

Dr. 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
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
National Science Foundation IGERT Fellowship in Biogeochemistry and Environmental Biocomplexity at
Cornell University (2004-2006), \$55,000
Phi Kappa Phi, University of Georgia Chapter (elected during master's program) (1998)
Outstanding M.S. presentation at Institute of Ecology Graduate Research Symposium (1997,1998)
Phi Beta Kappa, Delta Chapter of Indiana (elected in junior year) (1994)

Publications (peer-reviewed):

Simkin, S.M., E.B. Allen, W.D. Bowman, C.M. Clark, J. Belnap, M.L. Brooks, B.S. Cade, S.L. Collins, L.H. Geiser, F.S. Gilliam, S.E. Jovan, L.H. Pardo, B.K. Schulz, C.J. Stevens, K.N. Suding, H.L. Throop, and D.M. Waller. 2016. Conditional vulnerability of plant diversity to atmospheric nitrogen deposition across the United States. *Proceedings of the National Academy of Sciences of the United States of America* 113:4086-4091.

Simkin, S.M., E.B. Allen, W.D. Bowman, C.M. Clark, J. Belnap, M.L. Brooks, B.S. Cade, S.L. Collins, L.H. Geiser, F.S. Gilliam, S.E. Jovan, L.H. Pardo, B.K. Schulz, C.J. Stevens, K.N. Suding, H.L. Throop, and D.M. Waller. (2016). Data from: Conditional vulnerability of plant diversity to atmospheric nitrogen deposition across the United States. Dryad Digital Repository. <http://dx.doi.org/10.5061/dryad.7kn53>

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:

- Stevens, C.J., **S.M. Simkin**, et. al. Increases in invasive plant species under atmospheric nitrogen deposition. *Ecology*.
- Clark, C.M., **S.M. Simkin**, et. al. Native plant species responses to atmospheric nitrogen deposition. *Ecological Applications*.
- Simkin, S.M.**, Bedford, B.L., and Weathers, K.C. Regional wetland plant responses to sulfur in calcareous rich fens. *Journal of Ecology*.
- 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. *Wetlands*.

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 Nat. Lab, US Environmental Protection Agency, US Forest Service, US Geological Survey, Hubbard Brook Experimental Forest, and UC Berkeley
- Graduate Research Assistant, **Joseph W. Jones Ecological Research Center**, Newton, GA and **University of Georgia** Institute of Ecology, Athens, GA (1996-1998)
- Exotic Plant Specialist, **Dept. of the Interior / AmeriCorps**, Everglades National Park, FL (1996)
- Resource Assistant, **Dept. of the Interior / SCA**, Yosemite Field Station, CA (1995)
- Ecological Field Assistant, **University of Minnesota**, Cedar Creek LTER, Bethel, MN (1994)
- Field Assistant, **Cornell University** Agronomy Department, Ithaca, NY (1993)
- Field Assistant, **Cornell University** Plant Breeding Department, Ithaca, NY (1990, 1994)

Teaching Experience:

- Instructor, Ecosystem Ecology, **University of Colorado** Department of Ecology and Evolutionary Biology, Boulder, CO (2015)
- Guest Lecturer, Introduction to Biogeochemistry, **University of Colorado** Department of Ecology and Evolutionary Biology, Boulder, CO (2013)
- Graduate Teaching Assistant, Environmental Conservation, **Cornell University** Department of Natural Resources, Ithaca, NY (2011)
- Guest Instructor, Landscape Impact Analysis, **Cornell University** Department of Natural Resources, Ithaca, NY (2010)
- Graduate Teaching Assistant, Wetland Ecology and Management (lecture and lab courses), **Cornell University** Department of Natural Resources, Ithaca, NY (2008, 2010, 2011)
- Teaching Assistant, Cell Biology, **Earlham College** Biology Department, Richmond, IN (1995)
- Teaching Assistant, Ecological Biology, **Earlham College** Biology Department, Richmond, IN (1994)

Selected Presentations:

- Simkin, S.M.** 2016. Nitrogen deposition and plant responses: It's all about location, location, location (especially vegetation type and soil pH). Invited speaker at National Park Service Air Resources Division, Jan. 25, Lakewood, CO
- Simkin, S.M.**, C.M. Clark, W.D. Bowman, E.B. Allen, and C.J. Stevens. 2015. Herbaceous plant species diversity relationships with nitrogen deposition: Soil and climate contingencies across the USA. Invited speaker in symposium on "Synthesizing ecosystem responses to nitrogen deposition in the U.S. in a changing climate: are there useful indicators across systems and scales?" at the Ecological Society of America 100th Annual Meeting, Aug. 13, 2015, Baltimore, MD
- Simkin, S.M.**, E.B. Allen, W.D. Bowman, C.M. Clark, J. Belnap, M.L. Brooks, B.S. Cade, S.L. Collins, L.H. Geiser, F.S. Gilliam, S.E. Jovan, L.H. Pardo, B.K. Schulz, C.J. Stevens, K.N. Suding, H.L. Throop, and D.M. Waller. 2014. A national synthesis of atmospheric nitrogen deposition relationships with herbaceous plant species richness. Ecological Society of America 99th Annual Meeting, Aug. 12, Sacramento, CA

- 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. 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.**, 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.
- 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, Wash., D.C.
- 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
- Simkin, S.M.** and W.K. Michener. 1998. Longleaf pine seedling survivorship influenced by pocket gopher disturbance and timing of fire. 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

Professional Training:

Community Land Model Tutorial, National Center for Atmospheric Research, Boulder, CO (2016)
 Science Communication workshop, Cornell University Biogeochemistry program, Ithaca, NY (2007)
 Biogeochemistry workshop: Teaching for Student Learning, Ithaca, NY (2006)
 Soil Science class: Institute of Ecosystem Studies Continuing Education Program, Millbrook, NY (1999)
 Hydric Soils workshop: led by C. Craft (Jones Ecological Research Center) and W. Hurt (NRCS) (1998)
 Multivariate Ecological Analysis workshop: led by B. McCune, Oregon State University (1997)

Software and Hardware Experience:

R, SAS, ArcGIS, QGIS, Landis-II, PC-ORD, Microsoft Office, EndNote, Trimble, CS datalogger, Unix

Reviewer for:

Ecological Applications, Ecosphere, Ecosystems, Journal of Ecology, Plant Ecology

Professional Affiliations:

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