

CURRICULUM VITAE

BILTU DAN

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Academic Records

- B.Sc. (First class in Mathematics (Honours)) The University of Burdwan (2010-2013)
- M.Sc. (First class(Topper) in Mathematics and Computing) Indian Institute of Technology Guwahati (2013-2015)
- PhD in Mathematics (Thesis supervisor: Prof. Rajat Subhra Hazra) Indian Statistical Institute (2020)
- Visiting Scientist in Mathematics at Indian Statistical Institute, Kolkata (October 2020 - February 2021) under supervision of Prof. Arijit Chakrabarty.
- C. V. Raman Post-Doctoral Fellow at Indian Institute of Science (February 2021 - January 2023) under supervision of Prof. Manjunath Krishnapur.
- NBHM Post-Doctoral Fellow at Indian Institute of Science (February 2023 - February 2023) under supervision of Prof. Manjunath Krishnapur.
- DST INSPIRE Faculty at Indian Institute of Science (March 2023 - December 2025) under mentorship of Prof. Manjunath Krishnapur.
- Assitant Professor at Indian Institute of Science Education and Research Kolkata (December 2025 -).

Scholarships

- Receiving INSPIRE Faculty Fellowship(2023)
- Received NBHM Postdoctoral Fellowship(2023)
- Received C. V. Raman Post-Doctoral Fellowship from IISc (2021-2023)
- Received Institute Fellowship from Indian Statistical Institute, Kolkata (2015-2020)
- Selected for NBHM Scholarship for PhD (2015)
- Qualified the CSIR NET Exam 2014 (December) with rank 11 (CSIR-JRF)
- Qualified the GATE (2015) with rank 8
- Received the NBHM Scholarship for M.Sc. (2014-2015)

Award

- Institute Silver Medal for securing the highest CPI in M.Sc.

Research Interest

Random Interface Models. Membrane Model. Gaussian Free Field. Random sets.

Published/Accepted papers

1. A. Cipriani, B. Dan, and R. S. Hazra. The scaling limit of the membrane model. *The Annals of Probability*, 47(6):3963-4001, 2019. Available at <https://doi.org/10.1214/19-AOP1351>
2. A. Cipriani, B. Dan, and R. S. Hazra. Scaling limit of semiflexible polymers: a phase transition. *Communications in Mathematical Physics*, 377(2), 1505-1544, 2020. Available at <http://link.springer.com/article/10.1007/s00220-020-03762-9>
3. A. Cipriani, B. Dan, and R. S. Hazra. The scaling limit of the $(\nabla + \Delta)$ -model. *Journal of Statistical Physics*, 182(2), 1-23, 2021. Available at <https://link.springer.com/article/10.1007/s10955-021-02717-1>
4. J. Baslinger, and B. Dan. On Hadamard powers of positive semi-definite matrices. *Proceedings of the American Mathematical Society*, 151(4), 1395-1401, 2023. Available at <https://doi.org/10.1090/proc/16187>
5. A. Cipriani, B. Dan, R. S. Hazra, and R. Ray. Maximum of the membrane model on regular trees. *Journal of Statistical Physics*, 190(25), 2023. Available at <https://link.springer.com/article/10.1007/s10955-022-03043-w>
6. J. Baslinger, and B. Dan. Partial divisibility of random sets. *Stochastic Processes and their Applications*, 185(2025), Paper No. 104632, 2025. Available at <https://doi.org/10.1016/j.spa.2025.104632>.

Teaching

- Teaching assistant for *Martingale Theory* (Instructor: Prof. Rajat Subhra Hazra) in the first semester of 2019-2020 at Indian Statistical Institute, Kolkata.
- Instructor for the course *Elements of Stochastic Processes* in the second semester of 2019-2020 at Indian Statistical Institute, Kolkata.
- Teaching assistant for *UM201: Probability and Statistics* (Instructor: Prof. Arvind Ayyer) in the first semester of 2021-2022 at Indian Institute of Science.
- Teaching assistant for *MA361: Probability Theory* (Instructor: Prof. Manjunath Krishnapur) in the first semester of 2022-2023 at Indian Institute of Science.
- Teaching assistant for *UM201: Probability and Statistics* (Instructor: Prof. Manjunath Krishnapur) in the first semester of 2023-2024 at Indian Institute of Science.
- Teaching assistant for *UM204: Introduction to Basic Analysis* (Instructor: Prof. Purvi Gupta) in the second semester of 2023-2024 at Indian Institute of Science.
- Instructor for the course *Topics in Probability and Stochastic Processes* in the second semester of 2024-2025 at Indian Institute of Science.

Seminar/Conference/ Invited talks

1. *Random Interface Models* - Graduate Seminar talk at Indian Statistical Institute, Kolkata on July 7, 2017.
2. *Scaling limit of the membrane model* - Thesis Proposal Seminar talk at Indian Statistical Institute, Kolkata on May 23, 2018.
3. *The scaling limit of some random interface models* - Seminar talk at Indian Statistical Institute, Kolkata on June 19, 2019.
4. *Scaling limit of semiflexible polymers: a phase transition* - invited speaker at the workshop Two Random Days at Indian Statistical Institute, Kolkata, November 13-14, 2019.
5. *Scaling limits of some random interface models* - Thesis Pre Submission Seminar talk at Indian Statistical Institute, Kolkata on January 21, 2020.
6. *The discrete membrane model on trees* - Contributed talk at the 10th World Congress in Probability and Statistics (online), Seoul, Korea, July 19-23, 2021.

7. *The discrete membrane model on trees* - speaker at the IISc-IISER Pune Twenty-20 Symposium (online), September 17-18, 2021.
8. *Scaling limits of some random interface models* - invited speaker at a webinar at the Department of Mathematics, IIT Guwahati, October 29, 2021.
9. *Partial divisibility in random sets* - invited speaker at Bangalore Probability Seminar , Indian Statistical Institute, Bangalore, November 14, 2022.
10. *Partial divisibility in random sets* - invited speaker at the International Indian Statistical Association (IISA) 2022 Conference, Indian Institute of Science, Bengaluru, December 26-30, 2022.
11. *Partial divisibility in random sets* - invited speaker at the 38th Annual Conference of the Ramanujan Mathematical Society, IIT Guwahati, December 22-24, 2023.
12. *Scaling limit and maximum of the membrane model* - invited talk in the Department of Mathematics and Statistics at IISER Kolkata, January 24, 2024.

Poster presentations

1. *Scaling limit of the Discrete Membrane Model* - poster presentation at the workshop Lectures on Probability and Stochastic Processes XII, ISI Kolkata, December 15-19, 2017.
2. *Scaling limit of the $(\nabla + \Delta)$ -Model* - poster presentation at the workshop Lectures on Probability and Stochastic Processes XIII, ISI Bangalore, December 7-11, 2018.
3. *Scaling limit of the semiflexible polymers: a phase transition* - poster presentation at the workshop Lectures on Probability and Stochastic Processes XIV, ISI Delhi, December 2-6, 2019.
4. *Scaling limit of the semiflexible polymers: a phase transition* - poster presentation at the conference Discussion Meeting on Stochastic Analysis, Geometry, and Random Fields, ISI Bangalore, January 6-10, 2020.

References

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- Manjunath Krishnapur
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