsored by State Pass-Through, Amount Awarded: \$52,893.00. (December 19, 2005 - December 31, 2008; Date Submitted: October 17, 2005). (Submitted & Funded).

Turpening, Roger Munson (Principal), "Joint Industry Program - Testing & Calibration of Permanent, Downhole, Seismic Sources," Sponsored by Industry, Amount Awarded: \$200,000.00. (December 15, 2005 - August 31, 2007; Date Submitted: December 15, 2005). (Submitted & Funded).

Research-Research

Turpening, Roger Munson (Co-Principal), "Center for Integrated Energy and Material Systems," Sponsored by Federal. (September 1, 2009 - August 31, 2014; Date Submitted: October 1, 2008). (Pending).

Turpening, Roger Munson (Principal), "Optimizing a Framework for Non-Invasive Data Acquisition through Modeling for CO2 Geologic Sequestration in Saline Aquifers," Sponsored by FPT-University. (January 1, 2010 - December 31, 2012; Date Submitted: December 30, 2008). (Pending).

Turpening, Roger Munson (Principal), "Ultrasonic, Elastic Wave Imaging of Trees and Logs," Sponsored by Industry. (September 1, 2008 - August 31, 2009; Date Submitted: November 3, 2008). (Pending).

Testing

Turpening, Roger Munson (Principal), "Numerical Modeling Support for Cross-Well, Seismic, Tomographic Imaging of a Proposed Low and Intermediate Level, Nuclear Waste Site, Gyeongju, South Korea," Sponsored by Foreign. (March 1, 2009 - March 31, 2009; Date Submitted: February 20, 2009). (Pending).

Dr. Gregory P. Waite
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Education

PhD, University of Utah, 2004. Major: Geophysics
MS, University of Utah, 1999. Major: Geophysics
BA, St. Norbert College, 1996. Major: Mathematics

Professional Positions

Assistant Professor – Geological & Mining Engineering & Sciences (2007-2010).

Academic

Mendenhall Postdoctoral Fellow, U.S. Geological Survey. (2004 - 2007).
Graduate Research Assistant, University of Utah. (2002 - 2004).
Department Graduate Teaching Assistant, University of Utah. (2000 - 2004).
University of Utah. (1997 - 1998).
Undergraduate Teaching Assistant, St. Norbert College, DePere, WI. (1994 - 1996).
Teaching Assistant, American Indian Science and Engineering Society Summer Science and Mathematics Camp. (1995).

Professional

Field Technician, University of Utah and US Geological Survey. (2005 - 2006).
Intern, Chevron USA Production Company. (1997).

Professional Memberships

American Geophysical Union.
Geological Society of America.
Internanational Association of Volcanology and Chemistry of the Earth's Interior.
Seismological Society of America.
Society of Exploration Geophysicsts.

Development Activities Attended

Workshop, "NSF CAREER workshop," Michigan Tech/NSF. (February 28, 2009).
Workshop, "NSF CAREER Proposal Workshop," Michigan Tech. (April 29, 2008).
Workshop, "NSF day," Michigan Tech/NSF. (April 10, 2008).
Workshop, "Research Accounting Post-Award Workshop," Michigan Tech. (March 20, 2008).
Research/Writing Presentation, "NSF Office of Inspector General presentation," National Science Foundation / Michigan Tech. (February 12, 2008).

Awards and Honors

Outstanding PhD Student, University of Utah. (2004).

TEACHING

Teaching Experience

Michigan Tech

- GE 4150, Natural Hazards, 2 courses.
- GE 5150, Advanced Natural Hazards, 2 courses.
- GE 5950, Volcano Seismology, 2 courses.
- GE 5999, Master's Graduate Research, 4 courses.
- GE 6999, Doctoral Graduate Research, 3 courses.

Graduate Student Advising

- Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (September 4, 2007 - December 18, 2009).
Advised: Lara Kapelanczyk
- Doctoral Advisory Committee Co-Chair, Geological & Mining Engineering & Sciences. (January 15, 2007 - December 19, 2008).
Advised: Patricia Nadeau
- Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (January 15, 2007 - December 18, 2009).
Advised: Kyle Brill
- Masters' Advisory Committee Chair, Geological & Mining Engineering & Sciences. (January 12, 2009 - December 18, 2009).
Advised: Kathleen McKee
- Doctoral Advisory Committee Co-Chair, Geological & Mining Engineering & Sciences. (August 30, 2004 - May 1, 2009).
Advised: John Lyons
- Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (January 10, 2005 - August 14, 2009).
Advised: R Adam Blankenbicker
- Doctoral Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 25, 2003 - August 14, 2009).
Advised: Marika Dalton
- Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (January 12, 2009 - May 1, 2009).
Advised: Patrice Cobin
- Masters' Advisory Committee Member, Geological & Mining Engineering & Sciences. (August 30, 2004 - May 1, 2009).
Advised: Ellen Engberg

RESEARCH

Published Intellectual Contributions

Refereed Journal Articles

- Richardson, J.P., G.P. Waite, K. FitzGerald, and W.D. Pennington (2010), Characteristics of seismic and acoustic signals produced by calving, Bering Glacier, AK, *Geophys. Res. Lett.*, in press.
- Smith, R. B., Jordan, M., Steinberger, B., Puskas, C. M., Farrell, J., Waite, G. P., Husen, S., Chang, W. L., O'Connell, R. (2009). "Geodynamics of the Yellowstone Hotspot and Mantle Plume: Seismic and GPS Imaging, Kinematics and Mantle Flow", *J. Volc. Geotherm. Res.*.

- Johnson, J. B., Sanderson, R., Lyons, J., Escobar-Wolf, R., Waite, G. P., Lees, J. M. (2009). "Dissection of a composite volcanic earthquake at Santiaguito, Guatemala", *Geophys. Res. Lett.* (vol. 36, pp. L16308).
- Lyons, J. J., Waite, G. P., Rose, W. I., Chigna, G. (2009). "Patterns in Open Vent, Strombolian Behavior at Fuego Volcano, Guatemala, 2005-2007", *Bulletin of Volcanology*. Bull. Volc..
- Matoza, R. S., Garcés, M. A., Chouet, B. A., D'Auria, L., Hedlin, M. A.H., DeGroot-Hedlin, C., Waite, G. P. (2009). "The source of infrasound associated with long-period events at Mount St. Helens", *Journal of Geophysical Research* (vol. 114, B #, pp. B04305). American Geophysical Union. dx.doi.org/10.1029/2008JB006128
- Waite, G. P., Moran, S. C. (2009). "VP Structure of Mount St. Helens, Washington, USA, imaged with local earthquake tomography", *Journal of Volcanology and Geothermal Research*, In J.W. Neuberg, (vol. 182, 1-2 #, pp. 113-122). Elsevier. dx.doi.org/10.1016/j.jvolgeores.2009.02.009
- Waite, G. P., Chouet, B. A., Dawson, P. B. (2008). "Eruption dynamics at Mount St. Helens imaged from broadband seismic waveforms: Interaction of the shallow magmatic and hydrothermal systems", *J. Geophys. Res.* (vol. 113, B02305 #,).
- Waite, G. P., Smith, R. B., Allen, R. M. (2006). "V(p) and V(s) structure of the Yellowstone hot spot: evidence for an upper mantle plume", *Journal of Geophysical Research Solid Earth* (vol. 111, B04303 #,).
- Waite, G. P., Schutt, D. L., Smith, R. B. (2005). "Models of lithosphere and asthenosphere anisotropic structure of the Yellowstone hot spot from shear wave splitting", *J. Geophys. Res.* 110 (vol. 110, B04303 #,).
- Husen, S., Smith, R. B., Waite, G. P. (2004). "Evidence for gas and magmatic sources beneath the Yellowstone Volcanic Field from seismic tomographic imaging", *J. Volcanol. Geotherm. Res.* (vol. 131, pp. 397-410).
- Waite, G. P., Smith, R. B. (2004). "Seismotectonics and stress field of the Yellowstone volcanic plateau from earthquake first motions and other indicators", *J. Geophys. Res.* (vol. 109, B02301 #,).
- Brantley, S. R. (Co-Author), Lowenstern, J. B. (Co-Author), Christiansen, R. L. (Co-Author), Smith, R. B. (Co-Author), H. H., Waite, G. P., C. W., U.S. Geological Survey Fact Sheet 100-03, "Tracking Changes in Yellowstone's Restless Volcanic System" U.S. Geological Survey.

Presentations Given

- Waite, G. P. (Presenter & Author), GSA North Central, "Seismo-acoustic Array Observations of Shallow Conduit Processes at Fuego Volcano, Guatemala" Geological Society of America, Rockford, IL.
- Dalton, M. P. (Co-Author), Waite, G. P. (Co-Author), Nadeau, P. A. (Co-Author), Watson, I. M. (Co-Author), GSA Abstracts with Programs, "Improving the UV camera technique to correlated volcanic SO₂ emission, seismic and acoustic measurements at Pacaya Volcano, Guatemala" GSA. (2009).
- Waite, G. P. (Co-Author), Lyons, J. J. (Co-Author), Nadeau, P. A. (Co-Author), GSA Abstracts with Programs, "Seismo-acoustic array observations of shallow conduit processes at Fuego Volcano, Guatemala" GSA. (2009).
- Lyons, J. J. (Co-Author), Rose, W. I. (Co-Author), Waite, G. P. (Co-Author), Gierke, J. S. (Co-Author), GSA Abstracts with Programs, "The Peace Corps Master's International Program in the

mitigation of natural geological hazards: fostering international research collaborations and capacity building through social geology" GSA. (2009).

Nadeau, P. A. (Co-Author), Waite, G. P. (Co-Author), Palma, J. L. (Co-Author), Dalton, M. P. (Co-Author), GSA Abstracts with Programs, "*Integration of high temporal resolution SO₂ emission rates and geophysical data at Central American volcanoes*" GSA. (2009).

Dalton, M. P. (Co-Author), Waite, G. P. (Co-Author), Nadeau, P. A. (Co-Author), Watson, I. M. (Co-Author), AGU EOS, Transactions, American Geophysical Union. (2008).

Lyons, J. J. (Co-Author), Waite, G. P. (Co-Author), Rose, W. I. (Co-Author), AGU EOS, Transactions, American Geophysical Union. (2008).

Gierke, J. S., Rose, W. I., Waite, G. P., Palma, J. L., Gross, E. L., American Geophysical Union Fall Meeting, "*Advances in Remote Sensing Approaches for Hazard Mitigation and Natural Resource Protection in Pacific Latin America: A Workshop for Graduate Students, Postdoctoral Researchers, and Junior Faculty*" AGU, Eos Transactions, San Francisco, CA. (2008).

Dalton, M. P. (Co-Author), Waite, G. P. (Co-Author), Nadeau, P. A. (Co-Author), Watson, I. M., American Geophysical Union Fall Meeting, "*Comparing SO₂ Emissions to Seismic and Acoustic Records: the Value and Limitations of the new UV Camera Technique*" AGU, Eos Trans., San Francisco, CA. (2008).

Lyons, J. J. (Co-Author), Waite, G. P. (Co-Author), Rose, W. I., American Geophysical Union Fall Meeting, "*Correlating Long-Term Observations, Seismicity and Thermal Output at Fuego volcano, Guatemala: Repeating Patterns in Eruptive Behavior at an Open Vent Volcano*". (2008).

Waite, G. P. (Co-Author), Lyons, J. J. (Co-Author), Nadeau, P. A. (Co-Author), American Geophysical Union Fall Meeting, "*Seismo-Acoustic Array Observations of Shallow Conduit Processes at Fuego Volcano, Guatemala*" Eos Transactions, San Francisco, CA. (2008).

Nadeau, P. A. (Co-Author), Waite, G. P. (Co-Presenter), Palma, J. L. (Co-Author), Dalton, M. P. (Co-Author), Watson, I. M. (Co-Author), Eos Transactions American Geophysical Union AGU. (2008).

Waite, G. P. (Co-Author), Lyons, J. L. (Co-Author), IAVCEI 2008 General Assembly, "*Seismic and Acoustic Array Analyses of Explosions and Tremor from Fuego Volcano, Guatemala*", Iceland. (2008).

Waite, G. P. (Co-Author), Lyons, J. J. (Co-Author), IAVCEI 2008 General Assembly, "*Seismic and Acoustic Array Analyses of Explosions and Tremor from Fuego Volcano, Guatemala*" IAVCEI, Iceland. (2008).

Rose, W. I., Nadeau, P., Dalton, M., Waite, G. P., Williams-Jones, G., Mauri, G., IAVCEI General Assembly, "*Ultraviolet Digital Imaging of Volcanic Plumes: Implementation and Integration*", Reykjavik, Iceland. (August 2008).

Farrell, J. M. (Co-Author), Waite, G. P. (Co-Author), Puskas, C. M. (Co-Author), Chang, W. L. (Co-Author), Smith, R. B. (Co-Author), Heasler, H. (Co-Author), Lowenstern, J. (Co-Author), American Geophysical Union Fall Meeting, "*A prototype hydrothermal monitoring system, Norris Geyser Basin, Yellowstone National Park, Wyoming*" Eos Transactions, San Francisco, CA. (2007).

Lyons, J. J. (Co-Author), Johnson, J. B. (Co-Author), Waite, G. P. (Co-Author), Rose, W. I., American Geophysical Union Fall Meeting, "*Observations of cyclic strombolian eruptive behavior at Fuego Volcano, Guatemala reflected in the seismo-acoustic record*" Eos Transactions, San Fran. (2007).

B., S. R. (Co-Author), Farrell, J. (Co-Author), Jordan, M. (Co-Author), Puskas, C. (Co-Author), Waite, G. P. (Co-Author), American Geophysical Union Fall Meeting, "*Seismic and GPS*

constraints on the dynamics and kinematics of the Yellowstone volcanic field" Eos Transactions, San Francisco, CA. (2007).

Waite, G. P. (Co-Author), Chang, W. L. (Co-Author), American Geophysical Union Fall Meeting, "*Shear-wave splitting from local earthquakes as an indicator of crustal stress at Yellowstone*" Eos Transactions, San Francisco, CA. (2007).

Waite, G. P. (Presenter & Author), University of Oregon, "*Eruption Dynamics at Mount St. Helens Revealed by Volcanic Earthquakes*", Oregon. (2007).

Waite, G. P. (Co-Author), C., M. S. (Co-Author), American Geophysical Union Fall Meeting, "*Crustal P-wave speed structure under Mount St. Helens from local earthquake tomography*" Eos Transactions, San Francisco, CA. (2006).

Waite, G. P. (Co-Author), Chouet, B. (Co-Author), Dawson, P., Moran, S. C. (Co-Author), American Geophysical Union Fall Meeting, "*Very-long period seismic source at Mount St. Helens*" Eos Transactions, San Francisco, CA. (2005).

Waite, G. P. (Co-Author), Smith, R. B. (Co-Author), Puskas, C. M. (Co-Author), Schutt, D. L. (Co-Author), American Geophysical Union Fall Meeting, "*Interpreting crust and mantle stress and strain indicators at Yellowstone*" Eos Transactions, San Francisco, CA. (2004).

Waite, G. P. (Co-Author), Smith, R. B. (Co-Author), Schutt, D. L. (Co-Author), Allen, R. M. (Co-Author), "*Seismic structure of the Yellowstone hot spot upper mantle*" USGS Earthquake Hazards Team Seminar Series, Menlo Park, CA. (2004).

Contracts, Grants and Sponsored Research

Other-Pub S-Non Acad Train/Inst-Workshop

Waite, Gregory P (Co-Principal), "PASI: Advances and Applications of Remote Sensing for Assessment of Geological Hazards and Natural Resources," Sponsored by Federal. (July 1, 2009 - June 30, 2010; Date Submitted: January 15, 2009). (Pending).

Other-Student Support-Fellowship

Waite, Gregory P (Co-Principal), "Investigating the Link Between Volcanic SO₂ Degassing, Seismicity, and infrasound: Application of New High-Resolution SO₂ Datasets," Sponsored by FPT-University. (May 1, 2009 - April 30, 2010; Date Submitted: November 19, 2008). (Pending).

Research-Research

Gierke, John S (Principal), Waite, Gregory P (Co-Principal), Halvorsen, Kathleen E (Co-Principal), Gross, Essa L. (Co-Principal), Rose, William I (Co-Principal), "PIRE (ESE): Integrating Social and Physical Scientific Understanding of Natural Hazards and Risk Perceptions in Latin America," Sponsored by Federal. (; Date Submitted: February 26, 2009). (Pending).

Intellectual Contributions in Submission

Richardson, J. P., FitzGerald, K. A., Waite, G. P., Pennington, W. D. (2009). "Acoustic and seismic observations of calving events at Bering Glacier, AK, in Bering Glacier: Interdisciplinary Studies of Earth's Largest Temperate Surging Glacier", R.A. Shuchman and E.G. Josberger, . Geological Society of America. (Submitted).

SERVICE

Editorial and Review Activities

Reviewer, Journal Article, Earth, Planets, and Space.
Reviewer, Journal Article, Geology.
Reviewer, Journal Article, Geophysical Research Letters.
Reviewer, Journal Article, Journal of Geophysical Research.
Reviewer, Journal Article, Journal of Volcanology and Geothermal Research.
Reviewer, Journal Article, Nature.
Reviewer, Grant Proposal, NSF - Programs in Geophysics and Petrology and Geochemistry.
Reviewer, Journal Article, U.S. Geological Survey Professional Papers.
Reviewer, Journal Article, Bulletin of the Seismological Society of America. (2009).
Reviewer, Journal Article, Earth and Planetary Science Research Letters. (August 13, 2009).
Editor, Society of Exploration Geophysicists journal Geophysics. (2001 - 2008).

General Service

Department

Committee Chair, Michigan Tech - GMES Graduate Committee. (July 2008 - June 2009).
Committee Chair, GMES Faculty Search. (2009 - 2010).
Committee Member, GMES Faculty Search, Member. (2007 - 2008).

Public/Community

Earth science education outreach. (2004 - 2007).
Committee Chair, U.S. Geological Survey - Volcano Hazards Team Seminar Series Chair. (2004 - 2007).
Middle school Earth science education (2009)

University

Committee Member, SFHI II Search Committee, Member. (November 2008 - April 2009).

Consulting

Government, U.S. Geological Survey, Menlo Park, CA. (August 1, 2008 - August 1, 2009).