

# SUBHAJIT GHOSH

## Postdoctoral Fellow in Mathematics

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## EMPLOYMENT

### ► Post Doctoral Fellow

**The Department of Mathematics, Bar-Ilan University**

📅 October 1, 2025–Present

📍 Ramat-Gan, Tel Aviv District, Israel, 52900

### ► Post Doctoral Fellow

**Indian Statistical Institute**

📅 November 14, 2024–September 30, 2025

📍 Gnana Bharathi, Bengaluru, Karnataka 560059

Project: Poissonian Shot-noise Fields and Diffusions

## EDUCATION

### ► Ph.D. in Mathematics

**TIFR - Centre for Applicable Mathematics**

📅 2021–2024 (Thesis defended on December 11, 2024.)

📍 Yelahanka New Town, Bengaluru, Karnataka 560064

Thesis: On the number of connected components of polynomial lemniscates: Deterministic and Random

### ► M.Phil./ Masters Thesis

**TIFR - Centre for Applicable Mathematics**

📅 2020–2021

📍 Yelahanka New Town, Bengaluru, Karnataka 560064

Thesis: Some Topics in Potential Theory and Random Polynomials

### ► M.Sc. in Mathematics

**TIFR - Centre for Applicable Mathematics**

📅 2018–2020

📍 Yelahanka New Town, Bengaluru, Karnataka 560064

Graduated with 82%

### ► B.Sc. in Mathematics

**Ramakrishna Mission Vidyamandira**

📅 2015–2018

📍 Belur Math, Howrah, West Bengal 711 202

CGPA: 8.7

### ► Higher Secondary Certificate

**Bidhannagar Government High School**

📅 2013–2015

📍 Salt Lake, Kolkata, West Bengal 700064

Graduated with 83%

### ► Secondary School Certificate

**Bidhannagar Government High School**

📅 2003–2013

📍 Salt Lake, Kolkata, West Bengal 700064

Graduated with 89%

# PUBLICATIONS AND PREPRINTS

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## Journal Articles

- Subhajit Ghosh, "On the number of components of random polynomial lemniscates," *Electron. J. Probab.*, 29 (2024), Paper No. 1. [arXiv], [Journal].
  - Subhajit Ghosh and Koushik Ramachandran, "Number of components of polynomial lemniscates: A problem of Erdős, Herzog, and Piranian," *J. Math. Anal. Appl.*, 540 (2024), Paper No. 128571. [arXiv], [Journal].
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## Preprints

- Subhajit Ghosh and Koushik Ramachandran, "A note on the Erdős minimal area problem," [arXiv].
  - Subhajit Ghosh, Koushik Ramachandran, and Atul Shekhar, "Asymptotics of the number of components of random polynomial lemniscates," [arXiv].
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## Articles in Preparation

- Subhajit Ghosh, Koushik Ramachandran, and Atul Shekhar, "Phase transition in the number of components of random polynomial lemniscates," in preparation.

# TEACHING EXPERIENCE

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## ► Teaching Assistant

### Indian Statistical Institute

📅 Jan 2025–September 2025

📍 Bangalore, India

- Analysis of Several Variables (July-October 2025)
- Topics in Discrete Probability (M. Math II year) (January-April 2025)

## ► Teaching Assistant (Graduate Courses)

### Tata Institute of Fundamental Research (TIFR-CAM)

📅 2020–2024

📍 Bangalore, India

- Functional Analysis, 2024
- Complex Analysis, 2023
- Probability Theory, 2022
- Real Analysis, 2021
- Linear Algebra, 2020

## ► Teaching Assistant (IWM Summer School 2025)

### Christ University

📅 July 2025

📍 Bangalore, India

Course: Probability and Combinatorics

## ► Teaching Assistant (Summer Workout in Mathematics)

### TIFR-CAM

📅 June 2022

📍 Bangalore, India

Courses: Real analysis, Logic, Linear Algebra

# AWARDS & HONOURS

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## 🏆 Scholarships

- JBNSTS Scholarship 2015. (Reference No.: [Sch/ Per/A/ 15/ 25A](#))
- DST Inspire Scholarship 2015-2018. (Registration Number: [201500076691](#))
- TIFR-CAM Int. Ph.D. Scholarship (2018-2024)
- UGC–CSIR NET Ph.D. Fellowship ([not availed](#))



## Academic Achievements

- JAM Mathematics 2018 (AIR-133)
- NET Mathematics Dec'19 (AIR-25)
- GATE Mathematics 2020 (AIR-173)

## TALKS

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- Post-Doc Research Scholar Symposium  
**Expected length of random lemniscates**  
📅 January 30, 2025 📍 ISI Bangalore, India
- ISI Math Club  
**Introduction to polynomial lemniscates**  
📅 14th January 2025 📍 ISI Bangalore, India
- 39th Annual Conference of the RMS 2024  
**Number of components of random polynomial lemniscates**  
📅 28 Dec 2024 📍 Christ University, Bangalore
- TIFR-CAM Alumni Meeting 2024  
**Introduction to polynomial lemniscates**  
📅 October 29, 2024 📍 Bangalore, India
- CRM-PIMS Probability Summer School  
**Number of components of random polynomial lemniscates**  
📅 July 12, 2024 📍 Montreal, Canada
- IMAG Conference on Orthogonal Polynomials (OPSFA17)  
**Number of connected components of polynomial lemniscates: A problem of Erdős, Herzog, and Piranian**  
📅 June 27, 2024 📍 Granada, Spain
- Bangalore Probability Seminar  
**Number of connected components of random polynomial lemniscates**  
📅 April 8, 2024 📍 TIFR-CAM, Bangalore
- Interactions in SCV Conference  
**Number of connected components of polynomial lemniscates: A problem of Erdős, Herzog, and Piranian**  
📅 December 15, 2023 📍 IISER, Pune

## SKILLS

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### Software & Programming

- LaTeX, Mathematica
- Python, C, C+, MATLAB
- Microsoft Excel, Word, PowerPoint



### Languages

- English (Fluent)
- Bengali (Native)
- Hindi (Fluent)

## REFERENCES

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**Prof. Koushik Ramachandran**

Reader

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**Prof. Sivaguru R**

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**Prof. Atul Shekhar**

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