

Curriculum Vitae

**Erin H. Phillips**

University of Wyoming  
Department of Geology and Geophysics  
Laramie, WY 82071  
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**I. Academic History**

PhD Candidate in Geology, 2011-present, expected graduation 2016

University of Wyoming, Laramie, WY

GPA 4.0

Dissertation topic: *Origin and evolution of alkaline magmas; investigations at Haleakala Hawaii, Ross Island Antarctica, and Nyiragongo and Nyamulagira DR Congo*

Master of Science in Geology, 2004

New Mexico Institute of Mining and Technology, Socorro, NM

GPA 4.0

Thesis: *Collapse and Resurgence of the Valles Caldera;  $^{40}\text{Ar}/^{39}\text{Ar}$  Age Constraints on the Timing and Duration of Resurgence and Ages of Megabreccia Blocks*

Bachelor of Arts, cum laude with honors, 2000

Macalester College, Saint Paul, MN

GPA 3.67

Majors: Geology, Geography

Senior Honors Thesis: *Petrogenesis of the Enigmatic Aurora Sill, Mesabi Range, Minnesota*

***Additional Education:***

- Black Hills State University, Fall 2010  
Biostatistics Independent Study
- University of New Mexico, Summer 2002  
Volcanology Field Course
- University of Minnesota, Fall 2000  
Physics and math courses
- Albion College, Summer 2000  
Geology Field Camp
- School for International Training, Spring 1999  
Semester abroad in New Zealand, coursework in natural and cultural science

## II. Professional and Academic Experience

### *Graduate Research and Teaching Assistant, July 2011 to present*

University of Wyoming, Laramie, WY

- Conducted field and laboratory studies relating to alkaline magmatic provinces and synthesized results into peer-reviewed manuscripts and presentations at professional conferences
- Completed fieldwork, including collection of samples, geological mapping, and field data collection in Antarctica, DR Congo, and Yellowstone
- Completed laboratory procedures including geochemical rock preparation, petrographic analysis, chromatographic separation of Sr, Nd, Pb, Hf, and U-series nuclides for mass spectrometric analysis
- Operated Thermo-Fisher Neptune Plus Inductively Coupled Plasma Mass Spectrometer (ICP-MS) at the University of Wyoming and Nu Instruments ICP-MS at the Ecole Normale Supérieure in Lyon France to analyze isotopes of Sr, Nd, Pb, Hf, and U-series nuclides
- Oversaw and organized clean laboratory operations, including maintenance, safety, and ordering
- Taught Physical Geology and Petrology laboratory courses

### *Research Associate, Instructor, and Adjunct Faculty, December 2006 to June 2011*

Black Hills State University, Spearfish, SD

- Performed research duties in genetics and ecology laboratories
- Completed ongoing biological and chemistry fieldwork and analysis in deep underground mine
- Taught undergraduate science laboratory courses

### *Hydrologic Technician, Summer 2006; Volunteer, Summer 2005*

USDA Forest Service, Sierra National Forest, Clovis, CA

- Sampled lake water for air pollution monitoring
- Organized and participated in multiple day wilderness sampling trips

### *Senior Geologic Laboratory Associate, October 2004 to May 2006*

New Mexico Bureau of Geology and Mineral Resources, Socorro, NM

- Studied mine rock pile stability by analyzing mine soil samples using petrography and electron microprobe

### *GeoCorp America Geologist Intern, June 2004 to August 2004*

USDA Forest Service, Sierra National Forest, Clovis, CA

- Identified watershed disturbances on air photos and in the field

### *Graduate Research and Teaching Assistant, September 2001 to May 2004*

New Mexico Institute of Mining and Technology, Socorro, NM

- Analyzed volcanic rocks using  $^{40}\text{Ar}/^{39}\text{Ar}$  and electron microprobe techniques
- Taught undergraduate laboratory courses in geology

### *Student Worker Paraprofessional, February 2001 to June 2001*

Minnesota Department of Natural Resources, Saint Paul, MN

- Completed literature search of silicate mineral dissolution rates

*Undergraduate Research Assistant, June 1999 to August 1999*

Macalester College Geology Department, Saint Paul, MN

- Performed petrographic and XRF analysis of intrusive igneous rocks

### III. Publications

**Phillips E.H.**, Sims K.W.W., Sherrod D.R., Salters V.J.M., Blusztajn J., and Dulaiova H., in review, Isotopic constraints on the genesis and evolution of basanitic lavas beneath Haleakala, Island of Maui, Hawaii, *Geochim Cosmochim Acta*.

**Phillips E.H.**, Sims K.W.W., Blichert-Toft J., Kyle P.R., Gaetani G.A., Wallace P.J., and Rasmussen D.J., in prep, Sr-Nd-Pb-Hf isotopes reveal the nature and evolution of mantle upwelling at Ross Island, Antarctica.

**Phillips E.H.**, Sims K.W.W., Tedesco D., Blichert-Toft J., in prep, Isotopic constraints on magmatic sources at Nyiragongo and Nyamulagira Volcanoes, Virunga Volcanic Province, DR Congo.

**Phillips E.H.**, Goff F., Kyle P.R., McIntosh W.C., Dunbar N.W., and Gardner J.N., 2007, The  $^{40}\text{Ar}/^{39}\text{Ar}$  age constraints on the duration of resurgence at the Valles caldera, New Mexico, *J Geophys Res*, 112, B08201.

**Phillips E.H.**, Goff F., and Kyle P.R., 2007, The Deer Canyon and Redondo Creek Members of the Valles Rhyolite Formation: Field relationships, mineral chemistry, and magnetite/ilmenite temperature of formation for the Redondo Creek Member, 58<sup>th</sup> New Mexico Geological Society Fall Field Conference Guidebook, p. 90-91.

Gardner J.N., Sandoval M.M., Goff F., **Phillips E.H.**, Dickens A., 2007, Geology of the Cerro del Medio moat rhyolite center, Valles caldera, New Mexico, 58<sup>th</sup> New Mexico Geological Society Fall Field Conference Guidebook, p. 367-372.

McLemore V.T., Donahue K., **Phillips E.H.**, Dunbar N., Walsh P., Guitierrez L.A.F., Tachie-Menson S., Shannon H.R., Lueth V.W., Campbell A.R., Wilson G.W., and Walker B.M., 2006, Characterization of Goathill North mine rock pile, Questa molybdenum mine, Questa, New Mexico, *Proceedings of the 7th International Conference on Acid Rock Drainage*, p. 1219-1249.

### Abstracts Presented at Professional Meetings:

**Phillips E.H.**, Sims K.W.W., Tedesco D., Blichert-Toft J., Scott S., and Reagan M., 2015, Isotopic Constraints on Magmatic Sources at Nyiragongo and Nyamulagira Volcanoes, Virunga Volcanic Province, DR Congo, *American Geophysical Union Fall Meeting Abstracts*.

**Phillips E.H.**, Sims K.W.W., Blichert-Toft J., Kyle P.R., Gaetani G.A., Wallace P.J., and Rasmussen D.J., 2015, Sr-Nd-Pb-Hf isotopes reveal the nature and evolution of mantle upwelling at Ross Island, Antarctica, *Goldschmidt Conference Abstracts*.

**Phillips E.H.**, Sims K.W.W., and Salters V.J.M., 2014, U-series isotopic constraints on mantle upwelling on the periphery of the Hawaiian plume; Isotope geochemistry of Haleakala crater basanites, *U-Series Symposium 2014: The Frontiers of U-series Research Abstracts*.

- Phillips Writer E.H.**, Sims K.W.W., and Salters V.J.M., 2012, U-series and radiogenic isotopic constraints on the magmatic evolution of alkaline lavas from Haleakala, Maui, Hawaii, Goldschmidt Conference Abstracts.
- Phillips Writer E.H.**, Goff F., Kyle P., Dunbar N., McIntosh W., and Gardner J.N., 2010,  $^{40}\text{Ar}/^{39}\text{Ar}$  Age Constraints on the Duration of Resurgence and Post-collapse Rhyolites at Valles Caldera, Jemez Mountains, New Mexico, Geological Society of America Annual Meeting Abstracts.
- Phillips Writer E.H.**, Siemens D., Writer J.B., and Haugen R., 2009, Predictive GIS Modeling of Rare Plant Occurrence, Geological Society of America Rocky Mountain Section Meeting Abstracts.
- Phillips E.H.**, Lueth V., Campbell A., McLemore V.T., and Tachie-Menson S., 2005, Stratigraphy and Weathering History of the Goathill North Mine Rock Pile, Questa Molybdenum Mine, New Mexico – Some Initial Results, Geological Society of America Annual Meeting Abstracts.
- Phillips E.H.**, Lueth V., Campbell A., McLemore V.T., and Tachie-Menson S., 2005, Soil Petrography of a Sample Traverse from a Rock Pile Trench at the Questa Mine, New Mexico, New Mexico Geological Society Spring Meeting Abstracts.
- Phillips E.H.** and Gallegos A.J., 2004, Identification and Mitigation of Watershed Disturbances in the Kings River Project Area, Sierra National Forest, California, Geological Society of America Annual Meeting Abstracts.
- Phillips E.H.**, McIntosh W.C., Kyle P.R., Goff F., and Gardner J.N., 2003,  $^{40}\text{Ar}/^{39}\text{Ar}$  Age Constraints on the Timing and Duration of Resurgence of the Valles Caldera, New Mexico, American Geophysical Union Fall Meeting Abstracts.
- Phillips E.H.**, Goff F., Kyle P.R., McIntosh W.C., and Gardner J.N., 2003, Collapse and Resurgence of the Valles Caldera, Jemez Mountains, New Mexico; Field Relationships and  $^{40}\text{Ar}/^{39}\text{Ar}$  Ages of Megabreccia Blocks and Constraints on the Timing of Resurgence, New Mexico Geological Society Spring Meeting Abstracts.
- Phillips E.H.**, Kyle P., McIntosh W.C., and Heizler M., 2002, The Nature of Resurgence in the Valles Caldera, Jemez Mountains, New Mexico, New Mexico Geological Society Spring Meeting Abstracts.
- Phillips E.H.**, Wirth K.R., Vervoort J.D., and Gehrels G.E., 2001, Nd and U-Pb Isotope Studies of the Syenitic Aurora Sill, Mesabi Range, Minnesota, Institute on Lake Superior Geology Abstracts.
- Phillips E.H.**, Wirth K.R., and Vervoort J.D., 2000, Petrogenesis of the Enigmatic Aurora Sill, Mesabi Range, Minnesota, Geological Society of America Annual Meeting Abstracts.
- Phillips E.H.**, Wirth K.R., and Morey G.B., 2000, Petrogenesis of the Enigmatic Aurora Sill, Mesabi Range, Minnesota, Institute on Lake Superior Geology Abstracts.

#### **IV. Teaching Experience**

*Petrology Laboratory*, University of Wyoming, Spring 2014  
*Physical Geology Laboratory*, University of Wyoming, Spring 2012  
*Historical Geology Laboratory*, Black Hills State University, Fall 2007, 2010  
*Biology Survey Laboratory*, Black Hills State University, Fall 2007  
*Physical Geology Laboratory*, Black Hills State University, Spring 2007  
*Astronomy Laboratory*, Black Hills State University, Spring 2007  
*Advanced Mineralogy teaching assistant*, New Mexico Institute of Mining and Technology, Spring 2003  
*Petrology Laboratory*, New Mexico Institute of Mining and Technology, Fall 2002  
*Historical Geology Laboratory*, New Mexico Institute of Mining and Technology, Spring 2002  
*Mineralogy Laboratory*, New Mexico Institute of Mining and Technology, Fall 2001

#### **V. Grant Support**

EPSCoR Wyoming Women in Science and Engineering Travel Grant, \$900 (2015)  
Goldschmidt Student Travel Grant, \$1250 (2015)  
Roy J. Schlemmer Center for Quaternary Studies Student Travel Grant, \$1000 (2014)  
U-series Symposium Student Travel Award \$700 (2014)  
Dick and Lynne Cheney Fellowship for Excellence in Study Abroad, \$4000 (2013)  
Black Hills State University Faculty Research Grant to David Siemens and Erin Phillips Writer, "Population Genetic Variation of *Boechera stricta* in the Northern Black Hills," \$2826 (2008)  
New Mexico Geological Society Grants in Aid, \$750 (2002), \$1000 (2003)  
Colorado Scientific Society Grant, \$900 (2002)

#### **VI. Honors and Awards**

Best Student Paper Award, U-Series Symposium 2014: The Frontiers of U-series Research  
John Hummel Memorial Scholarship, University of Wyoming, 2011-2012  
Outstanding Teaching Assistant, New Mexico Institute of Mining and Technology, 2003  
Hugh S. Alexander Award for Outstanding Seniors Majoring in Geology, Macalester College, 2000

#### **VII. Service and community outreach**

Graduate Student Representative on University of Wyoming College of Arts and Sciences Dean's Central Committee (2015-2016)  
Volunteer, Wyoming NASA Space Grant Consortium Women in Science Conference (2015)  
Organizer, University of Wyoming Department of Geology and Geophysics student brown bag seminar (2012-2013)

Community outreach for NSF funded research in Antarctica, including National Geographic blog and visits to local grade school and high school classes (2012-2013)

<http://voices.nationalgeographic.com/tag/antarctica-2012/>

Co-convener, Goldschmidt session titled “The occurrence, genesis and evolution of alkaline magma” (2012)

Graduate Student Representative on New Mexico Tech library director search committee (2003)