

## Biographical Sketch

### Partha Lahiri

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Partha Lahiri is Professor in the Department of Mathematics and the Joint Program Survey Methodology (JPSM) at the University of Maryland, College Park and an Adjunct Research Professor of the Institute of Social Research, University of Michigan, Ann Arbor. He is also a faculty associate of the Maryland Population Research Center and an affiliate of the Maryland Transportation Institute of the University of Maryland, College Park. Prior to coming to Maryland, Dr. Lahiri was the Milton Mohr Distinguished Professor of Statistics at the University of Nebraska-Lincoln. He has interest in a wide range of theoretical and applied research topics, including Bayes and empirical Bayes inference, small area data analytics, statistical data integration, survey sampling, mixed models, and resampling methods. He has served on a number of advisory committees, including the U.S. Census Advisory committee and U.S. National Academy of Sciences panel. Over the years, he advised various local and international organizations such as the United Nations Development Program, World Bank, Gallup Organization.

Partha Lahiri edited 4 special issues of peer-reviewed journals, one Institute of Mathematical Statistics monograph on model selection, and published 7 book chapters, and over 70 peer-reviewed journal papers. Over the years, 26 PhD students completed their dissertations under his supervision. Moreover, he supervised 4 postdoctoral research associates. His former PhD students and postdoctoral research associates are now well-placed in academia, government and industries — 13 students and postdocs are faculties in different universities, including one serving as Associate Vice Chancellor and one as Dean of Arts Sciences; 2 are postdocs (one at Harvard and one at Cambridge University in U.K.); 10 in industries and 2 in government.

Partha Lahiri's research has been funded by various grants and contracts, including multiple grants from the National Science Foundation and one R01 National Institute of Health.

### Awards, Honors and Recognition:

Best paper in the scientific papers category for the North American region by the International Transportation Society (ITS) – presented at the Intelligent Transportation Systems World Congress November 2017. *Note: The paper uses a small area statistical model in solving a Big Data problem related to transportation statistics (written jointly with my UMCP engineering colleague Professor Cinzia Cirillo, a statistics PhD student Ying Han and an engineering PhD student Kartik Kaushik).*

Distinguished Alumni Award, Department of Statistics, University of Florida, Gainesville, 2008.

Elected Fellow, Institute of Mathematical Statistics (IMS), 2007

Elected Fellow, American Statistical Association (ASA), 2004.

Milton Mohr Distinguished Professor of Statistics, Department of Mathematics and Statistics, University of Nebraska, Lincoln, 2000-2002.

Honorary title of Senior Scientist, The Gallup International Research & Education Center, 2000-2002.

Elected Member, International Statistical Institute, 1997.

American Statistical Association (ASA)/National Science Foundation (NSF)/Bureau of Labor Statistics (BLS) & Census Bureau Senior Research Fellow, 1990-1991.

### Monograph edited

Institute of Mathematical Statistics Lecture Notes/Monograph on Model Selection, Volume 38, 2001. This volume features four long review papers (with discussions) by (i) C. R. Rao and Y. Wu, (ii) H.

Chipman, E. I. George, and R. E. McCulloch, (iii) J. O. Berger and L. R. Pericchi and (iv) B. Efron and A.Gous.

### **Selected Peer-Reviewed Articles**

*Note: \*\* and # are used to identify co-authors who were PhD students and postdoctoral research associates of Partha Lahiri, respectively.*

#### **Bayes and Empirical Bayes Inference**

1. Hirose, M.\*\*. and Lahiri, P. (2018), Estimating variance of random effects to solve multiple problems simultaneously, *Annals of Statistics*, 46, 1721-1741, <https://doi.org/10.1214/17-AOS1600>.
2. Yoshimori, M.\*\* and Lahiri, P. (2014), A second-order efficient empirical Bayes confidence interval, *Annals of Statistics*, Vol. 42, No. 4, 1233-1261 DOI: 10.1214/14-AOS1219.
3. Yoshimori, M.\*\* and Lahiri, P. (2014), A second-order efficient empirical Bayes confidence interval, *Annals of Statistics*, Vol. 42, No. 4, 1233-1261 DOI: 10.1214/14-AOS1219.
4. Ganesh, N.\*\* and Lahiri, P. (2008), A new class of average moment matching prior, *Biometrika*, 95, 514-520.
5. Lahiri, P. and Mukherjee, K. (2007), Hierarchical Bayes estimation of small area means under generalized linear models and design consistency, *Annals of Statistics*, 35, 724-737.
6. Datta, G.S.#, Lahiri, P., Maiti, T.# and Lu, K.L. (1999), Hierarchical Bayes estimation of unemployment rates for the U.S. states, *Journal of the American Statistical Association*, 94, 1074-1082.

#### **Probabilistic Record Linkage**

1. Han, Y.\*\* and Lahiri, P. (2018), Statistical Analysis with Linked Data, *International Statistical Review* (2018), 1C19 doi:10.1111/insr.12295
2. Lahiri, P. and Larsen, M. (2005), Regression analysis with linked data, *Journal of the American Statistical Association*, Vol 100, 222-230.

#### **Small Area Estimation**

1. Ha, N. S.\*\*, Lahiri, P. and Parsons, V. (2014). Methods and results for small area estimation using smoking data from the 2008 National Health Interview Survey, *Statistics in Medicine*. 33. 22.
2. Jiang, J., and Lahiri, P. (2006), Mixed model prediction and small area estimation, Editor's invited discussion paper, *Test*, Vol. 15, 1, 1-96. The paper was discussed by Peter Hall, Domingo Morales, Carl Morris, Danny Pfeffermann, J.N.K. Rao and John Eltinge.
3. Lahiri, P. and Rao, J.N.K. (1995), Robust estimation of mean square error of small area estimators, *Journal of the American Statistical Association*, Vol. 90, 758-766.

#### **Resampling Methods for Mixed Models**

1. Jiang, J, Lahiri, P. and Nguyen, T. (2018), A Unified Monte-Carlo Jackknife for Small Area Estimation after Model Selection, *Annals of Mathematical Sciences and Applications*, Vol. 3, No. 2, 405-438, DOI: <http://dx.doi.org/10.4310/AMSA.2018.v3.n2.a2>
2. Chatterjee, S., Lahiri, P. and Li, H.\*\* (2008), On small area prediction interval problems, *Annals of Statistics*, 36, 1221-1245.
3. Jiang, J., Lahiri, P. and Wan, S.\*\* (2002), Jackknifing the mean squared error of empirical best predictor, *Annals of Statistics*, 30, 1782-1810.

4. Lahiri, P. (2003), On the impact of bootstrap in survey sampling and small-area estimation, *Statistical Science*, Vol. 18, 199-210.

### **Finite Population Sampling**

1. Li, Y.\*\* and Lahiri, P. (2007), Robust model-based and model-assisted predictors of the finite population mean, *Journal of the American Statistical Association*, 102, 664-673.
2. Jiang, J., and Lahiri, P. (2006), Estimation of Finite Population Domain Means - A Model-Assisted Empirical Best Prediction Approach, *Journal of the American Statistical Association*, 101, 301-311.
3. Lahiri, P. and Mukerjee, R. (2000), On a simplification of the linear programming approach to controlled sampling, *Statistica Sinica*, 10, 1171-1178.
4. Arora, V.\*\*, Lahiri, P. and Mukherjee, K. (1997), Empirical Bayes estimation of finite population means from complex surveys, *Journal of the American Statistical Association*, 92, 1555-1562.
5. Ghosh, M. and Lahiri, P. (1987), Robust empirical Bayes estimation of means from stratified samples, *Journal of the American Statistical Association*, Vol. 82, 1153-1162