

Curriculum Vita of Moulinath Banerjee

Work Address

University of Michigan
Department of Statistics
275, West Hall
1085, South University
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Contact Information

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Date: January 2022

Research Interests

Likelihood-based methods, Nonstandard asymptotics; Empirical Processes; Threshold and boundary estimation problems; Massive Data Sets and Distributed Methods and Inference; High Dimensional Models; Domain Adaptation and Transfer Learning; Shape-restricted estimation; Graphical networks; Statistical Methods in Astronomy, Biomedical studies, Epidemiology and Bioinformatics.

Education

University of Washington, Seattle, WA. Ph.D. (Statistics) December, 2000.
Advisor: Jon A. Wellner

Indian Statistical Institute, Calcutta, India. M.Stat. 1997, in First Division with Distinction (Specialization in Mathematical Statistics and Probability)

Indian Statistical Institute, Calcutta, India. B.Stat.(Honors) 1995, in First Division with Distinction.

Employment

Professor of Statistics, University of Michigan.
September 2014 —

Associate Professor of Statistics, University of Michigan. September 2007 – August 2014.

Assistant Professor of Statistics, University of Michigan. September 2001 to August 2007.

Lecturer at the University of Washington, Department of Statistics. January through June, 2001.

Awards

IMS Laha Travel Award, 2002.

IISA Young Researcher Award in Theory, 2011.

Awarded OVS (Overseas Visiting Scholarship) from St. John's College, University of Cambridge for Easter Term, 2012.

Fellow of IMS (Institute of Mathematical Statistics).

Fellow of ASA (American Statistical Association).

Publications **Note:** Student and post-doctoral co-authors are underlined.

- [1] Banerjee, M. and Wellner J.A. (2001): **Likelihood Ratio Tests for Monotone Functions.** *Annals of Statistics*, Vol 29, pages 1699 - 1731.
- [2] Banerjee, M. and Richardson, T. (2003): **On a Dualization of Graphical Gaussian Models: A Correction Note.** *Scandinavian Journal of Statistics*, Vol 30, pages 817–821.
- [3] Banerjee, M. (2005): **Likelihood Ratio Tests Under Local Alternatives in Regular Semiparametric Problems.** *Statistica Sinica*, Vol 15, No. 3, pages 635 - 644.
- [4] Banerjee, M. (2005): **Likelihood Ratio Tests Under Local and Fixed Alternatives in Nonstandard Problems.** *Scandinavian Journal of Statistics*, Vol 32, pages 507 – 525.
- [5] Banerjee, M. and J.A. Wellner (2005): **Confidence Intervals for Current Status Data.** *Scandinavian Journal of Statistics*, Vol 32, pages 405 - 424.
- [6] Banerjee, M. and Wellner J.A. (2005): **Score Statistics for Current Status Data: Comparisons with Likelihood Ratio and Wald Statistics.** *The International Journal of Biostatistics*, Vol. 1, No. 1, Article 3.
- [7] Banerjee, M., Biswas, P. and Ghosh, D. (2006): **A Semiparametric Binary Regression Model Involving Monotonicity Constraints.** *Scandinavian Journal of Statistics*, Vol 33, pages 673 - 699.
- [8] Banerjee, M. (2007): **Likelihood based inference for monotone response models.** *Annals of Statistics*, Vol 35, No. 3, pages 931–956.
- [9] Banerjee, M. and McKeague, I.W.(2007): **Confidence sets for split points in decision trees.** *Annals of Statistics*, Vol 35, No. 2, pages 543–574.
- [10] Sen, B. and Banerjee, M. (2007): **A pseudolikelihood method for analyzing interval censored data.** *Biometrika*, Vol 94, pages 71 - 86.
- [11] Banerjee, M. and McKeague, I.W. (2007): **Estimating optimal step-function approximations to instantaneous hazard rates.** *Bernoulli*. Volume 13, Number 1, pages 279-299.

- [12] Banerjee, M. (2008): **Estimating monotone, unimodal and U-shaped failure rates using asymptotic pivots.** *Statistica Sinica*. Volume 18, pages 467–492.
- [13] Pal, J. and Banerjee, M. (2008): **Estimation of smooth link functions for monotone response models.** *Journal of Statistical Planning and Inference*. Volume 138, Issue 10, pages 3125–3143.
- [14] Ghosh, D., Banerjee, M. and Biswas, P. (2008): **Inference for constrained estimation of tumor size distributions.** In *Biometrics*, **64**, No.4., 1009–1017.
- [15] Banerjee, M. (2009): **Inference in exponential family regression models under certain shape constraints using inversion based techniques.** *Advances in Multivariate Statistical Methods, Statistical Science and Interdisciplinary Research*, Vol 4, pp 249–272. World Scientific.
- [16] Lan, Y., Banerjee, M. and Michailidis, G. (2009): **Change point estimation under adaptive sampling.** *Annals of Statistics*, Vol 37, 4, 1752–1791.
- [17] Sen, B., Banerjee, M., Woodroffe, M.B., Mateo, M. and Walker, M. (2009): **Streaming motion in Leo 1.** *Annals of Applied Statistics*. Vol. 3, 1, 96–116.
- [18] Banerjee, M., Mishra, S. and Mukherjee, D. (2009): **Semiparametric binary regression models under shape constraints with an application to Indian schooling data.** *Journal of Econometrics*. Vol. 149, No. 2, 101–117.
- [19] Banerjee, M. (2009) – **Discussion of: ‘What’s so special about semiparametric models?’ by Michael Kosorok.** *Sankhya, Series A*, Part 2.
- [20] Sen, B., Banerjee, M. and Woodroffe, M.B. (2010): **Inconsistency of bootstrap: the Grenander Estimator.** *Annals of Statistics*, Vol 38, 4, 1953–1977.
- [21] Tang, R., Banerjee, M. and Michailidis, G. (2011) – **A two-stage hybrid procedure for estimating an inverse regression function.** *Annals of Statistics*, Vol. 39, 2, 956–989.
- [22] Mallik, A., Sen, B., Banerjee, M. and Michailidis, G. (2011) – **Threshold estimation based on a p -value framework in dose-response and regression settings.** *Biometrika*, Vol. 98, 4, 887–900.
- [23] Alonso-Garcia, J., Mateo, M., Sen, B., Banerjee, M. and von Braun, K. (2011) – **Mapping differential reddening in the inner Galactic globular cluster system.** *The Astronomical Journal*, Volume 141, Issue 5.

- [24] Tang, R., Banerjee, M. and Kosorok, M. (2012) – **Asymptotics for current status data under varying observation time sparsity.** *Annals of Statistics*, Vol. 40, 1, 45-72.
- [25] Alonso-Garcia, J., Mateo, M., Sen, B., Banerjee, M., Catelan, M., Minniti, M., and von Braun, K. (2012) – **Uncloaking globular clusters in the inner Galaxy.** *The Astronomical Journal*, 143, 70.
- [26] Banerjee, M. (2012) – **Current Status Data in the 21st Century: Some Interesting Developments.** Invited contribution for ‘Interval-Censored Time-to-Event Data: Methods and Applications’ by Chapman and Hall/CRC Biostatistics Series.
- [27] Mallik, A., Banerjee, M. and Sen, B. (2013) – **Asymptotics for p-value based threshold estimation in regression settings.** *Electronic Journal of Statistics*, Vol 7, 2477-2515.
- [28] Banerjee, M. and Richardson, T. (2013) – **Exchangeable Bernoulli random variables and Bayes’ postulate.** *Electronic Journal of Statistics*, Vol. 7, 2193-2208.
- [29] Banerjee, M. (2014) – **Discussion of: ‘Dynamic Treatment Regimes: technical challenges and applications, by Laber et. al. (2014)’.** *EJS*, Vol 8, 1309–1311.
- [30] Tang, R., Banerjee, M., Michailidis, G., Mankad, S. (2015) – **Two-stage plans for estimating the inverse of a monotone function.** *Technometrics*, Vol. 57 (3), 395-407.
- [31] Mankad, S., Michailidis, G. and Banerjee, M. (2015) – **Threshold Value Estimation Using Adaptive Two-Stage Plans in R.** *Journal of Statistical Software*, 67.1 (2015): 1-19.
- [32] Bagchi, P., Banerjee, M. and Stoev, S. (2016) – **Inference for monotone functions under short and long range dependence: Confidence intervals and new universal limits.** *JASA*, (111): 516,1634-1647.
- [33] Mallik, A., Sen, B., Banerjee, M. and Michailidis, G. (2016) – **Asymptotics for p-value based threshold estimation in dose-response settings.** *JSPI*, Vol. 174, 85-103.
- [34] Das, R., Banerjee, M., Nan, B and Zheng, H. (2016) – **Fast estimation of regression parameters in a broken stick model with longitudinal data.** *JASA*, (111):1132–1143.

- [35] Song, R, Banerjee, M. and Kosorok, M.R. (2016) – **Asymptotics for change point models under varying degrees of misspecification.** *Annals of Statistics*, Vol. 44, 1, 153–182.
- [36] Lin, J., Basu, S., Banerjee, M. and Michailidis, G. (2016) – **Penalized Maximum Likelihood Estimation on Multi-layered Gaussian Graphical Models.** *JMLR*, Vol. 17, 146, 1–51.
- [37] Mallik, A., Banerjee M. and Woodroffe, M.W. (2018) – **Baseline zone estimation in two dimensions with replicated measurements under a convexity constraint.** *Statistica Sinica*, Vol. 28, 1481-1502.
- [38] Banerjee, M., Durot, C. and Sen, B. (2019) — **Divide and Conquer in Non-standard Problems and the Super-Efficiency Phenomenon.** *Annals of Statistics*, Vol. 47, Pages 720 -757.
- [39] Lu, Z., Banerjee, M. and Michailidis, G. (2018) – **Intelligent Sampling and Inference for Multiple Change Points in Extremely Long Data Sequences.** Under revision for *Annals of Statistics*.
- [40] Zhe Fei, Zhu, J., Banerjee, M. and Li, Y. (2019) – **Inference for High-dimensional Linear Model: A Smoothed Selection-assisted Partial Regression Approach.** *Biometrics*, Vol. 75 (2), 551-561.
- [41] Banerjee, M. and Durot, C. (2019) – **Circumventing Superefficiency: an Effective Strategy For Distributed Computing in Non-Standard Problems.** *Electronic Journal of Statistics*, Number 1 (2019), 1926-1977.
- [42] Bhattacharjee, M., Banerjee, M. and Michailidis, G. (2020): **Change Point Estimation in a Dynamic Stochastic Block Model.** *JMLR*, 21(107):159, 2020.
- [43] Mallik, A., Banerjee, M. and Michailidis, G. (2020) – **M-Estimation in multistage sampling procedures.** *Sankhya A*, Vol. 82, pages 261–309.
- [44] Mukherjee, D., Banerjee, M. and Ritov, Y. (2021+) – **Optimal Linear Discriminators for the Discrete Choice Model in Growing Dimensions.** *Accepted, Annals of Statistics*.
- [45] Bhattacharjee, M., Banerjee, M. and Michailidis, G. (2019): **Change Point Estimation in Panel Data with Temporal and Cross-sectional Dependence.** To be submitted. At <https://arxiv.org/abs/1904.11101>
- [46] Eftekhari, H., Banerjee, M. and Ritov, Y. (2021): **Inference in High Dimensional Single Index Models under Symmetric Design.** *JMLR*, 22(27):163, 2021. At <https://jmlr.org/papers/v22/19-744.html>

- [47] Gao, M., Banerjee, M. and Michailidis, G. (2019): **Scalable Change Point Estimation in High Dimensional Streams through Random Sampling.** Awaiting submission.
- [48] Mukherjee, D., Banerjee, M. and Ritov, Y. (2020) – **Asymptotic normality of a linear threshold estimator in fixed dimension with near-optimal rate.** At <https://arxiv.org/abs/2001.06955> Under review.
- [49] Maity, S., Sun, Y. and Banerjee M. (2020+) – **Communication-Efficient Integrative Regression in High-Dimensions.** Under review, JMLR. At <https://arxiv.org/abs/1912.11928>.
- [50] Maity, S., Sun, Y. and Banerjee M. (2020+) – **Minimax Optimal Approaches to the Label Shift Problem.** Under review, JMLR. At <https://arxiv.org/abs/2003.10443>.
- [51] Mukherjee, D., Yurochkin, M., Banerjee, M. and Sun, Y. (2020) – **Two Simple Ways To Learn Individual Fair Metrics From Data.** ICML Proceedings, 2020. At <https://arxiv.org/abs/2006.11439>.
- [52] Eftekhari, H., Mukherjee, D., Banerjee, M. and Ritov, Y. (2020+) – **Markovian And Non-Markovian Processes with Active Decision Making Strategies For Addressing The COVID-19 Pandemic.** Under review, *International Journal of Biostatistics*. At <https://arxiv.org/abs/2008.00375>
- [53] Banerjee, M. (2020) – Discussion of **Detecting possibly frequent change-points: Wild Binary Segmentation 2 and steepest-drop model selection** by Piotr Fryzlewicz. *Journal of the Korean Statistical Society*. Volume 49, pages 1071–1075.
- [54] Patra, R., Banerjee M., and Michailidis, G. (2020+) – **A semi-parametric model for target localization in distributed systems.** Under revision, *JASA*. At <https://arxiv.org/abs/2012.02025>.
- [55] Eftekhari, H., Banerjee, M. and Ritov, Y. (2021+) –**Design of c-Optimal Experiments for High-dimensional Linear Models.** Accepted, *Bernoulli*. At <https://arxiv.org/abs/2010.12580>.
- [56] Mukherjee, D., Banerjee, M. and Ritov, Y. (2021+) –**Regression Discontinuity Designs: Estimating the Treatment Effect With Standard Parametric Rate.** Under review, *Annals of Statistics*. At <https://arxiv.org/abs/2105.11591>
- [57] Mukherjee, D., Banerjee, M. and Ritov, Y. (2021+) –**On robust learning in the canonical change point problem under heavy tailed errors in finite and growing dimensions.** To appear in *EJS*. At <https://arxiv.org/abs/2102>

[58] Maity, S., Dutta, D., Terhorst, J., Sun, Y. and Banerjee M. (2021+) – **A linear adjustment based approach to posterior drift in transfer learning**. Under review, *JASA*. At <https://arxiv.org/abs/2111.10841>

Books:

M. Banerjee, F. Bunea, J. Huang, V. Koltchinskii and M.H. Maathuis (Eds) (2013). **From Probability to Statistics and Back: High-Dimensional Models and Processes - A Festschrift in Honor of Jon A. Wellner**. IMS Collections, Volume 9. ISBN: 978-0-940600-83-6.

Lightly Refereed Publications:

[a] Richardson, T., Bailer, H. and Banerjee, M. (1999): **Specification searches using MAG models**. Proceedings, ISI Conference, Helsinki, 1999.

[b] Richardson, T., Bailer, H. and Banerjee, M. (1999): **Tractable structure search in the presence of latent variables**. In Proceedings of Artificial Intelligence and Statistics '99 (D. Heckerman and J. Whittaker, eds.), Morgan Kaufmann, San Francisco, CA, pp.142-151.

[c] Yudovina, E., Banerjee, M., and Michailidis, G. (2015). **Changepoint inference for Erdos–Renyi random graphs**. In Stochastic Models, Statistics and Their Applications, pages 197–205. Springer.

[d] Banerjee, M. and Sen, B. (2016). **A conversation with Michael Woodroffe**. *Statistical Science*, Volume 31, Number 3 (2016), 433-441.

[e] Banerjee, M. and Samworth, R. (2018). **A conversation with Jon Wellner**. *Statistical Science*, Number 4 (2018), 633-651.

Book Reviews: [1] Empirical Likelihood. By Art B. Owen. New York: CRC Press, 2001. 320 pp. *Sociological Methods & Research*, May 2003 31: 545-550.

[2] Large Sample Techniques For Statistics. By Jiming Jiang. Springer, 2010. In *JASA Book Reviews*.

Ph.D. students

Bodhisattva Sen, joint with Michael Woodroffe, (2008).

Thesis: A Study of Bootstrap and Likelihood Based Methods in Non-standard Problems.

Professor of Statistics, Columbia University, New York City.

Jayanta Kumar Pal, joint with Michael Woodroffe, (2006).

Thesis: Statistical Analysis and Inference in Shape Restricted Problems with

Applications to Astronomy.
Senior Data Scientist at Zendrive.

Yan Lan, joint with George Michailidis, (2007).
Thesis: Topics on Change Point Estimation under Adaptive Sampling Procedures.
Currently employed at Bank of America.

Runlong Tang, joint with George Michailidis, (2011).
Thesis: Adaptive and Multistage Procedures for Inference on Monotone Regression Functions in Designed Studies and Observed Data Settings.

Atul Mallik, joint with Michael Woodroffe, (2013).
Thesis: Topics on threshold estimation, multistage methods and random fields.
Google.

Nirupam Chakrabarty, joint with George Michailidis, (2014).
Thesis: Semiparametric estimation of target location in wireless sensor networks.
Wells Fargo.

Pramita Bagchi, joint with Stilian Stoev, (2015).
Thesis: Non-standard statistical inference under short and long range dependence.
Assistant Professor, George Mason University.

Ritabrata Das (Biostatistics Dept.), joint with Bin Nan, (2015).
Thesis: Efficient inferential methods in regression models with change points or high-dimensional covariates.
Bank of America.

Jiahe Lin, joint with George Michailidis, (2018).
Thesis: Modeling and Estimating Multi-block Interactions for High-dimensional Stationary Time Series.
Goldman Sachs.

Zhiyuan Lu, joint with George Michailidis (2019).
Thesis: Large Data Applications to Thresholding Problems.
FDA.

Mingyuan Gao, joint with George Michailidis (2019).
Thesis: Fast and Scalable Methods for Change Point Analysis in High Dimensional Data.
Citadel Securities.

Hamid Eftekhari, joint with Ya'acov Ritov. (2021) **Thesis:**
Inference and Design in High Dimensional Linear Models.
Google.

Debarghya Mukherjee, joint with Ya'acov Ritov.

Subha Maity, joint with Yuekai Sun.

Pramit Das, joint with Yuekai Sun.

Teaching

- (i) Statistics 426 : Introduction to Theoretical Statistics for undergraduates.
- (ii) Statistics 425: Introduction to Probability.
- (iii) Statistics 412: Introduction to Probability and Statistics for Engineers.
- (iv) Statistics 510: Mathematical Statistics I, for Masters Students.
- (v) Statistics 610: First semester course of Ph.D. sequence in Statistical Theory.
- (vi) Statistics 611: Second semester course of Ph.D. sequence in Statistical Theory.
- (vii) Statistics 612: Advanced Topics in Theoretical Statistics including Measure Theory based inference.
- (viii) Statistics 710/711: Special topics course in Empirical Processes and Concentration Inequalities.
- (ix) Statistics 811: Literature Proseminar.

Grants

NSF grant, DMS-0306235 (\$105,009) from June 2003 – May 2006. (Extended till May 2007)

University of Michigan Rackham Grant (\$15,000) (2006).

NSF grant, DMS-0705288 (\$185,477) from July 2007 – June 2010.

NSF grant, DMS-1007751 (\$ 250,000) from July 2010 – June 2013. (Extended till June 2014).

NSA grant H98230-11-1-0166 (\$ 28,489 \times 2) from Dec 2010 – Dec 2012.

Associate Professor Grant (Sokol Faculty Award) (\$ 84,099) from University of Michigan, July 2011 – June 2013.

NSF grant DMS-1308890 (\$ 115,000) from September 2013 – August 2016.

NSF grant DMS-1712962 (\$350,000) [joint with Ya'acov Ritov] from July 2017 – June 2020.

NSF grant DMS-1916271 (\$180,000) [joint with Yuekai Sun] from September 2019 – August 2022.

Special COVID-19 Propelling Original Data Science (PODS) Grants Awards, 2020 (\$30,000). Joint with Ya'acov Ritov. May 2020 – December 2020.

NSF Grant ATD 2027737 (\$330,000) [joint with Yuekai Sun].

NSF grant DMS-2113364 (\$400,000) [joint with Ya'acov Ritov].

NSF grant DMS-2113373 (\$150,000) [joint with Yuekai Sun].

Professional Activities and Service

(a) Editorial Work:

Incoming Editor *Statistical Science*, 2023-2025

Associate Editor, *Annals of Statistics*, 2010–2012, 2016–

Associate Editor, *Bernoulli*, 2021–

Member of Editorial Board, *Journal of the American Statistical Association*, 2014–2020.

Associate Editor, *Electronic Journal of Statistics*, 2013–.

Associate Editor, *Sankhya, Ser. A*, 2008–

Member of the Editorial Board, *International Journal of Biostatistics*, 2006–

Member of editorial board for IMS collections volume ‘From Probability to Statistics and Back: High Dimensional Models and Processes. A Festschrift in Honor of Jon Wellner’.

Guest Editor, for Special Volume on ‘Application of concentration inequalities and empirical processes to modern statistics’ for *Sankhya*.

(b) Membership in Societies and Committees:

Member of IMS (Institute of Mathematical Statistics), ASA (American Statistical Association) and Lifetime Member of IISA (International Indian Statistical Association).

Member of IMS-APRM scientific program committee from 2010–2014.

Member of charting committee of ISNPS (International Society for Nonparametric Statistics).

Member of Scientific Program Committee for IISA meetings, Chennai 2013.

Member of Young Investigator Awards committee for IISA meetings, Chennai 2013.

Chair of Young Investigator Awards committee for IISA meetings, Riverside 2014.

Chair of Student Paper Competition for IISA meetings, Riverside, 2014.

Member of the International Program Committee for IISA meetings, Pune, 2015.

Member of JSM 2016 Program Committee, IISA representative.

Representative of IISA at the 2016 ICSA meeting in China.

Member of Scientific Program Committee, IISA meetings, Hyderabad, 2017.

(c) Refereeing and Reviewing:

Referee for Annals of Statistics, JASA, Bernoulli, Biometrika, JCGS, JRSS-B, Biostatistics, Computational Statistics and Data Analysis, International Journal of Biostatistics, Journal of Nonparametric Statistics, Journal of Statistical Computation and Simulation, Journal of Statistical Planning and Inference, Statistics and Probability Letters, ESAIM – Probability and Statistics, Technometrics.

(d) Other service to the profession:

Has served multiple times as NSF panel member for the Statistics Program under DMS. Has reviewed multiple grants for NSA and NSERC (Canada).

(e) Departmental Service:

Faculty Hiring Committee, Qualifying Review Committee, Seminar Committee, Graduate Admissions Committee, Undergraduate Program Advisory Committee, Financial Engineering Committee, Co-chair of the Statistics Undergraduate Honors Program, Woodroffe Committee (Chair), Admissions Committee for Financial Engineering, Theoretical Committee for the Graduate Program, Library Committee, Departmental Seminar Committee, Applied Masters in Statistics Program Advisor.

Conferences and Talks

(a) Conference Organization:

Joint Statistical Meetings, 2002. New York City, NY, USA. August 11 – August 15, 2002. *Session Organizer* of Topic Contributed Session on “Inference for Censored Data Models”. *Chair* of Contributed Session on “Topics in Nonparametrics, Bootstrap, Models with Nuisance Parameters”.

Joint Statistical Meetings, 2005. Minneapolis, MN, USA. August 7 – August 11, 2005. *Session Organizer* of Topic Contributed Session on “Nonparametric Function Estimation”.

ENAR Meetings, 2006. Tampa, FL, USA. March 26 – March 29, 2006. *Session Organizer* of Invited Session on “Nonstandard Maximum Likelihood Inference”.

Joint Statistical Meetings, 2006. Seattle, WA, USA. August 7 – August 11, 2005. *Session Organizer and Discussant* of Topic Contributed Session on “Topics in Function Estimation Using Isotonization and Smoothing Techniques”.

WNAR Meetings, 2007. UC Irvine Campus, CA, USA. June 24 – June 27, 2007. *Session Organizer* of Invited Session on “Empirical Processes Theory and its Applications”.

Joint Statistical Meetings, 2007. Salt Lake City, Utah, USA. July 29 – Aug 2, 2007. *Session Organizer* of Invited Session on “Threshold Estimation for Functions in Nonparametric and Semiparametric Problems.”

International Society of Business and Industrial Statistics, 2008. Prague, Czech Republic. July 1 – July 4, 2008. *Invited Session Organizer*.

IMS Pacific Rim Conference, 2009. Seoul, Korea, June 28 – July 1, 2009. *Session Organizer* of Invited Session on ‘Recent developments in resampling methods and inference’.

JSM 2009, Washington DC. August 1 – 6, 2009. *Session Organizer* of invited IMS session on ‘Threshold Estimation’.

From Probability to Statistics and Back: High Dimensional Models and Processes, Seattle, WA, July 28–30, 2010. Member of Conference Organizing Committee.

JSM 2010, Vancouver, British Columbia, Canada. July 31 – August 5, 2010. *Session Organizer* of invited session on ‘Topics in Nonstandard Asymptotics’.

ICPSDA-2011, Raleigh, NC, April 21 – 24, 2011. *Session Organizer* of invited session on ‘Recent advances in threshold estimation problems’.

ISNPS (International Society for Nonparametric Statistics conference)-2012, Greece, June 2012. *Session Organizer* of invited session.

IISA conference, January 2013 in Chennai, India. Organizer of invited session.

JSM 2013, Montreal, British Columbia, Canada. *Session Organizer* of invited session on ‘Signal identification in high-dimensional settings’.

ISNPS (International Society for Nonparametric Statistics conference), Cadiz, June 2014. *Session Organizer* of invited session.

IISA conference, July 2014 in Riverside, CA, USA. Organizer of invited session.

IISA conference, December 2015 in Pune, India. Organizer of invited session.

CFE-CMStatistics Conference, December 2015, London, UK. Organizer of invited session.

ISNPS conference, Avignon, France, June 2016. Organizer of invited session.

JSM, Chicago, July 2016. Organizer of invited session.

CFE-CMStatistics Conference, December 2016, Seville, Spain. Organizer of invited session.

IISC meetings, December 2016. Shanghai, China. Organizer of invited session.

CFE-CMStatistics Conference, December 2017, London, England. Organizer of invited session.

ISNPS conference, Salerno, Italy, June 2018. Organizer of invited session.

(b) Presentations at Conferences and Workshops:

Workshop on Inverse Problems in Statistics. EURANDOM, Eindhoven, The Netherlands. January 25-27, 2001. Invited Speaker.

International Conference on Current Advances and Trends in Nonparametric Statistics. Crete, Greece. July 15-19, 2002. Invited Speaker in session on “Hypothesis Testing with applications in Biostatistics”

IMS Annual Meeting, 2002. Banff, Canada. July 28 - July 31, 2002. Invited Speaker in session on “Likelihood ratio inference in regular and nonregular problems”.

Joint Statistical Meetings, 2002. New York City, NY, USA. August 11 - August 15, 2002. Speaker in Topic Contributed Session on “Inference for Censored Data Models”.

AMS Sectional Meeting, Nov 9–10, 2002. University of Central Florida, Orlando, USA. Invited Speaker in Special Session on “The Likelihood Inferences in Statistics.”

Summer Workshop Instructor at Torgnon, Italy, Jun 30 – Jul 19, 2003 on *Empirical Processes: Theory and Applications*, with Professor Jon A. Wellner. Organized by Bocconi University, Italy.

WNAR Meetings, 2004. Albuquerque, NM, June 27 - June 30, 2004. Speaker in Invited Session on “Interval Censored Data: Theory and Methods.”

Invited Participant in the RIP (Research in Pairs) program. Mathematisches Forschungsinstitut, Oberwolfach, Germany. 14th March, 2005 – 1st April, 2005. (Shape-Constrained Estimation and Testing and Related Inverse Problems.)

Joint Statistical Meetings, 2005. Minneapolis, MN, USA. August 7 - August 11, 2005. Speaker in Topic Contributed Session on “Nonparametric Function Estimation”.

A Conference on Nonparametric Inference and Probability with Applications to Science: Honoring Michael Woodroffe’s Career and 65th Birthday, 24–25th Sep., 2005, Ann Arbor, MI. Invited Speaker.

ENAR Meetings, 2006. Tampa, FL. March 26 - March 29, 2006. Speaker in Invited Session on “Nonstandard Maximum Likelihood Inference”.

IMS Annual Meetings, 2006. Rio De Janeiro, Brazil. July 30 – August 4, 2006. Speaker in Invited Session on “Inverse Problems, Deconvolutions and Applications”.

Conference on “Qualitative Assumptions and Regularization in High-Dimensional Statistics”. Mathematisches Forschungsinstitut Oberwolfach (Germany), November 5 – November 11, 2006. Invited Participant.

S.N. Roy Memorial Conference. Calcutta, India. December 28 – December 29, 2006. Invited Speaker.

IISA Joint Statistical Meeting and International Conference on Statistics, Probability and Related Areas. Cochin, India. January 2-5, 2007. Invited Speaker.

Joint Statistical Meetings, 2007. Salt Lake City, Utah, USA. July 29 – Aug 2, 2007. *Discussant* of Invited Session on “Threshold Estimation for Functions in Nonparametric and Semiparametric Problems.”

International Conference on Statistical Paradigms: Recent Advances and Reconciliations, January 2008. ISI, Kolkata. Invited Speaker.

International Society of Business and Industrial Statistics, 2008. Prague, Czech Republic. July 1 – July 4, 2008. *Invited Speaker.*

Symposium on New Directions in Asymptotic Statistics, University of Georgia, Athens, GA. May 15 and 16, 2009. *Invited Speaker*.

IMS Pacific Rim Conference. Seoul, Korea, June 28 – July 1, 2009. Invited Speaker in ‘Session on Interval Censored Data’.

JSM 2009. Washington DC. Aug 1 – Aug 6, 2009. Invited Speaker in session on ‘Recent Advances in Nonparametric Methods for Interval Censored Data’.

ICSA Applied Statistics Symposium, 2010, Indianapolis, IN. June 20 – 23, 2010. Invited Speaker in session on ‘Recent Advances in Semiparametric Inference’.

JSM 2010. Vancouver, British Columbia. July, 31 – Aug 5, 2010. Invited Speaker in session on ‘Topics in Nonstandard Asymptotics’.

The First International Conference on Theory and Application of Statistics, 2010. Dhaka, Bangladesh, 26-28 December 2010. Invited Speaker. (Trip cancelled due to unforeseen circumstances)

ICPSDA-2011, Raleigh, NC, April 21 – 24, 2011. Speaker in invited session on ‘Recent advances in threshold estimation problems’.

Graybill 2011 conference on Modern Nonparametric Methods, Fort Collins, CO, June 23-24. Invited speaker.

ICSA Applied Statistics Symposium, 2011, New York City, NY. June 26 – 29, 2011. Invited Speaker in session on ‘Non/semi parametric models for complex data’. (Atul Mallik, my student, presented on my behalf)

Korean Statistical Society, 40th anniversary conference. Busan, Korea. July 1–2, 2011. Invited speaker. (Trip cancelled due to unforeseen circumstances)

IMS China Meeting, 2013, Chengdu, China. June 30 – July 3, 2013. Invited Speaker.

Statistics 2013, International Conference, Hyderabad, India. December 28 – 31, 2013. Invited Speaker.

IMS-APRM Meetings, 2014, Taipei, Taiwan. June 30 – July 3, 2014. Invited Speaker.

ISNPS (International Society for Nonparametric Statistics conference), Cadiz, June 2014. Invited Speaker.

IISA (Indian International Statistical Association) Conference, Riverside, CA. July 2014. Invited Speaker.

International Conference of Robust Rank-Based and Nonparametric Methods, Western Michigan University, Kalamazoo, MI. April 2015. Invited Speaker.

Workshop on ‘Shape Constrained Inference: Open Problems and New Directions’, Lorentz Center, Leiden, NL. Oct 5th – Oct 9th, 2015. Plenary Speaker.

ISNPS (International Society for Nonparametric Statistics conference), Avignon, June 2016. Invited Speaker.

JSM, Chicago, 2016. Discussant in Invited Session.

Nonparametrics Worskshop, Ann Arbor, Ann Arbor, MI. October 2016. Invited Speaker.

JSM, Baltimore, 2017. Invited Speaker.

IISA Conference, Hyderabad, India. December, 2017. Special Invited Lecture.

UF Statistics Annual Winter Workshop Gainesville, Florida. January 2018. Invited Speaker.

ISNPS conference, Salerno, Italy. June 2018. Invited Speaker.

Large Scale Data Analysis Workshop, ICMS, Edinburgh, UK. July 2018. Invited Speaker.

JSM 2018, Vancouver, Canada. July-August 2018. Invited Speaker.

AMS Sectional Meeting, at University of California, Riverside (UCR): Special Section on Data Science. Nov 9-10, 2019. Invited Speaker.

IISA annual meetings 2019, Mumbai, India. Dec 26-30. Invited Speaker.

JSM 2021, virtual conference, Invited Speaker.

CFE-CMStatistics Conference, 2021 (hybrid), Invited Speaker.

(c) Departmental Seminars:

Dept. of Statistics, Rutgers University, Piscataway, NJ. 3rd April, 2002.

Dept. of Statistics, University of Georgia, Athens, GA. 13th March, 2003.

Dept. of Biostatistics, Univ. of Michigan, Ann Arbor, MI. 13th Nov, 2003.

Dept. of Statistics, Univ. of Chicago, Chicago, IL. 17th Nov, 2003.

Dept. of Statistics, Stanford University, CA. 22nd Feb, 2005.
 EURANDOM, Eindhoven, The Netherlands. 5th April, 2005.
 Stat–Math Unit, Indian Statistical Institute, Kolkata, India. 18th July, 2005.
 Dept. of Biostatistics, Columbia University. 20th October, 2005.
 AT&T Labs – Research, Florham Park, NJ. 21st October, 2005.
 Dept. of Biostatistics, Univ. of Minnesota, Minneapolis, MN. 25th Oct, 2006.
 Dept. of Statistics, North Carolina State University. 16th Mar, 2007.
 Stat–Math Unit, Indian Statistical Institute, Kolkata, India. 25th June, 2007.
 Dept. of Statistics, Ohio State University. 3rd May, 2007.
 Dept. of Statistics, Michigan State University. 16th October, 2007.
 Joint Statistics Seminar, McGill, Universite’ de Montre’al, UQAM and Concordia.
 23rd November, 2007.
 Dept. of Biostatistics, UNC Chapel Hill. 27th February, 2008.
 Dept. of Mathematics, ETH Zurich, Switzerland. 30th June, 2008.
 Dept. of Mathematics, IISC, Bangalore, India. 12th and 13th August, 2008.
 Dept. of Statistics, Penn State University, State College, PA. 23rd October, 2008.
 B.I.R.U Seminar, ISI Kolkata, 7th January, 2009.
 Dept. of Statistics, Purdue University, IN. 23rd April, 2009.
 Dept. of Statistics, Western Michigan University, MI. 22nd Jan, 2010.
 Dept. of Statistics, Columbia University, NYC. 1st March, 2010.
 Dept. of Statistics, Colorado State University, CO. 28th March, 2011.
 Dept. of Statistics, University of Chicago, Chicago IL. 23^d May, 2011.
 (Postponed)
 Invited Seminar at Stat-Math Unit, ISI Kolkata, 22nd August, 2011.
 Invited Statistics Seminar at University of Bern, 30th Sept, 2011.
 Invited Seminar at Applied Statistics Unit, ISI Kolkata, 21st February, 2012.

Invited Seminar at Indian Statistical Institute, Chennai, 5th March, 2012.

Invited Seminar at Center for Mathematical Sciences, University of Cambridge, 1st June, 2012.

Invited Seminar at Stat-Math Unit, Indian Statistical Institute, Kolkata, 3rd Jan, 2013.

Invited Seminar at Temple University, Philadelphia, Feb 22nd, 2013.

Invited Seminar at Indian Statistical Unit, Kolkata. July 15th, 2013.

Invited Seminar at Purdue University, West Lafayette, IN. October 3rd, 2013.

Invited Seminar at Indian Statistical Unit, Kolkata. June 23rd, 2014.

Invited Seminar at Indian Statistical Unit, Kolkata. Jan 5, 2015.

Invited Seminar at University of Florida, Gainesville, Jan 29, 2015.

Invited Seminar at University of Minnesota, MN. Feb 19, 2015.

Invited Seminar at Indian Statistical Institute, Kolkata, September 1, 2015.

Invited Seminar at North Carolina State University, Raleigh, November 12, 2015.

Invited Seminar at University of Paris, Nanterre, France. June 23, 2016.

Invited Seminar at Purdue University (Department of Economics), West Lafayette, September 23, 2016.

Invited Seminar at Indian Statistical Institute, Kolkata, July 17, 2017.

Invited Seminar at Cornell University, Ithaca, NY. November 28, 2018.

Invited Seminar at London School of Economics, London UK. June 5, 2019.

Invited Seminar at Statistical Laboratory, University of Cambridge, Cambridge UK. June 7, 2019.

Invited Seminar at Department of Statistics and Data Science, Yale University, New Haven, CT. Nov 18, 2019.

Invited Seminar at Department of Statistics, University of Connecticut, Storrs, CT. Nov 20, 2019.

Invited Seminar at Department of Statistics, Purdue University, West Lafayette, IN. Feb 7, 2020.

Invited Seminar at Department of Statistics, Rutgers University, NJ. Nov 10, 2021.