

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

📄 sites.google.com/view/parthapratim

POSITION

- **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 Jhavar
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 | 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:**

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| Fall 2021 | Percolation Theory for the Ph.D. First Year and M. Stat. Second Year <i>Probability Specialization</i> .
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 <i>Theoretical Statistics Specialization</i> and <i>Probability Specialization</i> .
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 |

• **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