

BRIAN BECKAGE

Curriculum Vitae

CURRENT POSITION

Professor
Department of Plant Biology &
Department of Computer Science
University of Vermont
Burlington, VT 05405
802-656-0197 / email: Brian.Beckage@uvm.edu

SPECIALIZATIONS

Complex Systems; Computational Ecology; Statistical Ecology; Climate Change.

EDUCATION

Duke University, Department of Botany, Durham, NC: 1995-2000.

Ph.D., September 2000. Advisor: Dr. James S. Clark

Dissertation: Seedling recruitment in Southern Appalachian forests: Does spatial heterogeneity maintain species diversity?

Duke University, Institute of Statistics and Decision Sciences, Durham, NC: 1998-2000.

M.S., September 2000. Advisor: Dr. Michael Lavine

Thesis: A long-term study of red maple (*Acer rubrum* L.) seedling survival in Southern Appalachian forests: The effects of canopy gaps and shrub understories.

University of Central Florida, Department of Biology, Orlando, FL: 1992-1995.

M.S., August 1995. Advisor: Dr. I. Jack Stout

Thesis: The effects of repeated burning on the distribution and abundance of flowering plants in central Florida sandhills.

Cornell University, Department of Civil and Environmental Engineering, Ithaca, NY:

1985-1989. B.S., May 1989

Eau Gallie High School, Melbourne, FL. Graduated Salutatorian, 1985.

PROFESSIONAL EXPERIENCE

Fellow, Gund Institute for Environment, University of Vermont, Burlington, VT. Sep 2019-present.

Professor, University of Vermont, Department of Computer Science, Burlington, VT. Sep 2017-present. Secondary appointment.

Professor, University of Vermont, Department of Plant Biology, Burlington, VT. Sep 2014-present.

Associate Professor, University of Vermont, Department of Plant Biology, Burlington, VT. Sep 2009-2014.

Sabbatical Fellow, National Institute for Mathematical and Biological Synthesis, Knoxville, TN. Jan 2010 – Jul 2010.

Assistant Professor, University of Vermont, Department of Plant Biology, Burlington, VT. Sep 2003-Sep 2009.

Postdoctoral Research Associate, University of Tennessee, Department of Ecology and Evolutionary Biology, Knoxville, TN. Nov 2001-Dec 2003. Advisor: Dr. Louis Gross

Postdoctoral Research Associate, Louisiana State University, Department of Biological Sciences, Baton Rouge, LA. Jun 2000-Nov 2001. Advisor: Dr. William Platt

PUBLICATIONS (*indicates non peer reviewed report)

65. Cang Hui, David M. Richardson, Pietro Landi, Henintsoa O. Minoarivelo, Helen E. Roy, Guillaume Latombe, Xin Jing, Paul J. CaraDonna, Dominique Gravel, Brian **Beckage**, Jane Molofsky. Trait positions for elevated invasiveness in adaptive ecological networks. *NeoBiota*, in review, 2020.
64. Pugh, T. A. M., Rademacher, T. T., Shafer, S. L., Steinkamp, J., Barichivich, J., **Beckage**, B., Haverd, V., Harper, A., Heinke, J., Nishina, K., Rammig, A., Sato, H., Arneeth, A., Hantson, S., Hickler, T., Kautz, M., Quesada, B., Smith, B., and Thonicke, K.: Understanding the uncertainty in global forest carbon turnover, *Biogeosciences Discuss.*, <https://doi.org/10.5194/bg-2019-491>, in review, 2020.
63. Verrico, B.M., Weiland, J., Perkins, T.D., Beckage, B. and Keller, S.R., 2020. Long-term monitoring reveals forest tree community change driven by atmospheric sulphate pollution and contemporary climate change. *Diversity and Distributions*, 26(3), pp.270-283.
62. Huanping, H., J. M. Winter, E. C. Osterberg, J. Hanrahan, C. L. Bruyère, P. Clemins, and B. **Beckage**. 2020. Simulating precipitation and temperature in the Lake Champlain basin using a regional climate model: Limitations and uncertainties. *Climate Dynamics*. DOI 10.1007/s00382-019-04987-8
61. Clemins, P.J., Bucini, G., Winter, J.M., **Beckage**, B., Towler, E., Betts, A., Cummings, R. and Chang Queiroz, H., 2019. An Analog Approach for Weather Estimation Using Climate Projections and Reanalysis Data. *Journal of Applied Meteorology and Climatology*, 58(8), pp.1763-1777.
60. Fowler, N.L. and B. **Beckage**. 2019. Savannas of North America. Peer reviewed chapter in *Herbivores and savanna plant communities*, edited by P. Scogings. Wiley.
59. **Beckage**, B., G. Bucini, L.J. Gross, W.J. Platt, S.I. Higgins, N.L. Fowler, M.G. Slocum, and C. Farrior. 2019. Water limitations, fire, and savanna persistence: A conceptual

- model. Peer reviewed chapter in *Herbivores and savanna plant communities*, edited by P. Scogings. Wiley.
58. Divíšek, J., Chytrý, M., **Beckage**, B., Gotelli, N.J., Lososová, Z., Pyšek, P., Richardson, D.M. and Molofsky, J., 2018. Similarity of introduced plant species to native ones facilitates naturalization, but differences enhance invasion success. *Nature communications* 9(1): 4631.
57. **Beckage**, B., L. J. Gross, K. Lacasse, E. Carr, S. Metcalf, J. Winter, P. Howe, N. Fefferman, T. Franck, A. Zia, A. Kinzig, and F. Hoffman. 2018. Linking models of human behavior and climate alters projected climate change. *Nature Climate Change*. <https://doi.org/10.1038/s41558-017-0031-7>.
56. Bucini, G., B. **Beckage**, and L. J. Gross. 2017. Climate seasonality, fire and global patterns of tree cover. *Frontiers of Biogeography*, 9(2). DOI 10.21425/F59233610.
55. Collins, A.R., B. **Beckage**, and J. Molofsky. 2017. Small scale genotypic richness stabilizes plot biomass and increases phenotypic variance in the invasive grass *Phalaris arundinacea*. *Journal of Plant Ecology*. DOI 10.1093/jpe/rtx056.
54. Huanping, H., J. M. Winter, E. C. Osterberg, R. M. Horton, B. **Beckage**. 2017. Total and extreme precipitation changes over the northeastern United States. *J. Hydrometeor.*, 18, 1783–1798. <https://doi.org/10.1175/JHM-D-16-0195.1>
53. Bucini, G., B. **Beckage**, and L. J. Gross. 2017. Climate seasonality, fire and global patterns of tree cover. *Frontiers of Biogeography*, 9(2). DOI 10.21425/F59233610.
52. Zia, A., A. Bomblies, A. W. Schroth, C. Koliba, P. D. F. Isles, Y. Tsai, I. N. Mohammed, G. Bucini, P. J. Clemins, S. Turnbull, M. Rodgers, A. Hamed, B. **Beckage**, J. Winter, C. Adair, G. L. Galford, D. Rizzo and J. Van Houten. 2016. Coupled impacts of climate and land use change across a river–lake continuum: insights from an integrated assessment model of Lake Champlain's Missisquoi Basin, 2000–2040. *Environmental Research Letters*: 11(11): <http://dx.doi.org/10.1088/1748-9326/11/11/114026>
51. Platt, W. J., D. P. Ellair, J. M. Huffman, S. E. Potts, and B. **Beckage**. 2016. Pyrogenic fuels produced by savanna trees can engineer humid savannas. *Ecological Monographs* 86(3): 352-372.
50. Winter, J. M., B. **Beckage**, G. Bucini, R. M. Horton, and P. J. Clemins. 2016. Development and evaluation of high-resolution climate simulations over the mountainous northeastern United States. *Journal of Hydrometeorology* 17(3): 881-89
49. Tsai, Y., A. Zia, C. Koliba, J. Guilbert, G. Bucini, B. **Beckage**. 2015. *Land Use Policy* 49: 161-176. An Interactive land use transition agent-based model (ILUTABM): Endogenizing human-environment interactions at watershed scales.
48. Palacio-Lopez, K., B. **Beckage**, S. Scheiner and J. Molofsky. 2015. The ubiquity of phenotypic plasticity in plants: a synthesis. *Ecology and Evolution*. DOI: 10.1002/ece3.1603.
47. Guilbert, J., A. K. Betts, D. M. Rizzo, B. **Beckage**, and A. Bomblies. 2015. Characterization of increased persistence and intensity of precipitation in the

- Northeastern United States. *Geophysical Research Letters*.
DOI: 10.1002/2015GL063124.
46. Betts, A.K., R. Desjardins, D. Worth and B. **Beckage**. 2014. Climate coupling between temperature, humidity, precipitation and cloud cover over the Canadian Prairies. *J. Geophys. Res. Atmos.*, 119, doi:10.1002/2014JD022511.
 45. A. Zia, S. Kauffman, C. Koliba, B. **Beckage**, G. Vattay, and A. Bomblies. 2014. From the habit of control to institutional enablement: Re-envisioning governance of social ecological systems from the perspective of complexity sciences. *Complexity, Governance & Networks* DOI: 10.7564/14-CGN4.
 44. Guilbert, J., B. **Beckage**, J. M. Winter, R. M. Horton, T. Perkins, and A. Bomblies. 2014. Impacts of projected climate change over the Lake Champlain Basin in Vermont. *Journal of Applied Meteorology and Climatology* 53: 1861-1875.
 43. Tang, G., B. **Beckage**, and B. Smith. 2014. Potential future dynamics of carbon fluxes and pools in New England forests and their climatic sensitivities: a model-based study. *Global Biogeochemical Cycles* 28(3): 286-299.
 42. Tsai, Y., Zia, A., Koliba, C., Bucini, G., Guibert, J., and **Beckage**, B. 2013. Impacts of Land Managers' Decisions on Landuse Transition within Missisquoi Watershed Vermont: An Application of Agent-based Modeling System. *IEEE International Systems Conference*, Orlando, Florida. Peer-reviewed conference paper.
 41. **Beckage**, B., S. Kauffman, A. Zia, C. Koliba and L. Gross. 2013. More complex complexity: Exploring the nature of computational irreducibility across physical, biological, and human social systems. Peer reviewed book chapter in *Irreducibility and Computational Equivalence: 10 Years After the Publication of Wolfram's A New Kind of Science*. Springer Verlag.
 40. Gross, L. and B. **Beckage**. 2012. Toward a metabolic scaling theory of crop systems. *PNAS* 109 (39): 15535-15536.
 39. Eppinga, M. B., Pucko, C. A., Baudena, M., **Beckage**, B., & Molofsky, J. 2012. A new method to infer vegetation boundary movement from 'snapshot' data. *Ecography*. 35: 001-014.
 38. **Beckage**, B., L. Gross, W. Platt, W. Godsoe, and D. Simberloff. 2012. Individual variation and weak neutrality as determinants of species diversity. *Frontiers of Biogeography* 3(4): 145-155.
 37. Tang, G., B. **Beckage**, and B. Smith. 2012. The potential transient dynamics of forests in New England under historical and projected future climate change. *Climatic Change* DOI 10.1007/s10584-012-0404-x.
 36. **Beckage**, B., L. Gross, and S. Kauffman. 2011. The limits to prediction in ecological systems. *Ecosphere* 2(11):125. doi:10.1890/ES11-00211.1.
 35. Pucko, C., B. **Beckage**, T. Perkins, and W. Keeton. 2011. Species shifts in response to climate change: Individual or shared responses? *Journal of the Torrey Botanical Society* 138(2): 156-176.

34. **Beckage**, B., L. Gross, and W. Platt. 2011. Grass feedbacks on fire stabilize savannas. *Ecological Modelling* 222: 2227-2233.
33. Tang, G., B. **Beckage**, B. Smith, and P. Miller. 2010. Estimating potential forest NPP, biomass and their climatic sensitivity in New England using a dynamic ecosystem model. *Ecosphere* 1(6): 1-20 (Article 18).
32. Slocum, M.G., W.J. Platt, B. **Beckage**, S.L. Orzell, and W. Taylor. 2010. Accurate quantification of seasonal rainfall and associated climate-wildfire relationships. *Journal of Applied Meteorology and Climatology* 49: 2559-2573.
31. Slocum, M., B. **Beckage**, W. Platt, S. Orzell, and W. Taylor. 2010. Effect of climate on wildfire size: A cross-scale analysis. *Ecosystems* 13: 828-840.
30. Tang, G., and B. **Beckage**. 2010. Projecting the distribution of forests in New England in response to climate change. *Diversity and Distributions* 16: 144-158.
29. Stevens, J., and B. **Beckage**. 2010. Fire effects on demography of the invasive shrub Brazilian pepper (*Schinus terebinthifolius*) in Florida pine savannas. *Natural Areas Journal* 30: 53-63.
28. **Beckage**, B., W. Platt, and L. Gross. 2009. Vegetation, fire and feedbacks: A disturbance-mediated model of savannas. *The American Naturalist* 174(6): 805-818.
27. Stevens, J., and B. **Beckage**. 2009. Fire feedbacks facilitate invasion of pine savannas by Brazilian pepper (*Schinus terebinthifolius*). *New Phytologist* 184: 365-375.
26. **Beckage**, B., and C. Ellingwood. 2008. Fire feedbacks with vegetation and alternative stable states. *Complex Systems* 18: 159-173.
25. Gavin, D. G., B. **Beckage**, and B. Osborne. 2008. Forest dynamics and the growth decline of red spruce and sugar maple on Bolton Mountain, Vermont: A comparison of modeling methods. *Canadian Journal of Forest Research* 38(10): 2635-2649.
24. **Beckage**, B., B. D. Kloeppel, J. A. Yeakley, S. F. Taylor, and D. C. Coleman. 2008. Differential effects of understory and overstory gaps on tree regeneration. *Journal of the Torrey Botanical Society* 135(1): 1-11.
23. **Beckage**, B., B. Osborne, C. Pucko, D. G. Gavin, T. Siccama, and T. Perkins. 2008. An upward shift of a forest ecotone during 40 years of warming in the Green Mountains of Vermont, USA. *Proceedings of the National Academy of Sciences* 105(11): 4197-4202.
22. **Beckage**, B., L. Joseph, P. Belisle, D. Wolfson, and B. Platt. 2007. Bayesian change-point analyses in ecology. *New Phytologist* 174: 456-467.
21. Slocum, M. G., W. J. Platt, B. **Beckage**, R. Panko, and J. B. Lushine. 2007. Decoupling natural and anthropogenic fire regimes: A case study in Everglades National Park. *Natural Areas Journal* 27: 41-55
20. *Battaglia, L. L., and B. **Beckage**. Large-Scale Disturbances and Ecological Communities in the Southeast US. White Paper, Department of Defense, Southeast Region Threatened, Endangered, and At-Risk Species (TER-S) Workshop, March 2007.

19. Platt, W. J., J. M. Huffman, M. G. Slocum and B. **Beckage**. 2006. Fire Regimes and Trees in Florida Dry Prairie Landscapes. Land of Fire and Water: The Florida Dry Prairie Ecosystem. Proceedings of the Florida Dry Prairie Conference. Reed F. Noss, Editor.
18. **Beckage**, B., and L. J. Gross. 2006. Overyielding and species diversity: What should we expect? *New Phytologist* 172: 140-148.
17. **Beckage**, B., L. J. Gross, and W. J. Platt. 2006. Modelling responses of pine savannas to climate change and large-scale disturbance. *Applied Vegetation Science* 9: 75-82.
16. **Beckage**, B., M. Lavine, and J. S. Clark. 2005. Survival of tree seedlings across space and time: estimates from long-term count data. *Journal of Ecology* 93: 1177-1184.
15. **Beckage**, B., W. J. Platt, and B. Panko. 2005. A climate-based approach to the restoration of fire dependent ecosystems. *Restoration Ecology* 13: 429-431.
14. **Beckage**, B., and J. S. Clark. 2005. Does predation contribute to tree diversity? *Oecologia* 143: 458-469.
13. **Beckage**, B., J. Comiskey, and S. Duke-Sylvester. 2005. Natural fire regimes in southern Florida. *Natural Areas Journal* 25: 6-8.
12. Rock, J. H., **B. Beckage**, and L. J. Gross. 2004. Population Recovery following Differential Harvesting of *Allium tricoccum* Ait. in the Southern Appalachians. *Biological Conservation* 16: 227-234.
11. **Beckage**, B., W. J. Platt, M. G. Slocum, and B. Panko. 2003. Influence of the El Niño-Southern Oscillation on fire regimes in the Florida Everglades. *Ecology* 84: 3124-3130.
10. **Beckage**, B. and J. S. Clark. 2003. Seedling survival and growth of three southern Appalachian forest tree species: the role of spatial heterogeneity. *Ecology* 84: 1849-1861.
9. **Beckage**, B., and W. J. Platt. 2003. Predicting severe wildfire years in the Florida Everglades. *Frontiers in Ecology and the Environment* 1: 235-239.
8. HilleRisLambers, J., J. S. Clark, and B. **Beckage**. 2002. Density-dependent mortality and the latitudinal gradient in species diversity. *Nature* 417: 732-735.
7. Platt, W., B. **Beckage**, B. Doren, and H. Slater. 2002. Interactions of large-scale disturbances: prior fire regimes and hurricane-induced mortality of savanna pines. *Ecology* 83(6): 1566-1572.
6. Lavine, M., B. **Beckage**, and J. S. Clark. 2002. Statistical modeling of seedling mortality. *Journal of Agricultural, Biological, and Environmental Statistics* 7: 21-41.
5. Clark, J. S., B. **Beckage**, J. HilleRisLambers, I. Ibanez, S. LaDeau, J. MacLachlan, J. Mohan, and M. Rocca. 2001. The role of dispersal in plant migration. In *Encyclopedia of Global Environmental Change, Vol. 3*. H. A. Mooney and J. Canadell, editors.
4. **Beckage**, B., J. S. Clark, B. Clinton, and B. Haines. 2000. A long-term study of tree seedling recruitment in Southern Appalachian forests: the effects of canopy gaps and shrub understories. *Canadian Journal of Forest Research* 30: 1617-1631.

3. **Beckage**, B. and I. J. Stout. 2000. The effects of repeated burning on species richness in Florida sandhills: A test of the intermediate disturbance hypothesis. *Journal of Vegetation Science* 11: 113-122.
2. Clark, J. S., B. **Beckage**, P. Camill, B. Cleveland, J. HilleRisLambers, J. Lichter, J. MacLachlan, J. Mohan, and P. Wyckoff. 1999. Interpreting recruitment limitation in forests. *American Journal of Botany* 86: 1-16.
1. ***Beckage**, B. and W. S. Gain. 1995. Littoral vegetation. *in* "Water budgets, water quality, and analysis of nutrient loading of the winter park chain of lakes, Central Florida 1989-1992". G. G. Phelps and E. R. German. USGS Water Resources Investigations report 95-4108. Tallahassee, FL. 96pp.

GRANTS AND FELLOWSHIPS (Awarded)

- Beckage**, B. (PI), and K. Lacasse. Working group and postdoctoral associate supported by SESYNC synthesis center. Funds held by synthesis centers: \$300,000. Sep 2019-Sep 2020.
- Beckage**, B. (Climate team co-leader). NSF EPSCoR grant: Basin resilience to extreme events (BREE). \$20,000,000. 2016-2021.
- Beckage**, B. (Climate team co-leader). NSF EPSCoR grant: Basin Resilience to Extreme Events. \$20,000,000. 2016-2021.
- Beckage**, B. (Climate team co-leader). NSF EPSCoR grant: Adaptation to Climate Change in the Champlain Basin: New understanding through complex systems. \$20,000,000. 2011-2016.
- Beckage**, B. (PI), L. Gross, and A. Zia. Working group jointly supported by SESYNC and NIMBioS synthesis centers. Funds held by synthesis centers: \$150,000. June 2013-Jan 2017.
- Beckage**, B. (PI). NSF (Award 0950347). \$355,000. Linking models to data to investigate patterns and process in savannas. May 2010-Aug 2015.
- Beckage**, B. National Institute for Mathematical and Biological Synthesis. \$26,900. Using models to investigate patterns, process, and climate change in savannas. Sabbatical fellowship. Jan 2010 to Jul 2010.
- Beckage**, B. (PI). DOE NICCR. \$310,048. Using historical change to predict future distribution of high elevation forests in northern New England. Apr 2008 to Apr 2011.
- Beckage**, B. (PI). Vermont EPSCoR. \$49,894. Investigating the dynamics of savanna communities through computer simulation. Jan 2008 to Jul 2009.
- Beckage**, B. (PD). USDA Hatch. \$60,000. Historical change and functional control of montane forest distribution in northern New England. Oct 2007 to Oct 2010.
- Beckage**, B. (PI). NSF (DEB 0606801). \$50,000. Linking Landscape models of fire, vegetation, and global climate change in the Florida Everglades. Apr 2006 to Apr 2008.

Platt, W. J., M. Slocum, and B. **Beckage**. (Co-PI). DOD. \$552,247 (\$47,380 to **Beckage**). Landscape fire models for the Avon Park Air Force Range. Sep 2004 to Sep 2009.

Beckage, B. (PD). USDA NRI (05-02250). \$100,000. Brazilian pepper, fire and the invasibility of pinelands: exploring nonlinear effects through simulation. Oct 2005 to Oct 2009.

Beckage, B. USDA Hatch. (PD). \$60,000. Impact of global climate change on forests in the Green Mountains of Vermont. Oct 2004 to Oct 2007.

Beckage, B. (PI). \$100,000. Modeling the effects of hurricane and fire disturbances on the population dynamics of south Florida slash pine. NSF Postdoctoral Research Fellowship in Biological Informatics (DBI 0107553). Jan 2002 to Jan 2004.

Beckage, B. (PI) and W. J. Platt. \$150,000. The effects of hurricane-fire interactions on the population dynamics of South Florida Slash Pine. National Park Foundation and Andrew W. Mellon Foundation Research Grant. Jan 2001-Jan 2004.

PROGRAMMING LANGUAGES

R statistical programming language. (Proficient)

Wolfram language (Mathematica). (Proficient)

Python. (Proficient)

NetLogo (Proficient)

Stella (Proficient)

TEACHING

BCOR 102, Ecology and evolution, University of Vermont.

HCOL 185, Complexity, climate change, and human systems, University of Vermont.

PBIO 275, Climate change ecology, University of Vermont.

PBIO 294, Ecological modeling, University of Vermont.

PBIO 295, Data modeling in the environmental sciences, University of Vermont.

WORKSHOPS, SYMPOSIA, PROFESSIONAL SERVICE, AND SYNTHETIC ACTIVITIES

Symposium co-organizer and presenter, Theory in Ecology: Adding Humans to the Equations, Ecological Society of American, Louisville, KY, August 2019.

Workshop co-organizer and presenter, Ecology and the Data Science Bandwagon: Broadening Undergraduate Quantitative Education, Ecological Society of American, Louisville, KY, August 2019.

Participant, August 2019, 30 years of complexity, Santa Fe Institute, August 2019

- Participant, System Dynamics Society, Iceland, August 2018.
- Workshop leader, Current Issues in Statistical Ecology, NIMBioS, University of Tennessee, 15-17 May 2015.
- Short-term visitor, National Institute for Mathematical and Biological Synthesis. University of Tennessee. July 2014, November 2013, August 2013, August 2012. Collaborated with scientific staff on modeling projects.
- Participant. Python programming for scientists and engineers. Enthought, Austin, TX. September, 2013.
- Participant. Complex networks. Sante Fe Institute. September, 2013.
- Participant. Quantitative evaluation of downscaled data. National Center for Atmospheric Research, Boulder, CO. August, 2013.
- Participant. Workshop on Weather Research and Forecasting model. National Center for Atmospheric Research, Boulder, CO. July 2013.
- Organizer. Working group meeting, Annapolis, MD, SESYNC. June 2013.
- Participant. Advanced programming in R. Brigham Young University, Summer Institute of Applied Statistics. June 2013.
- Speaker and organizer. Introduction to Bayesian Data Analysis. The International Biogeography Society Annual Meeting. Miami, 2013.
- Participant. PALEON meeting, University of California, Berkeley. December 2012.
- Short-term visitor, National Institute for Mathematical and Biological Synthesis. University of Tennessee. July, 2012.
- Panelist, NSF Population and Community Ecology, Spring 2011.
- Speaker and symposium organizer: Theory and dynamics of savanna systems. ESA, August 2011.
- Speaker in symposium: Static and dynamic approaches to modelling diversity and complexity. ISEM, October 2009.
- Handling Editor, *Oecologia*, 2008-2010.
- Panelist, NSF DDIG, Spring 2007.
- Speaker and symposium organizer: Forecasting future ecosystem states in a time of global change: from models to management. ESA, August 2008.
- Speaker in symposium: Design and analysis of multi-factor experiments. ESA, August 2006
- Speaker in workshop: Application of paleoecological information to restoration and management of the Everglades ecosystem. Greater Everglades Ecosystem Restoration Conference, June 2006.
- Speaker in workshop on uncertainty in ecology, Mathematical Biosciences Institute, Ohio State University, April 2006
- Participant in workshop on spatial ecology, University of Miami, January 2005
- Secretary, Statistical Section of ESA, 2004-2006;
- Speaker in symposium: Pine savannas and the role of disturbance in a time of global change. ESA, August 2003
- Participant in working group: A new synthesis of demography and dispersal, National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara. Fall 2001 and Spring 2002.