# आदित्य माहेश्वरी Aditya Maheshwari

Current Associate Professor

Position Operations Management and Quantitative Techniques (OM&QT) Area

Indian Institute of Management (IIM) Indore

Research Interests Statistics and probability, stochastic processes, financial mathematics, Markov process and stochastic process simulations.

Updated: July 14, 2023

EXPERIENCE Associate Professor, OM&QT Area, IIM Indore

Jul 2023 to present Assistant Professor, OM&QT Area, IIM Indore Jun 2017 to Jul 2023 Research Associate Jan 2017 to Jun 2017

Department of Mathematics, IIT Bombay

Projects Role: PI. Title: Mathematics and Nyaaya Darshana

Funding Agency: Indian Knowledge Systems (IKS) Division, Ministry of Education.

Duration: 2023–24, 2 years.

Role: co-PI. Title: Digitization and Content Creation on Sankhya Darshan, Yoga Sutra, Prana and Swara with a case study on mental benefits of Mantra Dhyaan

Funding Agency: IKS Division, Ministry of Education. Duration: 2023, 6

months.

#### Published/Accepted papers **Publications**

- 1. Maheshwari, A. (2023). Tempered Space Fractional Negative Binomial Process. Statistics and Probability Letters. 109700 (196). https://doi.org/10.1016/j.spl.2023.109799
- 2. Beghin, L., Gajda, J. and Maheshwari, A. (2020). Integro-differential equations linked to compound birth processes with infinitely divisible addends. Mathematical Methods in the Applied Sciences. 1-17. https://doi.org/10.1002/mma.6467.
- 3. Sengar, A., Maheshwari, A. and Upadhye, N. (2020). Time-changed Poisson process of order k. Stochastic Analysis and Applications 28 (1), 124–148. https://doi.org/10.1080/07362994.2019.1653198.
- 4. Kumar A., Maheshwari, A. and Wyłomańska, A. (2019). Linnik Levy Process and Some Extensions. Physica A: Statistical Mechanics and its Applications 121539. https://doi.org/10.1016/j.physa.2019.121539
- 5. Maheshwari, A. and Vellaisamy, P. (2019). Fractional Poisson process timechanged by Lévy subordinator and its inverse. Journal of Theoretical Probability **32** (3), 1278–1305. https://doi.org/10.1007/s10959-017-0797-6.
- 6. Maheshwari, A. and Vellaisamy, P. (2018). Non-homogeneous space-time fractional Poisson processes. Stochastic Analysis and Applications 37 (2), 137– 152. https://doi.org/10.1080/07362994.2018.1541749.
- 7. Vellaisamy, P. and Maheshwari, A. (2018). Fractional negative binomial and Polya processes. Probability and Mathematical Statistics 38 (1), 77–101. link
- 8. Maheshwari, A. and Vellaisamy, P. (2016). On the long-range dependence of fractional Poisson and negative binomial processes. Journal of Applied Probability 53 (4), 989–1000. URL: http://dx.doi.org/10.1017/jpr.2016.59.

Submitted papers

- 9. Babulal, M. S., Gauttam, S. K. and Maheshwari, A. (2023). Poisson processes with jumps governed by lower incomplete gamma subordinator and its variations. Submitted. URL: https://arxiv.org/abs/2303.17330
- 10. Maheshwari, A., Orsingher, E. and Sengar, A. S. (2019). Superposition of time-changed Poisson processes and their hitting times. Submitted. URL: https://arxiv.org/abs/1909.13213
- 11. Arun Kumar, Harsh Verma and Aditya Maheshwari (2020). Potential Theory of Normal Tempered Stable Process. Submitted.

## Book chapter

- 12. Maheshwari, A. and Singh, R. (2021). Recent Developments on Fractional Point Processes. In: Beghin, L., Mainardi, F., Garrappa, R. (eds) Nonlocal and Fractional Operators. SEMA SIMAI Springer Series, vol 26. Springer, Cham.
- 13. Maheshwari, A. and Vellaisamy, P. (2013). Some recent results on fractional diffusions. Fractional Calculus: Theory and Applications. Edited by Varsha Daftardar-Gejji, Narosa Publishing House, New Delhi, 169-190. URL: http:// www.narosa.com/books\_display.asp?catgcode=978-81-8487-333-7

## Teaching At IIM Indore

#### Undergraduate courses:

Core: Numerical Analysis (2017 - 2019, 2021 - 2023), Probability-1 (2017-2023), Statistical Methods - 1 (2018), Differential Calculus (2020), Introduction to Business History (2022).

Elective: Stochastic Process - 1 (2019–20, 2022–23), Introduction to Stochastic Calculus (2018–2020, 2022–23), Stochastic Calculus - II (2019), Statistical Learning with Python (2019), Elections and Voting: A Mathematical Treatment (2020).

#### Postgraduate:

Core: Introduction to Business Statistics (2020–2022), Introduction to Social Science Research and Probability & Statistics (2021).

#### PhD courses:

Core: Applied Probability and Statistics (2019), Introduction to Business Statistics (2020).

Elective: Topics in Stochastic Processes (2019).

MDP: Decision making under uncertainty (Leadership MDP for BSF, 2 batches). Data Analytics for Supply Chain Management (Logistics MDP for Indian Army, 2 batches). Business Statistics (Annual FDP, 3 batches)

Online Learning Programs: Problem Structuring and Decision Making (APMCL 01–03), Business Statistics (EPOSCM 01/02), Storytelling with data (PGPCM Batch 05–10). Mathematics and Statistics for Risk Management (CPAFRM Batch 01). Introduction to R and Python (CPAFRM Batch 01). Machine Learning using Python (CPAFRM Batch 01). Business Analytics (MSDSM Batch 01). Business Statistics (PGCBM Batch 02).

#### Administration Area Chair

Operations Management and Quantitative Techniques Area Apr 2019–Mar 2021.

EDUCATION

Ph.D. Mathematics, Department of Mathematics, IIT Bombay Dec 2016

M.Sc. Mathematics, University of Kota, Kota, Rajasthan Jul 2009

B.Sc. (PCM), University of Kota, Kota, Rajasthan Jul 2007

'A' level Advanced Diploma, NIELIT, erstwhile DOEACC Society May 2008

Invited talks

- "Non-homogeneous space-time fractional Poisson processes" at University of Turin, May 23, 2019.
- $\bullet$  "Fractional Poisson process" at IIT Ropar on May 25th, 2018.
- $\bullet\,$  "Some Fractional Stochastic Processes" at IIM Indore, June 13, 2017.

AWARDS/ ACHIEVEMENTS  $\bullet\,$  Best Teacher Award 2018 at IIM Indore

 $\mathrm{Sep}\ 2018$ Dec 2009

• UGC Junior Research Fellowship

• Eligibility for Lectureship (NET) award

Jun 2009

- VISITING POSITION University of Turin, May 13, 2019 June 6, 2019.
  - University of Rome, June 7, 2019 July 7, 2019.

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