

## CURRICULUM VITA

G. Lang Farmer  
Dept. of Geological Sciences and CIRES  
University of Colorado, Boulder

### **Educational History**

9/77-3/83 University of California, Los Angeles. Earned Ph.D. in geochemistry in March 1983.  
9/73-6/77 Revelle College, University of California, San Diego. Earned B.A. in chemistry with emphasis in earth science, June 1977.

### **Employment History**

9/99-present Professor, Dept. of Geological Sciences and Fellow, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder.  
1/85-8/99 Assistant/Associate Professor, Dept. of Geological Sciences and Fellow, Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder.  
2/83-1/85- Director's postdoctoral position at the Los Alamos National Laboratory.

### **University Service (since 1990)**

Department- Chair-2009-2015 (many prior service assignments in department)  
Institute (CIRES)- Internal Review Committee (1991), Strategic Planning Committee (1992), Chair of Director Reappointment Committee (1997-1998). Space Committee (2001-2), Chair of Fellows Reappointment Committee (2003-4, 2006-7), Visiting Fellows Committee (2009-10).  
Other-Associate Director for CIRES Solid Earth Geophysics Division, 1993, 1998

### **Professional Service**

Invited Public Lectures (1990-present): Arizona State University, U.S. Geological Survey (Denver, Reston, Menlo Park), New Mexico State University, University of North Carolina, Kansas University, University of Nevada (Reno), University of Texas (El Paso, Austin), Texas Tech University, California Institute of Technology (CIT), Massachusetts Institute of Technology, Colorado Scientific Society (Golden), Boston University, Harvard University, University of New Mexico, Colorado State University, University of Nevada (Las Vegas), Indiana University-Purdue University Indianapolis, University of Wyoming. Central Washington University, Iowa State University, Fresno State University, University of Sonora Hermosillo (MX)

Journal Editorial Boards: Geology Magazine 1990-93; Assoc. Editor, Lithos, 1997-2003; Assoc. Editor, Geological Society of America Bulletin, 1999-2007. Geosphere-2011 to present

### National/International Committees (since 2005)

Panel Member-NSF-EAR Sedimentary Geology and Paleontology 2005  
U.S. Department of Energy's Office of Research and Development Independent Review Panel-2006-9

Panel Member- NSF-EAR Instrumentation and Facilities Program, 2009-2012  
 Advisory Board Member- IGGPS Los Alamos National Laboratory, 2014-present

### **Awards/Lectureships**

1996 -Allday Lecturer, University of Texas, Austin  
 2000 -Crosby Lecturer (Visiting Faculty), Massachusetts Institute of Technology (Earth, Atmosphere, and Planetary Science Dept.)  
 2014-Elected as Fellow of the Geological Society of America

### **Published Articles and Book Chapters**

Farmer, G.L., and A.L. Boettcher, "Petrologic and crystal-chemical significance of some deep-seated phlogopites", *Am. Mineral.*, 66, 1154-1163, 1981.

Farmer, G.L., and D.J. DePaolo, "Origin of Mesozoic and Tertiary granite in the western United States and implications for pre-Mesozoic crustal structure 1. Nd and Sr isotopic studies in the geocline of the northern Great Basin", *J. Geophys. Res.*, 88, 3379-3401, 1983.

Farmer, G.L., and D.J. DePaolo, "Origin of Mesozoic and Tertiary granite in the western United States and implications for pre-Mesozoic crustal structure 2. Nd and Sr isotope studies of unmineralized and Cu- Mo-mineralized granite in the Precambrian craton", *J. Geophys. Res.*, 89, 10,141-10,160, 1984.

Above paper was reprinted in Lipman, P.W., Chapin, C.E., and Dungan, M.E., "Cenozoic Volcanism in the Western United States-A Volume of Selected Reprints", American Geophysical Union, Washington D.C., 1989.

DePaolo, D.J., and G.L. Farmer, "Isotopic data bearing on the origin of Mesozoic and Tertiary granite in the western United States", *Phil. Trans. R. Soc. Lond.*, A310, 743-753, 1984.

Farmer, G.L., and D.J. DePaolo, "A Nd and Sr isotope study of hydrothermally altered granite at San Manuel, Arizona: Implications for element migration paths during the formation of porphyry copper ore deposits", *Econ. Geol.*, 82, 1142-1151, 1987.

Farmer, G.L., "Isotope geochemistry of Mesozoic and Tertiary igneous rocks in the western U.S. and implications for the structure and composition of the deep continental lithosphere", in Ernst, W.G., ed., *Metamorphism and Crustal Evolution of the Western United States, Rubey Volume VII*, pg. 87-109, 1988.

Farmer, G.L., F.V. Perry, S. Semken, B. Crowe, D. Curtis, and D.J. DePaolo, "Isotopic evidence on the structure and origin of the subcontinental lithospheric mantle in southern Nevada", *J. Geophys. Res.*, 94, 7885-7898, 1989.

Tegtmeyer, K.J., and G.L. Farmer, "Nd isotopic gradients in upper crustal magma chambers: Evidence for in situ magma-wall rock interaction", *Geology*, 18, 5-9, 1990.

Ingram, B.L., J.R. Hein, and G.L. Farmer, "Age determinations and growth rates of Pacific ferromanganese deposits using strontium isotopes", *Geochim. Cosmochim. Acta*, 54, 1709-1721, 1990.

Kaufman, D.S., G.L. Farmer, G.H. Miller, L.D. Carter, and J. Brigham-Grette, "Strontium isotopic dating of Upper Cenozoic marine deposits, northwestern Alaska", in Gosnell, L.D., and Poore, R.Z., eds., *Pliocene climates-scenario for global warming*, U.S. Geological Survey Open-File Rpt. 90-64, 17-21, 1990.

- Glazner, A.F., G.L. Farmer, W.T. Hughes, J.L. Wooden, and W. Pickthorn, "Contamination of basaltic magma by mafic crust at Amboy and Pisgah Craters, Mojave Desert, Californian", *J. Geophys. Res.*, 96, 13,673-13,691, 1991.
- Ball, T.T., and G. L. Farmer, "Identification of 2.0 to 2.4 Ga Nd model age crustal material in the Cheyenne belt, southeastern Wyoming: Implications for Proterozoic accretionary tectonics at the southern margin of the Wyoming craton", *Geology*, 19, 360-363, 1991.
- Farmer, G.L., and K.J. Tegtmeier, "Reply to Comment on Nd isotopic gradients in upper crustal magma chambers", *Geology*, Feb. 1991.
- Farmer, G.L., D.E. Broxton, R.G. Warren, and W. Pickthorn, "Nd, Sr, and O isotopic variations in metaluminous ash flow tuffs and related volcanic rocks at the Timber Mountain/Oasis Valley caldera complex, SW Nevada: Implications for the origin and evolution of large volume silicic magma bodies", *Contrib. Mineral. Petrol.*, 109, 53-68, 1991.
- Glazner, A.F., and G.L. Farmer, "Production of isotopic variability in continental basalts by cryptic crustal contamination, *Science*, 255, 72-74, 1992.
- Barker, F., G.L. Farmer, R.A. Ayuso, G. Plafker, and J.S. Lull, "The 50 Ma granodiorite of the eastern Gulf of Alaska: melting in an accretionary prism in the forearc", *J. Geophys. Res.*, 97, 6757-6778, 1992.
- Ball, T.T., and G.L. Farmer, "Reply to Comment on "Identification of 2.0 to 2.4 Ga Nd model age crustal material in the Cheyenne belt, southwestern Wyoming: implications for Proterozoic accretionary tectonics at the southern margin of the Wyoming craton", *Geology*, July 1992, p. 664-665.
- Farmer, G.L., "Magmas as tracers of lower crustal composition: An isotopic approach", in Fountain, D, R. Kay, and J. Arculus, eds., *Continental Lower Crust*, Elsevier Publication Co, 363-390, 1992.
- Jones, C.H., Wernicke, B. P., Farmer, G. L., Walker, J. D., Coleman, D. S., McKenna, L. W., and F.V. Perry, "Variations across and along a major continental rift: An interdisciplinary study of the Basin and Range Province, western USA", *Tectonophysics*, 213, 57-96, 1992.
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- Kaufman, D. S., Carter, L. D., Miller, G. H., Farmer, G. L., and D. A. Budd, "<sup>87</sup>Sr/<sup>86</sup>Sr composition of Pliocene-Pleistocene molluscs from emerged marine deposits, North American Arctic", *Canadian Journal of Earth Sciences*, 30, 519-534, 1993.
- Farmer, G. L., Glazner, A. F., Wilshire, H. G., Wooden, J. L., Pickthorn, W. J. , Katz, M., "Origin of late Cenozoic basalts at the Cima volcanic field, Mojave Desert, California, *J. Geophys. Res.*, 100, 8399-8415, 1995
- Dilles, J. H., Farmer, G. L., and C. W. Field, "Sodium-calcium alteration by non-magmatic saline fluids in porphyry copper deposits: results from Yerington, Nevada", in Thompson, J.F. H. ed., *Magmas, Fluids, and Ore Deposits*, Mineralogical Association of Canada, Short Course Series, 1995.

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- Farmer, G. L., T. T. Ball, "Sources of Middle Proterozoic to Early Cambrian siliciclastic sedimentary rocks in the Great Basin: A Nd isotope study, *Geol. Soc. Amer. Bull.*, 109, p. 1193-1205, 1997.
- Farmer, G. L., Donald J. DePaolo, "Sources of Hydrothermal Components: Heavy Isotopes", in *Geochemistry of Hydrothermal Ore Deposits*, 3rd Edition, H. Barnes ed., p. 31-62, 1997.
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- Farmer, G. L., Espinoza, G., Morales, M., Martin, M. W., and S. A. Bowring, Nd isotope constraints on sources of Neoproterozoic to Early Cambrian siliciclastic sedimentary rocks in northern Sonora, *J. South Am. Earth Sci.*, 14, 437-446, 2001.
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- Farmer, G. L., Bowring, S. A., Christensen, N. I., Williams, M. L., Matzel, J. P., and L. Stevens, Contrasting lower crustal evolution across an Archean-Proterozoic suture: physical, chemical and geochronologic studies of lower crustal xenolith in southern Wyoming and northern Colorado, AGU Monograph, The Rocky Mountain Region: An Evolving Lithosphere, 139-162, 2005.
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- Farmer, G. L., Licht, K, Swope, J., and J. Andrews, Isotopic Constraints on the Provenance of Fine Grained Sediment in LGM Tills from the Ross Embayment, Antarctica, Earth and Planetary Science Letters, vol. 249, pp. 90-107, 2006.
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**Grants (past 4 years)**

National Science Foundation-Major Research Instrumentation: Acquisition of an Electron Microprobe for Major and Trace Element Analysis, \$800,000, co-PI (Julien Allaz and Kevin Mahan lead PIs), 8/9/2014-8/7/2017.

National Science Foundation, Sedimentary Geology and Paleobiology Program, Collaborative Research: The provenance of "Grenville" age detrital zircon in western North America and the Neoproterozoic to early Paleozoic evolution of southwestern Laurentia, PI , \$146,854, 3/1/2013-2/28/2015.

National Science Foundation, Earth Sciences Instrumentation and Facilities, Development of a High Ionization Efficiency Molten Glass Ion Emitter, Supplement, \$8,200, PI, 4/28/2010-4/27/2011 (original award funded in 2007).

U.S. Geological Survey-MRERP, Origin of Elk Creek Carbonatite, \$40,000, PI, 2/1/2012-1/29/2014.