MICHAEL B. WOLF

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**EDUCATION:**

**Ph.D., Geology;** California Institute of Technology (Caltech), Pasadena, CA June 1992

*Thesis Title:* Amphibolite\_Tonalite Relationships: Part I. Experimental Investigation of the Phase Relationships and Textural Development of Amphibolite Dehydration-Melting;

Part II. The Geology, Petrology and Geochronology of a Tonalitic and Mafic Dike Swarm (Southwestern Foothills Terrane, CA).

*Advisors:* Drs. Peter J. Wyllie & Jason B. Saleeby

**M.S., Geology;** Caltech, Pasadena, CAJune 1988

**A.B. (cum laude), Geology (with honors);** Hamilton College, Clinton, NY May 1985

**POSITIONS HELD:**

Professor of Geology, Augustana College, Rock Island, IL Aug. 2009 to present

Chair of the Natural Sciences Division, Augustana College, Rock Island, IL Nov. 2016 to present

Associate Professor of Geology, Augustana College, Rock Island, IL Sept. 2002 to July 2009

Chair of the Department of Geology, Augustana College June 2002 to June 2016

Curator of the Fryxell Geology Museum, Augustana College March 2002 to present

Assistant Professor of Geology, Augustana College Sept. 1995 to Feb. 2002

Post-doctoral Research Associate, The University of Oklahoma, Norman, OK Aug. 1992 to Aug. 1995

Research Scientist,California Institute of Technology, Pasadena, CA Dec. 1991 to July 1992

**COURSES TAUGHT AT AUGUSTANA:**

***The Geology of Myths and Legends*** *(LS111-15):* taught four times as part of the college’s First-Year Liberal Studies general education program (~24 students/course).

***The Geology of Myths and Legends*** *(GEOL100):* taught twice as an “Interpreting Natural and Religious Worlds” Learning Community (with Prof. Williams’ RELG 373: Interpreting the Bible) and once as a stand-alone general education course (~24 students).

***Introduction to Physical Geology*** *(GEOL101):* taught twenty two times as an open enrollment course (enrollment ~35-50 students); 2 laboratory sections in addition to the 3 lecture periods.

***Gemology*** *(GEOL104):* developed this course with a local professional gem appraiser, and mentored and informally co-instructed with her throughout her first teaching experience (~24 students).

***Introductory Physical Geology in the Rocky Mountains*** *(GEOL105):* this summer fieldtrip course is for incoming first-year students (~16 students); taught fifteen times, with Dr. Jeff Strasser; 2-½ -week-long fieldtrip through South Dakota and Wyoming.

***Earthquakes, Tsunamis and Eruptions in Asia*** *(GEOL106):* taught in Japan and Taiwan to 54 Augustana students as part of the 2013 and 2016 Asian Term semester abroad.

***Environmental Geology*** *(GEOL115):* taught once as an open enrollment introductory course that surveyed a wide variety of environmental issues (30 students); 2 lab sections.

**COURSES TAUGHT AT AUGUSTANA (continued):**

***Environmental Geology: Mineral & Energy Resources and the Environment*** *(GEOL115):*  taught five times as part of the four-course Nature and Environment First-Year Sequence (~15-20 students); 1 laboratory section + lecture periods; with Profs. Mahaffey, Peters, and Quinn.

***Environmental Geology: Energy Resources and Environmental Issues*** *(renumbered now as GEOL116; converted to LSFY103 course for Spring 2009):* taught six times; an evolved course focussing on the science/technology/environmental/ public policy issues surrounding the current U.S. energy policy decisions. 1 laboratory section + lecture periods (~20 students).

***Mineralogy I*** *(GEOL301 — Crystallography and Optical Mineralogy):* taught twenty one times as a required second-year course for majors (4-14 students); 1 3-hr laboratory + lecture periods

***Mineralogy II*** *(GEOL302 — Silicate Mineralogy and Geochemistry):* taught nine times as a required second-year course for majors (~10 students); 1 laboratory section + lecture periods. No longer offered as a separate course (folded into a revised GEOL301).

***Structural Geology*** *(GEOL306):* taught seven times as a required upper-level course for majors (15-20 students); 1 laboratory section + lecture periods; optional field trips during breaks.

***Special Topics*** *(GEOL370):* taught thirteen 1-credit seminars on topics pertaining to spring break field trips (~8-21 students); e.g., Geology of the Grand Canyon, of Death Valley, of Hawai’i...

***Igneous and Metamorphic Petrology*** *(GEOL403):* taught thirteen times as a required upper-level course for majors (15-20 students); 1 laboratory section + lecture periods.

***Research Methods*** *(GEOL450):* taught ten times as a required upper-level course for juniors preparing for their senior inquiry research (3-12 students).

***Senior Inquiry Research*** *(GEOL451):* advisor/mentor for geology majors working on mineralogy, petrology, geochemistry, environmental, and other types of research projects.

**OTHER TEACHING EXPERIENCE:**

Instructor for Introductory Physical Geology course; The University of Oklahoma summer 1995

**NON-CLASSROOM COLLEGE TEACHING ACTIVITIES:** duringacad. yr. starting with:

Co-led numerous Saturday morning (~4-6 hrs) fieldtrips to local geology sites 1995-present

Participated in annual Tri-State Geological Conferences/Fieldtrips (2-3-day trips) 1995-2005

Co-led Geology Dept. spring break fieldtrips to: Grand Canyon 1995, 2002, 2005, 2008, 2011, 2014

(these are 7-12-day fieldtrips) Sedona, AZ 1997

Death Valley, CA 1998, 2006, 2015

Sierra Nevada, CA 1999

Hawai’i 2004, 2007, 2010, 2013, 2016

Colorado (in May) 2009

Co-led Geology Dept. trips to: Northern Wisconsin 1995

(these are 4-5-day fieldtrips Southern Wisconsin (Baraboo) 1996, 2000

or 2-3-day meeting trips) Missouri (St. Francois Mtns.) 1997, 2002, 2012

Northern Minnesota 1999

GSA regional meetings 2003-present

Tucson Gem & Mineral Show 2007-present

Mentor: Augustana summer research internships at The University of Oklahoma 1995-1997

Augustana summer research internships at Augustana College 1998-2001

For 4-6 weeks of these seven summers, I tutored one to four students in the theory and practice of experimental petrology (~30 contact hours per week + weekend fieldtrips).

Advisor: Directed student research projects stemming from summer internships 1995-present

**NON-CLASSROOM COLLEGE TEACHING ACTIVITIES (cont.):**

Though listed above as a formal geology course, GEOL105 is special. I co-developed and, for thirteen years, have co-led this introductory geology fieldtrip course to the Rocky Mountains. This experience is unique to Augustana and enhances the desirability and reputation of not only the geology department, but the college as a whole (the admissions office uses it as a recruitment tool for highly motivated, scientifically and environmentally focused prospective students).

**SIGNIFICANT CAMPUS-WIDE COMMITTEES** duringacad. yr. starting with:

Faculty Handbook Task Force 1997-2001

Student Ratings of Instruction Committee (chair) 1998-2001

Geifman Committee 1998-present

Senate member 1998-2000, 2002-2004, 2006-2008, 2010-12

Interdisciplinarity Think Force (convener) 1999-2000

Self-Study Committee (Criterion 2 Chair: HLC NCA accreditation for the College) 2004-2005

Addendum to the College’s Strategic Plan – planning committee member 2010

Addendum’s Strategic Imperative Team #8 – co-leader 2010

Educational Policies Committee (EPC) science division representative 2007-2012

Chair of EPC 2009-2012

Governance Preparatory Group (GPG) 2009-2012

Faculty Welfare Committee 2016-present

**OTHER ON-CAMPUS SERVICE AND ACTIVITIES** duringacad. yr. starting with:

Organized the implementation of the New Science Division ACE evaluation form 1995-1996

Geology Dept. Alumni Advisory Council organizer/participant 1995-present

Participated in the Admissions Visit Day Events (weekends & summer days) 1996-present

Sigma Gamma Epsilon co-advisor (National Earth Science Honors Society) 1996-present

First-year student advisor 1996-2001

Fryxell Geology Museum curator: Supervised overhaul and upgrade of the Museum’s

rock and mineral teaching collections. Included specimen cabinet design and

installation; total reorganization and proper identification of >15,000 specimens;

design, construction & contracting of new equipment/exhibits 1996-present

Departmental & Building Safety Officer & Laboratory Manager 1996-present

Geology Dept. Committees on Curricular Changes & Assessment Planning

(as chair, I instigated and oversaw dept. adoption of S.I. in 2006) 1996-present

Geologic Society of America (GSA) campus representative 1996-present

Faculty Liaison for Swenson Hall of Geosciences building renovations 1997-2001

Co-developed the Fryxell Museum’s outreach program’s “geology learning kit” 1997-2001

Editor for the Geology Dept. Alumni Newsletter 1999-2008, 2014

Main advisor for all geology majors & minors 2002-present

Faculty participant in the “Building Bridges” Freeman program to Asia 2002-2004

Mentor for new faculty members for CSTL program 2003-2008

Alumni development efforts: promoted dept. activities/programs to geology

alumni which resulted in over $1,000,000 added to dept. endowments 2003-present

First responder training for campus emergency system (CPR, first aid, AED) 2006-present

Wrote the MAGMA (Manual for Augustana Geology Major Advising) 2006

Augustana College Geology Department Press Editor/Publisher (2 books published to date)

“Recollections of Former Students & Friends of Fritiof Fryxell” by E. Weber

“Monsieur Bagel’s War” by K. Ratnayake est. 2007

President’s Faculty Advisory panel 2007

Augustana Tai Kwon Do/Martial Arts Club advisor/instructor 2008-present

**COMMUNITY ACTIVITIES:** duringacad. yr. starting with:

Mineral/rock/meteorite identification services (free) for all community members 1995-present

Nighttime JD Planetarium & Fryxell Geology Museum combined open house events 1995-present

Blackhawk Gem and Mineral Club Liaison 1996-present

Consultant for Jeff Moore on Earth science topics (indep. producer of T.V. sci. segments) 1997

Community outreach — Interviews with: T.V. Channels 4, 6, 8 and

R.I. Argus and Quad City Times Newspaper 1997-present

Invited speaker at The University of Illinois, Chicago campus, Geology Dept. 4/1998

Co-leader for “Let’s Rock” course for Rock Island Gifted & Talented Program 1997-2001

Participant in Geological Society of America’s Partners for Education Program 1998-2005

Instructor for 6-week, after-school geology course for Denkmann Elementary 1998

Lecturer for National Consortium for Teaching about Asia (NCTA) 2002-2006

Member, Quad Cities Yom HaShoah committee 2003-2008

Co-coordinator for student-taught after-school geology course at Denkmann 2003-2004

Invited speaker for Freistat Center/World Affairs Council talk (Global Warming) 1/24/2005

Faculty participant in Science Days Open House Volcano Demonstrations 2005-2007

Invited speaker for Sierra Club talk (Hawai’ian Geology) 4/2006

Blue Can Group member (Moline community grassroots recycling organization) 2006-2008

Invited discussion leader for Sierra Club Environmental Film Fest III 3/2008

**PROFESSIONAL ASSOCIATIONS:**

Geological Society of America (GSA) 1983-present

National Association of Geoscience Teachers (NAGT); 1996-present

Treasurer for the central section of the NAGT 2007-present

Mineralogical Society of America (MSA) 1996-present

American Geophysical Union (AGU) 1986-1998

**NON-AUGUSTANA WORKSHOPS ATTENDED:**

National Science Foundation (NSF) Teaching Mineralogy Workshop; Smith College 6/1996

National Association of Geoscience Teachers / Geological Society of America

Workshop on Innovative & Effective Teaching in the Geosciences 10/1996

Pew Midstates Science and Mathematics Consortium

Teaching Petrology Workshop; Macalaster College 3/2000

Co-leader of a Geological Society of America Fieldtrip (National meeting, Reno, NV)

to the western foothills of the Sierra Nevada Mountains, CA 11/2000

**RESEARCH EXPERIENCE:**

*Graduate Research Assistant (Caltech)* July 1985 to December 1991

Investigated the phase, kinetic, and textural relationships of a natural amphibolite during dehydration-melting using a piston-cylinder apparatus and an electron microprobe. Also investigated the field, structural, petrological, chemical, and geochronological relationships of a tonalitic/mafic dike swarm and shear zone in the Sierra Nevada Foothills terrane, CA.

*Research Scientist (Caltech)* January 1992 to August 1992

Completed and extended projects based on previous experimental work on amphibolites and syenites. Studied a deep-crustal felsic xenolith suite from the Sierra Nevada batholith.

*Post-Doctoral Research Associate with Dr. David London (OU)* August 1992 to August 1995

Experimentally investigated trace element behaviors in evolved magmatic systems to elucidate the processes controlling the distribution of economically important elements.

**RESEARCH EXPERIENCE (cont.):**

*Principal Investigator on NSF-funded equipment grant (Augustana)* 1996 - 1998

Built an experimental petrology laboratory at Augustana for me and my students to conduct research throughout the year. Construction took ~5-10 hrs/week of my time for two years.

*Principal Investigator on NSF-funded research grant (Augustana) and Visiting Scientist;*

*collaboration with Dr. David London (OU)* Summers of 1996 - 1998

As principal investigator on NSF-funded research, studied the effects of volatile components on the stability of tourmaline, cordierite, apatite, and biotite. I also investigated the distribution of fluorine and chlorine between melt and various minerals to determine whether the halogen contents can be used as a monitor of halogen content within active magmatic systems.

*Principal Investigator on NSF-funded research grant (Augustana)* 1999 - 2001

Continued prior research and mentoring of undergraduate geology students. Students investigated the possible effects of sulfur on volcanic eruption mechanisms such as those responsible for Mount Pinatubo.

*Sabbatical Leave at University of Oregon (Augustana)* Fall of 2002

Experimental petrology research, with Dr. Dana Johnston from UO and Dr. Jason Saleeby from Caltech, studying rocks associated with the formation of the Sierra Nevada Batholith.

*X-ray Fluorescence spectrometer research* 2006-present

Obtained a donated XRF spectrometer (a ~$50,000 machine) and spent ~hundreds of hours attempting to get it operational. XRFs have great interdisciplinary potential, suited to material science analyses of environmental (solid & aqueous), biological, chemical, physical, and art materials. Even though the old machine never became operational, those efforts spurred me to write a $190,000 NSF instrument grant. I am convinced of the potential of XRF analyses for student research across many disciplines at Augustana. Even without the NSF funds, I was able to raise $130,000 to purchase a new, desktop Riguku Supermini XRF spectrometer (with tremendous alumni support). Much of my ‘free’ time is currently spent calibrating and running this machine.

*Sabbatical Leave* Fall of 2009

Presentation of experimental petrology research at Goldschmidt Conference, Davos, Switzerland. Wrote NSF instrument grant for XRF.

**RESEARCH FUNDING:**

NSF Research Grant, Petrology & Geochemistry Program ($65,550) 1995 - 1999

NSF Equipment Grant, IF Program ($40,000): for experimental petrology lab 1995 - 1997

Augustana College New Faculty Research Award ($16,350) 1995 - 1998

Matching funds for research lab from the Kresge Endowment ($3,650) 1995

Augustana Research Foundation (ARF): Research Support Award ($3,500) 1996

NSF Research Grant, Petrology & Geochemistry Program ($78,946) 1999-2003

Augustana College Faculty Research Award ($900) 2002

Augustana College Student-Faculty Summer Research Award ($1000)

– with Kyle Brill (Ecuadoran volcanism) 2004

Presidential Faculty Research Award ($4000) 2006

MARCO research award (local mineral abrasives company) ($5000) 2007

Augustana College Student-Faculty Summer Research Award ($1000) 2008

– with Toph Orton and Annette Zapolis (Canary Island volcanism)

**PUBLICATIONS:**

***Papers published in internationally recognized, peer-reviewed journals and books:***

London, D., Morgan, G.B. VI, and Wolf, M.B. (2001) Amblygonite-montebrasite solid solutions as monitors of fluorine in evolved granitic and pegmatitic melts. American Mineralogist, 86, 225-233.

Clemens-Knott, D., Wolf, M.B., and Saleeby, J.B. (2000) Middle Mesozoic plutonism and deformation in the western Sierra Nevada foothills, CA. *In:* Great Basin and Sierra Nevada, Lageson, D.R., Peters, S.G., and Lahren, M.M., (eds.), GSA Field Guide 002, ch. 10, 205-221.

London, D., Wolf, M.B., Morgan, G.B. VI, and Gallego, M. (1999) Experimental silicate-phosphate equilibria in peraluminous granitic magmas, with a case study of the Alburquerque batholith at Tres Arroyos, Badajoz, Spain. Journal of Petrology, 40, 215-240.

Wolf, M.B. and London, D. (1997) Boron in granitic magmas: stability of tourmaline in equilibrium with biotite and cordierite. Contributions to Mineralogy & Petrology, 130, 12-30.

Wyllie, P.J., Wolf, M.B., and van der Laan, S.R. (1997) Conditions for formation of tonalites and trondhjemites: magmatic sources and products. *In:* Greenstone Belts, de Wit, M.J. and Ashwal, L.D. (eds.), Oxford University Press, Monograph 35, ch. 3.3.1, 256-266.

London, D., Morgan, G.B. VI and Wolf, M.B. (1996) Boron in granitic rocks and their contact aureoles. Mineralogical Society of America, Reviews in Mineralogy, 33, 299-330.

Wolf, M.B. and London, D. (1995) Incongruent melting of REE-rich apatite in peraluminous granitic melts: differential apatite & monazite solubilities. American Mineralogist 80, 765-775

Wolf, M.B. and Wyllie, P.J. (1995) Liquid segregation parameters from amphibolite dehydration-melting experiments. Journal of Geophysical Research, Solid Earth Special Publication, invited contribution, 100, B8, 15,611-15,621.

Wolf, M.B. and Saleeby, J.B. (1995) Late Jurassic dike swarms in the southwestern Sierra Nevada Foothills terrane, California: implications for the Nevadan orogeny and North American plate motion. *In:* Jurassic Magmatism and Tectonics of the North American Cordillera, Miller, D.M. and Busby, C. (eds.), Geological Society of America, Special Paper 299, ch 10, 203-228.

Wolf, M.B. and Wyllie, P.J. (1994) Dehydration-melting of amphibolite at 10 kbar: effects of temperature and time. Contributions to Mineralogy and Petrology, 115, 369-383.

Wolf, M.B. and London, D. (1994) Apatite dissolution into peraluminous haplogranitic melts: an experimental study of solubilities and mechanisms. Geochimica et Cosmochimica Acta, 58.4127-4145.

Wyllie, P.J. and Wolf, M.B. (1993) Amphibolite dehydration-melting: sorting out the solidus. *In:* Magmatic Processes and Plate Tectonics, Prichard, H.M., Alabaster, T., Harris, N.B.W., and Neary, C.R. (eds.), Geological Society of London, Special Publication 76, 405-416.

Wolf, M.B. and Wyllie, P.J. (1993) Garnet growth during amphibolite anatexis: implications of a garnetiferous restite. Journal of Geology, 101, 357-373.

Wolf, M.B. and Wyllie, P.J. (1993) Some products of experimental dehydration-melting of amphibolite at 10 kbar. Geologiya i Geofizika, 34, 100-115 (in Russian), Russian Academy of Science, Siberian Branch; or Russian Geology and Geophysics, 34, 90-102 (in English).

Wolf, M.B. and Saleeby, J.B. (1992) Jurassic Cordilleran dike swarm/shear zones: implications for the Nevadan orogeny and North American plate motion. Geology, 20, 745-748.

Wolf, M.B. and Wyllie, P.J. (1991) Dehydration-melting of solid amphibolite at 10 kbar: textural development, liquid interconnectivity and applications to the segregation of magmas. Mineralogy and Petrology, 44, 151-179.

**PUBLICATIONS (continued):**

Abstracts of talks and posters presented at regional and national meetings

(underlined names denote mentored undergraduate students, research advisees,

some of whom presented their research without me as an official coauthor):

Blodgett, E., Konecke, B. and Wolf, M.B. (2015) Analysis of color and clarity change in heat treated gem spinel. Geological Society of America, Abstracts with Programs, 47.

Johnson, C. (2015) Determining weathering processes of the Great Unconformity in the northern Rocky Mountains, Geological Society of America, Abstracts with Programs, 47.

Lampo, L. (2015) Water quality and chemistry of Salt Creek in northeastern Illinois, Geological Society of America, Abstracts with Programs, 47.

Plath, R. (2015) Geochemical analysis of surface materials surrounding the Bautsch-Gray mine superfund site near Galena, Illinois, Geological Society of America, Abstracts with Programs, 47.

Urbanski, R.J. (2015) Spatial analysis of lead concentrations in soil around the historic Broadway District of Rock Island, IL. Geological Society of America, Abstracts with Programs, 47.

Kirik, L.E. and Wolf, M.B. (2014) Characterizing hydrothermal fluid flow of post-variscan ore deposits in Nebida, SW Sardinia. Geological Society of America, Abstracts with Programs, 46.

Konecke, B. and Wolf, M.B. (2014) Solubility and stability of beryllium-silicates in haplogranitic melts. Geological Society of America, Abstracts with Programs, 46.

Trent, S.R.A. and Wolf, M.B. (2014) Hydrothermal alteration of the Butler Hill granite, St. Francois Mountains, SE Missouri. Geological Society of America, Abstracts with Programs, 46.

Wick, G. and Wolf, M.B. (2014) A forensic geoscience approach of comparing evidence and field samples in connection with a 23-year-old missing persons/murder cold case. Geological Society of America, Abstracts with Programs, 46.

Lightfoot, R.E. (2013) Analyzing the structural properties, geologic conditions, and friability of garnet sands from four mine sources around the world: implications for the dry-air abrasive sand blast-cleaning industry. Geological Society of America, Abstracts with Programs, 45.

Peters, C. (2013) Geochemical analysis of heavy metals in sediments surrounding the Bautsch-Gray mine superfund site, Jo Daviess County, Illinois. Geological Society of America, Abstracts with Programs, 45.

White, N. (2013) Significance of Late Triassic charcoal, and Late Triassic and Late Jurassic wood petrification processes and mineralogy, south-central Utah. Geological Society of America, Abstracts with Programs, 45.

Cook, M.A. (2012) Investigation of crustal contamination in the palisades intrusive sheet, Fort Lee, New Jersey. Geological Society of America, Abstracts with Programs, 44.

Cacciatore, L. and Wolf, M.B. (2011) Willemite nucleation and growth in crystalline glazes. Geological Society of America, Abstracts with Programs, 43.

Hoeffle, P.M., Wolf, M.B. and Strasser, J.C. (2011) Chemistry of drinking water of Northern Thailand. Geological Society of America, Abstracts with Programs, 43.

Rizzo, A.J. and Wolf, M.B. (2011) Experimental formation of experimental igneous orbicular textures. Geological Society of America, Abstracts with Programs, 43.

Stauffenberg, H., IV and Wolf, M.B. (2010) Another step toward answering the dolomite question. Geological Society of America, Abstracts with Programs, 42.

Orton, K., Zapolis, A.T. and Wolf, M.B. (2009) Petrology and geochemistry of Montana Guaza; assimilation and fractional crystallization of the magma chamber, Tenerife (Canary Islands). Geological Society of America, Abstracts with Programs, 41.

Wolf, M.B. (2009) Experimental Constraints on Protolith Contributions to Sierra Nevadan Granitoids, California, USA. Goldschmidt Conference, Davos, Switzerland.

Zapolis, A.T., Orton, K. and Wolf, M.B. (2009) Geochemistry and petrology of scoria cones Montana Amarilla and Montana de Malpasito, Bandas del Sur Formation, Tenerife (Canary Islands). Geological Society of America, Abstracts with Programs, 41.

**PUBLICATIONS (continued):**

Abstracts of talks and posters presented at regional and national meetings

(underlined names denote mentored undergraduate students, research advisees,

some of whom presented their research without me as an official coauthor):

Casarta, N.G. (2008) Geochemical analysis of crude oils in Cook Inlet Basin, Alaska. Geological Society of America, Abstracts with Programs, 40.

Giambeluca, K.A. (2008) Assessment of heavy metal concentration in surface water at Giant Goose Conservation Education Workshop, Atkinson, IL. Geological Society of America, Abstracts with Programs, 40.

Hadley, D.R. and Jordan, B.T. (2008) Silicic volcanism at Reykjarfjordur, northwest Iceland. Geological Society of America, Abstracts with Programs, 40.

Saunders, R.M., Swanson, M., and Wolf, M.B. (2008) The granites of Damariscove Island, Maine: a microscale characterization. Geological Society of America, Abstracts with Programs, 40.

Emry, E. and Wolf, M. B. (2005) Textural development of experimental granites as a function of fluorine content & cooling rates, Geological Society of America, Abstracts with Programs, 37.

Sheehan, M. R. and Wolf, M. B. (2005) Jarosite stability and its implications for Martian mineralogical studies, Geological Society of America, Abstracts with Programs, 37.

Mischler, J.A. and Mattioli, G.S. (2004) GPS geodetic measurements of volcanogenically induced surface deformation on Dominica, Lesser Antilles. Geological Society of America, Abstracts with Programs, 36.

Sheehan, M.R., Hare, T., and Tanaka, K. (2004) Martian chaos: evidence of slope retreat within the largest known channel system. Geological Society of America, Abstracts with Programs, 36

Bluemle, S. R. and Wolf, M. B. (2001) The stability of igneous anhydrite in experimental andesitic melts. Geological Society of America, Abstracts with Programs, 33, 50.

McCann, V. E. and Wolf, M. B. (2001) The role of anhydrite and pyrite in igneous systems. Geological Society of America, Abstracts with Programs, 33, 50.

Kifer, J.A. and Wolf, M.B. (2000) Fluorine partitioning between apatite and granitic melts. Geological Society of America, Abstracts with Programs, 32, 21.

Wolf, M.B. (2000) Apatite solubility in granitic melts as a function of temperature and melt composition. Geological Society of America, Abstracts with Programs, 32, 68.

Anderson, E.S. and Wolf, M.B. (1999) Fluorine partitioning between granitic melt and biotite. Geological Society of America, Abstracts with Programs, 31, 1.

London, D., Morgan, G.B. VI, and Wolf, M.B. (1999) Amblygonite-montebrasite solid solutions as monitors of fluorine in evolved granitic and pegmatitic melts. Geological Society of America, Abstracts with Programs, 31, 354.

Norris, T.B. and Wolf, M.B. (1999) Nucleation and growth of feldspar in granitic melts as a function of cooling rates and fluorine content of melt. Geological Society of America, Abstracts with Programs, 31, 62.

Pugh, J.P. and Wolf, M.B. (1999) The influences of temperature and melt fluorine content on phosphorus and calcium diffusion through granitic melt away from dissolving apatite crystals. Geological Society of America, Abstracts with Programs, 31, 66.

Strasser, J.C., Kornreich Wolf, S., and Wolf, M.B. (1999) “Let’s rock” – a geology short-course for elementary students. Geological Society of America, Abstracts with Programs, 31, 74.

Wolf, M.B., Kornreich Wolf, S., and Strasser, J.C. (1999) A rock, mineral, and fossil learning kit for K-12 classrooms. Geological Society of America, Abstracts with Programs, 31, 81.

Wolf, M.B. and London, D. (1998) Experimental study of tourmaline stability in granitic magmas. International Mineralogical Association, 17th general meeting, Toronto, Canada, A152.

[Hervig, R.L.](javascript:__doLinkPostBack('','ss~~AU%20%22Hervig%2C%20Richard%20L.%22%7C%7Csl~~rl','');), [London, D.](javascript:__doLinkPostBack('','ss~~AU%20%22London%2C%20D.%22%7C%7Csl~~rl','');), [Morgan, G. B.](javascript:__doLinkPostBack('','ss~~AU%20%22Morgan%2C%20G.%20B.%22%7C%7Csl~~rl','');), and [Wolf, M. B.](javascript:__doLinkPostBack('','ss~~AU%20%22Wolf%2C%20M.%20B.%22%7C%7Csl~~rl','');) (1997) Large boron isotope fractionation between hydrous vapor and silicate melt at igneous temperatures. Goldschmidt Conference abstract (invited), 93-94.

**PUBLICATIONS (continued):**

Abstracts of talks and posters presented at regional and national meetings

London, D. and Wolf, M.B. (1997) The boron cycle in metasedimentary-peraluminous granite systems. International Symposium on Tourmaline, Czech Republic, 47-48.

Wilson, M.J., Wolf, M.B., and Morgan, G.B. VI (1997) Experimental partial melting of a boron-rich clay and schist couple. Geological Society of America, Abstracts with Programs, 29, 78.

Wolf, M.B. and London, D. (1997) The effect of boron in granitic magmas on tourmaline-biotite-cordierite equilibria. Geological Society of America, Abstracts with Programs, 29, 79.

London, D., Wolf, M.B., and Morgan, G.B. VI (1995) Silicate-phosphate equilibria in peraluminous granites and pegmatites: monitors and buffers of P2O5 in melt. Geological Society of America, Abstracts with Programs, 27, A411.

London, D., Wolf, M.B., Morgan, G.B. VI, and Gallego, M. (1995) The phosphorus cycle in peraluminous granitic magmas. Third International Hutton Symposium, University of Maryland, August, U.S.G.S. Circular 1129, 90.

Wolf, M.B., London, D., and Hervig, R. (1995) Boron isotope fractionation between haplogranitic melt and vapor at 750°C and 200 MPa(H2O). Goldschmidt Conference abstract (invited), 98.

London, D., Wolf, M.B., and Morgan, G.B. VI (1994) Boron saturation in granitic magmas: tourmaline-biotite-cordierite equilibria. Geological Society of America, Abstracts with Programs, 26, 516.

Wolf, M.B. and London, D. (1994) Incongruent melting of REE-rich apatite in peraluminous granitic melts: differential apatite & monazite solubilities. Transactions of the American Geophysical Union (EOS) 75, 372.

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