

## Curriculum Vitae

SAMIRAN SINHA

### Contact Information

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### Education

Ph.D. in Statistics 2004, University of Florida, Gainesville

Advisors: Malay Ghosh and Bhramar Mukherjee

Dissertation title: “Bayesian Inference for Matched Case-Control Studies”

M.Sc. in Statistics, 1999, University of Calcutta, India

B.Sc. in Statistics, 1997, Kalyani University, India

### Employment

Assistant Professor (August 2004- August 2010), Department of Statistics, Texas A&M University, College Station, Texas.

Associate Professor (September 2010-), Department of Statistics, Texas A&M University, College Station, Texas.

### Other Employment

Visiting Assistant Professor (May 2010–June 2010, July 2009–August 2009), Department of Probability and Statistics, Michigan State University, East Lansing, Michigan.

Cancer Research Fellow (Summer 2003), Division of Cancer Epidemiology and Genetics, The National Cancer Institute,(NCI/NIH), Bethesda, MD.

August 2002 – May 2004: Research Assistant, Department of Statistics, University of Florida.

### Teaching Experience

Course 211: Principles of Statistics for Engineers; Book: *Probability and Statistics for Engineering and the Sciences*, 6th Ed, by J. L. Devore

Course 302: Statistical Methods; Book: *The Practice of Statistics in the Life Sciences* by Brigitte Baldi and David Moore.

Course 611: Statistical Inference Part II; Book: *Statistical Inference*, 2nd Ed, by G. Casella and R. Berger

### Publications

1. **Sinha, S.**, Mukherjee, B., and Ghosh, M. (2004), Bayesian semiparametric modeling for matched case-control studies with multiple disease states, *Biometrics*, **60**, 41–49.

2. **Sinha, S.**, Mukherjee, B., Ghosh, M., Mallick, B. K., Carroll, R. J. (2005), Semiparametric

- Bayesian Analysis of Matched case-control studies with missing exposure, *Journal of the American Statistical Association*, **100**, 591–601.
3. Mukherjee, B., **Sinha, S.**, and Ghosh, M. (2005), Bayesian analysis for case-control studies: A review article, *Handbook of Statistics*, **25**.
  4. **Sinha, S.**, and Mukherjee, B. (2006), A score test for determining sample size in matched case-control studies with categorical exposure, *Biometrical Journal*, **48**, 35–53.
  5. **Sinha, S.** (2006), Determining gene-environment interaction using projected score method, *Calcutta Statistical Association Bulletin*, **57**, 19–33.
  6. Mukherjee, B., Zhang, L., Ghosh, M., and **Sinha, S.** (2007), Semiparametric Bayesian analysis of case-control data under gene-environment independence and population stratification, *Biometrics*, **63**, 834–844.
  7. Mukherjee, B., Liu, I., and **Sinha, S.** (2007), Analyzing matched case-control data with multiple ordered disease states, possible choices, and comparisons, *Statistics in Medicine*, **26**, 3240–3257.
  8. **Sinha, S.** and Maiti, T. (2008), Analysis of matched case-control data in presence of nonignorable missing data, *Biometrics*, **64**, 106–114.
  9. **Sinha, S.**, Mukherjee, B., and Ghosh, M. (2007), Modelling association among multivariate exposures in case-control studies, *Sankhya*, **69**, 379–404.
  10. **Sinha, S.**, Gruber, S. B., Mukherjee, B., and Rennert, G. (2008), Inference of haplotype effect in matched case-control study using unphased genotype data, *International Journal of Biostatistics*, **4**, Issue 1, Article 6.
  11. **Sinha, S.** and Wang, S. (2009). A new semiparametric procedure for matched case-control studies with missing covariates, *Journal of Nonparametric Statistics*, **21**, 889–905 .
  12. **Sinha, S.**, Mallick, B. K., Kipnis, V., and Carroll, R. J. (2010). Semiparametric Bayesian analysis of nutritional epidemiology data in the presence of measurement error, *Biometrics*, **66**, 444–454.
  13. Chatterjee, N., **Sinha, S.**, Diver, W. R., and Feigelson, H. S. (2010). Analysis of cohort studies with multivariate, partially observed, disease classification data, *Biometrika*, **97**, 683–698.
  14. Osterstock, J. B., **Sinha, S.**, Seabury, C. M., Cohen, N. D. (2010). Classifying disease states in genetic association studies for paratuberculosis. *Preventive Veterinary Medicine*.
  15. Sun, J. X., **Sinha, S.**, Wang, S., and Maiti, T. Bias corrected inference for the conditional logistic regression, *Statistics in Medicine*
  16. **Sinha, S.** (2010). An estimated-score approach for dealing with missing covariate data in matched case-control studies, *The Canadian Journal of Statistics*, **38**, 680–697.
  17. Ahn, J., Mukherjee, B., Gruber, S. B., and **Sinha, S.** (2010). Missing exposure data in stereotype regression model: application to matched case-control study with disease subclassification, *Biometrics*.
  18. Kuskie, K. R., Smith, J. L., **Sinha, S.**, Carter, C. N., Chaffin, M. K., Slovis, N. M., Brown, S. E., Stepusin, R. S., Takai, S., Cohen, N. D. (2011). Associations between the exposure to airborne virulent rhodococcus equi and the incidence of R equi pneumonia among individual foals. *Journal of Equine Veterinary Science*.
  19. Dass, S. C., Maiti, T., Ren, H. and **Sinha, S.** (2011). Confidence interval estimation of small area parameters shrinking both mean and variances. To appear in *Survey Methodology*.

**Non-refereed Publications:**

1. **Sinha, S.** (2007). Bayesian methods for case-control studies. *Bulletin of the International Society for Bayesian Analysis*, **14**, 5–8.
2. **Sinha, S.** (2008). Book review of “Introduction to Bayesian Statistics” by William M. Bolstad. *The American Statistician*, **62**, 268–268.

**Submitted or Under Revision**

1. Maiti, T., Ren, H. and **Sinha, S.** Prediction error of small area predictors with shrinking both mean and variances *Submitted*.
2. **Sinha, S.** and Yoo, S. Score tests in the presence of errors in covariate in matched case-control studies. *Under second revision*.
3. **Sinha, S.** A functional method for conditional logistic regression with errors-in-covariates. *Under second revision*.

**PhD Student**

Jenny X. Sun, graduated in August 2010, currently a post-doctoral fellow at the School of Public Health, Boston University. Dissertation topic: Small sample bias corrections in the conditional logistic regression (not the exact title).

**Master Student**

1. Seungyoon Yoo, graduated in December 2010. Project topic: Effect of measurement errors on the score test of the conditional logistic regression (not the exact title).
2. Minkyung Oh, graduated in Spring 2011. Project topic: The effect of age, race, poverty, literacy on the incidence rate of breast cancer (not the exact title).

**Grant**

Role: Co-PI, US Department of Veterans Affairs, Office of research and Development (VA-ORD), PI: Suzy B. Gulliver, Period: November 2011 to October 2015

Role: PI, NSF Methodology, Measurement, and Statistics grant (SES) jointly with Dr. Tapabrata Maiti, Period: May 2010 to May 2013.

Role: PI, NSF conference grant (DMS) for the 13 th New Researcher Conference in Statistics and Probability, 2010.

Role: PI, NSA conference grant for the 13 th New Researcher Conference in Statistics and Probability, 2010.

Role: PI, NIH conference grant (R03) for the 13 th New Researcher Conference in Statistics and Probability, 2010.

**Short Courses**

Offered a short course on “Bayesian Analysis of Case-Control Data” in the joint statistical meeting, 2006, Seattle.

**Other Professional Activities:**

1. Organized one invited session in the ENAR meeting 2011. Title of the session: “Disease mapping and spatial regression as emerging tools for surveillance epidemiology”. Speakers: Peter Congdon, Lance Waller, Tapabrata Maiti, and Andrew Lawson.

2. Chaired the session "Disease mapping and spatial regression as emerging tools for surveillance epidemiology" in the ENAR 2011 meeting.
3. Chair of the IMS new researchers conference organizing committee for the year of 2010 which was held in Vancouver, Canada. The details of the conference can be found at <http://www.stat.tamu.edu/~sinha/nrc2010-ims.html>.
4. Organizer of one invited session in the ENAR meeting 2010. Title of the session: "Shrinkage estimation in Microarray data analysis". Speakers: James Booth, Marina Vannucci, Dan Nettleton, and Tapabrata Maiti.
5. Organizer of one invited session in the Biometrics Section for the 2009 Joint Statistical Meeting (JSM). Title of the session: The issue of high dimensionality and missing data in complex epidemiological studies. Speakers: Rebecca Betensky, Nicholas P. Jewell, Bin Nan, and John Neuhaus. Discussant: Samiran Sinha.
6. Member of the IMS new researchers conference organizing committee (2008–2010).
7. Organizer of one invited session jointly with Dr. Jaya Satagopan in the Epidemiology Section for the 2008 JSM. Title of the session: Current Issues in Molecular Epidemiology - Heterogeneity and High-Dimensionality. Speakers: James Gauderman, Mitchell Gail, Hongzhe Lee, and Yi-Hai Chen. Discussant: Colin Begg.
8. Chaired one session entitled "Environmental Models and Assessing Gene-Environment Interactions" - Contributed Papers, sponsored by Biometrics Section, WNAR, ENAR at the JSM 2006, Seattle.
9. Organizer of one invited session in the biopharmaceutical section for the 2005 JSM, Minneapolis, Minnesota. Session title: Bayesian methods in cancer research. Speakers: Malay Ghosh, Bhramar Mukherjee, Peter Müller, and Sholom Wacholder.
10. Chaired one session at the JSM 2005, Minneapolis, Minnesota. Session title: Bayesian methods in cancer research.
11. Chapter representative of the southeast chapter of the American Statistical Association for the year of 2007.
12. **Reviewer** of *Journal of the American Statistical Association*, *Journal of Multivariate Analysis*, *Statistics in Medicine*, *Communication of Statistics*, *Journal of the Nonparametric Statistics*, *Biometrics*, *Journal of the Royal Statistical Society, Series B*, *Journal of Applied Statistics*, NIH grant proposal

## Honors and Awards

1. Travel award to attend New Researchers' Conference, 2005.
2. Selected as one of the finalist for the Savage Award 2004.
3. Gibson Dissertation Fellowship Award, University of Florida, 2004.
4. International Biometric Society's Eastern North American Region (ENAR) Student Award, 2004.
5. Statistics Faculty Award for outstanding senior graduate student, Department of Statistics, University of Florida, 2003.
6. Cancer Research Training Award, National Cancer Institute(NCI/NIH), 2003.
7. IMS travel award for giving talk at International Bayesian Workshop/Conference at Indian Statistical Institute, January 6-8, 2003.
8. William Mendelhall Award for outstanding graduate student, Department of Statistics, Uni-

versity of Florida, 2002.

9. Grinter Fellowship Award, University of Florida, 2001-2003.

10. Was nominated for the award “The President of India, 2001” by the senate of Calcutta University.

11. Best student award, Department of Statistics, Calcutta University, India, 1998.

12. Merit award for standing first in first class in M.Sc (Statistics), Calcutta University, 1999.

13. National Scholarship, India, 1997.

14. Merit award for standing first in the first class in B.Sc (Hons), Kalyani University, 1997.

## Professional Membership

American Statistical Association

Section on Bayesian Statistical Science

## Invited talks

1. 22nd Annual Conference of *The International Environmetrics Society*, January 3–6, 2012, Hyderabad, India. Title: Handling missing values in spatial data.
2. Statistics 2011, Canada/IMST 2011-FIM XX, July 1-4, 2011, Concordia University, Montreal. Title: Error corrected score tests in the presence of measurement error in the conditional logistic regression.
3. ENAR 2011 Spring Meeting: International Biometric Society, Miami, 20–23rd March, 2011. Title: A Semiparametric correction to score tests in the presence of errors-in-covariate in the Generalized Linear Model.
4. Conference of Texas Statisticians 2009, Huntsville, Texas, March 28, 2009. Title: Analysis of Cohort Studies with Multivariate, Partially Observed, Disease Classification Data.
5. Department of Mathematics and Statistics, University of Maryland, February 27, 2009. Title: Semiparametric inference for matched case-control studies with missing covariate data.
6. Department of Statistics, University of Connecticut, Storrs, October 1, 2008. Title: Semiparametric inference for matched case-control studies with missing covariate data.
7. Modern Semiparametric Methods in Action, Southern Regional Council on Statistics, Summer Research Conference June 8-11, 2008. Title: Semiparametric Bayesian analysis of nutritional epidemiology data in presence of measurement error.
8. International Indian Statistical Association (IISA) Joint Statistical Meeting and International Conference on Statistics, Probability and Related Areas, Connecticut, USA, May 22–25, 2008. Title: Semiparametric Bayesian Analysis of Nutritional Epidemiological Data in the Presence of Measurement Error.
9. Department of Mathematical Sciences, Central Connecticut State University, November 9, 2007. Title: Some Bayesian approaches for analyzing case-control data.
10. International Indian Statistical Association (IISA) Joint Statistical Meeting and International Conference on Statistics, Probability and Related Areas, Cochin, India, January 2–5, 2007. Title: Semiparametric Bayesian analysis of matched case-control data with missing exposure.

11. Sixth International Triennial Calcutta Symposium, Calcutta, India, December 29–31, 2006. Title: Analysis of matched case-control data in presence of nonignorable missing exposure.
12. Division of Epidemiology and Biostatistics, Memorial Sloan Kettering Cancer Center, October 4, 2006. Title: Analysis of matched case-control data in presence of nonignorable missing exposure. 10. Department of Biostatistics, MD Anderson Cancer Center, April 2006. Title: Analysis of matched case-control data in presence of nonignorable missing exposure.
13. Austin Chapter of American Statistical Association, April 1, 2006. Title: Analysis of matched case-control data in presence of nonignorable missing exposure.
14. Department of Statistics, Iowa State University, February 2006. Title: Semiparametric Bayesian analysis of case-control data under gene-environment independence and population stratification.
15. Houston Chapter of American Statistical Association, December 2005. Title: Semiparametric Bayesian analysis of case-control data under gene-environment independence and population stratification.
16. Joint Statistical Meeting 2005, Minneapolis, Minnesota. Title: Bayesian analysis of case-control studies.
17. Department of Statistics, University of Georgia, October 2004. Title: Bayesian semiparametric analysis of matched case-control studies.
18. ENAR Spring Meeting, March 2004. Title: Bayesian semiparametric analysis of matched case-control studies.
19. Department of Epidemiology and Biostatistics, University of South Florida, March 2004. Title: Bayesian semiparametric analysis of matched case-control studies.
20. Department of Statistics, Texas A&M University, March 2004. Title: Bayesian semiparametric analysis of matched case-control studies.
21. Rollins School of Public Health, Emory University, February 2004. Title: Bayesian semiparametric analysis of matched case-control studies.

### Contributed Talks and Posters

1. Contributed talk at ENAR 2011, Miami. Title: Score tests in the presence of errors in covariate in matched case-control studies.
2. Contributed talk at ENAR 2007, Atlanta. Title: Analysis of matched case-control data in presence of nonignorable missing exposure.
3. Poster presentation at 8th New Researcher Conference, Minneapolis, Minnesota, 2005. Title: Bayesian regression splines for measurement error in matched case-control studies.
4. Contributed talk at Joint Statistical Meeting 2003, San Francisco, California. Title: Errors in exposure variable in matched case-control study.
5. Poster presentation at Division of Cancer Epidemiology and Genetics (NCI) in 2003. Title: Estimating joint effect of two exposures in the presence of model uncertainty: Bayesian, frequentist, and model-selection approaches.

6. Contributed talk at Bayesian Conference at Indian Statistical Institute, 2003. Title: Semi-parametric Bayesian analysis of matched case-control data.