

# Samuel Milton Simkin

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## Education

- Ph.D. student, Natural Resources, Cornell University, 2004 - present GPA: 4.00/4.00  
Co-advisors: Drs. Barbara L. Bedford and Kathleen C. Weathers
- M.S. Conservation Ecology & Sustainable Develop., University of Georgia, 1998 GPA: 4.00/4.00  
Co-advisors: Drs. William K. Michener and Robert E. Wyatt
- B.A. Biology (with College and Departmental Honors), Earlham College, 1995 GPA: 3.94/4.00  
Off-campus study: patterns of woodfuel usage in Western Province, Kenya

## Academic Awards

- Environmental Protection Agency STAR (Science to Achieve Results) Fellowship (2006-2009)  
USDA Upper Susquehanna River Agricultural Ecosystems Program, Mini-Grant Award (2005)  
Cornell University, Biogeochemistry and Environmental Biocomplexity, Small Grant Award (2005)  
National Science Foundation IGERT (Integrative Graduate Education & Research Traineeship) Fellowship in Biogeochemistry and Environmental Biocomplexity at Cornell University (2004-2006)  
Phi Kappa Phi, University of Georgia Chapter (elected during master's program) (1998)  
Outstanding M.S. presentation at 4<sup>th</sup> Annual Institute of Ecology Graduate Research Symposium (1998)  
Outstanding M.S. presentation at 3<sup>rd</sup> 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)  
Markle Award in Biology for outstanding work in biology (1994)  
Marlin Perkins Scholarship for commitment to conservation and academics (1994)  
Crump Phi Beta Kappa Award for high character and scholarship (1993)

## Publications

- 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.

## Presentations

- Winter wetland sulfide and iron porewater chemistry, Cornell University Department of Natural Resources Graduate Student Symposium, 18 Jan 2007, Ithaca, NY
- Wetland plant species responses to sulfate-mediated phosphate mobilization and sulfide toxicity in contrasting wetland types. 2006 EPA Graduate Fellows Conference, 26 Sep 2006, Washington, D.C.
- Empirical modeling of total deposition across heterogeneous terrain: hotspots, hot watersheds and their consequences. (secondary author) American Fisheries Society Meeting, 13 Sep 2006, Lake Placid, NY

- Mobilization of phosphate from the iron-bound phosphorus sink in freshwater wetlands, Upper Susquehanna Agricultural Ecology Program meeting, 4 May 2006, Ithaca, NY
- The influence of leaf fall and organic carbon availability on nitrogen cycling in a headwater stream. (secondary author) North American Benthological Society Meeting, 24 May 2005, New Orleans, LA
- Sulfur inputs and nutrient cycling in wetlands: does vegetation structure matter? Cornell University Department of Natural Resources Graduate Student Symposium, 21 January 2005, Ithaca, NY
- Atmospheric Deposition Hotspots within Acadia and Great Smoky Mountains National Parks. Spatial Odyssey 2003 (National Park Service biennial GIS conference), 1-5 December 2003, Orlando, FL
- Comparison of total S deposition measurements from 10 sites in eastern North America: NADP and CASTNET vs. throughfall. (secondary author) NADP Meeting (p. 97), 20-22 October 2003, Wash., D.C.
- Watershed controls on streamwater nitrate concentrations, Catskill Mountains, NY. (secondary author) 87<sup>th</sup> Annual Mtg. of the Ecological Society of America, 5 August 2002, Tucson, AZ
- Scaling-up point measurements of atmospheric deposition to mountainous landscapes: an empirical modeling approach. 87<sup>th</sup> Annual Mtg. of the Ecological Society of America, 8 August 2002, Tucson, AZ
- Atmospheric deposition to complex terrain: Scaling up to the landscape. (secondary author) EOS. Transactions. American Geophysical Union, 82(20), Spring Meet. Suppl., Abstract H21B-03, 2001, Boston, MA
- Atmospheric Deposition to Mountainous Terrain: Scaling-Up to the Landscape. Center for Agricultural Landscape and Land Use Research (ZALF), 6 November 2000, Müncheberg, Germany
- Atmospheric deposition in mountainous terrain: Scaling up to the landscape. (secondary author) EOS. Transactions. AGU, 80(46), Fall Meet. Suppl., Abstract H32B-05, 1999, San Francisco, CA
- Fire and microsite soil disturbance in longleaf pine ecosystems: influence of microclimate on plant recruitment. 83<sup>rd</sup> Annual Mtg. of the Ecological Society of America, 3-6 August 1998, Baltimore, MD
- Fire and Soil Disturbance: Interactive influences on the plants and soil of the longleaf pine ecosystem. Institute of Ecology Graduate Research Symposium, 16-17 January 1998, Athens, GA
- Influence of pocket gopher soil disturbance on plant species composition of longleaf pine-wiregrass communities. Institute of Ecology Graduate Research Symposium, 15-16 January 1997, Athens, GA

## **Research Experience**

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

- Collaborated with NPS, USFS, and others to implement EPA funded atmospheric deposition studies
- Supported Oak Ridge N.L. crew that collected >300 soil Pb samples in Great Smoky Mtns. National Park
- Deployed >300 throughfall collectors in Acadia National Park and hired employees to help collect samples
- Managed and analyzed field, lab, and GIS data for landscape-scale model of atmospheric deposition
- Calculated topographic and vegetation attributes of forested watersheds in the Catskills and White Mtns.
- Collaborated with Univ. of California at Berkeley to implement study of fog-redwood-microbe relationships

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

- Developed data collection, data entry and QA/QC protocols and supervised their implementation
- Initiated multi-year study of spatial and seasonal variation in pocket gopher soil disturbance regime
- Sampled plant stem density (150 species), soil moisture (TDR), & temperature (dataloggers) in field
- Extracted and analyzed available soil nitrate, ammonium, and phosphate in laboratory

**Exotic Plant Control Specialist**, Dep. of the Interior / AmeriCorps, Everglades National Park, FL (1996)

- Field surveyed and documented outlier populations of 38 exotic invasive grass and tree species
- Collected and post-processed exotic plant location data with GPS unit for use in Everglades GIS
- Applied mechanical and/or chemical control treatments to targeted exotic invasive plant stems
- Produced a report and voucher herbarium specimen collection for invasive plant control program

**Resource Assistant** for Student Conservation Association, Yosemite National Park, CA (1995)

- Sampled pre- and post-grazing plant biomass and species composition of high alpine meadows
- Established plots for Dr. Jan van Wagtenonk's forest fuel dynamics research

**Ecological Field Assistant**, Univ. of Minnesota Cedar Creek Natural Hist. Area (LTER), Bethel, MN (1994)

- Sorted botanical samples that included more than 100 old-field and tallgrass prairie plant species
- Maintained experimental plant species combinations at Dr. David Tilman's research plots

**Field Assistant**, Cornell Univ. Plant Breeding & Agronomy Departments, Ithaca, NY (1990, 1993 & 1994)

- Covered shoots, set up tassels and pollinated hybrid corn crosses for Dr. Margaret Smith
- Collected soil samples, applied fertilizer treatments and sorted botanicals for Dr. Jane Mt. Pleasant

### **Teaching Experience**

**Participant**, Biogeochemistry workshop: Teaching for Student Learning, Ithaca, NY (2006)

**Instructor**, Hands-on aquatic study program for summer youth, Verbank, NY (2003 & 2004)

**Mentor**, Rural literacy program, Baker County, GA (1997)

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

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

**Instructor**, Basics of astronomy for Boy Scouts, Richmond, IN (1993)

**Nature Study Leader**, Camp Caspar Gregory, Aurora, NY (1992)

**Tour-Guide and Curator**, Joseph Moore Museum of Natural History, Richmond, IN (1991-1995)

### **Public Service and Outreach**

Vice president, Cornell University Dept. of Natural Resources Graduate Student Association (2006-2007)

Graduate Student Assistant, 12<sup>th</sup> Cary Conference, "Resilience in Ecology and Urban Design: Synergies for theory and practice in the Urban Century" (2007)

Science Fair Judge, Dutchess County Science Fair (2004)

Board Member, Alternatives to Violence Project / New York (1999-2004)

Field tour of research sites for Environmental Chemistry class from the College of the Atlantic (2000)

Interview with Bar Harbor Times regarding atmospheric deposition research (1999)

Presentation on pollution and ecosystems for Boy Scouts of America (1999)

Prescribed fire crew member: implemented private landowner objectives in longleaf pine savanna (1998)

Poster for public open house that attracted 600 visitors to Jones Ecological Research Center (1998)

Prioritized wetland sites for protection by Georgia Land Trust Service Center and wrote report recommending steps to be taken by US Army Corps of Engineers, EPA, and FWS (1998)

Provided leadership for Adopt-A-Stream program in Athens, GA (1996-1997)

Stewardship workday volunteer at The Nature Conservancy's El Dorado Beach Preserve (1993)

Stewardship workday volunteer at The Nature Conservancy's Great Gully Preserve (1992)

Horticulture volunteer at Hayes Regional Arboretum (1992-1995)

### **Software Experience and Continuing Education**

Software: • SAS (v. 8) • ArcGIS 9 • Microsoft Office Suite • Campbell Scientific datalogger software

Soil Science class: Institute of Ecosystem Studies Continuing Education Program (1999)

Hydric Soils training workshop: led by Wade Hurt, Natural Resource Conservation Service (1998)

Multivariate Ecological Analysis workshop: led by Bruce McCune, Oregon State University (1997)

### **Professional Associations**

Ecological Society of America (member)

Society of Wetland Scientists (member)