Antik Chakraborty

CONTACT INFORMATION	Department of Statistics Purdue University 150 N. University St West Lafayette, IN 47907	*Phone*: (979) 900-0861 *Website*: antik015.github.io *Email*: antik015@purdue.edu antikchakraborty89@gmail.com Google Scholar profile

RESEARCH INTERESTS

Scalable Bayes, Bayesian nonparametrics, Variable selection, Binary/Count data, Shrinkage priors, High-dimensional data, Ecological applications.

PROFESSIONAL EXPERIENCE

Assistant Professor (Tenure track), Department of Statistics, Purdue University, West Lafayette, Indiana, USA **from August 2021**

Postdoctoral associate, Department of Statistical Science, Duke University, Durham, North Carolina, USA **August 2018 - July 2021**

- Mentor: Prof. David Dunson

EDUCATION

Texas A&M University

Ph.D., Statistics, August, 2018
- Dissertation Topic: Bayesian shrinkage: Computation, Methods and Theory
- Adviser: Dr. Bani K. Mallick
- Co-adviser: Dr. Anirban Bhattacharya

University of Calcutta

Master of Statistics, May 2012
- First Division
- Specialization: Biostatistics

PUBLICATIONS/ PREPRINTS

Chakraborty, A., Ou, R., Ovaskainen, O., Dunson, D. B. (2020+) *Bayesian inference on high-dimensional multivariate binary data (Submitted)* [arxiv]

Chattopadhyay, S., **Chakraborty, A.**, Dunson, D. B. (2021+) *Nearest neighbor Dirichlet process. (Submitted)* [arxiv]

Chakraborty, A., Ovaskainen, O., Dunson, D. B. (2021) *Bayesian semiparametric long memory models for discretized event data. Annals of Applied Statistics* (To appear), [arxiv]

Chakraborty, A., Bhattacharya, A., Mallick, B. K. (2020). *Bayesian sparse multiple regression for simultaneous rank reduction and variable selection. Biometrika* 107 (1), 205-221[arxiv]

Jain, P., **Chakraborty, A.**, Pistikopoulos, E., Sam Mannan, M. (2018). *Resilience-Based Process Upset Event Prediction Analysis for Uncertainty Management Using Bayesian Deep Learning: Application to a Polyvinyl Chloride Process.* [Link]

Sarkar, A., Pati, D., **Chakraborty, A.**, Mallick, B. K., and Carroll, R. J. (2018). *Bayesian semiparametric multivariate density deconvolution. Journal of American Statistical Association* 113 (521) 401-416 [arxiv]

Bhattacharya,A. , **Chakraborty, A.**, Mallick, B.K. (2016). *Fast sampling with Gaussian scale-mixture priors in high dimensional regression.* Biometrika 104, 985-991 [arxiv]

WORKS IN PROGRESS	**Chakraborty, A.**, Ovaskainen, O., Dunson, D. B. (2021+) *Self-similar models for bird vocalization*

Chakraborty, A., Walsh, J., Bhattacharya, A., Stigari, L., Mallick, K, B. (2021+) *Statistical emulators for Schwarzschild's model*

SOFTWARE
- R package `horseshoe`: Implementation of the Horseshoe prior. Joint with van der Pas, S.L., Scott J.G., Bhattacharya A. [link]
- Github profile: https://github.com/antik015.

AWARDS

NSF Junior Travel Award for ISBA 2016.

Emanuel Parzen Graduate Research Fellowship 2017, Department of Statistics, Texas A&M University.

IISA, 2017 student paper competition finalist. (*Theory and Methods*).

TEACHING EXPERIENCE

Course Instructor
- Fall 2021, STAT 511 at Purdue University.
- Spring 2021, STA 101 at Duke University.
- Summer II 2016, STAT 302 at Texas A&M University.

Guest Instructor
- **STAT 633**, Spring 2018.

  Taught a mini course on Bayesian asymptotics to PhD students enrolled in the Advanced Bayesian methods course offered by Prof. Bani K. Mallick. An introductory course covering topics ranging from posterior consistency to posterior contraction and required mathematical tools to apply in different statistical problems of practical interest.

RESEARCH EXPERIENCE
- *Applications of Semi-Supervised clustering* (December 2012 - June 2013).
- Project Superviser: Dr. B. Umashankar, Machine Inteligence Unit, Indian Statistical Institute, Kolkata.

PROFESSIONAL ACTIVITY
- Served as reviewer for *Journal of Computational and Graphical Statistics*, *Sankhya A*, *Chemometrics and Intelligent Laboratory Systems*,*Journal of American Statistical Association (Theory & Methods)*, *FEMS Microbiology Ecology*
- Session chair, Joint Statistical Meetings 2020

TECHNICAL SKILLS

Programming	R, MATLAB, Rcpp
Applications	LATEX, Microsoft Office

CONTRIBUTED TALKS & POSTERS

Fast Sampling of Gaussian Posteriors in Shrinkage Prior Settings, SETCASA statistics Poster Session, College Station, Texas , USA, October 2015.

Fast Sampling of Gaussian Scale-Mixture Priors and Applications, ISBA 2016 poster Session, Cagliari, Italy, June 2016.

Bayesian sparse reduced rank regression for simultaneous dimension reduction and variable selection, JSM 2017 Baltimore, USA, July-August 2017.

INVITED TALKS

- Bayesian sparse reduced rank regression for simultaneous dimension reduction and variable selection, JSM 2020 USA (virtual), August 2020.
- Statistical models for studying biodiversity: challenges and contributions, Emory University, Atlanta, GA, January 2021.
- Statistical models for studying biodiversity: challenges and contributions, University of Waterloo, Waterloo, Ontario, Canada, January 2021.
- Bayesian inference and computation for high-dimensional complex data, Purdue University, West Lafayette, IN, January 2021.
- Statistical models for studying biodiversity: challenges and contributions, King Abdullah University of Science and technology, Thuwal, Saudi Arabia, February 2021.
- Bayesian inference and computation for high-dimensional complex data, University of Georgia, Athens, GA, February 2021.

REFERENCES

Dr. Bani K. Mallick
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Dr. Anirban Bhattacharya
Associate Professor
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