

SEAN C. THOMAS

University Address:

Faculty of Forestry
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Birthdate: 17 Nov., 1963

Citizenship: U.S.A.

Home Address:

86 West Ave.
Toronto, Ontario
M4M 2L8, Canada

Ph: 416-465-2511

Current Position:

Deputy director, Undergraduate Coordinator, and Professor, Forest Ecology and Silviculture, Faculty of Forestry, University of Toronto

Additional institutional affiliations:

Research Associate, Center for Tropical Forest Studies, Smithsonian Institution, Wash., DC, USA

Education:

HARVARD UNIVERSITY, Dept. of Organismic and Evolutionary Biology
Ph.D. awarded Nov. 1993.

Dissertation Title: *Interspecific allometry in Malaysian rain forest trees*

SWARTHMORE COLLEGE, B.A. with majors in Biology and Sociology & Anthropology. Graduated with Distinction, 1987.

Post-doctoral Experience:

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| June 1996- June 1999 | <ul style="list-style-type: none">• Research Associate (postdoctoral), College of Forest Resources, University of Washington, Seattle, WA: "Community composition, structure, and species diversity of managed forest stands: an inventory and predictive model", with Dr. C. B. Halpern, Univ. of Washington.• Also supported as co-PI on "Photosynthetic and respiration processes in Pacific Northwest forests", with Dr. W. E. Winner, Oregon State Univ. |
| June 1994-June 1996 | <ul style="list-style-type: none">• NSF Postdoctoral Fellow: research on "Neighborhood models of spatial interactions in tropical tree populations", with Drs. P.S. Ashton, S.P. Hubbell, S.W. Pacala, Harvard and Princeton Universities. |
| Feb. 1993-Apr. 1994 | <ul style="list-style-type: none">• DOE Postdoctoral position with Dr. F.A. Bazzaz, Harvard Univ.: Population size structure and ecological genetics of plants under elevated CO₂. |

Professional Societies / Editorial Positions:

Associate Editor (Jan. 1995-2011), *American Journal of Botany* (Botanical Society of America).

Associate Editor (June 2006-2009), *Canadian Journal of Forest Research*.

Editorial Review Board (Jan. 2002-2007), *Tree Physiology*.

Associate Editor (Jan. 2008-), *Tree Physiology*.

Member: Assoc. for Tropical Biol. and Cons., Bot. Soc. of America, Ecol. Soc. of America.

Papers reviewed for: *Am. J. Bot.*, *Am. Naturalist.*, *Ann. Bot.*, *Biotropica*, *Can. J. Bot.*, *Can. J. Forest Research*, *Ecol. Appl.*, *Ecology*, *Global Change Biol.*, *Int. J. Plant Sci.*, *Int. J. For.*, *J. Appl. Ecology*, *J. Ecology*, *J. Tropical Ecol.*, *J. Veg. Sci.*, *Nature Commun.*, *New Phytol.*, *Oecologia*, *Pedosphere*, *Pl. Ecol.*, *Rem. Sens. Environ.*, *Science*, *Tree Physiol.*, *Trends Ecol. Evol.*, *Trees*, *Urban For.* *Urban Greening*.

Grants reviewed for: *Canadian National Sciences and Engineering Research Council*, *U.S. Department of Energy*, *U.S. National Science Foundation*, *National granting councils of Australia*, *European Union*, *Estonia*, *Sweden*; and local and regional granting agencies including *Ontario Living Legacy Trust*, etc.

Grant review panels: *Action Concertée (Québec 2005); US Dept of Energy, Terrestrial Ecosystem Science Program (2012)*

Languages: French, German, Malay/Indonesian, Swahili (KiNgwana dialect)

Fellowships and Awards:

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| 2016-2020 | NSERC Industrial Research Chair in "Biochar and Ecosystem Restoration" |
| 2006-2012 | Canada Research Chair (Tier 1) in "Forests and Environmental Change" |
| 2001 | Premier's Research Excellence Award, Province of Ontario |
| 2000 | Univ. of Toronto Forestry Grad. Student Assoc. Award for Excellence in Teaching |
| 1994-1996 | National Science Foundation Environmental Biology Fellowship |
| 1992-1993 | Maria Moors Cabot Foundation Fellowship, Harvard University |
| 1987-1991 | National Science Foundation Graduate Fellowship |
| 1988-1989 | National Institute of Health Genetics Training Grant |
| 1987 | Sara Levi Award in Biology, Swarthmore College |
| 1986 | Robert K. Enders Scholarship in Field Biology, Swarthmore College |
| 1985 | Sarah Kaign Cooper Scholarship, Swarthmore College |
| 1982 | Newton B. Tarble Scholarship, Swarthmore College |
| 1982 | U. S. National Merit Scholarship |

Literature Citations: 8911 listed by Google Scholar; 1064 in most recent complete year (2014). h-index = 44; i10-index = 88 (Dec. 2016)

Teaching Experience:

UNIVERSITY OF TORONTO (1999-) Instructor / lecturer for:

- Course coordinator for: *Applied Forest Ecology, Conservation and Management of World Forests, Ecology and Conservation of Tropical Forests, Environmental Biology, Global Forest Ecosystem Conservation, International forest conservation field camp, Silviculture, Research Methods in Forestry, Stand Structure and Dynamics, Stresses in the Forest Environment, Tropical Forest Conservation Field Course.*
- Lectures or modules given in: *Advanced Ecology Seminar; Assessing Global Change: Science and the Environment; Biodiversity of Forest Organisms; Ecology, Management, and Conservation of Tropical Forests; Environmental Biology; Evolutionary Biology; Forestry and Forest Conservation Practices; Research Methods in Forestry.*
- Supervised directed readings in: *Forest Canopy Biology, Photosynthetic Gas-Exchange Methods, and Tree Biomechanics and Allometry*

UNIVERSITY OF WASHINGTON (1997-1999) Instructor for:

- *Tropical Insights into Temperate Forests*
- Supervised undergraduate research projects in the areas of plant reproductive allometry and effects of forest management on understory plant communities.

PRINCETON UNIVERSITY (1995-1996) Field Teaching Assistant (Panama) for:

- Freshman seminar in *Tropical Forest Biology* (with S. P. Hubbell)

UNIVERSITY OF OREGON (1992) Guest lecturer for:

- *Conservation Biology* (with R. Lande)

HARVARD UNIVERSITY (1987-1994)

- Teaching Assistant for: *Introductory Organismic Biology* (with K. F. Liem), *The Statistical Analysis of Biological Problems* (with R. C. Lewontin), *Plant Ecology* (with F. A. Bazzaz)
- Supervised undergraduate research projects in the areas of tropical plant ecology and the ecological and physiological effects of global atmospheric change.

SWARTHMORE COLLEGE (1984-1987)

- Teaching Assistant for: *Introductory Organismic Biology* (with College staff), *Animal Behavior* (with T. C. Williams), *Ecology* (with J. Weiner), *Pollination Biology* (with S. Kinsman)
- Instructor for: *Human Evolution* (co-taught with S. Piker)

Graduate Students Supervised:

1. Nataalka E. Iwanycki (MFC 2000, University of Toronto Faculty of Forestry). Impacts of selection forest management on understory plant diversity and community structure in tolerant hardwood stands.
2. Jennifer Shuter (MFC 2001, University of Toronto Faculty of Forestry). Impacts of selection forest management on coarse woody debris assemblages and bracket fungi community structure in tolerant hardwood stands.
3. Liora Zimmerman (MFC 2002, University of Toronto Faculty of Forestry). Road effects on forest community structure in selection-managed tolerant hardwood stands.
4. Michael Bendzhak (MFC 2003, University of Toronto Faculty of Forestry). Predictors of hardwood tree regeneration in red pine plantations in southern Ontario.
5. Greg Malczewski (MFC 2004, University of Toronto Faculty of Forestry). Evaluating carbon sequestration potential of native hardwood species in northeastern China.
6. Bea Lucas (MFC 2005, University of Toronto Faculty of Forestry). Mitigation of pest and disease impacts in hybrid poplar through polyclonal deployment.
7. Adam Martin (MFC 2005, University of Toronto Faculty of Forestry). Post-harvest mortality in selection-managed tolerant hardwoods.
8. Tyler Peet (MFC 2006, University of Toronto Faculty of Forestry). Do trees show their age: Predicting tree age from gross morphology in sugar maple.
9. Laura Fernandez-de-Una (MFC 2008, University of Toronto Faculty of Forestry). Water table variation and its effects on tree growth in the Landes region, France.
10. Adit Sharma (MFC 2008, University of Toronto Faculty of Forestry). Trail impacts on soils and vegetation at Durham Forest, Ontario.
11. Mary Grunstra (MFC 2012, University of Toronto Faculty of Forestry). Forest fertilization impacts on soil mite communities at Haliburton Forest, Ontario.
12. Alexandra Ryland (MFC 2012, University of Toronto Faculty of Forestry). Monitoring riparian restoration to ensure recruitment of large woody debris in Haida Gwaii, British Columbia.
13. Daniel Marina (MFC 2012, University of Toronto Faculty of Forestry). Analysis of the modeling & inventory support tool in relation to Forest Ecosystem Classification in Ontario.
14. Eric Jacobsen (MFC 2012, University of Toronto Faculty of Forestry). Role of community-based monitoring in forest conservation in Ontario.
15. Matthew Garmon (MFC 2013, University of Toronto Faculty of Forestry). Heterogeneity in riparian forest structure, Haida Gwaii, British Columbia.
16. Jillian Bieser (MFC 2014, University of Toronto Faculty of Forestry). Restoration of peat swamp forest in peninsular Malaysia.
17. Joseph Heeg (MFC 2014, University of Toronto Faculty of Forestry). Tree species and understory vegetation associations within a Malaysian degraded peat swamp forest: Implications for restoration.
18. Mary Rodger (MFC 2014, University of Toronto Faculty of Forestry). Use of operational tree planting data to assess and improve efficiency.
19. Nina Schach (MFC 2016, University of Toronto Faculty of Forestry). The emerging regulatory and certification framework for biochar in Canada.
20. Meriadec Sillanpaa (MFC 2016, University of Toronto Faculty of Forestry). Carbon sequestration in mangrove ecosystems in Indonesia.

21. Sommer Foster (MFC 2016, University of Toronto Faculty of Forestry). Impacts of rock-climbing on cliff-dwelling plant species inhabiting Niagara escarpment dolostone formations.
22. Stefana Dranga (MFC Candidate 2016, University of Toronto Faculty of Forestry). Local variation in stand productivity in Douglas-fir: diversity and density effects.
23. Juliana Vantellingen (MFC Candidate 2016, University of Toronto Faculty of Forestry). Stand table analysis of mangrove forest productivity patterns in West Papua.
24. Charlene Williams (MFC Candidate 2016, University of Toronto Faculty of Forestry). Genetic variation in resistance to Butternut Canker Disease in New Brunswick *Juglans cinerea*, and a potential novel cryptic species.
25. Megan Sapruff - co-supervised (M.Sc.F. 2005, University of Toronto Faculty of Forestry). Comparative ecology of regeneration requirements of canopy trees in a highly diverse Asian temperate deciduous forest.
26. Fraser Smith - co-supervised (M.Sc.F. 2009, University of Toronto Faculty of Forestry). Post-harvest mortality in SE Yukon following partial stand harvests.
27. Erin Mycroft (M.Sc.F. 2010, University of Toronto Faculty of Forestry). Polypore fungus impacts on canopy physiology processes.
28. Ben Filewod (M.Sc.F. 2011, University of Toronto Faculty of Forestry). Effects of an acute Spring heat event on canopy processes in a northern hardwoods forest. 2009-2011
29. Kira Borden - co-supervised, M. Isaac (M.Sc.F. 2013, University of Toronto Faculty of Forestry). Ground-penetrating radar as a tool for assessing rooting profiles. 2011-2013
30. Eadaoin Quinn (M.Sc.F. 2013, University of Toronto Faculty of Forestry). Age-related crown thinning in tropical canopy trees. 2009-2013
31. Kyle Gaynor - co-supervised, S. Smith (M.Sc. candidate, University of Toronto Faculty of Forestry). Biochar effects on mites and litter decomposition processes. 2013-2016 (withdrawn)
32. Jean-Remy Makana (Ph.D. 2004, University of Toronto Faculty of Forestry). Ecology and sustainable management of African mahoganies.
33. Jennifer L. Baltzer (Ph.D. 2005, University of Toronto Faculty of Forestry). Light-nutrient interactions and the physiological basis of shade tolerance in temperate and tropical forest trees.
34. Tomasz Gradowski (Ph.D. 2006, University of Toronto Faculty of Forestry). Understory and canopy responses to liming and fertilization in tolerant hardwood forests.
35. Trevor Jones (Ph.D. 2006, University of Toronto Faculty of Forestry). Physiological and growth responses of canopy trees to selection-management harvests.
36. Yuan-Ying Peng (Ph.D. 2007, University of Toronto Faculty of Forestry). Forest management effects on soil carbon efflux and implications for forest carbon sequestration.
37. Hilary Thorpe - co-supervised (Ph.D. 2008, University of Toronto Faculty of Forestry). Growth and mortality responses of black spruce to partial stand harvests.
38. Rajit Patankar - co-supervised (Ph.D. 2010, University of Toronto, Department Ecology and Evolutionary Biology). Canopy mites and tree senescence: patterns and processes in two forest ecosystems.
39. Liz Nelson (Ph.D. 2011, University of Toronto Faculty of Forestry). Dendrochronological analysis of global change impacts on growth and wood chemistry in Canada's boreal forests.

40. Adam Martin (Ph.D. 2012, University of Toronto Faculty of Forestry). Comparative ecology of wood carbon content in tropical trees.

Students currently supervised:

41. Jon Schurman (Ph.D. candidate, University of Toronto Faculty of Forestry). Spatial variation in forest ecosystem carbon flux in temperate forests. 2009-2016
42. Mark Horsburgh (Ph.D. candidate, University of Toronto Faculty of Forestry; on leave as of Jan. 2016). Management impacts on understory vegetation and plant reproductive ecology: harvesting and biochar. 2011- [on leave 2016-]
43. Kateryna Kostyukova – co-supervised, J. Malcolm (Ph.D. candidate, University of Toronto Faculty of Forestry). Spatial variation in small mammal populations in relation to forest structure and dynamics. 2010-
44. Nigel Gale (Ph.D. candidate, University of Toronto Faculty of Forestry). Physiological ecology of plant responses to biochar amendments. 2012-
45. Susan Frye – co-supervised, S. Smith (Ph.D. candidate, University of Toronto Faculty of Forestry). Temperate forest canopies as habitat for pollinating bees. 2013-
46. Sossina Gezahegn – co-supervised, M. Sain (Ph.D. candidate, University of Toronto Faculty of Forestry). Variation in biochar chemical and physical properties with feedstock characteristics. 2013-
47. Janani Sivarajah – co-supervised, S. Smith (Ph.D. candidate, University of Toronto Faculty of Forestry). Evaluating health and educational benefits of schoolyard trees. 2013-
48. Muhammed Halim (Ph.D. candidate, University of Toronto Faculty of Forestry). Boreal forest feedbacks with climate and microclimate. 2013-
49. Jillian Bieser (Ph.D. candidate, University of Toronto Faculty of Forestry). Boreal forest management impacts on albedo, snow cover, and soil greenhouse gas flux. 2014-
50. Wil Gizen – co-supervised, S. Smith (Ph.D. candidate, University of Toronto Faculty of Forestry). Old urban trees: climate mitigation and biodiversity impacts. 2014- [on leave 2016-]
51. Jasmine Williams (M.Sc.F candidate, University of Toronto Faculty of Forestry). Evaluation and design of biochars for restoration on acid-generating mine tailings in Ontario. 2016-
52. Adam Gorgolewski – co-supervised, J. Caspersen (Ph.D candidate, University of Toronto Faculty of Forestry). Decay dynamics and methane emissions of coarse woody debris. 2016-
53. Juliana Vantellingen (Ph.D. candidate, University of Toronto Faculty of Forestry). Tree species influences on soil greenhouse gas flux. 2016-
54. Pedro Damian Rios Guayasamin (Ph.D. candidate, University of Toronto Faculty of Forestry). Small-scale diversity effects on productivity and herbivory in Amazonian plantation forests. 2016-

Research Support and Grants:

1. Experiment.com. “Combating climate change with biochar in beautiful Bangladesh”. Co-PI with Nigel Gale, University of Toronto, 2016-2016. Crowd-funded student grant.
2. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: “Alternative structural targets in selection-managed forest: consequences to forest productivity, net present value, and carbon sequestration”. Co-PI with J. Caspersen, University of Toronto, 2016-2016.

3. NSERC Discovery Grant: "New frontiers in forest carbon processes: soil chars, methane emission hotspots, and high-resolution inventory". PI, University of Toronto, 2016-2021.
4. NSERC Industrial Research Chair Program. NSERC Industrial Research Chair in "Biochar and Ecosystem Restoration". PI, University of Toronto, 2016-2020.
5. University of Toronto GRF NSERC. "Beavers as Ecosystem Engineers in Haliburton Forest". PI, University of Toronto, 2014-2016.
6. Mitacs Accelerate. "Biochar effects on terrestrial fungi". PI, University of Toronto, 2014-2016.
7. NSERC Research Tools and Instruments. "Multi-gas surface area and pore size analysis system for characterization of micro- and nano-porosity of biochar and other biomaterials". PI, University of Toronto, 2013-2014.
8. NSERC Strategic Project Grant: "Biomass harvests in boreal forests: minimizing environmental impacts and maximizing benefits". Co-PI, University of Toronto, 2012-2016.
9. NSERC Strategic Project Grant: "Biochar as a soil amendment in northern forests: ecology, biogeochemistry, and bioenergy tradeoffs". PI, University of Toronto, 2011-2014.
10. Ontario Centres for Excellence: "Optimizing pyrolysis conditions for biochar production in Ontario forest biomass-bioenergy systems". PI, University of Toronto, 2011-2012.
11. NSERC Research Tools and Instruments. "Dual-beam laser altimetry system for ground-based remote sensing of tree and forest canopy structure". PI, University of Toronto, 2011-2012.
12. Ontario Centres for Excellence: "Exploring biochar as the link to sustainable, profitable, and carbon-negative bioenergy production in Ontario's forests". Co-PI with N. Basiliko, S. Smith, and H. Tran, University of Toronto, 2010-2011.
13. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: "Predicting spatial variation in small mammal communities". Co-PI with J. Malcolm, University of Toronto, 2010-2011.
14. NSERC Discovery Grant: "Age-related changes in tree gas-exchange and leaf chemistry: ecological patterns, mechanisms, and consequences". PI, University of Toronto, 2010-2016.
15. Center for Tropical Forest Science, Smithsonian Institution. "Litter trap network for Haliburton Forest mega-plot". PI, University of Toronto, 2009-2010.
16. Ontario Ministry of the Environment. "Ecosystem level fluxes of CO₂ and CH₄ in an uneven-aged, maple dominated managed forest in Ontario". Co-PI, University of Toronto, 2009-2012.
17. European Research Council, Advanced Investigator Grant. "Towards a unified spatial theory of biodiversity". Sub-contract as collaborator, University of Toronto, 2009-2014.
18. NSERC Strategic Project Grant: "Forest management under high nitrogen deposition: ecosystem processes and mitigation measures". PI, University of Toronto, 2008-2010.
19. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: "Gall-forming mites as drivers of forest dynamics". Co-PI with S. Smith, University of Toronto, 2008-2009.
20. Northern Supplement Training Program, Artic Working Group, University of Toronto. Four research awards, including "CO₂ fertilization and forests harvests in the Yukon", "Elevated tree mortality following partial harvesting", "Time-course of tree mortality in the Yukon", and "Woody debris dynamics in managed forests". PI, University of Toronto, 2007-2008.
21. NSERC Research Tools and Instruments. Meteorological instrument tower for integrated forest ecosystem research. PI, University of Toronto, 2007-2008.
22. NSERC Research Tools and Instruments. "Near-Infrared Spectroscopy - Characterization of wood for value-added products". Co-PI, University of Toronto, 2007-2008.

23. Canada Research Chair, Tier 1: "Forests and Environmental Change". PI, University of Toronto, 2006-2013.
24. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: "Canopy arthropods as indicators of tree health and physiological status". Co-PI with S. Smith, University of Toronto, 2006-2007.
25. Alexander von Humboldt Foundation. "Development of management strategies for conversion of exploited mixed forests in the Great Lakes-St. Lawrence region" Co-PI with H. Spiecker and J.P. Caspersen. University of Toronto, 2005-2006.
26. Canadian Sustainable Forest Management Network: "Tree mortality following partial stand harvests: A cross-Canada study". PI, University of Toronto, 2005-2008.
27. NSERC Discovery Grant: "Age-related changes in tree gas-exchange and leaf chemistry: ecological patterns, mechanisms, and consequences". PI, University of Toronto, 2005-2010.
28. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: "Forest canopy responses to selection harvest and soil amendments: multi-year responses and tree damage effects". PI, University of Toronto, 2004-2005.
29. Center for Tropical Forest Science, Smithsonian Institution: "Leaf optical scans for rapid, comprehensive ecophysiological surveys of tropical tree floras". PI, University of Toronto, 2003-2004.
30. Ontario Living Legacy Trust: "Modeling the effects of selection management on tree species diversity in Great-Lakes St. Lawrence forests". Co-PI, University of Toronto, 2003-2004.
31. Smithsonian Tropical Research Institute: "Data management for forest dynamics plot in Democratic Republic of Congo - continuation". PI, University of Toronto, 2003-2004.
32. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: "Impacts of soil amendments and selection felling on canopy physiological processes in tolerant hardwood stands". PI, University of Toronto, 2002-2003.
33. NSERC Equipment Grant: "Carbon-Nitrogen analyzer for ecological research". Co-PI, University of Toronto, 2002.
34. Premier's Research Excellence Award, Ontario: "Forest management impacts on canopy structure and carbon exchange processes". PI, University of Toronto, 2001-2005.
35. Smithsonian Tropical Research Institute: "Data management for forest dynamics plot in Democratic Republic of Congo". PI, University of Toronto, 2001-2002.
36. Grant-in-Aid Program, Faculty of Forestry, University of Toronto and Haliburton Forest and Wildlife Reserve: "Coarse woody debris dynamics in selection-managed and unmanaged hardwood stands". PI, University of Toronto, 2001.
37. Ontario Ministry of Natural Resources: "Silviculture Options for Central Ontario's Stands of Old White Pine with Degraded Tolerant Hardwood Understories". Co-PI, w. Dr. D. Balsillie, University of Toronto and Dr. P. N. Duinker, Dalhousie University, 2001-2003.
38. Connaught Fund, University of Toronto: "Selection management impacts on forest carbon sequestration in northern hardwood forests". PI, University of Toronto, 2000-2002.
39. NSERC Discovery Grant: "Shifting species dominance and selection-managed forests: tests of alternative ecophysiological mechanisms". PI, University of Toronto, 2000-2004.
40. NSERC Equipment Grant: "Portable photosynthesis gas analysis system for forest ecophysiological research". PI, University of Toronto, 2000.
41. Richard Ivey Foundation: "Biodiversity in eastern mixed-wood forest canopies". PI with S.M. Smith, J.R. Malcolm, and T.C. Hutchinson, University of Toronto, 2000-2003.
42. Connaught Fund, University of Toronto: "Comparative ecology and silvics of tropical trees". 1999-2002.

43. National Institute for Global Environmental Change: "Interannual variation in carbon uptake in old-growth coniferous forests: temporal patterns and physiological mechanisms". Co-PI with Dr. W.E. Winner, Oregon State Univ., 1999-2002.
44. National Institute for Global Environmental Change: "Photosynthetic and respiration processes in Pacific Northwest forests". Co-PI with Dr. W.E. Winner, Oregon State Univ., 1996-1999.
45. National Science Foundation, Post-doctoral Fellowship in Environmental Biology: "Neighborhood models of spatial interactions in tropical tree populations". 1994-1996.
46. National Science Foundation Dissertation Improvement Grant: "Tree size at reproductive onset and leaf-level photosynthesis in Malayan primary rainforest trees". 1991-1993
47. Garden Club/World Wildlife Fund scholarship in tropical botany: "Species stature and leaf-level photosynthesis in Malayan primary rainforest trees". 1991-1993
48. Harvard University, OEB student research grant: "Allometry and reproduction of understory tree species in a Malaysian Rainforest". 1989-1990.
49. Explorer's Club: "Ecology of anthropoid primates of the Ituri Forest, Zaire". 1985-1986.
50. Kellogg Foundation: "Ecology of anthropoid primates of the Ituri Forest, Zaire". 1985-1986.

Publications:

1. Page-Dumroese, D.S., Coleman, M., and Thomas, S.C. (2016) Opportunities and uses of biochar on forest sites in North America. Invited book chapter, Bruckman, V., Liu, J., Uzun, B.B., and Varol, E., eds. *Biochar: A Regional Supply Chain Approach in View of Climate Change Mitigation*. Cambridge University Press. In press.
2. Norghauer J.M., Free C.M., Landis R.M., Grogan, J., Malcolm J.R., and Thomas, S.C. (2016) Herbivores limit the population size of big-leaf mahogany trees in an Amazonian forest. *Oikos* 125: 137-148.
3. Thomas, S.C., Gale, N.V. (2015) Biochar and forest restoration: a review and meta-analysis of tree growth responses. *New Forests* 46: 931-946.
4. Noyce, G., Basiliko, N., Fulthorpe, R., Sackett, T.E., and Thomas, S.C. (2015) Soil microbial responses to biochar additions over two years in a north temperate forest. *Biology and Fertility of Soils*, 51: 649-659.
5. Martin, A.R., Gezahegn, S., and Thomas, S.C. (2015) Variation in carbon and nitrogen concentration among major woody tissue types in temperate trees. *Canadian Journal of Forest Research*, 45: 744-757
6. Quinn, E.M.I., and Thomas, S.C. (2015) Age-related Crown Thinning in Tropical Forest Trees. *Biotropica* 47: 320-329.
7. Sackett, T.E., Baskiliko, N., Noyce, G., Winsborough, C., Schurman, S., Ikeda, C., Thomas, S.C. (2015) Soil and greenhouse gas responses to biochar in a north temperate forest. *GCB Bioenergy*, 7: 1062-1074.
8. Thomas, S.C., Martin, A.R., and Mycroft, E.E. (2015) Data from: Tropical trees in a wind-exposed island ecosystem: height-diameter allometry and size at onset of maturity. Dryad Digital Depository: doi:10.5061/dryad.bs332
9. Thomas, S.C., Martin, A.R., and Mycroft, E.E. (2015) Tropical trees in a wind-exposed island ecosystem: height-diameter allometry and size at onset of maturity. *Journal of Ecology* 103: 594-605. [Article featured in journal cover photo].
10. Anderson-Teixeira, K. J., Davies, S. J., Bennett, A. C., Gonzalez-Akre, E. B., Muller-Landau, H. C., Wright, S. Joseph, Salim, K. Abu, Baltzer, J. L., Bassett, Y. , Bourg, N. A., Broadbent, E. N., Brockelman, W. Y., Bunyavejchewin, S. , Burslem, D. F.R.P., Butt, N. , Cao, M. , Cardenas, D. ,

- Clay, K. , Condit, R. S., Detto, M. , Du, X. , Duque, A. , Erikson, D. L., Ewango, C. E.N., Fletcher, C. D., Gilbert, G. S., Gunatilleke, N. , Gunatilleke, S. , Hao, Z. , Hargrove, W. H., Hart, T. B., Hao, B. , He, F. , Hoffman, F. M., Howe, R. , Hubbell, S. P., Jansen, P. A., Jiang, M. , Kanzaki, M. , Kenfack, D. , Kinnaird, M. F., Kumar, J. , Larson, A. J., Li, Y. , Li, X. , Liu, S. , Lum, S. K.Y., Lutz, J. A., Ma, K. , Maddalena, D. , Makana, J. , Malhi, Y. , Marthens, T. , McMahon, S. , McShea, W. J., Memiaghe, H. , Mi, X. , Mizuno, T. , Myers, J. A., Novotny, V. , de Oliveira, A. A., Orwig, D. , Ostertag, R. , den Ouden, J. , Parker, G. , Phillips, R. , Rahman, A. , Sri-ngernyuang, K. , Sukumar, R. , Sun, I. , Sungpalee, W. , Tan, S. , Thomas, S. C., Thomas, D. , Thompson, J. , Turner, B. L., Uriarte, M. , Valencia, R. , Vallejo, M. I., Vicentini, A. , Vrška, T. , Wang, X. , Weiblen, G. , Wolf, A., Xu, H. , Xugao, W. , Yap, S. , Zimmerman, J. (2015). CTFS-ForestGEO: A worldwide network monitoring forests in an era of global change. *Global Change Biology*, 21: 528–549.
11. Geddes, J.A., Murphy, J.G., Schurman, J., Thomas, S.C. (2014) Net ecosystem exchange of an uneven-aged managed forest in central Ontario, and the impact of a spring heat wave event. *Agricultural and Forest Meteorology*, 198–199: 105–115.
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104. Thomas S.C. (1996) Reproductive allometry in Malaysian rain forest trees: biomechanics vs. optimal allocation. *Evolutionary Ecology* 10: 517-530.
105. Thomas S.C. (1996) Relative size at reproductive onset in rain forest trees: a comparative study of 37 Malaysian species. *Oikos* 76: 145-154.

106. Thomas, S.C., and M. Jasienski (1996) Genetic variability and the nature of microevolutionary responses to elevated CO₂. Pages 51-81 in Ch. Körner and F.A. Bazzaz (eds), Carbon dioxide: Populations and communities. Physiological Ecology: a series of monographs, texts, and treatises. Academic Press, New York.
107. Bazzaz, F.A., S.L. Bassow, G.M. Berntson, and S.C. Thomas (1996) Elevated CO₂ and terrestrial vegetation: implications for and beyond the global carbon budget. Pages 43-76 in Brian H. Walker (ed), Global Change and Terrestrial Ecosystems. Academic Press, New York.
108. Thomas, S.C. (1996) Asymptotic height as a predictor of growth and allometric characteristics of Malaysian rain forest trees. American Journal of Botany 83: 556-566.
109. Thomas, S.C., and F.A. Bazzaz (1996) Elevated CO₂ and leaf shape: are dandelions getting toothier? American Journal of Botany 83: 106-111.
110. Thomas, S.C., and K. Ickes (1995) Ontogenetic changes in leaf size in Malaysian rain forest trees. Biotropica 27: 427-434.
111. Bazzaz, F.A., Jasienski, M., Thomas, S.C., and P. Wayne (1995) Microevolutionary responses in experimental populations of plants to a CO₂-enriched environment: parallel results from two model systems. Proceedings of the National Academy of Sciences, USA, 92: 8161-8165.
112. Thomas, S.C., and S. Appanah (1995) On the statistical analysis of reproductive size thresholds in dipterocarp forests. Journal of Tropical Forest Science 7: 412-418.
113. Thomas, S.C. (1993) Interspecific allometry in Malaysian rain forest trees. Ph.D. thesis, Harvard University.
114. Thomas, S.C., and F.A. Bazzaz (1993) The genetic component in plant size hierarchies: norms of reaction to density in a *Polygonum* species. Ecological Monographs 63: 231-250.
115. Thomas, S.C., and J.V. La Frankie (1993) Sex, size, and inter-year variation in flowering among dioecious trees of the Malayan rainforest understory. Ecology 74: 1529-1537.
116. Weiner, J., and S.C. Thomas (1992) Competition and allometry in three species of annual plants. Ecology 73:648-656.
117. Thomas, S.C. (1991) Population densities and patterns of habitat use among anthropoid primates of the Ituri Forest, Zaire. Biotropica 23:68-83.
118. Weiner, J., Berntson, G.M. and S.C. Thomas (1990) Competition and growth form in a woodland annual. Journal of Ecology 78:459-469.
119. Thomas, S.C., and J. Weiner (1989a) Growth, death, and size distribution change in a population of *Impatiens pallida*. Journal of Ecology 77:524-536.
120. Thomas, S.C., and J. Weiner (1989b) Including competitive asymmetry in measures of local interference in plant populations. Oecologia 80:349-355.
121. Weiner, J., and S.C. Thomas (1986) Size variability and competition in plant monocultures. Oikos 47:211-222.
122. Hart, J.A., T.B. Hart, and S.C. Thomas (1986) The Ituri Forest of Zaire: Primate diversity and prospects for conservation. Primate Conservation 7:42-44.

Publications – "grey literature":

123. Thomas, S.C. (2013) Biochar and its potential in Canadian forestry. Silviculture Magazine, January 2013. (Article featured in cover photo)
124. Ontario Far North Science Advisory Panel [Abraham, K., Gunn, J., Lean, D., Lynham, T., Pearson, D., Ray, J., Riley, J., Roulet, N., Schmiegelow, F., Thomas, S.C., Woodley, S.] (2010) Science for Ontario's changing Far North. Commissioned report, April 2010, Ontario Ministry of Natural Resources.
125. Thorpe, H.C., Fuller, M.M., Thomas, S.C., Caspersen, J.P. (2009) Quantifying the influence of structural retention harvests on long-term stand development. SFMN Research Note.

126. Nelson, E.A., G.G. Sherman, J.R. Malcolm, and S.C. Thomas. (2007) Combating Climate Change Through Boreal Forest Conservation: Resistance, Adaptation, and Mitigation. Technical Report, Greenpeace Canada.
127. Thomas, S.C. (2005) Canopies in Canada: Integrated Canopy Research at Haliburton Forest, Ontario. What's up (International Canopy Network Newsletter), Sept. 2005.
128. Makana, J.-R., T. B. Hart, C.E.N. Ewango, I. Liengola, and S. C. Thomas (2004) Tree demography and population change in the Ituri Forest Dynamics plots, Democratic Republic of Congo. Inside CTFS Summer 2004: 5, 14.
129. Makana, J.-R., and S.C. Thomas (2002) Analysis of commercial timber species in the Paleotropics. Inside CTFS, Summer 2002: 3,10.
130. Thomas, S.C. (2001) Structure and species diversity of forest fragments near Pasoh Forest Reserve, West Malaysia. Inside CTFS, Summer 2001: 9,16.
131. Thomas, S.C., and C.B. Halpern (1998) Predictors of understory plant cover, diversity, and species composition in Douglas-fir plantations. Internal Report, Weyerhaeuser Company Research and Development, Environmental Forestry Division. May 1998.
132. Thomas, S.C., and C.B. Halpern (1996) Understory plant diversity and successional patterns in Douglas-fir plantations. Internal Report, Weyerhaeuser Company Research and Development, Environmental Forestry Division. December 1996.
133. Thomas, S.C., Falk, D., and C.B. Halpern (1996) Community composition, structure, and species diversity of managed forest stands. Internal Report, Weyerhaeuser Company Research and Development, Environmental Forestry Division. June 1996.
134. Singham, G., R. Hughes, A. Sebastian, R. DeCruz, N. Khan, and S.C. Thomas (1994) Environmental Impact Assessment for Lemal and Rantau Panjang Flood Mitigation Scheme, Kelantan, Peninsular Malaysia. Malaysian Department of the Environment and the World Bank.

Manuscripts – in review:

135. Borden, K.A., Thomas, S.C., and Isaac, M.E. (2016) Interspecific variation of tree root architecture in a temperate agroforestry system characterized using ground-penetrating radar. *Plant and Soil*, in review.
136. Gale, N.V., Sackett, T., and Thomas, S.C. (2016) Thermal treatment and leaching biochar alleviates plant growth inhibition from mobile organic compounds. *PeerJ*, in review.
137. Hossain, S.M.Y., Caspersen, J.P., and Thomas, S.C. (2016) Reproductive costs in *Acer saccharum*: exploring size-dependent relations between seed production and branch extension. *Trees – Structure and Function*, in review.
138. Kumar, P., Chen, H.Y.H., Thomas, S.C., and Shahi, C. (2016) Plant species abundance, diversity and composition varies with coarse woody debris decay class and species in boreal forest. *Journal of Applied Ecology*, in review.
139. Kuttner, B.G., and Thomas, S.C. (2016) Biochar, erosion control, and revegetation: interactive effects with herbaceous seed mixtures and willow cuttings. *Restoration Ecology*, in review.
140. Mitchell, P., Simpson, A., Strong, R., Schurman, J., Thomas, S.C., Simpson, M. (2016) Biochar amendment and phosphorus fertilization altered forest soil microbial community and native soil organic matter molecular composition. *Biogeochemistry*, in review.
141. Schurman, J., and Thomas, S.C. (2016) Post-rain amplification of soil carbon flux reveals size-dependence of individual-tree root-zone respiration. *Ecosystems*, in review.
142. Schurman, J., and Thomas, S.C. (2016) Community-level traits and diversity effects explain in-situ litter decomposition. *Functional Ecology*, in review.
143. Schurman, J., and Thomas, S.C. (2016) Trait-based sorting effects stand structure and biomass dynamics in an old-growth angiosperm-conifer forest. *Ecological Monographs*, in review.

144. Sullivan, M., Talbot, J., Lewis, S., Phillips, O., Thomas, S.C.,... (2016) Diversity and carbon across the world's tropical forests. *Nature Communications*, in review.

Manuscripts – final preparation:

145. Cleary, J., Caspersen, J.P., and Thomas, S.C. (2016) Life cycle impacts and costs of biochar production using sawmill residues. For submission to *Environmental Science and Technology*
146. Grant, K., and Thomas, S.C. (2016) Canopy rugosity of individual tree crowns estimated using high-resolution LiDAR: interspecific and age-related patterns. For submission to *Remote Sensing of the Environment*.
147. Mycroft, E.E., and Thomas, S.C. (2016) Effects of infection by a woody decay fungus on canopy physiology of yellow birch. For submission to *Tree Physiology*.
148. Mycroft, E.E., Thomas, S.C., and Moncalvo, J.-M. (2016) Molecular detection of fungal infection patterns in live woody tissue: No latent basidiomycetes in non-damaged sapwood of *Betula alleghaniensis*. For submission to *Fungal Ecology*.
149. Nelson, E.A., and Thomas, S.C. (2016) Evaluating the frost damage hypothesis: does climate warming increase tree exposure to late spring frost events? For submission to *Trees: Structure and Function*.
150. Nelson, E.A., and Thomas, S.C. (2016) Effects of warming on radial growth of dominant Yukon conifers: increased spring and summer temperatures have contrasting influences on white spruce (*Picea glauca*) and lodgepole pine (*Pinus contorta*). Submitted to *Canadian Journal of Forest Research*.
151. Nelson, E.A., and Thomas, S.C. (2016) Dendrochronological evidence for CO₂ fertilization in three representative managed boreal forests. For submission to *Forests*.
152. Patankar, R., Schurman, J., and Thomas, S.C. (2016) Seedling responses to biochar and phosphorus additions: enhanced growth offset by increased herbivory. *Ecological Applications*, in prep.
153. Peng, Y.Y., and Thomas, S.C. (2016) Soil and canopy manipulations and their effects on soil CO₂ efflux in a red pine plantation. For submission to *Canadian Journal of Forest Research*.
154. Petroff, A., Murphy, J.G., Geddes, J.A., and Thomas, S.C. (2016) Size-resolved aerosol fluxes above a temperate broadleaf forest: measurements and modeling. *Atmospheric Chemistry and Physics – status?*.
155. Thomas, S.C., Lucas, B., Smith, S.M. (2016) Clonal mixtures outperform mono-clonal hybrid poplar plantings under conditions of high biotic stress. For submission to *Ecology Letters*.
156. Thomas, S.C., Sackett, T.E., Schurman, J., and Gale, N.V. (2016) Fire adaptation status predicts tree seedling responses to soil biochar and phosphorus additions. For submission to *PlosOne*.
157. Thomas, S.C., Al-Zayat, M., and Murtada, J. (2016) Biochar mitigation of allelopathic effects of invasive plants: evidence from seed germination trials. *Plant and Soil*, in review.
158. Thomas, S.C., Weiner, J., and Reich, P.B. (2016) Carbon accumulation rate does not increase continuously with tree size: evidence from stem analysis. *Tree Physiology*, in preparation.
159. Thomas, S.C., Norghauer, J. (2016) Dispersal limitation as an ecological process. *Earth Systems and Environmental Sciences Reference Module*. Elsevier Publishing.

Conservation, management and policy consultation:

- Invited speaker on "Deforestation and Environmental Planning in Malaysia" for U.S. Ambassador and staff at the U.S. Embassy to Malaysia, Kuala Lumpur, June 2, 1992.
- Vegetation component for proposed "Golok Basin Flood Mitigation Project Environmental Impact Assessment and Conservation Action Plan", contracted through Asian Wetlands Bureau, Kuala Lumpur, Malaysia, for Snowy Mountains Engineering, Canberra, Australia. For submission to Malaysian Dept. of the Environment and The World Bank. 1992.

- Invited participant, BIOCAP Canada Foundation workshop, "Enhancing, quantifying and verifying forest C changes: Kyoto and Beyond", Ottawa, ON, Canada, Jan. 17-18, 2002.
- Invited speaker and co-organizer, Environmental NGO workshop on "Conservation for carbon sequestration: science and policy", Toronto, ON, Canada, May 28-29, 2007.
- Member, Far North Science Advisory Panel, Province of Ontario. Dec. 2008 – Jan 2010.

Popular / press coverage:

My research on canopy photosynthesis and carbon balance in old-growth forests has been featured in the following news stories:

- "Local forest research offers global answers", Seattle Times, Nov. 30, 1997.
- "Pioneering research on forest canopies", NBC Nightly News with Tom Brokaw, Dec. 5, 1997.
- "Crane lifts research to new heights", Northwest Science and Technology magazine, Spring, 2002.
- "Forests as carbon sinks", Environmental Science & Technology magazine, June, 2002.
- "Playing in the clouds", Lab Business Magazine, Sept, 2014.
- "The power of negative thinking", Science Magazine, 342: 68-69, Oct. 4, 2014.

News stories covering my involvement in the CTFS forest plot network include:

- "Mapping changes in the Earth's tropical forests", University of Toronto Bulletin, Mar. 12, 2001.
- Interview on CBC's Radio Canada International, Mar. 2001.

Other interviews on forest gas exchange and related topics include pieces on the MSNBC cable channel (Jan. 1998), National Public Radio's program "Living on Earth" (Mar. 1998), and CBC's program "Quirks and Quarks" (May 2001), Glen Falls NY Post-Star "Why are the leaves green in November?" (Nov 2002).

Stories covering work on forest environmental and management impacts include:

- TBA, Toronto NOW Magazine, August, 2014.
- "Beware the mighty mite" Minden Times, April 11, 2012.
- "The mite-y influence on sugar maples" Haliburton County Echo, April 11, 2012.
- "Can our forests stand the heat?" UT Magazine, Autumn, 2010.
- "Eyes on our planet: Environmental research at U of T, from the ozone layer to urban grime". Edge magazine, University of Toronto. Mar. 2002.

Selected symposia talks and other invited lectures:

1. Thomas, S.C. "Biochars and Ecosystem Restoration". Invited lecture, Vale Living with Lakes Centre, Laurentian University, Sudbury, Ontario. Mar. 18, 2016.
2. Thomas, S.C. "Biochars and Ecosystem Restoration". Invited lecture, Vale Living with Lakes Centre, Laurentian University, Sudbury, Ontario. Mar. 18, 2016.
3. Thomas, S.C. "Biochars and Ecosystem Restoration". Invited lecture, Department of Physical and Environmental Science's invited speaker series, University of Toronto, Scarborough. Scarborough, Ontario, Canada, Jan. 26, 2016.
4. Thomas, S.C. "Update on biochar research". Invited presentation, Ontario Mining Association Environment Committee workshop, Toronto, Ontario, Canada, Nov. 25, 2015.
5. Thomas, S.C. "Biochars and forest restoration in Canada". Invited seminar, "Biochar and Mining Soils" workshop, Laboratoire sols et environnement, Université de Lorraine, Nancy, France, Sept. 17, 2015.
6. Thomas, S.C., and Chave, J. "Variation in wood structural chemistry links anatomy, physiology and biomechanics across flowering plant species". Symposium talk, "Wood science underpinning tropical forest ecology and management", International closing

- symposium of the XYLAREDD project, Royal Museum for Central Africa, Tervuren, Belgium, 26-29 May, 2015.
7. Thomas, S.C. "Biochar, natural chars, and the emerging "dark side" of forest ecology". Haliburton Forest research day lecture. May 8, 2015.
 8. Thomas, S.C. "Overview of Haliburton ForestGEO mega-plot project". Invited lecture, Smithsonian Environmental Research Center, Edgewater, Maryland, USA. Mar. 10, 2015.
 9. Thomas, S.C. "Char: the dark side of forest ecology". Invited lecture, McMaster University, Hamilton, Ontario. Feb. 4, 2015.
 10. Thomas, S.C. "CO₂ and methane fluxes in a northern hardwood forest: surprising patterns and clues for climate mitigation management". American Geophysical Union Fall Meeting, San Francisco, California, USA. Dec. 15-19, 2014. (Withdrawn)
 11. Thomas, S.C. "Biochar: promise and challenges for forest restoration". IUFRO 2nd Restoring Forests Congress, Purdue Univ., Lafayette, Indiana USA. Oct. 14-16 2014.
 12. Thomas, S.C. "An overview of global change research at Haliburton Forest". Haliburton Forest, Celebration of Research. Haliburton Forest and Wildlife Reserve, Ontario, May. 9, 2014.
 13. Thomas, S.C. "Biochar and forest ecosystems". 2014 North American Biochar Symposium, University of Massachusetts, Amherst, MA, USA, Oct. 13-16, 2013.
 14. Thomas, S.C. "Ecology meets practice: the case of uneven-aged silviculture and 'emulation' of gap-phase dynamics". Invited talk for organized oral session on "Enhancing Linkages between Forest Management and Ecological Theory", Ecological Society of America annual meeting, Minneapolis, Minnesota, USA, Aug. 4-9, 2013.
 15. Thomas, S.C. "The biology of tree ageing: new insights on old trees and their links to ecosystem processes". Invited talk, Lakehead University, Thunder Bay, Ontario, Canada, May 8, 2013.
 16. Thomas, S.C. "Écologie comparative de la chimie du bois: quelques résultats préliminaires et importance pour la conservation et les changements globaux". Invited talk, Laboratoire Evolution et Diversité Biologique, Université Paul Sabatier, Toulouse, France. Mar. 28, 2013.
 17. Thomas, S.C. "Biochar and the mining sector". Invited talk for Centre for Mining Innovation, Sudbury, ON. Jan. 7, 2013.
 18. Thomas, S.C. "Biochar and the mining sector". Invited talk for Ontario Mining Association, Environment Committee Meeting, Timmins, ON. Sept. 12, 2012.
 19. Thomas, S.C. "Gymnosperms vs. angiosperms in an intact mixed forest ecosystem: resources or beavers?" Invited talk for organized oral session on "Global Comparisons in Forest Dynamics: Results from Permanent Plots", Ecological Society of America annual meeting, Portland Oregon, Aug. Aug. 5-10, 2012.
 20. Thomas, S.C. "Beyond the pancake: the surprisingly strange ecology of sugar maple canopies". Keynote address at U-Links Celebration of Research. Fleming College Haliburton Campus, Haliburton, Ontario, Mar. 24, 2012.
 21. Thomas, S.C. "New insights on old trees: age-related changes in physiology and morphology and their implications to forest dynamics". Invited lecture, department of Biology seminar series, Wilfred Laurier University, Waterloo, Ontario, Jan. 13, 2012.
 22. Thomas, S.C. "New biological insights on old trees". Invited talk for 2011 Provincial Environmental Advisory Committee Symposium, Whitby, Ontario, Nov. 19, 2011.
 23. Thomas, S.C. "Forest ecology and climate change". Keynote address Forests for the future: a scientific symposium for high school students, Royal Botanical Gardens, Burlington, Ontario, Oct. 20, 2011.
 24. Thomas, S.C., Filewod, B, and Schurman, J. "Haliburton Forest running hot and cold: Spatial microclimatic variability and the devastating effects of the warm spring of 2010". Haliburton Forest, Celebration of Research. Haliburton Forest and Wildlife Reserve, Ontario, May. 13, 2011.
 25. Thomas, S.C. "Age-related patterns in tree functional biology and their relevance to forest dynamics". Invited talk for Chinese Academy of Sciences, Xishuangbanna Tropical Botanical Garden, Yunnan, China, Apr. 28, 2011.

26. Thomas, S.C. "Age-related patterns in tree functional biology and their relevance to forest dynamics". Invited talk for Oxford University Centre for the Environment. Oxford, UK, Apr. 1, 2011.
27. Thomas, S.C., Filewod, B, and Schurman, J. "Surprises in climate change impacts in Canadian temperate forests: Spatial microclimatic variability and the devastating effects of the warm spring of 2010". British Ecological Society, Symposium on Forests and Global Change. Cambridge, UK, Mar. 28-30, 2011.
28. Martin, M.A., and Thomas, S.C. "A reassessment of carbon content in tropical trees: Phylogenetic signal, ecological correlates, and size-dependent changes". British Ecological Society, Symposium on Forests and Global Change. Cambridge, UK, Mar. 28-30, 2011.
29. Thomas, S.C. "Forests and Environmental Change: Understanding Limits to Forest Productivity and Carbon Sequestration". Invited poster for Canada Research Chairs: Thinking ahead for a strong future. Toronto, ON, Canada, Nov. 24-25, 2010.
30. Thomas, S.C. "Finding the Forest for the Trees". Public lecture, Koffler Scientific Reserve, Univ. of Toronto. Oct. 10, 2010.
31. Thomas, S.C. "Temperate tree species show strong but varying size-dependent allometric patterns of canopy openness, crown depth, and leaf optics" Ecological Society of America Annual Meeting, Pittsburgh, Pennsylvania, USA. Aug. 1-6, 2010.
32. Thomas, S.C., Drescher, M., Patankar, R. "Mites, tree senescence, disturbance dynamics, and the scientific rationale for temperate forest mega-plots". Ecological Society of America Annual Meeting, Albuquerque, New Mexico, USA. Aug. 2-7, 2009.
33. Thomas, S.C. "Ecology of old trees: from physiological processes to community dynamics". Invited lecture, Helmholtz Centre for Environmental Research, Leipzig, Germany, Jul. 30, 2009.
34. Thomas, S.C. "Boreal forest conservation as a strategy for climate change mitigation". Invited talk for "Boreal Forests For the Future: Maintaining Whole Systems On Earth's Crown", Silva Forest Foundation, Trinity College, University of Toronto, Apr. 29, 2009.
35. Thomas, S.C. "Ontario woodlots under a changing global climate". Invited talk for annual meeting of the Ontario Woodlot Owner's Association, Acton, ON, Mar. 28, 2009.
36. Thomas, S.C. "Size-dependent reproduction and its relation to size-dependent physiology in canopy trees". Symposium on "Plant Reproductive Allometry", Ecological Society of America Annual Meeting, Milwaukee, Wisconsin, USA. Aug. , 2008.
37. Thomas, S.C. "Rationales for large temperate forest plots: Haliburton Forest" Invited lecture: CTFS temperate forest plot workshop, Harvard Forest, Petersham, Massachusetts, USA. May 1-2, 2008.
38. Thomas, S.C. "Biogeography and the design of a temperate forest large plot network" Invited lecture: CTFS temperate forest plot workshop, Harvard Forest, Petersham, Massachusetts, USA. May 1-2, 2008.
39. Thomas, S.C. "Responses to canopy trees to partial stand harvests: growth, mortality, and physiology" Invited lecture, Michigan State University, East Lansing, Michigan, USA. Jan. 29, 2008.
40. Thomas, S.C. "Are science, forest management, and environmentalism capable of peaceful co-existence?". Invited talk, conference on "Adapting to change: managing tree seed in an uncertain climate, Ontario Ministry of Natural Resources, Sault St. Marie, Ontario, Canada. Nov. 14, 2007.
41. Thomas, S.C., Baltzer, J.L. "Whole-plant light compensation points and the meaning and measurement of shade tolerance in tropical trees". Symposium on "Functional Ecology of Tropical Trees", Association for Tropical Biology Annual Meeting, Morelia, Mexico, Jul. 17, 2007.
42. Thomas, S.C. "The emerging science of forests for climate mitigation: Greenhouse gas fluxes of old forests and cross-biome comparisons". Workshop on "Reducing greenhouse gas emissions by conserving forests: approaches to stimulate action", David Suzuki Foundation Workshop, Faculty of Forestry, University of Toronto, Toronto, Canada, Jun. 13, 2007.
43. Thomas, S.C. "Forest feedbacks: will forest responses exacerbate or mitigate global climate change". Roundtable on Forests, Global Issues Project of Science for Peace, Sept. 23, 2006.

44. Thomas, S.C. "Selecting species for carbon sequestration forestry: the case of NE China". Invited lecture, Canadian International Development Agency, Beijing, China, May 11, 2006.
45. Thomas, S.C. "Carbon sequestration potential of mixed- vs. mono-clonal hybrid poplar under varying densities in southern Ontario". Forest 2020 research development workshop, University of Toronto, Aug. 23, 2005.
46. Thomas, S.C., Makana, J.-R., Hart, T.B., Hart, J.A., Condit, R., Ewango, C.E.N. "Deterministic changes in species composition in primary forest in the Eastern Congo basin". Symposium on "Tropical Forest Community Dynamics", Ecological Society of America Annual Meeting, Montreal, Canada. Aug. 10, 2005.
47. Thomas, S.C. 2005. "Ecophysiological correlates of commonness and rarity: comparisons within and among Asian, African, and Central American tropical tree floras". Organized Oral Session: "Comparative Ecology of Tropical Trees: Linking Physiology to Dynamics and Distributions", Ecological Society of America Annual Meeting, Montreal, Canada. Aug. 9, 2005.
48. Thomas, S.C. 2005. "Leaf hyperspectral optical scans for rapid tree ecophysiological surveys: comparative results from three CTFS sites". Invited talk for Center for Tropical Forest Science / Smithsonian Tropical Research Institute symposium on "Forest Dynamics around the Globe", Panama City, Panama. Jun. 5, 2005.
49. Thomas, S.C. 2004. "Partial harvest effects on species composition, growth, and mortality". Presentation, Workshop on Forest Dynamics and Succession, Sustainable Forest Management Network, University of Alberta, Edmonton, Canada. Sep. 2, 2004.
50. Thomas, S.C. 2004. "Anthropogenic forest disturbance as global change". Opening Presentation, Workshop on Natural and Anthropogenic Disturbances in Forest Management, International Forestry Student Symposium, University of Toronto, Ontario, Canada. Aug. 26, 2004.
51. Thomas, S.C. 2004. "Potential for native species plantations in carbon forestry". Canadian International Development Agency training workshop, Erdaobaihe, China. Jun. 20, 2004.
52. Thomas, S.C. 2004. "Long-term logging impacts on a Malaysian rain forest". Institute for Environmental Studies seminar series, University of Toronto, Toronto, Ontario, Canada. Feb. 4, 2004.
53. Thomas, S.C. 2003. "Plant diversity in managed forests: from plantation monocultures to 'nature-oriented' silviculture". Organismal biology seminar series, McGill University, Montreal, Quebec, Canada. Nov. 20, 2003.
54. Baltzer, J., Thomas, S.C., and R. Nilus. 2003. "Resource use efficiency as a partial explanation for tree species habitat associations". British Ecological Society, Special Symposium on Biotic Interactions in the Tropics: their Role in the Maintenance of Species Diversity. 7-10 July 2003, University of Aberdeen, UK.
55. Thomas, S.C. 2002. "Survey techniques for forest carbon assessment". Canadian International Development Agency training workshop, Nanjing Forestry University, Nanjing, China. Aug. 5, 2002.
56. Thomas, S.C. 2002. "Leaf and canopy optics". Canadian International Development Agency training workshop, Nanjing Forestry University, Nanjing, China. Aug. 6, 2002.
57. Thomas, S.C. 2001. "A leaf physiological perspective on old-growth forest structure and function". Old-growth Forests in Canada: a Science Perspective, Sault St.-Marie, Ontario, Canada. Oct. 18, 2001.
58. Bebbier, D.P., Balsillie, D., Cole, W., Duinker, P. and Thomas, S.C. 2001. "Evaluation of the short- and intermediate-term effects of 'structural retention' harvests of old-growth *Pinus strobus* stands in the Algoma region of Ontario". Old-growth Forests in Canada: a Science Perspective, Sault St.-Marie, Ontario, Canada. Oct. 18, 2001.
59. Thomas, S.C. 2001. "Pasoh Forest in global perspective". Asian regional field course in tropical ecology, Pasoh Forest Reserve, Malaysia. Sep. 7, 2001.
60. Thomas, S.C. 2001. "Ordination methods for analysis of permanent forest plot data: overview and examples in R". Center for Tropical Forest Science Analytical Workshop Series, "Spatial

patterns and habitat distributions in tropical forests", Indian Institute of Science, Bangalore, India, Aug 10, 2001.

61. Thomas, S.C., and N. Iwanycki 2001. "Understory plant communities in selection-managed forests in Central Ontario: harvest impacts and meso-scale spatial variation". Symposium on Ecology of Forest Management. Annual Meeting of the Canadian Botanical Association. Sunday, Jun. 24, 2001. Okanagan University College, Kelowna, B.C., Canada.
62. Thomas, S.C. 2000. "Ontogenetic changes in gas exchange parameters: how do Pacific Northwest conifers compare to trees in other ecosystems?". Age-Related Change in Structure and Function of Pacific Northwest Forests: A synthesis of research. Thursday, Oct. 19, 2000. Oregon State University, Corvallis, OR, USA.
63. Thomas, S.C., and J.-R. Makana. 2000. "Large-scale forest plots and applied forest management: analyses of size structure and shade-tolerance of commercial timber species in tropical Asia and Africa". Invited talk for Exploring forest diversity and change, Science and policy results from the network of forest dynamics plots. National University of Singapore, Singapore, Jun. 1-3, 2000. Organized by the Center for Tropical Forest Science of the Smithsonian Tropical Research Institute.
64. Thomas, S.C. 2000. "Ecological differences between the world's tropical forest regions: new insights from large-scale forest plot studies". Ecology Seminar Series, Dept. of Zoology, University of Toronto. Feb. 21, 2000.
65. Winner, W.E., and S.C. Thomas. 1999. "Carbon Use in Old Growth Pacific Northwest Forests". York University, York, England. July 13, 1999.
66. Thomas, S.C., and C.B. Halpern. 1999. "Understory plant diversity in intensively-managed Douglas-fir plantations". Invited talk, Second North American Forest Ecology Workshop, University of Maine, Orono, ME, USA, Jun. 27 - 30, 1999.
67. Thomas, S.C., and S. P. Hubbell. 1998. "Rates of tree species extinction in tropical forest fragments are predicted by a non-equilibrium model of forest dynamics". Invited talk, Forest diversity and dynamism: results from large-scale demographic plots. Center for Tropical Forest Science Conference, Smithsonian Tropical Research Institute, Smithsonian Institution, Washington, DC, Jul. 30 - Aug. 1, 1998.
68. Thomas, S.C. 1998. "Fundamentals of plant competition: size hierarchies and the microevolutionary process". Invited workshop facilitator, "Influence of insects and pathogens on plant competition", Fribourg, Switzerland, 11-13 Feb. 1998.
69. Hinckley, T., Martin, T., Sprugel, D., and Thomas, S.C. 1997. "Canopy access techniques from the perspective of tree physiological studies". Invited talk for workshop on "Canopy access in temperate and tropical forests", Barro Colorado Island, Panama, Mar. 1997.
70. Thomas, S.C. and S.P. Hubbell. 1996. Interregional variation in tropical lowland forests: some insights from large scale forest plots. Invited talk, symposium on "Thinking globally and working globally: ecological insights from inter-regional comparative studies", Association for Tropical Biology Meeting, Providence, RI, 11-15 Aug. 1996.
71. Thomas, S.C. 1996. "Plant evolutionary and developmental responses to rising CO₂". Invited seminar talk, Colloquium on the Biology of Populations, Department of Ecology and Evolutionary Biology, Princeton University. Feb. 7, 1996.
72. Thomas, S.C. 1994. "Stand structure, genetic variability, and the potential for sieve selection in response to elevated CO₂". Invited symposium talk, Focus 1 workshop, Global Change and Terrestrial Ecosystems, International Biosphere-Geosphere Program, Basel, Switzerland, Aug. 14-19, 1994.
73. Thomas, S.C. 1993. "The interspecific allometry of leaf-level photosynthesis in tropical rain forest trees". Invited talk, symposium on "Plant allometry: ecological aspects of size, form and allocation in Plants", XV International Botanical Congress, Yokohama, Japan, Aug. 28-Sept. 3, 1993.

74. Thomas, S.C. and J. Weiner. 1989. "The role of competitive asymmetry in neighborhood models of plant interference". Invited talk, Symposium in spatial modelling, meeting of the International Society for Ecological Modelling, Toronto, Ontario, 6-10 Aug. 1989.