

Corey Ryle Lawrence

Email: clawrence@usgs.gov

Tel: +1 (650) 329-4961

Fax: +1 (650) 329-4920

Research Geologist

United States Geological Survey

345 Middlefield Rd, MS 962

Menlo Park, CA 94025

Education

- | | | |
|--------------|--|------|
| Ph.D. | Geological Sciences, University of Colorado, Boulder, CO
<i>Dissertation Advisor: Dr. Jason Neff; Title: Aeolian deposition in the San Juan Mountains of southwestern, Colorado, USA.</i> | 2009 |
| B.S. | Environmental Science & Policy, Clarkson University, Potsdam, NY | 2002 |
| B.S. | Biology, Clarkson University, Potsdam, NY | 2002 |

Professional Experience

- | | |
|--|-----------|
| Mendenhall Postdoctoral Fellow , U.S. Geological Survey, Menlo Park, CA | 2009-2011 |
| Postdoctoral Research Affiliate , U.S. Geological Survey, Moab, UT | 2009 |
| Research Assistant , University of Colorado, Boulder, CO | 2004-2009 |
| Research Assistant , The Ecosystems Centers, Woods Hole, MA | 2002-2004 |
| Undergraduate Researcher , Toolik Lake LTER, Toolik Lake, AK | 2001 |
| Research Assistant , Clarkson University, Potsdam, NY | 2000 |
| Research Intern , Atmospheric Science Research Center, Wilmington, NY | 1999 |

Teaching Experience

- | | |
|--|------|
| Topics in Biogeochemistry Seminar , University of Colorado, Boulder, CO | 2008 |
| Introduction to Global Change , University of Colorado, Boulder, CO | 2005 |
| General Geology Laboratory , University of Colorado, Boulder, CO | 2004 |
| General Ecology Laboratory , Clarkson University, Potsdam, NY | 2001 |

Peer Reviewed Publications

Lawrence, C.R., J. C. Neff, G.L. Farmer, (2011). The accretion of aeolian dust in soils of the San Juan Mountains, Colorado, USA. *Journal of Geophysical Research* 116(F2).
doi:10.1029/2010JF001899

Lawrence, C.R., Painter, T.H., Landry, C.C., and Neff, J.C. (2010). Contemporary geochemical composition and flux of aeolian dust to the San Juan Mountains, Colorado, United States, *Journal of Geophysical Research* 115, G03007, doi:10.1029/2009JG001077.

Lawrence, C.R. and Neff, J.C. (2009). The contemporary physical and chemical flux of aeolian dust: A synthesis of direct measurements of dust deposition. *Chemical Geology* 267: 46-63.

Lawrence, C.R., Neff, J.C. and Schimel, J.S. (2009). Does adding microbial mechanisms of decomposition improve soil organic matter models? A comparison of four models using data from a pulsed rewetting experiment. *Soil Biology & Biochemistry*, 41: 1923-1934.

Neff, J.C., Ballantyne, A.P., Farmer, G.L., Mahowald, N., Conroy, J.L., Landry, C.C., Overpeck, J.T., Painter, T.H., **Lawrence, C.R.** and Reynolds, R.L. (2008). Increasing eolian dust deposition in the Western United States linked to human activity. *Nature Geoscience*, 1(3): 189-195.

Painter, T.H., Barrett, A.P., Landry, C.C., Neff, J.C., Cassidy, M.P., **Lawrence, C.R.**, McBride, K.E. and Farmer, G.L. (2007). Impact of disturbed desert soils on duration of mountain snow cover. *Geophysical Research Letters*, 34(12).

Publications in Preparation/Review

Lawrence, C.R., Ketterer, M., Reynolds, R.L., Neff, J.C., (Submitted). Aeolian controls of soil geochemistry and weathering fluxes in the Rocky Mountains, USA.

Lawrence, C.R., Belnap, J., and Neff, J.C. (In Preparation). Estimating nutrient losses from arid soils as a result of sustained wind erosion.

Lawrence, C.R., Trumbore, S., Harden, J.W. (In Preparation). Long-term patterns of soil carbon across a temperate soil chronosequence.

Lawrence, C.R., Maher, K., Schulz, M., White, A. and Harden, J.W. (In Preparation). The role of soil organic carbon transport and transformations in weathering processes from a reactive transport analysis, Santa Cruz Marine Terraces, CA.

Professional Abstracts (Invited)

Lawrence, C.R., Painter, T.H., Landry, C.C., and Neff, J.C. (2008) Long-term patterns of dust deposition in high-elevation ecosystems downwind of aridic dust sources. Geological Society of America, Annual Meeting, Houston, TX

Lawrence, C.R., Neff, J.C. and Schimel, J.S. (2005) Incorporating microbial mechanisms of decomposition in SOM models: The CENTURY of microbes. Ecological Society of America, Annual Meeting. Montreal, Quebec.

Professional Abstracts (Contributed)

- Lawrence, C.R. Maher, K., Schulz, M., and Harden, J.W. (2011) Long-term interactions of carbon cycling and mineral weathering: Does substrate quality matter over millennial timescales? American Geophysical Union, Annual Meeting, San Francisco, CA.
- Lawrence, C.R. Maher, K., and Harden, J.W. (2010) Toward a model framework for evaluating the long-term capacity of soil to sequester carbon. Goldschmidt, Annual Meeting, Knoxville, TN.
- Lawrence, C.R., Harden, J.W., Masiello, C., and Maher, K. (2010) Linking the flux of water to soil development and carbon storage in the critical zone. Examples from the Marine Terrace Chronosequence, Santa Cruz, CA, USA. European Geosciences Union, Annual Meeting, Vienna, Austria
- Lawrence, C.R., Waldrop, M.P., and Harden, J.W. (2010) Long-term stabilization of soil organic carbon: Linking climate, soil development, and carbon sequestration in the Western US. US Geological Survey, Climate Change Conference, Denver, CO.
- Lawrence, C.R., Neff, J.C., and Farmer, G.L. (2008) Evaluating the Contribution of Eolian Dust to the Weathering Flux From Mountain Soils Downwind of a Dust Producing Region. American Geophysical Union, Annual Meeting, San Francisco, CA.
- Lawrence, C.R., Famer, G.L., and Neff, J.C. (2007) Geochemical and isotopic estimates of eolian dust in soils of the San Juan Mountains, USA. American Geophysical Union, Annual Meeting, San Francisco, CA.
- Lawrence, C.R., Farmer, G.L., and Neff, J.C. (2007) Geochemical evidence for the importance of eolian dust to soil formation in the San Juan Mountains of southern Colorado. Soil Ecology Society, Annual Meeting, Moab, UT.
- Lawrence, C.R., Castle, S., Painter, T.H., and Neff, J.C. (2006) The coupling of mountains and deserts: Biogeochemical influence of eolian deposition in the San Juan Mountains, CO USA. Biogeomon, Santa Cruz, CA.
- Lawrence, C.R., Schwartz, J., Hughes, J., and Deegan, L.A. (2001) The effects of increased nutrient loading on invertebrate and fish communities of West Falmouth Harbor, Cape Cod, MA. North Eastern Estuarine Research Society, Bi-Annual Meeting. Salem, MA.

Invited Seminars

Baylor University, Geology Department, Waco, TX	2011
University of Utah, Department of Earth Science, Salt Lake City, UT	2011
U.S. Geological Survey, Geology and Geophysics Seminar, Menlo Park, CA	2010
University of California, Merced, Department of Earth Science, Merced, CA	2010

Max-Planck Institute of Biogeochemistry, Jena, Germany

2010

Research Funding

National Science Foundation, Dissertation Improvement Grant (\$11,000)

2008-2010

Honors, Awards, and Fellowships

US Geological Survey Mendenhall Postdoctoral Fellowship	2009
Geologic Society of America, Graduate Research Fellowship	2008
University of Colorado, Beverly Sears Graduate Research Fellowship	2008
Colorado Mountain Club, Graduate Research Fellowship	2007
University of Colorado, Geological Science, Jack Edwards Scholarship	2007
University of Colorado, Geological Science, Jeffery Deen Memorial Scholarship	2005
Clarkson University, Department of Biology Award	2002
Clarkson University, Commendable Leadership Award	2001
Clarkson University, Commendable Service Award	2000

Professional Service and Outreach

United States Department of Agriculture, Agricultural Research Service 2010

National Program 212, Panel Review

Mountain Studies Institute, Silverton, CO 2008

Community Science Seminar

National Center for Ecological Analyses and Synthesis, Santa Barbara, CA 2005

Microbial Working Group

Ad Hoc Reviews

Journal of Geophysical Research
Soil Biology and Biochemistry
Reviews of Geophysics
Journal of Aeolian Research
Catena
Journal of Arctic, Antarctic, and Alpine Research

Professional Memberships and Affiliations

American Geophysical Union
Geological Society of America
Ecological Society of America
European Geosciences Union
Goldschmidt Society
Geochemical Society
Soil Ecological Society
Critical Zone Network
Long Term Ecological Research Network

Professional References

Dr. Jason Neff (Graduate Advisor)
Professor, University of Colorado
Department of Geological Sciences
2200 Colorado Ave
Boulder CO, 80309
Tel. +1 (303) 492-6187
Email. jason.c.neff@colorado.edu

Dr. Jennifer Harden (Post-doctoral Advisor)
Scientist, US Geological Survey
345 Middlefield Rd, MS962
Menlo Park CA, 94025
Tel. +1 (650) 329-4949
Email. jharden@usgs.gov

Dr. Kate Maher (Post-doctoral Advisor)
Assistant Professor, Stanford University
Geological and Environmental Sciences
253 Green Earth Sciences Building
Stanford, CA 94305-215
Tel. +1 (650) 725-0927
Email. kmaher@stanford.edu

Richard Reynolds (Collaborator)
Research Geologist, U.S. Geological Survey
Box 25046, MS962
Denver, CO 80225
Tel. +1 (303) 236-1303
Email. rreynolds@usgs.gov

Dr. Charles Hopkinson (Supervisor)
Professor and Georgia Sea Grant Director, University of Georgia
Department of Marine Sciences
229 Marine Sciences Building
Athens, GA 30602-3636
Tel. +1 (706) 542-1855
Email. chopkins@uga.edu