

# Sagnik Nandy

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## Education

### University of Pennsylvania

PhD in Statistics

- Supervised by Zongming Ma and Bhaswar B. Bhattacharya

Philadelphia, USA

Aug 2019 - Current

### Indian Statistical Institute

Master of Statistics

- Specialization: Theoretical Statistics
- First Division with Distinction

Kolkata, India

July 2018 - May 2019

### Indian Statistical Institute

Bachelor of Statistics

- First Division with Distinction

Kolkata, India

July 2014 - May 2017

## Research Interests

- High-Dimensional Statistics
- Graphical models
- Random Matrix Theory
- Fluctuations and Theory of Dependent Observations
- Single-cell Genomics

## Publications

Exact Detection Thresholds for Chatterjee's Correlation

Arnab Auddy, Nabarun Deb, Sagnik Nandy

Accepted in *Bernoulli* (2023). 2023

Community Detection With Contextual Multilayer Networks

Zongming Ma, Sagnik Nandy

*IEEE Transactions on Information Theory* 69.5 (2023) pp. 3203–3239. 2023

Degree Heterogeneity in Higher-Order Networks: Inference in the Hypergraph  $\beta$ -Model

Sagnik Nandy, Bhaswar B. Bhattacharya

2023

Bayes optimal learning in high-dimensional linear regression with network side information

Sagnik Nandy, Subhabrata Sen

2023

Clustering Network Vertices in Sparse Contextual Multilayer Networks

Anirban Chatterjee, Sagnik Nandy, Ritwik Sadhu

2022

## Talks, Conferences, and Workshops

### Joint Statistical Meeting

Invited Talk

- Title: Community Detection with Contextual Multilayer Networks

Toronto, Canada

Aug 2023

### Stat-Math Seminar, ISI Delhi

Invited Talk

- Title: Orchestrated Approximate Message Passing: A New Way Of Information Integration From Multimodal Data

Delhi, India

June 2023

## Department of Computer Science and Engineering Seminar, IIT Delhi

Delhi, India

Invited Talk

June 2023

- Title: Orchestrated Approximate Message Passing: A New Way Of Information Integration From Multimodal Data

## Applied Statistics Unit Seminar, ISI Kolkata

Kolkata, India

Invited Talk

January 2023

- Title: Orchestrated AMP in Network-Constrained Regression

## IMS Annual Meeting

London, UK

Contributed Talk

July 2022

- Title: Community Detection with Contextual Multilayer Networks

## Stat-Math Seminar, ISI Kolkata

Kolkata, India

Invited Talk

September 2021

- Title: Community Detection with Contextual Multilayer Networks

## Awards and Honors

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- P.C. Mahalanobis Gold Medal (Outstanding student in M.Stat program), Indian Statistical Institute, 2019
- J.K. Ghosh Gold Medal (Topper of M.Stat program), Indian Statistical Institute, 2019
- D. Basu Gold Medal (Outstanding student in B.Stat program), Indian Statistical Institute, 2017
- Ms. M. S. Iyer Memorial Gold Medal (Topper of B.Stat program), Indian Statistical Institute, 2017
- Nikhilesh Bhattacharya Gold Medal (Highest marks in Statistics subjects in B. Stat program), Indian Statistical Institute, 2017
- INSPIRE scholarship, Department of Science and Technology, Government of India

## Teaching Experience

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- Teaching assistant for Stat 431 (Undergraduate Course in Mathematical Statistics) at University of Pennsylvania for Spring 2023, Fall 2022 and Spring 2022.
- Teaching assistant for Stat 970 (PhD Level course in Mathematical Statistics) at University of Pennsylvania for Fall 2021.
- Teaching assistant for Stat 101 (Undergraduate Introductory Course in Statistics) at University of Pennsylvania for Fall 2020 and Spring 2021.

## Professional Service

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- Reviewer for Journal of American Statistical Association and Bernoulli.

## Technical Skills

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**Software Packages** R, RStudio, MATLAB

**Programming Languages** Python, C

## Languages

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**English** Professional proficiency

**Hindi** Professional proficiency

**Bengali** Native proficiency

**References available upon request.**