

## *Curriculum Vitae*

February, 12

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### **DANIEL G. BROWN**

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#### **Education**

Ph.D., Geography, University of North Carolina at Chapel Hill, 1992  
M.A., Geography, University of North Carolina at Chapel Hill, 1989  
B.A., *Summa cum Laude*, Geoenvironmental Studies, Shippensburg University, PA, 1987

#### **Positions Held**

Professor, School of Natural Resources and Environment (SNRE), University of Michigan, 2006 - present  
Research Professor, Survey Research Center, Institute for Social Research, Univ. of Michigan, 2010-present  
Director, Certificate of Graduate Studies in Spatial Analysis, University of Michigan, 2000 - present  
Director, Environmental Spatial Analysis Laboratory, SNRE, University of Michigan, 2000 - present  
Associate Dean for Research, SNRE, University of Michigan, 2006 - 2009.  
Faculty Associate/Affiliate, Center for the Study of Complex Systems, Population Studies Center, Graham Environmental Sustainability Institute, Program in the Environment, Center for Sustainable Systems, Center for Russian and Eastern European Studies, University of Michigan  
Associate Professor, SNRE, University of Michigan, 1999 - 2006  
Associate Professor, Department of Geography, Michigan State University, 1998 - 1999  
Assistant Professor, Department of Geography, Michigan State University, 1992 - 1998

#### **Professional Memberships**

American Association for the Advancement of Science (AAAS)  
Association of American Geographers (AAG)  
Specialty Groups: Remote Sensing, GIS, Spatial Analysis and Modeling, and Biogeography  
American Society for Photogrammetry and Remote Sensing (ASPRS)  
International Association for Landscape Ecology (IALE)

#### **Honors/Awards**

Guest Professor, International School of Software, Wuhan University, 2010-present  
Elected Fellow, American Association for the Advancement of Science (2009)  
Laureate Computerworld Honors Program (2001)  
Xi Sigma Pi, Forestry honorary society (2001)  
ASPRS ESRI Award for Best Scientific Paper in GIS, Third Prize (1995)  
ASPRS ERDAS Award Best Scientific Paper in Remote Sensing, Third Prize (1995)  
NASA Graduate Student Fellowship in Global Change Research (1991-92)  
Gamma Theta Upsilon, Geography honorary society (1986)

**H-index:** 19 (ISI); 25 (Google)

#### **Research Interests**

Research interests focus on land use change and its effects on ecosystems and on human vulnerability. This work connects a computer-based simulation (e.g., agent-based modeling) of land-use-change processes with GIS and remote sensing based data on historical patterns of landscape change and social surveys. We are also working to understand the ways in which land-use decisions are made and to evaluate consequences of change.

## RESEARCH AND SCHOLARLY ACTIVITIES

### Edited Volumes

1. In Press. Johnston, K.M., Brown, D.G., Collier, N., Ekbia, H., Groff, E., North, M., Li, N., Ligmann-Zielinska, A. *Agent-Based Modeling in ArcGIS*, ESRI Press.
2. 2008. Bierbaum, R., Brown, D.G., and McAlpine, J. (eds.) *Proceedings, Coping with Climate Change: National Summit*. Ann Arbor, MI: The Regents of the University of Michigan.

### Edited Special Issues

1. 2008. Walsh, S.J., Messina, J.P., and Brown, D.G. (eds.) Mapping & Modeling Land-Use/Land-Cover Dynamics in Frontier Settings. Special Issue. *Photogrammetric Engineering and Remote Sensing*, 74(6): 677-679.
2. 2007. Xie, Y. and Brown, D.G. (eds.) Simulation for Spatial Analysis and Application. Special Issue. *Computers, Environment and Urban Systems*, 31(3): 229-231.
3. 2006. Brown D.G. and Xie, Y. (eds.) Spatial Agent-Based Modeling. Special Issue. *International Journal of Geographical Information Science*, 20(9): 941-944.
4. 2005. Hansen, A.J. and Brown, D.G. (eds.) Land-Use Change in Rural America: Rates, Drivers, and Consequences. Invited Feature. *Ecological Applications*, 15(6): 1849-1850.
5. 2001. Brown, D.G. (ed.) Remote Sensing and Spatial Analysis Applications. Special Issue. *Plant Ecology*, 156(1).
6. 1997. Brown, D.G. and Quattrochi, D.A. (eds.). Geographical Applications of Satellite Remote Sensing. Special Issue. *Geocarto International*, 12(1).

### Refereed Book Chapters

#### (Advisees)

1. Accepted. Brown, D.G. and Duh, J.-D. "GIS for Map Analysis and Spatial Modeling." In *History of Cartography, Volume 6: Cartography in the Twentieth Century*, edited by M. Monmonier (Chicago: University of Chicago).
2. 2011. Parker, D.C., Brown, D.G., Filatova, T., Riolo, R., Robinson, D.T., and Sun, S. Do land markets matter? A modelling ontology and experimental design to test the effects of land markets for an agent-based model of ex-urban residential land-use change. In A. Heppenstall, A. Crooks, L. Lee and M. Batty, editors. *Spatial Agent-based Models: Principles, Concepts and Applications*, pp. 525-542.
3. 2009. Malanson, G.P., Brown, D.G., Butler, D.R., Cairns, D.M., Fagre, D.B., and Walsh, S.J. Ecotone dynamics: Invasibility of alpine tundra by tree species from the subalpine forest. In Butler, D.R., G.P. Malanson, S.J. Walsh, D.B. Fagre, editors. *The Changing Alpine Treeline of Glacier National Park, Montana, USA*. The Netherlands: Elsevier, pp. 35-62.
4. 2009. Walsh, S.J., Brown, D.G., Geddes, C.A., Weiss, D.J., Hammer, E.S., Tuttle, J.P. Pattern-process relations in the alpine and sub-alpine environments, Glacier National Park, Montana, USA: A remote sensing and GIScience perspective. In Butler, D.R., G.P. Malanson, S.J. Walsh, D.B. Fagre, editors. *The Changing Alpine Treeline of Glacier National Park, Montana, USA*. The Netherlands: Elsevier, pp. 11-34.
5. 2009. Welsh, W., Brown, D.G., and Messina, J.P. Land Use and Land Cover. In Schaeztl, R.J., Darden, J.T., and D. Brandt, editors. *Michigan Geography and Geology*. Boston, MA: Pearson Custom Publishers, pp. 446-458.
6. 2008. Parker, D.C. Brown, D.G., Polhill, J.G., Deadman, P.J. , and Manson, S.M. Illustrating a new "conceptual design pattern" for agent-based models of land use via five case studies – the MR POTATOHEAD framework. In A.L. Paredes and C.H. Iglesias, eds. *Agent-Based Modelling in Natural Resource Management*. Valladolid, Spain: Universidad de Valladolid, pp. 23-51.
7. 2008. Walsh, S.J., Malanson, G.P., Messina, J.P., Brown, D.G., and Mena, C.F. Biocomplexity. In: Blumler, M., Millington, A., Schickoff, U., and MacDonald, G., Eds. *Handbook of Biogeography*, Sage.

8. 2005. Duh, J.-D., and Brown, D.G. Generating prescribed patterns in landscape models. In D. Maguire, M. Goodchild, and M. Batty, Eds. *GIS, Spatial Analysis, and Modeling*. Redlands, CA: ESRI Press, pp. 423-444.
9. 2004. Lam, N., Catts, D., Quattrochi, D., Brown, D., and McMaster, R. Chapter 4: Scale. In R.B. McMaster and E.L. Usery, Eds. *A Research Agenda for Geographic Information Science*. Boca Raton, FL: CRC Press, pp. 93-128.
10. 2004. Brown, D.G., Walker, R., Manson, S., Seto, K. Chapter 23: Modeling land use and land cover change. In G. Gutman, A.C. Janetos, C.O. Justice, E.F. Moran, J.F. Mustard, R.R. Rindfuss, D.L. Skole, B.L. Turner, and M.A. Cochrane, Eds. *Land Change Science: Observing, Monitoring and Understanding Trajectories of Change on the Earth's Surface*. New York: Springer, pp. 395-409.
11. 2004. Brown, D.G., Addink, E.A., Duh, J.D., and Bowersox, M.A. Assessing uncertainty in spatial landscape metrics derived from remote sensing data. In R. Lunetta, J.G. Lyon, Eds. *Remote Sensing and GIS Accuracy Assessment*, Boca Raton, FL: CRC Press, pp. 221-232.
12. 2004. Brown, D.G., Elmes, G., Kemp, K.K., Macey, S., and Mark, D. Geographic information systems. In G. Gaile and C.J. Wilmott, Eds., *Geography in America at the Dawn of the 21<sup>st</sup> Century*, New York: Oxford University Press, pp. 353-375.
13. 2002. Drzyzga, S.A. and Brown, D.G. Spatial and temporal dynamics of ownership parcels and forest cover in three counties of Northern Lower Michigan USA, ca. 1970 to 1990. In S.J. Walsh and K.A. Crews-Meyer, Eds., *Linking People, Place, and Policy: A GIScience Approach*, Dordrecht: Kluwer, p. 155-185.
14. 2001. Brown, D.G. Chapter 27: Characterizing the human imprint on landscapes for ecological assessment. In M. Jensen, and P. Bourgeron, Eds. *A Guidebook for Integrated Ecological Assessments*. New York: Springer, p. 404-415.
15. 2000. Brown, D.G. A spectral unmixing approach to leaf area index (LAI) estimation at the alpine treeline ecotone. In A.C. Millington, S.J. Walsh and P.E. Osborne, Eds., *GIS and Remote Sensing Applications in Biogeography and Ecology*, Dordrecht: Kluwer, p. 7-21.
16. 2000. Fried, J.S., Brown, D.G., Zweifler, M.O., and Gold, M.A. Mapping contributing areas for stormwater discharge to streams using terrain analysis. In J.P. Wilson and J. Gallant, Eds. *Terrain Analysis: Principles and Applications*. New York: John Wiley and Sons, pp. 183-203.
17. 2000. Brown, D.G., Jacquez, G.M., Duh, J.-D., Maruca, S. Accuracy of remotely sensed estimates of landscape change using patch- and edge-based pattern statistics. In M.J.P.M. Lemmens, G. Heuvelink et al., Eds., *Spatial Accuracy 2000*, Delft University Press, Amsterdam: 75-82.
18. 1999. Duh, J.-D. and Brown, D.G. Local reduction of systematic error in 7-1/2 minute DEMs by detecting anisotropy in derivative surfaces. In K. Lowell and A. Jaton, Eds. *Spatial Accuracy Assessment: Land Information Uncertainty in Natural Resources*. Chelsea, MI: Ann Arbor Press, pp. 281-292.
19. 1997. Walsh, S.J., Moody, A., Allen, T.R., and Brown, D.G. Scale dependence of NDVI and its relationship to mountainous terrain. In D.A. Quattrochi and M.F. Goodchild, Eds. *Scaling in Remote Sensing and GIS*. Boca Raton, FL: CRC/Lewis Publishers Inc., p. 27-55.
20. 1996. Brown, D.G. Spatial statistics and GIS applied to internal migration in Rwanda, Central Africa. In D.A. Griffith and S.L. Arlinghaus, Eds. *Practical Handbook of Spatial Statistics*. Boca Raton, FL: CRC Press, Inc., p. 149-173.
21. 1994. Walsh, S.J., Butler, D.R., Brown, D.G., and Bian, L. Form and pattern in the alpine environment: an integrated approach to spatial analysis and modelling in Glacier National Park, USA. In M. Price and I. Heywood, Eds., *Mountain Environments and Geographic Information Systems*. London: Taylor and Francis, p. 189-216.
22. 1994. Brown, D.G., Cairns, D.M., Malanson, G.P., Walsh, S.J., Butler, D.R. Remote sensing and GIS techniques for spatial and biophysical analyses of alpine treeline through process and empirical models. In W.K. Michener, J. Brunt, and S.

Stafford, Eds., *Environmental Information Management and Analysis: Ecosystem to Global Scales*. London: Taylor and Francis, p. 453-481.

### Refereed Journal Articles

1. In Press. Hunter, M.C. and Brown, D.G. Spatial contagion: Gardening along the street in residential neighborhoods. *Landscape and Urban Planning*. 10.1016/j.landurbplan.2012.01.013
2. In Press. Wang, Z., Nassauer, J.I., Marans, R., and Brown, D.G. Different types of open spaces and their importance to exurban homeowners. *Society and Natural Resources*. doi:10.1080/08941920.2011.571231
3. 2012. Yang, Y., Diez-Roux, A.V., Auchincloss, A.H., Rodriguez, D.A., and Brown, D.G. Exploring walking differences by socioeconomic status using a spatial agent-based model. *Health and Place*, 18: 96-99. doi:10.1016/j.healthplace.2011.08.010
4. 2012. Bell, A.R., Riolo, R.L., Doremus, J., Brown, D.G., Lyon, T.P., Vandermeer, J., and Agrawal, A. Fragmenting forests: The double edge of effective forest monitoring. *Environmental Science and Policy*, 16:20-30. doi:10.1016/j.envsci.2011.11.005
5. 2012. Cheong, S., Brown, D.G., Lopez-Carr, D., and Kok, K. Mixed methods in land-change research: Towards integration. *Transactions of the Institute of British Geographers*, 37(1):8-12. doi: 10.1111/j.1475-5661.2011.00482.x
6. 2011. Zhang, K., Oswald, E.M., Brown, D.G., Brines, S.J., Gronlund, C.J., White-Newsome, J.L., Rood, R.B., and O'Neill, M.S. Geostatistical exploration of spatial variation of summertime temperatures in the Detroit metropolitan region. *Environmental Research*, 111(8): 1046-1053. doi:10.1016/j.envres.2011.08.012
7. 2011. Bush, K.F., Luber, G., Rani Kotha, S., Dhaliwal, R.S., Kapil, V., Pascual, M., Brown, D.G., Frumkin, H., Dhiman, R.S., Hess, J., Wilson, M.L., Balakrishnan, K., Eisenberg, J., Kaur, T., Rood, R., Batterman, S., Joseph, A., Gronlund, C.J., Agrawal, A., and Hu, H. Impacts of climate change on public health in India: Future Research Directions. *Environmental Health Perspectives*, 119(6): 765-770. doi:10.1289/ehp.1003000
8. 2011. Smajgl, A., Brown, D.G., Valbuena, D., and Huigen, M.G.A. Empirical characterisation of agent behaviours in socio-ecological systems. *Environmental Modelling and Software*, 26(7):837-844. doi:10.1016/j.envsoft.2011.02.011
9. 2011. An, L., Brown, D.G., Nassauer, J.I., and Low, B. Variations in development of exurban residential landscapes: Timing, location, and driving forces. *Journal of Land Use Science*, 6(1): 13-32. doi: 10.1080/1747423X.2010.500686
10. 2011. Yang, Y., Diez-Roux, A.V., Auchincloss, A.H., Rodriguez, D.A., and Brown, D.G. A spatial agent-based model for the simulation of adults' daily walking within a city. *American Journal of Preventive Medicine*, 40(3): 353-361. doi:10.1016/j.amepre.2010.11.017
11. 2011. Auchincloss, A.H., Riolo, R.L., Brown, D.G., Cook, J., and Diez-Roux, A.V. An agent-based model of income inequalities in diet in the context of residential segregation. *American Journal of Preventive Medicine*, 40(3): 303-311. doi: 10.1016/j.amepre.2010.10.033
12. 2010. Carter, N.H., Brown, D.G., Etter, D.R., Visser, L.G. Predicting black bear habitat suitability in Northern Lower Peninsula, Michigan, USA. *Ursus*, 21(1): 57-71. doi:10.2192/09GR011
13. 2010. Zellner, M.L., Riolo, R.L., Rand, W., Brown, D.G., Page, S.E., and Fernandez, L.E. The problem with zoning: Nonlinear effects of interactions between location preferences and externalities on land use and utility. *Environment and Planning B*, 37: 408-428. doi:10.1068/b35053
14. 2010. Smiley, M.J., Diez Roux, A.V., Brines, S.J., Brown, D.G., Evenson, K.R., and Rodriguez, D.A. A spatial analysis of health-related resources of three diverse metropolitan areas. *Health and Place*, 16: 885-892. doi:10.1016/j.healthplace.2010.04.014

15. 2010. [Burnicki, A.C.](#), Brown, D.G., and Goovaerts, P. Propagating error in land-cover-change analyses: impact of temporal dependence under increased thematic complexity. *International Journal of Geographical Information Sciences*, 24(7): 1043-1060. doi:10.1080/13658810903279008
16. 2010. Churkina, G., Brown, D.G., and Keoleian, G. Carbon stored in human settlements: Conterminous US. *Global Change Biology*, 16: 135-143 doi:10.1111/j.1365-2486.2009.02002.x
17. 2010. O'Neill, M.S., Jackman, D.K., Wyman, M., Manarolla, X., Gronlund, C., Brown, D.G., Brines, S.J., Schwartz, J., Diez Roux, A.V. U.S. local action on heat and health: Are we prepared for climate change? *International Journal of Public Health*, 55(2): 105-112. doi:10.1007/s00038-009-0071-5
18. 2009. [Robinson, D.T.](#), Brown, D.G., Currie, W. Modelling carbon storage in highly fragmented and human-dominated landscapes: Linking land-cover patterns and ecosystem models. *Ecological Modelling*, 220(9-10): 1325-1338. doi:10.1016/j.ecolmodel.2009.02.020
19. 2009. White-Newsome, J., O'Neill, M., Gronlund, C., Sunbury, T., Brines, S.J., Parker, E., Brown, D.G., Rood, R.B., Rivera, Z. Climate change, heatwaves and environmental justice: Advancing knowledge and action. *Environmental Justice*, 2(4): 197-205.
20. 2009. Reid, C.E., O'Neill, M.S., Gronlund, C., Brines, S.J., Brown, D.G., Diez-Roux, A.V., and Schwartz, J. Mapping community determinants of heat vulnerability. *Environmental Health Perspectives*, 117(11): 1730-1736. doi:10.1289/ehp.0900683
21. 2009. Braden, J.B., Brown, D.G., Dozier, J., Gober, P., Hughes, S.M., Maidment, D.R., Schneider, S.L., Schultz, P.W., Shortle, J.S., Swallow, S.K., and Werner, C.M. Social science in a water observing system. *Water Resources Research*, 45: W11301. doi:10.1029/2009WR008216
22. 2009. [Zhao, T.](#), Bergen, K.M., Brown, D.G., Shugart, H.H., Kharuk, V. Scale dependence in quantification of land-cover and biomass change over Siberian boreal forest landscapes. *Landscape Ecology*, 24(10): 1299-1313. doi:10.1007/s10980-009-9379-z
23. 2009. [Robinson, D.T.](#), and Brown, D.G. Evaluating the effects of land-use development policies on ex-urban forest cover: An integrated agent-based GIS approach. *International Journal of Geographical Information Science*, 23(9): 1211-1232. doi:10.1080/13658810802344101
24. 2009. [Qi, S.](#), Brown, D.G., [Tian, Q.](#), [Jiang, L.](#), [Zhao, T.](#), Bergen, K. Inundation extent and flood frequency mapping for the Poyang Lake, China, floodplain using Landsat TM and DEM. *GIScience and Remote Sensing*, 46(1): 101-127. doi:10.2747/1548-1603.46.1.101
25. 2009. [Zellner, M.L.](#), Page, S.E., Rand, W., Brown, D.G., [Robinson, D.T.](#), Nassauer, J., and Low, B. The emergence of zoning policy games in exurban jurisdictions: Informing collective action theory. *Land Use Policy*, 26(2): 256-367. doi:10.1016/j.landusepol.2008.04.004
26. 2009. [Peterson, L.](#), Bergen, K.M., Brown, D.G., Vaschuk, L. and Blam, Y. Forested land-cover patterns and trends over changing forest management eras in the Siberian Baikal Region. *Forest Ecology and Management*, 257: 911-922. doi:10.1016/j.foreco.2008.10.037
27. 2008. Rindfuss, R., Entwistle, B., Walsh, S.J., [An, L.](#), Brown, D.G., Deadman, P., Evans, T.P., Fox, J., Geoghegan, J., Gutmann, M., Kelly, M., Linderman, M., Liu, J., Malanson, G.P., Mena, C.F., Messina, J.P., Moran, E.F., Parker, D.C., Parton, W., Prasartkul, P., [Robinson, D.T.](#), Sawangdee, Y., Vanwey, L.K., Verburg, P.H. Land use change: Complexity and comparisons. *Journal of Land Use Science*, 3(1): 1-10. doi:10.1080/17474230802047955
28. 2008. [An, L.](#), and Brown, D.G. Survival analysis in land-change science: Integrating with GIScience to address temporal complexities. *Annals of the Association of American Geographers*, 98(2): 323-344. doi:10.1080/00045600701879045

29. 2008. Bergen, K.M., Zhao, T., Kharuk, V., Blam, Y., Brown, D.G. Peterson, L., Miller, N. Changing regimes: Forested land-cover dynamics in Central Siberia 1974-2001. *Photogrammetric Engineering and Remote Sensing*, 74(6): 787-798.
30. 2008. Jiang, L., Bergen, K.M., Brown, D.G., Zhao, T., Tian, O., Qi, S., Land-cover change and vulnerability to flooding near Poyang Lake, Jiangxi Province, China. *Photogrammetric Engineering and Remote Sensing*, 74(6): 775-786.
31. 2008. Polhill, J.G., Parker, D.C., Brown, D.G., and Grimm, V. Using the ODD protocol for describing three agent-based social simulation models of land use change. *Journal of Artificial Societies and Social Simulation*, 11(2):3. <<http://jasss.soc.surrey.ac.uk/11/2/3.html>>
32. 2008. Brown, D.G., Robinson, D.T., An, L., Nassauer, J.I., Zellner, M., Rand, W., Riolo, R., Page, S.E., and Low, B. Exurbia from the bottom-up: Confronting empirical challenges to characterizing complex systems. *GeoForum*, 39(2):805-818. doi:10.1016/j.geoforum.2007.02.010
33. 2008. Auchincloss, A., Diez-Roux, A., Brown, D.G., Erdmann, C., Bertoni, A. Associations between insulin resistance and resources for physical activity and healthy foods. *Epidemiology*, 19(1):146-157. doi:10.1097/EDE.0b013e31815c480
34. 2007. Zhao, T., Brown, D.G., and Bergen, K.M. Increasing gross primary production (GPP) in the urbanizing landscape of Southeastern Michigan. *Photogrammetric Engineering and Remote Sensing*, 73(10): 1159-1168.
35. 2007. Taylor, J.J., Brown, D.G., Larsen, L.S. Preserving natural features: A GIS-based evaluation of a local open-space ordinance. *Landscape and Urban Planning*, 82(1-2): 1-16. doi:10.1016/j.landurbplan.2007.01.013
36. 2007. Auchincloss, A., Diez-Roux, A., Brown, D.G., and Erdmann, C. Filling the gaps: Methods for spatial interpolation of residential survey questionnaire data. *Epidemiology*, 18(4): 469-478. doi:10.1097/EDE.0b013e3180646320
37. 2007. Duh, J.D., and Brown, D.G. Knowledge-informed Pareto simulated annealing for multi-objective spatial allocation. *Computers, Environment and Urban Systems*, 31(3): 253-281. doi:10.1016/j.compenvurbsys.2006.08.002
38. 2007. Burnicki, A., Brown, D.G., and Goovaerts, P. Error propagation in land-cover change analysis: The implications of temporal dependence. *Computers, Environment and Urban Systems*, 31(3):282-302. doi:10.1016/j.compenvurbsys.2006.07.005
39. 2007. Bergen, K.M., Gilboy, A.M., and Brown, D.G. Multi-dimensional vegetation structure in modeling avian habitat. *Ecological Informatics*, 2(1): 9-22. doi:10.1016/j.ecoinf.2007.01.001
40. 2007. Robinson, D.T., Brown, D.G., Parker, D.C., Schreinemachers, P., Janssen, M.A., Huigen, M., Wittmer, H., Gotts, N., Promburom, P. Irwin, E., Berger, T., Gatzweiler, F., and Barnaud, C. 2007. Comparison of empirical methods for building agent-based models of land and resource use. *Journal of Land Use Science*, 2(1): 31-55. doi:10.1080/17474230701201349
41. 2007. Auchincloss, A.H., Diez Roux, A.V., Brown, D.G., O'Meara, E.S., Raghunathan, T.E. Insulin resistance is positively associated with area poverty and distance to wealthy areas: the Multi-Ethnic Study of Atherosclerosis. *American Journal of Epidemiology*, 165: 389-397. doi:10.1093/aje/kwk028
42. 2007. Diez-Roux, A.V., Evenson, K., McGinn, A., Brown, D.G., Moore, L., Brines, S.J., Jacobs, D. Density of recreational resources and physical activity in a sample of adults. *American Journal of Public Health*, 97(3):493-499. doi:10.2105/AJPH.2006.087734
43. 2006. Brown, D.G., Aspinall, R. and Bennett, D.A. Landscape models and explanation in landscape ecology: A space for generative landscape science? *Professional Geographer*, 58, 369-382. doi:10.1111/j.1467-9272.2006.00575.x
44. 2006. Brown, D.G., Robinson, D.T. Effects of heterogeneity in preferences on an agent-based model of urban sprawl. *Ecology and Society*, 11(1): 46. [online] URL: <http://www.ecologyandsociety.org/vol11/iss1/art46/>
45. 2005. Brown, D.G., Johnson, K.M., Loveland, T.R., and Theobald, D.M. Rural land use change in the conterminous U.S., 1950-2000. *Ecological Applications*, 15(6): 1851-1863. doi: 10.1890/03-5220

46. 2005. Fernandez, L., Brown, D.G., Marans, R., and Nassauer, J. Characterizing location preferences in an exurban population: Implications for agent based modeling. *Environment and Planning B*, 32(6): 799-820. doi:10.1068/b3071
47. 2005. Bergen, K.M., Brown, D.G., Rutherford, J.F., and Gustafson, E.J. Change detection with heterogeneous data using ecoregional stratification, statistical summaries and a land allocation algorithm. *Remote Sensing of Environment*, 97: 434-446. doi:10.1016/j.rse.2005.03.016
48. 2005. Geddes, C., Brown, D.G., and Fagre, D.B. Topography and vegetation as predictors of snow water equivalent (SWE) across the alpine treeline ecotone at Lee Ridge, Glacier National Park, Montana. *Arctic, Antarctic, and Alpine Research*. 37(2): 197-205. doi:10.1657/1523-0430(2005)037[0197:TAVAPO]2.0.CO;2
49. 2005. Brown, D.G., Riolo, R., Robinson, D.T., North, M., and Rand, W. Spatial process and data models: Toward integration of agent-based models and GIS. *Journal of Geographical Systems*, 7(1): 25-47.
50. 2005. Brown, D.G., Page, S.E., Riolo, R.L., Zellner, M., and Rand, W. Path dependence and the validation of agent-based spatial models of land-use. *International Journal of Geographical Information Science*, 19(2): 153-174. doi: 10.1080/13658810410001713399  
Compiled in 25<sup>th</sup> Anniversary 2011 Virtual Issue, *International Journal of Geographical Information Science*  
<http://www.tandf.co.uk/journals/pdf/freeaccess/TGIS25th.pdf>
51. 2004. Brown, D.G., Page, S.E., Riolo, R.L., and Rand, W. Agent based and analytical modeling to evaluate the effectiveness of greenbelts. *Environmental Modelling and Software*, 19(12): 1097-1109. doi:10.1016/j.envsoft.2003.11.012
52. 2004. Cifaldi, R., Allan, J.D., Duh, J.D., and Brown, D.G. Spatial patterns in land cover of exurbanizing watersheds in Southeastern Michigan. *Landscape and Urban Planning*, 66(2): 107-123. doi:10.1016/S0169-2046(03)00098-7
53. 2004. Brown, D.G. and Duh, J.-D. Spatial simulation for translating between land use and land cover. *International Journal of Geographical Information Science*, 18(1): 35-60. doi:10.1080/13658810310001620906
54. 2003. Brown, D.G. Land use and forest cover in private parcels in the Upper Midwest USA, 1970-1990. *Landscape Ecology*, 18(8): 777-790. doi:10.1023/B:LAND.0000014470.16973.cb
55. 2003. Walsh, S.J., Bian, L., McKnight, S., Brown, D.G., and Hammer, E.S. Solifluction steps and risers, Lee Ridge, Glacier National Park, Montana, USA: A scale and pattern analysis. *Geomorphology*, 55(1-4): 381-398. doi:10.1016/S0169-555X(03)00151-X
56. 2002. Brown, D.G., Goovaerts, P., Burnicki, A., Li, M.Y. Stochastic simulation of land-cover change using geostatistics and generalized additive models. *Photogrammetric Engineering and Remote Sensing*, 68(10): 1051-1061.
57. 2002. Pijanowski, B.C., Brown, D.G., Shellito, B.A., and Manik, G.A. Using neural nets and GIS to forecast land use changes: a land transformation model. *Computers, Environment and Urban Systems*, 26(6): 553-575.
58. 2001. Bowersox, M.A. and Brown, D.G. Measuring the abruptness of patchy ecotones: a simulation-based comparison of patch and edge metrics. *Plant Ecology*, 156(1): 89-103. doi:10.1023/A:1011953007555
59. 2001. Brown, D.G. and Olson, J.M. Integrating material on geographic information science and physical geography through digital terrain analysis. *Journal of Geography*, 100(1): 4-13.
60. 2000. Brown, D.G., Pijanowski, B.C., and Duh, J.-D. Modeling the relationships between land-use and land-cover on private lands in the Upper Midwest, USA. *Journal of Environmental Management*, 59: 247-263.
61. 2000. Brown, D.G., Duh, J.D., and Drzyzga, S. Estimating error in an analysis of forest fragmentation change using North American Landscape Characterization (NALC) Data. *Remote Sensing of Environment*, 71: 106-117.

62. 1999. Brown, D.G., and Arbogast, A.F. Digital photogrammetric change analysis applied to active coastal dunes in Michigan. *Photogrammetric Engineering and Remote Sensing*, 65(4): 467-474.
63. 1998. Brown, D.G. Classification and boundary vagueness in mapping presettlement forest types. *International Journal of Geographical Information Science*, 12(2): 105-129.
64. 1998. Brown, D.G. Mapping historical forest types in Baraga County, Michigan as Fuzzy Sets. *Plant Ecology*, 134(1): 97-111.
65. 1998. Brown, D.G., Lusch, D.P., and Duda, K.A. Supervised classification of glaciated landscape types using digital elevation data. *Geomorphology*, 21(3-4): 233-250.
66. 1996. Schaetzl, R.J. and Brown, D.G. Forest associations and soil drainage classes in presettlement Baraga County, Michigan. *Great Lakes Geographer*, 3(2): 57-74.
67. 1995. Barrett, L.R., Liebens, J., Brown, D.G., Schaetzl, R.J., Zuernink, P., Cate, T.W., and Nolan, D.S. Relationships between soils and presettlement forests in Baraga County, Michigan. *American Midland Naturalist*, 134(2): 94-115.
68. 1994. Brown, D.G. Predicting vegetation types at treeline using topography and biophysical disturbance variables. *Journal of Vegetation Science*, 5(4-5): 641-656.
69. 1994. Krist, F.J. and Brown, D.G. GIS modeling of Paleo-Indian period caribou migrations and viewsheds in Northeastern Lower Michigan. *Photogrammetric Engineering and Remote Sensing*, 60(9): 1129-1137.
70. 1994. Brown, D.G. Comparison of vegetation-topography relationships at the alpine treeline ecotone. *Physical Geography*, 15(2): 125-145.
71. 1994. Brown, D.G. and Bara, T.J. Recognition and reduction of systematic error in elevation and derivative surfaces from 7-1/2 minute DEMs. *Photogrammetric Engineering and Remote Sensing*, 60(2): 189-194.
72. 1993. Brown, D.G., Bian, L., and Walsh, S.J. Response of a distributed watershed erosion model to variations in input data aggregation levels. *Computers and Geosciences*, 19(4): 499-509.
73. 1992. Brown, D.G. and Walsh, S.J. Relationships between sub-alpine basin morphometry and remotely-sensed lake turbidity estimates, Glacier National Park, Montana, USA. *Physical Geography*, 13(3): 250-272.
74. 1991. Butler, D.R., Walsh, S.J., and Brown, D.G. Three-dimensional displays for natural hazards analysis using Landsat Thematic Mapper digital data and large-scale digital elevation models. *Geocarto International*, 6(4): 65-69.
75. 1991. Brown, D.G. and Walsh, S.J. Compatibility of non-synchronous in-situ water quality data and remotely-sensed spectral information for assessing lake turbidity levels in complex and inaccessible terrain. *Geocarto International*, 6(2): 5-11.
76. 1990. Walsh, S.J., Butler, D.R., Brown, D.G., and Bian, L. Cartographic model of snow avalanche path location within Glacier National Park, Montana: data integration and factor weighting through GIS. *Photogrammetric Engineering and Remote Sensing*, 56(5): 615-621.
77. 1989. Walsh, S.J., Bian, L., and Brown, D.G. Image enhancement of Landsat Thematic Mapper digital data for terrain evaluation, Glacier National Park, Montana, USA. *Geocarto International*, 3: 55-58.

#### **Books & Articles in Review or Preparation**

In Review. Magliocca, N.R., Ellis, E.C., Brown, D.G. Testing induced intensification with a generalized agent-based model of land-use and -cover change. To be submitted.

In Review. Kwaiser, K.S., Bergen, K., Brown, D.G., and Qi, S. Accounting for observational uncertainty in species-habitat models: A case study using bird survey data from Poyang Lake, China. Submitted to *Ecological Informatics*.

- In Revision. Zhao, T., Brown, D.G., Fang, H., Liu, T., Zhang, T. Vegetation productivity consequences of human settlement growth in the Eastern United States. In revision for *Landscape Ecology*.
- In Revision. Tian, Q., Brown, D.G., Zheng, L., Qi, S., Liu, Y., and Jiang, L. Spatial, temporal and household variations in land-use drivers in the Poyang Lake Region of China.
- In Review. Oswald, E.M., Rood, R.B., Zhang, K., Gronlund, C.J., O'Neill, M.S., White-Newsome, J., Brines, S.J., Brown, D.G. An investigation into the spatial variability of near surface air temperatures in the Detroit, MI metropolitan area. Revised and resubmitted to the *Journal of Applied Meteorology and Climatology*.
- In Revision. Robinson, D.T., Sun, S., Hutchins, M., Riolo, R.L., Brown, D.G., Parker, D.C., Filatova, T., Currie, W.S., and Kiger, S. Effects of land markets and land management on ecosystem function: A framework for modelling exurban land change. In revision for *Environmental Modelling and Software*.
- In Revision. Agrawal, A., Brown, D.G., Rao, G., Riolo, R.L., Robinson, D.T., Bommarito, M. Interaction between organizations and networks in common-pool resource governance. To be re-submitted to *Ecology and Society*.
- In Review. O'Neill, M.S., Osornio-Vargas, A.R., Buxton, M.A., Sanchez, B.N., Rojas-Bracho, L., Castillo-Castrejon, M., Mordhukovich, I.B., Brown, D.G., and Vadillo-Ortega, F. Air pollution, inflammation and preterm birth in Mexico City: Study design and methods. In review at *Science of the Total Environment*.
- In Preparation. Brown, D.G., Robinson, D.T., Reed, B., French, N.H.H. eds. *Land Use and the Carbon Cycle: Science and Applications in Human and Environment Interactions*. Cambridge University Press.

#### Papers in Conference Proceedings

1. 2010. Robinson, D.T., Filatova, T., Sun, S., Riolo, R.L., Brown, D.G., Parker, D.C. Integrating land markets, land management, and ecosystem function in a model of land change. In D.A. Swayne, W. Yang, A. A. Voinov, A. Rizzoli, and T. Filatova (eds), *Proceedings, Fifth Biennial Meeting, International Environmental Modelling and Software Society*, Ottawa, Ontario, Canada, July 2010.
2. 2008. Reid, C.E., O'Neill, MS., Brines, S.J., Gronlund, C., Diez-Roux, A.V., Brown, D.G., and Schwartz, J. Mapping community determinants of heat vulnerability. *Epidemiology*, 19(6):S229.
3. 2006. Auchincloss, A.H., Diez-Roux, A.V., Brown, DG, Raghunathan, T.E., O'Meara, E.S. (Abstract) Insulin resistance is positively associated with area poverty: The multi-ethnic study of atherosclerosis. *Circulation*, 113 (8): E303-E304.
4. 2005. Rand, W., Brown, D.G., Riolo, R.L., and Robinson, D.T. Toward a graphical ABM toolkit with GIS integration. *Proceedings, Agent 2005, Chicago, IL, October 2005*.
5. 2005. Zhao, T., Brown, D.G., Bergen, K.M., and Powers, A.C. Landscape and productivity changes in Southeastern Michigan, USA. *Proceedings, 9th International Symposium on Physical Measurements and Signature in Remote Sensing (ISPMSRS) Beijing, China, October 2005*
6. 2005. An, L., Brown, D.G., Rand, W., and Page, S. Can statistical methods on land-use change patterns calibrate agent-based models? *Proceedings, Geocomputation 2005 Conference, Ann Arbor, MI, August 2005*.
7. 2005. Duh, J.-D., and Brown, D.G. Knowledge-informed Pareto simulated annealing for multi-objective spatial allocation. *Proceedings, Geocomputation 2005 Conference, Ann Arbor, MI, August 2005*.
8. 2003. Rand, W., Brown, D. G., Page, S. E., Riolo, R., Fernandez, L. E., and Zellner, M. Statistical validation of spatial patterns in agent-based models. *Proceedings, Agent Based Simulation, Montpellier, France, April 2003*.
9. 2003. Zellner, M. L., Riolo, R., Rand, W., Page, S. E., Brown, D. G., Fernandez, L. E. The interaction between zoning regulations and residential preferences as a driver of urban form. 2003 UTEP Distinguished Faculty and Student Symposium, Urban and Regional Planning Program, University of Michigan. April, 2003.

10. 2002. Rand, W., M. Zellner, S. E. Page, R. Riolo, D. G. Brown, and L. E. Fernandez. The complex interaction of agents and environments: an example in urban sprawl. Pages 149-161 in C. Macal and D. Sallach, editors. *Proceedings, Agent 2002: Social Agents: Ecology, Exchange, and Evolution*. Argonne National Laboratory, Chicago, Illinois.
11. 2002. Brown, D. G., S. E. Page, R. Riolo, and W. Rand. Modeling the effects of greenbelts at the urban-rural fringe. Pages 190-195 in A.E. Rizzoli and A.J. Jakeman, editors. *Proceedings, IEMSS 2002*, Vol. 2. International Environmental Modelling and Software Society, Lugano, Switzerland.
12. 2002. Bergen, K.M., D.G. Brown, M.C. Dobson, E. Gustafson. Integrating radar remote sensing of habitat structure: A pilot project for biodiversity informatics. *Proceedings, NSF National Conference on Digital Government Research*, Los Angeles, pp. 149-154.
13. 2002. Bergen, K.M., Brown, D.G., Rutherford, J.R., and Gustafson, E.J. Development of a method for remote sensing of land-cover change 1980-2000 in the USFS North Central Region using heterogeneous USGS LUDA and NOAA AVHRR 1km Data. *Proceedings, International Geoscience and Remote Sensing Symposium*, Toronto, CA, 2002.
14. 2000. Malanson, G.P., Xiao, N., Alftine, K., Bekker, M., Butler, D.R., Brown, D.G., Cairns, D.M., Fagre, D., and Walsh, S.J. Abiotic and biotic controls of spatial pattern at alpine treeline. *Proceedings, Fourth International Conference on GIS and Environmental Modeling*, Banff, Canada.
15. 1999. Drzyzga, S.A. and Brown, D.G. Land parcelization and forest cover fragmentation in three forested counties in Northern Lower Michigan. *Proceedings, Society of American Foresters 1998 National Convention*, Traverse City, MI: 129-135.
16. 1996. Brown, D.G. and Vasievich, J.M. A study of land ownership fragmentation in the Upper Midwest. *Proceedings, GIS/LIS '96 Conference*, Denver, CO: 1199-1209.
17. 1995. Moody, A., Walsh, J., Allen, T., and Brown, D. Scaling properties of NDVI and their relationship to land-cover spatial variability. *Proceedings, 15th Int. Geosci. and Remote Sens. Symp.*, Firenze, Italy, July 10-14.
18. 1995. Allen, T.R., Brown, D.G., Butler, D.R., and Walsh, S.J. Local and regional patterns of modern glacier equilibrium-line altitudes in Glacier National Park, Northwest Montana. *Proceedings, 1995 ACSM-ASPRS Annual Convention*, Charlotte, NC: 112-122.
19. 1994. Brown, D.G. Anisotropy in elevation and derivative surfaces as an indication of systematic errors in DEMs. In R.G. Congalton, Ed., *Proceedings, International Symposium on the Spatial Accuracy of Natural Resource Data Bases*, Williamsburg, VA, Bethesda, MD: American Society for Photogrammetry and Remote Sensing: 98-107.
20. 1994. Walsh, S.J., Brown, D.G., Bian, L., and Allen, T.R. Effects of spatial scale on data certainty: an assessment through data dependency and sensitivity analyses. In R.G. Congalton, Ed., *Proceedings, International Symposium on Spatial Accuracy of Natural Resource Data Bases*, Williamsburg, VA., Bethesda, MD: American Society for Photogrammetry and Remote Sensing: 151-160.
21. 1994. Berry, L., Olson, J.M., Campbell, D.J., and Brown, D.G. The Rwanda Society-Environment Project: a pilot study to link socioeconomic and physical data within an environmental information system. An interim report. *Sharing Data through the Information Cooperative. Proceedings, Second CIESIN User's Workshop*, Atlanta, GA: CIESIN.
22. 1993. Brown, D.G. and Walsh, S.J. Spatial Autocorrelation in Remotely Sensed and GIS Data. *Proceedings, 1993 ACSM/ASPRS Annual Convention*, New Orleans, LA, 3: 31-39.
23. 1991. Brown, D.G. Topoclimatic models of an alpine environment using digital elevation models within a GIS. *Proceedings, GIS/LIS '91 Conference*, Atlanta, GA, 2: 835-844.

24. 1991. Walsh, S.J., Bian, L., and Brown, D.G. Issues of spatial dependency for surface representation through remote sensing and GIS. *The Integration of Remote Sensing and Geographic Information Systems*, Proceedings Special session at the 1991 ACSM/ASPRS Annual Convention, Baltimore, MD: 175-183.
25. 1990. Brown, D.G. Impacts of remote sensing spatial resolution on the assessment of non-point source water pollution integrated through a watershed response model and a GIS. *Papers and Proceedings of the Applied Geography Conferences*, 13: 1-9.
26. 1990. Walsh, S.J., Brown, D.G., and Bian, L. Comparison of Landsat Thematic Mapper digital enhancements of snow-avalanche paths: validation through GIS/remote sensing integration. *Proceedings, International Geoscience and Remote Sensing Symposium*, College Park, MD, 2: 1161-1164.

#### Book Reviews

1. 1998. Brown, D.G. Innovations in GIS 4 (Z. Kemp, ed.) and Spatial Analytical Perspectives in GIS (M. Fischer, et al., eds.). *Annals, Association of American Geographers*, 88(3):520-523.
2. 1996. Brown, D.G. The Canadian Remote Sensing Contribution to Understanding Global Change, Edited by E. LeDrew, M. Strome, and F. Hegyi. *Professional Geographer*, 48(4): 473-474.

#### Other Publications

1. 2011. Brown, D.G. Spatial Land Use Change and Ecological Effects at the Rural-Urban Interface – SLUCE. *GLP News* No. 7. Global Land Project, Copenhagen, Denmark.
2. 2009. Dan Brown, Spatial Modeler. In Longley, P.A., Goodchild, M.F., Maguire, D.J. and Rhind, D.W. *Geographic Information Systems and Science*, 2<sup>nd</sup> Edition. New York: John Wiley and Sons.
3. 2008. Brown, D.G. Simulation. Invited encyclopedia entry in *Encyclopedia of Geographic Information Science*. Thousand Oaks, CA: Sage Publications.
4. 2006. Brown, D.G. Path dependence and the validation of agent-based spatial models of land-use. Text Box in Verburg, P., Kok, K., Pontius, R.G., and Veldkamp, A. Chapter 5: Modelling of Land Use and Land Cover Changes. In: E. Lambin, H. Geist, eds., *Land Use and Land Cover Change: Local Processes, Global Impacts*. New York: Springer, p. 130.
5. 2006. Brown, D.G. Agent-based models. Invited encyclopedia entry in H. Geist, Ed. *The Earth's Changing Land: An Encyclopedia of Land-Use and Land-Cover Change*. Westport CT: Greenwood Publishing Group, pp. 7-13.
6. 2006. Brown, D.G. Auto-correlation. Invited encyclopedia entry in H. Geist, Ed. *The Earth's Changing Land: An Encyclopedia of Land-Use and Land-Cover Change*. Westport CT: Greenwood Publishing Group, p. 58.
7. 2005. National Science Foundation, Environmental Research and Education. Meeting Report. *Understanding and Harnessing Complexity in the Environment: 2005 Biocomplexity in the Environment Awardees Meeting*. Arlington, VA: National Science Foundation.
8. 2004. Potts, R., Gustafson, E., Stewart, S., Thompson, F.R., Bergen, K., Brown, D.G., Hammer, R., Radeloff, V., Bengston, D., Sauer, J., and Sturtevant, B. The Changing Midwest Assessment: Land Cover, Natural Resources, and People. Gen. Tech. Rep. NC-250. St. Paul, MN: U.S.D.A., Forest Service, North Central Research Station, 87 p.
9. 2002. Brown, D.G. Forest Cover Increase and Carbon Sequestration. *Our Changing Planet: The Fiscal Year 2003 US Global Change Research Program and Climate Change Research Initiative*. A Report to Congress by the Climate Change Science Program and the Subcommittee on Global Change Research, Washington, DC, pp. 76-78.
10. 2002. Parker, D.C., Berger, T., and Manson, S.M. Agent-Based Models of Land-Use and Land-Cover Change. Report and Review of an International Workshop, Irvine, CA, USA, Oct 4-7 2001. LUCC Report Series 6. Bloomington, IN: LUCC Focus 1 Office. (contributing author)
11. 2001. Brown, D.G. and Duh, J.-D. Reply. *Journal of Environmental Management*, 62(2): 233-236.

12. 2000. Brown, D. G., K. V. Walker, M. B. Davis, S. Sugita, and J. D. Lindeberg. Land ecology. Pages 55-64 in P. Sousounis and J. Bisanz, eds. *Preparing for a Changing Climate: The Potential Consequences of Climate Variability and Change*. Report for the U.S. Global Change Research Program. Univ. Michigan, Ann Arbor.
13. 2000. Brown, D.G. Image and spatial analysis software tools for foresters. *Journal of Forestry*, 98(6): 53-57.
14. 2000. K.M. Bergen, Brown, D., Olson, C.E. and Lillesand, T. Profiles in curricula: Remote sensing at the University of Michigan-Ann Arbor and University of Wisconsin-Madison *Journal of Forestry*, 98(4):32-33.
15. 2000. Brown, D. G. and Burris Barno, S. Land Ecology Sector Report. In: P. Sousounis and G. Albercook, Eds., *Climate Change in the Upper Great Lakes Region: A Workshop Report*. Ann Arbor, MI: Atmospheric, Oceanic, and Space Sciences Department, University of Michigan.
16. 1997. Miller, H., Kemp, K., Brown, D.G., and Fried, J.S. *Education Policy White Paper: Alternative Designs for Curriculum Content and Evaluation*. Draft version on the WWW at [http://www.ncgia.ucsb.edu/other/ucgis/ed\\_priorities/contents.html](http://www.ncgia.ucsb.edu/other/ucgis/ed_priorities/contents.html)
17. 1996. Brown, D.G., Bittenfield, B.P., Moody, A., Getis, A., McMaster, R., and Bian, L. *Scale: UCGIS Research Priority White Paper*. Available on the WWW at <http://www.ncgia.ucsb.edu/other/ucgis/priorities.html>
18. 1996. Brown, D.G., Olson, J.M., Campbell, D.J., and Berry, L. A hierarchical approach to the integration of social and physical data sets: The Rwanda Society-Environment Project. *Human Dimensions Quarterly*, 4(1): 14-17. (invited)
19. 1995. Campbell, D.J., Berry, L., Olson, J.M., and Brown, D.G. Towards an environmental information system for the East African Region in the 21st century. Paper presented at the CIESIN Board of Trustees Annual Retreat, Michigan State University, East Lansing, MI.
20. 1994. Campbell, D.J., Berry, L., Olson, J.M., and Brown, D.G. Basic data systems for natural resource management: Findings of the Rwanda Case Study. Rwanda Society-Environment Project Final Report. East Lansing: Department of Geography, Michigan State University.
21. 1994. Brown, D.G. Issues and alternative approaches for the integration and application of societal and environmental data sets within a GIS. *Rwanda Society-Environment Project, Working Paper No. 3*. East Lansing, MI: Michigan State University, Department of Geography. Available on the WWW at <http://www.ciesin.org/kiosk/publications/94-0002.txt>.
22. 1992. Brown, D.G. *Topographical and biophysical modeling of vegetation patterns at alpine treeline*. Ph.D. Dissertation, Department of Geography, University of North Carolina at Chapel Hill. Ann Arbor: University Microfilms, Inc.

#### Keynote Addresses

1. 2009. "Land use and land cover dynamics." Invited keynote address for workshop Topics on the Integration of Remote Sensing Imagery and Geoprocessing, 14<sup>th</sup> SBSR Brazilian Remote Sensing Symposium, Natal, Brazil.
2. 2008. "From map algebra to agent algebra: Incorporating process into geocomputation." Invited keynote address for workshop on Temporal GIS: the past 20 years and the next 20 years, held in conjunction with the GIScience 2008 conference, Park City, UT.
3. 2007. "Geospatial methods for characterizing land-use and land-cover dynamics from remote sensing." Keynote address at Framing Land Use Dynamics II conference, Utrecht, The Netherlands.
4. 2006. "Agent-based modeling of exurban land-change scenarios." Keynote presentation at GRoWE Symposium III: Agent-Based Modeling of Spatially Distributed Systems. Consortium for Global Research on Water-Based Economies (GRoWE), Kansas State University, Manhattan, KS

#### Recent Conference Presentations

\*Abstract published

1. 2011. "Modeling processes and projections of land-use change." 15<sup>th</sup> Anniversary LCLUC Science Team Meeting, College Park, MD, March 2011.
2. 2010. "The role of land-change science in exploring climate change vulnerability and adaptation." 2010 AAAS Annual Meeting, San Diego, CA, February 2010.
3. 2010. "Coupling land use and land management processes with vegetation productivity and carbon storage in exurban Southeastern Michigan." 2010 AAG Annual Meeting, Washington, DC, April 2010.
4. 2009. Symposium on "Equity, Sustainability, and Governance of Mixed-Use Landscapes," invited discussant. 2009 AAAS Annual Meeting, Chicago, IL, February 2009.
5. 2009. Special session on "Urban Ecosystems," invited panelist. 2009 AAG Annual Meeting, Las Vegas, NV, March 2009.
6. 2008. "Incorporating human agency into spatial landscape process models." *US-IALE Annual Meeting*, Madison, WI, April, 2008.
7. 2008. "Land use and vulnerability to environmental variability and change: The case of flooding at Poyang Lake, China." *Annual Meeting of the AAG*, Boston, MA, April, 2008.
8. 2007. "Land use and vulnerability to flooding in the Poyang Lake Region, China." *NEESPI/LCLUC Pls meeting*, Urumqi, China.
9. 2007. "Institutions, norms, and outcomes in uncertain common pool resource environments (poster)." NSF Human and Social Dynamics Pls meeting, Arlington, VA
10. 2007. "Multi-dimensional vegetation structure in modeling avian habitat (poster)". NASA DESDyn Workshop, Orlando, FL, July 2007. (w/ Bergen, K., presenter, and Gilboy, A.)
11. 2007. "Different types of open space and their importance to exurban residents". Z. Wang, J. Nassauer, R. Marans and D. Brown. Emerging Issues-Along Urban/Rural Interfaces II. Atlanta, April 2007.
12. 2006. "An agent-based model for studying the landscape effects of exurban development." *US-IALE Annual Meeting*, San Diego, CA, March, 2006.
13. 2006. "Implications of bottom-up and top-down empirical observations for an agent-based model of residential development." *Annual Meeting of the AAG*, Chicago, IL, March, 2006.
14. 2006. "Modeling coupled human-landscape interactions at the urban-rural fringe in Southeastern Michigan." *AAAS Annual Meeting*, St. Louis, Mo, February, 2006.
15. 2005. "Modeling land cover change at the urban-rural fringe as a consequence of land-use decision making by multiple actors." *6<sup>th</sup> Open Meeting of the Human Dimensions of Global Change Community*, Bonn, Germany, October 2005.
16. 2005. "Initiating research on human responses to flooding in the Poyang Lake Region." *The International Conference on Poyang Lake Complex Environment System*, Nanchang, Jiangxi, China, June 2005
17. 2005. "Land-cover change in exurban Southeastern Michigan." *2005 Annual Meeting of the Association of American Geographers*, Denver, CO, April 2005.\*
18. 2005. "Multi-agent systems and GIS." *First South African International Workshop on Sensor Web Enablement*, CSIR, Pretoria, South Africa, March 2005. (Invited)
19. 2004. "Toward integration of spatial data models and agent-based process models", *GIScience 2004 Abstract*, College Park, MD, October, 2004 (w/ D.T. Robinson, R.L. Riolo, W. Rand, M. North, and K. Johnston).\*

20. 2004. "Land-use decision making by multiple actors at the urban-rural fringe and the availability of open-space", *International Geographical Congress*, Glasgow, Scotland, August 18, 2004.
21. 2004. "Spatial process and data models: Toward integration of agent-based models and GIS", *ESRI User Conference*, San Diego, CA, Aug 10, 2004.
22. 2004. "Rationale and approaches for developing spatial land-use and land-cover scenarios." Invited. *1st West China Development Consortium Conference*, Chengdu, Sichuan, China, June 22-23, 2004.
23. 2004. "Spatial analysis and modeling of environmental variability and change." Invited. *Workshop on Spatial Analysis of Environment, Public Health & Regional Development* Nanchang, Jiangxi, China, June 2004.
24. 2004. "Land-use and land-cover trends in the Upper Midwest." Invited. *New Generation Resource Policy for a Region in Transition: Land Use, Agriculture, Environment, and Health in the Great Lakes Region*, Oregon OH, May 12, 2004.\*
25. 2004. "Uncertainty in spatial landscape metrics." Invited. Session on Coalescing Frontiers? Landscape Ecology and GIScience. *2004 Annual Meeting of the Association of American Geographers*, Philadelphia, PA.\*
26. 2004. "Spatial modeling of land use and land cover change." Invited. *NASA LCLUC Science Team Meeting*, College Park, MD, Jan 2004.
27. 2003. "Project SLUCE: Spatial land use change and ecological effects (poster)." *Biocomplexity in the Environment, Awardees Meeting*. National Science Foundation, Crystal City, VA, Sept 2003.
28. 2003. "Land use modeling and complex systems." Invited. *Sustainable Mobility Workshop*. University of Michigan, Ann Arbor, MI, May 2003.
29. 2003. "Characterizing the spatial dynamics of land development in Southeastern Michigan, USA: Agent-based models, GIS, and social surveys." *Framing Land Use Dynamics*, Utrecht, The Netherlands (with several others), April 2003.\*
30. 2003. "Modeling spatial patterns of land development using a multi-agent system." *2003 Annual Meeting of the Association of American Geographers*, New Orleans, LA (with several others).\*
31. 2002. "Rural land use trends in the United States, 1950-2000." *87th Annual Meeting of the Ecological Society of America*, Tucson, AZ (with Kenneth Johnson, Tom Loveland, and David Theobald).\*
32. 2002. "Object-based classification of land use with classification trees." *US-International Association for Landscape Ecology Meeting*, Lincoln, NB.\* (E. Addink, presenter).
33. 2001. "Assessing the accuracy of spatial landscape metrics." Invited. *EPA Symposium on Remote Sensing and GIS Accuracy Assessment*, Las Vegas, NV.
34. 2001. "Incorporating land-use and land-cover into watershed decision support." *AWRA-UCOWR Decision Support Systems Meeting*, Snowbird, UT.
35. 2001. "Relationships between parcelization, land use, and forest cover change in Upper Midwest, USA." *AAG Annual Meeting*, New York, NY.\*
36. 2000. "Using spatial simulation to translate between land-use and land-cover." *GIScience 2000 Abstracts*, Savannah, GA, Santa Barbara: University of California Regents, p. 234-235 (with Jiunn-Der Duh). \*
37. 2000. "GIScience questions in the context of landscape pattern and change research." *Imagin*, Lansing, MI.
38. 2000. "A methodology for comparing spatial vegetation patterns at alpine treeline using remotely sensed observations and vegetation model output." *AAG Annual Meeting*, Pittsburgh, PA.\*

## Workshops

1. 2011. "Linking Models of Human Behavior and Decision Making Processes with Land System Models" sponsored by the Global Land Project (GLP) and convened by CSIRO in Crackenback, Australia, November 2011.
2. 2010. "Landscapes in the 'Anthropocene': Exploring the Human Connections" NSF-sponsored workshop, invited speaker. Eugene, OR, March 2010.
3. 2010. "Computational Modeling in Socio-Ecological Sciences" sponsored by NSF Dynamics of Coupled Natural and Human Systems program, invited participant, Tempe, AZ, February, 2010.
4. 2009. "Forest Carbon Offsets" sponsored by the President's Council of Advisors on Science and Technology (PCAST), invited speaker, Cambridge, MA, December, 2009.
5. 2009. "Climate Change and Public Health in India" workshop sponsored by CDC and Public Health Foundation of India, invited speaker. Goa, India, September 2009.
6. 2009. "3<sup>rd</sup> Workshop on Empirical Agent-Based Modeling" CSIRO-sponsored workshop, invited participant. Convened by CSIRO in Cairns, QLD, Australia, July 2009.
7. 2009. "Agent-Based Modeling of Land Markets." SLUCE and GLP-sponsored workshop, invited participant. Hosted by the Macaulay Institute, Aberdeen, Scotland, May, 2009.
8. 2009. "Land-Use and Land-Cover Change and the Carbon Cycle." USDA/USGS-sponsored workshop, co-organizer. Hosted by University of Michigan, Ann Arbor, MI, May, 2009.
9. 2008. "Tough Choices – Land Use Under Climate Change." NSF-DFG sponsored workshop, co-organizer. Convened by US NSF and German DFG, Berlin, Germany, October, 2008.
10. 2008. "The Design of Integrative Models of Natural and Social Systems in Land Change Science." Global Land Project (GLP)-sponsored workshop, invited participant and speaker. Convened by the Macaulay Institute, Aberdeen, Scotland.
11. 2008. "Exploring New and Creative Applications for Analytical Methodologies." U.S. Government-sponsored workshop, invited participant. Hosted by Centra Technology, Inc., Rosslyn, VA.
12. 2008. "Empirical Analysis of Complexity & Network Models." Mini-Workshop at PoliMeth XXV Conference, invited presenter. Society for Political Methodology, Ann Arbor, MI.
13. 2007. "Agent-Based Modeling and Spatial Population Dynamics," NIH-sponsored workshop, invited participant. Convened by the Brookings Institution, Washington, DC
14. 2007. "Poyang Lake Human-Natural Systems," NSF-sponsored planning meeting, co-organizer. Convened by University of Michigan and Jiangxi Normal University, Nanchang, Jiangxi, China.
15. 2007. "International Workshop on Agent-Based Modeling of Complex Spatial Systems," NSF-sponsored workshop, invited participant. Convened by National Center for Geographic Information and Analysis, UCSB, and Centre for Advanced Spatial Analysis, UCL, Santa Barbara, CA.
16. 2007. "Community Modeling Framework for Agent-Based Modeling of Socio-Ecological Systems," NSF-sponsored workshop, invited participant. Convened by Arizona State University, Tempe, AZ.
17. 2006. "Introduction to Spatial Modeling: History, Theory, Concepts," presented with Michael Goodchild and Dawn Parker. Pre-Conference Seminar, ESRI User Conference, San Diego, CA.
18. 2006. "Agent-Based Modeling for Understanding Human-Environment Interactions," organizer and presenter. Two-day workshop presented at School of Geography and Environment, Jiangxi Normal University, Nanchang, China.

19. 2006. "Integration of Socioeconomic and Biophysical Processes in East Africa," NSF-sponsored workshop, invited presenter. Dar Es Salaam, Tanzania.
20. 2006. "Land-Use and Land-Cover Change" NIH-sponsored roadmap workshop, invited participant. East-West Center, Honolulu, HI.
21. 2006. "Land-Use Change and Social Sciences in NEON," NSF-sponsored workshop, invited participant. Harvard Forest, Harvard University, Petersham, MA.
22. 2005. "Symposium on Spatial Modeling," presented with Stephen Walsh, Steven Manson, Dawn Parker, and Tom Evans. Carolina Population Center, IGERT Program, University of North Carolina, Chapel Hill.
23. 2005. "National Land Cover Change Modeling Workshop," USGS-funded workshop, invited participant, Pingree Park, Colo.
24. 2005. "Introduction to Spatial Modeling: History, Theory, Concepts," presented with Michael Goodchild and Dawn Parker. Pre-Conference Seminar, ESRI User Conference, San Diego, CA.
25. 2003. "Simulation of landscape patterns and processes." Invited presenter. *GIS and Modeling Workshop*. ESRI Campus, Redlands, CA.
26. 2001. "Spatial land-use change and ecological effects: Agent-based modeling and evaluation of alternative policies and interventions." Invited Participant. *CSISS Workshop on Multi-Agent Systems and Land Use and Cover Change (MAS-LUCC)*, Irvine CA.

#### Other Invited Lectures

1. 2011. Wuhan University, International School of Software, Wuhan, China
2. 2011. China University of Geosciences, Wuhan, China
3. 2011. Texas A&M University, Department of Geography, College Station, TX
4. 2011. University of Florida, Department of Geography, Anderson Lecture Series, Gainesville, FL
5. 2011. Oregon State University, Department of Forest Ecosystems & Society, Corvallis, OR
6. 2010. The Ohio State University, Department of Geography, Robinson Lecture, Columbus, OH
7. 2010. Lehigh University, Department of Earth and Environmental Sciences, Bethlehem, PA
8. 2009. Chinese Academy of Sciences, Inst. for Geographic Sciences and Natural Resources Research, Beijing
9. 2009. Inst Nacional de Pesquisas Especiais (National Inst for Space Research), Sao Jose dos Campos, Brazil
10. 2009. Eastern Michigan University, Department of Geography and Geology, Ypsilanti, MI
11. 2009. Pennsylvania State University, Earth and Environmental Sciences Institute, State College, PA
12. 2007. McGill University, Department of Geography, Geospectives Seminar Series, Montreal, Quebec
13. 2007. University of Auckland, School of Geography, Geology and Environmental Sci., Auckland, NZ (virtual)
14. 2007. Clark University, George Perkins Marsh Institute, Worcester, MA
15. 2006. Alabama A&M University, Center for Forest Ecosystems Assessment, Huntsville, AL
16. 2006. Arizona State University, Global Institute for Sustainability, Tempe, AZ
17. 2006. Stanford University, Environmental Policy Forum, Palo Alto, CA
18. 2006. Chinese Academy of Science, Inst. for Geographic Sciences and Natural Resources Research, Beijing
19. 2005. Pennsylvania State University, Department of Geography, State College, PA
20. 2005. University of Washington, Urban Ecology IGERT Program, Seattle, WA
21. 2005. Portland State University, Department of Geography, Portland, OR
22. 2005. Central Michigan University, Department of Biology, Mt. Pleasant, MI
23. 2005. University at Buffalo, SUNY, Department of Geography, Buffalo, NY
24. 2004. University of Southern California, Department of Geography, Los Angeles, CA
25. 2004. George Mason University, Department of Geography, Fairfax, VA
26. 2004. Nanjing University, International Institute for Earth System Science, Nanjing, Jiangsu, China
27. 2003. Duke University, Landscape Ecology Lab, Nicholas School, Durham, NC
28. 2003. University of North Carolina, Department of Geography, Chapel Hill, NC
29. 2002. University of Michigan, Land Use Policy Forum, Ann Arbor, MI
30. 2001. Indiana State University, Department of Geography, Terre Haute, IN
31. 2001. Indiana University, CIPEC, Bloomington, IN

32. 2000. USDA Forest Service, North Central Research Station, St. Paul, MN
33. 2000. University of Michigan, Center for the Study of Complex Systems, Ann Arbor, MI
34. 1999. Texas A&M University, Department of Geography, College Station, TX
35. 1999. San Diego State University, Department of Geography, San Diego, CA
36. 1999. University of North Carolina, Department of Geography, Chapel Hill, NC
37. 1999. University of Michigan, School of Natural Resources and Environment, Ann Arbor, MI
38. 1998. University of Iowa, Department of Geography, Iowa City, IA
39. 1994. Michigan State University, Department of Geography, East Lansing, MI
40. 1994. University of North Carolina, Department of Geography, Chapel Hill, NC
41. 1994. Michigan State University, Kellogg Biological Station, Hickory Corners, MI
42. 1992. Michigan State University, Department of Geography, East Lansing, MI
43. 1992. West Virginia University, Department of Geology and Geography, Morgantown, WV
44. 1992. University of Colorado at Boulder, Department of Geography, Boulder, CO

### Media

Outreach Communications video production for MSU News Segment (1996)  
 Geography Awareness Week Special, WKAR Radio Talk Show, 11/17/1995

### Current Extramural Grants

"A Spatial Agent-Based Model Of Walking Behavior In Cities." Co-PI with Y. Yang, A. Diez-Roux, NIH (1 R21 HL10646701 A1), 08/18/2011-07/31/2013, \$13,283 (SNRE Share).

"Addressing Disclosure Risk of Contextualized Microdata in Survey Design." Co-I with M. Elliott (PI), K. Witkowski, T., Raghunathan, NICHD, National Institutes of Health (R01 HD067184-01A1).

"NCRN-MN: Linking Surveys to the World--Administrative Data, the Web, and Beyond." Co-I with M. Levenstein (PI), M. Shapiro, and several others. NSF National Census Research Network Program.

"WSC Category 1: Coupled Observation of the Water Environment – A National Survey Program." UM PI with J. Braden (U. Illinois), NSF Water Sustainability and Climate (GEO-1038904), 10/1/2010-9/31/2012, \$42,262 (UM share).

"WSC Category 2: Extreme Events Impacts on Water Quality in the Great Lakes: Prediction and Management of Nutrient Loading in a Changing Climate." Co-I with A. Michalak (PI), M. Moore, D. Scavia, A. Steiner, D. Huntzinger (co-PIs), NSF Water Sustainability and Climate (ENG-1039043), 1/1/2011-12/31/2015, \$4,992,854.

"Grassland Ecosystems and Societal Adaptations Under Changing Grazing Intensity and Climate on the Mongolian Plateau." PI with K. Bergen, A. Agrawal, Y. Xie, W. Welsh (EMU), NASA LCLUC Program (NNX09AK87G), 7/1/2009-6/30/2012, \$898,096.

"Spatial Land-Use Change and Ecological Effects (SLUCE): Interactions of Exurban Land Management and Carbon Dynamics" PI with J. Nassauer, W. Currie, S. Page, R. Riolo, and D. Parker, NSF Dynamics of Coupled Natural and Human Systems (GEO-0814542), 2008-2012, \$1,166,065 (UM share).

"Neighborhoods and CVD Risk in a Multiethnic Cohort." Co-PI with A.V. Diez-Roux and others, NIH, 2009-2014, \$3,465,958.

"Polycyclic Aromatic Hydrocarbons And Birth Outcomes In Mexico City." Co-I with M. O'Neill. NIH-NIEHS, 2009-2014, \$1,407,126 (UM total).

"Air Pollution, Inflammation and Preterm Birth: A Mechanistic Study in Mexico City" co-PI with M. O'Neill and others. NIEHS-NIH, 9/1/2008-5/31/2013, \$1,853,862.

"Population and Environment in the U.S. Great Plains" co-PI with M. Gutmann and others, NIH National Institute for Child Health and Development, 6/1/2007-5/31/2012, \$555,524 (SNRE share).

"Environmental Governance, Forests and Logging Concessions: The Effects of Institutional Complexity of Forest Systems, Cover and Change in Central Africa" co-PI with A. Agrawal, T. Lyon, R. Hardin, and R. Riolo, NSF Dynamics of Coupled Human and Natural Systems Program, 2007-2011, \$1,497,109.

## Completed Grants

"From Vulnerability to Sustainability: Vulnerability and Sustainability Development in the Context of Climatic and Institutional Changes in Rural China." Student fellowship – Qing Tian. NASA Earth System Science Fellowship Program (ESSF/07-0000-0084), 2008-2011, \$72,000.

"Joint German-American Conference on Land Use and Climate Change." PI, NSF International Programs, 9/1/2008-8/30/2009, \$80,000.

"DHB: Program in Human and Environmental Systems Interactions (PHESI)" Co-PI with A. Agrawal and R. Riolo, NSF Human and Social Dynamics (BCS-0527318), 2005-2010, \$542,927 (UM share).

"MI Interdisciplinary Center on Social Inequality, Mind and Body." Co-I with George Kaplan and many others. NIH (R24 HD047861-01), 09/27/2004 - 08/31/2009, \$60,000 (SNRE sub-account).

"Land Use/Land Cover Response to Demographic Change in the Northern Region" co-PI with K. Johnson (Loyola, Chicago) and S. Stewart (USDA Forest Service), USDA Forest Service, Forest Inventory and Analysis Program, 2007-2009, \$29,382.

"Using Remote Sensing-based Measures to Assess NRCS Program Impacts in Michigan" co-PI with Nancy French (Altarum Institute), NASA LCLUC Program, 2006-2009, \$116,168 (UM share).

"Development of Functional Limitations in the Built Environment of Mid-Aged Women" co-PI with K. Tomey. NIH. 9/30/2007-8/31/2009, \$136,800 (total).

"Changing Responses of Land Dynamics and Vulnerability to Flooding Under Policy and Environmental Change near Poyang Lake, China" PI with K. Bergen and S. Bao, NASA LCLUC Program (NEWS/04-1-0000-0025), 2005-2009, \$522,670.

"Planning Visit for US-China-EU Research on Coupled Ecological and Human Dynamics in Poyang Lake Basin, China." Co-PI with K. Bergen, NSF international Programs, 9/24/2007 to 9/30/2008, \$19,998.

"Neighborhoods and Cardio-Vascular Disease Risk in a Multiethnic Cohort." Co-I with A. Diez-Roux. NIH-NHLBI (R01 HL71759-01), 6/1/2003-5/30/2007, \$78,000 (SNRE sub-account).

"Exploring Relationships Between Adult Physical Activity and Perceived and Objective Measures of Community Environmental Characteristics." Co-I with Ana Diez-Roux and Kelly Evenson (UNC). Robert Wood Johnson Foundation. 2005-2007, \$63,980 (SNRE sub-account).

"PROJECT SLUCE: Spatial Land Use Change and Ecological Effects at the Rural-Urban Interface: Agent-Based Modeling and Evaluation of Alternative Policies and Interventions" PI with J. Nassauer, S. Page, and 7 others, NSF Biocomplexity (BCS-0119804), 2001-2007, \$1,328,195.

"Predicting Black Bear Habitat in Michigan's Lower Peninsula" Student Fellowship – Neil Carter, Michigan Department of Natural Resources, 2006-2007, \$10,000.

"Spatial and Temporal Patterns of Error in Land Cover Change Analyses: Identifying and Propagating Uncertainty for Ecological Monitoring and Modeling" Student Fellowship – Amy Burnicki, NASA Earth System Science Fellowship Program (ESSF/03-0000-0084), 2003-2006, \$72,000.

"Developing Land Cover Scenarios in Metropolitan and Non-Metropolitan Michigan, USA: A Stochastic Simulation Approach." PI with P. Goovaerts and K. Bergen, NASA, LCLUC Program (NAG5-11271), 2001-2005, \$354,977.

"Modeling Siberian Boreal Forest Land-Cover Change and Carbon Under Changing Economic Paradigms" Co-PI with K. Bergen, NASA, LCLUC Program, 2001-2005, \$584,000.

"Landscape Level Analysis Linking Urban Sprawl and Aquatic Ecosystems." PI with J.D. Allan and J. Nassauer. USDA Forest Service, North Central Research Station (#00-JV-11231300-021), 2000-2005, \$49,869.

"Developing GIS Simulation for Integrating Landscape Ecological Knowledge into Landscape Designs" PI with Geoffrey Duh, USDA Forest Service, 2002-2004, \$54,170.

"Climate Change and Thresholds of Ecosystem Change: Invasibility of Tundra in the Northern Rocky Mountains." Co-PI with G. P. Malanson, S. J. Walsh, D. M. Cairns, and D. R. Butler. USGS Biological Resources Division, Global Change Research Division (99CRAG0035), 1999-2004, \$71,395 (UM Share).

"Radar Remote Sensing of Habitat Structure for Biodiversity Informatics" co-PI with K. Bergen and Craig Dobson, NSF Biodiversity & Ecosystem Informatics (EIA-0131281), 2001-2003, \$50,007.

"Analyzing Trends in Agricultural Land Use, 1900-1997" PI, National Wildlife Federation, 2002-2003, \$10,000.

"Biocomplexity-Incubation: Exploring Biocomplexity at the Interface of Social and Ecological Systems." PI with T. Crow, J.D. Allan, J. Nassauer, and S. Yaffee, NSF, Biocomplexity Program (DEB-0083992), 2000-2002, \$111,973.

"Hotspots of Change Project: Land-Cover Change in the North Central Region" PI with K. Bergen, USDA Forest Service, 2000-2002, \$69,476.

"Assessing Climate Change Impacts in the Upper Great Lakes Region: Michigan State University Effort." Co-PI with J.A. Andresen and J.A. Winkler, US EPA through the University of Michigan, 1999-2001, \$67,170.

"Upper Midwest Regional Earth Science Applications Center." Co-PI with M. E. Bauer, T. M. Lillesand, T. E. Burk, D. L. Skole, and others, NASA through the University of Minnesota, \$400,000 (MSU Share), \$1,500,000 (total).

"Characterizing Ecological Boundaries from Remote Sensing Based Field Representations." Co-PI with G. M. Jacquez (BioMedWare, Inc.), Project Varenus Seed Grant (Univ. of California, Santa Barbara), 1998, \$1,854.

"Collaborative Research on Process and Pattern at Alpine Treeline." PI with G. P. Malanson, National Science Foundation, Geography and Regional Science Program (#97-14347), 1997-1999, \$85,640 (MSU).

"Hierarchical Investigation of Socioeconomic Drivers of Decadal Scale Land-Cover Changes in the Upper Midwest." PI with B. Pijanowski and J. M. Vasievich (co-PIs), Land-Cover and Land-Use Change Research Program, NASA, Mission to Planet Earth (#NAG5-6042), 1997-2000, \$393,979.

"Socioeconomic Causes of Land Ownership Fragmentation in the Lake States." USDA Forest Service, North Central Forest Experiment Station (#23-95-50), 1995-2000, \$50,800.

"Stress, Disturbance, and Climatic Sensitivities Affecting the Pattern of Vegetation at Alpine Treeline." NASA *Global Change Fellowship* (#NGT 30068), 1991-92, \$22,000.

### **Equipment Grants**

"Michigan State University Center of Excellence in Applications of Remote Sensing to Regional and Global Integrated Environmental Assessment." Co-PI w/ D. L. Skole, R. E. Groop, R. Hinojosa, NASA, 1997-1998, \$448,000.

"A Digital Terrain Analysis Component for Extending and Integrating a Geography Curriculum." PI with Judy M. Olson (co-PI). National Science Foundation, Instrumentation and Laboratory Improvement Program (#95-51118), 1995-97, \$44,600 (NSF Contribution), \$91,409 (total).

"Color Output for Integrated Research and Teaching in Geography: GIS, Remote Sensing, Spatial Databases, and Climatology." Co-PI with J.B. Burley. SUN Microsystems, *Academic Equipment Grant* (AEG), June 1994, \$11,985.

### **Intramural Grants**

"Climate Change, Heatwaves, and Health: Local Tools for Sustainability, Equity, and Prevention" co-PI with M. O'Neill, R.B. Rood, and E. Parker, Graham Environmental Sustainability Institute, U. Michigan, 2008-2011.

"The Establishment of UM Program of Poyang Lake Studies in Environment, Health and Sustainable Development" Co-PI with M. Wilson and S. Bao. OVPR, U. Michigan, 2005-2007, \$10,000.

"Local Environmental Institutions and Participation: Analyzing Variations and Changes in Individual Environmental Beliefs." Co-PI with A. Agrawal. CLOSUP, U. Michigan, 2005-2008, \$24,570.

"Initiating Research in Spatial Analysis of Society-Environment Interactions in Southeastern Michigan." Co-PI with R.W. Marans, G.R. Smith, and M.L. Wilson. Office of the Vice President for Research, University of Michigan. 2000-2004, \$277,000.

"Educational Program for Spatial Analysis/GIS." Co-PI with J.D. Nystuen, and E.D. Rothman. Office of the Vice President for Research, University of Michigan. 2000-2003, \$221,000.

"Information Technology Partnership" PI. Chief Information Officer, University of Michigan. 2000-2003, \$280,000.

"GIS for the Kellogg Biological Station (KBS)" co-PI with R. E. Groop. Colleges of Social Science and Agriculture and Natural Resources and the Kellogg Biological Station, 1996-98, ~\$50,000.

"Developing a Fuzzy Model of Natural Vegetation Patterns for Ecological Mapping." All-University Research Grant, College of Social Science, Michigan State University, 1994-95, \$3,918.

"Linking Multi-Scale Spatial Structure for the Characterization of Landscape Pattern." All-University Research Grant, College of Social Science, Michigan State University, 1993-94, \$3,830.

## TEACHING

### Courses Taught

#### *UNIVERSITY OF MICHIGAN*

Principles of Geographic Information Systems (NRE 531; NRE/ENVIRON 420; NRE 540)  
- 55-105 students; 4 semester credits (lecture/lab)

GIS and Landscape Modeling (NRE 534)  
- 11-23 students; 3 semester credits (lecture/discussion/lab)

Environmental Spatial Data Analysis (NRE 543)  
- 13-21 students; 3 semester credits (lecture/lab)

Land Use and Global Change (NRE 501)  
- 16 students; 3 semester credits (lecture/discussion)

Seminar on Land Use: The Other Global Change (NRE 639)  
- 10 students; 1-2 semester credit (seminar)

Seminar in Geographic Information Science (NRE 639)  
- 4-10 students; 1-2 semester credits (seminar)

Introduction to Environmental Analysis (NRE/ENVIRON 239)  
- 60 students; 4 semester credits (lecture/lab); taught ½ the course

#### *MICHIGAN STATE UNIVERSITY*

Introduction to Geographic Information Systems (GEO 225)  
- 42 to 52 students per offering; 4 semester credits (3 lecture, 2 lab)

Geographic Information Systems (GEO 425)  
- 26 to 39 students per offering; 4 semester credits (3 lecture, 2 lab)

Digital Terrain Analysis (GEO 428)  
- 10-12 students; 4 semester credits (3 lecture, 2 lab)

Geoprocessing (GEO 825)  
- 5 to 12 students; 4 semester credits (lecture/lab)

People and the Environment (ISS 310)  
- 100 to 200 students per offering; 4 semester credits (4 lecture)

### Post-Doc Scholars Supervised

Shipeng Sun, 2012-2013. "Integrated modeling of land markets and landscape carbon storage in Southeastern Michigan."

Derek T. Robinson (Post-Doc, University of Edinburgh), 2009-2010. "Modeling land change and carbon cycling in exurban Southeastern Michigan."

Gabriela Valdivia (Assistant Professor, University of North Carolina at Chapel Hill), 2007-2009. "Agrarian revolution in the Bolivian Lowlands: New populism and the local spaces of social change." (NSF Post-Doctoral Research Fellowship)

Luguang Jiang (Assistant Professor, Chinese Academy of Sciences, Institute for Geographical Sciences and Natural Resources Research), 2006-2007, "Land-cover change and implications for vulnerability to flooding."

Shuhua Qi (Assistant Professor, Jiangxi Normal University), 2006-2007, "Inundation and flood risk modeling using satellite imagery and digital elevation models."

Li An (Associate Professor, San Diego State University), 2003-2005, "Spatial-temporal modeling of types of land development and implications for land-cover change at the urban-rural fringe."

Elisabeth Addink (Assistant Professor, University of Utrecht), 2001-2002, "Object-based classification of land use in urbanizing landscapes."

### **PhD Theses Supervised**

Hui Xu, PhD, current, Pre-Candidate.

Silvia Cordero-Sancho, current, PhD Candidate. Co-advise with Kathleen Bergen.

Jun Wang, current, PhD Candidate.

Liang Tsai, current, PhD Candidate. Co-advise with Greg Keoleian.

Qing Tian, PhD expected 2012. Recipient of Graham Institute Fellowship on Environmental Sustainability and NASA Earth System Science Fellowship (2008).

Derek Robinson, PhD 2009. Recipient of NSERC (Canada) pre-doctoral research fellowship (2006) and Graham Institute Fellowship (2007). "Effects of land-use policy, forest fragmentation, and residential parcel size on land-cover and carbon storage in Southeastern Michigan." (Assistant Professor, University of Waterloo)

Jason J. Taylor, PhD 2008. "Avian populations in human-dominated landscapes: An analysis of spatio-temporal dynamics at the urban-rural interface." (Bureau of Land Management)

Amy Burnicki, PhD 2008. Recipient of NASA Earth System Science Fellowship. "Spatial-temporal patterns of error in land cover change analyses: Identifying and propagating uncertainty for ecological monitoring and modeling." (Assistant Professor, University of Wisconsin – Madison)

Tingting Zhao, PhD 2007. Co-advise with Kathleen Bergen. "Changing primary production and biomass in heterogeneous landscapes: Estimation and uncertainty based on multi-resolution remote sensing and GIS data." (Assistant Professor, Florida State University)

Maira Zellner, PhD, 2005. (Urban, Technological, and Environmental Planning). Co-advise with Scott Campbell. "Generating Policies for Sustainable Water Use in Complex Scenarios: An Integrated Land-Use and Water-Use Model of Monroe County, Michigan" (Assistant Professor, University of Illinois - Chicago)

Jiunn-Der (Geoffrey) Duh, PhD, 2004. "Developing GIS simulation for integrating landscape ecological knowledge into landscape designs." (Associate Professor, Portland State University)

### **External PhD Examiner**

Nicholas Magliocca, University of Maryland – Baltimore County, Department of Geography and Environmental Systems, expected 2012.

Safaa Aldwaik, Clark University, Graduate School of Geography, expected 2012.

Fraser John Morgan, "Residential Property Developers in Urban Agent-Based Models: Competition, Behavior, and the Resulting Spatial Landscape." University of Auckland, Department of Geography, 2010.

Barry Kronenfeld, "The Tradeoff Between Information Content and Cognitive Simplicity in Graded Area-Class Maps: A Case Study in Vegetation Mapping." University at Buffalo (SUNY), Department of Geography and GIScience IGERT, 2004.

Tara Sharma, "Land-Use Modeling for Exploring Alternative Agricultural Futures: Linking Choices and Consequences." University of British Columbia, Department of Geography, 2004.

Danijela Puric-Mladenovic, "Predictive Vegetation Modeling for Forest Conservation and Management in Settled Landscapes." University of Toronto, Faculty of Forestry, 2003.

#### Ph.D. Committees

1996. Johan Liebens (MSU)	2005. Geoffrey Lewis	2008. Shahar Shlomi (CEE)
1996. Greg Bierly (MSU)	2006. Wayne Walker	2009. Diego Moreno (EEB)
1997. Jorge Euan (MSU RD)	2006. Kacey Ernst (Epid)	2010. Paul Duffy (Anthro)
1997. Tarek A. Joseph (MSU)	2006. Amy Auchincloss (SPH)	2011. Katie Bush (SPH)
1997. Claudia Walters (MSU)	2007. Justin Cohen (Epid)	Current. Charlie Kaylor (UTEP)
2002. Rob Corry	2007. Haejin Han (NRE)	Current. Luis Rivera-Gonzalez (SPH)
2002. Chris Lepczyk (MSU)	2008. Jason Barnes (Geol)	Current. Sarah Kiger (SNRE)
2003. Hirotaka Saito (CEE)	2008. Meng-Ying Li (CEE)	Current. Baruani Mshale (SNRE)
2003. Theresa Friedrich (EEB)	2008. Zhifang Wang (NRE)	

#### MA/MS Theses Supervised

Jie Dai, MS, current.

Courtney Wilson, MS, current.

Nina Shestakovitch, MS, 2011. "Exploratory analysis of spatial and temporal dynamics of dzud development in Mongolia, 1993-2004."

Elena Doucet-Bear, MS, 2011. "Modeling alternative agricultural scenarios using RUSLE and GIS to determine erosion risk in the Chippewa River watershed, Minnesota." (PhD Program, UMinnesota).

Jessica Gorchow, Liz Hood, Yi Hou, Lillian Peterson, Elizabeth Straus, 2011. "Ecological assessment, mapping, and prioritization at the Huron-Clinton Metroparks."

Karly (Pence) Wentzloff, MS, 2011. "Interactions between urban development and spatial distributions of specialty and commodity crops in Southeast Michigan, 1992-2001."

Kyle (Brown-)Kwaiser, MS, 2009. "Accounting for observation uncertainty in species-habitat models: A case study using bird survey data from Poyang Lake, China." (University of Michigan Biological Station)

Hugh Stimson, MS, 2008. "Surface-water-induced self-patterning of Piñon-Juniper Woodland in the American Southwest."

Neil Carter, MS, 2007. "Predicting ecological and social suitability of black bear habitat in Michigan's Lower Peninsula." (PhD Program, MSU)

Michele Tobias, MS, 2006. "Analysis of beach-habitat change for Piping Plover, Santa Barbara, CA." (PhD program, UC Davis)

Elizabeth (Severtsen) Bermingham, MS, 2005. "High-resolution remote sensing for mapping an invasive species." (Anchor QEA, LA firm)

Vikalpa Jetly, MS, 2005. "Evaluating the relationship between urbanization and ecological quality in Southeastern Michigan through the use of spatial landscape indicators." (i-Cubed, Boulder, CO)

Khemerith So, MS, 2005. "Integrating public participation, geographic information systems and multi-criteria decision analysis methods for tidal wetland restoration site prioritization: Applications to the Nehalem and Umpqua Estuaries in Oregon." (US Fish and Wildlife Service, OR)

- Jason J. Taylor, MS, 2004. "Linking land-cover change to local land-use policy: A GIS-based analysis." (PhD program, UM)
- Lara Peterson, MS, 2004. "Modeling land-cover change in the Siberian boreal forest: A case study in the Baikal Region." Co-advised with K. Bergen. (USDA Forest Service, Office of International Programs)
- Amy (Gilboy) Meide, MS, 2003. "Effects of landscape spatial structure and composition on models of bird habitat selection." (St. Johns County, FL)
- Christine Geddes, MS, 2003. "Modeling snow water equivalent across the alpine treeline ecotone in Glacier National Park, MT." (Univ. Michigan, Institute for Fisheries Research)
- Christina Yin and Abigail Fateman, MS, 2002, "A protocol for using community volunteers for GIS-based stream monitoring." (Contra Costa County, CA)
- Scott A. Drzyzga, MA, 2000, "Land Ownership Parcelization and Forest Fragmentation in Three Forested Counties in Northern Lower Michigan." (Associate Professor, Shippensburg Univ.)
- Mark A. Bowersox, MA, 1999, "Comparing surface- and patch-based metrics of patchiness and abruptness at the alpine treeline ecotone." (ITT Solutions, NY)
- Kenneth A. Duda, MA, 1998, "Michigan Forest Defoliation Detection using Multitemporal NDVI Signatures and Supervised Classification of AVHRR Satellite Imagery." (SAIC, NASA LP DAAC)
- James H. Reisen, MA, 1998, "An Analysis of Error in Digital Image Rectification." (NRCS)
- Jessica J. (Dolanski) Moy, MA, 1997, "Development, Application, and Evaluation of the Archaeological Site Prediction System." (MSU GIS and Remote Sensing Outreach Services)
- Catherine J. Delain, MA, 1997, "A Classification Tree Approach to the Automation of Landtype Association Mapping in Michigan." (Manitowoc County, WI)
- David F. Vaughan, MA, 1996, "Topographic Effects on the Normalized Difference Vegetation Index, Rocky Mountain National Park, Colorado." (DOD)

#### **Master's Thesis Reader (not adviser)**

- Current. Kevin Brown  
 2005. K. Windfeldt  
 2005. A. Jayaraman  
 2002. N. Parachini  
 1999. E. Waller (MSU)  
 1999. D. Gatziolis (MSU)  
 1994. D. L. Price (MSU)

#### **Undergraduate Researchers Supervised**

- John Leitz, UROP, 2011  
 Robert Kim, UROP, 2010-2011  
 Ben Martin, SROP, 2009  
 Eric Gudz, UROP, 2007-2008  
 Casey McKeel, Work/Study, 2007-2010  
 Leslie Garrison, UROP, 2005-2006  
 Brad Gregorka, Research Internship, 2004  
 Amanda Turek, Work/Study, 2004-2005  
 Lucas Spaete, UROP, 2003-2005. Land cover change in Pittsfield Township, MI

Arthur Chan, UROP and Work/Study, 2002-2004

Dave Somers, Work/Study, 2001-2004

Joseph Day, SROP, 2002, Land cover change in Oakland County.

Emily Marshall, NSF REU, 2001, Mapping land parcel change in Southeastern Michigan.

Mark Irwin, NSF REU, 2001, Mapping land parcel change in Southeastern Michigan.

James Rutherford, UROP, 2000-2001, Mapping urban land cover characteristics.

Bryan Emmett, UROP, 1999-2000, Relationships between land cover change and bird species abundance.

## PROFESSIONAL SERVICE

### Editorial Board Member

*Land*, MDPI (2011-present)

*Computers Environment and Urban Systems*, Elsevier, Netherlands (2008-2014)

*Applied Spatial Analysis and Policy*, Springer, Netherlands (2007-present)

*Journal of Land Use Science*, Taylor and Francis (2005-present)

*Landscape Ecology*, Springer, Netherlands (1999-2005)

### NRC Committees

Chair, National Research Council (NRC) Committee, "Needs and Research Requirements for Land-Change Modeling," Board on Earth Sciences and Resources, 2011-2012.

Member, National Research Council (NRC) Panel, Human Health and Security, "Earth Science and Applications from Space: A Community Assessment and Strategy for the Future," Space Studies Board, 2005-2006.

### Advisory/Steering Committees

Member, U.S. Carbon Cycle Scientific Steering Group, U.S. Global Change Research Program, 2011-2014

Chair, Land-Use/Land-Cover Change (LULCC) Steering Group for LULCC Interagency Working Group, U.S. Global Change Research Program, 2004-present.

Board of Trustees, Community Systems Foundation, Ann Arbor, MI, 2010-present.

Expert Panel Member: USGCRP/Climate Change Research Initiative Draft Report on Land Use / Land Cover Change elements of strategic plan, 2002.

External Advisory Committee: The Maine NSF-GIS Consortium: A Statewide, Interdisciplinary Approach to GIS Education. Cathleen McAnney and Matthew Brampton, PIs, 2003-05

Scientific Advisory Board: Climate Land Interaction Project. Michigan State Univ. David Campbell, PI, 2004-2007.

Advisory Board: UCGIS Model Curriculum Project, 2005-2006.

### Reviewing Activities

*Review Panel Member:*

European Research Council (Environment and Society Panel for Starter Grant Competition). 2011-2014

National Science Foundation (Decadal and Regional Climate Prediction using Earth System Models (EaSM);

Biocomplexity in the Environment Program; Environmental Decision Making and Valuation; Division of Behavioral and Cognitive Sciences, Geography and Regional Science Program, Doctoral Dissertation Panel; Division of Undergraduate Education, Instrumentation and Laboratory Improvement Program)

National Aeronautics and Space Administration (New Investigator Program; Earth System Science Fellowship Program; Land Cover Land Use Change Program x2)

Strategic Environmental Research and Development Program (SERDP) Ecosystems Management.

Ecological Society of America Panel to review the USGS GAP Program. 2008.

EPA State of the Environment Report, Land Use-Land Cover chapter, January 2008.

*External Site/Program Reviewer*

School of Natural Resources, University of Nebraska, September, 2009.

CIPEC and ACT centers, Indiana University, November, 2008.

Initiative on Spatially Structure Social Sciences (S4), Brown University, December, 2008.

NSF, Decision Making Under Uncertainty Program, Arizona State University, 2004, 2007.

NSF IGERT Evaluation Team, University of Wisconsin, 2001-2002.

*Ad Hoc Research Proposal Peer Reviewer*

Academy of Finland

Austrian National Science Fund

Michigan Sea Grant College Program

National Aeronautics and Space Administration (ADRO Program, Graduate Student Fellowship Program, New Investigator Program, LBA Program)

National Geographic Society, Committee for Research and Exploration

National Science Foundation (Directorate for Computer & Information Science & Engineering; Directorate for Social, Behavioral, and Economic Sciences; Division of Undergraduate Education; International Research Fellowship Program)

National Sciences and Engineering Research Council of Canada  
Research Council for Biosciences and Environment (RCBE), Academy of Finland  
Southeast Regional Climate Center  
Strategic Environmental Research and Development Program (SERDP)  
USDA Forest Service, North Central Research Station

*Promotion/Tenure Reviewer*

Arizona State University  
University at Buffalo  
Clark University  
University of California, Berkeley  
University of Durham, UK  
Indiana University  
University of Maryland  
McGill University  
The Ohio State University  
Texas A&M University  
University of Toronto  
University of Wisconsin, Madison  
U.S. Military Academy, West Point, NY.

*Manuscript Reviewer*

<i>Advances in Complex System</i>	<i>Environment &amp; Planning A</i>	<i>J Geographical Systems</i>
<i>Agriculture Ecosystems &amp; Environment</i>	<i>Environment &amp; Planning B</i>	<i>J Geography</i>
Addison Wesley Longman	<i>Env Impact Assessment Review</i>	<i>J Geophysical Research-Atmospheres</i>
<i>Annals Assoc. of Am. Geographers</i>	<i>Environmental Modelling &amp; Software</i>	<i>J Hydrology</i>
<i>Area</i>	<i>Folia Geobotanica</i>	<i>J Land Use Science</i>
<i>Bioscience</i>	<i>Forest Policy &amp; Economic</i>	<i>J Vegetation Science</i>
<i>Canadian J. Forest Research</i>	<i>GeoForum</i>	<i>Landscape Ecology</i>
<i>Catena</i>	<i>Geographical Analysis</i>	<i>Land Use Policy</i>
<i>Computers Env &amp; Urban Systems</i>	<i>Geographical &amp; Env Modelling</i>	<i>Natura Croatica</i>
<i>Computers &amp; Geosciences</i>	<i>Geocarto International</i>	<i>Photogrammetric Eng. &amp; Remote Sensing</i>
<i>Conservation Biology</i>	<i>Geomorphology</i>	<i>Plant Ecology</i>
<i>Conservation Letters</i>	<i>Global Ecology and Biogeography</i>	Prentice Hall
<i>Earth Science Informatics</i>	<i>Int J Environment and Pollution</i>	<i>Proc National Academy of Sciences</i>
<i>Ecological Applications</i>	<i>Int J Geographical Information Sci</i>	<i>Professional Geographer</i>
<i>Ecology</i>	<i>Int J Remote Sensing</i>	<i>Remote Sensing of Environment</i>
<i>Ecology &amp; Society</i>	<i>J of Ecology</i>	<i>Transactions in GIS</i>
<i>Ecosystems</i>	<i>J Environmental Management</i>	<i>Urban Ecosystems</i>

*Conference Program Committees*

GIScience 2012, Columbus, Ohio, September 2012  
GeoComputation 2011, London, England, July 2011  
The IASTED International Symposium on Environmental Science and Engineering (EME 2010), Banff, Canada, 2010  
GIScience 2010, Zurich, Switzerland, September 2010  
GeoComputation 2009, Sydney, Australia, November 2009

The IASTED International Symposium on Environmental Modelling and Simulation (EMS 2008), Orlando, USA, 2008  
X Brazilian Symposium on Geoinformatics, Rio de Janeiro, Brazil, December 2008  
GIScience 2008, Park City, Utah. September, 2008  
GeoComputation 2007, Maynooth, Ireland. September, 2007  
The IASTED International Conference on Environmental Modelling and Simulation (EMS 2007), Honolulu, Hawaii, 2007  
The IASTED International Conference on Environmental Modelling and Simulation (EMS 2006), St. Thomas, Virgin Islands, 2006

### **Conference and Session Organizing**

Special Session, Issues in Complexity in Geography, AAG Annual Meeting, Chicago, IL, 2006.  
Symposium, Understanding exurban landscape change processes: Human preferences, agent behaviors and ecological effects, IALE Meeting, San Diego, CA, 2006.  
Symposium, Space Matters! Spatial Dimensions of Complex Interactions Between People and the Natural Environment, AAAS Meeting, St. Louis, MO, 2006.  
Conference, GeoComputation 2005, Ann Arbor, MI, August 1-3, 2005.  
Session, Modeling Land Use and Land Cover Dynamics, International Geographical Congress, Glasgow, Scotland, Aug 10, 2004.  
Symposium, Land-Use in Rural America, Ecological Society of America, Tucson, AZ, Aug 2001.

### **Service to Professional Organizations**

Board of Directors, University Consortium for Geographic Information Science, 2007-2008.  
Awards Committee Member (2000-2005), Program Chair (1997-98), Director (1993-1996): Remote Sensing Specialty Group of the AAG.  
Chair (and executive committee member): GIS Specialty Group of the AAG, 1998-2001.  
Lead Delegate, University Consortium for Geographic Information Science (UCGIS), 1994-1999 (MSU), 2002-present (UM)  
Research Projects Committee, University Consortium for Geographic Information Science, 2003-2005.

### **University Service**

Chair, Search Advisory Committee for Dean of the School of Natural Resources and Environment, 2010-2011  
Charged by the Provost of the University to chair committee to recommend excellent candidates for the position of Dean of the School of Natural Resources and Environment. Worked through inclusive and confidential process of identifying key goals from faculty, staff and students, coordinated with search firm to identify excellent candidates, work with committee to interview and prioritize candidates for recommendation to the Provost. Resulted in the hiring of Dean Marie Lynn Miranda.

Associate Dean for Research, School of Natural Resources and Environment, 2006-2009  
Responsible for allocating financial and space resources, and cultivating an environment that furthers the research objectives of a School of ~43 FTE faculty members, enhances inter-disciplinarity, and increases funding for graduate students. Establish policies and procedures for appointing and evaluating research-track faculty. Chair the faculty Research Committee and coordinate activities with that group. Report directly to the Dean, and represent the School to the Office of the Vice President for Research (OVPR) and other research entities internal and external to the University.

### **UM Committees:**

Steering Committee, RWJ Health and Society Scholars Program (2010-present)  
Executive Committee, Michigan Memorial Phoenix Energy Institute (2006-09)  
Advisory Committee, Global Health Research and Training (2007-08)

### **SNRE Committees:**

Chair, Promotion and Tenure Committee, 2011-12  
Member, Sustainable Systems Search Committee (2 positions), 2009-10  
Chair, Global Change Theme Group, 2003-04  
Chair, Ecosystem Modeling Search Committee, 2002  
SNRE 100<sup>th</sup> Anniversary Advisory Committee, 2002-03

Executive Committee, 2001-2005  
Ecosystem Management Initiative Advisory Committee, 2000-present  
Information Technology Committee, 2000  
Chair, GIS Lab Manager Search Committee, 2000

Director: Environmental Spatial Analysis Laboratory, SNRE, University of Michigan (2001-present)

Director and Chair of the steering committee, Graduate Certificate Program in Spatial Analysis, University of Michigan (2001-present)

Peer Reviewer: UM CARAT/Rackham IT Fellowships (23), UM OVPR small grants (1), MSU All University Research Initiation Grants (3), Michigan Agricultural Experiment Station

Geography Department (MSU) Committees:

Geography BSRSI Faculty Search Committee (2 positions), 1998-99  
Department of Geography, Curriculum Review Committee, 1998  
Microcomputer Support Position Search Committee, 1998  
Geography BSRSI Faculty Search Committee (2 positions), 1997-98  
Senior Remote Sensing Faculty Search Committee, 1995-96  
Computing Strategy Committee, 1993-1995

MSU College of Social Science Committees:

Dean's Research Counsel, 1998-1999  
Research Committee, 1998-1999  
Center for Remote Sensing and GIS Advisory Committee, 1997-1999  
Working Group on Environmental Studies, 1993-1995

Organizer and Chair: MSU GIS Interest Group (UCGIS), 1995-1999

Graduate student representative to faculty (UNC-CH)

Colloquium Steering Committee (UNC-CH)