

Dr. Dhanya Shajin

Assistant Professor of Mathematics

International Publications – 29

Conferences (International – 16) (National – 04)

<u>Citation indices</u>	<u>All</u>	<u>Since 2020</u>
Citations	476	415
h-index	13	12
i10-index	17	14



ADMINISTRATIVE DISTINCTION

- NIRF Nodal Officer 1st Nov 2021- 26 Dec 2023
- Head of the Department 27 Mar 2024-29 Jul 2025
- Invited Talk on Random Process organized by the Department of Applied Science, College of Engineering, Adoor on 27.03.2017 & 28.03.2017.
- Delivered a talk in National Workshop on LATEX Report and Article Writing organized by the Department of Mathematics, Amrita School of Arts and Science, Kochi on 27.10.2017.
- Invited talk on Stochastic Processes organized by Department of Mathematics, St. Teresa's College, Ernakulam on 14.12.2017.
- Delivered a talk in One day Workshop on LATEX Report and Article Writing organized by the Department of Mathematics, Amrita School of Arts and Science, Kochi on 10.10.2018
- Delivered a talk (through online) on MATLAB Programming for Matrix Analytic Method organized by the Department of Mathematics, Central University of Kerala on 03.10.2020.
- Delivered a talk on Introduction to Queueing-inventory System organized by the Department of Mathematics, Maharaja's College, Ernakulam on 29.05.2023.
- Invited talk on Introduction to Markovian and Marked Markovian Arrival Processes organized by the Department of Mathematics, Maharaja's College, Ernakulam on 04.03.2025.

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QUALIFICATION

M.Sc., M.Phil., Ph.D.

DATE OF JOINING

28.01.2019

EXPERIENCE IN YEARS

6 years

AREA OF RESEARCH

Stochastic Processes, Queueing
Theory, Inventory System

PUBLICATIONS

1. A. Krishnamoorthy, Dhanya Shajin, B. Lakshmy, Product form solution for some queueing inventory supply chain problem, *OPSEARCH* (Springer), 53(1): 85-102, DOI 10.1007/s12597-015-0215-8, 2015 (**Scopus indexed**), UGC Journal No. 36500, ISSN No. 0030-3887, Impact factor: 0.507.
2. **Dhanya Shajin**, B. Lakshmy, R. Manikandan, On a two stage queueing-inventory system with rejection of customers, *Neural, Parallel, and Scientific Computations*, Dynamic Publishers (23) 2015: 111-128 (**Scopus indexed**), ISSN No. 1061-5369, Impact factor: 0.27.
3. A. Krishnamoorthy, Dhanya Shajin, B. Lakshmy, *GI/M/1 type queueing-inventory systems with postponed work, reservation, cancellation and common life time*, Invited paper to the special issue *Stochastic Models of Indian Journal of Pure and Applied Mathematics*, Guest Editor: Professor M. K. Ghosh, 47(2): 357-388, 2016 (**Science Citation indexed**), UGC Journal No. 20865, ISSN No. 0019-5588, Impact factor: 0.325.
4. A. Krishnamoorthy, Dhanya Shajin, B. Lakshmy, *On a queueing-inventory with Reservation, Cancellation, Common Life time and Retrial*, *Annals of Operation Research* (Springer), 247 (1), 365-389, 2016 (**Science Citation indexed**), UGC Journal No. 15598, ISSN No. 0254-5330, Impact factor: 1.864.
5. Krishnamoorthy A., Manikandan R., Dhanya Shajin, Analysis of multi-server queueing - inventory system, *Advances in Operations Research*, Vol. 2015, [http:// dx.doi. org/ 10.1155/ 2015/747328](http://dx.doi.org/10.1155/2015/747328), 2015 (**Scopus indexed**), UGC Journal No. 11908, ISSN No. 1687-9147, Impact factor: 1.00.
6. **Dhanya Shajin**, Binitha Benny, T. G. Deepak, A. Krishnamoorthy, A relook at queueing inventory system with reservation, cancellation and common life time, *Communications in Applied Analysis* 20, 545-574, 2016, ISSN No. 1083-2564, Impact factor: 1.00.
7. A. Krishnamoorthy, Binitha Benny, Dhanya Shajin, A Revisit to Queueing-Inventory System with Reservation, Cancellation and Common Life Time, *OPSEARCH* (Springer), 54(2), 336-350, 2017 (**Scopus indexed**), UGC Journal No. 36500, ISSN No. 0030-3887, Impact factor: 0.507.
8. A. Krishnamoorthy, V. Vishnevsky, A. S. Manjunath, Dhanya Shajin, Single server queues with several services, *Reliability Theory and Applications*, Gnedenko Forum, No 4 (47), Vol. 12, 14-30, December 2017.
9. A. Krishnamoorthy, V. Vishnevsky, Dhanya Shajin, A. S. Manjunath, Single Server, Multi-Class Queues with Markovian Arrival and Ambiguity of Class Determination, *Queueing Models and Service Management*, Vol. 1 (1), 1-16, 2018.
10. **Dhanya Shajin**, Binitha Benny, Rostislav V. Razumchik, A. Krishnamoorthy, *Discrete Product Inventory Control System with Positive Service Time and Two Operation Modes*, *Journal of Automation and Remote Control*, Vol. 79(9), 1593-1608, 2018 (**Science Citation indexed**), UGC Journal No. 1740, ISSN No. 0005-1179, Impact factor: 0.562.
11. **Dhanya Shajin**, Social optimization and optimal pricing in production inventory system with state dependent production rate, *Bulletin of Kerala Mathematics Association*, 16(1), 25-39, 2019.

12. **Dhanya Shajin**, Analysis of a queue with joining strategy and interruption repeat or resumption of service, *Journal of Mathematical Modeling*, 153-174, 2019 (**Scopus indexed**), UGC Journal No. 47020, ISSN No. 2345-394X.
13. **Dhanya Shajin**, A. Krishnamoorthy, *On a queueing-inventory system with impatient customers, advanced reservation, cancellation, overbooking and common life time*, *Operational Research*, 1-25, 2019 (**Science Citation indexed**), UGC Journal No. 36458, ISSN No. 1109-2858, Impact factor: 1.065.
14. **Dhanya Shajin**, A. Dudin, O. Dudina, A. Krishnamoorthy, *A two-priority single server retrial queue with additional items*, *Journal of Industrial and Management Optimization*, 13(5), 1, 2019 (**Science Citation indexed**), UGC Journal No. 28617, ISSN No. 1547-5816, Impact factor: 0.994.
15. **Dhanya Shajin**, A. Krishnamoorthy, A. Z. Melikov, *On partial and complete blocking set of states in queueing-inventory model*, *Applied and Computational Mathematics*, 18(2), 189-201, 2019 (**Science Citation indexed**), ISSN No. 1683-3511, Impact factor: 2.356.
16. **Dhanya Shajin**, A. Krishnamoorthy, A. N. Dudin, V. C. Joshua, Varghese Jacob, *On a queueing Inventory system with advanced reservation and cancellation for the next K time frames ahead: the case of overbooking*, *Queueing Systems*, 1-35, 2019 (**Science Citation indexed**), ISSN No. 1572-9443, Impact factor: 1.171.
17. **Dhanya Shajin**, A. Krishnamoorthy, *Stochastic decomposition in retrial queueing-inventory system*, *RAIRO Operations Research*, 54, 81-99, 2020 (**Science Citation indexed**), UGC Journal No. 9976, ISSN No. 0399-0559, Impact factor: 0.478.
18. S. R. Chakravarthy, Dhanya Shajin, A. Krishnamoorthy, *Infinite Server Queueing-inventory Models*, *Journal of the Indian Society for Probability and Statistics*, 21(1), 43-68, 2020, ISSN No. 2364-9569.
19. **Dhanya Shajin**, A. Krishnamoorthy, R. Manikandan, *On a Queueing-inventory with common life time and Markovian lead time process*, *Operational Research*, doi.org/10.1007/s12351-020-00560-y (**Science Citation indexed**), UGC Journal No. 36458, ISSN No. 1109-2858, Impact factor: 1.065.
20. **Dhanya Shajin**, Jaison Jacob, A. Krishnamoorthy, *On a queueing inventory problem with necessary and optional inventories*, *Annals of Operation Research (Springer)*, 2021 (**Science Citation indexed**), <https://doi.org/10.1007/s10479-021-03975-8>, UGC Journal No. 15598, ISSN No. 0254-5330, Impact factor: 1.864.
21. Jaison Jacob, **Dhanya Shajin**, A. Krishnamoorthy, Vishnevsky V., Kozyrev D., *Queueing-Inventory with One Essential and m optional items with environment change process forming correlated renewal process*, *Mathematics*, 2022, 10, 104. (**Science Citation indexed**), <https://doi.org/10.3390/math10010104>, ISSN No. 2227-7390, Impact factor: 2.258.
22. **Dhanya Shajin**, A. Krishnamoorthy, Agassi Z. Melikov, Janos Sztrik . *Multi-Server Queueing Production Inventory System with Emergency Replenishment*, *Mathematics*, 2022, 10, 3839. (**Science Citation indexed**), <https://doi.org/10.3390/math10203839>, ISSN No. 2227-7390, Impact factor: 2.258.

23. **Dhanya Shajin**, Agassi Z. Melikov, Queueing Inventory System with Return of purchased items and customer feedback, RAIRO -Oper. Res. 59 (2025), 1443-1473.

(*Science Citation indexed*), <https://doi.org/10.1051/ro/2025042> , ISSN No. 0399-0559,

Impact factor: 1.7.

Book chapter

24. A. Krishnamoorthy, **Dhanya Shajin**, Viswanath C. Narayanan, Inventory with positive service time: a survey, Advanced Trends in Queueing Theory: series of books "Mathematics and Statistics", Sciences, ISTE & J. Wiley, London; Edt. V. Anisimov & N. Limnios, 2019.

25. **Dhanya Shajin**, Jaison Jacob, Vladimir Vishnevsky, A. Krishnamoorthy On a queueing inventory problem in passenger transport system, Distributed Computer and Communication Networks, 2019, doi:10.1007/978-3-030-36625-4-18

26. S Malini, **Dhanya Shajin** An (s; S) production inventory system with state dependent production rate and lost sales, Applied Probability and Stochastic Processes, 2020, doi: 10.1007/978-981-15-5951-8-14

Conference Proceedings

27. A. Krishnamoorthy, **Dhanya Shajin** Stochastic decomposition in retrieval queueing inventory system , 11th International Conference on Queueing Theory and Network Applications (QTNA), Wellington, New Zealand, December 2016,

DOI:<http://dx.doi.org/10.1145/3016032.3016043>.

28. A. Krishnamoorthy, **Dhanya Shajin** MAP/PH/1 retrieval queueing-inventory system with orbital search and renegeing of customers, International Conference on Analytical and Computational Methods in Probability Theory and its Applications (ACMPT), RUDN University, Russia, October 2017.

29. A. Krishnamoorthy, **Dhanya Shajin**, Manjunath A.S. On a multi-server priority queue with preemption in crowdsourcing, International Conference on Analytical and Computational Methods in Probability Theory and its Applications (ACMPT), RUDN University, Russia, October 2017.

Details of Paper Presentation

International (Presented)

1. A. Krishnamoorthy, Dhanya Shajin, B. Lakshmy, R. Manikandan: 8th International Conference and Instructional Workshop on Matrix Analytic Methods in Stochastic Models (MAM-8), January 6-10, 2014, NIT, Calicut, On $M/M[1;K]/1 \rightarrow \bullet/N/1$ tandem queue with attached inventory in second station and rejection of customers.
2. Dhanya Shajin, A. Krishnamoorthy: International Workshop & Seminar on Stochastic Modelling Analysis and Applications, January 9-11, 2018, Department of Mathematics, CMS College, Kottayam, Stochastic decomposition in a queueing-inventory system with reservation, cancellation, overbooking and common life time.

3. Dhanya Shajin, A. Krishnamoorthy, A. N. Dudin, V. C. Joshua, Varghese Jacob: European Conference on Queueing Theory (ECQT 2018), July 1-4, 2018, Jerusalem, Israel, On a queueing inventory system with advanced reservation and cancellation for the next K time units ahead: the case of overbooking.
4. Dhanya Shajin: International Conference on Advances in Applied Probability and Stochastic Processes (ICAAPSP 2019), January 7-10, 2019, Centre for Research in Mathematics, Department of Mathematics, CMS College, Kottayam, A class of multi-server queueing system with consumable additional items and server breakdowns.

Regional (Presented)

1. Dhanya Shajin, B. Lakshmy: 23rd Swadeshi Science Congress, November 6-8, 2013, M. G. University, Kottayam, (s,Q)-inventory policy with state dependent admission of customers.
2. Dhanya Shajin, A. Krishnamoorthy, B. Lakshmy: 29th Kerala Science Congress for Best Paper Award, January 28-30, 2017, Mar Thoma College, Thiruvalla, On a queueing-inventory model with postponed work, reservation, cancellation and common life time.
3. Dhanya Shajin: 31st Kerala Science Congress for Best Paper Award, February 2-3, 2019, Fatima Mata National College, Kollam, Analysis of a queue with joining strategy and interruption repeat or resumption of service.

Poster Presentation

1. Dhanya Shajin, A. Krishnamoorthy, V. Vishnevsky, Manjunath A. S.: Indian Women and Mathematics Regional Workshop on Research and Opportunities, January 2-3, 2018, Department of Mathematics, Cochin University of Science and Technology, Kochi, Single service station offers several services.

Conference Attended

International

1. 8th International Conference and Instructional Workshop on Matrix Analytic Methods in Stochastic Models (MAM-8), January 6-10, 2014, NIT, Calicut.
2. International Conference on Advances in Applied probability, Graph Theory and Fuzzy (ICAPGF), January 11-14, 2014, Department of Mathematics, St. Peter's College, Kolenchery.
3. Instructional Workshop on Semigroup and Applications, February 22-24, 2014, Department of Mathematics, Cochin University of Science and Technology, Kochi.
4. International Conference on Semigroup, Algebra and Operator Theory (ICSAOT), February 26-28, 2014, Department of Mathematics, Cochin University of Science and Technology, Kochi.
5. International Seminar on Queues and Graphs (ISQG), January 7, 2015, Department of Mathematics, St. Peter's College, Kolenchery.
6. International Seminar on Queueing theory and its applications, January 9, 2015, Department of Mathematics, KKTU Govt. College, Pullut.
7. International Conference on Semigroup, Algebra and Applications (ICSAA), September 17-19, 2015, Department of Mathematics, Cochin University of Science and Technology, Kochi.

8. International Seminar on Applied Probability, January 9, 2017, Department of Mathematics, KKTM Govt. College, Pullut.
9. International Seminar on Discrete and Continuous Stochastic Models, June 21, 2017, Department of Mathematics, Maharaja's College, Ernakulam.
10. Scholar in Residence Programme under Erudite Scheme, July 12-27, 2017, Department of Mathematics, CMS College, Kottayam.
11. International Workshop on Stochastic Modelling Analysis and Applications, January 9, 2018, Department of Mathematics, CMS College, Kottayam.
12. International Seminar on Stochastic Modelling Analysis and Applications, January 10-11, 2018, Department of Mathematics, CMS College, Kottayam.
13. European Conference on Queueing Theory (ECQT 2018), July 1-4, 2018, Jerusalem, Israel.
14. International Conference on Advances in Applied Probability and Stochastic Processes (ICAAPSP 2019), January 7-10, 2019, Centre for Research in Mathematics, Department of Mathematics, CMS College, Kottayam.
15. 13th International Workshop on Retrial Queues and Related Topics (WRQ 2021), December 6-8, 2021, Centre for Research in Mathematics, Department of Mathematics, CMS College, Kottayam.
16. International Conference on Advances in Applied Probability and Stochastic Processes (ICAAP & SP 2024), January 18-20, 2024, Department of Mathematics, St. Aloysius College, Elthuruth, Thrissur.

National

1. National Conference on Algebra and Number Theory (NCANT) , August 16-18, 2012, Department of Mathematics, Cochin University of Science and Technology, Kochi.
2. National level Workshop on Analysis, July 25 - 28, 2016, Department of Mathematics, Cochin University of Science and Technology, Kochi.
3. Indian Women and Mathematics Regional Workshop on Research and Opportunities, January 2-3, 2018, Department of Mathematics, Cochin University of Science and Technology, Kochi.
4. National Webinar on Interdependence Processes: Semi-Markov Approach, August 5, 2020, PG & Research Department of Mathematics, St. Peter's College, Kolenchery.

ORIENTATION/REFRESHER/SHORT TERM COURSES ATTENDED

- Participated in the 4-Week Induction/Orientation Programme for “Faculty in Universities/Colleges/Institutes of Higher Education” from 19 November – 18 December, 2021 organised by Teaching Learning Centre, Ramanujan College University of Delhi under the aegis of MINISTRY OF EDUCATION PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING.
- Participated in the Two-Week “REFRESHER COURSE IN MATHEMATICS” organised by the Department of Mathematics, Ramanujan College from 31 August-14 September 2021.

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- Participated in the Two weeks“REFRESHER COURSE IN APPLICABLE MATHEMATICS” from 26 July - 08 August, 2022 organised by Teaching Learning Centre, Ramanujan CollegeUniversity of Delhi.
 - Participated in the Two-week Refresher Coursin in“Managing Online Classes & Co- creating MOOCS 25.0” from 07 – 21 April, 2023 organised by Teaching Learning Centre Ramanujan College, University of Delhi.
 - Participated in the ONLINE TWO - WEEK REFRESHER COURSIN IN “MATHEMATICS” from 29 April – 13 May, 2023 organised by Teaching Learning Centre Ramanujan College, University of Delhi.
 - Participated in the 5 Day Online Institutional Training Programme on Moodle LMS organised by the Faculty Development Centre of the Kerala State Higher Education Council in association with the Digital University of Kerala during 01st to 07th February 2023 for the faculty members of universities / colleges in Kerala.
 - Participated in the Online NEP 2020 orientation and sensitization programme under MM-TTP of UGC organized by UGC-MMTTC, University of Kerala, Kariavattom, from 18/11/2024 to 28/11/2024.

