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EDUCATION

Ph.D.	Natural Resources, University of New Hampshire	2000
M.S.	Forest Resources, University of New Hampshire	1992
B.S.	Environmental Science, Purchase College, N.Y. (<i>summa cum laude</i>)	1989

PROFESSIONAL POSITIONS

2003-present	Assistant Professor, Department of Natural Resources and Institute for the Study of Earth Oceans and Space, University of New Hampshire (Joint Appointment).
2001-2003	Research Assistant Professor, Institute for the Study of Earth Oceans and Space, University of New Hampshire.
1992-2000	Research Technician & Research Scientist, Complex Systems Research Center, University of New Hampshire.
1990-1991	Graduate Teaching Assistant, Department of Natural Resources, University of New Hampshire.
1989-1990	Research Technician, Institute of Ecosystem Studies, Millbrook, NY.

PROFESSIONAL SERVICE AND OUTREACH ACTIVITIES

Associate Editor, Biogeochemistry, Kluwer Academic Publishers, 2004-

Project leader, GLOBE Carbon Cycle Science K-12 Education Program, 2006-

Steering Committee, 2004-2008 (Elected term), Northeastern Ecosystem Research Cooperative.

Science Working Group, NASA Earth Science Division Plant Physiology and Functional Type mission concept study, 2007.

Forest Ecosystems Section Co-Chair, Northeastern Climate Change Impacts Assessment, Union of Concerned Scientists. 2006-

Biogeochemistry Subcommittee, National Ecological Observatory Network (NEON) Design Consortium, 2005-2006.

Organizing Committee, 2006 International Union of Forestry Research Organizations (IUFRO), Traveling conference on Regional Forest Responses To Environmental Change. 2006.

Ecological Effects Subcommittee, Ecological Effects of the Clean Air Act, U.S. Environmental Protection Agency Science Advisory Board, 2004-2005

Science Advisory Board, New York State Energy, Research and Development Authority (NYSERDA), Environmental Monitoring, Evaluation and Protection Program 2003-2006

Hubbard Brook Research Foundation Science Links Project. Science Team Member: Carbon Cycling and Management in the Northeast United States. 2005-

Hubbard Brook Research Foundation Science Links Project. Science Team Member: Status and Effects of Nitrogen Pollution in the Northeast United States. 2001-2003

Scientific Committee on Problems of the Environment (SCOPE), Element Interactions Working Group, Prague, Czech Republic, Member and Rapporteur, 2002-2003

Museum of Science, Lecture Series Co-Organizer, Global Change and New England Forests, Boston, MA 2002.

Industrial Economics, Cambridge MA, Science Consultant, Evaluating the Economic Effects of the 1990 Clean Air Act Amendments on the US Forest Products Industry. 1998-1999.

Intergovernmental Panel on Climate Change (IPCC), Technical Editor: The Regional Impacts of Climate Change, An Assessment of Vulnerability, Report for United Nations Convention on Climate Change, Presented in Kyoto, Japan 1997.

RESEARCH SPECIALIZATION

Forest productivity and biogeochemistry, ecological effects of air pollution, carbon and nitrogen cycling in forests, disturbance and land use history, ecosystem modeling and remote sensing, forest response to multiple environmental stressors, landscape ecology, regional ecological analysis.

COURSES TAUGHT

Forest Ecology
Terrestrial Ecosystems
Endangered Forests
Forest Ecosystems and Environmental Change
Advanced Topics in Forest Ecosystems
Biogeochemistry

GRADUATE STUDENTS (Primary Advisor)

Julian Jenkins (Ph.D., NRESS), Kirstin Lloyd (MS. Natural Resources), Sarah Silverberg (MS. Natural Resources), Richard MacLean (MS. Natural Resources), Kathryn Berger (MS Natural Resources), Erica Cate (MS Natural Resources; Co-advisor with Mark Ducey).

Graduate committees

Minha Chot (PhD Civil Engineering)
Alix Contosta (PhD NRESS)
Katie Traer (MS. Natural Resources)
Quinn Thomas (MS. Natural Resources)

Heather Smith (MS. Natural Resources)
Robert Kenning (MS. Natural Resources)
John Richardson (MS. Natural Resources)

REVIEWER FOR

(i) Journals & Scientific Publications

Biogeochemistry*	Canadian Journal of Forest Research
Ecosystems	Forest Ecology and Management
Global Biogeochemical Cycles	Global Change Biology
Ecology	Ecological Applications
Intergovernmental Panel on Climate Change	Journal of Hydrology
Journal of Theoretical Ecology	Tellus
Tree Physiology	US EPA
New Phytologist	Environmental Management
Journal of Geophysical Research, Atmospheres	Nature
Global and Planetary Change	Island Press
Proceedings of the National Academy of Science	Journal of Environmental Quality

*Associate Editor

(ii) Funding Agencies

National Aeronautics and Space Administration
National Science Foundation, Ecosystem Studies Program
National Science Foundation, Long Term Ecological Research Program
U.S. Environmental Protection Agency
U.S. Department of Agriculture
New York State Energy Research and Development Authority
National Institute of Climate Change Research

(iii) Review Panels

National Science Foundation, National Ecological Observatory Network (NEON) Preliminary Design Review.
NASA Earth System Science Fellowship Program.
National Institute of Climate Change Research.
New York State Energy, Research and Development Authority.

FUNDING HISTORY ([‡] *Principal Investigator*, [§] *Active Grants*)

^{#§} Exploring Ecosystems and the Atmosphere in the K-12 Classroom: A Plan to Integrate NASA Carbon Cycle Science with GLOBE. Investigators: S.V. Ollinger, J. Albrechtova, B.H. Braswell, L. Gengarely, M.E. Martin, A. Schloss. NSF Geosciences Program. \$968,166. Aug. 2006-July 2010.

[§]Collaborative Research: Relationship between Carbon Allocation to Mycorrhizal Fungi and Organic Nitrogen Use in Temperate Forests. Investigators: E. Hobbie, S. Frey, T. Horton, S.

Ollinger, R. Varner. \$657,043. Sep. 2006-Aug. 2009.

‡§ Effects of Future Changes in Climate and Atmospheric Composition on Forest Ecosystems across the Northeastern U.S.: Model Development, Testing, and Projections. Northeastern States Research Cooperative. Investigators: S.V. Ollinger, C.L. Goodale. \$98,575. 2006-2008.

§Long-Term Research at the Harvard Forest. NSF Long-Term Ecological Research Program. Investigators: D. Foster et al. \$5,280,000. UNH Subcontract (S. Frey and S. Ollinger): \$628,881.

§Effects of Changes in Climate and Atmospheric Composition on Forest Ecosystems across the Northeastern U.S. National Institute of Climate Change Research. Investigators: C.L. Goodale, S.V. Ollinger. \$365,987. 2006-2009.

‡§A Landscape-scale measurement campaign for the North American Carbon Program. USDA Forest Service. Investigators: S. Ollinger, M-L. Smith. \$159,046. 2005-2010.

§Long-Term Ecological Research at the Hubbard Brook Experimental Forest. NSF Long-Term Ecological Research Program. Investigators: T. Fahey et al. \$4,920,000. UNH Subcontract (J. Aber, S. Ollinger, M. Martin) \$220,000. 2005-2011.

§Climate Change and Variability – A New NERC Working Group. Investigators: L. Rustad, S. Ollinger. Northeastern States Research Cooperative. \$68,656. Sep. 2005-Aug. 2007.

‡§ Scaling and evaluation of ecosystem carbon uptake through integration of multi-scale remote sensing with AmeriFlux and NACP field observations. Investigators: S.V. Ollinger, M.L. Smith, M.E. Martin, D. Hollinger, X. Xiao and B.H. Braswell. NASA Carbon Cycle Science Program. \$835,069 2005–2008.

§Understanding the changing carbon, nitrogen and water cycles in the earth system. Investigators: B. Moore, R. Braswell, S. Frolking, G. Hurtt, C. Li, S. Ollinger, C. Vorosmarty, X. Xiao. NASA's Interdisciplinary Science Team Program. \$2,394,143. Jan. 2004-Dec. 2006.

‡ Scaling Forest Carbon Flux Measurements from Sites to Landscapes: A Hyperspectral Analysis of FLUXNET Research Sites Along a Boreal to Tropical Gradient. Investigators: S.V. Ollinger, M.E. Martin, D. Hollinger, M.L. Smith, R. Hallett. NASA Terrestrial Ecology Program in Carbon Cycling Science. \$884,818, 2001 – 2004.

‡ Resolving the Effects of Multiple Environmental Changes on Net Carbon Balances Through Time-Series Application of a Forest Ecosystem Model. Investigators: S.V. Ollinger, J.D. Aber, D. Hollinger, W. Munger. National Institute of Global Environmental Change (DOE) \$231,525, July 2002 – June 2005.

An investigation of calcium oxalate pools—a potential missing link in understanding maintenance of calcium supply in forests. Investigators: R.A. Hallett, S.W. Bailey, W.H. McDowell and S.V. Ollinger. U.S. Department of Agriculture. \$255,495, Oct. 2003-Sept. 2006.

Synthesis of multi-scale satellite observations with Ameriflux data. Investigators: B.H. Braswell and S.V. Ollinger. National Institute of Global Environmental Change (DOE) \$163,125, July 2003 – June 2006.

‡ Resolving the Effects of Multiple Environmental Changes on Southeastern Forest Carbon Balances Through Time Series Application of a Forest Ecosystem Model. USDA Forest Service.

Investigators: S.V. Ollinger, J.D. Aber. \$50,000. 2003 – 2004.

A Regional Model of Atmospheric Deposition for the Northeastern US. USDA Northeastern Research Cooperative. Investigators: K. Weathers, G. Lovett, and S. Ollinger. \$191,000, 2001 – 2005.

‡The Effects of Historical Land Use on Forest Productivity and Response to Climate Change and CO₂: A Remote Sensing, Field and Modeling Analysis of the White Mountain National Forest. Investigators: S.V. Ollinger, M.E. Martin, M.L. Smith, R.A. Hallett and J.D. Aber. Terrestrial Ecology and Global Change Joint Research Program (USDA/DOE/EPA/NASA): \$552,000, 1997-2000.

Predicting the Effects of a Changing Physical and Chemical Climate on Primary Production, Nutrient Cycling and Water Yield for Forests of the Northeastern U.S.: A comparison of Models and Scales. USDA Forest Service. Investigators: J.D. Aber, S.V. Ollinger, J. Melillo and D. Kicklighter. \$180,000, 1996-1998.

Foliar Chemistry as an Indicator of Forest Ecosystem Status, Primary Production, and Stream Water Chemistry. Investigators: J.D. Aber, M.E. Martin, S.V. Ollinger, C. Driscoll, R. Hallett. U.S. Environmental Protection Agency. 1997-2001, \$850,000.

Occurrence of Nitrogen Saturation in Northeastern Forests. Investigators: J.D. Aber, M.E. Martin, S.V. Ollinger, M.L. Smith, R.A. Hallett. US Environmental Protection Agency. \$250,000, 2000-2002.

PUBLICATIONS – PEER REVIEWED JOURNAL ARTICLES AND BOOK CHAPTERS

Ollinger, S.V., C.L. Goodale, K. Hayhoe and J.P Jenkins. 200#. Effects of predicted changes in climate and atmospheric composition on ecosystem processes in Northeastern U.S. forests. Mitigation and Adaptation Strategies for Global Change. *In Press*.

Asner, G.P. and S.V. Ollinger. 200#. Remote Sensing for Terrestrial Biogeochemical Modeling. In: Warner, T., Nellis, M.D. and Foody, G. (eds): The Handbook of Remote Sensing. SAGE Publications, UK. *In Press*.

Ollinger, S.V., R.N. Treuhaft, B.H. Braswell, J.E. Anderson, M.E. Martin, M-L. Smith. 2007. The Role of Remote Sensing in the Study of Terrestrial Net Primary Production. In: Fahey and Knapp (Eds.), Principles and Standards for Measuring Net Primary Production in Long-Term Ecological Studies. Oxford University Press, London.

Plourde L.C., S.V. Ollinger, M.E. Martin and M-L. Smith. 2007. Estimating species abundance in a northern temperate forest using spectral mixture analysis. *Photogrammetric Engineering and Remote Sensing*, 73(7): 829–840.

Jenkins, J.P., A.D. Richardson, B.H. Braswell, S.V. Ollinger, D.Y. Hollinger, and M-L. Smith. 2007. Refining light-use efficiency calculations for a deciduous forest canopy using simultaneous tower-based carbon flux and radiometric measurements. *Journal of Forest and Agricultural Meteorology*, 143: 64-79.

Richardson, A. D., D. Y. Hollinger, J. D. Aber, S. V. Ollinger, and B. H. Braswell. 2007. Environmental variation is directly responsible for short-but not long-term variation in forest-atmosphere carbon exchange. *Global Change Biology*, 13:788-803.

- Richardson, A.D., J.P. Jenkins, B.H. Braswell, D.Y. Hollinger, S.V. Ollinger, and M-L Smith. 2007. Use of digital webcam images to track spring green-up in a deciduous broadleaf forest. *Oecologia*, 152 (2): 323-334.
- Pardo, L.H., P. Templer, C.L. Goodale, S. Duke, P. Groffman, M.B. Adams, P. Boeckx, J. Boggs, J. Campbell, J. Compton, B. Emmett, P. Gundersen, J. Kjønaas, G. Lovett, M. Mack, A. Magill, M.J. Mitchell, M. Mbila, G. McGee, S. McNulty, K. Nadelhoffer, B. Colman, S.V. Ollinger, D. Ross, H. Rueth, L. Rustad, P. Schaberg, S. Schiff, P. Schleppei, J. Spoelstra, W. Wessel. 2006. Regional Assessment of N saturation using foliar and root $\delta^{15}\text{N}$. *Biogeochemistry*, 80 (2): 143-171.
- Zhang, Q, X. Xiao, B.H. Braswell, E. Linder, S.V. Ollinger, M-L. Smith, J.P. Jenkins, F. Baret, A.D. Richardson, B. Moore III, R. Minocha. 2006. Characterization of seasonal variation of forest canopy in a temperate deciduous broadleaf forest, using daily MODIS data. *Remote Sensing of Environment*, 105: 189-203.
- Ollinger, S.V. and M.L. Smith. 2005. Net primary production and canopy nitrogen in a temperate forest landscape: an analysis using imaging spectrometry, modeling and field data. *Ecosystems*, 8(7):760-778.
- Ollinger, S.V. 2005. Biodiversity and Ecosystem Function in Forests. Review of: Scherer-Lorenzen, Michael, Christian Körner, and Ernst-Detlef Schulze, editors. 2005. *Forest diversity and function: temperate and boreal systems*. Springer, New York.. *Ecology*. 86(8): 2256–2257.
- Turner, D.P, S.V. Ollinger and J.S. Kimball. 2004. Integrating remote sensing and ecosystem process models for landscape to regional scale analysis of the carbon cycle. *BioScience*. 54(6):573-584.
- Turner, D.P., S.V. Ollinger, M.L. Smith, O. Krankina and M. Gregory. 2004. Scaling net primary production to a MODIS footprint in support of earth observing system product validation. *International Journal of Remote Sensing*, 25(10):1961-1980.
- Aber, J., S. Ollinger, B. Currie, M. Martin, M. Castro, E. Boose, D. Foster, A. Magill, D. Kicklighter, S. McNulty. 2004. Synthesis and Extrapolation: Models, Remote Sensing and Regional Analyses. In: Foster, D.F. and J.D. Aber (Editors). *Forest Landscape Dynamics in New England: Ecosystem Structure and Function as a Consequence of 1000 Years of Change*. Yale University Press.
- Coops, N.C., M.L. Smith, K. Jacobsen, M.E. Martin, and S.V. Ollinger. 2004. Estimation of plant and leaf area index using three techniques in mature native eucalypt canopies. *Austral Ecology*. 29: 332–341.
- Ollinger, S.V., O. Sala, G. Ågren, B. Berg, E. Davidson, C. Field, M. Lerdau, J. Neff, Mary Scholes, Robert Sterner. 2003. New Frontiers in the Study of Element Interactions. In: Melillo and Field (Eds.), *Interactions of the Major Biogeochemical Cycles*, *Scientific Committee on Problems of the Environment (SCOPE)*, Island Press Publishers, *Washington, DC*.
- Ollinger, S.V. 2003. Forest Ecosystems. In: *Encyclopedia of Life Sciences*. Nature Publishing Group, London. [<http://www.els.net/>]
- Craine, J., W. Bond, W. Lee, P. Reich, and S. Ollinger. 2003. The resource economics of chemical and structural defenses across nitrogen supply gradients. *Oecologia* 442, 547-556.

- Driscoll, C., D. Whitall, J. Aber, B. Boyer, M. Castro, C. Cronan, C. Goodale, P. Groffman, C. Hopkinson, K. Lambert, G. Lawrence and S. Ollinger. 2003. Nitrogen pollution: sources and consequences in the northeastern United States. *Environment* 47(7): 8-22.
- Coops, N.C., M.L. Smith, M.E. Martin, and S.V. Ollinger. 2003. Prediction of eucalypt foliage nitrogen content from satellite derived hyperspectral data. *IEEE Transactions on Geosciences and Remote Sensing*. 41(6):1338-1346.
- Smith, M.L., M.E. Martin, S.V. Ollinger, and L. Plourde. 2003. Analysis of hyperspectral data for estimation of temperate forest canopy nitrogen concentration: comparison between an airborne (AVIRIS) and a spaceborne (HYPERION) sensor. *IEEE Transactions on Geosciences and Remote Sensing*. 41(6):1332-1337.
- Greenland, D., B.P. Hayden, J.J. Magnuson, S.V. Ollinger, R.A. Pielke Sr. and R.C. Smith. 2003. LTER Program long-term research on biosphere-atmosphere interactions. *Bioscience*. 53(1):33-45.
- Driscoll, C., D. Whitall, J. Aber, B. Boyer, M. Castro, C. Cronan, C. Goodale, P. Groffman, C. Hopkinson, K. Lambert, G. Lawrence and S. Ollinger. 2003. Nitrogen pollution in the northeastern United States: Sources, effects and management options. *Bioscience*, 53(4):357-374.
- Aber, J.D., C.G. Goodale, S.V. Ollinger, R.A. Hallett, A.H. Magill, M.E. Martin, M.L. Smith and J.L. Stoddard. 2003. Is nitrogen deposition altering the nitrogen status of northeastern forests? *Bioscience*, 53(4): 375-389.
- Ollinger, S.V., J.D. Aber, P.B. Reich and R. Freuder. 2002. Interactive effects of nitrogen deposition, tropospheric ozone, elevated CO₂ and land use history on the carbon dynamics of northern hardwood forests. *Global Change Biology*. 8: 545-562.
- Coops, N. S. Dury, M.L. Smith, M.E. Martin and S.V. Ollinger. 2002. Comparison of green leaf eucalypt spectra using spectral decomposition. *Australian Journal of Botany*. 50 (5): 567-576 2002
- Ollinger, S.V., M.L. Smith, M.E. Martin, R. A. Hallett, C.L. Goodale and J.D. Aber. 2002. Regional variation in foliar chemistry and soil nitrogen status among forests of diverse history and composition. *Ecology*. 83(2): 339-355. (*Invited Special Feature*.)
- Aber, J.D., S.V. Ollinger, C.T. Driscoll, G.E. Likens, R.T. Holmes, R.J. Freuder, and C.L. Goodale. 2003. Inorganic N losses from a forested ecosystem in response to physical, chemical, biotic and climatic perturbations. *Ecosystems*. 5: 648-658.
- Smith, M.L., S.V. Ollinger, M.E. Martin, J.D. Aber, C.L. Goodale. 2002. Direct prediction of aboveground forest productivity by remote sensing of canopy nitrogen. *Ecological Applications*, 12(5): 1286-1302.
- Coops, N.C., M.L. Smith, M.E. Martin, S.V. Ollinger, A. Held and S.J. Dury. 2001. Assessing the performance of HYPERION in relation to Eucalyptus Biochemistry: Preliminary project design and specifications. Proceedings from IGARSS 2001, Sydney, Australia.
- Laurence, J.A., S.V. Ollinger, and P.B. Woodbury. 2000. Regional impacts of multiple stresses on productivity and forest health. In: R. Mickler, R. Birdsey and J. Hom (eds.), *Response of Northern U.S. Forests to Environmental Change*. Ecological Study Series Vol. 139. Springer, New York.

- Jenkins, J.C., D.W. Kicklighter, S.V. Ollinger, J.D. Aber, and J.M. Melillo. 1999. Sources of variability in NPP predictions at a regional scale: A comparison using PnET-II and TEM 4.0 in northeastern U.S. Forests. *Ecosystems*. 2: 555-570.
- Ollinger, S.V., J.D. Aber, and C.A. Federer. 1998. Estimating regional forest productivity and water balances using an ecosystem model linked to a GIS. *Landscape Ecology*. 13(5): 323-34.
- Bishop, G.D., M.R. Church, J.D. Aber, R.P. Neilson, S.V. Ollinger, and C. Daly. 1998. A comparison of mapped estimates of long-term runoff in the northeastern United States. *Journal of Hydrology*. 206(3-4): 176-190.
- Goodale, C.L., J.D. Aber, and S.V. Ollinger. 1998. Mapping monthly precipitation, temperature, and solar radiation for Ireland with polynomial regression and a digital elevation model. *Climate Research*. 10(1): 51-67.
- Ollinger, S.V., J.D. Aber, and P.B. Reich. 1997. Simulating ozone effects on forest productivity: interactions among leaf-, canopy- and stand-level processes. *Ecological Applications*. 7(4): 1237-1251.
- Aber, J.D., S.V. Ollinger, and C.T. Driscoll. 1997. Modeling nitrogen saturation in forest ecosystems in response to land use and atmospheric deposition. *Ecological modeling*. 101: 61-78.
- Canham, C.D., A.R. Berkowitz, V.R. Kelly, G.M. Lovett, S.V. Ollinger, and J. Schnurr. 1996. Biomass allocation and multiple resource limitation in tree seedlings. *Canadian Journal of Forest Research*. 26: 1521-1530.
- Ollinger, S.V., J.D. Aber, C.A. Federer, G.M. Lovett, and J.M. Ellis. 1995. Modeling physical and chemical climate of the northeastern U.S. for a geographic information system. USDA Forest Service GTR NE-191.
- Aber, J.D., S.V. Ollinger, C.A. Federer, P.B. Reich, M.L. Goulden, D.W. Kicklighter, J.M. Melillo, and R.G. Lathrop. 1995. Predicting the effects of climate change on water yield and forest production in the northeastern United States. *Climate Research*. 5: 207-222.
- Lathrop, R.G., J.D. Aber, J.A. Bognar, S.V. Ollinger, S. Casset and, J.M. Ellis. 1994. GIS development to support regional simulation modeling of northeastern (USA) forest ecosystems. In W.K. Michener, J.W. Brunt, and S.G. Stafford, eds. Environmental Information Management and Analysis. Taylor and Francis Publishers, London.
- Ollinger, S.V., J.D. Aber, G.M. Lovett, S.E. Millham, R.G. Lathrop, and J.M. Ellis. 1993. A spatial model of atmospheric deposition for the northeastern U.S. *Ecological Applications* 3: 459-472.

REPORTS AND PROCEEDINGS

- Driscoll, C., D. Whittall, J. Aber, B. Boyer, M. Castro, C. Cronan, C. Goodale, P. Groffman, C. Hopkinson, K. Lambert, G. Lawrence and S. Ollinger. 2003. Nitrogen Pollution: From the Sources to the Sea. Hubbard Brook Research Foundation. A Science Links™ Publication. Vol. 1, No. 2.
- Smith, M.L., S.V. Ollinger, M.E. Martin R.A. Hallett, J.D. Aber. 2001. The MAPBGC Project: whole canopy nitrogen concentration as a direct scalar of forest productivity and nitrogen cycling. In J.D. Greer (ed.), Remote Sensing and Geospatial Technologies for the New Millennium: Proceedings of the Eighth Forest Service Remote Sensing Applications Conference, April,

- 2000, Albuquerque, New Mexico. Bethesda, Maryland: American Society for Photogrammetry and Remote Sensing.
- Smith, M.L., M.E. Martin, and S.V. Ollinger. 2001. Hyperspectral remote sensing of forest ecosystem productivity and nutrient Cycling. American Society for Photogrammetry and Remote Sensing, Annual Meeting, May 22-26, 2000, Washington, D.C. CD-ROM Publication.
- Martin, M.E., M.L. Smith, S.V. Ollinger, R. A. Hallett, L. Plourde, M. Sytek, J.H. Pontius, J.D. Aber. 2001. AVIRIS analysis of watershed function in the White Mountain National Forest. In Green, R. comp. Ed. Summaries of the 10th NASA-JPL Airborne Earth Sciences Workshop, February 27th - March 2, 2001, NASA Jet Propulsion Laboratory, Pasadena, CA.
- Martin, M.E., M.L. Smith, S.V. Ollinger, R.A. Hallett, C.L. Goodale, S.W. Bailey, J.D. Aber. Applying AVIRIS at the sub-regional scale: forest productivity and nitrogen and cation cycling. 1999. Pp. 275-279 in R.O. Green (ed.) Proceedings of the Eighth JPL Airborne Earth Science Workshop. NASA JPL Publication 99-17.
- Hardner, J., A. VanGeel, K. Stockhammer, J. Neumann and S.V. Ollinger. 1999. Characterizing the Commercial Timber Benefits from Tropospheric Ozone Reduction Attributable to the 1990 Clean Air Act Amendments, 1990-2010. Report to the *U.S. Environmental Protection Agency, Office of Policy*, Washington, DC.
- Ollinger, S.V., J.D. Aber and P.B. Reich. 1996. Predicting the effects of tropospheric ozone on forest productivity in the northeastern U.S. IN: Proceedings of the USDA Forest Service Global Change Meeting, Pittsburg, PA, March 1995. Pp. 217-225.
- Jenkins, J.C., S.V. Ollinger, D.W. Kicklighter, J.D. Aber, J.M. Melillo. 1996. Predicting NPP in northeastern forest systems: A comparison of models and scales. *Bulletin of the Ecological Society of America*. 77(3): p. 217.
- Canham, C.D., A.R. Berkowitz, V.R. Kelly, G.L. Lovett, and S.V. Ollinger. 1993. Effects of biomass allocation and resource-use efficiency on multiple resource limitation in tree seedlings. pp. 235-258. In: C.D. Canham et al. (eds.). *Vegetation Dynamics Along Utility Rights-of-Way*. Final Report to Central Hudson Gas and Electric Corporation and the Empire State Electric Energy Research Corporation.
- Putz, F.E., C.D. Canham, and S.V. Ollinger. 1993. Root foraging efficiencies of trees and shrubs. pp. 227-234. In: C.D. Canham et al. (eds.). *Vegetation Dynamics Along Utility Rights-of-Way*. Final Report to Central Hudson Gas and Electric Corporation and the Empire State Electric Energy Research Corporation.
- Canham, C. D., A. R. Berkowitz, V. R. Kelly, G. M. Lovett, and S. Ollinger. 1991. Effects of biomass allocation and resource use efficiency on responses of tree seedlings to multiple limiting resources. *Bulletin of the Ecological Society of America*. 72(2):82.

PROFESSIONAL SEMINARS (PARTIAL)

Ollinger, S.V. 2007. New England's Forests and the Winds of Change: Effects of Air Quality, Climate and Carbon Dioxide. Mount Washington Observatory Symposium for Air and Climate. Bretton Woods, NH. (*featured speaker*)

Ollinger, S.V. The GLOBE-Carbon Program: Integrating NASA Carbon Cycle Science with GLOBE education. 11th GLOBE Annual Conference, San Antonio, TX.

Ollinger, S.V., A.D. Richardson, D.Y. Hollinger, M.E. Martin, S.E. Frohling. 2007. Canopy nitrogen, carbon assimilation and the albedo of North American forest ecosystems. Hubbard Brook LTER Annual Cooperator's Meeting.

Ollinger, S.V. 2006. Canopy Nitrogen and Carbon Assimilation in Forests, Using Field Data, Remote Sensing and Modeling Across a Series of AmeriFlux Sites. Boston University Ecology and Conservation Biology Seminar Series. 2006. (*Invited*)

Ollinger, S.V. 2006. Keynote Address: Effects of Climate Change and Multiple Pollutant Stressors on Northeastern Forest Ecosystems. International Union of Forest Research Organizations Canopy Processes Workshop, Durham, NH.

Ollinger, S.V. 2006. Keynote Address: Effects, Interactions and Consequences of Air Pollutant Cycling in Ecosystems. 8th Annual Conference on Atmospheric Chemistry, American Meteorological Society, Atlanta Georgia.

Ollinger, S.V. 2006. Canopy Nitrogen and Carbon Assimilation Across a Network of NACP - AmeriFlux Sites. North American Carbon Program, Landscape Analysis Workshop. Denver, CO.

Ollinger, S.V. 2005. AVIRIS, AmeriFlux and the Coupled Nature of Carbon and Nitrogen in Forests. Annual AVIRIS Workshop, Jet Propulsion Laboratory, Pasadena, CA. (*Invited*)

Ollinger, S.V., B.H. Braswell and J.D. Aber. 2005. Resolving and modeling sources of variability in forest carbon uptake across a range of scales. Harvard Forest LTER Annual Cooperator's Meeting. (*Invited*)

Ollinger, S.V. Regionalization Approaches and Opportunities. Hubbard Brook Annual Cooperators Meeting. 2005.

Ollinger, S.V., M-L. Smith, L. Plourde, M.E. Martin, J.P Jenkins, D.Y. Hollinger, S.C. Wofsy, R. Oren, D.S. Ellsworth. 2004. A scaling analysis of vegetation carbon uptake for the North American Carbon Program: What are we missing and what can we do about it? American Geophysical Union, Fall Meeting, December 2004. (*Invited*)

Ollinger, S.V. 2004. Spatial Patterns of Canopy Nitrogen and Net Primary Production at the Bartlett Experimental Forest. Hubbard Brook LTER Annual Cooperator's Meeting.

Ollinger, S.V., M-L Smith, L. Plourde, M.E. Martin, J.P Jenkins, D.Y. Hollinger and S.C Wofsy. 2004. Scaling forest carbon uptake in temperate forest ecosystems for the North American Carbon

Program. Northeastern Ecosystems Research Cooperative, Annual Conference, November 2004.

Ollinger, S.V., M-L. Smith, J. Jenkins, L. Plourde, M. Martin, D. Hollinger, J. Aber. 2004. Scaling Forest Productivity Through Space and Time Using Hyperspectral Remote Sensing and Ecosystem Modeling. Harvard Forest Long-Term Ecological Research Ecology Symposium. Harvard Forest, MA, March 29, 2004. (*Invited*)

Ollinger, S.V. 2003. Forest Productivity Studies: From Plots to Regions. Workshop on Forest Nutrient Dynamics - Integrating Research and Management May 20 – 21, 2003, Hubbard Brook Experimental Forest, Woodstock, NH

Ollinger, S.V. 2003. The Effects of Global Change on Forest Ecosystems. University of Virginia Department of Environmental Sciences. January 30, 2003. (*Invited*)

Ollinger, S.V. 2002. Global Change and Northeastern Forest Ecosystems: An Integrated Analysis of Multiple Environmental Stressors. University of Michigan Department of Natural Resources. (*Invited*)

Ollinger, S.V. 2002. (*featured speaker*) Modeling Forest Productivity in a Complex Forested Landscape Using High Spectral Resolution Remote Sensing and Extensive Field Data. American Geophysical Union, Fall Meeting, San Francisco, CA, December, 2002.

Ollinger, S.V. and M.L. Smith. Scaling Forest Carbon and Nitrogen Dynamics along a Boreal to Tropical Gradient. NASA-LBA Science Conference, Manaus, Brazil, July 2002.

Ollinger, S.V. 2002. Scaling Forest C and N Interactions from Sites to Regional and Global Scales. International Paper, Augusta, Maine.

Ollinger, S.V. A Regional Analysis of Nitrogen Retention in Forest Soils. UNESCO, International Oceans Commission Workshop on Modeling Nutrient Inputs to Global Oceans, Paris, France, May 2002. (*Invited*)

Ollinger, S.V. 2002. Global Change and the Northern Forest: Beyond Global Warming. Museum of Science, Boston, MA, March, 2002. (*Invited*)

Ollinger, S.V., J D Aber, H. Sievering. (*featured speaker*) The Coupled Nature of C and N Cycles in Forest Ecosystems: Evidence, Implications and Uncertainties. American Geophysical Union, Fall Meeting, San Francisco, CA, December, 2001.

Ollinger, S.V. (*featured speaker*) Modeling the Interactive Effects of Multiple Environmental Stressors on Regional Forest Carbon Dynamics in the Northeastern U.S. American Geophysical Union, Fall Meeting, San Francisco, CA, December, 2001.

Ollinger, S.V. 2001. The Coupled Nature of Carbon and Nitrogen Cycles in Northeastern U.S. Forest Ecosystems. Cornell University, Program in Biogeochemistry and Biocomplexity. (*Invited*)

Ollinger, S.V. 2001. Regional analysis of temperate forest carbon and nitrogen dynamics. Long-Term Ecological Research Program, Carbon Flux Scaling Workshop, Corvallis, OR, May, 2001.

(Invited)

Ollinger, S.V. 2000. A multiple-factor analysis of carbon fluxes in temperate forest ecosystems. Conference on Advances in Terrestrial Ecosystem Carbon Inventory, Measurements and Monitoring. Raleigh, NC, October 3-5, 2000.

Ollinger, S.V. 2000. Carbon And Nitrogen Dynamics Of Northeastern U.S. Forests In Response To Environmental Stress Measurements and Models at Local to Regional Scales. University of Minnesota, Department of Ecology, Evolution and Behavior. *(Invited)*

Ollinger, S.V., J.D. Aber, P.B. Reich and R. Freuder. Tropospheric ozone and land use history affect forest carbon uptake in response to CO₂ and N deposition. Harvard Forest Long-Term Ecological Research Ecology Symposium. Harvard Forest, MA, April 3, 2000.

Ollinger, S.V. *(panelist and featured speaker)* Interactive Effects of Ozone and Elevated CO₂ on Temperate Forest Ecosystems. North American Forest Ecology Workshop, Orono, ME, June 27, 1999

Ollinger SV, Aber JD, Bailey SW, Goodale CL, Hallett RA, Martin ME, et al. 1999. The MAPBGC project: remote sensing, mapping, and analysis of forest productivity and biogeochemical cycles in the White Mountains, NH. American Geophysical Union Meeting, Fall Meeting, 1999

Ollinger S.V., Aber J.D., Driscoll C.T., Goodale C.L., Hallett R.A., Martin M.E., Smith M-L. 1998. The MAPBGC project: mapping and analysis of forest productivity and biogeochemical cycles in the White Mountains, NH. Ecological Society of America, 83rd Annual Meeting, August, 1998

Ollinger, S.V., J.D. Aber, and P.B. Reich. Predicting the effects of tropospheric ozone on temperate forest productivity. Meeting of the Northern Global Change Program, March, 1995.

Ollinger, S.V., J.D. Aber, P.B. Reich. Modeling the Effects of Ozone on Forest Growth. Harvard Forest Long-Term Ecological Research Ecology Symposium. Harvard Forest, MA, April 10, 1995

Ollinger, S.V., G.M. Lovett and J.D. Aber. A Spatial Model of Atmospheric Deposition for the Northeastern United States. Hubbard Brook LTER Annual Meeting, July 7, 1992.

Ollinger, S.V. Atmospheric Deposition and Nitrogen Saturation in the Northeastern US. USDA Forest Service Symposium: Air Pollution Effects on Terrestrial and Aquatic Ecosystems, Waterville Valley, NH, October 20, 1992.