

# Sagnik Nandy

## Curriculum Vitae

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🌐 Sagnik Nandy

### Education

- 2019–present **PhD in Statistics**, *University of Pennsylvania*, Philadelphia, USA.  
○ Advised by Zongming Ma and Bhaswar B. Bhattacharya.
- 2017–2019 **Master of Statistics**, *Indian Statistical Institute*, Kolkata, India.  
○ Specialization: Theoretical Statistics.  
○ First Division with Distinction.
- 2014–2017 **Bachelor of Statistics (Hons.)**, *Indian Statistical Institute*, Kolkata, India.  
○ First Division with Distinction

### Research Interest

- High-Dimensional Statistics
- Graphical models
- Non-Parametric Statistics
- Single-cell Genomics
- Random Matrix Theory

### Publications

- 2023 **Community Detection With Contextual Multilayer Networks.**  
Zongming Ma, Sagnik Nandy  
*IEEE Transactions on Information Theory* 69.5 (2023) pp. 3203–3239. 2023
- 2023 **Exact Detection Thresholds for Chatterjee's Correlation.**  
Arnab Auddy, Nabarun Deb, Sagnik Nandy  
*Accepted in Bernoulli* (2023)
- 2023+ **Degree Heterogeneity in Higher-Order Networks: Inference in the Hypergraph  $\beta$ -Model.**  
Sagnik Nandy, Bhaswar B. Bhattacharya  
*Under review in IEEE Transactions on Information Theory*
- 2023+ **Bayes optimal learning in high-dimensional linear regression with network side information.**  
Sagnik Nandy, Subhabrata Sen  
*Under review in IEEE Transactions on Information Theory*

2022+ **Clustering Network Vertices in Sparse Contextual Multilayer Networks.**  
Anirban Chatterjee, Sagnik Nandy, Ritwik Sadhu  
*Under review in Information and Inference: A journal of IMA*

## Talks, Conferences and Workshops

- August, 2023 **Invited Talk**, *Joint Statistical Meeting*, Toronto, Canada.  
Title: Community Detection with Contextual Multilayer Networks
- July, 2023 **Invited Talk**, *Stat-Math Seminar, ISI Delhi*, Delhi, India.  
Title: Orchestrated Approximate Message Passing: A New Way Of Information Integration From Multimodal Data
- July, 2023 **Invited Talk**, *Department of Computer Science and Engineering Seminar, IIT Delhi*, Delhi, India.  
Title: Orchestrated Approximate Message Passing: A New Way Of Information Integration From Multimodal Data
- January, 2023 **Invited Talk**, *Applied Statistics Unit Seminar, ISI Kolkata*, Kolkata, India.  
Title: Orchestrated AMP in Network-Constrained Regression
- June, 2022 **Contributed Talk**, *IMS Annual Meeting*, London, UK.  
Title: Community Detection with Contextual Multilayer Networks
- September, 2021 **Invited Talk**, *Stat-Math Seminar, ISI Kolkata*, Kolkata, India.  
Title: Community Detection with Contextual Multilayer Networks

## Awards and Honors

- 2023 J. Parker Memorial Bursk Prize for Excellence in Research,  
Department of Statistics, University of Pennsylvania
- 2019 PC Mahalanobis Gold Medal for Outstanding Student in the M.Stat program,  
Indian Statistical Institute
- 2019 J.K. Ghosh Gold Medal for Topper of the M.Stat program,  
Indian Statistical Institute
- 2017 D. Basu Gold Medal for Outstanding Student in the B.Stat program,  
Indian Statistical Institute
- 2017 Ms. M. S. Iyer Memorial Gold Medal for Topper of the B.Stat program,  
Indian Statistical Institute
- 2017 Nikhilesh Bhattacharya Gold Medal for scoring Highest marks in Statistics subjects  
in the B. Stat program,  
Indian Statistical Institute
- 2014 INSPIRE scholarship,  
Department of Science and Technology, Government of India

## Teaching Experience

- Teaching assistant for Stat 431 (Undergraduate Course in Mathematical Statistics) at the University of Pennsylvania for Spring 2023, Fall 2022, and Spring 2022.
- Teaching assistant for Stat 970 (Ph.D. Level course in Mathematical Statistics) at the University of Pennsylvania for Fall 2021.

- Teaching assistant for Stat 101 (Undergraduate Introductory Course in Statistics) at the University of Pennsylvania for Fall 2020 and Spring 2021.
- Graduate Student instructor in the Undergraduate Research in Statistics and Probability program for David Kogan with Dr. Jiaoyang Huang.

## Computer skills

Software packages	R, R Studio, MATLAB
Programming Languages	Python, C

## Professional Service

2019	Organized Statistics Department Lunch Seminar
2023	Graduate student mentor for incoming first-year PhD students
2019-2023	Reviewer for Journal of American Statistical Association, Bernoulli, Journal of Machine Learning Research, Annals of Statistics.

## References

Available on request.