

# Sayan Das

## Education

- 2018–2023 **Ph.D. Candidate**, *Department of Mathematics*, Columbia University, New York.  
-Advisor: Professor [Ivan Corwin](#).
- 2016–2018 **Master of Statistics (M.Stat)**, *Indian Statistical Institute, Kolkata*.
- 2013–2016 **Bachelor of Statistics (B.Stat (Hons.))**, *Indian Statistical Institute, Kolkata*.

## Research Interests

**Large Deviations, Integrable Probability, Stochastic Partial Differential Equations, Random Graphs.**

## Preprints and Publications

- 2021 **Upper-tail Large Deviation Principle for ASEP**, *Sayan Das and Weitao Zhu*, Submitted, [ArXiv Link](#).
- 2021 **Large Deviations for Discrete  $\beta$ -ensembles**, *Sayan Das and Evgeni Dimitrov*, Submitted, [ArXiv Link](#).
- 2021 **Law of Iterated Logarithms and Fractal Properties of the KPZ equation**, *Sayan Das and Promit Ghosal*, Submitted, [ArXiv Link](#).
- 2020 **Motif estimation in large graphs: The fourth moment phenomenon**, *Bhaswar B. Bhattacharya, Sayan Das, and Sumit Mukherjee*, Submitted, [ArXiv Link](#).
- 2019 **Fractional moments of the Stochastic Heat Equation**, *Sayan Das and Li-Cheng Tsai*, To appear in *Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques*, [ArXiv Link](#).
- 2019 **Sayan Das, and Rajat Subhra Hazra, 2019. Extremal process of the zero-average Gaussian free field for  $d \geq 3$** , *Statistics & Probability Letters*, 146, pp.42-49, [ArXiv Link](#).

## Invited Talks

- May 2021 **TBA**, *Columbia Princeton Probability Day 2021 (Short Talk)*, Online.
- Feb 2021 **Fractal Properties of the KPZ temporal Process**, *Columbia Integrable Probability Seminar*, Online.

## Contributed Talks

- Nov 2020 **Law of Iterated Logarithms for the KPZ equation**, *North East Probability Seminar 2020*, Online.
- Aug 2020 **Upper-tail large deviations of the KPZ equation**, *Bernoulli-IMS One World Symposium 2020*, Online.

## Teaching and Teaching Assistantships

### Instructor

- Spring 2021 **Calculus I**, *Columbia University*.
- Summer 2020 **Calculus III**, *Columbia University*.

### TA

- Fall 2020 **Calculus II**, *Columbia University*.
- Spring 2020 **Honors Math II**, *Columbia University*.
- Fall 2019 **Analysis and Probability I**, *Columbia University*.

## Mentorship

- Fall 2020 **Mentor in 'Twoples'**, *A Directed Reading Program for Math Undergraduates*.  
-Student: Duncan Haystead (UC Berkeley)  
-Project Title: The Moment Problem

Fall 2020 **Mentor in Columbia Directed Reading Program.**

-**Student:** Adiba Ejaz (Columbia)

-**Project Title:** Cover Time of a graph

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## Services

2020-21 **Co-organizer of Junior Integrable Probability Seminar.**

2020 **Organizer of Student Probability Seminar at Columbia, Spring 2020 - Fall 2020.**

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## Schools and Conferences Attended

Feb 2020 **Talking across Fields (in honor of Persi Diaconis), Stanford University, Stanford, CA.**

Jul 2019 **Random Matrix Summer School, University of California, Los Angeles, Los Angeles, CA.**

Jun 2019 **11th Cornell Probability Summer School, Cornell University, Ithaca, NY.**

May-Jun 2019 **Virginia Integrable Probability Summer School, University of Virginia, Charlottesville, VA.**

Mar 2019 **AMS Spring Sectional Meeting, University of Hawai'i at Manoa, Honolulu, HI.**

Dec 2018 **Advances in Asymptotic Probability (in honor of Amir Dembo's 60th birthday), Stanford University, Stanford, CA.**

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## Awards and Honours

2020 **Carl B. Boyer Memorial Fellowship, for academic qualifications and contributions, Columbia University, New York.**

2018 **PCM Memorial Award, for academic performance in M.Stat Programme, Indian Statistical Institute, Kolkata.**

2017 **D.Basu Memorial Award, for academic performance in B.Stat Programme, Indian Statistical Institute, Kolkata.**

2013-2018 **INSPIRE Scholarship, Department of Science and Technology, Govt. of India.**

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## Technical skills

C, C++, Matlab,  $\LaTeX$ , R, Mathematica, Geogebra