

Sudipto Banerjee, PhD

Education

- 1994 **BS Honours**, *Statistics*, Presidency College, Kolkata, India.
- 1996 **M.STAT**, *Statistics*, Indian Statistical Institute, Kolkata, India.
- 1998 **MS**, *Statistics*, University of Connecticut, Storrs, USA.
- 2000 **PhD**, *Statistics*, University of Connecticut, Storrs, USA.

PhD Thesis

- Thesis Title *Multivariate Spatial Modelling in a Bayesian Setting*
- Thesis Advisor Prof. Alan E. Gelfand

Appointments

- 2014–Present Professor, with tenure, and Chair
Department of Biostatistics, University of California, Los Angeles
- 2011–2014 Professor, with tenure
Division of Biostatistics, School of Public Health, University of Minnesota, Twin Cities
- 2007–2011 Associate Professor, with tenure
Division of Biostatistics, School of Public Health, University of Minnesota, Twin Cities
- 2000–2007 Assistant Professor
Division of Biostatistics, School of Public Health, University of Minnesota, Twin Cities
- 1998 Summer Intern
Pfizer Inc., Groton, Connecticut

Honors and Awards

- 2000 ENAR Distinguished Paper Award, International Biometric Society
- 2005 Inductee: Pi Chapter of Delta Omega National Honor Society
- 2009 Abdel El Sharaawi Award from The International Environmetrics Society (TIES)
- 2010 Elected member of the International Statistical Institute
- 2011 Mortimer Spiegelman Award from the American Public Health Association
- 2012 Elected Fellow of the American Statistical Association (ASA)
- 2012 International Indian Statistical Association's Young Investigator Award
- 2015 Distinguished Achievement Medal from the ASA's Section on Statistics and the Environment
- 2015 Elected Fellow of the Institute of Mathematical Statistics (IMS)
- 2015 Presidential Invited Address, IMS/WNAR Annual Meeting
- 2016 Keynote Talk, International Society for Bayesian Analysis (ISBA) World Meeting
- 2017 American Statistical Association's Outstanding Application Award
- 2018 Elected Fellow of the International Society for Bayesian Analysis (ISBA)

Books

1. **Banerjee, S.**, Carlin, B.P. and Gelfand, A.E. *Hierarchical Modeling and Analysis for Spatial Data* Second Edition. Boca Raton, FL: Chapman and Hall/CRC Press. Published: September 12, 2014; 584 pages. ISBN 9781439819173.
2. **Banerjee S.** and Roy, A. *Linear Algebra and Matrix Analysis for Statistics*. Boca Raton, FL: Chapman and Hall/CRC Press. Published: June 6, 2014; 580 pages. ISBN 9781420095388.
3. Lawson, A., **Banerjee, S.**, Haining, R.P. and Ugarte, L. (Editors). *Handbook of Spatial Epidemiology*. Boca Raton, FL: Chapman and Hall/CRC Press. Published: May 5, 2016; 680 pages. ISBN 9781482253016.

Peer-Reviewed Journal Publications

1. Finley, A.O., Datta, A., Cook, B.C., Morton, D.C. Andersen, H.E. and **Banerjee, S.** (in press). Efficient algorithms for Bayesian nearest-neighbor Gaussian processes. *Journal of Computational and Graphical Statistics*. DOI: <https://doi.org/10.1080/10618600.2018.1537924>.
2. Taylor-Rodriguez, D., Finley, A.O., Datta, A., Babcock, C., Andersen, H.E., Cook, B.C., Morton, D.C. and **Banerjee, S.** (in press). Spatial factor models for high-dimensional and large spatial data: An application in forest variable mapping. *Statistica Sinica*. DOI: in process.
3. Datta, A., Zou, H. and **Banerjee, S.** (in press). Bayesian high-dimensional regression for change-point analysis. *Statistics and Its Interface*. DOI: in process.
4. Shirota, S., Gelfand, A.E. and **Banerjee, S.** (in press). Spatial joint species distribution modeling using Dirichlet processes. *Statistica Sinica*. DOI: <https://doi.org/10.5705/ss.202017.0482>.
5. Nemmers, T., Narayan, A. and **Banerjee, S.** (in press). Bayesian modeling and uncertainty quantification in descriptive social networks. *Statistics and Its Interface*. DOI: <http://dx.doi.org/10.4310/SII.2019.v12.n1.a15>.
6. Guhaniyogi, R. and **Banerjee, S.** (2019). Multivariate spatial meta-kriging. *Statistics and Probability Letters*, **144**, 3–8. DOI: <https://doi.org/10.1016/j.spl.2018.04.017>.
7. Groth, C.P., **Banerjee, S.**, Ramachandran, G., Stenzel, M. and Stewart, P.A. (2018). Multivariate left-censored Bayesian modeling for predicting exposure using multiple chemical predictors. *Environmetrics*, **29**:e2505. DOI: <https://doi.org/10.1002/env.2505>
8. Guhaniyogi, R. and **Banerjee, S.** (2018). Meta-Kriging: Scalable Bayesian modeling and inference for massive spatial datasets. *Technometrics*, **60**, 430–444. DOI: <https://doi.org/10.1080/00401706.2018.1437474>.
9. Bose, M., Hodges, J.S. and **Banerjee, S.** (2018). Toward a diagnostic toolkit for linear models with Gaussian-process distributed random effects. *Biometrics*, **74**, 863–873. DOI: <https://doi.org/10.1111/biom.12848>.
10. Abdalla, N., **Banerjee, S.**, Ramachandran, G., Stenzel, M. and Stewart, P.A. (2018). Coastal Kriging: A Bayesian approach. *Annals of Work Exposures and Health*, **62**, 818–827. DOI: <https://doi.org/10.1093/annweh/wxy058>.
11. **Banerjee, S.** (2017). High-dimensional Bayesian geostatistics. *Bayesian Analysis*, **12**, 583–614. DOI: <http://dx.doi.org/10.1214/17-BA1056R>.
12. Stewart, P.A., Stenzel, M.R., Ramachandran, G., **Banerjee, S.**, Huynh, T., Groth, C.P., Kwok, R.K., Blair, A., Engel, L.S. and Sandler, D.P. (2017). Development of a total hydrocarbon ordinal job-exposure matrix for workers corresponding to the Deepwater Horizon Disaster: The Gulf STUDY. *Journal of Exposure Science and Environmental Epidemiology*, **28**, 223–230. DOI: <http://dx.doi.org/10.1038/jes.2017.16>.
13. Finley, A.O., **Banerjee, S.**, Zhou, Y. and Cook, B.D. (2017). Joint hierarchical models for sparsely sampled high-dimensional LiDAR and forest variables. *Remote Sensing of Environment*, **190**, 149–161. DOI: <http://dx.doi.org/10.1016/j.rse.2016.12.004>
14. Groth, C.P., **Banerjee, S.**, Ramachandran, G., Stenzel, M., Sandler, D., Blair, A., Engel, L., Kwok, R.K. and Stewart, P.A. (2017). Bivariate left-censored Bayesian model for predicting exposure: Preliminary analysis of worker exposure during the 'Deepwater Horizon' oil spill. *Annals of Work Exposures and Health*, **61**, 76–86. DOI: <http://dx.doi.org/10.1093/annweh/wxw003>
15. Gelfand, A.E. and **Banerjee, S.** (2017). Bayesian modeling and analysis of geostatistical data. *Annual Review of Statistics*

and Its Application, **4**, 245–266. DOI: <http://dx.doi.org/10.1146/annurev-statistics-060116-054155>

16. Martinez-Beneito, M.A., Botella-Rocomara, P. and **Banerjee, S.** (2017). Towards a multi-dimensional approach to Bayesian disease mapping. *Bayesian Analysis*, **12**, 239–259. DOI: <http://dx.doi.org/10.1214/16-BA995>
17. Datta, A., **Banerjee, S.**, Finley, A.O. and Gelfand, A.E. (2016). On nearest-neighbor Gaussian process models for massive spatial data. *WIREs Computational Statistics*, **8**, 162–171. DOI: <http://dx.doi.org/10.1002/wics.1383>
18. Datta, A., **Banerjee, S.**, Finley, A.O., Hamm, N.A.S. and Schaap, M. (2016). Non-separable dynamic nearest neighbor Gaussian process models for large spatio-temporal data with application to particulate matter analysis. *Annals of Applied Statistics*, **10**, 1286–1316. DOI: <http://dx.doi.org/10.1214/16-A0AS931>
19. Foster, J.R., Finley, A.O., D'Amato, A.W., Bradford, J.B. and **Banerjee, S.** (2016). Predicting tree biomass growth in the temperate-boreal ecotone: Is tree size, age, competition or climate response most important? *Global Change Biology*, **22**, 2138–2151. DOI: <http://dx.doi.org/10.1111/gcb.13208>
20. Datta, A., **Banerjee, S.**, Finley, A.O. and Gelfand, A.E. (2016). Hierarchical nearest-neighbor Gaussian process models for large geostatistical datasets. *Journal of the American Statistical Association*, **111**, 800–812. DOI: <http://dx.doi.org/10.1080/01621459.2015.1044091>
21. **Banerjee, S.** (2016). Spatial data analysis. *Annual Review of Public Health*, **37**, 47–60. DOI: <http://dx.doi.org/10.1146/annurev-publhealth-032315-021711>
22. Gelfand, A.E. and **Banerjee, S.** (2015). Bayesian wombling. *WIREs Computational Statistics*, **7**, 307–315. <http://dx.doi.org/10.1002/wics.1360>
23. Huynh, T., Quick, H., Ramachandran, G., **Banerjee, S.**, Stenzel, M., Sandler, D.P., Engel, L.S., Kwok, R.K., Blair, A. and Stewart, P.A. (2015). A comparison of the β -substitution method and a Bayesian method for analyzing left-censored data. *Annals of Occupational Hygiene*, **60**, 56–73. DOI: <http://dx.doi.org/10.1093/annhyg/mev049>
24. Quick, H., Carlin, B.P. and **Banerjee, S.** (2015). Heteroscedastic CAR models for areally referenced temporal processes with an application to California asthma hospitalization data. *Journal of the Royal Statistical Society, Series C*, **64**, 799–813. DOI: <http://dx.doi.org/10.1111/rssc.12106>
25. Quick, H., **Banerjee, S.** and Carlin, B.P. (2015). Bayesian modeling and analysis for gradients in spatiotemporal processes. *Biometrics*, **71**, 575–584. DOI: <http://dx.doi.org/10.1111/biom.12305>
26. Botella-Rocomara, P., Martinez-Beneito, M.A. and **Banerjee, S.** (2015). A unifying modeling framework for highly multivariate disease mapping. *Statistics in Medicine*, **34**, 1548–1559. DOI: <http://dx.doi.org/10.1002/sim.6423>
27. Finley, A.O., **Banerjee, S.** and Gelfand, A.E. (2015). **spBayes**: for large univariate and multivariate point-referenced spatio-temporal data models. *Journal of Statistical Software*, **64**, 1–28. DOI: <http://dx.doi.org/10.18637/jss.v063.i13>
28. Li, P., **Banerjee, S.**, Hanson, T.A. and McBean, A.M. (2015). Bayesian models for detecting difference boundaries in areal data. *Statistica Sinica*, **25**, 385–402. DOI: <http://dx.doi.org/10.5705/ss.2013.238w>
29. Finley, A.O., **Banerjee, S.**, Weiskittel, A.R., Babcock, C. and Cook, B.D. (2014). Dynamic spatial regression models for space-varying forest stand tables. *Environmetrics*, **25**, 596–609. DOI: <http://dx.doi.org/10.1002/env.2322>
30. Huynh, T., Ramachandran, G., **Banerjee, S.**, Monteiro, J., Stenzel, M., Sandler, D., Engel, L., Kwok, R., Blair, A. and Stewart, P.A. (2014). Comparison of methods for analyzing left-censored occupational exposure data. *Annals of Occupational Hygiene*, **58**, 1126–1142. DOI: <http://dx.doi.org/10.1093/annhyg/meu067>
31. **Banerjee, S.**, Ramachandran, G., Vadali, M. and Sahmel, J. (2014). Bayesian hierarchical framework for occupational hygiene decision making. *Annals of Occupational Hygiene* **58**, 1079–1093. DOI: <http://dx.doi.org/10.1093/annhyg/meu060>
32. Monteiro, J.V., **Banerjee, S.** and Ramachandran, G. (2014). Bayesian modeling for physical processes in industrial hygiene using misaligned workplace data. *Technometrics*, **56**, 238–247. DOI: <http://dx.doi.org/10.1080/00401706.2013.836988>
33. Finley, A.O., **Banerjee, S.** and Cook, B.D. (2014). Bayesian hierarchical models for spatially misaligned multivariate environmental and ecological data. *Methods in Ecology and Evolution*, **5**, 514–523. DOI: <http://dx.doi.org/10.1111/2041-210X.12189>

34. Quick, H., Groth, C.P., **Banerjee, S.**, Carlin, B.P., Stenzel, M.R., Stewart, P.A., Sandler, D.P., Engel, L.S. and Kwok, R.K. (2014). Exploration of the use of Bayesian modeling of gradients for censored spatiotemporal data from the Deepwater Horizon oil spill. *Spatial Statistics*, **9**, 166–179. DOI: <http://dx.doi.org/10.1016/j.spasta.2014.03.002>
35. Guhaniyogi, R., Finley, A.O., **Banerjee, S.** and Kobe, R. (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. DOI: <http://dx.doi.org/10.1007/s13253-013-0140-3>
36. Adgate, J.L., **Banerjee, S.**, Wang, M., McKenzie, L.M., Hwang, J., Cho, S.J. and Ramachandran, G. (2013). Performance of dust allergen carpet samplers in controlled laboratory studies. *Journal of Exposure Science and Environmental Epidemiology*, **23**, 385–391. DOI: <http://dx.doi.org/10.1038/jes.2012.112>
37. Ren, Q. and **Banerjee, S.** (2013). Hierarchical factor models for large spatially misaligned datasets: A low-rank predictive process approach. *Biometrics*, **69**, 19–30. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2012.01832.x>
38. Quick, H., **Banerjee, S.** and Carlin, B.P. (2013). Modeling temporal gradients in regionally aggregated California asthma hospitalization data. *Annals of Applied Statistics*, **7**, 154–176. DOI: <http://dx.doi.org/10.1214/12-A0AS600>
39. Finley, A.O., **Banerjee, S.**, Cook, B.D. and Bradford, J.B. (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. DOI: <http://dx.doi.org/10.1016/j.jag.2012.04.007>
40. Delamater, P.L., Finley, A.O. and **Banerjee, S.** (2012). An analysis of asthma hospitalizations, air pollution, and weather conditions in Los Angeles County, California. *Science of the Total Environment*. **425**, 110–118. DOI: <http://dx.doi.org/10.1016/j.scitotenv.2012.02.015>
41. Li, P., **Banerjee, S.**, McBean, A.M. and Carlin, B.P. (2012). Bayesian areal wombling using false discovery rates. *Statistics and Its Interface*, **5**, 149–158. DOI: <http://dx.doi.org/10.4310/SII.2012.v5.n2.a1>
42. Vadali, M., Ramachandran, G. and **Banerjee, S.** (2012). Effect of training, education, professional experience, and need for cognition on decision making in occupational exposure assessment. *Annals of Occupational Hygiene*, **56**, 292–304. DOI: <http://dx.doi.org/10.1093/annhyg/mer112>
43. Finley, A.O., **Banerjee, S.** and Gelfand, A.E. (2012). Bayesian dynamic modeling for large space-time datasets using Gaussian predictive processes. *Journal of Geographical Information Systems*, **14**, 29–47. DOI: <http://dx.doi.org/10.1007/s10109-011-0154-8>
44. Vadali, M., Ramachandran, G., Mulhausen, J.R. and **Banerjee, S.** (2012). Effect of training on exposure judgment accuracy and agreement among hygienists. *Journal of Occupational and Environmental Hygiene*, **9**, 242–256. DOI: <http://dx.doi.org/10.1080/15459624.2012.666470>
45. **Banerjee, S.** and Fuentes, M. (2012). Bayesian modeling for large spatial datasets. *WIREs Computational Statistics*, **4**, 59–66. DOI: <http://dx.doi.org/10.1002/wics.187>
46. Eidsvik, J., Finley, A.O., **Banerjee, S.** and Rue, H. (2012). Approximate Bayesian inference for large spatial datasets using predictive process models. *Computational Statistics and Data Analysis*, **56**, 1362–1380. DOI: <http://dx.doi.org/10.1016/j.csda.2011.10.022>
47. Finley, A.O., **Banerjee, S.** and Basso, B. (2011). Improving crop model inference through Bayesian melding with spatially-varying parameters. *Journal of Agricultural, Biological and Environmental Statistics*, **16**, 453–474. DOI: <http://dx.doi.org/10.1007/s13253-011-0070-x>
48. Ren, Q., **Banerjee, S.**, Finley, A.O. and Hodges, J.S. (2011). Variational Bayesian methods for spatial data analysis. *Computational Statistics and Data Analysis*, **55**, 3197–3217. DOI: <http://dx.doi.org/10.1016/j.csda.2011.05.021>
49. Guhaniyogi, R., Finley, A.O., **Banerjee, S.** and Gelfand, A.E. (2011). Adaptive Gaussian predictive process models for large spatial datasets. *Environmetrics*, **22**, 997–1007. DOI: <http://dx.doi.org/10.1002/env.1131>
50. Monteiro, J., **Banerjee, S.** and Ramachandran, G. (2011). B2Z: An R package for Bayesian two-zone models. *Journal of Statistical Software*, **43**, Issue 2, 1–23. DOI: <http://dx.doi.org/10.18637/jss.v043.i02>
51. Finley, A.O., **Banerjee, S.** and MacFarlane, D.W. (2011). A hierarchical model for predicting forest variables over large heterogeneous domains. *Journal of the American Statistical Association*, **106**, 31–48. DOI: <http://dx.doi.org/10.1198/>

52. Logan, P.W., Ramachandran G., Mulhausen, J.R., **Banerjee, S.** and Hewett, P. (2011). Desktop study of occupational exposure judgments: Does education and experience influence accuracy? *Journal of Occupational and Environmental Hygiene*, **8**, 746–758. DOI: <http://dx.doi.org/10.1080/15459624.2011.628607>
53. Li, P., **Banerjee, S.** and McBean, A.M. (2011). Mining boundary effects in areally referenced spatial data using the Bayesian information criterion. *Geoinformatica*, **15**, 435–454. DOI: <http://dx.doi.org/10.1007/s10707-010-0109-0>
54. Narayan, A., Purkayastha, B. and **Banerjee, S.** (2011). Constructing transnational and virtual ethnic identities: A study of the discourse and networks of ethnic student organisations in the US and the UK. *Journal of Intercultural Studies*, **32**, 515–537. DOI: <http://dx.doi.org/10.1080/07256868.2011.599487>
55. Sinha, D.K., Gu, Y. and **Banerjee, S.** (2011). Analysis of cure rate survival data under a proportional odds model. *Lifetime Data Analysis*, **17**, 123–134. DOI: <http://dx.doi.org/10.1007/s10985-010-9171-z>
56. **Banerjee, S.**, Finley, A.O., Waldmann, P. and Ericsson, T. (2010). Hierarchical spatial process models for multiple traits in large genetic trials. *Journal of the American Statistical Association*, **105**, 506–521. DOI: <http://dx.doi.org/10.1198/jasa.2009.ap09068>
57. Thelemann, R. Johnson, G.A., Sheaffer, C., **Banerjee, S.**, Cai, H. and Wyse, D. (2010). The Effect of Landscape Position on Biomass Crop Yield. *Agronomy Journal*, **102**, 513–522. DOI: <http://dx.doi.org/10.2134/agronj2009.0058>
58. Ma, H., Carlin, B.P. and **Banerjee, S.** (2010). Hierarchical and joint site-edge methods for medicare hospice service region boundary analysis. *Biometrics*, **66**, 355–364. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2009.01291.x>
59. Zhang, Y., Hodges, J.S. and **Banerjee, S.** (2009). Smoothed ANOVA with spatial effects as a competitor to MCAR in multivariate spatial smoothing. *Annals of Applied Statistics* **3**, 1805–1830. DOI: <http://dx.doi.org/10.1214/09-AOAS267>
60. Liang, S., **Banerjee, S.** and Carlin, B.P. (2009). Bayesian wombling for spatial point processes. *Biometrics*, **65**, 1243–1253. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2009.01203.x>
61. Finley, A.O., **Banerjee, S.** and McRoberts, R.E. (2009). Hierarchical spatial models for predicting tree species assemblages across large domains. *Annals of Applied Statistics*, **3**, 1052–1079. DOI: <http://dx.doi.org/10.1214/09-AOAS250>
62. Zhang, Y., **Banerjee, S.**, Yang, R., Lungu, C. and Ramachandran, G. (2009). Bayesian modelling of air flow and exposure using two-zone models. *Annals of Occupational Hygiene*, **53**, 409–424. DOI: <http://dx.doi.org/10.1093/annhyg/mep017>
63. Finley, A.O., Sang, H., **Banerjee, S.** and Gelfand, A.E. (2009). Improving the performance of predictive process modeling for large datasets. *Computational Statistics and Data Analysis*, **53**, 2873–2884. DOI: <http://dx.doi.org/10.1016/j.csda.2008.09.008>
64. Finley, A.O., **Banerjee, S.**, Waldmann, P. and Ericsson, T. (2009). Hierarchical spatial modeling of additive and dominance genetic variance for large spatial trial datasets. *Biometrics*, **65**, 441–451. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2008.01115.x>
65. Latimer, A.M., **Banerjee, S.**, Sang, H., Mosher Jr., E. and Silander, J.A. (2009). Hierarchical models for spatial analysis of large data sets: A case study on invasive plant species in the northeastern United States. *Ecology Letters*, **12**, 144–154. DOI: <http://dx.doi.org/10.1111/j.1461-0248.2008.01270.x>
66. Zimmerman, G., Gutiérrez, R.J., Thogmartin, W.E. and **Banerjee, S.** (2009). Multiscale habitat selection by Ruffed Grouse at low population densities. *The Condor*, **111**, 294–304. DOI: <http://dx.doi.org/10.1525/cond.2009.080036>
67. Cooner, F.W., Yu, X., **Banerjee, S.**, Grambsch, P.L. and McBean, A.M. (2009). Hierarchical dynamic time-to-event models for post-treatment preventive care data on breast cancer survivors. *Statistical Modelling* **9**, 119–135. DOI: <http://dx.doi.org/10.1177/1471082X0800900202>
68. Cho, S.J., Ramachandran, G., **Banerjee, S.**, Ryan, A.D. and Adgate, J.L. (2008). Seasonal variability of culturable fungal genera in the house dust of inner-city residences. *Journal Of Occupational and Environmental Hygiene* **5**, 780–789. DOI: <http://dx.doi.org/10.1080/15459620802490267>

69. **Banerjee, S.**, Gelfand, A.E., Finley, A.O. and Sang, H. (2008). Gaussian predictive process models for large spatial datasets. *Journal of the Royal Statistical Society Series B*, **70**, 825–848. DOI: <http://dx.doi.org/10.1111/j.1467-9868.2008.00663.x>
70. Finley, A.O., **Banerjee, S.**, Ek, A.R. and McRoberts, R. (2008). Bayesian multivariate process modeling for predicting forest attributes. *Journal of Agricultural, Biological and Environmental Statistics*, **13**, 1–24. DOI: <http://dx.doi.org/10.1198/108571108X273160>
71. Diva, U., Dey, D.K. and **Banerjee, S.** (2008). Parametric models for spatially correlated survival data for individuals with multiple cancers. *Statistics in Medicine*, **27**, 2127–2144. DOI: <http://dx.doi.org/10.1002/sim.3141>
72. Finley, A.O., **Banerjee, S.** and McRoberts, R.E. (2008). A Bayesian approach to multi-source forest area estimation. *Environmental and Ecological Statistics*, **15**, 241–258. DOI: <http://dx.doi.org/10.1007/s10651-007-0049-5>
73. Liang, S., **Banerjee, S.**, Bushhouse, S., Finley, A.O. and Carlin, B.P. (2008) Hierarchical multi-resolution approaches for dense point-level breast cancer treatment data. *Computational Statistics and Data Analysis* **52**, 2650–2668. DOI: <http://dx.doi.org/10.1016/j.csda.2007.09.011>
74. Jin, X., **Banerjee, S.** and Carlin, B.P. (2007) Order-free coregionalized areal models with application to multiple disease mapping. *Journal of the Royal Statistical Society Series B*, **69**, 817–838. DOI: <http://dx.doi.org/10.1111/j.1467-9868.2007.00612.x>
75. Finley, A.O., **Banerjee, S.** and Carlin, B.P. (2007). **spBayes**: an R package for univariate and multivariate hierarchical point-referenced spatial models. *Journal of Statistical Software*, **19**, 4. DOI: <http://dx.doi.org/10.18637/jss.v019.i04>
76. Diva, U., **Banerjee, S.** and Dey, D.K. (2007). Modelling spatially correlated survival data for individuals with multiple cancers. *Statistical Modelling*, **7**, 191–213. DOI: <http://dx.doi.org/10.1177/1471082X0700700205>
77. Cooner, F., **Banerjee, S.**, Carlin, B.P. and Sinha, D. (2007). Flexible cure rate modeling under latent activation schemes. *Journal of the American Statistical Association*, **102**, 560–572. DOI: <http://dx.doi.org/10.1198/016214507000000112>
78. **Banerjee, S.** and Finley, A.O. (2007). Bayesian multi-resolution modelling for spatially replicated datasets with application to forest biomass data. *Journal of Statistical Planning and Inference* **137**, 3193–3205. DOI: <http://dx.doi.org/10.1016/j.jspi.2006.05.024>
79. Lu, H., Reilly, C., **Banerjee, S.** and Carlin, B.P. (2007). Bayesian areal wombling via adjacency modelling. *Environmental and Ecological Statistics*, **14**, 433–452. DOI: <http://dx.doi.org/10.1007/s10651-007-0029-9>
80. Gelfand, A.E., **Banerjee, S.**, Sirmans, C.F., Tu, Y. and Ong, S.E. (2007). Multilevel modelling using spatial processes: application to the Singapore housing market. *Computational Statistics and Data Analysis*, **52**, 2650–2668. DOI: <http://dx.doi.org/10.1016/j.csda.2006.11.019>
81. **Banerjee, S.**, Kauffman, R.J. and Wang, B. (2007). Modeling Internet firm survival using Bayesian dynamic models with time-varying coefficients *Electronic Commerce Research and its Applications*, **6**, 332–342. DOI: <http://dx.doi.org/10.1016/j.eierap.2006.06.004>
82. **Banerjee, S.** and Gelfand, A.E. (2006). Bayesian Wombling: Curvilinear gradient assessment under spatial process models. *Journal of the American Statistical Association*, **101**, 1487–1501. DOI: <http://dx.doi.org/10.1198/016214506000000041>
83. **Banerjee, S.** and Johnson, G.A. (2006). Coregionalized single and multi-resolution spatially varying growth curve modeling with application to weed growth. *Biometrics*, **62**, 864–876. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2006.00535.x>
84. Hewett, P., Logan, P., Mulhausen, J., Ramachandran, G. and **Banerjee, S.** (2006). Rating exposure control using Bayesian decision analysis. *Journal of Occupational and Environmental Hygiene*, **3**, 568–581. DOI: <http://dx.doi.org/10.1080/15459620600914641>
85. Cooner, F., **Banerjee, S.** and McBean, A.M. (2006). Modelling geographically referenced survival data with a cure fraction. *Statistical Methods in Medical Research*, **15**, 307–324. DOI: <http://dx.doi.org/10.1191/0962280206sm453oa>
86. Majumdar, A., Gelfand, A.E., **Banerjee, S.**, Munneke, H.J. and Sirmans, C.F. (2006). Gradients in spatial response surfaces using spatial process modeling with an application to land value gradients. *Journal of Business and Economic Statistics*, **24**, 77–90. DOI: <http://dx.doi.org/10.1198/073500105000000162>

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88. Gelfand, A.E., **Banerjee, S.** and Gamerman, D. (2005). Spatial process modelling for univariate and multivariate dynamic spatial data. *Environmetrics*, **16**, 465–479. DOI: <http://dx.doi.org/10.1002/env.715>
89. **Banerjee, S.** and Dey, D.K. (2005). Semiparametric proportional odds models for spatially correlated survival data. *Lifetime Data Analysis*, **11**, 175–191. DOI: <http://dx.doi.org/10.1007/s10985-004-0382-z>
90. **Banerjee, S.** (2005). On geodetic distance computations in spatial modeling. *Biometrics*, **61**, 617–625. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2005.00320.x>
91. **Banerjee, S.**, Johnson, G., Schneider, N. and Durgan, B. (2005). Modelling replicated weed growth data using spatially-varying growth curves. *Environmental and Ecological Statistics*, **12**, 357–377. DOI: <http://dx.doi.org/10.1007/s10651-005-1519-2>
92. Jin, X., Carlin B.P., and **Banerjee, S.** (2005). Generalized hierarchical multivariate CAR models for areal data. *Biometrics*, **61**, 950–961. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2005.00359.x>
93. Ramachandran, G., Adgate, J.L., **Banerjee, S.**, Church, T.R., Jones, D. and Sexton, K. (2005). Indoor air quality in two urban elementary schools- measurements of airborne fungi, carpet allergens, CO₂, temperature, and relative humidity. *Journal of Occupational and Environmental Hygiene*, **2**, 553–566. DOI: <http://dx.doi.org/10.1080/15459620500324453>
94. **Banerjee, S.**, Gelfand, A.E., Knight, J.R. and Sirmans, C.F. (2004). Spatial modelling of house prices using normalized distance-weighted sums of stationary processes. *Journal of Business and Economic Statistics*, **22**, 206–213. DOI: <http://dx.doi.org/10.1198/073500104000000091>
95. **Banerjee, S.** and Carlin, B.P. (2004). Parametric spatial cure rate models for interval-censored time to relapse data. *Biometrics*, **60**, 268–275. DOI: <http://dx.doi.org/10.1111/j.0006-341X.2004.00032.x>
96. Gelfand, A.E., Schmidt, A., **Banerjee, S.** and Sirmans C.F. (2004). Nonstationary multivariate process modelling through spatially varying coregionalization (with discussion). *Test*, **13**, 263–312. DOI: <http://dx.doi.org/10.1007/BF02595775>
97. **Banerjee, S.** (2004). Revisiting spherical trigonometry with orthogonal projectors. *The Mathematical Association of America's College Mathematics Journal*, **35**, 375–381. DOI: <http://dx.doi.org/10.2307/4146847>
98. **Banerjee, S.**, Gelfand, A.E. and Sirmans, C.F. (2003). Directional rates of change under spatial process models. *Journal of the American Statistical Association* **98**, 946–954. DOI: <http://dx.doi.org/10.1198/C16214503000000909>
99. Ramachandran G., **Banerjee, S** and Vincent, J.H. (2003). Expert judgment and occupational hygiene: Application to aerosol speciation in the nickel primary production industry. *Annals of Occupational Hygiene*, **47**, 461–475. DOI: <http://dx.doi.org/10.1093/annhyg/meg066>
100. Gelfand, A.E., Kim, H.K, Sirmans, C.F. and **Banerjee, S.** (2003). Spatial modelling with spatially varying coefficient processes. *Journal of the American Statistical Association*, **98**, 387–396. DOI: <http://dx.doi.org/10.1198/016214503000170>
101. Carlin, B.P. and **Banerjee, S.** (2003). Hierarchical multivariate CAR models for spatio-temporally correlated survival data. In *Bayesian Statistics 7*, eds. J.M. Bernardo et. al., Oxford University press.
102. **Banerjee, S.** and Carlin, B.P. (2003). Semi-parametric spatiotemporal analysis. *Environmetrics*, **14**, 523–535. DOI: <http://dx.doi.org/10.1002/env.613>
103. **Banerjee, S.** and Gelfand, A.E. (2003). On smoothness properties of spatial processes. *Journal of Multivariate Analysis*, **84**, 85–100. DOI: [http://dx.doi.org/10.1016/S0047-259X\(02\)00016-7](http://dx.doi.org/10.1016/S0047-259X(02)00016-7)
104. **Banerjee, S.**, Wall, M. and Carlin, B.P. (2003). Frailty modeling for spatially correlated survival data with application to infant mortality in Minnesota. *Biostatistics*, **4**, 123–142. DOI: <http://dx.doi.org/10.1093/biostatistics/4.1.123>
105. **Banerjee, S.** and Gelfand A.E. (2002). Prediction, interpolation and regression for spatially misaligned datasets. *Sankhya*, **64**, 227–245.
106. **Banerjee, S**, Gelfand, A.E., Polasek, W. (2000). Geostatistical modelling of spatial interaction data with application to postal service performance. *Journal of Statistical Planning and Inference*. **90**, 87–105. DOI: [http://dx.doi.org/10.1016/S0378-3758\(00\)00111-7](http://dx.doi.org/10.1016/S0378-3758(00)00111-7)

Peer-reviewed book chapters

107. **Banerjee, S.** (in press). Geostatistical modeling for environmental processes. In *Handbook of Environmental and Ecological Statistics*, eds. Alan E. Gelfand, Montserrat Fuentes, Jennifer A. Hoeting, Richard L. Smith. Boca Raton, FL: Taylor and Francis/CRC, pp. 375–397. DOI:
108. **Banerjee, S.** (2016). Multivariate spatial models. In *Handbook of Spatial Epidemiology*, eds. Andrew B. Lawson, Sudipto Banerjee, Robert P. Haining and María Dolores Ugarte. Boca Raton, FL: Taylor and Francis/CRC, pp. 375–397. DOI:
109. **Banerjee, S.** (2016). Spatial survival models. In *Handbook of Spatial Epidemiology*, eds. Andrew B. Lawson, Sudipto Banerjee, Robert P. Haining and María Dolores Ugarte. Boca Raton, FL: Taylor and Francis/CRC, pp. 303–315. DOI: <http://dx.doi.org/10.1201/9781482253023-c17>
110. Gelfand, A.E., **Banerjee, S.** and Finley, A.O. (2012). Spatial design for knot selection in knot-based dimension reduction models. In *Spatio-temporal Design: Advances in Efficient Data Acquisition*, eds. J. Mateu and W. Muller. Chichester, UK: John Wiley, pp.142–169. DOI: <http://dx.doi.org/10.1002/9781118441862.ch7>
111. Finley, A.O. and **Banerjee, S.** (2012). Point-referenced spatial modeling. In *The SAGE Handbook of Multilevel Modeling*, eds. Marc A. Scott, Jeffrey S. Simonoff, and Brian D. Marx, pp.559–580. Thousand Oaks, CA: Sage Publications. DOI: <http://dx.doi.org/10.4135/9781446247600.n31>
112. **Banerjee, S.** (2010). Spatial gradients and wombling. In *Handbook of Spatial Statistics*, eds. A.E. Gelfand, P. Diggle, P. Guttorp, and M. Fuentes. Boca Raton, FL: Taylor and Francis/CRC, pp. 559–574. DOI: <http://dx.doi.org/10.1201/9781420072884-c31>
113. Gelfand, A.E. and **Banerjee, S.** (2010). Multivariate spatial process models. In *Handbook of Spatial Statistics*, eds. A.E. Gelfand, P. Diggle, P. Guttorp, and M. Fuentes. Boca Raton, FL: Taylor and Francis/CRC, pp. 495–516. DOI: <http://dx.doi.org/10.1201/9781420072884-c28>
114. **Banerjee, S.** and Gelfand, A.E. (2010). Modelling spatial gradients on response surfaces. In *Frontiers of Statistical Decision Making and Bayesian Analysis*, eds. M.H. Chen, D.K. Dey, P. Mueller, D. Sun and K. Ye, New York: Springer.
115. Wang, X., Dey, D.K. and **Banerjee, S.** (2010). Non-Gaussian hierarchical generalized linear geostatistical model selection. In *Frontiers of Statistical Decision Making and Bayesian Analysis*, eds. M.H. Chen, D.K. Dey, P. Mueller, D. Sun and K. Ye, New York: Springer.
116. Lawson, A.B. and **Banerjee, S.** (2009). Bayesian spatial analysis. In *The SAGE Handbook of Spatial Analysis*, eds. A.S. Fotheringham and P.A. Rogerson, London, UK: SAGE Publications Ltd. DOI: <http://dx.doi.org/10.4135/9780857020130.n17>
117. Finley, A.O. and **Banerjee, S.** (2008). Bayesian spatial regression for multi-source predictive mapping. In *Encyclopedia of Geographical Information Systems*, Part 5: 45–52, eds. S. Shekhar and H. Xiong, New York: Springer. DOI: http://dx.doi.org/10.1007/978-0-387-35973-1_97
118. **Banerjee, S.** and Johnson, G.A. (2006). On coregionalized models for spatially replicated experiments in weed proliferation studies. In *Bayesian Statistics and its Applications*, eds. S.K. Upadhyay, U. Singh and D.K. Dey. New Delhi: Anamaya Publishers. DOI: <http://dx.doi.org/10.1111/j.1541-0420.2006.00535.x>
119. **Banerjee, S.** and Carlin, B.P. (2002). Spatial semi-parametric proportional hazards models for analyzing infant mortality rates in Minnesota counties. In *Case Studies in Bayesian Statistics, Vol. VI*, eds. C. Gatsonis et al., Springer, New York

Peer-reviewed discussions of journal articles

120. **Banerjee, S.** (in press). Comments on: Process modeling for slope and aspect with application to elevation data maps. *TEST*. DOI: <http://dx.doi.org/10.1007/s11749-018-0621-3>
121. Guhaniyogi, R. and **Banerjee, S.** (2012). Discussion of “Spatial quantile multiple regression using the asymmetric laplace process,” by Kristian Lum and Alan E. Gelfand. *Bayesian Analysis*, **2**, 259–263. DOI: <http://dx.doi.org/10.1214/12-BA708>
122. Guhaniyogi, R. and **Banerjee, S.** (2012). Discussion of “Inference for size demography from point pattern data using integral projection models,” by Souparno Ghosh, Alan E. Gelfand, and James S. Clark, *Journal of Agricultural, Biological and Environmental Statistics*, **17**, 678–681. DOI: <http://dx.doi.org/10.1007/s13253-012-0119-5>

123. Gelfand, A.E. and **Banerjee, S.** (2011) Discussion of “Spatial prediction in the presence of positional errors,” by T.R. Fashawe and P.J. Diggle, *Environmetrics*, **22**, 130. DOI: <http://dx.doi.org/10.1002/env.1093>
124. **Banerjee, S.** (2009). Discussion to “Approximate Bayesian inference for latent Gaussian models by using integrated nested Laplace approximations” by H. Rue, S. Martino and N. Chopin, *Journal of the Royal Statistical Society, Series B*, **71**, 365. DOI: <http://dx.doi.org/10.1111/j.1467-9868.2008.00700.x>

Research Grants – active (*) and/or completed:

1. * **Principal Investigator.** NIH/NIEHS R01ES030210-01. Flexible Bayesian hierarchical models for estimating inhalation exposures. Project amount: USD 1,640,251. January 2019 – December 2023.
2. * **Principal Investigator.** NIH/NIEHS 1R01ES027027-01. Hierarchical modeling and analysis for large spatially and temporally misaligned data in environmental health applications. Project amount: USD 1,517,462. May 2017 – March 2022.
3. * **Principal Investigator.** NSF IIS-1562303. III: Medium: Collaborative Research: Bayesian modeling and inference for quantifying terrestrial ecosystem functions. Project amount: USD 361,987. September 2016 – August 2019.
4. **Principal Investigator.** NSF DMS-1513654. Collaborative Research: Hierarchical sparsity-inducing Gaussian process models for Bayesian inference on large spatiotemporal datasets. Project amount: USD 416,195. September 2015 – June 2018.
5. **Principal Investigator.** NIOSH/CDC 1R01OH010093-01. Bayesian melding for numerical models in occupational and environmental hygiene. Project amount: USD 961,244. September 2013 – August 2016.
6. **Co-Investigator.** NIH/NCI 1R03CA179555-01A1. Copula models for spatial epidemiology of cancer. Project amount: USD 12,362. April, 2014 – March, 2016.
7. **Principal Investigator.** NSF DMS-1106609. Hierarchical models for large geostatistical datasets with applications. Project amount: USD 484,549. July 2011 – June 2014.
8. **Principal Investigator.** NIH/NIGMS 1-RC1-GM092400-01. Challenge Grant: Hierarchical spatial models relating climate change to health outcomes. Project amount: USD 610,295. September, 2009 – August, 2012.
9. **Principal Investigator.** OVPR MN-Futures: Automated assessment of forest cover change. 4% salary support, July 2009 – July 2011.
10. **Co-Investigator.** NIH/NCI 1-R01-CA95955-03 Statistical methods in cancer control and epidemiology. 20% salary support, September 2008–July 2011.
11. **Principal Investigator.** NSF DMS-0706870. Hierarchical models for large geostatistical datasets with applications to forestry and ecology. Project amount: USD 331,096. June 2007 – August 2010.
12. **Principal Investigator.** NIH/NCI 1-R01-CA112444-01A1: Hierarchical modeling approaches for geographical boundary analysis in cancer studies. Project amount: USD 704,594. December 2004 – November 2008.
13. **Co-Investigator.** NIH 1-R01-OH008513-01: Retrospective assessment of mixed chemical exposures. 15% salary support, September 2005 – July 2009.
14. **Co-Investigator.** NIH/NCI 1-R01-AG025079-02: Health service use in the elderly with cancer. 15% salary support. September 2004 – September 2007.
15. **Co-Investigator.** NIH/NCI 1-R01-CA098974-02: Preventive health care in elderly cancer survivors. 10% salary support, September 2004 – September 2007.
16. **Principal Investigator.** University of Minnesota Grant-in-Aid of Research, Artistry, and Scholarship: Statistical Validation and Estimation of Computer Experiments, RA salary and computing support, July 2004 – January 2006.
17. **Principal Investigator.** Minnesota Medical Research Foundation: Modeling multivariate survival data with spatial associations and competing risks, computing support, March 2003 – October 2004.
18. **Co-Investigator.** NSF/EPA: Salary support from the Statistical Methods for Environmental Social Science. December 2001 – November 2003.
19. **Consultant.** NIH: NDS-R Fluoride Component. 10% effort, September 2001 – September 2004.

20. **Principal Investigator.** University of Minnesota Grant-in-Aid of Research, Artistry, and Scholarship: Non-stationary modeling of spatial data, RA salary and computing support, July 2001 – January 2003.

Research Grant Proposals: Pending

1. **Principal Investigator:** NIH/NCI: 1-R01-CA188490-01: Hierarchical Bayesian matrix-based models for multi-dimensional disease mapping. 30% salary support.
2. **Principal Investigator (subcontract):** CDC/NIOSH: 1-R01-CA188490-01: Improved Exposure Decision-Making through an Industrial Hygiene Dashboard

PhD Thesis Advising

1. Freda W. Cooner (2006, with Brad Carlin). Latent-activation cure-rate modeling for time-to-event data.
2. Andrew O. Finley (2006, with Alan R. Ek). Application of Bayesian spatial models in multisource forest inventory.
3. Pei Li (2011). Nonparametric hierarchical modeling for detecting boundaries in areally referenced spatial datasets.
4. Qian Ren (2012). Dynamic factor models for large multivariate spatiotemporal datasets.
5. Rajarshi Guhaniyogi (2012). On Bayesian analysis of high-dimensional spatial data.
6. Joao Monteiro (2012). Bayesian melding approaches for computer models in occupational hygiene.
7. Harrison Quick (2013, with Brad Carlin). Hierarchical modeling for space-time gradients.
8. Abhirup Datta (2016). Nearest-neighbor spatial processes and their applications.
9. Carrie Groth (2017). Bayesian modeling for censored spatial data.
10. Nada Abdalla (2018). Parametric and nonparametric Bayesian modeling of spatiotemporal exposure data in industrial hygiene.
11. Alec Goldstein Chan (2019, expected). Bayesian finite population survey sampling from process-based super-populations.
12. Lu Zhang (2019, expected). Adaptive Bayesian conjugate linear models for high-dimensional geostatistics.

Software Development

Available from CRAN (<http://cran.r-project.org>)

1. spBayes (with A.O. Finley): R package for hierarchial spatial modeling.
2. MBA: (with A.O. Finley): R package for fast surface interpolation with B-splines.
3. B2Z: (with J.V. Monteiro): R package for Bayesian modeling of physical models in occupational hygiene.
4. spNNGP (with A.O. Finley and A. Datta): R package for Bayesian nearest-neighbor Gaussian process models.

Conference Presentations

1. Eastern North American Region (ENAR) Meeting of the International Biometric Society. Chicago IL, March, 2000.
2. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Charlotte NC, March, 2001. **Invited.**
3. Joint Statistical Meetings. Atlanta GA, August, 2001.
4. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Arlington VA, March, 2002.
5. Joint Statistical Meeting. New York City, August, 2002. **Invited.**
6. International Society for Bayesian Analysis: Bayesian Workshop/Conference. Indian Statistical Institute, Calcutta, India, January, 2003. **Invited.**
7. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Tampa FL, March, 2003.

Invited.

8. Third Workshop on Bayesian Inference in Stochastic Processes (BISP). La Manga, Spain, May, 2003. **Invited.**
9. New Researcher's Conference. University of California, Davis CA, July, 2003. **Invited.**
10. Joint Statistical Meeting. San Francisco, CA, August, 2003.
11. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Pittsburgh, PA, March, 2004. **Invited.**
12. Joint Statistical Meetings. Toronto, Canada, August, 2004.
13. International Society for Bayesian Analysis: International Workshop/Conference on Bayesian Statistics and its Applications. Varanasi, India, January, 2005. **Invited.**
14. Second International IMS/ISBA Joint Meeting "MCMSki". Bormio, Italy, January, 2005. **Invited.**
15. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Austin, TA, March, 2005. **Invited.**
16. The New England Statistics Symposium. University of Connecticut, Storrs, CT, April, 2005.
17. Joint Statistical Meeting. Minneapolis, MN, August, 2005. **Invited.**
18. GEOMED conference. Cambridge University, UK. September, 2005. **Invited.**
19. Joint Meetings of the Statistical Society of Italy. Messina, Italy. September, 2005. **Invited.**
20. Symposium organized by the Carlson School of Management, University of Minnesota, Minneapolis, May, 2006. **Invited.**
21. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Atlanta, GA, March, 2007. **Invited.**
22. Joint Statistical Meetings. Salt Lake City, UT, August, 2007. **Invited.**
23. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Arlington, VA, March, 2008. **Invited.**
24. The 19th Annual TIES (The International Environmetrics Society) Conference. Kelowna, British Columbia, Canada, July, 2008. **Invited.**
25. Joint Statistical Meetings. Denver, CO, August, 2008. **Invited.**
26. Workshop on Environmetrics. National Center for Atmospheric Research (NCAR), Boulder, CO, October, 2008. **Invited.**
27. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. San Antonio, TX, March, 2009. **Invited.**
28. The 20th Annual TIES (The International Environmetrics Society) Conference. Bologna, Italy, July, 2009. **Invited.**
29. Program on Space-time Analysis for Environmental Mapping, Epidemiology and Climate Change. Statistical and Applied Mathematical Sciences Institute (SAMSI), RTP, NC, September, 2009. **Invited.**
30. NIH Workshop: Priorities for NIH Research in Climate Change and Health. National Institute of Health, Bethesda, MD, December, 2009. **Invited.**
31. The 21st Annual TIES (The International Environmetrics Society) Conference. Margarita Island, Venezuela, June, 2010. **Invited.**
32. Joint Statistical Meetings. Vancouver, British Columbia, Canada, August, 2010. **Invited.**
33. Annual Meeting of the Institute of Mathematical Statistics (IMS). Gotenburg, Sweden, August, 2010. **Invited.**
34. Fourth International IMS/ISBA Joint Meeting "MCMSki 3". Park City, UT, January 2011.
35. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Miami, FL, March, 2011.

Invited.

36. Joint Statistical Meetings. Miami, FL, August, 2011. **Invited.**
37. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Washington, DC, March, 2012. **Invited.**
38. International Society for Bayesian Analysis (ISBA) World Meeting. Kyoto, Japan, June, 2012. **Invited.**
39. International Biometric Society (IBS) World Meeting. Kobe, Japan, August, 2012. **Invited.**
40. Joint Statistical Meetings. San Diego, CA, August, 2012. **Invited.**
41. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Orlando, FL, March, 2013. **Invited.**
42. International Workshop on the Perspectives on High-dimensional Data Analysis. Vancouver, BC, Canada, May 2013. **Invited.**
43. Spatial Statistics 2013: Revealing intricacies in spatial and spatio-temporal data with statistics. Columbus, OH, June, 2013. **Invited Plenary.**
44. The 23rd Annual TIES (The International Environmetrics Society) Conference. Anchorage, Alaska, June, 2013. **Invited.**
45. International Society for Bayesian Analysis (ISBA) chapter meeting. Grahamstown, South Africa, June, 2013. **Invited.**
46. Joint Statistical Meetings. Montreal, Canada, August, 2013. **Invited.**
47. The 2014 IISA (International Indian Statistical Association) Meeting, Riverside, CA, July 2014. **Special Invited.**
48. Joint Statistical Meetings. Boston, MA, August, 2014. **Invited.**
49. Workshop on Spatial Statistics, Texas A& M University, College Station, TX, January, 2015. **Invited.**
50. G70: A Celebration of Alan Gelfand's 70th Birthday, Duke University, Durham, NC, April, 2015. **Co-organizer and invited speaker.**
51. Annual IMS/WNAR Meeting, Boise, Idaho, June 2015. **Presidential Invited Keynote Address.**
52. Joint Statistical Meetings. Seattle, WA, August, 2015. **Invited.**
53. Fifteenth Annual Red Raider Mini Symposium: Spatial Inference on Manifolds Spatial Statistics, Statistics on Manifolds, Differential Geometry, and Computational Science. Texas Tech University, Lubbock, TX, November, 2015. **Keynote.**
54. The 2015 IISA (International Indian Statistical Association) Meeting, Poona, India, December 2015. **Invited.**
55. Sixth International IMS/ISBA Joint Meeting "MCMSki 5". Lenzerheide, Switzerland, January 2016.
56. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Austin, TX, March, 2016. **Invited.**
57. SIAM Conference on Uncertainty Quantification (UQ16). Lausanne, Switzerland, April, 2016. **Invited.**
58. International Society for Bayesian Analysis (ISBA) World Meeting. Sardinia, Italy, June, 2016. **Keynote.**
59. Joint Statistical Meetings. Chicago, IL, August, 2016. **Invited.**
60. Climate Informatics Annual Workshop, National Center for Atmospheric Research, September 2016. **Keynote.**
61. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Washington DC, March, 2017. **Invited.**
62. EcoSta 2017: International Conference on Econometrics and Statistics. Hong Kong, June, 2017. **Special Invited.**
63. International Statistical Institute World Congress. Marrakech, Morocco, July, 2017. **Invited.**
64. The International Environmetrics Society TIES-GRASPA Annual Conference. Bergamo, Italy, July, 2017. **Keynote.**
65. Joint Statistical Meetings. Baltimore, MD, August, 2017. **Invited.**

66. Conférence Universitaire de Suisse Occidentale: Programme Doctoral en Statistique et Probabilités Appliquées. Villars, Switzerland, September, 2017. **Invited.**
67. Bayesian Nonparametric Inference Workshop. Oaxaca, Mexico, December, 2017. **Invited.**
68. CMStatistics 2017: International Conference on Computational and Methodological Statistics. London, UK, December 2017. **Special Invited.**
69. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. Atlanta, GA, March, 2018. **Invited.**
70. Joint Statistical Meetings. Vancouver, BC, Canada August, 2018. **Invited.**
71. Bayesian Statistics in the Big Data Era. Centre International de Rencontres Mathématiques (CIRM), Marseilles, France, November, 2018. **Keynote.**

Short courses

1. (With B.P. Carlin and A.E. Gelfand) Hierarchical modelling and analysis for spatial data. Eastern North American Region Spring Meeting, Pittsburgh, PA, March, 2004.
2. Advanced course on spatial statistics. International Society for Bayesian Analysis World Meeting, Vina Del Mar, Chile, May, 2004.
3. Advanced course on spatial statistics. Department of Statistics, University of Florence, Florence, Italy, September, 2004.
4. (With B.P. Carlin and A.E. Gelfand). Hierarchical modelling and analysis for spatial data. Joint Statistical Meeting, Minneapolis, MN, August, 2005.
5. (With J. Mulhausen, S. Banerjee, P. Logan, and P. Hewitt) Bayesian Workshop at the Professional Conference on Industrial Hygiene. Denver, Colorado, October, 2005.
6. (With A.E. Gelfand). Hierarchical modelling and analysis for spatial data. University of Tokyo, Japan, December, 2005.
7. (With A.E. Gelfand). Short course on spatial modelling and data analysis. Duke University summer school, June, 2008.
8. Hierarchical modelling and analysis for spatial data. International Society for Bayesian Analysis (ISBA) world meeting. Hamilton Island, Australia, July, 2008.
9. Short course on spatiotemporal modelling and data analysis. Macquarie University, Sydney, New South Wales, Australia, July 2008.
10. (With Finley, A.O.). Hierarchical modeling and analysis of spatial-temporal data: Emphasis in forestry, ecology, and environmental sciences. Eastern North American Region (ENAR) Spring Meeting of the International Biometric Society. San Antonio, TX, March, 2009.
11. Hierarchical modeling for spatially-referenced data with applications to environmental sciences and public health. New England Statistics Symposium, University of Connecticut, Storrs, April, 2009.
12. (With Reinhard Furrer, Steve Sain and Douglas Nychka). Summer School on Spatial Statistics. Statistical and Applied Mathematical Sciences Institute (SAMSI), RTP, NC, September, 2009.
13. (With Finley, A.O.). Hierarchical modeling and analysis of spatial-temporal data: Emphasis in forestry, ecology, and environmental sciences. Joint Statistical Meetings. Washington, DC, 2009.
14. (With Finley, A.O.). Bayesian modeling for spatial and spatio-temporal data with applications to environmental sciences and public health. Frontiers of Statistical Decision Making and Bayesian Analysis – Conference in Honor of James O. Berger. San Antonio, TX, March, 2010.
15. (With A.E. Gelfand). A short course on spatial statistics. University of Tel Aviv, Israel, June, 2010.
16. (With B.P. Carlin and A.E. Gelfand). Hierarchical modeling and analysis for spatial data. Joint Statistical Meeting, Boston, MA, August, 2014.
17. Bayesian spatiotemporal modeling. The Machine Learning Summer School, University of Texas, Austin, TX, January 2015.

18. Hierarchical Modeling and Analysis for Spatial Data. 40th Annual Summer Institute of Applied Statistics, Brigham Young University, Provo, UT, June 2015,

Invited Department Seminars

1. Division of Biostatistics, University of Minnesota, February 2000.
2. Department of Statistics, University of Northern Illinois, October 2001.
3. Division of Biostatistics, University of Minnesota, April 2002.
4. Department of Statistics, University of Minnesota, September 2003.
5. Department of Statistics, University of Florida, Gainesville, November 2003.
6. Indian Statistical Institute, Bangalore, July, 2004.
7. Department of Statistics, University of Florence, Italy, September, 2004.
8. Department of Statistics, North Carolina State University, Raleigh, October, 2004.
9. Institute of Statistics and Decision Sciences, Duke University, Durham, October, 2004.
10. Department of Statistics, University of Connecticut, Storrs, November, 2004.
11. Division of Biostatistics, University of Wisconsin, Madison, February, 2005.
12. Department of Statistics, University of Muenchen, Munich, Germany, July, 2005.
13. Department of Computer Science, University of Minnesota, Minneapolis, October, 2005.
14. Department of Statistics and Econometrics, University of Kyoto, Japan, December, 2005.
15. Center for Statistical Sciences, Brown University, Providence, September, 2009.
16. Department of Biostatistics, University of Michigan, Ann Arbor, February, 2007.
17. Applied Statistics Unit, Indian Statistical Institute, Calcutta, India, January, 2008.
18. Department of Biostatistics, M.D. Anderson Cancer Center, Houston, February, 2008.
19. Department of Statistics, Colorado State University, Fort Collins, February, 2009.
20. Department of Geography, University of Iowa, Iowa City, March, 2009.
21. Department of Statistical Sciences, Duke University, October, 2009.
22. Department of Statistics, North Carolina State University, November, 2009.
23. Bayesian and Interdisciplinary Research Unit (BIRU), Indian Statistical Institute, Kolkata, India, January 2010.
24. Department of Mathematical Sciences. Indian Institute of Science, Bangalore, India, April 2010.
25. Department of Statistics, University of Arkansas, Fayetteville, February, 2010.
26. Department of Statistics, University of Colorado, Boulder, February, 2011.
27. Department of Statistics, Brigham Young University, Utah, April, 2011.
28. Department of Biostatistics, University of North Carolina, Chapel Hill, November, 2011.
29. Department of Biostatistics, Yale University, CT, November, 2013.
30. Department of Biostatistics, Emory University, GA, February, 2014.
31. Department of Biostatistics, University of California, Los Angeles, CA, April, 2014.
32. Department of Statistics, University of California, Irvine, CA, October, 2014.
33. Department of Statistics, Harvard University, Cambridge, MA, October, 2014.

34. Department of Applied Mathematics and Statistics, University of California, Santa Cruz, CA, April, 2015.
35. Department of Statistical Sciences, Duke University, Durham, NC, April, 2015.
36. Department of Statistical and Actuarial Sciences, Western University, London, Ontario, November, 2015.
37. Booth School of Business, University of Chicago, Chicago, IL, December, 2015.
38. Department of Statistics and Applied Probability. University of California, Santa Barbara. April, 2016.
39. Université de Montpellier. Montpellier, France, July, 2016.
40. Department of Biostatistics, University of North Carolina, Chapel Hill, September, 2016.
41. Centre for Mathematical Sciences, University of Cambridge, UK, January, 2017.
42. College of Engineering, Mathematics and Physical Sciences, University of Exeter, UK, January, 2017.
43. Department of Statistics, University of Missouri, February, 2017.
44. Department of Biostatistics, Johns Hopkins University, November, 2017.

Service to Professional Organizations:

- Session Chairs on numerous occasions in national and international meetings.
- Organizer of special invited sessions in annual national meetings including the Eastern North American Region (ENAR) meeting of the International Biometric Society and the Joint Statistical Meetings.
- Instructor for short courses based upon his research methods at several national and international venues. See list provided earlier.
- Member ENAR Regional Advisory Board (2005–2008).
- Geostatistics working group leader Program on Space-time Analysis for Environmental Mapping, Epidemiology and Climate Change at the Statistical and Applied Mathematical Sciences Institute (SAMSI) in Research Triangle Park, North Carolina (2009-2010).
- COPSS Awards Committee (2014–2017).
- ENAR RECOM member (2012–2015).
- ASA Fellows Selection Committee (2012–2015).
- Program-Chair Elect for the ASA's Section of Bayesian Statistical Science (2013).
- Program-Chair for the ASA's Section of Bayesian Statistical Science (2014).
- Nominated member of the National Academy of Science's National Research Council (NRC) for cost-effectiveness study of national flood insurance programs (2014).
- Board of Directors, International Society for Bayesian Analysis (ISBA) (2015–2017).
- Chair-Elect, ASA's Section of Bayesian Statistical Science (2016).
- Chair, ASA's Section of Bayesian Statistical Science (2017).
- Member, Scientific committee for International Society for Bayesian Analysis (ISBA) World Meeting (2018).
- Chair, De Groot Prize Committee for International Society for Bayesian Analysis (ISBA) (2018).
- Member, Committee on Named Lectures for International Society for Bayesian Analysis (ISBA) (2018)

Associate Editorships:

- *Statistics in Medicine*, 2006–2009.
- *Applied Statistics: Journal of the Royal Statistical Society Series-C*, 2007–2010.
- *Bayesian Analysis*, 2008–2011.

- *Environmetrics*, 2008–2013.
- *Journal of the American Statistical Association*, 2010–Present.
- *Biometrics*, 2010–Present.
- *Journal of Agricultural, Biological and Environmental Statistics*, 2011–2015.

Guest editorships for special issues:

- *Computational Statistics and Data Analysis*.
- *Statistical Methodology*.

Referee:

- Refereed articles for *Journal of the American Statistical Association*, *Annals of Applied Statistics*, *Annals of Statistics*, *Journal of the Royal Statistical Society, Series B*, *Biometrika*, *Journal of the Royal Statistical Society, Series C*, *Biometrics*, *Technometrics*, *Journal of Computational and Graphical Statistics*, *Lifetime Data Analysis*, *Environmental and Ecological Statistics*, *Environmetrics*, *Statistics in Medicine*, *Annals of Occupational Hygiene*, *Journal of Occupational and Environmental Hygiene*, *Computational Statistics and Data Analysis*, *Geoinformatica*.
- Reviewed grants for *National Institute of Health*, *National Science Foundation*, the *National Security Agency*.
- International grant review for the *National Research Councils* of Finland and Portugal.
- International dissertation review for Queensland University of Technology, Brisbane, Australia.

Grant review panels and study sections

- NIH: Special Emphasis Panel/Scientific Review Group, Kidney, Nutrition, Obesity and Diabetes Epidemiology (KNOD) Study Section. Ad hoc member, May, 2008.
- NSF: Review Panel, Collaborations in Mathematical Geosciences (CMG) program. June, 2009.
- NIH: Special Emphasis Panel/Scientific Review Group, Challenge Grants Panel 1. July, 2009.
- NSF: Review Panel, Collaborations in Mathematical Geosciences (CMG) program. April, 2010.
- NIH: Infectious, Reproductive, Asthma and Pulmonary Conditions Study Section. Ad hoc member, October, 2010.
- NIH: Biostatistical Methods Research and Design (BMRD) Study Section. Permanent member, 2011–2017.
- NSF: Review Panel, Division of Mathematical Sciences (DMS) program. January, 2012.
- NIH/NIEHS: Environmental Health Sciences Research Center (EHSRC) Study Section. Permanent member, 2013–2016.
- NIH/NIEHS: Environmental Health Sciences Research Center (EHSRC) Study Section. Ad hoc member, August 2017.
- NIH: Infectious, Reproductive, Asthma and Pulmonary Conditions Study Section. Ad hoc member, October, 2017.
- NSF: Review Panel, Division of Mathematical Sciences (DMS) CAREER Awards program. October, 2017.

Professional memberships:

- American Statistical Association
- Institute of Mathematical Sciences.
- International Biometric Society, Eastern North American Region (served on the Regional Advisory Board).
- International Society for Bayesian Analysis (ISBA).
- The International Environmetrics Society.
- International Indian Statistical Association.

References

To be provided upon request.