CURRICULUM VITÆ
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EDUCATION

University of Colorado at Boulder, Department of Ecology and Evolutionary Biology and Institute of Arctic and Alpine Research (INSTAAR) Boulder, CO.
Ph.D. Student, August 2002-Present. Dissertation: Nitrogen Fixation in a Tropical Rainforest: Community and Rate Controls. Co-advised by Alan R. Townsend and Steve K. Schmidt.

Colgate University, Hamilton, NY.
B.A. in Chemistry; graduated *magna cum laude*, May 1996.

Courses Outside My Universities:
Dr. Jim Ehleringer's Isotope Course at The University of Utah, June 2004.
Organization for Tropical Studies (OTS) Tropical Ecology Program, January – March 2003.
NSF Funded Environmental Geology and Environmental Philosophy Internship, Southwest Earth Studies Group, Durango, CO, May 1997-August 1997.

RESEARCH INTERESTS

My research interests reside within the fields of biogeochemistry and terrestrial ecosystem ecology. I enjoy investigating how ecosystem processes and microbial communities are affected by factors such as nutrient availability and climate, and, in turn, the role these processes and communities play in biogeochemical cycling within their ecosystem. I have been drawn to the extremes of natural ecosystems and enjoy studying the cycles of carbon, nitrogen, and phosphorus in the wet forests of the tropics, soils recently uncovered by glaciers, and deserts of the southwestern United States.

HONORS

Fellow, **NSF Graduate Research Fellowship**, awarded April 2003.
Fellow, **NSF IGERT Fellowship**, Carbon Climate and Society Initiative (CCSI), August 2003-August 2005.
Selected Full Member, **Sigma Xi Scientific Research Society**, Fall 2003-Present.
Recipient, **Star Award**, received for outstanding work with the Department of the Interior, May 2000.

Fellow, **Wolk Foundation**, awarded fellowship for promising student research, Summer 1996.

Recipient, **Lawrence Award**, awarded to one student annually for superior performance in organic chemistry, April 1995.

Selected Member, **Phi Ea Sigma University Honor Society**, chosen for academic excellence, April 1994-May 1997.

Selected Board Member, **Phi Eta Sigma Aid Committee**, elected for superior research to a board that selected superior student grant applications for funding, September 1995-May 1997.

Nominee, **Barry Goldwater Award**, nationally nominated by Colgate University for academic distinction, November 1994.

G R A N T S

National Science Foundation, supplemental Integrative Graduate Education and Research Traineeship (IGERT) grant to investigate the scientific and social effects of altered precipitation along a rainfall gradient in Eastern Bolivia. Awarded June 2004. $42,266.

University of Colorado, Boulder Graduate School, awarded to investigate the relationship between nitrogen fixer community composition and rates of fixation. Awarded April 2004. $2,300.

Beverly Sears Graduate Student Grant, provided to study controls on nitrogen fixation controls in a tropical rain forest. Awarded March 2004. $1,000.

Organization for Tropical Studies (OTS), supplemental research grant supplied to investigate how *Atta cephalotes* colonization and abandonment affects soil biogeochemical cycling at the La Selva Research Station. Awarded March 2003. $800.

P U B L I C A T I O N S

Cleveland, C.C., Townsend, A.R. and **Reed, S.C.** 2005. Nutrient Regulation of Organic Matter Decomposition in a Tropical Rain Forest. *Ecology*, in press.

Bowker, M.A., **Reed, S.C.**, Belnap, J. and Phillips, S.L. 2002. Temporal Variation in Community Composition, Pigmentation, and *Fv/Fm* in Desert Cyanobacterial Soil Crusts, *Microbial Ecology* 43: 13-25.

Reed, S.C., Capitosti, G.J., Zhu, Z. and Modarelli, D.A. 2001. Photochemical Generation and Matrix-Isolation Detection of Dimethylvinylidene, *Journal of Organic Chemistry*, 66: 287-291.

Reed, S.C. and Modarelli, D.A. 1996. Conformational Effects on the Excited State 1,2-Hydrogen Migration in Alkyldiazomethanes, *Tetrahedron Letters*, 37: 7209-7212.

P R E S E N T A T I O N S (*denotes invited)

*Conference of Research on the Colorado Plateau, "Phosphorus Fertilization Effects on Soil Nitrogen Concentrations and Nitrogen Fixation in a Restored Grassland". Flagstaff, AZ. November 2005.

Ecological Society of America, "Controls on Nitrogen Fixation in a Lowland Tropical Rain Forest". Portland, OR. August 2004.

Front Range Symposium of Ecological Research, "Nitrogen Fixation Controls of a Costa Rican Rain Forest. Fort Collins, CO. April 2004.

Conference of Research on the Colorado Plateau, "Abiotic Effects on Biological Soil Crusts". November 1999.

*Seminar at Fort Lewis College presenting my research with the Southwest Earth Studies Program "Geologic and Social Issues Surrounding Acid Rock Drainage". August 1998.

American Geophysical Union "Multi-disciplinary Approaches to Environmental Issues: Acid Rock Drainage in Southwestern Colorado. Poster. Salt Lake City, Utah. August 1997.

*National Conference on Undergraduate Research (NCUR), "Conformational Effects on the Excited State 1,2-Hydrogen Migration in Alkyldiazomethanes". Austin, Texas. April 1997.

C U R R E N T P R O J E C T S

Niwot Ridge, Colorado, USA: Soil nitrogen fixation as an important N source to tundra ecosystems. Started June 2006.

Costa Rica: Controls on Nitrogen Fixation Rates and Communities in a Tropical Rain Forest. Started June 2003.

Bolivia: Altered Precipitation and Carbon Cycling in Tropical Forests: A Soil Transplant Approach. Started August 2004.

Bolivia: Empowerment Through Information Exchange: Helping Indigenous Communities Understand and Monitor Global Climate Change in Eastern Bolivia. Started August 2004.

Peru: Microbial Succession on Recently Deglaciated Soils. Started January 2005.

Boulder, Colorado, USA: Working with a multi-discipline team initiating a business plan to help local companies account for and counter-act CO_2 emissions. Started September 2005.

R E S E A R C H E X P E R I E N C E

Biological Science Technician, **United States Geological Survey**, Moab, UT, April 1998-October 2002.

Biological Science Technician, **United States Geological Survey**, Silverton, CO, August 1997-October 1997.

Independent Student Researcher, **Colgate University Laboratories**, Hamilton, NY, August1996-May 1997.

TEACHING EXPERIENCE

Co-developer, undergraduate curriculum in climate change integrating information from the natural sciences, social sciences, business, policy, politics, and media coverage surrounding global climate change. Fall 2004-Spring 2006.

Invited Teacher, asked by the Dawson School to teach high school students about terrestrial biogeochemistry, pedogenesis, and social issues currently involving scientific study. October 2005.

Invited Instructor, Organization for Tropical Studies (OTS), Costa Rica, gave lectures and led field projects on soil pedogenesis and biogeochemical cycling. Spring 2005.

Invited Counselor, Expanding Your Horizons (EYH), gave hands-on classes introducing middle school girls to career options and opportunities in science. Fall 2004.

Course Assistant, Microbiology. University of Colorado, Boulder, taught lecture classes in Microbial Biogeochemistry, Environmental Microbiology, and Microbial Diversity with Dr. Steve Schmidt. Fall 2004.

Teaching Assistant, General Biology Laboratory. University of Colorado, Boulder. Fall Semester 2003.

Invited Instructor, Biological Soil Crusts 101. Taught a course covering the biology and ecology of biological soil crusts to groups ranging from grade school students to graduate students. March 1998-October 2002.

Co-developer, helped develop a curriculum for teachers of grade school students to help them prepare lectures and hands-on materials for study of biological soil crusts. Fall 2000.

Invited Instructor, Shi Dine' summer camp (a camp for Navajo elementary school children designed to advance scientific understanding within the tribe). Gave a two-day on scientific methods and semi-arid ecosystem ecology. Navajo Reservation, New Mexico. July 2000.

Volunteer Instructor, Agricultural Planting Techniques. Helped local populations initiate viable planting techniques for sustainable crops. Lago de Atitlan, Guatemala, Spring 1998.