

**Dawn Cassandra Parker****Assistant Professor, Geography and Environmental Science and Policy****George Mason University**

4400 University Drive, MS 1E2

Fairfax, VA 22030

[dparker3@gmu.edu](mailto:dparker3@gmu.edu)

+1-703-993-4640 (phone)

+1-703-993-1216 (fax)

<http://mason.gmu.edu/~dparker3>**Education**

- Bachelor of Arts, Economics, Lewis and Clark College, Portland, Oregon, June 1992
- Ph.D, Agricultural and Resource Economics, University of California at Davis, July 2000
- Postdoctoral Fellow in Modeling, CIPEC, Indiana University, Aug. 2000-Dec. 2002

**Research Appointments**

- 1/2003-8/2006: Assistant Professor, George Mason University: Department of Environmental Science and Policy, Center for Social Complexity, Krasnow Institute for Advanced Study
- 1/2003-8/2006: Assistant Professor, George Mason University: Department of Geography, Department of Environmental Science and Policy, Center for Social Complexity
- 1/2001 to 12/2002: Participating Scientist, NSF Biocomplexity Grant: "Biocomplexity in Linked Bioecological-Human Systems: Agent-Based Models of Land Use Decisions and Emergent Land-Use Patterns", Elinor Ostrom, Principal Investigator.
- 9/94 - 6/2000: Various fellowship and research assistantship appointments at U.C. Davis under James E. Wilen, Marca Weinberg, and Desmond Jolly
- 10/92-7/94: Research Assistant, Federal Reserve Board of Governors, Division of Research and Statistics, Financial Structures Section.

**Related Publications**

- Polhill, J. G., D. C. Parker, and N. Gotts. Forthcoming. Effects of land markets on competition between innovators and imitators in land use: results from FEARLUS-ELMM. To be published in C. Hernandez, K. Troitzsch and B. Edmonds, eds, Social Simulation Technologies: Advances and New Discoveries.
- Robinson, D. T., D. G. Brown, D. C. Parker, P. Schreinemachers, M. A. Janssen, M. Huigen, H. Wittmer, N. Gotts, P. Promburom, E. Irwin, T. Berger, F. Gatzweiler, and C. Barnaud. Forthcoming. Comparison of empirical methods for building agent-based models in land use science. *Journal of Land-Use Science* .
- Parker, D. C., D. G. Brown, J. G. Polhill, P. J. Deadman, and S. M. Manson. Forthcoming. Illustrating a new 'conceptual design pattern' for agent-based models of land use via five case studies: the MR POTATOHEAD framework. *Agent-Based Modelling in Natural Resource Management*, A. López-Paredes and C. Hernández, eds. Pearson Education, Madrid.
- Parker, D. C. 2005. Agent-Based Modeling to Explore Linkages Between Preferences for Open Space, Fragmentation at the Urban-Rural Fringe, and Economic Welfare. Paper presented in the The role of open space and green amenities in the residential move from cities, Dec. 14-16, Dijon, France.
- Polhill, J. G., D. C. Parker, and N. M. Gotts. 2005. Introducing Land Markets to an Agent Based Model of Land Use Change: A Design. *Proceedings of ESSA, 2005*.
- Parker, D. 2005. "Integration of Geographic Information Systems and Agent-Based Models of Land Use: Prospects and Challenges." Pp. 403-422 in D. J. Maguire, M. F. Goodchild, and M. Batty, eds. *GIS, Spatial Analysis and Modeling*. ESRI Press, Redlands, CA.
- Gotts, N. M., and D. C. Parker. 2004. Size Distributions of Land Holdings in an Agent-based Model of Rural Land Use. *Proceedings of the Agent 2004 Conference on: Social Dynamics:*

Interaction, Reflexivity and Emergence, Oct. 7-9, Chicago, IL.

<http://agent2004.anl.gov/Agent2004.pdf>.

- Parker, D. and V. Meretsky, "Measuring Pattern Outcomes in an Agent-Based Model of Edge-Effect Externalities Using Spatial Metrics." (2004) *Agriculture, Ecosystems, and Environment* 101:233:250.
- "Multi-Agent Systems for the Simulation of Land Use and Land Cover Change: A Review." (2003) Dawn Parker, Steven Manson, Marco Janssen Matt Hoffmann, and Peter Deadman. *Annals of the Association of American Geographers*, 93(2), June.
- "Agent-based Models of Land-Use/Land-Cover Change: Report and Review of An International Workshop." (2002) LUC Report # 6: Dawn Parker, Thomas Berger, and Steven Manson, eds.

#### **Additional Publications**

- Parker, D. C., and D. K. Munroe. Forthcoming. The geography of market failure: Edge-effect externalities and the location and production patterns of organic farming. *Ecological Economics* 60(4) 821-833. <http://dx.doi.org/10.1016/j.ecolecon.2006.02.002>.
- Parker, D., A. Hessel, and S. C. Davis. Accepted. Complexity, Land-Use Modeling, and the Human Dimension: Fundamental Challenges for Mapping Unknown Outcome Spaces. *Geoforum*. Accepted manuscript; near final.
- Parker, D. C. Accepted. Revealing 'Space' in Spatial Externalities: Edge-Effect Externalities and Spatial Incentives. *Journal of Environmental Economics and Management*.

#### **Synergistic Activities**

- 10/2001: Co-organizer (with Michael Goodchild, William McConnell, and B.L. Turner II): *Special workshop on Agent-based Models of Land use* Sponsored by the Center for Spatially Integrated Social Sciences, LUC Focus 1, and CIPEC. Oct 4-7, Irvine, CA ([www.csiss.org/events/other/agent-based](http://www.csiss.org/events/other/agent-based))
- *Developer, MAS/LUC resource site* Hosted by CSISS at <http://www.csiss.org/resources/masluc>.
- 11/2006-8-2007: Acting director, computational social science program, George Mason University.
- Spring 2003,2004; Fall 2006 George Mason University: *Land-use modeling techniques and applications* (Graduate geography/environment science and policy class)
- Fall 2004, Spring 2007 George Mason University: *Spatial agent-based models of human/environment interactions* (Graduate computational social science/geography/environment science and policy class)