

Daniel R. Hirmas

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EDUCATION

- Ph.D. in Soil and Water Sciences, University of California - Riverside, June 2008
Dissertation: Surface Processes, Pedology, and Soil-Landscape Modeling of the Southern Fry Mountain Bolson, Mojave Desert, California
- M.S. in Soil Science, Texas Tech University, 2003
Thesis: Degradation of Pedogenic Calcretes in West Texas
- B.A. in Biology, Texas A&M University, 1999

PROFESSIONAL EXPERIENCE

- Courtesy Assistant Professor, Environmental Sciences Program, University of Kansas, Lawrence, KS, 2009-Present.
- Assistant Professor, Department of Geography, University of Kansas, Lawrence, KS, 2008-Present.
- Graduate Student/Research Assistant, University of California, Riverside, CA, 2003-2008.
- Graduate Student/Research Assistant, Texas Tech University, Lubbock, TX, 2001-2003.
- Chemist/Nematologist, A-L Plains Agricultural Labs, Inc., Lubbock, TX, 1999-2001.

TEACHING EXPERIENCE

- Soil Geomorphology, KU, Spring 2009.
- Principles of Physical Geography, KU, Spring 2009.
- Introduction to Soil Geography, KU, Fall 2008.
- Regional Geomorphology of the United States, KU, Fall 2008.

PROFESSIONAL AFFILIATIONS

- Soil Science Society of America (SSSA), 2001-Present
- American Geophysical Union (AGU), 2002-Present
- Association of Analytical Chemists (AOAC) International, 1999-2003

PROFESSIONAL SERVICE

- Session Organizer: Soil Characterization, Modeling, and Prediction using Novel Instrumentation and Techniques, Div. S05, ASA-CSSA-SSSA, Pittsburgh, PA. 1-4 Nov. 2009.

- Presiding Officer: Mineralogical Controls on Soil Physical, Chemical, and Biological Processes, Div. S09, ASA-CSSA-SSSA, New Orleans, LA, 4-8 Nov. 2007.
- Presiding Officer: Pedologic Progress, Philosophy, and Perspectives, Div. S05, ASA-CSSA-SSSA, Indianapolis, IN, 12-16 Nov. 2006.

HONORS AND AWARDS

- Kearney Foundation of Soil Science Graduate Fellowship, 2004-2006 (\$64,965)
- UCR Dean's Fellowship 2003-2004 (\$33,527)
- Frank T. Bingham Memorial Fellowship, 2006-2007 (\$2,000)
- UCR Graduate Dean's Dissertation Research Grant, 2006 (\$1,000)
- KU College of Liberal Arts and Sciences Faculty Travel Award (\$900)
- Stolzy-Letey Environmental Science Travel Scholarship, 2007 (\$750)
- UCR Academic Senate Omnibus Field Research Travel Grant, 2006 (\$500)
- UCR Department of Environmental Sciences Mini-GSA Travel Award, 2007 (\$500)
- Albert Marsh Environmental Sciences Scholarship, 2006-2007 (\$400)
- UCR Graduate Student Association Conference Travel Grant, 2007a (\$400)
- UCR Graduate Student Association Conference Travel Grant, 2007b (\$320)
- UCR Graduate Student Association Conference Travel Grant, 2006a (\$320)
- UCR Graduate Student Association Conference Travel Grant, 2006b (\$320)
- UCR Graduate Student Association Conference Travel Grant, 2004 (\$320)
- AAAS Pacific Division J. Thomas Duto, Jr. Geosciences Award, 2007 (\$275)
- AAAS Pacific Division Student Travel Award, 2007 (\$150)
- Western Soil Science Society/AAAS Pacific Division 1st Place Poster Award, 2007 (\$150)
- Sigma Gamma Epsilon Geological Honor Society: Alpha Beta Chapter, Texas Tech University, 2002-2003

PROFESSIONAL ADVANCEMENT

- Geological Society of America Annual Meeting, 2008
- Western Society of Soil Science/AAAS Pacific Division, 2007
- Desert Project Tour, 2007
- World Congress of Soil Science, 2006
- Friends of the Pleistocene, Pacific Cell, 2005
- International Salinity Forum, 2005
- Learning ArcGIS 9, Online Course, UCR Extension/ESRI, 2005
- Mojave Desert Science Symposium, 2004

- Soil Science Society of America Annual Meeting, 2002-2009
- International Conference on Aeolian Research (ICAR-5), 2002
- Nematode Identification Short Course, Clemson University, 2000

INVITED PRESENTATIONS

- University of Kansas, Department of Geography. Soil-biota relationships. Introduction to Soil Geography lecture. 26 Feb. 2008.
- University of Kansas, Department of Geography. Surface processes, pedology, and soil-Landscape modeling, Mojave Desert, California. Colloquium Series. 25 Feb. 2008.
- Heritage K8 Charter School, Escondido, CA. Soils. One 6th grade class period. 17 Jan. 2008.
- UCR Department of Environmental Sciences, Soil and Water Sciences Program, Riverside, CA. Spatial distribution of inorganic carbon storage in an arid landscape. Seminar. 3 Dec. 2007.
- Rancho Buena Vista High School, Vista, CA. What is soil science? Four class periods of 10th grade Integrated Science. 22 Feb. 2007.

PRESENTATIONS

- **Hirmas, D.R.**, D. Giménez, and X. Li. 2009. Characterization of soil structure and pore architecture from the aggregate to horizon scale. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Pittsburgh, PA. 1-4 Nov. 2009. ASA, Madison, WI.
- Zautner, E.J., **D.R. Hirmas**, and J. de Koff. 2009. A rapid and accurate field test for the analysis of soil phosphate. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Pittsburgh, PA. 1-4 Nov. 2009. ASA, Madison, WI.
- Platt, B.F., **D.R. Hirmas**, and S.T. Hasiotis. 2009. Footprints in the landscape: Quantifying bioturbation in soils and paleosols with multistripe laser triangulation (MLT) technology. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Pittsburgh, PA. 1-4 Nov. 2009. ASA, Madison, WI.
- Rossi, A.M., **D.R. Hirmas**, R.C. Graham, and P.D. Sternberg. 2009. Bulk density determination by automated three-dimensional laser scanning. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Pittsburgh, PA. 1-4 Nov. 2009. ASA, Madison, WI.
- **Hirmas, D.R.**, R.C. Graham, and M. Harlow. 2008. Links between land surface characteristics and near-surface accumulations of dust, soluble salts, nitrate-nitrogen, and carbonate in the southern Fry Mountains, Mojave Desert, USA. *In* Abstracts with Programs, Joint. Annu. Meet., GSA/ASA-CSSA-SSSA/GCAGS/HGS, Houston, TX. 5-9 Nov. 2008. GSA, Boulder, CO.
- Pietrasiak, N., **D.R. Hirmas**, R.C. Graham, and K.N. Bozhilov. 2008. Mineralogy of a paralithic horizon (well weathered bedrock) in the Mojave Desert. *In* Abstracts with Programs, Joint. Annu. Meet., GSA/ASA-CSSA-SSSA/GCAGS/HGS, Houston, TX. 5-9 Nov. 2008. GSA, Boulder, CO.

- Graham, R.C., **D.R. Hirmas**, Y.A. Wood, and C. Amrhein. 2008. Large near-surface nitrate pools in soils capped by desert pavement in the Mojave Desert, California. Joint. Annu. Meet., GSA/ASA-CSSA-SSSA/GCAGS/HGS, Houston, TX. 5-9 Nov. 2008. GSA, Boulder, CO.
- **Hirmas, D.R.**, and R.C. Graham. 2007. Spatial distribution of inorganic carbon storage in an arid landscape. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, New Orleans, LA. 4-8 Nov. 2007. ASA, Madison, WI.
- **Hirmas, D.R.**, and R.C. Graham. 2007. Soil-geomorphic classification of an arid mountain range, Mojave Desert, USA. *In* Abstracts of the 88th Annu. Meet. AAAS, Pacific Division, Boise, ID. 17-21 June 2007.
- Casby-Horton, S.M., **D.R. Hirmas**, N.A. Rolong, and B.L. Allen. 2006. Degradation of Plio-Pleistocene Petrocalcic Horizons in West Texas. *In* Conf. Program with Abstracts, Water in Arid and Semiarid Lands: Innovative Approaches and Informed Decision Making Conf., ICASALS, Lubbock, TX. 15-17 Nov. 2006.
- **Hirmas, D.R.**, and R.C. Graham. 2006. Pedology of an arid mountain range, Mojave Desert, CA. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Indianapolis, IN. 12-16 Nov. 2006. ASA, Madison, WI.
- **Hirmas, D.R.**, and R.C. Graham. 2006. Soil surface properties of Mojave Desert landforms. *In* Abstracts, 18th World Congress of Soil Science. IUSS, Philadelphia, PA. 9-15 July 2006.
- **Hirmas, D.R.** 2005. Spatial and process-based modeling of inorganic carbon storage in the Mojave Desert. Kearney Foundation Conf., Davis, CA. 24 May 2005.
- **Hirmas, D.R.**, and R.C. Graham. 2004. Relationships between soil surface characteristics and geomorphology in the Mojave Desert. 3rd Annu. Mojave Desert Science Symposium, Redlands, CA. 16-18 Nov. 2004.
- **Hirmas, D.R.**, and R.C. Graham. 2004. Relationships between soil surface characteristics and geomorphology in the Mojave Desert. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Seattle, WA. 1-4 Nov. 2004. ASA, Madison, WI.
- **Hirmas, D.R.**, and B.L. Allen. 2003. Degradation of pedogenic calcretes in West Texas. *In* Abstracts, Intern. Annu. Meet., ASA-CSSA-SSSA, Denver, CO. 2-6 Nov. 2003. ASA, Madison, WI.

PEER-REVIEWED PUBLICATIONS

- Pietrasiak, N., **D.R. Hirmas**. Comparison of hydrometer method settling times in particle size analysis for soils with high sand fractions. *Soil Sci.* (In Review)
- **Hirmas, D.R.**, C. Amrhein, and R.C. Graham. Spatial and process-based modeling of soil inorganic carbon storage in an arid piedmont. *Geoderma*. (Accepted with minor revisions)
- Rossi, A.M., **D.R. Hirmas**, R.C. Graham, and P.D. Sternberg. 2008. Bulk density determination by automated three-dimensional laser scanning. *Soil. Sci. Soc. Am. J.* 72:1591-1593.
- Graham, R.C., **D.R. Hirmas**, Y.A. Wood, and C. Amrhein. 2008. Large near-surface

nitrate pools in soils capped by desert pavement in the Mojave Desert, California. *Geology* 36:259-262.

- **Hirmas, D.R.**, and B.L. Allen. 2007. Degradation of pedogenic calcretes in West Texas. *Soil Sci. Soc. Am. J.* 71:1878-1888.
- **Hirmas, D.R.**, and S.A.C. Furquim. 2006. A simple modification of the clod method for determining bulk density of very gravelly soils. *Comm. Soil Sci. Plant Anal.* 37:899-906.

MANUSCRIPTS IN PREPARATION

- **Hirmas, D.R.**, and R.C. Graham. Pedogenesis and soil-geomorphology of the arid southern Fry Mountains, Mojave Desert. *Soil Sci. Soc. Am. J.*
- **Hirmas, D.R.**, R.C. Graham, and K.J. Kendrick. Soil-geomorphic significance of land surface characteristics in an arid mountain range, Mojave Desert, USA. *J. Arid Environ.*

HIGHLIGHTED CONTRIBUTIONS

- Research and Industry. 2009. Soil bulk density determination by automated three-dimensional laser scanning. *CSA News* 54:4.
- Research Highlights. 2008. Nitrate under the pavement. *Nature Geosci.* 1:210.
- Spotlight. 2008. Large source of nitrate, a nutrient and potential water contaminant, found in near-surface desert soils. UC Riverside Newsroom. 28 Feb. 2008. <http://www.newsroom.ucr.edu/cgi-bin/display.cgi?id=1782>