

## Curriculum Vitae Jennifer Marie Garrison

University of Iowa  
Department of Geoscience  
121 Trowbridge Hall  
Iowa City, IA 52240

Tel (319) 355-1799  
jennifer-m-garrison@uiowa.edu  
www2.ess.ucla.edu/~garrison

Date of Birth: May 30, 1965

### **Present Position**

NSF MARGINS Post-doctoral Fellowship: Time-scales and mechanisms of differentiation of mafic parents to rhyodacite in Central America. Start date 1 September, 2004. Project Director, Dr. Mark Reagan, Department of Geoscience, University of Iowa

### **Academic Degrees**

- 1995 B.S., Environmental Geology, Colorado State University, Fort Collins, CO
- 1998 M.S., Geology, New Mexico State University, Las Cruces, NM  
Implications of allochthonous meta-igneous and carbonate blocks from Papalote evaporite diapir, La Popa basin, Nuevo Leon, Mexico.  
Advisor: Dr. Nancy J. McMillan
- 2004 Ph.D., Geology, University of California, Los Angeles;  
Magmatic processes at Cotopaxi Volcano, Ecuador: Petrological and geochemical constraints, and inferences for arc volcanoes.  
Advisors: Dr. Jon P. Davidson and Dr. Mary Reid

### **Research Interests**

Igneous petrology; volcanology, physical and geochemical evolution of magma systems; application of  $^{238}\text{U}$ -series disequilibrium to igneous petrology and carbonate/marine geology. Tectonic-magmatic associations in extensional settings.

### **Research Experience**

- 9/03-6/04 UCLA Dissertation research
- 9/02-6/03 UC Presidential Dissertation Year Fellow, Dissertation research – ion probe analyses of zircon - directed by Mary Reid
- 4/02-6/02 U-Th analyses at Univ. of Bristol, UK, oxygen isotope analyses at Univ. College of London, Royal Holloway - directed by Dave Lowry
- 9/01-12/01 U-series isotope analyses at the Univ. of Bristol, UK, directed by Simon Turner and Georg Zellmer

### **Research Experience (continued)**

7/00 Field work, Cotopaxi volcano, Ecuador  
4/99-6/99 Dissertation research – isotopic and electron microprobe analyses  
6/99-8/99 Field work at Cotopaxi volcano, assisted staff at the Instituto Geofísico, Quito with equipment installation at Pinchincha, Antisana and Tungurahua volcanoes  
1/99 Preliminary field research at Cotopaxi Volcano, Ecuador  
1/96, 5/96 Field work, Papalote evaporate diaper, La Popa sedimentary basin, Nuevo Leon, Mexico

### **Teaching Experience**

6/04-8/04 Part time faculty at Santa Monica College, Physical Geology  
1/04-5/04 Part time faculty at the University of Judaism, Los Angeles  
Course: Geologic Hazards and Natural Resources of Southern California.  
1/04-5/04 Part time faculty at California State Univ., Long Beach, General Geology.  
6/01-8/01 Teaching Assistant with Dr. Gary Axen, UCLA Geology Summer Field Camp  
9/00-6/01 Teaching Fellow with Dr. Mike Vendrasco, UCLA for the undergraduate Cluster Course “Evolution of the Cosmos and Life”. Also taught a seminar entitled “Geologic Hazards and Natural Resources of Southern California”.  
9/98- 6/00 Teaching Assistant with Dr. Jon Davidson, UCLA, courses in Igneous Petrology (1 quarter) and Physical Geology (4 quarters)  
1/98-7/98 Instructor, Department of Geology and Geological Engineering, University of Mississippi, Oxford, MS. Taught Introductory Geology and Physical Geography courses.  
8/95-6/97 Teaching Assistant, New Mexico State University, Las Cruces, NM. Taught laboratory sections of Physical Geology, Historical Geology, Igneous Petrology and Mineralogy/Crystallography.

### **Analytical Experience**

VG Sector 54 thermal ionization mass spectrometer (Rb-Sr, Sm-Nd, Pb, Ra isotopic analyses of whole rocks) with WARP energy filter and ion counting  
ThermoFinnigan NEPTUNE multicollector ICP-MS (U-Th isotopic analyses of whole rocks and mineral separates)  
Cameca ims 1270 ion microprobe (U-Th and U-Pb dating of zircon)  
Cameca Camebax and JEOL Superprobe electron microprobes  
LEO 1470 scanning electron microscope  
OPTIMA mass spectrometer using laser fluorination technique (oxygen isotopes)  
Clean lab separation of elements for isotopic analysis

## **Funding**

2004	MARGINS Postdoctoral Fellowship (with Dr. Mark Reagan)	\$120,000
1999	National Science Foundation Research Grant (with Dr. Jon P. Davidson)	\$180,000
1999	Latin American Studies Research Grant	\$ 1,700
1998	Geological Society of America Research Grant	\$ 2,000
1995	Geological Society of America Research Grant	\$ 2,000
1995	American Association of Petroleum Geologists Award	\$ 1,800

## **Honors**

### UCLA

2002-2003 UC Presidential Dissertation Year Fellowship

### New Mexico State University

1997	Charles C. Gunn Memorial Scholarship	\$ 500
1996	Council of Higher Education Research Grant	\$ 500
1996	Beverly Welnitz Award for Academic Excellence	\$ 500

### Colorado State University

1995	Honor Senior in Geology	
1995	Rocky Mtn. Assoc. of Geologists Outstanding Student Award	
1994	Faculty and Staff Scholarship	\$ 200
1994	David Harris Memorial Scholarship	\$ 350
1993	Chevron Scholarship	\$ 2,000

## **Publications**

- Garrison, J.M. and Davidson, J.P., 2004, Reply to Comment: Dubious case for slab melting in the Northern volcanic zone of the Andes: Geology online forum.
- Garrison, J.M. and Davidson, J.P., 2003, Dubious case for slab melting in the Northern volcanic zone of the Andes: Geology v. 31 no. 6, p. 565-568.
- Garrison, Jennifer M. and McMillan, Nancy J., 1999, Evidence for Jurassic continental rift magmatism in NE Mexico: Allochthonous meta-igneous blocks in El Papalote evaporite diapir, La Popa Basin, Nuevo Leon, Mexico: Geological Society of America Special Paper 340, p. 319 – 331.
- Garrison Jennifer M., 1998, Implications of allochthonous carbonate and meta-igneous blocks from El Papalote evaporite diapir, La Popa basin, Nuevo Leon, Mexico: Masters Thesis, New Mexico State University, 160 p.
- Garrison, J.M., and McMillan, N.J., 1997, Origin and implications of allochthonous blocks in El Papalote evaporite diapir, La Popa basin, Mexico. AAPG Field Trip Guide Book #10, Structure, Stratigraphy and Paleontology of Late Cretaceous-Early Tertiary Parras-La Popa Foreland Basin near Monterrey, Northeast Mexico, p. 116-125.

## **Abstracts**

- Garrison, J.M., Davidson, J.P., Turner, S.P., Mothes, P. and Hall, M., 2002,  $^{238}\text{U}$ - $^{232}\text{Th}$ - $^{226}\text{Ra}$  disequilibria at Cotopaxi volcano, NVZ, Ecuador: EOS Transactions, American Geophysical Union.
- Garrison, J.M., Davidson, J.P., Mothes, P. and Hall, M., 2000. An alternative to slab melting in the Northern Volcanic Zone of the Andes: EOS Transactions, American Geophysical Union.
- Lawton, T.F., Garrison, J.M., and McMillan, N.J., 1997, Late Jurassic transtensional borderland on the southwestern margin of North America: GSA Abstracts with Programs, v. 29, no. 7.

## **In Press**

- Davidson, J. P., Hora, J., Garrison, J.M., and Dungan, M. 2004, Crustal forensics in arc magmas, Journal of Volcanology and Geothermal Research.
- Garrison, J.M., Davidson, J.P., Reid, M.R. and Turner, S. P., Multi-level crustal assimilation at Cotopaxi Volcano, Ecuador; U-series investigations

## **Referees**

**Jennifer M. Garrison**

Dr. Jon P. Davidson  
University of Durham  
South Road, Durham  
DH1 3LE, UK  
J.P.Davidson@durham.ac.uk  
Phone: 001 44 191 374 2528

Dr. Michael Vendrasco  
Dept. of Earth and Space Scienc  
University of California, Los Angeles  
Los Angeles, CA 90095  
mikev@ess.ucla.edu  
Phone: 310-825-8330

Dr. Gregg Davidson  
Dept. of Geology and Geological Engineering  
University of Mississippi  
University, MS, 38677  
davidson@olemiss.edu  
Phone: 662-915-5824

Dr. Mary Reid  
Dept. of Earth Sciences  
Northern Arizona University  
Flagstaff, Arizona  
Mary.Reid@NAU.EDU

Dr. Nancy J. McMillan  
Department of Geological Sciences  
Dept. 30001, Box 3AB  
New Mexico State University  
Las Cruces, NM 88003  
nmcmillan@nmsu.edu  
Phone: (505) 646-5000

Dr. Beryl Geber  
Dean of the College of Arts & Science  
The University of Judaism  
15600 Mulholland Dr  
BelAir, California, 90077  
bgeber@uj.edu