

Samuel Milton Simkin

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Education:

- Ph.D. **Cornell University**, Natural Resources August 2012
Co-advisors: Drs. Barbara L. Bedford and Kathleen C. Weathers
- M.S. **University of Georgia**, Conservation Ecology & Sustainable Development December 1998
Co-advisors: Drs. William K. Michener and Robert E. Wyatt
- B.A. **Earlham College**, Biology (with College and Departmental Honors) June 1995
International Programs: Kenya and Costa Rica

Grants, Fellowships, and Awards:

- USGS Powell Center Diversity and Nitrogen Deposition Working Group (2012-present), Post-doc
Environmental Protection Agency STAR (Science to Achieve Results) Fellowship (2006-2010), \$111,172
Cornell University Graduate School, Conference Grants (2008, 2010), \$865
Andrew W. Mellon Student Research Grant (2009), \$750
Cornell University Biogeochemistry and Environmental Biocomplexity Program, Small Grant Awards
(2005, 2008), \$8,000
National Science Foundation IGERT Fellowship in Biogeochemistry and Environmental Biocomplexity at
Cornell University (2004-2006), \$55,000
USDA Agricultural Ecosystems Program on Understanding Sources and Sinks of Nutrients and Sediment
in the Upper Susquehanna River Basin, Mini-Grant Award (2005), \$1,000
Phi Kappa Phi, University of Georgia Chapter (elected during master's program) (1998)
Outstanding M.S. presentation at 4th Annual Institute of Ecology Graduate Research Symposium (1998)
Outstanding M.S. presentation at 3rd Annual Institute of Ecology Graduate Research Symposium (1997)
Phi Beta Kappa, Delta Chapter of Indiana (elected in junior year) (1994)
Frueauff Foundation Award for scientific achievement and creativity (1994)
Marlin Perkins Scholarship for commitment to conservation and academics (1994)
Jim Fowler Scholarship in Natural Science (1993-1994)
Crump Phi Beta Kappa Award for high character and scholarship (1993)
Bausch + Lomb Honorary Science Award (1990)

Publications (peer-reviewed):

- Simkin, S.M.**, B.L. Bedford, and K.C. Weathers. 2013. Phytotoxic sulfide more important than nutrients for plants within a groundwater-fed wetland. *Ecosystems* 16:1118-1129.
- Weathers, K.C., **S.M. Simkin**, G.M. Lovett, and S.E. Lindberg. 2006. Empirical modeling of atmospheric deposition in mountainous landscapes. *Ecological Applications* 16:1590-1607.
- Simkin, S.M.** and W.K. Michener. 2005. Faunal soil disturbance regime of a longleaf pine ecosystem. *Southeastern Naturalist* 4:133-152.
- Driese, K.L., W.A. Reiners, G.M. Lovett, and **S.M. Simkin**. 2004. A vegetation map for the Catskill Park, NY, derived from multi-temporal Landsat imagery and GIS data. *Northeastern Naturalist* 11:421-442.
- Simkin, S.M.**, D.N. Lewis, K.C. Weathers, G.M. Lovett, and K. Schwarz. 2004. Determination of sulfate, nitrate, and chloride in throughfall using ion-exchange resins. *Water, Air, & Soil Pollution* 153:343-354.
- Simkin, S.M.**, W.K. Michener, and R. Wyatt. 2004. Mound microclimate, nutrients and seedling survival. *American Midland Naturalist* 152:12-24.

Simkin, S.M., W.K. Michener, and R. Wyatt. 2001. Plant response following soil disturbance in a longleaf pine ecosystem. *Journal of the Torrey Botanical Society* 128:208-218.

Manuscripts in preparation or under review:

Simkin, S.M., Bedford, B.L., and Weathers, K.C. Multi-scale heterogeneity in calcium, sulfur, and plant species composition in rich fens.

Simkin, S.M., Bedford, B.L., and Weathers, K.C. A persistent spatial pattern of phytotoxic sulfide and ferrous iron across seasons in a temperate groundwater-fed wetland.

Professional Experience:

Research Associate, INSTAAR, University of Colorado, Boulder, CO (2012-present)

Graduate Teaching Assistant, Cornell University, Ithaca, NY (2008-2012)

Graduate Fellow, Cornell University, Ithaca, NY (2004-2008)

Research Assistant II, Cary Institute of Ecosystem Studies, Millbrook, NY (1999-2004)

Collaboration with National Park Service, Oak Ridge National Lab, US Environmental Protection Agency, US Forest Service, US Geological Survey, Hubbard Brook Experimental Forest, and University of California at Berkeley

Graduate Research Assistant, Joseph W. Jones Ecological Research Center, Newton, GA and University of Georgia's Institute of Ecology, Athens, GA (1996-1998)

Exotic Plant Control Specialist, Department of the Interior / AmeriCorps, Daniel Beard Center, Everglades National Park, FL (January-June 1996)

Resource Assistant, Student Conservation Association, National Biological Service, Yosemite Field Station, El Portal, CA (July-September 1995)

Ecological Field Assistant, Univ. of Minnesota's Long Term Ecological Research (LTER) Site, Cedar Creek Natural History Area, Bethel, MN (July-September 1994)

Field Assistant, Cornell University Agronomy Department, Ithaca, NY (1993)

Field Assistant, Cornell University Plant Breeding Department, Ithaca, NY (1990, 1994)

Teaching:

Guest Lecturer, Introduction to Biogeochemistry, University of Colorado Department of Ecology and Evolutionary Biology, Boulder, CO (2013)

Graduate Teaching Assistant, Wetland Ecology (lecture and lab courses), Cornell University Department of Natural Resources, Ithaca, NY (2011)

Graduate Teaching Assistant, Environmental Conservation, Cornell University Department of Natural Resources, Ithaca, NY (2011)

Graduate Teaching Assistant, Wetland Ecology and Management (lecture and lab courses), Cornell University Department of Natural Resources, Ithaca, NY (2010)

Guest Instructor, Landscape Impact Analysis, Cornell University Department of Natural Resources, Ithaca, NY (4 March 2010)

Graduate Teaching Assistant, Wetland Ecology and Management (lecture and lab courses), Cornell University Department of Natural Resources, Ithaca, NY (2008)

Teaching Assistant, Cell Biology, Earlham College Biology Department, Richmond, IN (1995)

Teaching Assistant, Ecological Biology, Earlham College Biology Department, Richmond, IN (1994)

Student Teacher, Basics of astronomy taught to Boy Scouts as part of Outdoor Education class taken in Earlham College Education Department, Richmond, IN (1993)

Selected Presentations:

Simkin, S.M., B.L. Bedford, and K.C. Weathers. 2010. Poison or P provider: The influence of sulfur form and quantity on wetland plant species composition. Ecological Society of America 95th Annual Meeting, Aug. 4, Pittsburgh, PA

Simkin, S.M., B.L. Bedford, and K.C. Weathers. 2010. A role for sulfide in controlling plant species composition in rich fens. Society of Wetland Scientists Annual Meeting, Jun. 28, Salt Lake City, UT

- Simkin, S.M.**, B.L. Bedford, and K.C. Weathers. 2009. Spatiotemporal pattern of wetland plant exposure to sulfide in a calcareous rich fen. Society of Wetland Scientists Annual Meeting, Jun. 22, Madison, WI
- Simkin, S.M.** 2009. Freshwater wetland sulfide variability and plant response. EPA Graduate Fellows Conference, Sept. 21-22, Wash., D.C.
- Simkin, S.M.**, B.L. Bedford, and K.C. Weathers. 2008. Wetland plant species tissue chemistry associated with porewater sulfur in contrasting hydrogeologic settings. Ecological Society of America 93rd Annual Meeting, Aug. 7, Milwaukee, WI
- Simkin, S.M.**, B.L. Bedford, and K.C. Weathers. 2008. Influence of sulfur on nitrogen and phosphorus limitation in freshwater wetland plants. Understanding Sources & Sinks of Nutrients & Sediment in the Upper Susquehanna Basin, Mar. 12, Ithaca, NY
- Simkin, S.M.** 2006. Wetland plant species responses to sulfate-mediated phosphate mobilization and sulfide toxicity in contrasting wetland types. EPA Graduate Fellows Conference, Sept. 26, Wash., D.C.
- Weathers, K.C., **S.M. Simkin**, H.A. Ewing, S.J. Nelson, M.S. Bank, and C.C. Hollister. 2006. Empirical modeling of total deposition across heterogeneous terrain: hotspots, hot watersheds and their consequences. American Fisheries Society 136th Annual Meeting, Sept. 13, Lake Placid, NY
- Weathers, K.C., **S.M. Simkin**, G.M. Lovett, and S.E. Lindberg. 2005. An empirical model for estimating total deposition to complex terrain. National Atmospheric Deposition Program 2005 Meeting: Science Supporting Resource Management, Sept. 27-30, Jackson, WY
- Thomas, S.A., K. Arend, B. Doyle, C.L. Goodale, N.P. Gurwick, J. Lepak, M. Kulkarni, P. McIntyre, C. McCalley, S. Raciti, **S.M. Simkin**, D. Warren, and M. Weiss. 2005. The influence of leaf fall and organic carbon availability on nitrogen cycling in a headwater stream. North American Benthological Society Meeting, May 24, New Orleans, LA
- Weathers, K.C., H.A. Ewing, T.E. Dawson, **S.M. Simkin**, and A. Elliott. 2004. On the edge of fog: fog water relations from top to bottom in a redwood forest. Ecological Society of America 89th Annual Meeting, Aug. 1-6, Portland, OR
- Simkin, S.M.**, K.C. Weathers, G.M. Lovett, S.E. Lindberg, and D.N. Lewis. 2003. Atmospheric Deposition Hotspots within Acadia and Great Smoky Mountains National Parks. Spatial Odyssey 2003: National Park GIS conference, Dec. 1-5, Orlando, FL
- Weathers, K.C., A. Elliott, **S.M. Simkin**, G.M. Lovett, S.E. Lindberg, and C. Rogers. 2003. Comparison of total S deposition measurements from 10 sites in eastern North America: NADP and CASTNet vs. throughfall. National Atmospheric Deposition Program Annual Meeting (p. 97), Oct. 20-22, Washington, D.C.
- Weathers, K.C., **S.M. Simkin**, G.M. Lovett, and S.E. Lindberg. 2003. Scaling-up point measurements of atmospheric deposition to mountainous landscapes: an empirical modeling approach. Cary Conference X, Apr. 29-May 1, Millbrook, NY
- Simkin, S.M.**, K.C. Weathers, G.M. Lovett, S.E. Lindberg, D.N. Lewis, and K. Schwarz. 2002. Scaling-up point measurements of atmospheric deposition to mountainous landscapes: an empirical modeling approach. Ecological Society of America 87th Annual Meeting, Aug. 8, Tucson, AZ
- Weathers, K.C., G.M. Lovett, M.A. Arthur, and **S.M. Simkin**. 2002. Watershed controls on streamwater nitrate concentrations, Catskill Mountains, NY. Ecological Society of America 87th Annual Meeting, Aug. 5, Tucson, AZ
- Weathers, K.C., G.M. Lovett, S.E. Lindberg, **S.M. Simkin** (presenter), D.N. Lewis, and K. Schwarz. 2000. Atmospheric deposition to mountainous terrain: Scaling-up to the landscape. Center for Agricultural Landscape and Land Use Research (ZALF), Nov. 6, Müncheberg, Germany
- Weathers, K.C., G.M. Lovett, S.E. Lindberg, **S.M. Simkin**, D.N. Lewis, and M.L. Chambers. 1999. Atmospheric deposition in mountainous terrain: Scaling up to the landscape. EOS, Transactions, American Geophysical Union Fall Meeting, Vol. 80(46): P. F390, Abstract H32B-05, Nov. 16, San Francisco, CA
- Simkin, S.M.** and W.K. Michener. 1998. Longleaf pine seedling survivorship influenced by pocket gopher disturbance and timing of fire. Proceedings of the 2nd Longleaf Alliance Conference, Nov. 17-19. Charleston, SC
- Simkin, S.M.**, W.K. Michener, and R. Wyatt. 1998. Fire and microsite soil disturbance in longleaf pine ecosystems: influence of microclimate on plant recruitment. Ecological Society of America 83rd Annual Meeting, Aug. 3, Baltimore, MD

- Simkin, S.M.** 1998. Fire and Soil Disturbance: Interactive influences on the soil and plants of the longleaf pine ecosystem. Institute of Ecology Graduate Research Symposium, Jan. 17, Athens, GA
- Simkin, S.M.** 1997. Influence of soil disturbance by pocket gophers on plant species composition of longleaf pine-wiregrass communities. Institute of Ecology Graduate Research Symposium, Jan. 18, Athens, GA

Software and Hardware Experience:

R, SAS, ArcGIS, Trimble Pathfinder Office, CS datalogger, Microsoft Office Suite, EndNote, Unix

Professional Training:

Biogeochemistry workshop: Teaching for Student Learning, Ithaca, NY (2006)
Soil Science class: Institute of Ecosystem Studies Continuing Education Program (1999)
Hydric Soils training workshop: led by Chris Craft (Joseph W. Jones Ecological Research Center) and Wade Hurt (Natural Resource Conservation Service) (1998)
Multivariate Ecological Analysis workshop: led by Bruce McCune, Oregon State University (1997)

Society Memberships:

Ecological Society of America (2000 - present)
Society of Wetland Scientists (2007 - present)

Public Service and Outreach:

Grant Review Panelist, Cornell University Biogeochemistry and Environmental Biocomplexity (BEB) small grants program (2006, 2009)
Grant Review Panelist, Cornell University College of Agriculture and Life Sciences (CALS) student research grant program (2007, 2008)
Graduate Student Assistant, 12th Cary Conference, "Resilience in Ecology and Urban Design: Synergies for theory and practice in the Urban Century" (2007)
Vice President, Cornell University Department of Natural Resources Graduate Student Association (2006-2007)
Participant, Science Communication workshop, Cornell University Biogeochemistry program (2007)
Co-Presenter, The science behind climate change, Poplar Ridge Friends Meeting (2006)
Instructor, Hands-on aquatic study program for summer youth, Verbank, NY (2003 & 2004)
Science Fair Judge, Dutchess County Science Fair (2002, 2004)
Board Member, Alternatives to Violence Project / New York (1999-2004)
Guest Field Guide, College of the Atlantic Environmental Chemistry class, Acadia Nat. Park, ME (2000)
Interviewee, Bar Harbor Times, article on atmospheric deposition research in Acadia National Park (1999)
Presenter, Pollution and ecosystems presentation for Boy Scouts of America (1999)
Prescribed Fire Crew Member, implemented private landowner objectives in longleaf pine savanna (1998)
Presenter, Jones Ecological Research Center public open house for 600 visitors (1998)
Team member, UGA Etowah Initiative of Law & Ecology students, prioritized wetlands for protection by Georgia Land Trust Service Center and recommended next steps to USACE, EPA, and FWS (1998)
Mentor, Rural literacy program, Baker County, GA (1997)
Co-Leader, Adopt-A-Stream program, Athens, GA (1996-1997)
Instructor, Discovery-based science, Boys & Girls Clubs of Wayne County, Richmond, IN (1994)
Stewardship Workday Volunteer, The Nature Conservancy, El Dorado Beach Preserve (Aug. 1, 1993)
Stewardship Workday Volunteer, The Nature Conservancy, Great Gully Preserve (Jun. 27, 1992)
Nature Study Instructor, Camp Caspar Gregory, Aurora, NY (1992)
Horticulture Volunteer, Hayes Regional Arboretum (May 1992-Jun. 1995)
Curator and Tour-Guide, Joseph Moore Museum of Natural History, Richmond, IN (Sept. 1991-Jun. 1995)