

Curriculum Vitæ of
SUBHASHIS GHOSHAL (variation: GHOSAL)

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Mailing & Office Address

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Basic Data

Age: 44 years
Sex: Male
Nationality: U.S.A.

Academic Position

Department of Statistics, North Carolina State University, U. S. A.:

August, 2008–Present — *Full Professor*.

August, 2004–July, 2008 — *Associate Professor* (with tenure).

August 2001 — July, 2004, *Assistant Professor*.

School of Statistics, University of Minnesota, U. S. A.:

January 2000–August, 2001 — *Assistant Professor*

Division of Mathematics and Computer Science, Free University, Amsterdam,
The Netherlands:

October 1997–December 1999 — *Post Doctoral Fellow*

Division of Theoretical Statistics and Mathematics, Indian Statistical Institute,
Calcutta, India:

March, 1997–September, 1997 — *Visiting Scientist*;

March, 1995–February, 1997 — *Post Doctoral Fellow*;

July, 1990–February, 1995 — *Research Fellow*.

Education

Ph.D. (Statistics), 1995, Indian Statistical Institute, Calcutta, India.

TITLE: Asymptotic Properties of Posterior Distribution and Study of
Some Nonregular Cases.

ADVISOR: Jayanta K. Ghosh

M. S. (Statistics), 1990, Indian Statistical Institute, Calcutta, India.

B. S. (Statistics), 1988, Indian Statistical Institute, Calcutta, India.

Awards

1. EURANDOM Chair Professor, 2010–2011, Eindhoven, The Netherlands.
2. Fellow of the American Statistical Association, 2010.
3. International Indian Statistical Association Young Researcher Award in Theoretical Statistics, 2006–2007.
4. Fellow of the Institute of Mathematical Statistics, 2006.
5. Sigma Xi research award and elected to be a member of Sigma Xi, 2004.
6. Young Scientist award by the Indian Science Congress in its 82nd session (1995).

7. Professor P. C. Mahalanobis Gold Medal (by the Indian Statistical Institute) awarded to the most outstanding student in M. Stat. (1990).
8. Indian Statistical Institute Alumni Association Gold Medal for performance in the M. Stat. (1990).
9. Indian Statistical Institute Alumni Association Gold Medal for performance in the B. Stat. (1988).
10. Prizes for good performance in exams 1985–1990.

Funded research

1. **National Security Agency:** *Computational Approaches to Feature Selection For Massive Data*. Proposal number 101015. Funding level \$117, 070. Co-PI (with Hao Helen Zhang). Duration: 01/01/2012–12/31/2013.
2. **National Science Foundation (DMS-Statistics):** *Bayesian methods for structure detection in analysis of object data*. Proposal number 1106570. Funding level \$250, 000. Single PI grant. Duration: 06/01/2011–05/31/2014.
3. **National Science Foundation (DMS-Statistics):** *Collaborative Research: Mixture model approach to multiple hypothesis testing for dependent and complex data*. Proposal number 0803540. Funding level \$59, 999. PI on collaborative proposal. Duration: 09/01/2008–08/31/2011.
4. **National Science Foundation (DMS-Statistics) CAREER AWARD 2003:** *Default Bayesian Methods for Nonparametric Problems*. Proposal number 0349111. Funding level \$400,000. Single PI grant. Duration: 06/01/2004–05/31/2010.

Other supports

1. **National Science Foundation (DMS-Statistics):** *2011 International Conference on Probability, Statistics and Data Analysis*. Proposal number 1105469. Funding level \$20,000. PI. Duration 04/01/2011-03/31/2012.
2. **National Security Agency:** *2011 International Conference on Probability, Statistics and Data Analysis*. Proposal number 1105469. Funding level \$14,950. PI. Duration 04/01/2011-03/31/2012.
3. Eurandom chair professor support grant from The National Science Foundation of the Netherlands (NWO), 2010–2011 (Courtesy Eduard Belitser, Harry van Zanten and Aad van der Vaart).
4. Sabbatical support grant from The National Science Foundation of the Netherlands (NWO), August–October, 2007 (Courtesy Aad van der Vaart).
5. Sir Isaac Newton Institute (Cambridge, UK) program participant grant, August 2007.
6. Faculty course release and a student support for the academic year 2004-2005 obtained from NSF for serving as a member of the faculty team for SAMSI program on Latent variable Models for Social Sciences.

Research Interests

Nonparametric Bayesian inference

Asymptotic properties of posterior distributions: Consistency, convergence rates, adaptation, model selection, Bernstein-von Mises theorem;

Methodology development: Markov chains, time series, spectral density estimation, additive models;

Application in specific areas:

Multiple hypothesis testing,
ROC analysis,
Bayesian imaging,
Functional data analysis,
Bayesian survival analysis

High dimensional data and variable selection

Noninformative priors,

Asymptotic properties of the posterior distributions,

Nonregular cases

Bayesian computation

Nonparametric smoothing and curve estimation

Limit theorems in probability.

Doctoral Student Advising

1. **Yongqiang Tang:** Ph. D. November 2003, North Carolina State University.
Thesis title: *Bayesian Nonparametric Estimation of the Transition Density and Prediction in a Markov Process.*
2. **Changku Kang:** December 2005. North Carolina State University.
Thesis title: *Bayesian Regression Via Clustering Using Dirichlet Process.*
3. **Liansheng Zu:** (co-advised with Sujit Ghosh): July 2006. North Carolina State University.
Thesis title: *Analyzing Longitudinal Data with Non-ignorable Missing.*
4. **Jiezhun Gu:** July 2007. North Carolina State University.
Thesis title: *Nonparametric and semiparametric inference about ROC curve.*

5. **S. McKay Curtis:** (co-advised with Sujit Ghosh) July 2008. North Carolina State University.
Thesis title: Bayesian variable selection methods and applications.
6. **Yuefeng Wu:** March 2009. North Carolina State University.
Thesis title: Asymptotic behavior of some Bayesian nonparametric and semiparametric procedure.
7. **Wookyeon Hwang:** August 2009.
Thesis title: Boosting methods for variable selection in high dimensional sparse models.
8. **Carl Dicasoli:** (co-advised with Sujit Ghosh) August 2009.
Thesis title: Bayesian methods for crossing survival curves.
9. **John White:** May 2010.
Bayesian multiscale smoothing of photon-limited images with applications to astronomy and medicine.
10. **Adam Suarez:** Expected in 2012.
11. **Weining Shen:** Expected in 2013.
12. **Sayantana Banerjee:** Expected in 2014.
13. **Meng Li:** Expected in 2014.

Publications

(in reverse chronological order.)

Books

1. **Ghosal, S.** and van der Vaart, A. W. (2012). *Fundamentals of Nonparametric Bayesian Inference*, Cambridge University Press (expected in 2012).

2. Clarke, B. S. and **Ghosal, S.** (2008). *Pushing the Limits of Contemporary Statistics: Contributions in honor of Professor Jayanta K. Ghosh*. IMS Collection **3**, Institute of Mathematical Statistics, Beachwood, OH.

Papers Published

- In Journals

1. **Ghosal, S.** and Roy, A. (2011). Predicting false discovery proportion under dependence. *Journal of the American Statistical Association* **106**, 1208–1218.
2. White, J. T. and **Ghosal, S.** (2011). Bayesian smoothing of photon-limited images with applications in astronomy. *Journal of Royal Statistical Society, Series B* **73**, 579–599.
3. **Ghosal, S.** and Roy, A. (2011). Identifiability of proportional of null hypotheses in mixture models for p-value distributions. *Electronic Journal of Statistics* **5**, 329–341.
4. Wu, Y. and **Ghosal, S.** (2010). The L_1 -consistency of Dirichlet mixtures in multivariate density estimation. *Journal of Multivariate Analysis*. **101** 2411–2419.
5. Clarke, B. S. and **Ghosal, S.** (2010). Posterior normality and reference priors for exponential families with increasing dimension. *Electronic Journal of Statistics* **4**, 737–780.
6. Hwang, W., Zhang, H. H. and **Ghosal, S.** (2009). FIRST: Combining forward selection and shrinkage in high dimensional linear regression. *Statistics and Its Interface* **2**, 341–348.
7. Wu, Y. and **Ghosal, S.** (2008). Posterior consistency for some semiparametric problems. *Sankhyā, Ser. A*, (Invited paper), **70**, 267–313.
8. Roy, A., **Ghosal, S.** and Rosenberger, W. F. (2008). Convergence properties of sequential Bayesian D-optimal designs. *Journal of Statistical Planning and Inference* **139**, 425–440.

9. Gu, J. and **Ghosal, S.** (2008). Bayesian ROC curve estimation under binormality using a partial likelihood based on ranks. *Journal of Statistical Planning and Inference*, **139** 2076–2083.
10. Gu, J., **Ghosal, S.** and Roy, A. (2008). Nonparametric estimation of ROC curve. *Statistics in Medicine* **27**, 5407–5420.
11. Gu, J. and **Ghosal, S.** (2008). Strong approximations for resample quantile process and applications to ROC methodology. *Journal of Nonparametric Statistics* **20**, 229–240.
12. Wu, Y. and **Ghosal, S.** (2008). Kullback-Leibler property of kernel mixture priors in Bayesian density estimation. *Electronic Journal of Statistics* **2**, 298–331, 2008.
Correction: *Electronic Journal of Statistics* **3**, 316–317, 2009.
13. **Ghosal, S.**, Lember, J. and van der Vaart, A. W. (2008). Nonparametric Bayesian model selection and averaging. *Electronic Journal of Statistics* **2**, 63–89.
14. Tang, Y., **Ghosal, S.** and Roy, A. (2007). Nonparametric Bayesian estimation of positive false discovery rates. *Biometrics* **63**, 1126–1134.
15. **Ghosal, S.** and van der Vaart, A. W. (2007). Convergence rates of posterior distribution for noniid observations. *The Annals of Statistics* **35**, 192–223.
16. **Ghosal, S.** and van der Vaart, A. W. (2007). Posterior convergence rates of Dirichlet mixtures of normal distributions at smooth densities. *The Annals of Statistics* **35**, 697–723.
17. Tang, Y. and **Ghosal, S.** (2007). A consistent nonparametric Bayesian procedure for estimating autoregressive conditional densities. *Computational Statistics and Data Analysis* **51**, 4424–4437.
18. Tang, Y. and **Ghosal, S.** (2007). Dirichlet mixture of normal models for Markov processes. *Journal of Statistical Planning and Inference* **137**, 1711–1726.

19. Choudhuri, N., **Ghosal, S.** and Roy, A. (2007). Bayesian non-parametric binary regression using a Gaussian process prior. *Statistical Methodology* **4**, 227–243.
20. **Ghosal, S.** and Roy, A. (2006). Posterior consistency of Gaussian processes for nonparametric binary regression. *The Annals of Statistics* **34**, 2413–2429.
21. **Ghosal, S.** and Tang, Y. (2006). Bayesian consistency for Markov processes. *Sankhyā* **68**, 227–239.
22. Choudhuri, N., **Ghosal, S.** and Roy, A. (2004). Bayesian estimation of the spectral density of a time series. *Journal of the American Statistical Association* **99**, 1050–1059.
23. Choudhuri, N., **Ghosal, S.** and Roy, A. (2004). Contiguity of the Whittle measure in a Gaussian time series. *Biometrika* **91**, 211–218.
24. **Ghosal, S.**, Lember, J. and van der Vaart, A. W. (2003). On Bayesian adaptation. *Acta Applicandae Mathematica* **79**, 165–175.
25. Belitser, E. N. and **Ghosal, S.** (2003). Adaptive Bayesian inference on the mean of an infinite dimensional normal distribution. *The Annals of Statistics* **31**, 536–559.
26. Amewou-Atisso, M., **Ghosal, S.**, Ghosh, J. K. and Ramamoorthi, R. V. (2003). Posterior consistency for semiparametric regression problems. *Bernoulli* **9**, 291–312.
27. **Ghosal, S.** and van der Vaart, A. W. (2001). Entropies and rates of convergence for Bayes and maximum likelihood estimation for mixture of normal densities. *The Annals of Statistics*, **29**, 1233–1263.
28. **Ghosal, S.** (2001). Convergence rates for density estimation with Bernstein polynomials. *The Annals of Statistics* **29**, 1264–1280.

29. **Ghosal, S.**, Sen, A. and van der Vaart, A. W. (2000). Testing Monotonicity of Regression. *The Annals of Statistics* **28**, 1054–1082.
30. **Ghosal, S.**, Ghosh, J. K. and van der Vaart, A. W. (2000). Convergence rates of posterior distributions. *The Annals of Statistics* **28**, 500–531.
31. **Ghosal, S.** (2000). Asymptotic normality of posterior distributions for exponential families when the number of parameters tends to infinity, *Journal of Multivariate Analysis* **74**, 49–69.
32. **Ghosal, S.** (1999). Probability matching priors for non-regular cases. *Biometrika*, **86**, 956–964.
33. **Ghosal, S.**, Ghosh, J. K. and Samanta, T. (1999). Approximation of the posterior distribution in a change point problem. *Annals of the Institute of Statistical Mathematics* **51**, 479–497.
34. **Ghosal, S.**, Ghosh, J. K. and Ramamoorthi, R. V. (1999). Consistent semiparametric Bayesian inference about a location parameter. *Journal of Statistical Planning and Inference* **77**, 181–193.
35. **Ghosal, S.**, Ghosh, J. K. and Ramamoorthi, R. V. (1999). Posterior consistency of Dirichlet mixtures in density estimation *The Annals of Statistics* **27**, 143–158.
36. **Ghosal, S.** (1999). Asymptotic normality of posterior distributions in high dimensional linear models. *Bernoulli* **5**, 315–331.
37. **Ghosal, S.** and Chandra, T. K. (1998). Complete convergence of martingale arrays. *Journal of Theoretical Probability* **11**, 621–631.
38. Chandra, T. K. and **Ghosal, S.** (1997). On extensions of an inequality of Kolmogorov. *Calcutta Statistical Association Bulletin* **47**, 1–9.
39. **Ghosal, S.** (1997). Normal approximation to the posterior distribution for generalized linear models with many covariates. *Mathematical Methods of Statistics* **6**, 332–348.

40. **Ghosal, S.** (1997). Reference prior in multiparameter nonregular cases. *Test*, **6**, 159–186.
 41. **Ghosal, S.** and Samanta, T. (1997). Expansion of Bayes risk for entropy loss and reference prior in nonregular cases. *Statistics and Decisions* **15**, 129–140.
 42. **Ghosal, S.** and Samanta, T. (1997). Asymptotic expansions of posterior distributions in nonregular cases. *Annals of the Institute of Statistical Mathematics* **49**, 181–197.
 43. Chandra, T. K. and **Ghosal, S.** (1996). Strong law of large numbers for weighted average of dependent variables. *Journal of Theoretical Probability* **9**, 797–809.
 44. Chandra, T. K. and **Ghosal, S.** (1996). Extensions of the strong law of large numbers of Marcinkiewicz and Zygmund under dependence. *Acta Mathematica Hungarica* **71**, 327–336.
 45. **Ghosal, S.** and Samanta, T. (1995). Asymptotic behaviour of Bayes estimates and posterior distribution in multiparameter nonregular cases. *Mathematical Methods of Statistics* **4**, 361–388.
 46. **Ghosal, S.**, Ghosh, J. K. and Samanta, T. (1997). On convergence of posterior distributions. *The Annals of Statistics* **23**, 2145–2152.
- In conference proceedings or book chapters (refereed)
 1. **Ghosal, S.** (2010). Dirichlet process, related priors and posterior asymptotics. In *Bayesian Nonparametrics*, (N. L. Hjort, *et al.*, eds.), 35–79, Cambridge University Press.
 2. **Ghosal, S.** and Roy, A. (2009). Bayesian nonparametric approach to multiple testing. In *Perspectives in Mathematical Sciences I* (N. S. N. Sastry, *et al.*, eds.), 139–164, World Scientific Publishing Company, Singapore.

3. Kang, C. and **Ghosal, S.** (2007). Clusterwise regression using Dirichlet mixtures. In *Advances in Multivariate Statistical Methods*. (A. Sengupta, ed.), 305–325, World Scientific Publishing Company, Singapore.
A shorter version of this paper appears in the JSM Proceedings, 2007, Section on Nonparametric Statistics, 1624–1631.
4. Clarke, B. S. and **Ghosal, S.** (2008). J. K. Ghosh’s contribution to statistics: A brief outline. In *IMS Collection 3: Pushing the Limits of Contemporary Statistics: Contributions in honor of Professor Jayanta K. Ghosh* (B. Clarke and S. Ghosal, eds.), 1–18. Institute of Mathematical Statistics, Beachwood, OH.
5. **Ghosal, S.**, Roy, A. and Tang, Y. (2008). Posterior consistency of Dirichlet mixtures of beta densities in estimating positive false discovery rates. In *IMS Collection 1: Beyond Parametrics in Interdisciplinary Research: Festschrift in honor of Professor Pranab K. Sen*, (E. Pena and M. Silvapulle, eds.), 105–115. Institute of Mathematical Statistics, Beachwood, OH.
6. Ghosh, S. K. and **Ghosal, S.** (2006). Semiparametric accelerated failure time models for censored data. In *Bayesian Statistics and its Applications* (S. K. Upadhyay *et al.*, eds.), 213–229, Anamaya Publishers, New Delhi.
7. Choudhuri, N., **Ghosal, S.** and Roy, A. (2004). Bayesian methods for function estimation. In *Handbook of Statistics 25*, 373–414, (D. Dey., ed.), Elsevier.
8. **Ghosal, S.** (2003). Invited discussion of “A Nonparametric Bayesian Approach to Inverse Problems” by R. L. Wolpert, K. Ickstadt and M. B. Hansen. In *Bayesian Statistics 7* (J. M. Bernardo *et al.*, eds.), 403–417, Oxford University Press.
9. **Ghosal, S.** and van der Vaart, A. W. (2003). Discussion of “New Tools for Consistency in Bayesian Nonparametrics” by G. Salinetti. In *Bayesian Statistics 7* (J. M. Bernardo *et al.*, eds.), 369–384, Oxford University Press.

10. **Ghosal, S.**, Ghosh, J. K. and Ramamoorthi, R. V. (1999). Consistency issues in Bayesian nonparametrics. In *Asymptotics, Nonparametrics and Time Series: A Tribute to Madan Lal Puri* (Subir Ghosh, Ed.), 639–667, Marcel Dekker, Inc.
11. Chandra, T. K. and **Ghosal, S.** (1998). Some elementary strong law of large numbers: a review. In *Frontiers in Probability and Statistics* (S. P. Mukherjee *et al.*, eds.), 61–81, Narosa Publishing House, New Delhi.
12. **Ghosal, S.**, Ghosh, J. K. and Ramamoorthi, R. V. (1997). Non-informative priors via sieves and packing numbers. In *Advances in Statistical Decision Theory and Applications* (S. Panchapakesan and N. Balakrishnan, Eds.), 119–132, Birkhauser, Boston.
13. Chandra, T. K. and **Ghosal, S.** (1994). On Borel-Cantelli lemmas. In *Essays on Probability and Statistics, Festschrift in honour of Professor Anil Kumar Bhattacharya* (S. P. Mukherjee *et al.* (eds.)), Department of Statistics, Presidency College, Calcutta, 231–239.
14. Ghosh, J. K., **Ghosal, S.** and Samanta, T. (1994). Stability and convergence of posterior in non-regular problems. In *Statistical Decision Theory and Related Fields V* (S. S. Gupta and J. O. Berger, eds.), 183–199.

Papers Accepted for Publication

- In Journals

1. Bean, G. J., DeRose, E. A., Mercer, L. D., Thayer, L. K., Roy, A. and **Ghosal, S.** (2011). Skew-mixture models for estimation of positive false discovery rates. Revised version submitted to *Statistical Methodology*.
2. Shen, W., **Ghosal, S.** and Tokdar, S. (2011). Adaptive Bayesian multivariate density estimation with Dirichlet mixtures. Revision invited from *Biometrika*.

3. Belitser, E. N., **Ghosal, S.** and van Zanten, H. (2011). Optimal two-stage procedures for estimating location and size of maximum of multivariate regression functions. Revision invited from *Annals of Statistics*.

- In conference proceedings or book chapters (refereed)

1. **Ghosal, S.** (2011). Invited discussion of “Integrated objective Bayesian estimation and hypothesis testing” by J. M. Bernardo. In *Bayesian Statistics 9*, 1–68, Oxford University Press.

Papers Submitted/to be Submitted for Publication

(Preprints available)

1. Shen, W. and **Ghosal, S.** (2012). MCMC-free adaptive Bayesian procedures using random series prior. Submitted.
2. Gu, J., **Ghosal, S.** and Kleiner, D. (2011). Bayesian ROC curve estimation under verification bias. Under revision.
3. Curtis, S. M., Banerjee, S. and **Ghosal, S.** (2011). Fast Bayesian model assessment for nonparametric additive regression. Submitted.
4. White, J. T. and **Ghosal, S.** (2011). Denoising three-dimensional and colored images using a Bayesian multi-scale model for photon counts. Submitted.
5. White, J. T. and **Ghosal, S.** (2011). Multiple testing methods for removing background noise from images. Under preparation.
6. **Ghosal, S.**, Zhang, H. H. and Hwang, W. (2011) CLASSIC: Classification and selection using iterative cycles. To be submitted.

Extended abstracts and other publications different from above

1. **Ghosal, S.** (2001). Bayesian curve estimation on compact interval. Extended abstract: Proceedings of 8th Vilnius conference.
2. **Ghosal, S.** (2001). Default Bayesian methods for nonparametric problems. Extended abstract: Proceedings of European Meeting of Statisticians.
3. **Ghosal, S.** (2000). A review of consistency and convergence of posterior distributions. In *Proceedings of National Conference in Bayesian Analysis*, Benaras Hindu University, Varanashi, India.

University and professional services

- **Editorial activities**

1. Editor of *Sankhyā*, the Indian Journal of Statistics, Series A, 2012–present.
2. Associate editor, *The Annals of Statistics*, 2005–present.
3. Co-editor of *Sankhyā*, the Indian Journal of Statistics, 2004–2011.
4. Associate editor, *Electronic Journal of Statistics*, 2007–present.
5. Associate Editor, *Statistics Surveys* 2005–present.

- **Academic Activities**

Chair of the scientific committee, 9th Workshop on Bayesian Nonparametrics, Amsterdam, The Netherlands, 2013.

Founding member, International Society for Nonparametric Statistics.

Savage Thesis Award Committee, 2010–2011.

Program committee, Nonparametric Bayesian workshop, Veracruz, Mexico, 2011.

Co-chair of organizing committee, International Indian Statistical Association Conference, Raleigh, April 2011.

Program chair for summer conference of Southern Regional Council on Statistics (SRCOS), 2010.

Program committee, Nonparametric Bayesian workshop, Turin, Italy, 2009.

Young Researcher Award Committee, International Indian Statistical Association, 2008.

Member of faculty team for SAMSI program Latent Variable Models for Social Sciences, 2004–2005.

IMS nominee to the ISBA.

Member of the program committee of eighth Valencia conference, 2006.

Regularly referee papers for many journals including *Annals of Statistics*, *Journal of the American Statistical Association*, *Probability Theory and Related Fields*, *Bernoulli*, *Journal of Multivariate Analysis*, *Scandinavian Journal of Statistics*, *Sankhyā*, *Australian Journal of Mathematics*, *Calcutta Statistical Association Bulletin*, *Statistics and Probability Letters*, *Journal of Statistical Planning and Inference*, *Econometric theory*, *Statistica Sinica*, *Metrika*, *Metron*, *Journal of Korean Statistical Society*, *Indian Journal of Pure and Applied Mathematics*, *IEEE transaction on Pattern Recognition and Machine Learning*

Regularly review proposals submitted to *National Science Foundation*.

- **Doctoral Committee Member**

Served as or currently serving as a member of doctoral committee:

North Carolina State University: Lovely Goyal, Muhtar Osman (Statistics), Daniel Finkel, Girish Ramachandra (Operations Research), Sujit Samanta (Bioinformatics), Maryam Sadat Sakhaei Far (Civil Engineering), Natalie Wright (Psychology) and numerous masters committees (occasionally as chair).

Other institutions: Alexandra Babenko (Utrecht University, The Netherlands), Natesh Pillai (Duke University), Taeryon Choi (Carnegie Mellon University), Pam Binns (University of Minnesota).

- **Inter-disciplinary collaboration**

Participated in Engineering Research Center proposal at NCSU and UIUC initiated by Paul Franzon, ECE, to address statistical issues in this multi-disciplinary research.

- **Consulting**

1. Served as the faculty advisor for consultant Trena Phipps on a project on psychological test of working environments.
2. Served as the faculty advisor for consultant Sanggohn Han on a project on network sharing protocol.
3. Served as the faculty advisor for consultant Ming Xiong on a project on survey of consumer preferences for specific patterns and images in printed textiles.

- **Committee work**

Served in many departmental committees including Statistics search committee (2004-05; 2005-06), chair of Ph. D. qualifier committee (August 2005; January 2006; August 2011), written prelim committee (2003; co-chair 2008; 2010, chair 2012), curriculum committee (2006-07, 2008-09), post-tenure review committee (2008-11), PAMS research advisory council (2008-11), seminar committee (2010-11).

- **Mentoring work**

Faculty mentor of Yichao Wu (Assistant Professor, NCSU) and Arnab Maity (Assistant Professor, NCSU).

Conferences, seminars and academic visits

1. **Invited speaker in**

- Invited speaker Session organizer in First Conference of the International Society for Nonparametric Statistics, Chalkidiki, Greece, June 2012;
- Contemporary issues and applications of statistics, Indian Statistical Institute, Kolkata, 2012.
- Workshop on “Very high dimensional semiparametric models”, Oberwolfach, Germany, 2011;
- 58th Conference of International Statistical Institute, Dublin, 2011;
- 8th Workshop on Bayesian Nonparametrics, Veracruz, Mexico, 2011;
- Frontiers of Statistical Decision Making and Bayesian Analysis - in Honor of James O. Berger, San Antonio, TX, 2010;
- IISA 2010 conference, Visakhapatnam, India, 2010;
- Calcutta Triennial Conference, Kolkata, India, 2009;
- Neural Information Processing Systems Conference, Whistler, BC, 2009;
- 7th Workshop on Bayesian nonparametrics, Turin, Italy, 2009;
- International *Indian Statistical Association meeting* 2008, Storrs, CT;
- Indian Statistical Institute Platinum Jubilee Conference, Kolkata, India, 2008;
- Bayesian Nonparametric Regression, Cambridge, U.K., 2007;
- WNAR-IMS session 2007, Irvine, CA;
- Multivariate Conference in Honor of S. N. Roy, Kolkata, India, 2006;
- Mini symposium on Bayesian nonparametrics, Storrs, 2006;
- Joint Statistical Meeting, 2006, Seattle;
- IMS Annual Meeting, 2006, Rio de Janeiro, Brazil;

- Bayesian Nonparametric Workshop, Jeju Island, Korea, 2006;
- Bayesian Nonparametric Workshop, Rome, 2004;
- Army Research Conference, Raleigh, 2002;
- IMS Annual Meeting 2002;
- 8th Vilnius conference on Probability and Statistics, Vilnius, Lithuania, 2002;
- IMS Annual Meeting, Banff, AB, 2002;
- European Meeting of Statisticians, Funchal, Portugal, 2001;
- Nonparametric Bayesian Workshop, Ann Arbor, 2001;
- Joint Statistical Meeting, Indianapolis, 2000;
- AMS-IMS-SIAM Summer Research Conference, Mount Holyoke, MA, 2000;
- International Workshop on Objective Bayesian Methodology, Valencia, 1999;
- National Seminar on Bayesian Statistics and its Applications, Varanashi, 1996;
- National Seminar on Reliability and Survival Analysis, Calcutta, 1995.

2. **Short course on**

- Bayesian Nonparametrics, 2011, EURANDOM, The Netherlands;
- Bayesian Nonparametrics, 2007, Bilkent, Turkey;
- Bayesian Nonparametrics, 2007, Cambridge, UK;
- Bayesian Nonparametrics, 2006, Luminy, France.

3. **Contributed speaker at**

- Joint Statistical Meeting, Vancouver, BC, 2010;
- Joint Statistical Meeting, Washington, DC, 2009;
- Joint Statistical Meeting, Denver, CO, 2008 (topic contributed);

- IMS Annual Meeting and World Congress in Probability and Statistics, Singapore, 2008;
- Joint Statistical Meeting, Salt Lake City, UT, 2007;
- Joint Statistical Meeting, San Francisco, CA, 2003;
- Joint Statistical Meeting, New York, NY, 2002;
- 6th Purdue Symposium, West Lafayette, IN, 1998;

4. **Invited discussant** at

- ISBA Meeting, Kyoto, Japan, 2012;
- Objective Bayes 5, Branson, MO, June 4–8, 2005;
- 7th Valencia Meeting, Tenerife, Spain, 2002.

5. **Poster presenter** at

- Latin American Meeting on Probability and Statistics, Los Cabos, Mexico, 2005;
- Regional Meeting of ISBA, Laguna Beach, CA, 2001;
- 6th Valencia Meeting, Alcossebre, Spain, 1998.

6. **Organizer** of

- Invited session in First Conference of International Society for Nonparametric Statistics, Chalkidiki, Greece, 2012;
- Invited session in ISBA Meeting, Kyoto, Japan, 2012;
- Invited sessions in Summer Research Conference of Southern Regional Conference on Statistics, Virginia Beach, VA, 2010;
- IMS invited session “Bayes-frequentist reconciliation in large parameter spaces”, Joint Statistical Meeting, Washington DC, 2009.

7. **Chaired** sessions in

- Objective Bayes 5, Branson, MO, June 4–8, 2005;
- Joint Statistical Meeting, Seattle, 2006;

- Multivariate conference Kolkata 2006;
- Indian Statistical Institute Platinum Jubilee Conference, Kolkata, 2008.

8. Attended

- Princeton meeting in honor of Peter Bickel, 2006;
- 26th and 27th Lunteren Meeting, Lunteren, 1997 and 1998;
- 7th Vilnius Conference, Vilnius, 1998;
- International Conference in Multivariate Analysis, New Delhi 1992;
- International Conference in Quantum Probability, New Delhi 1990;
- Instructional Conference in Riemannian Geometry, Bombay 1990;
- Instructional Conference in Operator Algebra, Bangalore 1990.

9. Visited

- Eurandom, 2010–2011;
- Nanyang Technological University, 2009;
- Utrecht University, the Netherlands, 2009, 2002;
- Collegio Alberto, Moncalieri, Italy, 2009;
- Isaac Newton Institute, Cambridge, U.K., 2007;
- Free University, Amsterdam, 2007, 2004, 2002;
- Bilkent University, Ankara, Turkey, 2007;
- Indian Statistical Institute, New Delhi, 2007;
- Indian Statistical Institute, Kolkata, 2007;
- Indian Statistical Institute, Kolkata, 2006, 2004, 2003;
- University of Florida, Gainesville, 2003;
- University di Roma “La Sapienza”, 1999;
- University of Hyderabad, 1997, 1996;
- Indian Statistical Institute, Bangalore, 1996;

- Tata Institute of Fundamental Research, 1989.

10. Seminars at

- Yale University, Department of Statistics, 2012;
- Eurandom Chair Public Lecture, Eindhoven, The Netherlands, 2011;
- Bordeaux Segalen University, France, 2011;
- Concordia University, Montreal, QC, 2011;
- University of Minnesota, Minneapolis, MN, 2011;
- George Washington University, Washington DC, 2011;
- Princeton University, 2010;
- University of Maryland, Baltimore County, 2012, 2009, 2002;
- Utrecht University, the Netherlands, 2009, 2002;
- Iowa State University, Ames, IA, 2008;
- Jawaharlal Nehru University, New Delhi, 2007;
- Indian Statistical Institute, New Delhi, 2007;
- Free University, Amsterdam, 2007, 1997–1999;
- UNC-Chapel Hill, Biostatistics, 2006;
- Carnegie Mellon University, 2005;
- University of Connecticut, 2004;
- Duke University, 2004;
- North Carolina Chapter of the American Statistical Association, 2004;
- University of Florida, Gainesville, 2003;
- University of North Carolina, Chapel Hill, Statistics, 2003;
- Case Western Reserve University, 2002;
- Bocconi University, Italy, 2002;
- EURANDOM, The Netherlands, 2011, 2010, 2002;

- Tilburg University, The Netherlands, 2001;
- University di Roma “La Sapienza”, 1999;
- Michigan State University, 1998;
- Indian Statistical Institute, Calcutta, 2007, 2004, 2003, 2001, 2000, 1999, 1990–1997;
- Indian Institute of Sciences, Bangalore, 1997;
- University of Hyderabad, 1996;
- Indian Statistical Institute, Bangalore, 1996;
- Hong Kong University of Science and Technology, 1996;

11. SAMSI program participation:

- Analysis of Object Data (2010–11);
- Semiparametric Bayesian Inference in PKPD Analysis (2010);
- Geometry and Statistics of Shape Spaces (2007);
- High Dimensional Inference and Random Matrices (2006);
- Latent (Hidden) Variable Models in the Social Sciences (2004–05);
- Data Mining and Machine Learning (2003–04).

Society Membership

Institute of Mathematical Statistics (IMS), Bethesda, Maryland, U. S. A.
(life member).

Sigma Xi Scientific Research Society, Research Triangle Park, NC, U. S. A.

Indian International Statistical Society (life member).

Indian Statistical Institute (life member).

International Society for Bayesian Analysis (ISBA).

American Statistical Association.

Founding member of Bayesian nonparametric section of ISBA.

Founding member of International Society for NonParametric Statistics (ISNPS).

Teaching Experience

1. North Carolina State University:

- Statistics 790: Asymptotic Statistics (developed this advanced elective course) 2 times;
- Statistics 810V: Bayesian nonparametrics (developed this special topics course);
- Statistics 778: Measure theory and advanced probability I (2 times);
- Statistics 779 (new syllabus): Measure theory and advanced probability (2 times);
- Statistics 779: Measure theory and advanced probability II (3 times);
- Statistics 746: Stochastic Processes (6 times);
- Statistics 361: Statistics for engineers (4 times);
- Statistics 810K: Weak convergence (developed this special topics course);
- Statistics 740: Bayesian Inference and Analysis;
- ST 521: Statistical Theory I (3 times);
- ST 522: Statistical Theory II (3 times).

2. University of Minnesota, Twin Cities:

Statistics 3021: Introduction to Probability and Statistics (4 times).

3. Indian Statistical Institute, Calcutta, India:

Statistical Methods in Large Samples, Non-parametric Inference, Asymptotic Theory of Inference (thrice), Sequential Analysis and Optimal Stopping (thrice), Statistical Inference II, Probability tutorial (twice), Statistical Methods in Biology, Multivariate Analysis tutorial.