

## Arijit Chakrabarty

3.15 Kolmogorov Bhavan  
Theoretical Statistics and Mathematics Unit  
Indian Statistical Institute  
203 B. T. Road  
Kolkata 700108, India  
arijit.isi@gmail.com

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### Personal Details

Date of Birth: March 14, 1982  
Citizenship: Indian

### Education

CORNELL UNIVERSITY. Ph. D. 2010  
Concentration: Applied Probability and Statistics  
Adviser: Dr. Gennady Samorodnitsky

CORNELL UNIVERSITY. M.S. 2008  
Concentration: Applied Probability and Statistics

INDIAN STATISTICAL INSTITUTE. M. Stat. 2005  
Area of specialization: Advanced Probability  
First Division with Distinction

INDIAN STATISTICAL INSTITUTE. B. Stat. (Hons.) 2003  
First Division with Distinction

### Employment

INDIAN STATISTICAL INSTITUTE, KOLKATA.  
Associate Professor, April 2018 - present.

INDIAN STATISTICAL INSTITUTE, KOLKATA.  
Assistant Professor, December 2016 - March 2018.

INDIAN STATISTICAL INSTITUTE, DELHI.  
Assistant Professor, September 2012 - December 2016.

### Postdoctoral Experience

- Indian Statistical Institute, Delhi.
  - INSPIRE faculty, April 2012 - August 2012
  - Visiting Assistant Professor, November 2011 - April 2012
  - Visiting faculty, June 2011- November 2011
  - NBHM Postdoctoral Fellow, January 2011 - May 2011
- Indian Institute of Science.
  - Centenary Postdoctoral Fellow, February 2010 - December 2010

**Research interests**

- Random matrix theory
- Heavy-tailed distributions
- Large deviations
- Long range dependence

**Publications**

1. A. Chakrabarty, R. S. Hazra, F. den Hollander and M. Sfragara. Large deviation principle for the maximal eigenvalue of inhomogeneous Erdős-Rényi Random Graphs. *Submitted*.
2. A. Chakrabarty, S. Chakraborty and R. S. Hazra. A Note on the Folklore of Free Independence. To appear in *Statistics and Applications*, special volume in memory of Late Alok Dey.
3. A. Chakrabarty, R. S. Hazra, F. den Hollander and M. Sfragara. Spectra of Adjacency and Laplacian Matrices of Inhomogeneous Erdős-Rényi Random Graphs. *Random Matrices: Theory and Applications* (2021) 10: 2150009.
4. A. Chakrabarty, S. Chakraborty and R. S. Hazra. Eigenvalues outside the bulk of inhomogeneous Erdős-Rényi random graphs. *Journal of Statistical Physics* (2020) 181: 1746-1780.
5. A. Chakrabarty, S. Chakraborty and R. S. Hazra. Regular variation and free regular infinitely divisible laws. *Statistics and Probability Letters* (2020) 156: 108607.
6. Z. Wu, A. Chakrabarty and G. Samorodnitsky. High minima of non-smooth Gaussian processes. *Electronic Communications in Probability* (2019) 24: 53.
7. A. Chakrabarty and G. Samorodnitsky. Asymptotic behaviour of high Gaussian minima. *Stochastic Processes and their Applications*. (2018) 128: 2297-2324.
8. A. Chakrabarty. Large deviations for truncated heavy-tailed random variables: a boundary case. *Indian Journal of Pure and Applied Mathematics*, special issue in honor of Prof. B. V. Rao (2017) 48: 671-703.
9. A. Chakrabarty. The Hadamard product and the free convolutions. *Statistics and Probability Letters* (2017) 127: 150-157.
10. A. Chakrabarty, R. S. Hazra and D. Sarkar. From random matrices to long range dependence. *Random Matrices: Theory and Applications* (2016) 5: 1650008.
11. A. Chakrabarty and R. S. Hazra. Remarks on absolute continuity in the context of free probability and random matrices. *Proceedings of the American Mathematical Society* (2016) 144: 1335-1441.
12. A. Chakrabarty, R. S. Hazra and D. Sarkar. Limiting spectral distribution for Wigner matrices with dependent entries. *Acta Physica Polonica B* (2015) 46: 1637-1652.
13. A. Chakrabarty and P. Roy. Group theoretic dimension of stationary symmetric  $\alpha$ -stable random fields. *Journal of Theoretical Probability* (2013) 26: 240-258.

14. A. Chakrabarty and X. Guo. Optimal stopping times with different information levels and with time uncertainty. *Stochastic analysis and applications to finance* (2012) 19-38.
15. A. Chakrabarty. Effect of truncation on large deviations for heavy-tailed random vectors. *Stochastic Processes and their Applications* (2012) 122: 623-653.
16. A. Chakrabarty and G. Samorodnitsky. Understanding heavy tails in a bounded world or, is a truncated heavy tail heavy or not? *Stochastic Models* (2012) 28: 109-143.
17. A. Chakrabarty. Asymptotic normality of Hill estimator for truncated data. *Electronic Journal of Probability* (2011) 16: 2039-2058.
18. A. Chakrabarty and M. M. Meerschaert. Tempered stable laws as random walk limits. *Statistics and Probability Letters* (2011) 81: 989-997.
19. A. Chakrabarty. Central Limit Theorem for truncated heavy tailed Banach valued random vectors. *Electronic Communications in Probability* (2010) 15: 346-364.

## Honors

- Mathematical Research Impact Centric Support**, Science and Engineering Research Board, Department of Science and Technology, the Government of India 2018
- INSPIRE faculty award**, Department of Science and Technology, the Government of India, and the Indian National Science Academy 2012
- Postdoctoral Fellowship**, National Board of Higher Mathematics 2011
- Centenary Postdoctoral Fellowship**, Indian Institute of Science 2010
- Liu Memorial Award**, Graduate School of Cornell University 2008
- Sigma Xi Award**, Cornell Chapter of Sigma Xi 2007
- McMullen fellowship**, School of Operations Research and Information Engineering, Cornell University 2005–2006
- Indian Statistical Institute Alumni Association Award** for outstanding performance in the B. Stat program of Indian Statistical Institute 2003

## Grants

- INSPIRE, Department of Science and Technology, the Government of India.
- MATRICS, Science and Engineering Research Board, Department of Science and Technology, the Government of India.

## **Professional Experience**

- Served as a referee for the following journals:
  - Annales de l'Institut Henri Poincaré (B),
  - Annals of Statistics,
  - Australian and New Zealand Journal of Statistics,
  - Extremes,
  - Indian Journal of Pure and Applied Mathematics,
  - Journal of Statistical Planning and Inference,
  - Probability Theory and Related Fields,
  - Proceedings — Mathematical Sciences,
  - Sankhya,
  - Statistics and Probability Letters,
  - Statistics and Applications,
  - Stochastic Processes and their Applications,
  - The R Journal.
- Served on the organizing committee of a Workshop on Heavy-tailed Distributions and Extreme Value Theory, held in January 2013.
- An organizer of the Lectures on Probability and Stochastic Processes, 2015 – 2019.
- A local organizer of an International Conference in Statistics and Probability, held in January 2018, to commemorate the 125-th birth anniversary of Prasanta Chandra Mahalanobis.
- A local organizer of the ISI-NETWORKS conference in probability, held in January - February 2018.
- A speaker in the Advanced Instructional School on Stochastic Processes, held in School of Mathematical Sciences, NISER - Bhubaneswar, June-July 2018 and June-July 2019.