

# Partha Pratim Ghosh

## Curriculum Vitae

Ruhr-Universität Bochum  
Fakultät für Mathematik  
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Member of DFG SPP2265  
Born: October 10, 1993, Midnapore, India  
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### WORK EXPERIENCE

- **Postdoctoral Researcher** **Nov 2025 - Present**  
Fakultät für Mathematik  
Ruhr-Universität Bochum, Germany  
*Mentor:* Christoph Thäle
- **Postdoctoral Researcher** **Nov 2022 - Oct 2025**  
Institut für Mathematische Stochastik  
Technische Universität 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:

- **Extremal Process of Last Progeny Modified Branching Random Walks.**  
with Bastien Mallein  
*ALEA Latin American Journal of Probability and Mathematical Statistics*, Accepted (2025)
- **Right-Most Position of a Last Progeny Modified Branching Random Walk.**  
with Antar Bandyopadhyay  
*Journal of Theoretical Probability*, 38(2): Paper No. 34 (2025)
- **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  
*Advances in Applied Probability*, Accepted (2025)

### Miscellaneous:

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

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| • 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 |

- **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:**

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| 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                                  |

- **Invited Talks:**

- 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

- **Workshop Organised:**

- **Stochastic Processes on Random Geometries.**  
Technische Universität Braunschweig, Braunschweig, Germany.  
Co-organised with the departmental research team, supported by the DFG Priority Programme SPP 2265. 17 Feb – 21 Feb, 2025

- **Conferences and Schools Participated In:**

- **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

- **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
- **Benedikt Jahnel** (Postdoc Mentor)  
Institut für Mathematische Stochastik  
Technische Universität Braunschweig  
Universitätsplatz 2, 38106 Braunschweig , Germany.  
Email: benedikt.jahnel@tu-braunschweig.de
- **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