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## Curriculum Vitae

### TIMOTHY G. GREGOIRE

J. P. Weyerhaeuser Jr. Professor of Forest Management

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#### EDUCATION

<u>Institution</u>	<u>Degree - Field of study</u>	<u>Date</u>
Princeton University	B.S. - Engineering	1971
University of New Hampshire	M.S. - Forest Resources	1980
Yale University	M.Ph. - Forest Biometrics	1982
Yale University	Ph.D. - Forest Biometrics	1985

#### EXPERIENCE

9/78-5/80	University of New Hampshire, Institute of Natural and Environmental Resources. Instructor.
9/82-5/84	Southern Connecticut State University, Department of Computer Science. Instructor.
8/83-5/85	Yale University, School of Forestry and Environmental Studies. Instructor.
5/82-5/85	U. S. Forest Service, Fort Collins, Colorado. Statistical consultant.
5/85-8/85	U. S. Forest Service, Hamden, Connecticut. Mathematical statistician.

- 8/85-7/91 Virginia Polytechnic Institute and State University, School of Forestry and Wildlife Resources. Assistant professor.
- 7/91-6/98 Virginia Polytechnic Institute and State University, School of Forestry and Wildlife Resources. Associate professor.
- 7/98-present Yale University, School of Forestry and Environmental Studies. J. P. Weyerhaeuser Jr. Professor of Forest Management

### **ADVISORY SERVICE**

Deputy Editor, *Environmental and Ecological Statistics*, 2004 – 2008.

Board of Directors, The Energy and Resources Institute - North America, Washington, D.C. 2003-present

Academic Council, TERI School of Advanced Studies, New Delhi, India. 2003-present.

Council of Environmental Deans and Directors, National Council for Science and the Environment, 2002-2004.

External Review Panel of new Vegetation Inventory, Ministry of Forests, British Columbia, Canada, January-March 1995.

Forest Inventory and Analysis Subcommittee of the Forest Research Council Committee of the American Forestry Council, 1989-1995.

### **PROFESSIONAL ORGANIZATIONS, MEMBERSHIPS and OFFICES**

The International Biometric Society

Council (2000-2001, & 2008-2011)

Editorial Advisory Committee (1999-2005)

Search Committee for Editor of *Biometrics* (2002, 2004)

Associate Editor of *Biometrics* (1997-1999)

Search Committee for Editor of *Journal of Agricultural, Biological, and Environmental Statistics* (2000-2001)

Chair, Management Committee of *Journal of Agricultural, Biological, and Environmental Statistics* (2002-2007)

Information Technology Working Party (2004-2006)

Communications Committee (2007-2008)

Regional Advisory Board, Eastern North American Region (1994)  
Chair, Regional Advisory Board, Eastern North American Region (1995-1998)  
Regional Committee, Eastern North American Region (1995-1998, 2000-2004)  
Chair, Web Oversight Committee (1999-2001)  
Treasurer, Eastern North American Region (2000-2001)  
Program Committee, Eastern North American Region (1996, 2001)  
President, Eastern North American Region (2003)

American Statistical Association

Publications Chair, 1997-98, Section on Statistics and the Environment  
Elected Fellow, 2000  
Program Committee, Joint Statistical Meetings, 2001  
Publications Committee, 2002-2007

International Statistical Institute, 2006 –present, Elected Member

Institute of Mathematical Statistics

The International Environmetrics Society

Program committee, Ninth International Conference on Quantitative Methods for  
Environmental Sciences (TIES98), 3-6 July 1998, Gold Coast, Queensland,  
Australia.  
Associate Editor of *Environmetrics*, 1997-2010

The Royal Statistical Society

International Association of Survey Statisticians

American Association for the Advancement of Science, 1995-present

International Union of Forestry Research Organizations

Subject Groups S4.01, S4.02, S4.11  
Working Party S4.02.03 co-chairman, 1991-1999

Society of American Foresters

Inventory (A1) Working Group, chairman 1993-1994  
Biometrics (A3) Working Group, secretary 1991-1992

Representative of SAF to American Statistical Association, Section on  
Statistics and the Environment (1993-1999)  
Associate Editor of *Forest Science*, 1989-1996

## **HONORS and AWARDS**

Award in Forest Science, Society of American Foresters, 2000

Elected Fellow of the American Statistical Association, 2000.

Twentieth Century Distinguished Service Award for outstanding contribution to the development and direction of cross-disciplinary combination of practicality and scholarship for statistics, ecology, environment, and society. Ninth Lukacs Symposium: Frontiers of Environmental and Ecological Statistics for the 21<sup>st</sup> Century. 1999.

Certificate of Appreciation for Outstanding Service, Society of American Foresters, 1997.

Distinguished Achievement Medal, American Statistical Association, Section on Statistics and the Environment, 1996.

Certificate of Appreciation for Significant Contribution to Science and Technology Transfer, Society of American Foresters, 1995.

Certificate of Appreciation, International Union of Forest Research Organizations, 1994.

President's Award for Practical Papers, First Place, American Society for Photogrammetric Engineering and Remote Sensing, 1993.

Certificate of Appreciation for Outstanding Service, Society of American Foresters, 1992.

## **RESEARCH PUBLICATIONS**

### *Books (3)*

Gregoire, T. G. and H. T. Valentine. 2008. *Sampling Strategies for Natural Resources and Environment*. Chapman-Hall/CRC (ISBN 978-1-58488-370) 492 p.

**T. G. Gregoire**, D. R. Brillinger, P. J. Diggle, E. Russek-Cohen, W. G. Warren, R. D. Wolfinger (eds.). 1997. *Modelling Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions*. Springer-Verlag, New York.

Schreuder, H. T., **T. G. Gregoire**, and G. B. Wood. 1993. *Sampling Methods for Multiresource Forest Inventory*. New York: Wiley. 446 p.

*Book Chapters (5)*

Burkhardt, H. E. and **T. G. Gregoire**. 1994. Forest Biometrics. IN: *Handbook of Statistics Volume 12: Environmental Statistics* (G. P. Patil, and C. R. Rao, eds.) North Holland/Elsevier Science Publishers, New York. pp. 377-407.

Valentine, H. T., **T. G. Gregoire**, H. E. Burkhardt, and D. Y. Hollinger. 1998. Projections of Growth of Loblolly Pine Stands under Elevated Temperatures and Carbon Dioxide. IN: *The Productivity and Sustainability of Southern Forest Ecosystems in a Changing Environment* (R. A. Mickler and S. Fox, eds.) Springer-Verlag, New York. pp. 341-352.

Hasenauer, H. R. A. Monserud, and **T. G. Gregoire**. 2000. The simultaneous nature of tree growth models. IN: *Quantifying Spatial Uncertainty in Natural Resource*. (H. T. Mowrer and R. G. Congalton, eds.) Ann Arbor Press. pp. 171- 181.

Valentine, H. T., Gove, J. H., Ducey, M. J., Gregoire, T. G. and Williams, M. S. (2008) Estimating the Carbon in Coarse Woody Debris with Perpendicular Distance Sampling. IN: *Field Measurements for Forest Carbon Monitoring: A Landscape-scale Approach* (C. M. Hoover, ed.), Springer.

Brewer, K. R. W. and **T. G. Gregoire**. 2009. Introduction to survey sampling. IN: *HANDBOOK OF STATISTICS – VOL 29. Sample Surveys: Theory, Methods and Inference*. (C.R. Rao and D. Pfeffermann, eds.) Elsevier (in press).

*Reviews (1)*

**T. G. Gregoire**. 1996. Review of *Circular Statistics*, by N. I. Fisher, Cambridge University Press. *Forest Science* 42:515-516.

*Refereed Journal Articles (100)*

Gove, J. H., J. P. Barrett, and **T. G. Gregoire**. 1982. When is n sufficiently large for regression estimation? *Journal of Environmental Management* 15:229-237.

**Gregoire, T. G.** 1982. The unbiasedness of the mirage correction procedure for boundary

overlap. *Forest Science* 28:504-508.

**Gregoire, T. G.** 1984. The jackknife: an introduction with applications in forestry data analysis. *Canadian Journal of Forest Research* 14:493-497.

Furnival, G. M., H. T. Valentine, and **T. G. Gregoire**. 1986. Unbiased estimation of log volume. *Forest Science* 32:1073-1078.

**Gregoire, T. G.**, H. T. Valentine, and G. M. Furnival. 1986. Estimation of bole volume by importance sampling. *Canadian Journal of Forest Research* 16:554-557.

**Gregoire, T. G.** and B. L. Driver. 1987. The analysis of ordinal data to detect population differences. *Psychological Bulletin* 101:159-165.

Driver, B. L., P. J. Brown, G. Stankey, and **T. G. Gregoire**. 1987. The ROS Planning System: Evolution, basic concepts, and research needed. *Journal of Leisure Science* 9:201-212.

**Gregoire, T. G.** 1987. Generalized error structure for forestry yield models. *Forest Science* 33:423-444.

Furnival, G. M., **T. G. Gregoire**, and L. R. Grosenbaugh. 1987. Adjusted inclusion probabilities with 3P sampling. *Forest Science* 33:617-631.

**Gregoire, T. G.**, H. T. Valentine, and G. M. Furnival. 1987. Sampling methods for tree volume and volume increment. *Forest Ecology and Management* 21:311-323.

**Gregoire, T. G.** and B. L. Driver. 1987. Type II errors in leisure research. *Journal of Leisure Research* 19:261-272.

**Gregoire, T. G.** and D. K. Walters. 1988. Composite vector estimators derived by weighting inversely proportional to variance. *Canadian Journal of Forest Research* 18:282-284.

**Gregoire, T. G.** and M. R. Reynolds. 1988. Accuracy testing and estimation alternatives. *Forest Science* 34:302-320.

Mergen, F. and **T. G. Gregoire**. 1988. Growth of hybrid fir trees in Connecticut. *Silvae Genetica* 37:118-124.

Bredenkamp, B. V. and **T. G. Gregoire**. 1988. A forestry application of Schnute's generalized growth function. *Forest Science* 34:790-797.

Leuschner, W. A., **T. G. Gregoire**, and G. J. Buhyoff. 1988. RI<sub>j</sub>: A statistic for reporting ranked responses. *Journal of Leisure Research* 20:228-232.

- Gregoire, T. G.** 1989. Analysis of Likert-scale data revisited. *Psychological Bulletin* 105:171.
- Walters, D. K., **T. G. Gregoire**, and H. E. Burkhart. 1989. Consistent estimation of site index curves fitted to temporary plot data. *Biometrics* 45: 23-33.
- Gregoire, T. G.** and M. E. Dyer. 1989. Model fitting under patterned heterogeneity of variance. *Forest Science* 35: 105-125.
- Furnival, G. M., **T. G. Gregoire**, and H. T. Valentine. 1989. Confidence intervals and significance tests for a single observation. *Communications in Statistics-Theory and Methods* A18(10)3749-3761.
- Prisley, S. P., **T. G. Gregoire**, and J. L. Smith. 1989. The mean and variance of area estimates computed in an arc-node geographic information system. *Photogrammetric Engineering and Remote Sensing* 55: 1601-1612.
- Arabatzis, A. A., **T. G. Gregoire**, and M. R. Reynolds, Jr. 1989. Interval estimation of the mean following rejection of a two-sided test. *Communications in Statistics-Theory and Methods* A18(12)4359-4373.
- Furnival, G. M., **T. G. Gregoire**, and H. T. Valentine. 1990. An analysis of three methods for fitting site index curves. *Forest Science* 36:464-469.
- Gregoire, T. G.**, S. M. Zedaker, N. S. Nicholas. 1990. Modeling relative error in stem basal area estimates. *Canadian Journal of Forest Research* 20:496-502.
- Valentine, H. T., Furnival, G. M., and **T. G. Gregoire**. 1991. Confidence intervals from single observations in forest research. *Forest Science* 37:370-374.
- Arabatzis, A. A. and **T. G. Gregoire**. 1991. Ordered and unordered multinomial response models: an application to assess loblolly pine merchantability. *Canadian Journal of Forest Research* 21:261-268.
- Arabatzis, A. A., **T. G. Gregoire** and J. David Lenhart. 1991. Fusiform rust incidence in loblolly and slash pine plantations in East Texas. *Southern Journal of Applied Forestry* 15:79-84.
- Keefer, B. J., J. L. Smith, and **T. G. Gregoire**. 1991. The effect of manual digitizing error on the accuracy and precision of polygon area and line length. *Photogrammetric Engineering and Remote Sensing* 57:957-963.
- Nicholas, N. S., **T. G. Gregoire**, and S. M. Zedaker. 1991. The reliability of tree crown class position classification. *Canadian Journal of Forest Research* 21:698-701.

- Walters, D. K., H. E. Burkhart, M. R. Reynolds, Jr., **T. G. Gregoire**. 1991. A Kalman Filter approach to localising height-age equations. *Forest Science* 37:1526-1537.
- Valentine, H. T., C. Bealle, and **T. G. Gregoire**. 1992. Comparing vertical and horizontal modes of importance and control-variate sampling for bole volume. *Forest Science* 38:160-172.
- Gregoire, T. G.**, A. A. Arabatzis, and M. R. Reynolds, Jr. 1992. The mean square error performance of simple linear regression conditional upon the outcome of pre-testing the intercept. *The American Statistician* 46:89-93.
- Gregoire, T. G.** 1992. The error rate of tests of regression coincidence and parallelism under unknown multiplicative heteroscedasticity. *Biometrical Journal* 34:193-208.
- Wiant, H. V., Jr., G. B. Wood, and **T. G. Gregoire**. 1992. Practical guide for estimating the volume of a standing sample tree using either importance or centroid sampling. *Forest Ecology and Management* 49:333-339.
- Smith, J. L., J. A. Logan, **T. G. Gregoire**. 1992. Using aerial photography and geographic information systems to aid the pesticide evaluation process. *Photogrammetric Engineering and Remote Sensing* 58:1447-1448.
- Gregoire, T. G.** and M. Williams. 1992. Identifying and evaluating the components of non-measurement error in the application of standard volume equations. *The Statistician* 41:509-518.
- Valentine, H. T., **T. G. Gregoire**, and G. M. Furnival. 1992. Estimation of the aggregate bole volume of a forest by stratified two-stage, probability sampling. *The Statistician* 41:499-507.
- Gregoire, T. G.** 1993. Estimation of forest growth from successive surveys. *Forest Ecology and Management* 56:267-278.
- Gregoire, T. G.**, H. T. Valentine, and G. M. Furnival. 1993. Estimation of bole surface area and bark volume with Monte Carlo methods. *Biometrics* 49:653-660.
- Houghton, D. R. and **T. G. Gregoire**. 1993. Minimum subsamples of tree heights for accurate estimation of loblolly pine plot volume. *Southern Journal of Applied Forestry* 17:124-129.
- Zedaker, S. M., **T. G. Gregoire**, and J. H. Miller. 1993. Sample size needs for forestry herbicide trials. *Canadian Journal of Forest Research* 23:2153-2158.
- Williams, M. S. and **T. G. Gregoire**. 1993. Estimating weights when fitting linear regression



models for tree volume. *Canadian Journal of Forest Research* 23: 1725-1731.

Schabenberger, O., **T. G. Gregoire**, H. E. Burkhart. 1994. Discussion of Urfer *et al.* (1994, *Journal of Environmental and Ecological Statistics*, 1:171-192), *Journal of Environmental and Ecological Statistics*, 1:192-196.

Lenhart, J. D., **T. G. Gregoire**, G. D. Kronrad, and A. G. Holley. 1994. Characterizing fusiform rust incidence and distribution in East Texas. *Southern Journal of Applied Forestry* 18: 29-34.

Nelson, R. and **T. G. Gregoire**. 1994. Two-stage sampling: a comparison of three procedures to estimate aggregate volume. *Forest Science* 40:247-266.

Valentine, H. T., V. C. Baldwin, **T. G. Gregoire**, and H. E. Burkhart. 1994. Surrogates for foliar dry matter in loblolly pine. *Forest Science* 40:576-585.

Schabenberger, O. and **T. G. Gregoire**. 1994. Competitors to genuine  $\pi$ ps designs: a comparison. *Survey Methodology* 20:185-192.

**Gregoire, T. G.** and N. S. Monkevich. 1994. The reflection method of line intercept sampling to eliminate boundary bias. *Journal of Environmental and Ecological Statistics* 1:219-226.

**Gregoire, T. G.** 1995. Variance derivations and related aspects of growth component estimators with successive variable-radius plot samples. *Forest Ecology and Management* 71:211-216.

**Gregoire, T. G.**, O. Schabenberger, and J. P. Barrett. 1995. Linear modelling of irregularly spaced, unbalanced, longitudinal data from permanent plot measurements. *Canadian Journal of Forest Research* 25:137-156.

Schabenberger, O. and **T. G. Gregoire**. 1995. A conspectus on estimating function theory and its applicability to recurrent modeling issues in forest biometry. *Silva Fennica* 29: 49-70.

Oderwald, R. G. and **T. G. Gregoire**. 1995. Overstated volumes from "pushing" the point. *Southern Journal of Applied Forestry* 19:162-165.

**Gregoire, T. G.** and H. T. Valentine. 1995. A sampling strategy to estimate the area and perimeter of irregularly-shaped planar regions. *Forest Science* 41:470-476.

**Gregoire, T. G.**, H. T. Valentine, and G. M. Furnival. 1995. Sampling methods to estimate foliage and other characteristics of individual trees. *Ecology* 76:1181-1194.

Li, J., M-C Chen, H. T. Schreuder, **T. G. Gregoire**. 1995. Forestry applications of saddle-point

approximations to construct confidence intervals for population mean. *Biometrics* 51:61-72.

- Schreuder, H. T. and **T. G. Gregoire**. 1995. Estimating condition areas and boundary lengths in sample plots with mapped designs. *Canadian Journal of Forest Research* 25:1548-1553.
- Gregoire, T. G.**, O. Schabenberger. 1996. Nonlinear mixed-effects modelling of cumulative bole volume with spatially correlated within-tree data. *Journal of Agricultural, Biological and Environmental Statistics* 1:107-119.
- Gregoire, T. G.**, O. Schabenberger. 1996. A nonlinear mixed-effects model to predict cumulative bole volume of standing trees. *Journal of Applied Statistics* 23:257-271.
- Schabenberger, O. and **T. G. Gregoire**. 1996. Population-averaged and subject-specific approaches for clustered categorical data. *Journal of Statistical Computation and Simulation* 54: 231-254.
- Gregoire, T. G.**, H. T. Valentine. 1996. Sampling methods to estimate stem length and surface area of tropical tree species. *Forest Ecology and Management* 83: 229-235
- Nelson, R., R. Oderwald, and **T. G. Gregoire**. 1997. Separating the ground and airborne sampling phases to estimate tropical forest basal area, volume, and biomass. *Remote Sensing of the Environment* 60:311-326.
- Valentine, H. T., **T. G. Gregoire**, H. E. Burkhart, and D. Y. Hollinger. 1997. A stand-level model of carbon allocation and growth, calibrated for loblolly pine. *Canadian Journal of Forest Research* 27:817-830.
- Robinson, A. P., **Gregoire, T. G.**, H. T. Valentine. 1997. Cut-off importance sampling of bole volume. *Silva Fennica* 31: 153-160
- Hasenauer, H. R. A. Monserud, and **T. G. Gregoire**. 1998. Using simultaneous regression techniques with individual-tree growth models. *Forest Science* 44:87-95.
- Nelson, R., **T. G. Gregoire** and R. Oderwald 1998. The effects of fixed-area plot width on forest canopy simulation. *Forest Science* 44:438-444.
- Gregoire, T. G.** 1998. Design-based and model-based inference in survey sampling: appreciating the difference. *Canadian Journal of Forest Research* 28:1429-1447.
- Gregoire, T. G.**, O. Schabenberger. 1999. Sampling skewed biological populations: behavior of confidence intervals for the population total. *Ecology* 80:1056-1065.

- Gregoire, T. G.** and H. T. Valentine. 1999. Composite and calibration estimation following 3P sampling. *Forest Science* 45:179-185.
- Valentine, H. T., R. L. Amateis, H. E. Burkhart, **T. G. Gregoire**, D. Y. Hollinger, and D. W. MacFarlane. 1999. Projecting the growth of loblolly pine in a changing atmosphere. *Southern Journal of Applied Forestry* 23:212-216.
- Gregoire, T. G.**, O. Schabenberger, and F. Kong. 2000. Prediction from an integrated regression equation: a forestry application. *Biometrics* 56:414-419.
- Schabenberger, O., **T. G. Gregoire**, and F. Kong. 2000. Collections of simple effects and their relationship to main effects and interactions in factorials. *The American Statistician* 54:210-214.
- Gregoire, T. G.** 2000. Preface for Integrated Tools for Natural Resources Inventories in the 21<sup>st</sup> Century special issue. *Computers and Electronics in Agriculture* 28:87-88.
- Gregoire, T. G.** and M. Köhl. 2000. Editorial for Special Issue on Statistical Ecology and Forest Biometry. *Environmental and Ecological Statistics* 7(3) 213-216.
- Schreuder, H. T. and **T. G. Gregoire**. 2001. For what applications can probability and non-probability sampling be used? *Environmental Monitoring and Assessment* 66: 281-291 .
- Richardson, A. D., G. P. Berlyn, and **T. G. Gregoire**. 2001. Spectral reflectance of *Picea rubens* (Pinaceae) and *Abies balsamea* (Pinaceae) needles along an elevational gradient, Mt. Moosilauke, New Hampshire, USA. *American Journal of Botany* 88: 667-676.
- Valentine, H. T., J. H. Gove, and **T. G. Gregoire**. 2001. Monte Carlo approaches to sampling forested tracts with lines or points. *Canadian Journal of Forest Research* 31: 1410-1424.
- Valentine, H. T. and **T. G. Gregoire**. 2001. A switching model of bole taper. *Canadian Journal of Forest Research* 31: 1400-1409.
- Gregoire, T. G.** and O. Schabenberger. 2001. Discussion of “Parametric Modelling of Growth Curve Data: An Overview” by D. L. Zimmerman and V. Núñez-Anton. *Test* 10: 41-45.
- Gregoire, T. G.** 2001. Forestry. *Encyclopedia of Environmetrics*, A. H. El-Shaarawi and W. W. Piegorsch, eds. John Wiley & Sons, Chichester. volume 2, pp. 820-821.
- Gregoire, T. G.** 2002. Discussion of “What shall we teach in environmental statistics” by W. W. Piegorsch and D. Edwards. *Environmental and Ecological Statistics* 9: 136-137.
- Gregoire, T. G.**, C. T. Scott. 2003. Altered selection probabilities caused by avoiding the edge in field surveys. *Journal of Agricultural, Biological and Environmental Statistics* 8:36-

47.

- Gregoire, T. G.** and H. T. Valentine. 2003. Line intersect sampling: ell-shaped transects and multiple intersections. *Environmental and Ecological Statistics*, 10:263-279.
- Richardson, A. D., C. B. Stratland, and **T. G. Gregoire**. 2003. Root biomass under three cover types in a patchy interior Douglas-fir forest. *Annals of Forest Science*. 60:469-474.
- Gregoire, T. G.** 2004. Statistical methodology in forestry. In: *Modern Biometry - Encyclopedia of Life Support Systems (EOLSS)*, Developed under the auspices of the UNESCO, EOLSS Publishers, Oxford, UK, [<http://www.eolss.net>]. [<http://greenplanet.eolss.net/EolssLogn/mss/C02/E4-31/E4-31-05/E4-31-05-02/E4-31-05-02-TXT.aspx>]
- Richardson, A. D., J. B. Reeves, III, and **T. G. Gregoire**. 2003. Multivariate analyses of visible/near infrared (VIS/NIR) absorbance spectra reveal underlying spectral differences among dried, ground conifer needle samples from different growth environments. *New Phytologist* 161: 291-301.
- Hall, J. S., J. J. McKenna, P. M. S. Ashton, and **T. G. Gregoire**. 2004. Habitat characterizations underestimate the role of edaphic factors controlling the distribution of *Entandrophragm*". *Ecology* 85(8)2171-2183.
- Gregoire, T. G.** 2004. Editorial: Special issue on statistical methods and techniques for analyzing spatial and temporal-spatial data. *Environmental and Ecological Statistics*, 11, 353-354.
- Affleck, D. L. R., **Gregoire, T. G.** and H. T. Valentine. 2005. Design unbiased estimation in line intersect sampling using segmented transects. *Environmental and Ecological Statistics*. 12(2): 139 - 154.
- Affleck, D. L. R., **Gregoire, T. G.** and H. T. Valentine. 2005. Edge effects in line intersect sampling with segmented transects. *Journal of Agricultural, Biological and Environmental Statistics*. 10(4) 460-477.
- Gregoire, T. G.** and J. Lappi. 2006. Statistics in Forestry. *Encyclopedia of Statistical Sciences*, 2<sup>nd</sup> ed., N. Balakrishnan, C. B. Read, and B. Vidakovic, eds. John Wiley & Sons, New York. (ISBD-13: 978-0-471-15044-2).
- Evans, A. M. and **Gregoire, T. G.** 2007. A geographically variable model of hemlock woolly adelgid spread. *Biological Invasions* 9:369-382.

- Evans, A. M. and **Gregoire, T. G.** 2007. The tree crown distribution of hemlock woolly adelgid, *Adelges tsugae* (Homoptera:Adelgidae) from randomized branch sampling. *Journal of Applied Entomology* 131(1) 26-33.
- Nelson, R.F, Naesset, E.,Gobakken, T., Stahl, G. and **Gregoire, T. G.** 2008. Regional Forest Inventory Using an Airborne Profiling LiDAR. *Japanese Journal of Forest Planning*, 13: 287-294.
- Mehtatalo, L., **Gregoire, T. G.**, and Burkhardt, H. E. 2008. Comparing strategies for modeling tree diameter percentiles from remeasured plots. *Environmetrics* 19:529-548.
- Gregoire, T. G.**, Lin, Q-F, Boudreau, J, & Nelson, R. 2008. Regression estimation following the square root transformation of the response. *Forest Science* 54(6) 597-606.
- Goodale, U. M, Berlyn, G. P., **Gregoire, T. G.** and Ashton. M. S. 2009. Ecological significance of crown functional traits across size classes and disturbance environments in eight pioneer species in a Sri Lankan rainforest. *Journal of Sustainable Forestry* 28(1&2)22-47.
- Gregoire, T. G.** & Salas, C. 2009. Ratio estimation with measurement error in the auxiliary variate. *Biometrics* 65:590-598.
- Nelson, R. F., Boudreau, J. **Gregoire, T. G.**, Margolis, H., Næsset, E., Gobakken, T., Ståhl, G. 2009. Estimating Québec Provincial Forest Resources Using ICESat/GLAS. *Canadian Journal of Forest Research* (in press).
- Salas, C. and **Gregoire, T. G.** 2009. Statistical analysis of ratio estimators with measurement error in the auxiliary variate: a forestry application. *European Journal of Forest Research* (in press).
- Valentine, H. T., Affleck, D. L. R. and Gregoire, T. G. 2009. Systematic sampling of discrete and continuous populations: Sample selection and the choice of estimator. *Canadian Journal of Forest Research* 39: 1061-1086.
- Proceedings articles from presentations at professional meetings (28)*
- Gregoire, T. G.**, G. M. Furnival, and H. T. Valentine. 1985. Importance sampling in forest inventory. In proceedings of Forest, the World, & the Profession, Society of American Foresters annual convention, Birmingham, Alabama, 5-8 October 1985. pp. 70-73.
- Gregoire, T. G.**, H. T. Valentine and G. M. Furnival. 1986. Estimation of volume with a taper

function: a sampling approach. In the proceedings of the meeting on the Use of Auxiliary Information in Natural Resource Inventories, School of Forestry and Wildlife Resources, VPI & SU, Blacksburg, VA, October 1-2, 1985. (R. G. Oderwald, H. E. Burkhart, and T. E. Burk, eds.). pp. 164-170.

- Valentine, H. T., **T. G. Gregoire**, G. M. Furnival and D. S. Solomon. 1986. Unbiased estimation of bole increment. In proceedings of the meeting on Environmental Influences on Tree and Stand Increment, International Union of Forest Research Organizations, S4.01-06, Durham, New Hampshire, September 23-27, 1985. (D. S. Solomon, T. B. Brann, eds.). pp. 67-72.
- Valentine, H. T., **T. G. Gregoire**, and G. M. Furnival. 1987. Unbiased estimation of total tree weight by three-stage sampling with probability proportional to size. In the proceedings of the national workshop: Tree Biomass Regression Functions and their Contribution to the Error of Forest Inventory Estimates, Syracuse, New York, May 26-30, 1986 (E. H. Wharton and T. Cunia, eds.), U.S.D.A. Forest Service Gen. Tech. Rep. NE-GTR-117. pp. 129-132.
- Keefer, B. J., J. L. Smith, and **T. G. Gregoire**. 1988. Simulating manual digitizing error using statistical models. In the proceedings of the GIS/LIS '88 Conference, San Antonio, Texas, Nov. 30 - Dec. 2, 1988.
- Valentine, H. T., **T. G. Gregoire**, and G. M. Furnival. 1990. Importance sampling for volume with a portable computer. In the proceedings of the State-of-the-Art Methodology for Forest Inventory symposium, Syracuse, New York, 30 July - 5 August, 1989. (V.J. LaBau, T. Cunia, eds.). U. S. Forest Service General Technical Report PNW-GTR-263. pp. 228-236.
- Gregoire, T. G.**, G. M. Furnival, and H. T. Valentine. 1990. A sampling procedure for board-foot volume of standing trees. In the proceedings of the State-of-the-Art Methodology for Forest Inventory symposium, Syracuse, New York, 30 July - 5 August, 1989. (V.J. LaBau, T. Cunia, eds.) U. S. Forest Service General Technical Report PNW-GTR-263. pp. 88-95.
- Gregoire, T. G.** 1990. The effect of multiplicative heteroscedasticity on the error rates of statistical tests of regression equality. In the proceedings of the Conference on Forest Statistics, Freiburg i. Br., FRG, 13 - 15 September, 1989 (D.R. Pelz, ed.). pp. 222-233.
- Gregoire, T. G.** and C. T. Scott. 1990. Sampling at the stand boundary: a comparison of the statistical performance among eight methods. In Research in Forest Inventory, Monitoring, Growth and Yield, proceedings of the International Union of Forest Research Organizations XIX World Congress, Montreal, Canada, 5 - 11 August, 1990 (H.E. Burkhart, G.M. Bonnor, J.J. Lowe, eds). Publ. FWS-3-90, Schl. For. Wild. Res., Virginia Polytechnic Institute and State University. pp. 78-85.

- Gregoire, T. G.** 1992. Analytical derivation of the variance of the modified point-list sampling estimator. In Integrating Forest Information Over Space and Time, proceedings of the International Union of Forest Research Organizations, S4.01, S4.02 conference, Canberra, Australia, 13-17 January 1992 ( B. Turner and G. Wood, eds.). pp. 404-415.
- Williams, M. S., H. T. Schreuder, **T. G. Gregoire**, and W. Bechtold. 1992. Estimating variance functions for weighted linear regressions. In Applied Statistics in Agriculture, proceedings of the fourth annual conference, Manhattan, Kansas, April 1992 (G. A. Milliken and J. R. Schwenke, eds.) pp. 153-160.
- Gregoire, T. G.** 1992. Roots of Forest Inventory in North America. In the proceedings of American Forestry: An Evolving Tradition, Society of American Foresters annual convention, Richmond, Virginia, 25-28 October 1992. pp. 57-66.
- Gregoire, T. G.** and M. Williams. 1993. Identifying and evaluating the components of non-measurement error in the application of standard volume equations. In Optimal Design of Forest Experiments and Surveys proceedings of the International Union of Forest Research Organizations, S4.11 conference, 10-13 September 1991, London, England (K. Rennolls, G. Gertner, eds.) pp. 287-297.
- Valentine, H. T., **T. G. Gregoire**, and G. M. Furnival. 1993. Estimation of the aggregate bole volume of a forest by stratified, two-stage probability sampling. In Optimal Design of Forest Experiments and Surveys proceedings of the International Union of Forest Research Organizations, S4.11 conference, 10-13 September 1991, London, England (K. Rennolls, G. Gertner, eds.) pp. 249-257.
- Gregoire, T. G.**, H. T. Valentine and G. M. Furnival. 1993. Two-stage and three-stage sampling strategies to estimate aggregate bole volume in the forest. Ilvessalo Symposium on National Forest Inventories proceedings of the International Union of Forest Research Organizations, S4.02 conference, 17-21 August 1992, Helsinki, Finland (A. Nyyssonen, S. Poso, J. Rautala, ed.) The Finnish Forest Research Institute Research Paper 444. pp. 201-211
- Gregoire, T. G.** 1993. A set theoretic view of growth component estimation with successive variable-radius plot samples. In the proceedings of the meeting on Growth and Yield Estimates from Successive Forest Inventories, International Union of Forest Research Organizations, S4.02.03, Copenhagen, Denmark, June 14-17, 1993. (J. K. Vanclay, J. P. Skovsgaard, and G. Z. Gertner, eds.). pp. 140-147.
- Schreuder, H. T., **T. G. Gregoire**, and N. P. Kingsley. 1993. Growth and mortality models in frequent inventories: where can we go? In the proceedings of the meeting on Growth and Yield Estimates from Successive Forest Inventories, International Union of Forest Research Organizations, S4.02.03, Copenhagen, Denmark, June 14-17, 1993. (J. K.

Vanclay, J. P. Skovsgaard, and G. Z. Gertner, eds.). pp. 81-88.

- Schabenberger, O. and **T. G. Gregoire**. 1993. An empirical comparison of  $\pi$ ps sample designs. In the proceedings of the conference on Modern Methods of Estimating Tree Volume and Increment, Society of American Foresters and International Union of Forest Research Organizations, S4.02, 14-16 June 1993, Morgantown, West Virginia (G. B. Wood, H. V. Wiant, eds.) pp. 153-168.
- Valentine, H. T., **T. G. Gregoire**, and H. V. Wiant, Jr. 1993. Comparing centroid methods based on importance or control-variate sampling. In the proceedings of the conference on Modern Methods of Estimating Tree Volume and Increment, Society of American Foresters and International Union of Forest Research Organizations, S4.02, 14-16 June 1993, Morgantown, West Virginia (G. B. Wood, H. V. Wiant, eds.) pp. 86-95.
- Gregoire, T. G.** , and O. Schabenberger. 1994. Fitting bole volume equations to spatially correlated within-tree data. In Applied Statistics in Agriculture, proceedings of the sixth annual conference, Manhattan, Kansas, 24-26 April 1994 (J. R. Schwenke, ed.) pp. 230-245.
- Hasenauer, H., R. A. Monserud, and **T. G. Gregoire**. 1996. Cross-correlations among single tree growth models. Comparing centroid methods based on importance or control-variate sampling. In the proceedings of the conference on Spatial Accuracy in Natural Resources and Environmental Sciences, U.S.D.A. Forest Service, General Technical Report RM-GTR-277, 21-23 May 1996, Fort Collins, Colorado ( H. T. Mowrer, R. L. Czaplowski, and R. H. Hamre, eds.) pp. 667-675.
- T. G. Gregoire** and O. Schabenberger. 1999. Predicting bole biomass with an integrated model of tree taper. In the Bulletin of the International Statistical Institute, 52<sup>nd</sup> Session, Proceedings Tome LVII, Book 2, pp. 447-450.
- T. G. Gregoire**. 1999. Composite and calibration estimation with Grosenbaugh's 3P sampling. In the proceedings of the Symposium of Forest Biometricians in honor of Lewis R. Grosenbaugh, 12-13 May 1997, Gainesville, Florida. (L. Arvanitis, ed.) pp. 45-67.
- Burkhardt, H. E. and **T. G. Gregoire**. 1999. Grosenbaugh's contributions to modeling and computation. In the proceedings of the Symposium of Forest Biometricians in honor of Lewis R. Grosenbaugh, 12-13 May 1997, Gainesville, Florida. (L. Arvanitis, ed.) pp. 71-77.
- Brewer, K. R. W. and **T. G. Gregoire**. 2000. Estimators for use with Poisson sampling and related selection procedures. In the proceedings of the Second International Conference on Establishment Surveys, 17-21 June 2000, Buffalo, New York. pp. 279-288.



- T. G. Gregoire.** 2001. Biometry in the 21<sup>st</sup> century: whither statistical inference? In the proceedings of the meeting on Forest Biometry, Modelling and Information Science, International Union of Forest Research Organizations, S4.11, Greenwich, U.K., June 25-29, 2001. (K. Rennolls, eds.). (Editor; K.Rennolls), University of Greenwich, 20 pp.<http://cms1.gre.ac.uk/conferences/iufro/proceedings/>.
- Gregoire, T. G.,** D. L. R. Affleck, and H. T. Valentine. 2005. Conditioning Inference on Line Orientation in Line Intersect Sampling. Forest Inventory and Planning in Nordic Countries, Proceedings of SNS Meeting, 6-8 September 2004, Sjøusjun, Norway; published as NIJOS-report 09/05 by Norwegian Institute of Land Inventory (K. Hobbelstad, ed.; ISBN 82-74654-351-8), pp. 121-129.
- Other papers and reports (8)
- Gregoire, T. G.,** J. E. Carroll, J. P. Barrett, C. J. Mitchell and J. H. Gove. 1980. A survey of the town forest resources in New Hampshire. New Hampshire Agricultural Experiment Station Research Report No. 81. 18 p.
- Gregoire, T. G.** and J. P. Barrett. 1979. The effect of sample size on coefficient of variation estimation. Resource Inventory Notes 26:1-8.
- Gregoire, T. G.** 1984. Confidence intervals for the coefficient of variation. Newsletter of the Advisory Group of Forest Statisticians, Subject Group S6.02, International Union of Forest Research Organizations.
- Gregoire, T. G.,** S. M. Zedaker, and N. S. Nicholas. 1987. An analysis of the reliability of DBH measurements. Fourth Annual Gatlinburg Acid Rain Conference, October 26-27, 1987, Tennessee Valley Authority, Gatlinburg, Tennessee.
- Smith, J. L., **T. G. Gregoire,** and B. J. Keefer. 1988. Determining the accuracy and precision costs of varying map accuracy standards for national forest digital map data. Final report of Cooperative Agreement 29-368, U. S. Forest Service, 5 May 1988. 79 pp.
- Gregoire, T. G.,** A. A. Arabatzis, and M. R. Reynolds, Jr. 1991. Conditional and unconditional bias and mean square error of estimation following pre-testing of the intercept in a simple linear regression model. Technical Report Number 91-4, Department of Statistics, Virginia Polytechnic Institute and State University. 14 pp.
- Monkevich, N. S., **T. G. Gregoire,** J. W. Roggenbuck. 1994. Assessing Petrified Wood Change in Petrified Forest National Park. Executive Summary submitted to Superintendent, Petrified Forest National park, 19 pp.
- Gregoire, T. G.** and G. J. Buhyoff. 1999. Sampling and estimating recreation use. U. S. D. A.

Forest Service, Pacific Northwest Station, General Technical Report PNW-GTR-456. 39 pp.

*Invited Presentations (46)*

"Importance sampling in forest inventory," presented at the joint Inventory, Remote Sensing, and Biometrics Technical Session of the Society of American Foresters annual convention, Birmingham, Alabama, 5-8 October 1985.

"Applications of probability sampling in forestry," presented at Seminar Series, Department of Statistics, Virginia Polytechnic Institute and State University, April 28, 1988.

"Importance sampling and related variance reduction techniques," presented at Recent Developments in Forest Sampling and Modeling short course, Virginia Polytechnic Institute and State University, 9-11 August 1988.

"Importance sampling" workshop conducted at the State-of-the-Art Methodology of Forest Inventory symposium, Syracuse, New York, 30 July - 5 August, 1989.

"Roots of Forest Inventory in North America" presented at the Inventory (A1 Working Group) Technical Session of the Society of American Foresters annual convention, Richmond, Virginia, 25-28 October 1992.

"Sampling Methods Applied to Individual Trees", presented to the Research Branch, British Columbia Ministry of Forests, Victoria, B.C., Canada, 17 February 1995.

"Nonlinear mixed-effects modelling of tree volume," presented at Seminar Series, Department of Statistics, Virginia Polytechnic Institute and State University, November 16, 1995.

"Population-averaged and Subject-specific Approaches for Correlated Categorical Data", presented at the Joint Statistical Meetings, 14 August 1995, Orlando, FL.

"Nonlinear Mixed-effects Modeling of Cumulative Bole Volume with Spatially Correlated Within-tree Data", presented at spring meeting of the Eastern North American Region of the International Biometric Society, 18 March 1996, Richmond, VA.

"Survey Integration" invited Discussant, at the conference on Environmental Monitoring Surveys Over Time, sponsored by the National Research Center for Statistics and the Environment, 20-22 April 1998, Seattle, WA.

"Statistical properties of a prediction of bole volume from an integrated taper equation", presented by invitation to the Department of Statistics, Yale University, 25 January 1999.

“Statistical features of wheat scab sampling protocols: random volumes and inhomogeneous point processes”, presented by invitation at spring meeting of the Eastern North American Region of the International Biometric Society, 29 March 1999, Atlanta, GA.

“Statistical properties of a prediction of bole volume from an integrated taper equation”, presented by invitation to the College of Agriculture and Natural Resources Biometry Group, Michigan State University, 22 April 1999.

“Improved estimation following Poisson sampling: a forestry perspective”, presented at the Ninth Lukacs Symposium, Frontiers of Environmental and Ecological Statistics for the 21<sup>st</sup> Century, 23-25 April 1999, Bowling Green State University, Ohio.

“Statistical properties of a prediction of bole volume from an integrated taper equation”, Statistical Society of Canada, 6-9 June 1999, University of Regina, Regina, Saskatchewan.

“Prediction of bole biomass from an integrated model of tree taper”, International Statistical Institute, 10-18 August 1999, Helsinki, Finland.

“3P/Poisson/PRN sampling”, Northeast Mensurationists Organization, 25-26 August 1999, Harvard Forest, Petersham, Massachusetts.

“The development of statistical sampling methods for forest inventory”, presented by invitation to the

- Department of Statistics, University of Connecticut and the Connecticut Chapter of the American Statistical Association, 29 September 1999.
- University Statistics Program, University of Massachusetts, 6 December 1999
- Syracuse (NY) Chapter of the American Statistical Association, 7 March 2000.
- Department of Statistics, Iowa State University, 18 November 2002.

“Estimators for use with Poisson sampling and related selection procedures”, presented at the International Conference on Establishment Surveys – II, Buffalo, N.Y., 17-21 June 2000.

“Comparing Poisson, collocated, and pps systematic sampling and the consequences of random sample size”, presented by invitation to the Department of Forest Resource Management and Geomatics, Swedish University of Agricultural Sciences, Umeå, Sweden, 22 September 2000.

“Estimating forest volume and stand characteristics with airborne lasers”, presented by invitation to the School of Agriculture and Land Resources Management, University of Alaska Fairbanks, 12 October 2000.

“Biometry in the 21<sup>st</sup> century: whither statistical inference”, Keynote address to the international conference on Forest Biometry, Modelling and Information Science, International Union of Forest Research Organizations, S4.11, Greenwich, U.K., 25 June 2001.

“Sampling Strategies for Forest Inventories”, presented by invitation at the Sixth International Meeting on Quantitative Methods for Applied Sciences: Statistical Methods and Techniques for Analyzing Spatial and Temporal-Spatial Data, University of Siena, Italy, 19-20 September 2002.

Sukhatme Lecture: “The development of statistical sampling methods for forest inventory”, presented by invitation to the Department of Statistics and Statistical Laboratory, Iowa State University, 18 November 2002.

“Design-based versus model-based inference: instilling an appreciation for the difference”, a roundtable discussion at the spring meeting of the Eastern North American Region of the International Biometric Society, 29 March 2004, Pittsburgh, PA.

“Statistics for Research in the Polar and Boreal Regions of the Globe”, a roundtable discussion at the Joint Statistics Meeting, 8 August 2005, Minneapolis, MN.

“Conditioning Inference on Line Orientation in Line Intersect Sampling”, with Affleck and Valentine, presented by invitation at the Forest Inventory and Planning in Nordic Countries meeting, 6-8 September 2004, Sjøusjun, Norway; published as NIJOS-report 09/05 by Norwegian Institute of Land Inventory (K. Hobbestad, ed.; ISBN 82-74654-351-8), pp. 121-129.

“Sampling Strategies for Natural Resources and the Environment”, presented by invitation at the Northeast Mensurationists Organization, 2-3 November 2005, Freeport, Maine.

“The Delaware Estimator MSE Derivation”, presented by invitation at the Quebec Carbon LiDAR Program meeting, 24-26 May, 2006, Quebec, QC, Canada

“A Century of Evolution in Extensive Forest Inventories”, with Köhl and Mandallaz, presented by invitation at the XXIII International Biometric Conference, 16 – 21 July 2006, Montréal, Quebec, Canada.

“Climate Change Investigations”, a roundtable discussion at the spring meeting of the Eastern North American Region of the International Biometric Society, 12 March 2007, Atlanta, GA

Invited Discussant, Fields Institute Summer Workshop on Environmetrics, University of Waterloo, July 17-19, 2007

Invited Discussant, Joint Statistical Meetings, Salt Lake City, 29 July – 2 August, 2007. Design- and Model-based Sampling and Inference.

“Applications of Statistics: Two Recent Projects”, presented by invitation at The Energy and Resource Institute, New Delhi, India, 25 October 2007.

“Statistical Issues in Biomass Modelling and Estimation”, presented by invitation at TERI

University, New Delhi, India, 26 October 2007.

“Estimating Aboveground Biomass with Profiling Laser Altimetry”, presented by invitation at the Indian Institute of Forest Management, Bhopal, India, 27 October 2007.

“Preliminary Results from a Designed Experiment on the Alaskan Tundra”, with Bader and Guimond, presented to the environmental statistics faculty, Michigan State University, 13 March 2008.

“Mean Square Error of Aboveground Biomass Estimated with Profiling Laser Altimetry”, presented by invitation of the Environmental Science and Policy Program, Michigan State University, 13 March 2008.

“Climate Change Investigations”, a roundtable discussion at the spring meeting of the Eastern North American Region of the International Biometric Society, 24 March 2008, Arlington, VA.

“Reflections on the Process of Designing a National Forest Inventory for Bhutan”, presented by invitation of the National Forest Inventory and Land Use Data Consultation Workshop, Thimphu, Bhutan, 21 January 2009.

“A combined design and model-based derivation of the MSE of estimated aboveground biomass from profiling airborne laser system”, presented by invitation at spring meeting of the Eastern North American Region of the International Biometric Society, 16 March 2009, San Antonio, Texas.

“Unequal probability sampling designs for live standing trees and dead fallen trees”, presented by invitation at The Department of Statistics Colloquium Series, University of Virginia, 3 April 2009.

“Sampling with lasers – from Delaware, USA to Hedmark, Norway”, in collaboration with E. Næsset, G. Ståhl, T. Gobakken, and R. Nelson, presented by invitation at the conference Extending Forest Inventory and Monitoring Over Space and Time, organized by the International Union of Forest Research Organizations, 19-22 May 2009, Quebec City, Canada.

“Conditional variance of the regression estimator of aboveground biomass in domains (cover classes) following two stage sampling using laser metrics as auxiliary information”, in collaboration with E. Næsset, G. Ståhl, T. Gobakken, and R. Nelson, presented by invitation at the conference Extending Forest Inventory and Monitoring Over Space and Time, organized by the International Union of Forest Research Organizations, 19-22 May 2009, Quebec City, Canada.

“Model-based estimation of biomass in a LiDAR sample survey in the county of Hedmark, Norway”, in collaboration with S. Helm, E. Næsset, G. Ståhl, T. Gobakken, and R. Nelson, presented by invitation at the conference Extending Forest Inventory and Monitoring Over Space

Comment [g1]: Too general??

and Time, organized by the International Union of Forest Research Organizations, 19-22 May 2009, Quebec City, Canada

“Estimating biomass in Hedmark County, Norway using National Forest Inventory ground plots and airborne scanning LiDAR”, in collaboration with O. Bollandsås, H. Ørka, E. Næsset, G. Ståhl, T. Gobakken, and R. Nelson, presented by invitation at the conference Extending Forest Inventory and Monitoring Over Space and Time, organized by the International Union of Forest Research Organizations, 19-22 May 2009, Quebec City, Canada

“Advances in forest and environmental surveys”, presented by invitation at the first Italian conference on Survey Methodology, organized by the Italian Statistical Society, 10-12 June 2009, Siena, Italy.

*Volunteered presentations (Proceedings were not published)*

"Weighted regression when the weights are unknown - is it worthwhile?", presented at the annual meeting of the Association of Southern University Biometricians, Charleston, S.C., 7-9 September 1988.

"A unified framework for forestry sampling," presented at the annual meeting of the Association of Southern University Biometricians, Charleston, S.C., 7-9 September 1988.

"Tree utilization models with spatially correlated errors and random effects", presented at the 1994 Joint Statistical Meetings of the American Statistical Association, International Biometric Society, Institute of Mathematical Statistics, Toronto, Canada, 13-18 August 1994.

"Design-based and model-based inference in survey sampling: appreciating the difference", presented to the School of Forestry and Environmental Studies, Yale University, March 1997.

"Prediction variance from an integrated regression equation", presented at spring meeting of the Eastern North American Region of the International Biometric Society, 31 March 1998, Pittsburgh, PA.

"Line intersect sampling: unbiased estimators for ell-shaped intersect lines", presented at the annual meeting of the Ecological Society of America, 4-9 August 2002, Tucson, AR.

"Dimensionality reduction in the Environmental Sustainability Index using Principal Component Analysis", presented at the 28<sup>th</sup> Annual Conference of the German Society for Classification, 9-11 March 2004, Dortmund University, Germany.

"A sampling protocol for design-unbiased estimation in line intersect sampling using segmented transects", with Affleck and Valentine, Joint Statistical Meetings, 7-12 August 2004, Toronto, Canada.

"Preliminary Results from a Designed Experiment on the Alaskan Tundra", with Bader and Guimond, presented at the 2005 annual meeting of the Western North American Region of the International Biometric Society, 21 –24 June 2005, Fairbanks, AK.

"Boundary overlap corrections for segmented line transects." with Affleck and Valentine, Western Mensurationists Meeting, 4 – 7 July 2005, Hilo, Hawaii.

"Regional forest inventory using an airborne profiling LiDAR" with Nelson, Næsset, Gobakken, Ståhl, SilviLaser 2006 meeting, 7-10 November 2006, Matsuyama, Japan.

"Statistical analysis of ratio estimators with measurement error in the auxiliary variate: a forestry application" with Salas, presented at international conference Linking Forest Inventory and Optimization, 1-4 April 2008, Freising, Germany.

“Some effects of measurement error in the auxiliary variate on the design-based properties of the ratio estimator of the population total” with Salas, presented at the SamNordisk Skogsforskning Meeting on Forest Inventory, Management Planning and Modelling, 19-22 August 2008, Egilsstaðir, Iceland.

“The great systematic sampling controversy of 2008.” with Affleck and Valentine, Northeastern Mensurationists Meeting, 8-9 October 2008.

“Comparing spatial statistical models for predicting tree diameter from airborne laser scanning data” with C. Salas, Ene, N Næsset, and Gobakken. New England Statistics Symposium, Storrs, CT, USA, 25 April 2009.

“Comparing spatial statistical models for predicting tree diameter from airborne laser scanning data”, in collaboration with C. Salas, Ene, N Næsset, and Gobakken., presented by invitation at the conference Extending Forest Inventory and Monitoring Over Space and Time, organized by the International Union of Forest Research Organizations, 19-22 May 2009, Quebec City, Canada.

## EDITORSHIPS

- Associate Editor of *Forest Science*, 1989 - 1996.
- Associate Editor of *Biometrics*, 1997 - 1999.
- Associate Editor of *Environmetrics*, 1997 - 2009.
- Associate Editor of *Silva Fennica*, 1999 - 2012.
- Editorial Advisory Board of *Environmental and Ecological Statistics*, 2004 – 2010.
- Deputy Editor of *Environmental and Ecological Statistics*, 2004 – 2010.
- Editor, Springer series in *Environmental and Ecological Statistics*, 2008 – 2010
- Section Editor of *Encyclopedia of Environmetrics* (Wiley, 2001).
- Co-Editor of Monograph Series in *Environmental and Ecological Statistics*, 2005 – .
  
- Proceedings editor : "Modelling Stand Response to Silvicultural Treatment" proceedings. (Burkhardt, Gregoire, Smith, eds) of the S4.01 meeting, 27 September - 1 October, 1993. Sponsored by the International Union of Forest Research Organizations, Blacksburg, VA.
  
- Proceedings editor : "Modelling Longitudinal and Spatially Correlated Data" proceedings. (Gregoire, Brillinger, Diggle, Russek-Cohen, Warren, and Wolfinger, eds) of the meeting, 15 - 18 October 1996. Sponsored by the ENAR, TIES, and ASA.
  
- Guest editor for special issue of *Environmental and Ecological Statistics* entitled “Statistical Ecology and Forest Biometry”, 2000, v.7, no.3.
  
- Guest editor for special issue of *Computers and Electronics in Agriculture* entitled “Forest



Inventory and Monitoring”, 2000, v.28, no.2.

- Guest editor for special issue of *Environmental and Ecological Statistics* entitled “Special Issue on Statistical Methods and Techniques for Analyzing Spatial and Temporal-Spatial Data”, 2004, (in press).

### **OTHER PROFESSIONAL SERVICES**

- Peer review of the Quality Assurance Program Plan for the Forest Response Program, U. S. Environmental Protection Agency, 1986.
- Member of the workshop panel that drafted and reviewed the U. S. Environmental Protection Agency Methods Manual for Field Measurements (Site Classification), March 1986
- Representative for the International Union of Forestry Research Organizations on the organizing committee for "Spatial accuracy of natural resources data bases" international symposium, 16-20 May 1994, Williamsburg, VA. Co-sponsored by the International Union of Forest Research Organizations and the American Society of Photogrammetry and Remote Sensing.
- Program chair for the Inventory (A1) Working Group technical session at the annual convention of the Society of American Foresters, 7-12 November 1993, Indianapolis, Indiana.
- Organizing committee for international conference on "Modelling Stand Response to Silvicultural Practices", Blacksburg, Virginia, September 27 - October 1, 1993. Sponsored by the International Union of Forestry Research Organizations.
- Organizer, technical session of invited speakers for the Biometrics (A3) Working Group at the 1992 annual convention of the Society of American Foresters, Richmond, VA.
- Organizer, "Recent Developments in Forest Sampling and Modeling" short course, Virginia Polytechnic Institute and State University, 9-11 August 1988.
- Moderator, "Successive Inventory Systems" session, Growth and Yield Estimates from Successive Forest Inventories conference, June, 1993, Copenhagen, Denmark. Sponsored by the International Union of Forestry Research Organizations, S4.02.03 .
- Moderator, "Forest Inventory and Sampling Designs" session, State of the Art Methodology of Forest Inventory symposium, August, 1989. Sponsored by the Society of American Foresters, Syracuse.
- Moderator, "Biomathematical/Process Models" session, Forest Growth Modeling and

Prediction conference, August, 1987, Minneapolis, Minnesota. Sponsored by the International Union of Forestry Research Organizations.

- Moderator of "Biomass Regressions and Measurement Error" session of the national workshop Tree Biomass Regression Functions and their Contribution to Forest Inventory Estimates, May, 1986, Syracuse, New York. Sponsored by U. S. Forest Service.
- Organizer and chair of "Sampling Environmental and Biological Resources" session of invited papers for the International Biometrics Society, Eastern North American Region spring meeting, 25-29 March 1995, Birmingham, AL.
- Organizer and chair of "Sampling Issues in Regional Monitoring Programs" session of invited papers for the Joint Statistical Meetings, 13-17 August 1995, Orlando, FL.
- Organizer and chair of "Recent Developments in Spatial Data Modeling" session of invited papers for the International Biometrics Society, Eastern North American Region spring meeting, 25-29 March 1995, Birmingham, AL.
- Organizer and chair of "Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions" meeting, cosponsored by the International Biometric Society, American Statistical Society, and The International Environmetric Society, 15-18 October 1996, Nantucket, Massachusetts.
- Organizer and chair of "Modeling Longitudinal and Spatially Correlated Data." session of invited papers at the Joint Statistical Meetings cosponsored by the American Statistical Association, the International Biometric Society, Institute of Mathematical Statistics, and Statistical Society of Canada, 10-14 August 1997, Anaheim, California.
- External examiner of dossier for faculty promotion and/or tenure for Oregon State University (1992, 2008); Texas A&M University (1994); State University at New York, Syracuse (1995); American University (1997); University of New Hampshire (1998); Kansas State University (1999); North Carolina State University (1999); University of Colorado Health Sciences Center (1999); University of Iowa (2000); University of Wisconsin (2000); Louisiana State University (2000); Clemson University (2001); Oklahoma State University (2001); University of Nebraska (2001); University of Maryland (2001); The Pennsylvania State University (2001); University of Georgia (2001); University of New Mexico (2001); Virginia Tech (2001, 2005); Iowa State University (2002); University of New Hampshire (2002, 2007); University of South Carolina (2003); Iowa State University (2003); State University at New York, Syracuse (2003); University of Michigan (2003); University of Idaho (2003), University of Florida (2004), Simon Fraser University (2004); The Pennsylvania State University (2004), Medical College of South Carolina (2005), University of British Columbia (2005), Claremont McKenna College (2005), University of California, Riverside (2005), University of Texas, San Antonio (2005), University of Helsinki (2006), University of Georgia (2006), University of Alaska (2006), University of Joensuu (2006), University of California at Berkeley (2008).

- External examiner for promotion in rank for U. S. Forest Service (1997, 1998, 2007); NASA (2001).
- External examiner of doctoral theses for Yale University (1987); University of Kalyani (India; 1995); University of Tasmania (2000); Swedish University of Agricultural Sciences (2000), University of Joensuu (2001, 2004); Indian Statistical Institute, Calcutta (2002), McGill University (2008).
- Moderator of "Nonlinear modeling" session of contributed papers for the International Biometrics Society, Eastern North American Region spring meeting, 29 March - 1 April 1998, Pittsburgh, PA.
- Member of the program committee for the Ninth International Conference on Quantitative Methods for Environmental Sciences (TIES98), 3-6 July 1998, Gold Coast, Queensland, Australia.
- Moderator of "Modeling and Estimating Uncertainty" session of contributed papers for the International Conference on the Inventory and Monitoring of Forested Ecosystems, "Integrated Tools for Natural Resources Inventories in the 21<sup>st</sup> Century." 16-20 August 1998, Boise, Idaho.
- Member of the Student Award Committee for The International Biometric Society, Eastern North American Region, 1998, 2004.
- Organizer and chair of "Agricultural Applications of Spatial Statistics and Modeling" session of invited papers for the International Biometrics Society, Eastern North American Region spring meeting, 28-31 March 1999, Atlanta, Georgia.
- Moderator of "Statistical Ecology" session of Frontiers of Environmental and Ecological Statistics for the 21<sup>st</sup> Century, Ninth Lukacs Symposium, 23-25 April 1999, Bowling Green State University, Bowling Green, Ohio.
- Moderator of "Statistical Inference and Related Topics" session of the XXVII Annual Meeting of the Statistical Society of Canada, 6-9 June 1999, University of Regina, Regina, Saskatchewan.
- Member of the organizing and program committee for the Workshop on Hierarchical Modeling in Environmental Statistics, 14-16 May 2000, Ohio State University, Columbus, Ohio (sponsored jointly by the U. S. Environmental Protection Agency, the Statistics and the Environment Section of the American Statistical Association, and the Ohio State University).
- Organizer and chair of "Recent Developments in Sampling" session of invited papers for the International Biometrics Society, Eastern North American Region spring meeting, 19-22 March 2000, Chicago, IL.

- Moderator of "Spatial Analysis of Non-normal Data" session of invited papers for the International Biometrics Society, Eastern North American Region spring meeting, 25-28 March 2001, Charlotte, NC.
- Chair of the Distinguished Student Paper Award Committee for The International Biometric Society, Eastern North American Region, 2005.

*Books, manuscripts and grant proposals reviewed (200+)*

Journals

AI Applications in the Natural Resources  
 Annals of Forest Science  
 Applied Statistics in Agriculture (Conference proceedings)  
 Biometrical Journal  
 Biometrics  
 Canadian Journal of Forest Research  
 Communications in Statistics  
 Ecology  
 Ecological Applications  
 Ecological Modeling  
 Environmental and Ecological Statistics  
 Environmental Monitoring and Assessment  
 Environmetrics  
 European Journal of Operations Research  
 Forestry  
 Forest Ecology and Management  
 Forest Science  
 Journal of Agricultural, Biological, and Environmental Statistics  
 Journal of Forestry  
 Journal of Leisure Research  
 Journal of Statistical Planning and Inference  
 Journal of Sustainable Forestry  
 Journal of the American Statistical Association  
 Journal of Tropical Forest Science  
 Northern Journal of Applied Forestry  
 Photogrammetric Engineering and Remote Sensing  
 Psychological Bulletin  
 Psychometrika  
 Scandinavian Journal of Forest Research  
 Scandinavian Journal of Statistics  
 Silva Fennica  
 South African Journal of Forestry  
 South Pacific Journal of Natural Science  
 Southern Journal of Applied Forestry

Tree Physiology  
Western Journal of Applied Forestry  
The Statistician

Books

Chapman & Hall publishers  
CRC Press  
SAS Institute  
Springer-Verlag publishers  
Wiley

Government agencies

U.S. Forest Service Experiment Stations  
U.S.D.A., Small Business Innovative Research Program  
Canadian Forestry Service  
British Columbia, Ministry of Forests  
National Science Foundation  
Natural Sciences and Engineering Research Council of Canada  
New Zealand Foundation for Research, Science and Technology  
MONTS (NSF Experimental Program to Stimulate Competitive Research)  
EPSCOR (NSF Experimental Program to Stimulate Competitive Research)  
Quality Assurance Program Plan for the Forest Response Program,  
U. S. Environmental Protection Agency.  
University of Washington, College of Forest Resources