

# Sujit K. Ghosh

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## University Address

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(all entries are in reverse chronological order)

## Degrees

- 1996 Ph.D. in Statistics, University of Connecticut, Storrs, USA.
- 1992 M.S. in Statistics, Indian Statistical Institute, Calcutta, India.
- 1990 B.S. in Statistics, Indian Statistical Institute, Calcutta, India.

## Experience

- Jul 2010 – present Co-Director of Graduate Programs in Statistics, North Carolina State University.
- Dec 2011, 2009 Visiting Professor at Thammasat University, Thailand.
- May 2009 Visiting Professor at Middle East Technical University, Ankara, Turkey.
- Jun 2008 – Jul 2008 MC-TOK Visiting Professor at Technical University of Crete, Greece.
- Dec 2007 – Jan 2008 Visiting Professor at Thammasat University, Thailand.
- Aug 2007 – present Full Professor at North Carolina State University, USA.
- Aug 2002 – Jul 2007 Associate Professor at North Carolina State University, USA.
- May 2006 – Jun 2006 Visiting Associate Professor at Thammasat University, Thailand.
- May 2005 – Jun 2005 Visiting Associate Professor at Thammasat University, Thailand.
- Jan 2003 – May 2003 Visiting Associate Professor at National University of Singapore.
- Aug 1996 – Jul 2002 Assistant Professor at North Carolina State University, USA.
- Aug 1993 – Jul 1996 Teaching and Research Assistant at University of Connecticut, USA.
- Aug 1992 – Jul 1993 NBHM Research Fellow at Indian Statistical Institute, India.

## Honors and awards

- 2009 Elected Fellow of the *American Statistical Association*
- 2008 Recipient of the *International Indian Statistical Association Young Investigator Award*
- 2008 – Associate Editor of *Journal of the American Statistical Association - T & M*
- 2007 – 2009 Elected Member of *American Statistical Association Committee on Meetings*
- 2007 – Associate Editor of *Model Assisted Statistics and Applications - Bayesian Statistics*
- 2006 – Associate Editor of *Journal of the American Statistical Association - A & CS*
- 2001 – 2003 Elected Vice President of the *NC State Chapter of Sigma Xi Honor Society*
- 2001 Recipient of the *NSF Travel Award* to attend Bernoulli conference, Havana, Cuba
- 2000 Recipient of the *NSF Travel Award* to attend IMS conference, Guanajuato, Mexico
- 1999 – 2001 Associate Editor of the *ISBA Newsletter - Applications*
- 1998 Elected member of *Sigma Xi Honor Society*
- 1995 Recipient of *NSF Travel Award* to attend conference on Bayesian Robustness, Rimini, Italy.
- 1993 Recipient of the *NBHM Research Scholarship*, Indian Statistical Institute.
- 1987 – 1992 Recipient of *Indian Statistical Institute Merit Awards*.

**Grants**

Jan 01, 2012 - Dec 24, 2012	<i>SAS Institute, Inc.</i> : \$53,320 “Graduate Industrial Traineeship For Bo Zhang” (PI)
Oct 24, 2011 - Aug 15, 2012	<i>SAS Institute, Inc.</i> : \$40,633 “Graduate Industrial Traineeship For Laura Boehm” (PI)
Apr 15, 2011 - Mar 31, 2012	<i>National Science Foundation (DMS-1105469)</i> : \$20,000 “2011 International Conference on Probability, Statistics and Data Analysis (2011-ICPSDA)” (Co-PI with S. Ghoshal)
Apr 12, 2011 - Apr 11, 2012	<i>National Security Agency (H98230-11-1-0216)</i> : \$14,950 “2011 International Conference on Probability, Statistics and Data Analysis” (Co-PI with S. Ghoshal)
Apr 01, 2011 - Dec 23, 2011	<i>SAS Institute, Inc.</i> : \$38,059 “SAS Graduate Traineeship for Cindy Wu” (PI)
Jan 10, 2011 - Dec 15, 2012	<i>SAS Institute, Inc.</i> : \$95,966 “Graduate Industrial Traineeship For Liwei Wang” (PI)
Jun 01, 2009 - Aug 31, 2010	<i>National Institute of Statistical Sciences</i> : \$30,000 “Multivariate Imputation with Valid Mean Square Estimation” (PI)
Sep 01, 2008 - Aug 31, 2013	<i>National Science Foundation (DUE-0806909)</i> : \$600,000 “Mentoring Students to Total Success” (Co-PI with R. D. Woodard, K. S. Weems, J. M. Hughes-Oliver, P. J. Arroyo and S. G. Pantula)
Jun 01, 2008 - Jul 31, 2008	<i>Marie Curie Transfer of Technology (MTKD-CT-2004-014135)</i> : EUR 11,914 “Spartan Spatial Random Field Models” (Co-PI with D. Hristopulos)
Dec 15, 2007 - Aug 25, 2011	<i>National Institute of Health (R01ES014843-01A2)</i> : \$948,005 “A Spatial-Temporal Modeling Approach For Environmental Epidemiological Data” (Co-PI with M. Fuentes, C. Frey and D. Shea)
Sep 15, 2007 - Sep 14, 2012	<i>National Science Foundation (DMS-0703392)</i> : \$770,714 “CSUMS: NC State University Computation For Undergraduates in Statistics Program (CUSP)” (PI) (other Co-PIs: M. Gumpertz, S. Pantula and H. Zhang)
Sep 07, 2007 - Sep 30, 2011	<i>US Dept. of Agriculture (USDA: 58-6000-7-0122)</i> : \$15,000 “Pilot Project to Study a Data Enclave for ARMS” (Co-PI with B. K. Goodwin)
Aug 07, 2007 - Dec 31, 2009	<i>Center for Disease Control (200-2007-M-22368)</i> : \$50,000 “Anomaly Detection in Space and Time” (PI)
Aug 1, 2002 - Dec 31, 2003	<i>Environmental Protection Agency (CoOp-533246)</i> : \$129,855 “Statistical Methodology for Spatial Modeling and Interpolation of Air and Deposition Pollutants” (Co-PI with M. Fuentes and D. Boos)
Oct 1, 2000 - Sep 30, 2003	<i>National Science Foundation (DMS-0084378)</i> : \$200,000 “Nonstationary Spatial Modeling for Multiple Point Sources, with Applications to Environmental Data” (Co-PI with J. M. Hughes-Oliver)
Oct 1, 2001 - Mar 31, 2002	<i>U.S. Census Bureau (533141)</i> : \$236,430 “Triple System Estimation for Population Size” (Co-investigator with S. G. Pantula, K. Pollock and L. Stefanski)
Jun 1, 1998 - May 31, 1999	<i>National Science Foundation (DMS-9803767)</i> : \$69,375 “Modeling and Estimation of Electronics and Semiconductor Products” (Co-PI with J. C. Lu, J. M. Hughes-Oliver and W. C. Holton)

Source: <http://www.ncsu.edu/sparcs/reports/>

## Publications

Papers in refereed journals/book chapters

1. Reyes, E. M. and Ghosh, S. K. (2012). Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing, *Journal of Biopharmaceutical Statistics* (in press)  
<http://www.tandf.co.uk/journals/lbps>
2. Osman, M. and Ghosh, S. K. (2012). Nonparametric Regression Models for Right-censored Data using Bernstein Polynomials, *Computational Statistics and Data Analysis*, **56**, 559-573.  
<http://www.elsevier.com/locate/csda>
3. McLain, A. and Ghosh, S. K. (2011). Nonparametric Estimation of the Conditional Mean Residual Life Function with Censored Data, *Lifetime Data Analysis*, **17**, 514-532.  
<http://www.springerlink.com/content/x723562w63280716/>
4. Curtis, S. M. and Ghosh, S. K. (2011). A Bayesian Approach to Multicollinearity and the Simultaneous Selection and Clustering of Predictors in Linear Regression, *Journal of Statistical Theory and Practice*, **5**, 715-735.  
<http://journalstp.gracescientific.com/>
5. Ravindran, P. and Ghosh, S. K. (2011). Bayesian Analysis of Circular Data Using Wrapped Distributions, *Journal of Statistical Theory and Practice*, **5**, 547-561.  
<http://journalstp.gracescientific.com/>
6. Ghosh, S. K. (2011). Economic Implications of Imputation in Agricultural Economic Data: A Discussion, *American Journal of Agricultural Economics* (in press)  
<http://www.aaea.org/publications/ajae/>
7. Belasco, E. and Ghosh, S. K. (2011). Modeling Semi-Continuous Data Using Mixture Regression Models with an Application to Cattle Production Yields, *Journal of Agricultural Science*, **105**, 109-121.  
<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8458298>
8. Huang, J., Abt, B., Kindermann, G. and Ghosh, S. K. (2011). Empirical Analysis of Climate Change Impact on Loblolly Pine Plantations in the Southern United States, *Natural Resource Modeling*, **24**, 445-476.  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1939-7445.2011.00098.x/abstract>
9. Osman, M. and Ghosh, S. K. (2011). Semiparametric Bayesian Testing Procedure for Noninferiority Trials with Binary Endpoints, *Journal of Biopharmaceutical Statistics*, **21**, 920-937.  
<http://dx.doi.org/10.1080/10543406.2010.544526>
10. Eloyan, A. and Ghosh, S. K. (2011). Smooth Density Estimation with Moment Constraints Using Mixture Distributions, *Journal of Nonparametric Statistics*, **23**, 513-531.  
<http://dx.doi.org/10.1080/10485252.2010.532554>
11. Gosky, R. and Ghosh, S. K. (2011). A Comparative Study of Bayes Estimators of Closed Population Size from Capture-Recapture Data, *Journal of Statistical Theory and Practice*, **5**, 241-260.  
<http://journalstp.gracescientific.com/>
12. Zhu, Y., Goodwin, B. K. and Ghosh, S. K. (2011). Modeling Yield Risk Under Technological Change: Dynamic Yield Distributions and the U.S. Crop Insurance Program, *Journal of Agricultural and Resource Economics*, **36**, 192-210.

- <http://jareonline.uwagec.org/>
13. Curtis, S. M. and Ghosh, S. K. (2011). A Variable Selection Approach to Monotonic Regression with Bernstein Polynomials, *Journal of Applied Statistics*, **38**, 961-976.  
<http://dx.doi.org/10.1080/02664761003692423>
  14. Ghosh, S. K. and Goyal, L. (2010). Statistical Inference for Nonlinear Models Involving Ordinary Differential Equations, *Journal of Statistical Theory and Practice*, **4**, 727-742.  
<http://journalstp.gracescientific.com/>
  15. Osman, M. and Ghosh, S. K. (2010). Novel Bayesian Methods for Non-inferiority Tests based on Relative Risk and Odds Ratio for Dichotomous Data, *Journal of Statistical Theory and Practice*, **4**, 433-452.  
<http://journalstp.gracescientific.com/>
  16. Bondell, H., Krishna, A. and Ghosh, S. K. (2010). Joint Variable Selection for Fixed and Random Effects in Linear Mixed-Effects Models, *Biometrics*, **66**, 1069-1077.  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1541-0420.2010.01391.x/full>
  17. Anand, S. and Ghosh, S. K. (2010). A Flexible Class of Models for Data Arising from a "thorough QT/QTc study," *Pharmaceutical Statistics*  
<http://onlinelibrary.wiley.com/doi/10.1002/pst.420/abstract>
  18. Ghosh, S. K., Bhawe, P. V., Davis, J. M. and Lee, H. (2010). Spatio-Temporal Analysis of Total Nitrate Concentrations Using Dynamic Statistical Models, *Journal of the American Statistical Association*, **105**, 538-551.  
<http://pubs.amstat.org/doi/abs/10.1198/jasa.2010.ap07441>
  19. Kyung, M. and Ghosh, S. K. (2010). Maximum likelihood estimation for directional conditionally autoregressive models, *Journal of Statistical Planning and Inference*, **140**, 3160-3179.  
<http://dx.doi.org/10.1016/j.jspi.2010.04.012>
  20. Wang, D., Ghosh, S. K. and Pantula, S. G. (2010). Maximum Likelihood Estimation and Unit Root Test for First Order Random Coefficient Autoregressive Models, *Journal of Statistical Theory and Practice*, **4**, 261-278.  
<http://journalstp.gracescientific.com/>
  21. Ghosh, S. K. (2010). Basics of Bayesian Methods, *Statistical Methods in Molecular Biology: Ed. Bang, Zhou, Van Epps and Mazumdar*, Humana Press, New York.  
<http://www.amazon.com/Statistical-Methods-Molecular-Biology-Heejung/dp/1607615789>
  22. Araveeporn, A., Ghosh, S. K. and Budsaba, K. (2010). Forecasting the Stock Exchange Rate of Thailand Index by Conditional Heteroscedastic Autoregressive Nonlinear Model with Autocorrelated Errors. *Thailand Statistician*, **8**, 109-122.  
[http://www.statassoc.or.th/Journal\\_onweb%5Cvol182%5Cabstrctv82\\_1.pdf](http://www.statassoc.or.th/Journal_onweb%5Cvol182%5Cabstrctv82_1.pdf)
  23. Gosky, R. and Ghosh, S. K. (2009). A Comparative Study of Bayesian Model Selection Criteria for Capture-Recapture Models for Closed Populations, *Journal of Modern Applied Statistical Methods*, **9**, 68-80.  
<http://www.jmasm.com/>
  24. Eom, J. K., Stone, J. R. and Ghosh, S. K. (2009). Daily Activity Patterns of University Students, *Journal of Urban Planning and Development*, **135(4)**, 141-149.  
<http://ascelibrary.aip.org/dbt/dbt.jsp?KEY=JUPDDM&Volume=135&Issue=4>
  25. Huggins, W., Ghosh, S. K. and Wollenzien, P. (2009). Hydrogen bonding and packing density are factors most strongly connected to limiting sites of high flexibility in the 16S rRNA in the 30S ribosome, *BMC Structural Biology*, **9:49**  
<http://www.biomedcentral.com/1472-6807/9/49>
  26. Kyung, M. and Ghosh, S. K. (2009). Bayesian Inference for Directional Conditionally Autoregressive Models, *Bayesian Analysis*, **4**, 413-444.

- <http://ba.stat.cmu.edu/journal/2009/vol104/issue04/kyung.pdf>
27. Krishna, A., Bondell, H. and Ghosh, S. K. (2009). Bayesian Variable Selection Using an Adaptive Powered Correlation Prior, *Journal of Statistical Planning and Inference*, **139**, 2665-2674.  
<http://dx.doi.org/10.1016/j.jspi.2008.12.004>
  28. Mishra, K. and Ghosh, S. K. (2009). Estimation of Scram Rate Trends in Nuclear Power Plants using Hierarchical Bayes Models, *Communication in Statistics - Theory and Methods*, **38**, 2856 - 2871.  
<http://pdfserve.informaworld.com/487300\731200449\914064422.pdf>
  29. Hughes-Oliver, J. M., Heo, T. Y. and Ghosh, S. K. (2009). An Autoregressive Point Source Model for Spatial Processes, *Environmetrics*, **20**, 575-594.  
<http://onlinelibrary.wiley.com/doi/10.1002/env.957/abstract>
  30. Anand, S. and Ghosh, S. K. (2009). A Bayesian Approach to Assessing the Risk of QT Prolongation, *Journal of Statistical Theory and Practice*, **3**, 445-454.  
<http://journalstp.gracescientific.com/>
  31. Mishra, K. and Ghosh, S. K. (2009). Bayesian regression Models for the Quality Adjusted Lifetime Data with Zero Time Duration Health States, *Journal of Statistical Theory and Practice*, **3**, 477-487.  
<http://journalstp.gracescientific.com/>
  32. Park, J., Genton, M. and Ghosh, S. K. (2009). Nonparametric Autocovariance Estimation from Censored Time Series, *Journal of Nonparametric Statistics*, **21**, 241-259.
  33. Belasco, E., Goodwin, B. K., Ghosh, S. K. (2009). A Multivariate Evaluation of Ex-ante risks Associated with Fed Cattle Production, *American Journal of Agricultural Economics*, **91**, 431-433.
  34. Lee, H. and Ghosh, S. K. (2009). Performance of Information Criteria in Selecting Spatial Models, *Journal of Statistical Computation and Simulation*, **79**, 93-106.
  35. White, G. and Ghosh, S. K. (2009). A Stochastic neighborhood Conditional Auto-Regressive Model for Spatial Data, *Computational Statistics and Data Analysis*, **53**, 3033-3046.
  36. Kalaylioglu, Z. I. and Ghosh, S. K. (2009). Bayesian Unit-root Tests for Stochastic Volatility Models, *Statistical Methodology*, **6**, 189-201.
  37. Ghosh, S. K. and Ebrahimi, N. (2008). Bayesian Analysis of Change-point Hazard rate Problem, *Journal of Statistical Theory and Practice*, **2**, 523-533.  
<http://journalstp.gracescientific.com/>
  38. Wang, D. and Ghosh, S.K. (2008). Bayesian Analysis of Random Coefficient Autoregressive Models, *Model Assisted Statistical Applications*, **3**, 281-295.
  39. Ghosh, S. K. (2008). A Statistician Goes to the XXIX Olympics, *AmStat News*, **November issue**, 29.
  40. Devineni, N., Sankarasubramanian, A. and Ghosh, S. K. (2008). Multi-model Ensembling of Probabilistic Streamflow Forecasts: Role of Predictor State Space in Skill Evaluation, *Water Resources Research*, **44**, W09404.
  41. Song, H. R., Fuentes, M. and Ghosh, S. K. (2008). A Comparative Study of Gaussian Geostatistical and Gaussian Markov Random Field Models, *Journal of Multivariate Analysis*, **99**, 1681-1697.
  42. Ozaki, V. Ghosh, S. K. and Goodwin, B. (2008). Spatio-temporal Modeling of Agricultural Yield Data with an Application to Pricing Crop Insurance Contracts, *American Journal of Agricultural Economics*, **90**, 951-961.

43. Richards, S. L., Ghosh, S. K., Zeichner, B. C. and Apperson, C. S. (2008). Impact of Source Reduction on the Spatial Distribution of Larvae and Pupae of *Aedes Albopictus* (Diptera: Culicidae) in Suburban Neighborhoods of a Piedmont Community in North Carolina, *Journal of Medical Entomology*, **45**, 617-628.
44. Lee, H. and Ghosh, S. K. (2008). A Reparametrization Approach for Dynamic Space-Time Models, *Journal of Statistical Theory and Practice*, **2**, 1-14.  
<http://journalstp.gracescientific.com/>
45. Webster, R. A., Pollock, K. and Ghosh, S. K. (2008). Bayesian Spatial Modeling of Data from Unit-count Surveys of Fish in Streams, *Transactions of the American Fisheries Society*, **137**, 438-453.
46. Ghosh, S. K. and Mukhopadhyay, P. (2007). Bayesian Analysis of Quality Adjusted Lifetime (QAL) data, *Journal of Statistical Theory and Practice*, **2**, 233-251.  
<http://journalstp.gracescientific.com/>
47. Ghosh, S. K. and Kim H. (2007). Semiparametric Inference Based on a Class of Zero-altered Distributions, *Statistical Methodology*, **4**, 371-383.
48. Park, J., Genton, M. and Ghosh, S. K. (2007). Censored Time Series Analysis with Autoregressive Moving Average Models, *Canadian Journal of Statistics*, **35**, 151-168.
49. Li, H., Ghosh, S. K., Amerson, H. and Li, B. (2006). Major Gene Detection for Fusiform Rust Resistance using Bayesian Complex Segregation Analysis in Loblolly Pine, *Theoretical and Applied Genetics*, **113**, 921-929.
50. Jeong, M. K., Lu, J. C., Zhou, W. and Ghosh, S. K. (2006). Data-reduction Method for Spatial Data Using a Structured Wavelet Model, *International Journal of Production Research*, **45**, 2295-2311.
51. Richards, S. L., Apperson, C. S., Ghosh, S. K. and Cheshire, H. M. (2006). Spatial Analysis of *Aedes Albopictus* (skuse) Oviposition in Suburn Neighborhoods of a Piedmont Community in North Carolina, *Journal of Medical Entomology*, **43**, 976-989.
52. Fuentes, M., Song, H. R., Ghosh, S.K., Holland, D. and Davis, J. M. (2006). Spatial Association Between Speciated Fine Particles and Mortality, *Biometrics*, **62**, 855-863.
53. Schlosser, P. M. Borghoff, S.J., Nicholas, C. G., David, J. A. and Ghosh, S. K. (2006). Physiologically Based Pharmacokinetic Modeling of Genistein in Rats, Part I: Model development, *Risk Analysis*, **26**, 483-500.
54. Ghosh, S. K. and Ghosal S. (2006) Semiparametric Accelerated Failure Time Models for Censored Data, *Bayesian Statistics and Its Applications*, **15**, 213-229.
55. Ghosh, S. K., Mukhopadhyay, P. and Lu, J. C. (2006). Bayesian Analysis of Zero-Inflated Regression Models, *Journal of Statistical Planning and Inference*, **136**, 1360-1375.
56. Huggins, W., Ghosh, S. K., Nanda, K. and Wollenzien, P. (2005). Internucleotide movements during formation of RNA-RNA photocrosslinkings in the 30S ribosome and their connection to the 30S subunit conformational dynamics, *Journal of Molecular Biology*, **354**, 358-374.
57. Sinha, D. and Ghosh, S.K. (2005). Multiple Events Time Data: A Bayesian Recourse, *Handbook of Statistics*, **25**, 891-906.
58. Ghosh, S. K. and Norris, J. (2005). Bayesian capture-recapture analysis of a closed population allowing for heterogeneity between animals, *Journal of Agricultural Biological and Environmental Statistics*, **10**, 35-49.
59. Zaykin, D. V., Meng, Z. and Ghosh, S. K. (2004). Interval estimation of genetic susceptibility for retrospective case-control studies, *BioMed Central Genetics*, **5:9**, 1471-1521.

60. Zeng, W., Ghosh, S. K. and Li, B. (2004). A Blocking Gibbs Sampling Method to Detect Major Genes Affecting a Quantitative Trait for Diallel Mating Design, *Genetical Research*, **83**, 143-154.
61. Ghosh, S.K. (2003). Affinity Maturation of the Humoral Immune Response: A Bayesian Approach, *Journal of Agricultural Biological and Environmental Statistics*, **8**, 367-382.
62. Natkin J., Cooper, B., Alborano, J., Padilla, A. and Ghosh, S.K. (2003). Predicting and Modeling Superintendent Turnover, *Journal of School Leadership*, **13**, 328-346.
63. Ghosh, S. K. (2002). Measures of Model Uncertainty of Simultaneous Perturbation in Both Priors and the Likelihood, *International Journal of Mathematical Sciences*, **1**, 163-177.
64. Ghosh, S.K. (2002). The Hardy-Weinberg law, *Encyclopedia of Mathematics*, **III**, 187-188.
65. Natkin J., Cooper, B., Fusarelli L., Alborano, J., Padilla, A. and Ghosh, S. K. (2002). Myth of the Revolving-Door Superintendency, *The School Administrator*, **5**, 28-31.
66. Ghosh, S. K. and Sengupta, D. (2001). Testing for Proportionality of Multivariate Dispersion Structures Using Interdirections, *Journal of Nonparametric Statistics*, **13**, 331-349.
67. Ebrahimi, N. and Ghosh, S. K.(2001). Bayesian and Frequentist Methods in change point problems, *Handbook of Statistics on Advances in Reliability*, eds. N. Balakrishnan and C.R. Rao, **20**, 777-787.
68. Ghosh, S. K. and Sinha, D. (2001). Bayesian Analysis of Interval-censored Survival Data using Penalized Likelihood, *Sankhya A*, **63**, 1-14.
69. Padilla, A. and Ghosh, S. K. (2000). Turnover at the Top: The Revolving Door of the Academic Presidency, *The Presidency*, **3**, 30-37.
70. Gelfand, A. and Ghosh, S. K., Christiansen C., Soumerai, S. B. and McLaughlin, T. J. (2000). Proportional Hazards Models: A Latent Competing Risk Approach, *Journal of Royal Statistical Society, series C (Applied Statistics)*, **49**, 385-397.
71. Padilla, A. and Ghosh, S. K. (1999). On the Tenure of University Presidents, *On The Horizon*, **7**, 5.
72. Ghosh, S.K. and Sengupta, D.(1999). On Multivariate Monotonic Measures of Location with High Breakdown Point, *Sankhya A*, **61**, 362-380.
73. Sinha, D., Chen, M. H. and Ghosh, S. K.(1999). Bayesian Analysis and Model selection for Interval-censored survival data, *Biometrics*, **55**, 585-590.
74. Knight, J. R., Sirmans, C. F., Gelfand, A. E. and Ghosh, S. K. (1998). Analyzing Real Estate Data Problems using the Gibbs Sampler, *Real Estate Economics*, **26**, 469-492.
75. Ghosh, S. K. and Gelfand, A. E. (1998). A Latent Risk Approach for Modeling Individual Level Data Consisting of Multiple Event Times, *Journal of Statistical Research*, **32**, 23-39.
76. Ghosh, S. K. and Gelfand, A. E. (1998). Latent Waiting Time Models For Bivariate Event Times With Censoring, *Sankhya spl. B*, **60**, 31-47.
77. Gelfand, A. E., Ghosh, S. K., Knight, J. R. and Sirmans, C. F. (1998). Spatio-Temporal Modeling of Residential Sales data, *Journal of Business and Economic Statistics*, **16**, No.3, 312-321.
78. Gelfand, A. E. and Ghosh, S. K. (1998). Model Choice: A Minimum Posterior Predictive Loss Approach, *Biometrika*, **85**, 1-11.
79. Dey, D.K., Ghosh, S. K. and Chang, H. (1997). Measuring the Effect of Observations Using the Posterior and Intrinsic Bayes Factors with Vague Prior Information, *Sankhya A*, **59**, 376-391.

80. Dey, D.K., Ghosh, S. K. and Lou, K.R. (1997). On Local Sensitivity Measures in Bayesian Analysis (with discussion), *IMS Lecture Notes*, **29**, 21-39.

#### Books and Edited volumes

1. Dey, D. K., Ghosh, S. K. and Mallick, B. K. (2000). *Generalized Linear Models: A Bayesian perspective*, Marcel Dekker Inc., New York. (ISBN: 0-8247-9034-0)

#### Book reviews in journals

1. Ghosh, S. K. (2001). Book review of "Essential Wavelets for Statistical Applications and Data Analysis (author: R. Todd Ogden)," *Technometrics*, **43**, 486.
2. Ghosh, S. K. (1998). Book review of "Linear Models: A Mean Model Approach (author: B. K. Moser)," *Journal of the American Statistical Association*, **93**, 402.

#### Papers in Proceedings

1. Robbins, M., Ghosh, S. K. and Habiger, J. (2010). Innovative Imputation Techniques Designed for the Agricultural Resource Management Survey, *Joint Statistical Meetings Proceedings*.
2. Habiger, J., Robbins, M. and Ghosh, S. K. (2010). An Assessment of Imputation Methods for the USDA's Agricultural Resource Management Survey, *Joint Statistical Meetings Proceedings*.
3. Krachey, E., Ghosh, S. K. and Lu, W. (2009). A Bayesian Semiparametric Accelerated Failure Time Cure Model for Censored Data, *Joint Statistical Meetings Proceedings*.
4. Krishna, A., Bondell, H. and Ghosh, S. K. (2009). Joint Variable Selection of Fixed and Random Effects in a Linear Mixed-Effects Model and its Oracle Properties, *Joint Statistical Meetings Proceedings*.
5. Eloyan, A. and Ghosh, S. K. (2009). Bayesian Independent Component Analysis Using Mixture Priors, *Joint Statistical Meetings Proceedings*.
6. Osman, M. and Ghosh, S. K. (2009). Semi-parametric Bayesian Approach for Testing Non-inferiority Using Relative Risk and Odds Ratio for Binary Data, *Joint Statistical Meetings Proceedings*.
7. Curtis, S. M. and Ghosh, S. K. (2009). A Variable Selection Approach to Bayesian Monotonic Regression with Bernstein Polynomials, *Joint Statistical Meetings Proceedings*.
8. Zhu, Y., Ghosh, S. K. and Goodwin, B. (2009). Dynamic Pricing the Revenue Insurance Contracts: A Time-Varying Copula Model, *Joint Statistical Meetings Proceedings*.
9. Mishra, K. and Ghosh, S. K. (2008). A Nonparametric Model of Quality Adjusted Lifetime Data Analysis with Zero Duration Health States, *Joint Statistical Meetings Proceedings*.
10. White, G. and Ghosh, S. K. (2008). A Stochastic Neighborhood Conditional Auto-Regressive Model for Spatial Data, *Joint Statistical Meetings Proceedings*.
11. Ghosh, S. K. and Ouyang, H. (2008). Effects of Missing and Censored Data for Nonlinear Models Involving ODEs, *Joint Statistical Meetings Proceedings*.
12. Zhu, Y., Ghosh, S. K. and Goodwin, B. K. (2008). Modeling Dependence in the Design of Crop Insurance Contract: A Semiparametric Copula Model Approach, *Joint Statistical Meetings Proceedings*.
13. Anand, S. and Ghosh, S. K. (2008). A Flexible Class of Models for Data Arising from a 'Thorough QT/QTc Study,' *Joint Statistical Meetings Proceedings*.

14. Krishna, A. Ghosh, S. K. and Bondell, H. (2007). A Variable Selection Method for Linear Models using Modified Zellner's Prior, *Joint Statistical Meetings Proceedings*.
15. Liu, S. and Ghosh, S. K. (2007). Nonparametric Estimation of Mean Residual Life Function, *Joint Statistical Meetings Proceedings*.
16. Anand, S. and Ghosh, S. K. (2007). A Bayesian Approach to Assessing the Risk of QT Prolongation, *Joint Statistical Meetings Proceedings*.
17. Mishra, K. and Ghosh, S. K. (2007). Bayesian Estimation of Scram Rate Trends in Nuclear Power Plants, *Joint Statistical Meetings Proceedings*.
18. Ghosh, S. K. and Zhu, L. (2007). A Joint Modeling Approach for Analyzing Nonignorable Missing Data, *Joint Statistical Meetings Proceedings*.
19. Goyal L. and Ghosh, S. K. (2006). Statistical Inference for Nonlinear Models Involving Ordinary Differential Equations, *Joint Statistical Meetings Proceedings*.
20. Kern, J., Bernini, N. and Ghosh, S. K. (2006). A hierarchical Bayesian Analysis of Longitudinal Frequency Data Using Piecewise Linear Regression, *Joint Statistical Meetings Proceedings*.
21. Zhu L., Ghosh, S. K. and Ghosal, S. (2006). Bayesian Modeling of Longitudinal Data with Nonignorable Missing Data, *Joint Statistical Meetings Proceedings*.
22. Ghosh, S. K. and Goyal L. (2006). Bayesian Inference for NLME Models Involving ODEs, *Joint Statistical Meetings Proceedings*.
23. Gosky, R. and Ghosh, S. K. (2006). Bayesian Analysis and Model Selection in Closed-Population, Capture-Recapture Models, *Joint Statistical Meetings Proceedings*.
24. Mukhopadhyay, P., Berger, R. and Ghosh, S. K. (2005). Comparison of Exact, Approximate and Bayesian Tests for Testing the Hypothesis of Efficacy, *Joint Statistical Meetings Proceedings*.
25. Goyal, L. and Ghosh, S. K. (2005). Bayesian Inference for Nonlinear Models Involving Ordinary Differential Equations, *Joint Statistical Meetings Proceedings*.
26. Ghosh, S. K. (2004). Semiparametric Regression Models for Zero-inflated Data, *Joint Statistical Meetings Proceedings*.
27. Park, J., Ghosh, S. K. and Genton, M. G. (2004). Analyzing censored data based on autoregressive models, *Joint Statistical Meetings Proceedings*.
28. Ghosh, S. K. (2003). Bayesian Analysis of Zero Inflated Models for ted Data, *Joint Statistical Meetings Proceedings Proceedings*.
29. Ravindran, P. and Ghosh, S. K. (2003). Bayesian Methods for Circular Time Series Using Wrapped Distributions, *Joint Statistical Meetings Proceedings*.
30. Heo, T. Y., Hughes-Oliver, J. M. and Ghosh, S. K. (2003). Point Source Modeling Using a Bayesian Hierarchical Nonstationary Spatial Model, *Joint Statistical Meetings Proceedings*.
31. Kalaylioglu, Z., Pantula, S. G. and Ghosh, S. K. (2003). Frequentist Unit Root Tests in Stochastic Volatility Models, *Joint Statistical Meetings Proceedings*.
32. Lee, H. and Ghosh, S. K. (2003). A Robustness Study for Cost-Effectiveness Study, *Joint Statistical Meetings Proceedings*.
33. Ghosh, S. K. and Wang, D. (2002). Bayesian Analysis of Random Coefficient Autoregressive Models, *Joint Statistical Meetings Proceedings*.
34. Kalaylioglu, Z. and Ghosh, S. K. (2002). Bayesian Unit-root Tests in Stochastic Volatility Models, *Joint Statistical Meetings Proceedings*.
35. Ravindran, P. and Ghosh, S. K. (2001). Bayesian Analysis of Circular Data Using Wrapped Distributions, *American Statistical Association Proceedings*.

36. Huang, Y. and Ghosh, S. K. (2001). A Conditional Nonparametric Approach to Estimating Survival Functions, *American Statistical Association Proceedings*.
37. Umbach, A. T. and Ghosh, S. K. (2001). Bayesian Imputation Methods to Measure Quality of Life with Missing Data, *American Statistical Association Proceedings*.
38. Mukhopadhyay, P. and Ghosh, S. K. (1999). Bayesian Analysis of Quality Adjusted Lifetime (QAL) Data, *American Statistical Association Proceedings*.

Technical Reports (unpublished)

1. Wang, J. and Ghosh, S. K. (2012). Shape Restricted Nonparametric Regression Based on Multivariate Bernstein Polynomials, *Department of Statistics Technical Report# 2640*, North Carolina State University.
2. Shin, S. and Ghosh, S. K. (2011). A Comparative Study of the Estimation of the Maximum Tolerated Dose, *Department of Statistics Technical Report# 2638*, North Carolina State University.
3. Reyes, E. M. and Ghosh, S. K. (2010). Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing, *Department of Statistics Technical Report# 2629*, North Carolina State University.
4. Mclain, A. C. and Ghosh, S. K. (2009). Estimation of Time Transformation Models with Bernstein Polynomials, *Institute of Statistics Mimeograph# 2625*, North Carolina State University.
5. Anand, Suraj P. and Ghosh, Sujit K. (2008). A Novel Bayesian Approach to Assessing the Risk of QT Prolongation, *Institute of Statistics Mimeograph# 2620*, North Carolina State University.
6. Griffith, E. H., Ghosh, S. K., Pollock, K. H., Seider, M. J. (2008). Bayesian Catch Curve Analysis, *Institute of Statistics Mimeograph# 2615*, North Carolina State University.
7. Liu, S., and Ghosh, S. K. (2008). Regression Analysis of Mean Residual Life Function, *Institute of Statistics Mimeograph# 2613*, North Carolina State University.
8. Liu, S., and Ghosh, S. K. (2008). Nonparametric Estimation of Mean Residual Life Function Using Scale Mixtures, *Institute of Statistics Mimeograph# 2612*, North Carolina State University.
9. Ghosh, S. K. and Ghosal, S. (2004). Proportional Mean Regression Models for Censored Data, *Institute of Statistics Mimeograph# 2563*, North Carolina State University.
10. Kuo, L. and Ghosh, S. K. (1997). Bayesian Nonparametric Inference for Nonhomogeneous Poisson Processes, *Technical Report# 97-18*, University of Connecticut.
11. Langfeldt, S.A., Hughes-Oliver, J. M., Ghosh, S. K. and Young, S. (1997). Optimal Group Testing in the presence of Blockers, *Institute of Statistics Mimeographs# 2297*, North Carolina State University.
12. Ghosh, S. K. and Dey, D. K. (1994). Sensitivity Diagnostics and Robustness Issues in Bayesian Inference, *Technical Report# 94-30*, University of Connecticut.
13. Ghosh, S. K. and Chandra, T. K. (1993). A Note on Stirling's Approximation, *Technical Report# 93-36*, University of Connecticut.
14. Ghosh, S. K. and Bhandari, S. K. (1993). Some Results on Asymptotic Efficiencies of Two-stage Procedures, *Technical report*, Indian Statistical Institute.

Papers submitted for publications

1. Osman, M. and Ghosh, S. K. Bayesian Nonparametric Regression Models with Varying Dimensions for Right-censored Data (in review)

2. Eloyan, A. and Ghosh, S. K. A Semiparametric Approach to Source Separation using Independent Component Analysis (in review)
3. Shin, S. and Ghosh, S. K. A Comparative Study of the Estimation of the Maximum Tolerated Dose (in review)
4. Wang, J. and Ghosh, S. K. Multivariate Shape Restricted Nonparametric Regression with Bernstein Polynomials (in review)
5. Shape Restricted Nonparametric Regression with Bernstein Polynomials (in review)
6. Wang, J. and Ghosh, S. K. McLain, A. and Ghosh, S. K. Sieve Maximum Likelihood Estimation of Semiparametric Transformation Models (in review)
7. Robbins, M., Ghosh, S. K. and Habiger, J. Imputation in Ultra-High Dimensional Economic Data as Applied to the Agricultural Resource Management Survey (in review)

#### Ph.D. dissertations directed

(graduated)

1. Jiangdian Wang (2011) *Shape Restricted Nonparametric Regression with Bernstein Polynomials*, North Carolina State University.
2. Muhtar Osman (2011) *Bayesian Noninferiority Testing and Nonparametric Survival Regression using Bernstein Polynomials*, Celgene Inc.
3. Ani Eloyan (2010) *Semi-Parametric Models for Independent Component Analysis*, Johns Hopkins University.
4. Ying Zhu (2009) *Modeling Dependence in the Design of Crop Insurance Contracts*, SAS Technologies. (co-adviser Dr. B. Goodwin)
5. Kaushal, Mishra (2009) *Phase Contrast Neutron Imaging using Single and Multiple Pinhole Apertures*, Novartis Inc. (co-adviser Dr. Ayman I. Hawari)
6. Carl Dicasoli (2009) *Bayesian Regression Methods for Crossing Survival Curves*, North Carolina State University. (co-adviser Dr. S. Ghosal)
7. Elizabeth Nelson (2009) *Variations on the Accelerated Failure Time Model: Mixture Distributions, Cure Rates, and Different Censoring Scenarios*, GlaxoSmithKline Inc. (co-advisor Dr. W. Lu)
8. Haojun Ouyang (2009) *Bayesian Approach for Nonlinear Dynamic System and Genome-Wide Association Study*, Eli Lilly Inc. (co-adviser Dr. J.Y. Tzeng)
9. Arun Krishna (2008) *Shrinkage-Based Variable Selection Methods for Linear Regression and Mixed-Effects Models*, Novartis Inc. (co-advisor Dr. H. Bondell)
10. Suraj Anand (2008) *Novel Statistical Approaches for Planning and Investigating the Risk of QT Prolongation in "thorough QTc studies"*, Novartis Inc.
11. S. McKay Curtis (2008) *Variable Selection Methods with Applications to Shape Restricted Regression*, University of Washington (co-advisor Dr. S. Ghosal)
12. Emily H. Griffith (2008) *Catch Curve and Capture Recapture Models: A Bayesian Combined Approach*, Patuxent Wildlife Research Center (co-adviser Dr. K. Pollock)
13. Shufang Liu (2007). *Modeling Mean Residual Life Function Using Scale Mixtures*, PRA Inc.
14. Minjung Kyung (2006). *Generalized Conditional Autoregressive Models*, University of Florida.
15. Liansheng Zhu (2006). *Analyzing Longitudinal Data with Nonignorable Missing Outcomes*, PPD Inc., NC, USA. (co-advisor Dr. S. Ghosal)
16. Lovely Goyal (2006). *Statistical Inference for Nonlinear Mixed Effects Models Involving Ordinary Differential Equations*, Amgen Inc., CA, USA.

17. Hyeyoung Lee (2006). *Reparametrized Dynamic Space-time Models and Spatial Model Selection*, Samsung Inc., Seoul, Korea.
18. Hae-Ryoung Song (2005). *Associations Between Gaussian Markov Random Fields and Gaussian Geostatistical Models with an Application to Model the Impact of Air Pollution on Human Health*, University of South Carolina, SC, USA. (co-advisor Dr. M. Fuentes)
19. Jungwook Park (2005). *Statistical Analysis of Correlated Data based on Censored Observations*, Glaxo-Smith-Kline Inc., USA. (co-advisor Dr. M. G. Genton)
20. Ross M. Gosky (2004). *Bayesian Analysis and Matching Errors in Closed Population Capture Recapture Models*, Apalachian State University, NC, USA. (co-advisor Dr. L. A. Stefanski)
21. Dazhe Wang (2003). *Frequentist and Bayesian Analysis of Random Coefficient Autoregressive models*, Sanofi-Aventis, NJ, USA. (co-advisor Dr. S. G. Pantula)
22. Amy T. Umbach (2002). *Bayesian Imputation Methods to Measure Quality of Life*, Novartis, NJ, USA.
23. Palanikumar Ravindran (2002). *Bayesian Analysis of Circular Data Using Wrapped Distributions*, Roche, CA, USA.
24. Zeynep Isil Kalaylioglu (2002). *Frequentist and Bayesian Unit Root Tests in Stochastic Volatility Models*, Middle East Technical University, Ankara, Turkey. (co-advisor Dr. S. G. Pantula)
25. Pabak Mukhopadhyay (2000). *Bayesian Analysis of Quality Adjusted Lifetime (QAL) and Zero-inflated Poisson (ZIP) Data*, Scherring-Plough Inc., NJ, USA. (co-advisor Dr. A. Tsatis)
26. Weixin Zhou (1998). *Structured Wavelet Antenna Signal Modeling and Random Scale Generalized Linear Model*, Bank of Boston, MA, USA. (co-advisor Dr. J. C. Lu)

(in progress)

1. Liwei Wang *Nonparametric Methods for Longitudinal Data*, North Carolina State University.
2. Yifang Li *Nonparametric Tests for Shape Restrictions*, North Carolina State University.

### Talks presented

Invited Talks, Seminars and Lecture Series

1. A Semiparametric Approach to Source Separation using Independent Component Analysis, *MMLV*, Naples, Italy, May 16-18, 2012.
2. Spatio-Temporal Analysis of Total Nitrate Concentrations Using Dynamic Statistical Models, *TIES*, Hyderabad, India, January 4-6, 2012.
3. Bayesian Average Error Based Approach to Sample Size Calculations for Hypothesis Testing, *Conference on Contemporary Issues and Applications of Statistics*, Kolkata, India, January 2-4, 2012.
4. Smooth Density Estimation Under Moment Constraint, *International Conference in Mathematics and Applications*, Bangkok, Thailand, December 17-19, 2011.
5. Bayesian Methods for Non-inferiority Tests and Sample Size Determination, *Biopharmaceutical Section of ASA Web-based Training Series*, November 18, 2011.
6. Bayesian Methods: Theory & Applications, *Short Course at United Network of Organ Sharing*, Richmond, VA, October 13-14, 2011.
7. Bayesian Meta Analysis for Comparative Effectives Research, *32nd Annual Conference of the International Society for Clinical Biostatistics*, Ottawa, Canada, August 21-25, 2011.

8. Some of Your Data are Imputed. What Should You Do? (Moderator), *Joint Annual Meeting of the Agricultural & Applied Economics Association*, Pittsburgh, PA, July 23-26, 2011.
9. Meta Analysis and Multiple Testing, *NISS Workshop on Difficulties with Observational Medical Studies*, RTP, NC, June 17, 2011.
10. Regional Analysis on the Effects of Environmental Stressors on Health Related Incidents, *Centers for Disease Control and Prevention*, Hyattsville, MD, June 6, 2011.
11. High-dimensional Multivariate Imputation Methods for ARMS Data, *Department of Statistics, Iowa State University*, Ames, IA, March 21, 2011.
12. Shape Restricted Nonparametric Regression For Econometric Models, *2nd International IIMA Conference*, Ahmedabad, India, January 8-10, 2011.
13. Bayesian Methods in Clinical Trials, *Biostatistics Workshop*, Novartis, Hyderabad, India, December 14-16, 2010.
14. Multivariate Shape Restricted Nonparametric Regression with Bernstein Polynomials, *Triangle Econometrics Conference*, NISS, RTP, NC, December 3, 2010.
15. Statistical Methodologies for Conducting Comparative Effectiveness Research, *GlaxoSmithKline Biostatistics Annual Conference*, RTP, NC, October 6-7, 2010.
16. Multivariate Imputation Methods for Agricultural Resource Management Survey (ARMS) Data. *Joint Statistical Meetings*, Vancouver, Canada, July 31 - August 5, 2010.
17. Economic Implications of Imputation in Agricultural Economic Data: A Discussion. *Joint Annual Meeting of the Agricultural & Applied Economics Association*, Denver, CO, July 25-27, 2010.
18. Nonlinear Mixed Models Involving ODEs, *SAMSI Program on Semiparametric Bayesian Inference Applications in Pharmacokinetics and Pharmacodynamics*, RTP, NC, July 12-15, 2010.
19. Bayesian Shape Restricted Regression with Multivariate Bernstein Polynomials, *The ISBA World Meeting*, Benidorm, Spain, June 3-8, 2010.
20. Bayesian Shape Restricted Regression with Multivariate Bernstein Polynomials, *SBIES*, Austin, TX, April 30 - May 2, 2010.
21. Adaptive Bayesian Methods for Non-Inferiority Tests. *Bayesian Biostatistics Conference*, Houston, TX, January 23-24, 2010.
22. Spatio-Temporal Analysis of Total Nitrate Concentrations Using Dynamic Statistical Models, *SAMSI Working Group Meeting*, RTP, NC, January 22, 2010.
23. Application of MOS to Improve Coastal Wind Forecasting, *SINO-U.S. Training Workshop on Numerical Ocean Prediction*, Raleigh, NC, Jan 19-20, 2010.
24. A Bayesian Approach to Assessing the Risk of QT Prolongation. *International Conference on Statistics, Probability, Operation Research, Computer Science and Allied Areas*, Vizag, India, January 3-8, 2010.
25. A Variable Selection Approach to Bayesian Monotonic Regression with Bernstein Polynomials. *Seventh International Triennial Calcutta Symposium*, Kolkata, India, December 28-31, 2009.
26. Semiparametric Inference Based on a Class of Zero-Altered Distributions. *International Conference in Mathematics and Applications*, Bangkok, Thailand, December 17-19, 2009.
27. A Variable Selection Approach to Monotonic Regression with Bernstein Polynomials. *Department of Statistics, University of Missouri*, Columbia, MO, November 11, 2009.
28. Guiding Young Professionals to Be Successful in Government, Academia, and Industries. *Joint Statistical Meetings*, Washington, DC, August 2-6, 2009.

29. "Best applied practices" for analysis of agricultural economics problems using Bayesian inferential techniques. *Joint Annual Meeting of the Agricultural & Applied Economics Association*, Milwaukee, WI, July 26-28, 2009.
30. Bayesian Analysis in R. *Joint Annual Meeting of the Agricultural & Applied Economics Association*, Milwaukee, WI, July 26-28, 2009.
31. A Variable Selection Approach to Bayesian Monotonic Regression with Bernstein Polynomials. *Department of Statistics, Middle East Technical University*, Ankara, Turkey, May 19, 2009.
32. A Novel Bayesian Approach to Assessing the Risk of QT Prolongation. *5th Conference of the Eastern Mediterranean Region of the International Biometric Society*, Istanbul, Turkey, May 10-14, 2009.
33. A Variable Selection Approach to Bayesian Monotonic Regression with Bernstein Polynomials. *Seminar Bayesian Inference in Econometrics and Statistics*, Washington University, St. Louis, MO, May 1-2, 2009.
34. Semiparametric Inference Based on a Class of Zero-altered Distributions. *International Workshop on Applied Probability*, Universit de Technologie de Compigne, France, July 7-10 2008.
35. Bayesian Inference for Data Assimilation: a short course, *Technical University of Crete*, Chania, Greece, June 9-13, 2008.
36. Bayesian Biostatistics: one-day workshop, *Indian Association for Statistics in Clinical trials*, GlaxoSmithKline, Bangalore, India, January 7, 2008.
37. A Class of Kernel-based CAR Models for Spatial Data, *International Conference on Statistical Paradigms*, Indian Statistical Institute, Kolkata, India, January 2, 2008.
38. Monte Carlo Statistical Methods: a short course, *Thammasat University*, Department of Mathematics and Statistics, Rangsit, Thailand, December 17-29, 2007.
39. Application of Nonlinear Mixed Models involving ODEs in Biomedical Sciences, *Department of Statistics, University of Maryland at Baltimore County*, Baltimore, MD, November 2, 2007.
40. Spatial Association between Speciated Fine Particles and Mortality, *The 17th Annual Conference of the International Society of Exposure Analysis*, Durham, NC, October 18, 2007.
41. A Joint Modeling Approach for Analyzing Non-ignorable Missing Data, *International Conference on Advances in Interdisciplinary Statistics and Combinatorics*, Greensboro, NC, October 12-14, 2007.
42. Spatial Association Between Speciated Fine Particles and Mortality, *StatGIS Conference*, Klagenfurt, Austria, September 24-26, 2007.
43. A Joint Modeling Approach for Analyzing Nonignorable Missing Data, *Joint Statistical Meetings*, Saltlake City, UT, Jul 29 - Aug 2, 2007.
44. Spatial Association between Speciated Fine Particles and Mortality, *Office of Research and Methodology and Washington Statistical Society Seminar*, NCHS, June 21, 2007.
45. Bayesian Methods for Nonlinear Mixed Models: a short course, *Glaxo-Smith-Kline Inc.*, Research Triangle Park, NC, May 31 - June 5, 2007.
46. A Class of Kernel-based CAR Models for Spatial Data, *Spring Lecture Series on Spatial and Spatio-temporal Methods*, Fayetteville, AR, April 14, 2007.
47. Application of Nonlinear Mixed Effects Models in Biomedical Sciences, *Statistics Seminar at Glaxo-Smith-Kline Inc.*, Research Triangle Park, NC, January 29, 2007.
48. A Joint Modeling Approach for Analyzing Nonignorable Missing Data, *Department of Biostatistics, University of Alabama*, Birmingham, AL, November 9, 2006.

49. Bayesian Variable Selection Methods, *Bayesian Statistics Working Group*, NC State University, Raleigh, NC, October 3, 2006.
50. Bayesian Inference for NLME Models Involving ODEs, *Joint Statistical Meetings*, Seattle, WA, USA, August 8, 2006.
51. Spatial Statistics: a short course, *Thammasat University*, Department of Mathematics and Statistics, Rangsit, Thailand, June 1-15, 2006.
52. Application of Nonlinear Mixed Effects Models in Biomedical Sciences, *Statistics Conference*, Pattaya, Thailand, May 25, 2006.
53. Bayesian Methods in Environmental Science: A Brief Introduction, *NCSU Student Chapter of the Air & Waste Management Association*, Raleigh, NC, February 15, 2006.
54. Bayesian Unit Root Tests for Random Coefficient Autoregressive Models, *Seminar on Bayesian Inference in Econometrics and Statistics (SBIES)*, Washington University, Saint Louis, MO, August 1-2, 2005.
55. Bayesian inference: a short course, *Thammasat University*, Department of Mathematics and Statistics, Rangsit, Thailand, June 1-15, 2005.
56. An overview of Bayesian Statistical Methods with an Application to Capture-Recapture Data, *Thammasat University*, Department of Mathematics and Statistics, Rangsit, Thailand, May 31, 2005.
57. An overview of Bayesian inference and MCMC methods, *Thammasat University*, Department of Mathematics and Statistics, Rangsit, Thailand, May 30, 2005.
58. Bayesian capture-recapture analysis of a closed population allowing for heterogeneity between animals, *Penn State University*, Department of Statistics, State College, PA, May 5, 2005.
59. Semiparametric Bayesian Analysis of AFT Models, *University of Florida*, Department of Statistics, Gainesville, FL, October 21, 2004.
60. Bayesian capture-recapture analysis of a closed population allowing for heterogeneity between animals, *Wake Forest University*, Department of Mathematics, Wake Forest, NC, September 23, 2004.
61. Semiparametric Bayesian Analysis of AFT Models, *BHU Workshop and Conference on Bayesian Statistics*, Varanasi, India, January 7, 2005.
62. Semiparametric Regression Models for Zero-inflated Data, *Joint Statistical Meetings*, Toronto, Canada, August 11, 2004.
63. Semiparametric Bayesian Inference based on AFT models, *Southern Regional Council of Statistics Summer Research Conference*, Blacksburg, VA, June 7, 2004.
64. Unit Root Tests for Random Coefficient Autoregressive Models, *5th Biennial International Conference on Statistics Probability and Related Areas*, Athens, GA, May 15, 2004.
65. Proportional Mean Regression Models for Censored Data, *University of Georgia*, Department of Statistics, Athens, GA, November 13, 2003.
66. Bayesian Methods in Environmental Science: An introduction, *North Carolina State University*, Department of Statistics, Raleigh, NC, October 31, 2003.
67. Bayesian Analysis of Random Coefficient Autoregressive Models, *SAMSI workshop on Challenges in Stochastic Computation*, RTP, NC, June 26-28, 2003.
68. Nonstationary Spatial Modeling for Multiple Point Sources, *ENAR Spring meeting*, Tampa, FL, March 30 - April 2, 2003.
69. Nonstationary Spatial Modeling for Multiple Point Sources, *National University of Singapore*, DSAP, Republic of Singapore, March 12, 2003.

70. Time Series Models for Zero Inflated Data, *U.S. Army Conference on Applied Statistics*, Raleigh, NC, October 30-31, 2002.
71. Modeling Nonstationary Time Series using Link Functions, *Joint Statistical Meetings*, New York, NY, August 11-14, 2002.
72. Lecture series on Bayesian Wavelets methods for Data Compression, *DPS Technologies Inc.*, Kolkata, India, July 01-15, 2002.
73. Bayesian Analysis of Capture-Recapture Models, *North Carolina State University*, Department of Statistics, Raleigh, NC, April 26, 2002.
74. Bayesian Analysis of Capture-recapture Models, *Purdue University*, Department of Statistics, West Lafayette, IN, March 29, 2002.
75. Bayesian Capture-Recapture Analysis with Time and Heterogeneity Effects, *Multiple System Estimation Meeting*, U.S. Census Bureau, Suitland, MD, January 10, 2002.
76. Bayesian Unit Root Tests in Stochastic Volatility Models (SVM), *University of Arkansas*, Statistics Division, Fayetteville, AK, November 29, 2001.
77. Discussion on Bayesian Models for Enhancing Cross-population Comparability of Survey Results, *World Health Organization (WHO)*, Geneva, Switzerland, Oct 28 - Nov. 02, 2001.
78. Bayesian Capture-Recapture Analysis Allowing for Heterogeneity Between Animals, *Joint Statistical Meetings*, Atlanta, GA, August 5-9, 2001.
79. Nonstationary Spatial Modeling for Multiple Point Sources, *National Institute of Environmental Health Sciences (NIEHS)*, Research Triangle Park, NC, January 25, 2001.
80. Bayesian methods and its applications, *North Carolina State University*, Department of Statistics, Raleigh, NC, September 22, 2000.
81. Assessing model uncertainty via MCMC, *International conference on Statistics in the 21st century*, Orono, Maine, June 30, 2000.
82. Assessing model uncertainty via MCMC, *ENAR Spring Meeting*, Chicago, IL, March 20, 2000.
83. Computational Bayesian methods for Directional Data, *International Conference on Statistics, Combinatorics and Related Areas*, University of South Alabama, Mobile, AL, December 19, 1999.
84. Bayesian Analysis of Zero-Inflated Regression Models, *Indian Statistical Institute*, Applied Statistics Unit, Calcutta, India, July 13, 1999.
85. Lecture series on Computational Bayesian Data Analysis, *Indian Statistical Institute*, Applied Statistics Unit, Calcutta, India, July 01 - July 15, 1999.
86. Model Choice: A Minimum Posterior Predictive Loss Approach, *Joint colloquium of Clemson/UGA*, Clemson, SC, April 8, 1999.
87. Bayesian Analysis of Zero-Inflated Regression Models, *Northern Illinois University*, Department of Mathematics, DeKalb, IL, April 01, 1999.
88. Joint Modeling of Survival Data and Repeatedly Measured Covariates: A Bayesian Perspective, *North Carolina State University*, Department of Statistics, Raleigh, NC, March 25, 1999.
89. A Minimum Posterior Predictive Loss Approach, *Uncertainty '99 meeting*, Ft. Lauderdale, FL, January 04, 1999.
90. Bayesian Imputation Methods for Missing Data, *North Carolina State University*, Department of Statistics, Raleigh, NC, November 19, 1998.
91. Analyzing Real Estate Data Problems using Gibbs Sampler, *Joint Statistical Meetings*, Dallas, TX, August 13, 1998.

92. Bayesian Analysis of Change-point Hazard Rate Models, *Conference on Reliability and Survival Analysis*, Northern Illinois University, DeKalb, May, 1998.
93. Analyzing Real Estate Data Problems using Gibbs Sampler, *National Institute of Statistical Sciences*, Research Triangle Park, NC, March, 1998.
94. Spatial Modeling: A Bayesian Approach, *North Carolina State University*, Department of Statistics, Raleigh, NC, October 3, 1997.
95. Bayesian Analysis of Zero-inflated Regression Models, *University of Connecticut*, Department of Statistics, Storrs, April, 1997.
96. Latent Waiting Time Models For Bivariate Event Times With Censoring, *University of North Carolina*, Department of Statistics, Chapel Hill, April, 1997.
97. Latent Waiting Time Models For Bivariate Event Times With Censoring, *Duke University*, Institute of Statistics and Decision Sciences, Durham, October, 1996.
98. Modeling and Analysis of Multiple Event Survival Data, *Bellcore*, Software Engineering and Statistical Modeling Research, Morristown March 21, 1996.
99. Modeling and Analysis of Multiple Event Survival Data, *University of Michigan Business School*, Department of Statistics and Management, Ann Arbor, March 18, 1996.

#### Contributed Talks

1. Proportional Mean Regression Models for Censored Data, *Eastern North American Region Meetings*, Pittsburgh, PA, March 29, 2004.
2. Bayesian Analysis of Zero-inflated Models for Correlated Data, *Joint Statistical Meetings*, San Francisco, CA, August 2-7, 2003.
3. Proportional Hazards Models: A Latent Competing Risk Approach, *VI Seminar on Applied Statistics: "Statistics and Population"*, San Jose, Costa Rica, June 4-7, 1997.
4. Forecasting-based Operational Modeling and Simulation *SRC Workshop on Operational Methods in Semiconductor for Manufacturing*, Berkeley, California, February 19-20, 1997.
5. Spatio-Temporal Modeling of Residential Sales data *Modeling Longitudinal and Spatially Correlated Data: Methods, Applications, and Future Directions*, Nantucket, MA, October 15-18 1996.
6. Sensitivity Diagnostics and Robustness issues in Bayesian Inference, *ASA Meetings*, Orlando, August, 1995.
7. On Multivariate Monotonic Measures of Location with High Breakdown Point, *ASA Meetings*, Toronto, August, 1994.

#### Teaching summary

Courses taught at NCSU August 1996 – present

Course#	Course title	Semester(s) taught
ST 370	Probability and Statistics for Engineers	Fall, 1996-1999, Spring 1997-2000
ST 372	Introduction to Statistical Inference & Regression	Summer 2000, Summer 2004-2006
ST 380	Probability and Statistics for Physical Sciences	Fall, 2009, 2010
ST 421	Introduction to Mathematical Statistics-I	Fall 2000
ST 422	Introduction to Mathematical Statistics-II	Fall 2000-2002
ST 495B	Practicum in Bayesian Inference	Fall 2005
ST 511	Experimental Statistics for Biological Sciences I	Fall 2001
ST 521	Statistical Theory - I	Fall 2005, 2007
ST 522	Statistical Theory - II	Spring 2010
ST 591A	MCMC: Theory and Applications	Spring 1998
ST 733	Applied Spatial Statistics	Spring 2005
ST 740	Introduction to Bayesian Inference	Fall 2001-2007
ST 790	Bayesian Biostatistics	Spring 2009, 2010
ST 790	Advanced Bayesian Inference	Spring 2012
ST 794	Advanced Statistical Inference-II	Spring 2004-2009
ST 810F	Computational Bayesian Data Analysis	Fall 1999-2000

### Professional activities

#### Statistical Consulting

- Client: Abt Associates  
Project: Spatial and Temporal Analysis of Epidemiological Data (December, 2011 - November, 2012).
- Client: NISS-NASS  
Project: Multivariate imputation with valid mean square estimation with application in the agricultural resource management survey (June, 2009 - August, 2010).
- Client: Center for Disease Control.  
Project: Spatio-temporal modeling of health related outcome (August, 2007 - December, 2009).
- Client: Talecris Inc.  
Project: Statistical models for time-lapsed stability data to predict the shelf-life potency of a new product (January 2008 - present).
- Client: Agri-Analytics  
Project: Statistical critique on comparing biotech (BT) corn with conventional non-traited (NT) variety of corn (August, 2007).
- Client: MESO Inc.  
Project3: Construct different approaches to model output statistics (MOS) (June-August, 2007).  
Project2: Survey different methods of ensemble-based forecast confidence intervals (June-August, 2007).  
Project1: Establish a method of calculating most probable conditional value at individual farms given an 80% probability of exceedance of the aggregate of some wind farms, (February-March, 2007).
- Client: GlaxoSmithKline Inc.  
Project: Develop efficient computational methods to fit nonlinear mixed effects models involving ordinary differential equations (January 2007 - January 2008).
- Client: Department of Entomology, North Carolina State University

- Project: Spatial analysis of the distributions of *ades albopictus* (skuse) larval and pupal production in suburban neighbors of piedmont community in North Carolina, (February 2005 - present).
9. Client: Department of Economics, North Carolina State University  
Project: Bayesian modeling of spatio-temporal processes affecting crop yields (May 2004 - present).
  10. Client: CIIT and EPA  
Project: Physiologically based pharmacokinetic modeling of genistein in rats, (Jan 2004 - present).
  11. Client: Department of Molecular Biology, North Carolina State University  
Project: Determination of RNA structure and dynamics by photocrosslinking (Dec 2003 - present).
  12. Client: BAYER  
Project: Develop statistical models for bioassay problems (February, 2002 - August 2004).
  13. Client: DPS Technologies Inc.  
Project: Develop statistical models for audio data compression (March, 2001 - April, 2003).
  14. Client: World Health Organization (WHO)  
Project: Models for enhancing cross-population comparability of survey results (November, 2001).
  15. Client: SLATS Team and College of Management, North Carolina State University  
Project: Statistical estimation of the tenure of US school superintendents (April, 2001 - March 2002).
  16. Client: College of Management, North Carolina State University  
Project: Statistical estimation of the tenure of US university presidents (September 1998 - October, 2000).
  17. Client: Center for Real Estate, University of Connecticut  
Project: Develop statistical models for residential sales data (Jun-July, 1995-1996).

#### Organizer and Chair

1. Chair of the Local Organizing Committee for “2011 International Indian Statistical Association” conference, Raleigh, NC, USA, April 21-24, 2011.
2. Chair and organizer of the topic contributed session “Multivariate Imputation for Agricultural Resource Management Survey Data,” *Joint Statistical Meetings*, Vancouver, Canada, August 1-5, 2010.
3. Chair and organizer of the topic contributed session “Bayesian Semiparametric Methods in Biostatistics,” *Joint Statistical Meetings*, Washington, DC, August 2-6, 2009.
4. Chair of the invited session “Theory and Methods,” *StatGIS 2007 Conference*, Klagenfurt, Austria, September 26, 2007.
5. Chair of the topic contributed session “Methodological Issues in Engineering Applications of Computer Models: A SAMSI Program,” *Joint Statistical Meetings*, Saltlake City, UT, August 2, 2007.
6. Organizer of the topic contributed session “Bayesian Methods in Industrial Applications,” *Joint Statistical Meetings*, Saltlake City, UT, August 2, 2007.
7. Organizer of the topic contributed session “Recent Developments in Bayesian Variable Selection Methods,” *Joint Statistical Meetings*, Saltlake City, UT, July 30, 2007.

8. Chair of the contributed session, "Mixture Models and Misspecified Models," *Joint Statistical Meetings*, Seattle, WA, August 07, 2006.
9. Organizer of the topic contributed session, "Bayesian Computational Methods for Biomedical Applications," *Joint Statistical Meetings*, Seattle, WA, August 08, 2006.
10. Chair of the invited session, "Bayesian Methods in Reliability Models," *BHU Conference on Bayesian Statistics*, Varanasi, India, January 6-9, 2005.
11. Chair of the contributed session, "Bayesian Methods in Health and Health Policy," *Joint Statistical Meetings*, San Francisco, CA, August 2-7, 2003.
12. Organizer and Chair of the invited session, "Health Effects and Environmental Risk Assessment of Air Pollution," *ENAR Spring Meeting*, Tampa, FL, March 30 - April 2, 2003.
13. Chair of the invited session, "SESSION II: Long memory processes," *NBER-NSF Time Series Workshop*, Raleigh, NC, September 21-22, 2001.
14. Chair of the topic contributed session, "Diagnostics and model checking using Bayesian methods," *Joint Statistical Meetings*, Atlanta, GA, August 5-9, 2001.
15. Organizer and Chair of the IMS Invited session, "A Decade of Gibbs Sampling," *Joint Statistical Meetings*, Indianapolis, IN, August 13-17, 2000.
16. Organizer and chair of the IMS Invited session, "Model Choice: A Quantitative Assessment of Model Uncertainty," *Joint Statistical Meetings*, Indianapolis, IN, August 13-17, 2000.
17. Organizer and Chair of the Invited session, "Modeling Spatial Variation using Non-stationary Processes," *International conference on Statistics in the 21st Century*, Orono, Maine, June 29- July 1, 2000.
18. Organizer of the ISBA Invited session, "Small Area Estimation: Its Application in census and sampling," *Sixth World ISBA Meeting*, Hersonissos, Crete, May 28 - June 1, 2000.

#### Referee and reviewer

*Annals of Applied Statistics, Applied Statistics (JRSS-C), Biometrical Journal, Biometrics, Biometrika, Communication in Statistics, Computational Statistics and Data Analysis (CSDA), Journal of Agricultural Biological and Environmental Statistics (JABES), Journal of American Statistical Association (JASA), Journal of Business and Economic Sciences (JBES), Journal of Statistical Planning and Inference (JSPI), Journal of Veterinary Diagnostic Investigation, Lifetime Data Analysis, Metron, Model Assisted Statistical Applications (MASA) National Institute of Health (NIH) grant proposals, NIH panel participant, National Science Foundation (NSF) grant proposals, NSF panel participant, Sankhya, Statistical Methodology, Statistics in Medicine*

#### Committees

1. Departmental committees:
  - (a) Chair of the Graduate Admissions Committee, 2010-2012.
  - (b) Chair of the Faculty Search Committee, 2009.
  - (c) Member of Cox Award Committee, 2009-2012.
  - (d) Co-Chair of the Written Prelim Exam Committee, 2008.
  - (e) Member of Statistics Department Leadership Review Committee, 2007.
  - (f) Member of the Prelim Exam Committee, 1997, 2004, 2006-2007.
  - (g) Member of the Faculty Search Committee, 1997, 1998, 2006.
  - (h) Chair of the Master Exam Committee, 1998-2000, 2005-2006.

- (i) Member of the Graduate Admissions Committee, 2000-2002.
  - (j) Faculty adviser of the Consulting Service, 2000-present.
  - (k) Chair of the PhD Qualifying Exam Committee, 2002.
  - (l) Chair of the Seminar Committee, 2003-2006.
  - (m) Member of the Webpage Committee, 2003-2010.
  - (n) Member of the Comprehensive Review Committee, 2003-2005.
  - (o) Member of the Course and Curriculum Committee, 2005-2006.
2. College/University committees:
- (a) Elected member of Grievance Panel, 2001-2003.
  - (b) Elected member of the PAMS Advisory Council, 2006-2009.

**Professional societies**

American Statistical Association  
Institute of Mathematical Statistics  
Community of Science

International Society for Bayesian Analysis  
Sigma Xi  
International Indian Statistical Association