

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.

PUBLICATIONS
AND PREPRINTS

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)

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

**TEACHING
EXPERIENCE**

• **Teaching:**

Spring 2025

Stochastic Processes and Financial Mathematics in Continuous time for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.

Technische Universität Braunschweig, Braunschweig, Germany.

Fall 2024

Point Processes for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.

Technische Universität Braunschweig, Braunschweig, Germany.

Spring 2024

Markov Processes for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.

Technische Universität Braunschweig, Braunschweig, Germany.

Spring 2023

Stochastic Processes and Financial Mathematics in Continuous time for the Masters in Mathematics and the Masters in Mathematics in Finance and Industry.

Technische Universität Braunschweig, Braunschweig, Germany.

Spring 2021

Random Graphs for the Third-Year Bachelors in Statistics.

Indian Statistical Institute, Kolkata, India.

• **Teaching Assistantship:**

Fall 2021

Percolation Theory for the Ph.D. First Year and M. Stat. Second Year
Probability Specialization.

Indian Statistical Institute, Kolkata, India.

Instructor: Rahul Roy

Fall 2020

Probability Theory III for the B. Stat. Second Year.

Indian Statistical Institute, Kolkata, India.

Instructor: Antar Bandyopadhyay

Spring 2019

Measure Theoretic Probability for the M. Stat. (NB-Stream) First Year and MS(QE) First & Second Years.

Indian Statistical Institute, Delhi Centre, India.

Instructor: Antar Bandyopadhyay

Fall 2018

Martingale Theory for the M. Stat. Second Year *Theoretical Statistics Specialization* and *Probability Specialization.*

Indian Statistical Institute, Kolkata, India.

Instructor: Antar Bandyopadhyay

Spring 2018

Measure Theoretic Probability for the M. Stat. (NB-Stream) First Year and MS(QE) Second Year.

Indian Statistical Institute, Delhi Centre, India.

Instructor: Antar Bandyopadhyay

CONFERENCES
AND INVITED
TALKS

• **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