

# Partha Pratim Ghosh

## Curriculum Vitae

Institut für Mathematische Stochastik  
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Member of DFG SPP2265

Born: October 10, 1993, Midnapore, India

🌐 [www.tu-braunschweig.de/stochastik/team/ppg](http://www.tu-braunschweig.de/stochastik/team/ppg)

### POSITION

- **Postdoctoral Researcher** **Nov 2022 - Present**  
Institut für Mathematische Stochastik  
Technische Universität Braunschweig, Braunschweig, Germany  
*Mentor:* Benedikt Jahnel
- **Visiting Scientist** **Jul 2022 - Sep 2022**  
Theoretical Statistics and Mathematics Unit  
Indian Statistical Institute, Delhi Centre, India

### EDUCATION

- **PhD in Statistics** **2016 - 2022**  
Indian Statistical Institute, Delhi Centre, India  
*Thesis title:* A Last Progeny Modified Branching Random Walk  
*Supervisor:* Antar Bandyopadhyay
- **Master of Statistics (M. Stat.)** **2014 - 2016**  
Indian Statistical Institute, Kolkata, India  
Specialization: Mathematical Statistics and Probability
- **Bachelor of Statistics (B. Stat.)(Hons.)** **2011 - 2014**  
Indian Statistical Institute, Kolkata, India

### ACADEMIC ACHIEVEMENTS AND HONOURS

- Recipient of **Shyama Prasad Mukherjee Fellowship** (in Mathematics) awarded by Council of Scientific and Industrial Research, Government of India in 2019.
- Secured rank **1** in **National Eligibility Test** (in Mathematics) for Junior Research Fellowship and eligibility for Lectureship conducted by CSIR-UGC, Government of India in June 2018.
- Recipient of **NBHM Travel Grant** awarded by Department of Atomic Energy, Government of India to attend **International Congress of Mathematicians (ICM)** held in 2018 in Rio de Janeiro, Brazil.
- Recipient of **INSPIRE Scholarship** awarded by Department of Science and Technology, Government of India in 2011.

**Branching Random Walk:**

- **Right-Most Position of a Last Progeny Modified Branching Random Walk** (with Antar Bandyopadhyay).  
*Journal of Theoretical Probability*, 38(2): Paper No. 34 (2025)
- **Extremal Process of Last Progeny Modified Branching Random Walks** (with Bastien Mallein).  
*arXiv:2405.11609* (2024)
- **Right-Most Position of a Last Progeny Modified Time Inhomogeneous Branching Random Walk** (with Antar Bandyopadhyay).  
*Statistics & Probability Letters*, 193: Paper No. 109697 (2023)
- **Large Deviations for the Right-Most Position of a Last Progeny Modified Branching Random Walk**.  
*Electronic Communications in Probability*, 27: Paper No. 6 (2022)

**Percolation:**

- **Criticality and Covered Area Fraction in Confetti and Voronoi Percolation** (with Rahul Roy).  
*Journal of Statistical Physics*, 186(1): Paper No. 20 (2022)

**Traffic-flow in Telecommunication Network:**

- **Throughput in Inhomogeneous Planar Drainage Networks** (with Benedikt Jahnel and Yannic Steenbeck).  
*arXiv:2506.18132* (2025)
- **Large and Moderate Deviations for Poisson Navigations** (with Benedikt Jahnel and Sanjoy Kumar Jhawar).  
*arXiv:2403.14295* (2024) (*accepted in Advances in Applied Probability*)

**Miscellaneous:**

- **Characterization of Extreme Copulas** (with Subir Kumar Bhandari).  
*arXiv:1709.02472* (2017)

TEACHING  
EXPERIENCE

• **Teaching:**

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|-------------|--|
| Spring 2025 | <b>Stochastic Processes and Financial Mathematics in Continuous time</b> for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.<br>Technische Universität Braunschweig, Braunschweig, Germany. |
| Fall 2024   | <b>Point Processes</b> for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.<br>Technische Universität Braunschweig, Braunschweig, Germany.   |
| Spring 2024 | <b>Markov Processes</b> for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.<br>Technische Universität Braunschweig, Braunschweig, Germany.  |
| Spring 2023 | <b>Stochastic Processes and Financial Mathematics in Continuous time</b> for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.<br>Technische Universität Braunschweig, Braunschweig, Germany. |
| Spring 2021 | <b>Random Graphs</b> for the Third-Year Bachelors in Statistics.<br>Indian Statistical Institute, Kolkata, India.  |

• **Teaching Assistantship:**

- |             |  |
|-------------|--|
| Fall 2021   | <b>Percolation Theory</b> for the Ph.D. First Year and M. Stat. Second Year <i>Probability Specialization</i> .<br>Indian Statistical Institute, Kolkata, India.<br>Instructor: Rahul Roy                                      |
| Fall 2020   | <b>Probability Theory III</b> for the B. Stat. Second Year.<br>Indian Statistical Institute, Kolkata, India.<br>Instructor: Antar Bandyopadhyay  |
| Spring 2019 | <b>Measure Theoretic Probability</b> for the M. Stat. (NB-Stream) First Year and MS(QE) First & Second Years.<br>Indian Statistical Institute, Delhi Centre, India.<br>Instructor: Antar Bandyopadhyay                         |
| Fall 2018   | <b>Martingale Theory</b> for the M. Stat. Second Year <i>Theoretical Statistics Specialization</i> and <i>Probability Specialization</i> .<br>Indian Statistical Institute, Kolkata, India.<br>Instructor: Antar Bandyopadhyay |
| Spring 2018 | <b>Measure Theoretic Probability</b> for the M. Stat. (NB-Stream) First Year and MS(QE) Second Year.<br>Indian Statistical Institute, Delhi Centre, India.<br>Instructor: Antar Bandyopadhyay                                  |

## RESEARCH VISITS

- **Anton Bovier**, Universität Bonn, Germany 12 Nov - 14 Nov, 2025
- **Bastien Mallein**, Université Toulouse III Paul Sabatier, France 10 Feb - 14 Feb, 2025
- **Rahul Roy**, Indian Statistical Institute, India 21 Aug - 28 Aug, 2024
- **Nina Gantert**, Technical University of Munich, Germany 24 Jun - 27 Jun, 2024
- **Antar Bandyopadhyay**, Indian Statistical Institute, India 31 Jul - 08 Aug, 2023
- **Gábor Pete**, Alfréd Rényi Institute of Mathematics, Hungary 30 Jan - 03 Feb, 2022

## CONFERENCES AND INVITED LECTURES

- **Invited Lectures:**
  - Universität Bonn, Bonn, Germany  
Invited to give a talk. 13 Nov, 2025
  - Technische Universität Braunschweig, Braunschweig, Germany  
I gave a talk on ‘*Criticality and Covered Area Fraction in Confetti Percolation*’.  
17 Jul, 2025
  - Technical University of Munich, Munich, Germany  
Invited to give a talk on ‘*Extremal Process of Last Progeny Modified Branching Random Walks*’.  
24 Jun, 2024
  - Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany  
Invited to give a talk on ‘*A Last Progeny Modified Branching Random Walk*’.  
01 Mar, 2023
  - Department of Mathematics, Indian Institute of Technology, Mumbai, India  
Invited to give a talk on ‘*A Last Progeny Modified Branching Random Walk*’.  
29 Sep, 2021
- **Conferences:**
  - **PIMS-CRM Summer School in Probability 2025.**  
University of British Columbia, Vancouver, Canada. 02 Jun - 27 Jun, 2025
  - **German Probability and Statistics Days 2025.**  
TU Dresden, Dresden, Germany  
Selected to present research work on ‘*Extremal Process of Last Progeny Modified Branching Random Walks*’.  
11 Mar - 14 Mar, 2025
  - **Bernoulli-IMS 11th World Congress in Probability and Statistics 2024.**  
Bochum, Germany  
Participating as a co-author in the contributed talk on ‘*Moderate and Large Deviation in Poisson Navigation*’ and also presenting a poster on ‘*Extremal Process of Last Progeny Modified Branching Random Walks*’.  
12 Aug - 16 Aug, 2024
  - **Branching Processes and Applications.**  
Angers, France  
Selected for poster presentation on ‘*A Last Progeny Modified Branching Random Walk*’.  
22 May - 26 May, 2023

- **German Probability and Statistics Days 2023.**  
Universität Duisburg-Essen, Essen, Germany  
Selected to present research work on ‘*A Last Progeny Modified Branching Random Walk*’.  
07 Mar - 10 Mar, 2023
- **Drafting Workshop in Discrete Mathematics and Probability.**  
Erdős Center, Alfréd Rényi Institute of Mathematics, Budapest, Hungary  
Selected to present research work on ‘*A Last Progeny Modified Branching Random Walk*’.  
30 Jan - 03 Feb, 2022
- **Bernoulli-IMS One World Symposium 2020.**  
Selected for poster presentation on ‘*Large Deviations for the Right-Most Position of a Last Progeny Modified Branching Random Walk*’.  
24 Aug - 28 Aug, 2020
- **Lectures on Probability and Stochastic Processes XII.**  
Indian Statistical Institute, Kolkata, India  
Selected for poster presentation on ‘*Criticality and Covered Area Fraction in Confetti Percolation*’.  
15 Dec - 19 Dec, 2017

## REFERENCES

- **Benedikt Jahnel** (Postdoc Mentor)  
Institut für Mathematische Stochastik  
Technische Universität Braunschweig  
Universitätsplatz 2, 38106 Braunschweig , Germany.  
Email: benedikt.jahnel@tu-braunschweig.de
- **Antar Bandyopadhyay** (Ph.D. Supervisor)  
Theoretical Statistics and Mathematics Unit  
Indian Statistical Institute, Delhi Centre  
7 S. J. S. Sansanwal Marg, New Delhi 110016, India.  
Email: antar@isid.ac.in
- **Rahul Roy** (Collaborator)  
Theoretical Statistics and Mathematics Unit  
Indian Statistical Institute, Delhi Centre  
7 S. J. S. Sansanwal Marg, New Delhi 110016, India.  
Email: rahul@isid.ac.in
- **Bastien Mallein** (Collaborator)  
Institut de Mathématiques de Toulouse  
Université Toulouse III Paul Sabatier  
118 route de Narbonne, 31062 Toulouse Cedex 9, France.  
Email: bastien.mallein@math.univ-toulouse.fr
- **Nina Gantert** (Collaborator)  
Department of Mathematics  
TUM School of Computation, Information and Technology  
Technical University of Munich  
Boltzmannstraße 3, 85748 Garching bei München, Germany.  
Email: nina.gantert@tum.de