

Curriculum Vitae – Dr. Christopher Bone

Name: Christopher Bone

Position: Assistant Professor

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Organization: Department of Geography, University of Oregon

Address: 1251 University of Oregon, OR, USA 97403-1251

Education:

Degree	Year	University	Subject
B.A. Honors	2003	University of Toronto	Environmental Studies
M.Sc.	2005	Simon Fraser University	Geography
Ph.D.	2009	Simon Fraser University	Geography

Work Experience:

Position held	Date	Organization
Assistant Professor	2011- present	University of Oregon
Postdoctoral Research Scientist	2010-2011	Canadian Forest Service
Postdoctoral Research Scientist	2009-2010	University of Alaska Anchorage

Grants and Awards:

1. “Crowdsourcing the Collection of Transportation Behavior Data” (PI). Funded by the National Institute for Transportation and Communities, \$132, 935 (2014-2015).
2. “An Agent-based Model Simulating Pedestrian Behavior Response to Environmental Structural Changes (co-PI with PI Dr. Amy Lobben). Funded by the National Institute for Transportation and Communities, \$138,194 (2014-2015)
3. “Drivers of the Beetle Empire”(PI). Funded by the University of Oregon’s Office of Research, Innovation and Graduate Education, \$49,969 (2013-2014).
4. Esri Education Grant, \$10, 000 (2012-2013).
5. University of Oregon Junior Professorship Award, \$1,000 (2013)
6. Dean of Graduate Studies Convocation Medal for Academic Excellence, Simon Fraser University (2010)
7. NSERC Doctoral Canadian Graduate Scholarship, \$105,000 (2006 – 2009).
8. Gordon MacNabb Scholarship for Intelligent Systems, awarded by MacDonald, Dettwiler and Associates, \$5,000 (2006)

Publications in Refereed Journals:

1. **Bone C.**, B. Johnson, M. Nielsen-Pincus, E. Sproles, and J. Bolte. 2014. A Temporal Variant-Invariant Validation Approach for Agent-based Models of Landscape Dynamics. *Transactions in GIS*, DOI: 10.1111/tgis.12016.
2. **Bone C.**, J. White, M. Wulder, C. Robertson, and T. Nelson. 2013. The impact of forest pattern on host selection by mountain pine beetle at different beetle population densities. *Forests*, 4(2) 279-295.
3. **Bone C.**, M. Wulder, J. White, C. Robertson, and T. Nelson. 2013. A GIS-based risk rating of forest insect outbreaks using aerial overview surveys and the local Moran’s I statistic. *Applied Geography*, 40: 161-170.
4. Altaweel, M. and **C. Bone**. 2012. Applying Content Analysis for Investigating the Reporting of Water Issues. *Computers, Environment and Urban Systems*, 8: 733-761.
5. **Bone, C.**, S. Dragičević and R. White. 2011. Modeling-in-the-middle: Bridging the gap between agent-based modeling and multi-objective decision making for land use change. *International Journal of Geographical Information Science*, 25:717-737.

6. **Bone, C.**, L. Alessa, A. Kliskey and M. Altaweel. 2011. Assessing the impacts of local knowledge and technology on climate change vulnerability in remote communities. *International Journal of Environmental Research and Public Health*, 8: 733-761.
7. **Bone, C.**, L. Alessa, M. Altaweel and A. Kliskey. 2010. The influence of statistical methods and reference dates for estimating temperature trends in Alaska. *Journal of Geophysical Research* 115 : doi : doi:10.1029/2010JD014289.
8. **Bone, C.** and S. Dragičević. 2010. Incorporating spatio-temporal knowledge in an intelligent agent model for natural resource management. *Landscape and Urban Planning* 96: 123-133.
9. **Bone, C.** and S. Dragičević. 2010. Simulation and validation of a reinforcement learning agent-based model for multi-stakeholder forest management. *Computers, Environment and Urban Systems*, 34: 162-174.
10. Altaweel, M., Alessa, L., Kliskey, A. and **Bone, C.**, 2010. Monitoring land use: Capturing change through an information fusion approach. *Sustainability*, 2(5): 1182-1203.
11. Altaweel, M., L. Alessa, A. Kliskey, and C. **Bone**. 2010. A framework to structure agent-based modeling data for social-ecological systems. *Structure and Dynamics: eJournal of Anthropological and Related Sciences*, 4(1).
12. **Bone, C.** and S. Dragičević. 2009. GIS and intelligent agents for natural resource allocation: A reinforcement learning approach. *Transactions in GIS*, 13: 253-272.
13. **Bone, C.** and S. Dragičević. 2009. Evaluating spatio-temporal complexities of forest management: An integrated agent-based modeling and GIS approach. *Environmental Modeling and Assessment*, 14: 481-496.
14. **Bone, C.** and S. Dragičević. 2009. Defining transition rules with reinforcement learning for modeling land cover change. *Simulation*, 85(5): 291-305.
15. **Bone, C.**, Dragičević, S., & Roberts, A. 2007. Evaluating forest management practices using a GIS-based cellular automata modeling approach with multispectral imagery. *Environmental Modeling & Assessment*, 12(2): 105-118.
16. **Bone, C.**, S. Dragičević and A. Roberts. 2006. A fuzzy-constrained cellular automata model of forest insect infestations. *Ecological Modelling*, 192(1-2): 107-125.
17. **Bone, C.**, Dragičević, S., and Roberts, A. 2005. Integrating high resolution RS, GIS and fuzzy set theory for identifying susceptibility areas of forest insect infestations. *International Journal of Remote Sensing*, 26(10): 4809-4828.

Extended Abstracts in Conference Proceedings

1. Bone, C. and Dragičević, S. 2008. RELAM: A spatio-temporal GIS agent model for optimizing forest resource allocation. Extended abstract in proceedings of *GIScience 2008*, Park City, Utah, September 23-26.
2. Bone, C. and Dragičević, S. 2005. Sensitivity of a fuzzy-constrained cellular automata model of forest insect infestation. Extended abstract in proceedings of *GeoComputation 2005*, Ann Arbor, Michigan, August 1-3.

Conference Presentations

1. Bone, C. 2013. A spatiotemporal analytical framework for agent-based modeling. Presented at the *Association of American Geographers Annual General Meeting*, Los Angeles, CA, April 9-13.
2. Bone, C. 2012. ArcGIS Online: New pathways to teaching GIS. Presented at the Esri Education Conference, San Diego, CA. July 21-23.
3. Bone, C., Johnson, B., Bolte, B. and others. 2012. Integrating multi-objective decision making theory and agent-based modeling for enhancing spatial decision support systems. Presented at the *Association of American Geographers Annual General Meeting*, New York, N.Y, February 25-28.
4. Bone, C. Alessa, L., Kliskey, A., Altaweel, M. and Lammers, R. 2010. Simulating community resilience to freshwater dynamics with social agents. Presented at the *Association of American Geographers Annual General Meeting*, Washington, D.C, April 13-18.

5. Bone, C. 2009. Agents, cells, bugs and trees: Understanding forests from the bottom-up. Presented at the *Environment and Natural Resource Institute Seminar Series*, University of Alaska Anchorage, November 13.
6. Bone, C. and Dragičević, S. 2009. From heuristics to complexity: Integrating artificial intelligence and agent-based modeling for simulating patterns and processes of forest cover change. Presented at *The Modelling of Complex Social Systems Colloquium Series*, Simon Fraser University, June 10.
7. Bone, C. and Dragičević, S. 2009. GIS and spatial modeling algorithms for multi-objective forest management. Presented at *GeoTec 2009*, Vancouver, British Columbia, June 1-4.
8. Bone, C. and Dragičević, S. 2009. An intelligent agent model for multi-objective urban growth. Presented at the *Association of American Geographers Annual General Meeting*, Las Vegas, Nevada, March 22-27.
9. Bone, C. and Dragičević, S. 2008. Machine learning and agent-based modeling for spatial decision support systems. Presented at the *Association of American Geographers Annual General Meeting*, Boston, Massachusetts, April 15-19.
10. Bone, C. 2006. Forest management in BC: Gaining knowledge through GIS modeling and remote sensing. Presented at *MacDonald Dettwiler and Associates' Weekly Seminar Series*, Richmond, British Columbia, July 25.
11. Bone, C. 2006. Integrating spatial technologies for modeling complexities of forest processes and management. Presented at *Science Speaker Series, University of British Columbia Okanagan*. Kelowna, British Columbia, November 9.
12. Dragičević, S. and Bone, C. 2005. Modeling land-use transitions with fuzzy controlled cellular automata. *GeoInformatics'05*, Toronto, Ontario, August 17-19.
13. Bone, C., Dragičević, S. and Roberts, A. 2005. Modelling forest infestation by integrating fuzzy sets, RS and GIS. Presented at the *Canadian Association of Geographers Annual General Meeting*, London, Ontario, May 31 – June 4.
14. Stevens, D., Bone, C. and Dragičević, S. 2005. Potential and limitations of GIS-based cellular automata modeling tools for spatial decision support. In *Proceedings of GeoTec 2005*, Vancouver, February 13-16.

Teaching

Instructor, University of Oregon

- GEOG 181: Our Digital
- GEOG 410/510: Spatial Analysis and Modeling
- GEOG 491/591: Advanced Geographic Information Systems
- GEOG 482/582: GIScience II (2011, 2013)
- GEOG 607: Models and Society

Guest Instructor, University of Alaska Anchorage

- GIS for Ecological Applications (2009)

Instructor, Simon Fraser University

- Introduction to Geographical Information Science (2008)