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 East Lansing, MI 48824-1222 *WWW:* <http://blue.for.msu.edu>

EDUCATION **University of Minnesota**, St. Paul, MN

Ph.D., Natural Resources Science and Management. Completed 2006
 Dissertation title: Application of Bayesian spatial models in multisource forest inventory
 Advisers: Sudipto Banerjee (Division of Biostatistics) and Alan R. Ek (Department of Forest Resources)

M.S., Statistics. Completed 2007
 Adviser: Galin L. Jones (School of Statistics)

University of Massachusetts, Amherst, MA

M.S., Forestry. Completed 2003
 Thesis title: Assessing private forest landowners' attitudes toward, and ideas for, cross-boundary cooperation in western Massachusetts
 Adviser: David B. Kittredge (Department of Natural Resources Conservation)

The Pennsylvania State University, University Park, PA

B.S., Forestry. Completed 2000

ACADEMIC EXPERIENCE *Associate Professor* **2013 – Current**
 Departments of Forestry (75%) and Geography (25%), Michigan State University, East Lansing, MI.

Assistant Professor **2007 – 2013**
 Departments of Forestry (75%) and Geography (25%), Michigan State University, East Lansing, MI.

Adjunct Professor **2008 – Current**
 Department of Statistics and Probability, Michigan State University, East Lansing, MI.

NASA, Earth System Science Graduate Fellow **2003 – 2007**
 Department of Forest Resources, University of Minnesota, St. Paul, MN.

Research Assistant **2001 – 2003**
 Department of Natural Resources Conservation, University of Massachusetts, Amherst, MA.

Visiting Researcher and Undergraduate Researcher Mentor **Summer 1999, 2000, 2001**
 Harvard Forest LTER, Harvard University, Petersham, MA.

- ACTIVE GRANTS NSF, Division of Environmental Biology. *Collaborative Research: PalEON – a paleoEcological observatory network to assess terrestrial ecosystem models*. PI J.S. McLachlan, Co-I A.O. Finley. 2014–2018.
- NASA, Carbon Monitoring System. *High-Resolution Carbon Monitoring and Modeling: Continuing Prototype Development and Deployment*. PI G. Hurtt, Co-PI A.O. Finley, et al. 2014–2017.
- NSF, Division of Environmental Biology. *CAREER: Advancements in spatio-temporal modeling and education in support of NEON and large-scale and long-term ecological research*. PI A.O. Finley. 2013–2018.
- NSF. *Travel and accommodation support for global south and early career participants in Spatial Accuracy 2014*. PI A. Shortridge, Co-PIs A.O. Finley, A. Kravchenko, J. Messina.
- NASA, Carbon Monitoring System. *An ALS-augmented USFS-FIA biomass and carbon inventory of the Tanana District, Alaska*. PI R.F. Nelson, Co-PIs A.O. Finley, et al. 2013–2016. Recently featured by WIRED Magazine www.wired.com/2014/12/alaska-laser-survey-3d-map.
- NASA, Carbon Monitoring System. *Development of a prototype MRV system to support carbon ecomarket infrastructure in Sonoma County, CA*. PI R.O. Dubayah, Co-PI A.O. Finley. 2013–2016.
- NSF, Directorate for Biological Sciences, Postdoctoral Research Fellowships in Biology. *Climatic and hydrologic influences on tree regeneration and distribution in the Western United States*. PI D. Bell*, Co-mentors A.O. Finley and W.K. Lauenroth. 2012–2014.
- NASA, Carbon Monitoring System. *High resolution carbon monitoring and modeling: A CMS phase 2 study*. PI R.O. Dubayah, Co-PIs A.O. Finley, et al. 2012–2013.
- NSF, Division of Environmental Biology. *Collaborative Research: Climate change impacts on forest biodiversity: individual risk to subcontinental impacts*. PIs J. Clark, M. Dietze, A.O. Finley, A. Gelfand, J. Mohan, and M. Uriarte. 2012–2016.
- PREVIOUS GRANTS NSF, Division of Mathematical Sciences. *Hierarchical models for large geostatistical datasets with applications to forestry and ecology*. PI S. Banerjee and Co-PI A.O. Finley. 2011–2014.
- NASA, Carbon Monitoring System. *Improving forest biomass mapping accuracy with optical-LiDAR data and hierarchical Bayesian spatial models*. PIs B. Cook, A.O. Finley, and L. Corp. 2012–2013.
- NASA, Carbon Monitoring System. *Systematic and spatially explicit estimates of carbon stock and stock changes of the US forestlands*. PI S. Saatchi, Co-PIs A.O. Finley, et al. 2012–2013.

*Postdoctoral researcher

NASA. *Integrating landscape-scale forest measurements with remote sensing and ecosystem models to improve carbon management decisions*. PI R. Birdsey, C-I A.O. Finley. 2009–2012.

NIH. *Hierarchical spatial process models for estimating and predicting health effects of climate change*. PI S. Banerjee and Co-PI A.O. Finley. 2010–2012.

USDA, Forest Service. *Forest complexity in the Lake States: Implications for carbon storage*. PI A.O. Finley. 2009–2012.

USDA, Forest Service. *Nationwide forest imputation system*. PI A.O. Finley. 2007–2012.

NSF, Division of Mathematical Sciences. *Hierarchical models for large geostatistical datasets with applications to forestry and ecology*. PI S. Banerjee and Co-PI A.O. Finley. 2007–2010.

USDA, Forest Service. *Spatial prediction and estimation of forest attributes*. PI M.E. Bauer and Co-PI A.O. Finley. 2006–2007.

NASA, Earth System Science Graduate Fellowship. P.I. A.O. Finley. 2003–2006.

National Ford Foundation Masters Fellowship. P.I. A.O. Finley. 2001–2002.

HONORS

Summer 2013, 2014. Visiting Scientist, Institute for Mathematics Applied to Geosciences, National Center for Atmospheric Research.

Summer 2012. Visiting Scientist, National Ecological Observatory Network.

2009–2010. Research Fellow, Statistical and Applied Mathematical Sciences Institute.

2009. Young Investigator Award, American Statistical Association’s Section on Statistics and the Environment.

2007. Student paper competition, American Statistical Association’s Section on Statistical Computing.

2007. Student paper competition, American Statistical Association’s Section on Statistics and the Environment.

2003–2006 NASA Earth System Science Graduate Fellowship.

2001–2002 National Ford Foundation Masters Fellowship.

PEER REVIEWED PUBLICATIONS

Jarzyna, M[†], W. Porter, B. Maurer, B. Zuckerber, and A.O. Finley. (Accepted) Landscape fragmentation affects responses of avian communities to climate change. *Global Change Biology*.

Junttila, V.*, T. Kauranne, A.O. Finley, J.B. Bradford. (Accepted) Linear models for airborne laser scanning based operational forest inventory with small field sample size and highly correlated LiDAR data. *IEEE Transactions on Geosciences and Remote Sensing*.

[†]Graduate student

Finley, A.O., S. Banerjee, A.E. Gelfand. (Accepted) spBayes for large univariate and multivariate point-referenced spatio-temporal data models. *Journal of Statistical Software*. Preprint <http://arxiv-web3.library.cornell.edu/pdf/1310.8192.pdf>

Hamm, N., A.O. Finley, M. Schaap, and A. Stein. (2015) A spatially varying coefficient model for mapping air quality at the European scale. *Atmospheric Environment*, 102:393–405.

Finley, A.O., S. Banerjee, A.R. Weiskittel, C. Babcock[†], and B.D. Cook. (2014) Dynamic spatial regression models for space-varying forest stand tables. *Environmentrics*, **25**:596–609.

Finley, A.O., S. Banerjee, and B.D. Cook. (2014) Bayesian hierarchical models for spatially misaligned data. *Methods in Ecology and Evolution*, **5**:514–523.

Jarzyna, M.A.[†], A.O. Finley, W.F. Porter, B. Maurer, C. Beier, and B. Zuckerberg. (2014) Accounting for the space-varying nature of the relationships between temporal community turnover and the environment. *Ecography*, **37**:1073–1083.

Schimel, D, D.R. Strong, A.M. Ellison, D.P.C. Peters, S. Silver, E.A. Johnson, J. Belnap, A.T. Classen, T.E. Essington, A.O. Finley, B.D. Inouye, E.H. Stanley. (2014) Editors are editors, not oracles. *Bulletin of the Ecological Society of America*, **95**:342–346.

Johnson, K.D.[†], Birdsey, R., Finley, A.O., Swantaran, A, Dubayah, R, Wayson, C. and Riemann, R. (2014) Integrating forest inventory and analysis data into a LIDAR-based carbon monitoring system. *Carbon Balance and Management*, **9**:3.

Levy, O.*, B.A. Ball, B. Bond-Lamberty, K.S. Cheruvilil, A.O. Finley, N. Lottig, S.W. Punyasena, J. Xiao, J. Zhou, L.B. Buckley, C.T. Filstrup, T. Keitt, J.R. Kellner, A.K. Knapp, A.D. Richardson, C. Stow, D. Tchong, M. Toomey, R. Vargas, J.W. Voordeckers, T. Wagner, J.W. Williams. (2014) Approaches for advancing scientific understanding of macrosystems. *Frontiers in Ecology and the Environment*, **12**:15–23.

Guhaniyogi, R.[†], A.O. Finley, S. Banerjee and Rich K. Kobe. (2013) Modeling complex spatial dependencies: low-rank spatially-varying cross-covariances with application to soil nutrient data. *Journal of Agricultural, Biological, and Environmental Statistics*, **18**:274–298.

Johnson, K.D.*, J.W. Harden, A.D. McGuire, M. Clark, F. Yuan, A.O. Finley. (2013) Permafrost and organic layer interactions over a climate gradient in a discontinuous permafrost zone. *Environmental Research Letters*, **8**:1–12.

Junttila, V.*, A.O. Finley, J.B. Bradford, and T. Kauranne. (2013) Strategies for minimizing sample size for use in multisource forest inventory. *Forest Ecology and Management*, **292**:75–85.

Babcock, C.[†], J. Matney[†], A.O. Finley, A. Weiskittel, B. Cook. (2013) Multivariate spatial regression models for predicting individual tree structure variables using LiDAR data. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **6**:6–14.

Record, S.[†], M. Fitzpatrick, A.O. Finley, S. Veloz, and A. Ellison. (2013) Should species distribution models account for spatial autocorrelation? A test of model projections across eight millennia of climate change. *Global Ecology and Biogeography*, **22**:760–771.

Swanson, A.[†], S. Dobrowski, A.O. Finley, J.H. Thorne, and M.K. Schwartz. (2013) Spatial regression methods capture prediction uncertainty in species distribution model projections through time. *Global Ecology and Biogeography*, **22**:242–251.

Finley, A.O., S. Banerjee, B.D. Cook, and J.B. Bradford. (2013) Hierarchical Bayesian spatial models for predicting multiple forest variables using waveform LiDAR, hyperspectral imagery, and large inventory datasets. *International Journal of Applied Earth Observation and Geoinformation*, **22**:147–160.

Eidsvik, J., A.O. Finley, S. Banerjee, and H. Rue. (2012) Approximate Bayesian inference for large spatial datasets using predictive process models. *Computational Statistics and Data Analysis*, **56**:1362–1380.

Delamater, P.L.[†], A.O. Finley, and S. Banerjee. (2012) An analysis of asthma hospitalizations, air pollution, and weather conditions in Los Angeles County, California. *Science of the Total Environment*, **425**:110–118.

Baribault, T.[†], R.K. Kobe, and A.O. Finley. (2012) Tropical tree growth is correlated with soil phosphorus, potassium, and calcium, though not for legumes. *Ecological Monographs*, **82**:189–203.

Finley, A.O., S. Banerjee, and A.E. Gelfand. (2012) Bayesian dynamic modeling for large space-time datasets using Gaussian predictive processes. *Journal of Geographical Systems*, **14**:29–47.

Finley, A.O., S. Banerjee, and B. Basso. (2011) Improving crop model inference through Bayesian melding with spatially-varying parameters. *Journal of Agricultural, Biological, and Environmental Statistics*, **16**:453–474.

Salazar, E.^{*}, B. Sansó, A.O. Finley, D. Hammerling[†], I. Steinsland, X. Wang, and P. Delamater[†]. (2011) Comparing and blending regional climate model predictions for the American Southwest. *Journal of Agricultural, Biological, and Environmental Statistics*, **16**:586–605.

Guhaniyogi, R.[†], A.O. Finley, S. Banerjee, and A.E. Gelfand. (2011) Adaptive Gaussian predictive process models for large spatial datasets. *Environmetrics*, **22**:997–1007.

Rena, Q.[†], S. Banerjee, A.O. Finley, and J.S. Hodges. (2011) Variational Bayesian methods for spatial data analysis. *Computational Statistics and Data Analysis*, **55**:3197–3217.

Finley, A.O., S. Banerjee, and D.W. MacFarlane. (2011) A hierarchical model for quantifying forest variables over large heterogeneous landscapes with uncertain forest areas. *Journal of the American Statistical Association*, **106**:31–48.

- Woodall, C.W., A.W. D’Amato, J.B. Bradford, and A.O. Finley. (2011) Effects of stand and inter-specific stocking on maximizing standing tree carbon stocks in the eastern United States. *Forest Science*, **57**:365–378.
- Finley, A.O. (2010) Comparing spatially-varying coefficients models for analysis of ecological data with non-stationary and anisotropic residual dependence. *Methods in Ecology and Evolution*, **2**:143–154.
- Munoz, J.D.[†], A.O. Finley, R. Gehl, and S. Kravchenko. (2010) Nonlinear hierarchical models for predicting cover crop biomass using Normalized Difference Vegetation Index. *Remote Sensing of Environment*, **114**:2833–2840.
- Banerjee, S., A.O. Finley, P. Waldmann, and T. Ericsson. (2010) Hierarchical spatial process models for multiple traits in large genetic trials. *Journal of the American Statistical Association*, **105**:506–521.
- Woodall, C.W., C.M. Oswalt, J.A. Westfall, C.H. Perry, M.D. Nelson, and A.O. Finley. (2010) Selecting tree species for testing climate change migration hypotheses using forest inventory data. *Forest Ecology and Management*, **259**:778–785.
- Clark, S. and A.O. Finley. (2010) Spatial modelling of car ownership data: a case study from the United Kingdom. *Applied Spatial Analysis and Policy*, **3**:45–65.
- Finley, A.O., S. Banerjee, and R.E. McRoberts. (2009) Hierarchical spatial models for predicting tree species assemblages across large domains. *Annals of Applied Statistics*, **3**:1052–1079.
- Woodall, C.W., C.M. Oswalt, J.A. Westfall, C.H. Perry, M.D. Nelson, and A.O. Finley. (2009) An indicator of tree migration in forests of the eastern United States. *Forest Ecology and Management*, **257**:1434–1444..
- Finley, A.O., H. Sang, S. Banerjee, and A.E. Gelfand. (2009) Improving the performance of predictive process modeling for large datasets. *Computational Statistics and Data Analysis*, **53**:2873–2884.
- Finley, A.O., S. Banerjee, P. Waldmann, and T. Ericsson. (2009) Hierarchical spatial modeling of additive and dominance genetic variance for large spatial trial datasets. *Biometrics*, **65**:441–451.
- Banerjee, S., A.E. Gelfand, A.O. Finley, and H. Sang. (2008) Gaussian predictive process models for large spatial datasets. *Journal of the Royal Statistical Society Series B*, **70**:825–848.
- Nicholas, L.C. and A.O. Finley. (2008) yaImpute: An R package for kNN imputation. *Journal of Statistical Software*, **23**:10, www.jstatsoft.org.
- Finley, A.O. and R.E. McRoberts. (2008) Efficient k -nearest neighbor searches for multi-source forest attribute mapping. *Remote Sensing of Environment*, **112**:2203–2211.

Liang, S.[†], S. Banerjee, S. Bushhouse, A.O. Finley, and B.P. Carlin. (2008) Hierarchical multiresolution approaches for dense point-level breast cancer treatment data. *Computational Statistics and Data Analysis*. **52**:2650–2668.

Finley, A.O., S. Banerjee, A.R. Ek, and R.E. McRoberts. (2008) Bayesian multivariate process modeling for prediction of forest attributes. *Journal of Agricultural, Biological, and Environmental Statistics*. **13**:60–83.

Finley, A.O., S. Banerjee, and R.E. McRoberts. (2008) A Bayesian approach to quantifying uncertainty in multi-source forest area estimates. *Environmental and Ecological Statistics*, **15**:241–258.

McRoberts, R.E., E. Tomppo, A.O. Finley, and J. Heikkinen. (2007) Model-based estimators for the k -nearest neighbors technique. *Remote Sensing of Environment*, **111**:466–480.

Finley, A.O., S. Banerjee, and B.P. Carlin. (2007) `spBayes`: A program for multivariate point-referenced spatial modeling. *Journal of Statistical Software*, **19**:4, www.jstatsoft.org.

Banerjee, S. and A.O. Finley. (2007) Bayesian multi-resolution modeling for spatially replicated data sets with application to forest biomass data. *Journal of Statistical Planning and Inference*, **137**:3193–3205.

Finley, A.O., R.E. McRoberts, and A.R. Ek. (2006) Applying an efficient k -nearest neighbor search to forest attribute imputation. *Forest Science*, **52**:130–135.

Finley, A.O., D.B. Kittredge, T.H. Stevens, C.M. Schweik, and D. Dennis. (2006) Possibilities for cross-boundary cooperation in a landscape dominated by private ownership: A case study from Massachusetts. *Forest Science*, **52**:10–22.

Finley, A.O. and D.B. Kittredge. (2006) Thoreau, Muir, and Jane Doe: Different types of private forest owners need different kinds of forest management. *Northern Journal of Applied Forestry*, **23**:27–34.

Haapanen, R., A.R. Ek, M.E. Bauer, and A.O. Finley. (2004) Delineation of forest/non-forest land-use classes using k -nearest neighbor classification. *Remote Sensing of Environment*, **89**:265–271.

Kittredge, D.B., A.O. Finley, and D.R. Foster. (2003) Timber harvesting as ongoing disturbance in a landscape of diverse ownership. *Forest Ecology and Management*, **180**:425–442.

BOOK CHAPTERS Finley, A.O. and S. Banerjee. (2013) Point-referenced Spatial Modeling. *The SAGE Handbook of Multilevel Modeling*. Sage Publishing.

Gelfand, A.E., S. Banerjee, and A.O. Finley. (2013) Spatial design for knot selection in knot-based dimension reduction models. *Spatio-temporal Design: Advances in Efficient Data Acquisition*. Wiley.

Qi, J., L.P. Campbell, J. Van Ravensway, A.O. Finley, R.W. Merritt, and M.E. Benbow. (2013) Buruli ulcer disease: the unknown environment and social ecology of a bacterial pathogen. *Ecologies and Politics of Health*. Routledge.

Finley, A.O. and S. Banerjee. (2008) Bayesian spatial regression for multi-source mapping. *Encyclopedia of Geographic Information Systems*. <http://refworks.springer-sbm.com/geograph>. Springer-Verlag, New York.

BOOKS UNDER CONTRACT Finley, A.O. and S. Banerjee. *Bayesian Models for Environmental Spatial Data Analysis with R*, Springer Press. http://blue.for.msu.edu/book/Finley_Banerjee_useR.pdf

McRoberts, R.E., E. Tomppo, and A.O. Finley. *Nearest neighbor methods for multi-source forest inventory*. Springer-Verlag, New York.

BOOK REVIEWS *Environmental and Ecological Statistics with R*, by S. Qian. Chapman & Hall/CRC 2010. *Biometrics*. 2011, **67**:674–675.

Sampling Techniques for Forest Inventories, by D. Mandallaz. Chapman & Hall/CRC 2008. *The American Statistician*. 2009, **63**:287–288.

PUBLISHED SOFTWARE *MBA*. Finley, A.O. and S. Banerjee. (2007–2014) A R package that performs scattered data interpolation with Multilevel B-Splines Approximation. Available at <http://cran.r-project.org>.

spBayes. Finley, A.O. and S. Banerjee. (2007–2014) A R package that performs Bayesian analysis of Gaussian models with complex or hierarchical error structure. Available at <http://cran.r-project.org>.

yaImpute. Crookston, N.L. and A.O. Finley (2007–2014) A R package for efficient nearest neighbor imputation routines, variance estimation, and mapping. Available at <http://cran.r-project.org>.

EDITORIAL SERVICE Assigning Editor, *Ecological Applications*: 2012 – Current.

Subject Matter Editor, *Ecology*: 2011 – Current.

Subject Matter Editor, *Ecological Monographs*: 2011 – Current.

Associate Editor, *Journal of Agricultural, Biological, and Environmental Statistics*: 2011 – Current.

Editorial Board Member, *Spatial Statistics*: 2012 – 2017.

PEER REVIEWS

Canadian Journal of Forest Research, Computational Statistics and Data Analysis, Environmental and Ecological Statistics, Environmetrics, Ecography, Ecoshpere, Ecology, Ecological Monographs, Fisheries Research, Forest Science, Forest Ecology and Management, Forestry: An International Journal of Forest Research, Global Change Biology, International Journal of Biometeorology, International Journal of Remote Sensing, Journal of the Royal Statisti-

cal Society Series C (Applied Statistics), Journal of the American Statistical Association, Landscape Ecology, National Science Foundation, Division of Environmental Biology, Photogrammetric Engineering and Remote Sensing, Remote Sensing of Environment, Statistical Modelling, Statistics in Medicine, The Annals of Applied Statistics.

PRESENTATIONS Finley, A.O. Dynamic nearest-neighbor Gaussian Process models for massive spatio-temporal datasets: An application to interpolation of environmental pollutants. 30th International Workshop on Statistical Modelling. July 7, 2015. Linz, Austria. <http://ifas.jku.at/iwsm2015>. Invited.

Finley A.O. Computing considerations for hierarchical sparsity-inducing Gaussian Process models for massive datasets. G70: A Celebration of Alan Gelfand's 70th Birthday. April 22, 2015. Durham, North Carolina. <https://stat.duke.edu/G70>. Invited.

Finley A.O., Datta, A., and S. Banerjee. Modeling spatio-temporal dynamics of the High Plains Aquifer using a dimension-reducing Nearest-Neighbor Gaussian Process. Joint Statistical Meeting. August 4, 2014. Boston, MA.

Datta, A., and S. Banerjee, A.O. Finley and A. Gelfand. Hierarchical Nearest-Neighbor Gaussian Process models for large geostatistical data. Joint Statistical Meeting. August 4, 2014. Boston, MA. Invited.

Finley, A.O. Bayesian melding models with spatially-varying parameters. School of Mathematical and Statistical Science, Arizona State University. March 28, 2014. Tempe, AZ. Invited.

Finley, A.O. Improving crop model inference through Bayesian melding with spatially-varying parameters. Department of Statistics, University of Michigan. February 28, 2014. Ann Arbor, MI. Invited.

Finley, A.O. Modeling spatially dependent forest diameter class distributions using high-dimensional lidar data. Joint Statistical Meeting. August 5, 2013. Montreal, Canada. Invited.

Datta, A., S. Banerjee, and A.O. Finley. Hierarchical nearest-neighbor Gaussian process models for massive geostatistical datasets. Eastern North American Region, International Biometric Society. March 16, 2014. Baltimore, MD.

Finley, A.O. Advances in hierarchical Bayesian spatial-temporal models for large data: applications in environmental sciences. Institut für Geographie und Geologie, University of Würzburg. November 12, 2013. Würzburg, Germany. Invited.

Finley, A.O., S. Banerjee, and B. Basso. Improving crop model inference through Bayesian melding with spatially-varying parameters. Eastern North American Region, International Biometric Society. March 12, 2013. Orlando, FL. Invited.

Finley, A.O. Research and teaching challenges and opportunities in environmental spatial statistics. Department of Geography, The Pennsylvania State University. February 25, 2013. State College, PA. Invited.

Finley, A.O. Bayesian dynamic modeling for large space-time data sets using Gaussian predictive processes. SAMSI-NCAR Workshop on Massive Datasets in Environment and Climate. February 13, 2013, National Center for Atmospheric Research (NCAR), Boulder, CO. Invited.

Finley, A.O. Improving crop model inference through Bayesian melding with spatially-varying parameters. SAMSI-SAVI Workshop on Environmental Statistics. March 5, 2013. Research Triangle Park, NC. Invited.

Finley, A.O. Bayesian dynamic modeling for large multivariate space-time data sets using Gaussian predictive processes. International Workshop on Spatio-Temporal Modeling (METMAVI). September 13, 2012. Guimaraes, Portugal. Invited.

Finley, A.O. Bayesian dynamic modeling for large multivariate space-time data sets using Gaussian predictive processes. American Statistical Association Joint Statistical Meeting. July 30, 2012. San Diego, CA. Invited.

Guhaniyogi, R., Finley, A.O., Banerjee, S., Rich, R. Modeling low-rank spatially varying cross-covariances using predictive processes with application to soil nutrient data. American Statistical Association Joint Statistical Meeting. July 31, 2012. San Diego, CA.

Finley, A.O. Bayesian dynamic modeling for large space-time datasets using Gaussian predictive processes. Department of Statistics, February, 15, 2011. Brigham Young University. February 16, 2012. Provo, UT. Invited.

Finley, A.O. Bayesian dynamic modeling for large space-time datasets using Gaussian predictive processes. GEOMED, October 21, 2011. Victoria, British Columbia, Canada. Invited.

Finley, A.O. and S. Banerjee. Advances in hierarchical spatial models for mapping forest attributes across large domains. Case Studies in Bayesian Statistics and Machine Learning, October 15, 2011. Carnegie Mellon University Pittsburgh, PA. Invited.

Banerjee, S., and A.O. Finley. Computationally feasible hierarchical modeling strategies for large spatial data sets. International Statistical Institute Conference, August 22, 2011. Dublin, Ireland. Invited.

Finley, A.O., S. Banerjee, and B. Cook. A Bayesian functional data model for predicting forest variables using high-dimensional waveform LiDAR over large geographic domains. International Statistical Institute Conference, August 22, 2011. Dublin, Ireland. Invited.

Guhaniyogi, R., S. Banerjee, and A.O. Finley. Computationally feasible hierarchical modeling strategies for large spatial data sets. American Statistical Association Joint Statistical Meeting. August 1, 2011. Miami, FL. Invited.

Finley, A.O., S. Banerjee, and B. Cook. A Bayesian functional data model for predicting forest variables using high-dimensional waveform LiDAR over large geographic domains. American Statistical Association Joint Statistical Meeting. August 1, 2011. Miami, FL. Invited.

Finley, A.O. Advances in hierarchical spatial models for quantifying forest attributes. Workshop on Statistical Issues in Forest Management. May 4, 2011. Centre de recherches mathématiques. Université Laval, Québec. Invited.

Finley, A.O., S. Banerjee, and B. Cook. Bayesian functional data model for predicting forest variables using high-dimensional waveform LiDAR over large geographic domains. 1st Conference on Spatial Statistics. March 24, 2011. University of Twente, The Netherlands.

Finley, A.O. Modeling and mapping non-stationary multivariate processes for large spatial datasets. March 22, 2011. Environmental Sciences Group, Wageningen University and Research Centre, Wageningen, The Netherlands. Invited.

Finley, A.O. Advances in hierarchical spatial models for quantifying forest attributes. February 21, 2011. Lappeenranta University of Technology, Department of Mathematics, Lappeenranta, Finland. Invited.

Finley, A.O., S. Banerjee, and B. Cook. Bayesian functional data model for predicting forest variables using high-dimensional waveform LiDAR over large geographic domains. December 17, 2010. American Geophysical Union. San Francisco, CA.

Banerjee, S., A.O. Finley, and R. Guhaniyogi. Estimating low rank hierarchical spatial models. Workshop on Environmetrics. October 15, 2010. The National Center for Atmospheric Research, Boulder, CO. Invited.

Sanso, B., P. Delamater, A.O. Finley, D. Hammerling, E. Salazar, I. Steinsland, and X. Wang. Comparing and blending regional climate model predictions for the American southwest. Workshop on Environmetrics. October 15, 2010. The National Center for Atmospheric Research, Boulder, CO. Invited.

Sanso, B., P. Delamater, A.O. Finley, D. Hammerling, E. Salazar, I. Steinsland, and X. Wang. Comparing and blending regional climate model predictions for the American southwest. Spatial Program Transition Workshop. October 11, 2010. Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC. Invited.

Guhaniyogi, R., A.O. Finley, S. Banerjee, and A.E. Gelfand. Adaptive Gaussian predictive process model for large spatial data sets. American Statistical Association Joint Statistical Meeting. August 2, 2010. Vancouver, British Columbia.

Banerjee, S. and A.O. Finley. Hierarchical spatial models for predicting forest variables over large heterogeneous domains. American Statistical Association Joint Statistical Meeting. August 1, 2010. Vancouver, British Columbia. Invited.

Finley, A.O. Advances in hierarchical spatial models for environmental data. June 10, 2010. University of New Hampshire, Durham, NH. Invited.

Finley, A.O. and S. Banerjee. Modeling and mapping non-stationary multivariate processes for large spatial datasets. International Environmetrics Society. June 23, 2010. Margarita Island, Venezuela. Invited.

Finley, A.O. Modeling and mapping non-stationary multivariate processes for large spatial datasets. Statistical Aspects of Environmental Risk Workshop. April 8, 2010. Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC. Invited.

Qian, R., S. Banerjee, and A.O. Finley. Variational Bayesian method for spatial data analysis. Eastern North American Region, International Biometric Society. March 22, 2010. New Orleans, LA.

Guhaniyogi, R., A.O. Finley, and S. Banerjee. Gaussian predictive process model for random knots. Eastern North American Region, International Biometric Society. March 22, 2010. New Orleans, LA.

Finley, A.O. and S. Banerjee. A hierarchical model for predicting forest variables over large heterogeneous domains. Eastern North American Region, International Biometric Society. March 22, 2010. New Orleans, LA.

Finley, A.O. Hierarchical modeling of large spatially referenced forest inventory datasets. October 30, 2009. Department of Statistics, Western Michigan University. Kalamazoo MI. Invited.

Finley, A.O. Hierarchical modeling of large spatially referenced forest inventory datasets. September 30, 2009. Department of Statistical Science, Duke University. Durham, NC. Invited.

Finley, A.O., S. Banerjee, and A. Gelfand. An adaptive predictive process modeling approach for large spatial-temporal data sets. American Statistical Association Joint Statistical Meeting. August 3, 2009. Washington, DC. Invited.

Finley, A.O. and S. Banerjee. Hierarchical spatial models with remotely sensed predictors for mapping tree species assemblages across large domains. International Environmetrics Society. July 7, 2009. Bologna, Italy.

Finley, A.O. Hierarchical spatial models with remotely sensed predictors for mapping tree species assemblages across large domains. Eastern North American Region, International Biometric Society. March 18, 2009. San Antonio, TX. Invited.

Finley, A.O., S. Banerjee, and R.E. McRoberts. Hierarchical spatial models with remotely sensed predictors for mapping tree species assemblages across large domains. Eastern North American Region, International Biometric Society. March 18, 2009. San Antonio, TX. Invited.

Banerjee, S., A.O. Finley, P. Waldmann, and T. Ericsson. Hierarchical spatial modeling of genetic variance for large spatial trial datasets. Eastern North American Region, International Biometric Society. March 18, 2009. San Antonio, TX.

Finley, A.O., S. Banerjee, and R.E. McRoberts. Hierarchical spatial models for predicting tree species assemblages across large domains. Section on Statistics and the Environment at the American Statistical Association Joint Statistical Meeting. August 4, 2008. Denver, CO. Invited.

Banerjee, S., A.O. Finley, P. Waldmann, and T. Ericsson. Hierarchical multivariate spatial modeling of additive and dominance genetic variance for large spatial trial datasets. The International Environmetrics Society conference. June 10, 2008. Kelowna, Canada. Invited.

Finley, A.O., S. Banerjee, P. Waldmann, and T. Ericsson. Hierarchical spatial modeling of additive and dominance genetic variance for large spatial trial datasets. Eastern North American Region, International Biometric Society. March 17, 2008. Arlington, VA.

Finley, A.O., S. Banerjee, and B. Carlin. *spBayes*: An R package for univariate and multivariate hierarchical point-referenced spatial models. Section on Statistical Computing at the American Statistical Association Joint Statistical Meeting. July 29, 2007. Salt Lake City, UT. Invited.

Finley, A.O. and S. Banerjee. Spatial modeling for large multivariate environmental data: Advancing methods and applications. Section on Statistics and the Environment at the American Statistical Association Joint Statistical Meeting. July 29, 2007. Salt Lake City, UT. Invited.

McRoberts, R.E. and A.O. Finley. Design-based and model-based issues in natural resource inventories. Section on Statistics and the Environment at the American Statistical Association Joint Statistical Meeting. July 29, 2007. Salt Lake City, UT. Invited.

Finley, A.O. Bayesian spatial regression analysis of continuous forest attributes using the *spBayes* software. University of Minnesota's Department of Forest Resources Seminar Series. Feb. 27, 2006. St. Paul, MN. Invited.

Finley, A.O., R.E. McRoberts, and A.R. Ek. A comparative study of a new nearest neighbor variance estimator. The 2006 Nearest Neighbors Workshop. August. 28–30, 2006. University of Minnesota, Minneapolis, MN.

Crookston, N.L. and A.O. Finley. *yaImpute*: A R Package for k -NN imputation. The 2006 Nearest Neighbors Workshop. August 28–30, 2006. University of Minnesota, Minneapolis, MN.

Banerjee, S. and A.O. Finley. Modeling large multivariate spatial data sets with Gaussian predictive processes. The Center for Statistical Sciences, Brown University. Sept. 25, 2006. Providence, RI. Invited.

Finley, A.O., A.R. Ek, Y. Bai, and M.E. Bauer. Fast k -nearest neighbor imputation. Presented at the 2nd International Conference of Forest Measurements and Quantitative Methods and Management and the 2004 Southern Mensurationists Meeting. June 15–18, 2004. Hot Springs, AR.

Kittredge, D.B. and A.O. Finley. North Quabbin Region's Chapter 61 spatial database. Presented at the 12th Annual Harvard Forest Ecology Symposium. April 23, 2001. Petersham, MA.

Kittredge, D.B., A.O. Finley, and D.R. Foster. Pattern and intensity of timber harvest in a complex forest landscape of private and public ownership. Presented at the 12th Annual Harvard Forest Ecology Symposium. April 23, 2001. Petersham, MA.

Finley, A.O. Exploring modern timber harvesting as a form of disturbance across the North Quabbin Region of Massachusetts. Presented at the 8th Annual Harvard Forest Summer Research Program. August 16, 2000. Petersham, MA.

GRADUATE
STUDENTS

COMPLETED

Chad Babcock, M.S., MSU, Department of Geography (chair, 2014)
 Jason Matney, M.S., MSU, Department of Geography (chair, 2014)
 Marta Jarzyna, Ph.D., MSU, Department of Fisheries and Wildlife (committee, 2014)
 Zhen Zhang, Ph.D., MSU, Department of Statistics and Probability (committee, 2014)
 Brendan Shirkey, M.S., MSU, Department of Fisheries and Wildlife (committee, 2013)
 Neil Verplanck, M.S., MSU, Department of Forestry (committee, 2013)
 David Minor, M.S., MSU, Department of Forestry (committee, 2013)
 Juan David Munoz-R, Ph.D., MSU, Department of Crop and Soil Science (committee, 2013)
 Ellen Holste, M.S., MSU, Department of Forestry (committee, 2012)
 Hong Su An, Ph.D., MSU, Department of Forestry (committee, 2011)
 Huirong Zhu, M.S., MSU, Department of Forestry (chair, 2011)
 Lindsay Campbell, M.S., MSU, Department of Geography (committee, 2010)
 Virpi Junttila, Ph.D., Lappeenranta University of Technology, Department of Mathematics (opponent, 2010)
 Lee S. Mueller, M.S., MSU, Department of Forestry (committee, 2010)
 Brian F. Walters, M.S., MSU, Department of Geography (chair, 2009)
 Megan Matonis, M.S., MSU, Department of Forestry (committee, 2009)

IN PROGRESS

Katherine, R. Chumack, M.S., MSU, Department of Forestry (committee)
 Danielle Fegan, Ph.D., MSU, Department of Plant Biology (committee)
 Emi Fergus, M.S., MSU, Department of Fisheries and Wildlife (committee)
 Rei Hayashi, Ph.D., University of Maine, School of Forest Resources (committee)
 Malcolm Itter, Ph.D., MSU, Department of Forestry (chair)
 Yongfang Lu, Ph.D., MSU, Department of Animal Science (committee)
 Warveen Mosa, M.S., MSU, Department of Forestry (committee)
 Abolfazl Safikhani, Ph.D., MSU, Department of Statistics and Probability (committee)
 Steven Schultze, Ph.D., MSU, Department of Geography (committee)
 Nathan Snow, Ph.D., MSU, Department of Fisheries and Wildlife (committee)
 Lisa Stelzner, Ph.D., MSU, Department of Plant Biology (committee)
 Bryan Stevens, Ph.D., MSU, Department of Fisheries and Wildlife (committee)
 Neil Verplanck, Ph.D., MSU, Department of Forestry (chair)
 Matthew Vincent, Ph.D., MSU, Department of Fisheries and Wildlife (committee)

- POST-DOCTORAL ADVISEES
- Virpi Junttila, Ph.D., Lappeenranta University of Technology, Department of Mathematics. 2011–2012.
- Santonu Goswami, Ph.D., University of Texas, Department of Environmental Science and Engineering, 2012.
- Francesc Montane, Ph.D., University of Barcelona, Department of Ecology, Spain. 2012.
- COURSES
- Forestry 472, Ecological Monitoring and Data Analysis: Fall 2014.
- Forestry 462, Forest Resource Economics and Management: Fall 2014.
- Forestry 408, Forest Resource Management: Spring 2008, Fall 2008 – 2013.
- Forestry 306, Forest Biometry: Spring 2012.
- Geography 890, Hierarchical Bayesian Models for Environmental Spatial Data Analysis: Spring 2011.
- SHORT COURSES
- Hierarchical random effects models using Markov chain Monte Carlo: Analysis of spatio-temporal data. September 7, 2014. Graybill/ENVR Conference, Department of Statistics, Colorado State University, Fort Collins, CO.
www.stat.colostate.edu/graybillconference2014.
- First annual graduate workshop on environmental data analytics. July 28-August 1, 2014. Institute for Mathematics Applied to Geosciences, NCAR. Boulder, CO. <https://www2.image.ucar.edu/event/env-analytics>.
- Forest biometry workshop. November 6–8, 2013. International Biometric Society meeting, Freising, Germany. <http://blue.for.msu.edu/lwf>.
- Hierarchical modeling of large point-referenced datasets using the `spBayes` package. March 11, 2013. Eastern North American Region, International Biometric Society meeting, Orlando, FL.
- Applied Bayesian spatio-temporal data analysis. March 7–8, 2013. National Ecological Observatory Network (NEON) Applied Bayesian Regression Workshop. Boulder, CO. <http://blue.for.msu.edu/NEON/SC>.
- Bayesian modeling for spatial and spatio-temporal data analysis. March 9, 2013. MSU Center for Statistical Training and Consulting, East Lansing, MI.
- Applied Bayesian regression analysis using `R` and `JAGS`. January 25, 2013. MSU Center for Statistical Training and Consulting, East Lansing, MI.
- Bayesian Modeling for spatial and spatio-temporal data analysis. October 15–16, 2012. University of NebraskaLincoln, Department of Statistics, University of Nebraska, Lincoln, NE. http://blue.for.msu.edu/UNL_12/SC.
- Bayesian Modeling for spatial and spatio-temporal data with applications to environmental

sciences and public health. March 17, 2010. Frontier of Statistical Decision Making and Bayesian Analysis Conference, San Antonio, TX. http://blue.for.msu.edu/JBC_10/SC.

Hierarchical modeling and analysis of spatial-temporal data: Emphasis in forestry, ecology, and environmental sciences. March 15-18, 2009. Eastern North American Region, International Biometric Society meeting, San Antonio, TX. http://blue.for.msu.edu/ENAR_09/SC.

Hierarchical modeling and analysis of spatial-temporal data: Emphasis in forestry, ecology, and environmental Sciences. July 5, 2009. The International Environmetrics Society conference, Bologna, Italy. http://blue.for.msu.edu/TIES_09/SC.

Hierarchical Modeling and analysis of spatial-temporal data: Emphasis in forestry, ecology, and environmental sciences. August 2, 2009. Joint Statistical Meeting, Washington, DC. http://blue.for.msu.edu/JSM_09/SC.

WORKING GROUP MEMBERSHIP NSF Research Coordination Network (RCN) – Forecasting of Resources and Environmental Changes Using Data Assimilation Science and Technology (FORECAST). PIs Y. Luo, D. Schimel, J. Clark, K. Ogle, S. LaDeau: 2010–2012.

SAMSI – Computation, Visualization, and Dimension Reduction in Spatio-Temporal Modeling. Working group leader B. Sanso: 2009–Current.

SAMSI – Geostatistics. Working group leader S. Banerjee: 2009–2010.

UNIVERSITY SERVICE

Chair of search committee for two tenure track positions in human dimension and natural resources, Michigan State University, Department of Forestry: 2014.

Chair of undergraduate advisor search committee, Michigan State University, Department of Forestry: 2014.

Department Academic Council, Michigan State University, Department of Forestry: 2013–2016.

Technology Services Faculty Advisory Committee, Michigan State University, College of Agriculture and Natural Resources: 2013–Current.

Director of Information and Technology, Michigan State University, Department of Forestry: 2011–2015.

Graduate Committee, Michigan State University, Department of Forestry: 2007–2010.

Ad hoc Undergraduate Curriculum Committee (chair), Michigan State University, Department of Forestry: 2008–2010.

PROFESSIONAL SERVICE

GENERAL SERVICE

Session organizer, Hierarchical Bayesian Models to Support Next-Generation Climate Data Products, Joint Statistical Meeting. August 4, 2014. Boston, MA.

Roundtable discussion leader, Opportunities for Environmental, Ecological, and Climate Change Research in a Data-Rich Era. August 7, 2013. Montreal, Canada.

Session chair, Survey and Statistical Methods in Forestry Research. Joint Statistical Meeting. August 6, 2013. Montreal, Canada.

Education Program Committee, 2013 Eastern North American Region, International Biometric Society.

Roundtable discussion leader, Opportunities in Environmental and Climate Change Research. Eastern North American Region, International Biometric Society. March 21–23, 2010. New Orleans, LA.

Representative to the American Association for the Advancement of Science, Eastern North American Region, International Biometric Society: 2011–2014.

Inventory Working Group Secretary, Society of American Foresters: 2009–2010.

Regional Advisory Board, International Biometric Society: 2009–2011.

Newsletter Editorial Board, The International Environmetrics Society (TIES): 2011–Current.

SCIENTIFIC MEETINGS

Chair, Second Annual Graduate Workshop on Environmental Data Analytics. July 28–August 1, 2015. Boulder, CO.

Chair, First Annual Graduate Workshop on Environmental Data Analytics. July 28–August 1, 2014. Boulder, CO. www2.image.ucar.edu/event/env-analytics.

Co-organizer, 11th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. July 8–11, 2014. Michigan State University, East Lansing, MI. <http://web2.geo.msu.edu/sa14>.

Co-organizer, Next Generation Climate Data Products Workshop. July 15–19, 2013. NCAR/IMAGE Boulder, CO. www2.image.ucar.edu/event/ngcdp13.

Advisory committee, 2nd Conference on Spatial Statistics 2013: Mapping Global Change. June 4–7, 2013. Ohio State University, Columbus, OH.

Advisory committee, 1st Conference on Spatial Statistics 2011: Mapping Global Change. March 23–25, 2011. University of Twente, Enschede, Netherlands.

Scientific committee, Eastern North American Region/International Biometric Society. March 20–23, 2011. Miami, FL.

Scientific committee, Extending Forest Inventory and Monitoring Over Space and Time. May 19–22, 2009. Quebec City, Canada.

Scientific committee, Nearest Neighbors Workshop. July 5–7, 2007. University of Florence, Florence, Italy.

Co-organizer, Nearest Neighbors Workshop: Meeting in the Middle. August 28–30, 2006. University of Minnesota, Minneapolis, MN.

MEMBERSHIP

Member of International Biometric Society: 2007 – Current.

Member of American Statistical Association: 2007 – Current.

Society of American Foresters: 2005 – 2007.

- SCHOLARSHIPS University of Minnesota, Department of Forest Resources Scholarship 2006, \$1,500.
 University of Minnesota, Department of Forest Resources Scholarship 2004, \$6,000.
 University of Massachusetts–Amherst, Department of Natural Resources Conservation’s
 Donald L. Mader Scholarship 2002, \$500.
 University of Massachusetts–Amherst, Department of Natural Resources Conservation’s
 Frank M. West Scholarship 2002, \$250.
- CONSULTING Stratus Consulting, Boulder, CO: 2014–Current.
- PROGRAMMING Languages: C/C++, FORTRAN, R, PHP, Python, BASH
 EXPERIENCE Geospatial libraries: Geospatial Data Abstraction Library (GDAL), Geometry Engine Open
 Source (GEOS), Boost Graph Library (BGL)
 Databases: PostGIS–PostgreSQL, MySQL, SQLite
 Statistical and scientific: R, GNU Scientific Library (GSL), Basic Linear Algebra Subpro-
 grams (BLAS), Linear Algebra PACKage (LAPACK)
 Optimization libraries: GNU Linear Programming Kit (GLPK)
 GIS and image processing: GRASS, ERDAS-Imagine, ESRI products
 Scientific typesetting: L^AT_EX
 Operating systems: Unix/Linux