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Name:	Dr Rakesh Kumar	
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Complete Resume	(upload)	
General Information		
Name	Dr. Rakesh Kumar	
Designation	Associate Professor	
Qualification	Ph.D. (Statistics)	
Date of Birth		

	26th April 1978			
Date of Joining	24th August, 2009			
Contact Details				
Phone/Mobile	+91-9418632462			
Email ID	rakesh.kumar@smvdu.ac.in, rakesh_stat_kuk@yahoo.co.in			
Specialization	Operations Research (Queuing Theory)			
Educational Qualification				
Name of the Degree	Year of Passing	Institute/University		
B.Sc.	1998	Himachal Pradesh University, Shimla, India		
B. Ed.	2000	University of Kashmir, India		
M. Sc. Statistics	2002	Kurukshetra University, Kurukshetra, India		
Ph. D. Statistics	2006	Kurukshetra University, Kurukshetra, India		
Teaching/Industry Experience				
Position Held	Department and Organization	From	To	Total Experience
Associate Professor	School of Mathematics, Shri Mata Vaishno Devi University, Katra, India	24 th August, 2021	Till date	3 Years 4 months
Professor	Department of Mathematics, Statistics and Actuarial Science, Namibia University of Science and Technology, Namibia	1 st February, 2021	31 st May, 2024	3 Years 4 months
Assistant Professor	School of Mathematics, Shri Mata Vaishno Devi	24 th August, 2009	23 rd August, 2021	12 Years

	University, Katra, India			
Senior Lecturer	Sharda University	17 th November, 2007	18 th August, 2009	1 Year 10 months
Lecturer	Amity University, Noida, India	5 th April, 2006	16 th November, 2007	1 Year 8 months

Administrative Experience

- Coordinator, Minor Projects, School of Mathematics, Shri Mata Vaishno Devi University (2024-till date)
- Coordinator, Internship Projects, School of Mathematics, Shri Mata Vaishno Devi University (2024-till date)
- Coordinator, NAAC Accreditation, School of Mathematics, Shri Mata Vaishno Devi University (2024-till date)
- In-charge, Library Committee, School of Mathematics, Shri Mata Vaishno Devi University (2024-till date)
- Senate Member, Namibia University of Science and Technology, Namibia (2021-2024).
- Coordinator, Research Ethics Committee, Faculty of Health, Natural Resources and Applied Sciences), Namibia University of Science and Technology, Namibia (2021-2024)
- Board of Studies Member, Faculty of Health, Natural Resources and Applied Sciences, Namibia University of Science and Technology, Namibia (2021-2024)
- Member, Faculty Research and Publication Committee, Faculty of Health, Natural Resources and Applied Sciences, Namibia University of Science and Technology, Namibia (2021-2024)
- Representative of Faculty of Health, Natural Resources and Applied Sciences to Institutional Research Ethics Committee, Namibia University of Science and Technology, Namibia (2021-2024)
- Warden, Vindhyachal Hostel, Shri Mata Vaishno Devi University (2020-2021)
- Joint Warden, Nilgiri Hostel, Shri Mata Vaishno Devi University (2017-2020)
- Joint Warden, Vindhyachal Hostel, Shri Mata Vaishno Devi University (2016-2017)
- School of Mathematics Coordinator, Alumni Affairs Committee, Shri Mata Vaishno Devi University (2015-2020)
- Member Secretary, Board of Studies, School of Mathematics, Shri Mata Vaishno Devi University (October, 2020-January, 2021)
- Member Secretary, School Research Committee, School of Mathematics, Shri Mata Vaishno Devi University (2010-2020)
- In-charge, Library Committee, School of Mathematics, Shri Mata Vaishno Devi University (2016-2021)
- Member, Library Sub-Committee, DQA, Shri Mata Vaishno Devi University (2019-2021)
- Member, Academic Affairs Committee, School of Mathematics, Shri Mata Vaishno Devi University (2018-till date)
- Centre Controller at Delhi for SEE-UPTU: 2009
- Management Representative for ISO 9001& 14001 ABS, Amity University, Uttar Pradesh, Noida, India (2006-2007)
- Coordinator, Faculty Development, Sharda Business School, Sharda University, Greater Noida, India (2007-2009)
- Program Coordinator, BBA, Sharda Business School, Sharda University, Greater Noida, India (2008-2009)
- Member, Academic Council, Sharda University, Greater Noida, India (2008-2009)

Research Experience	
Research Interests :	Queuing Theory and its applications
Brief Research Statement :	My area of research is queuing theory and its applications. I have been able to establish the applications of queuing models in business, computer-networks, cloud computing, and health care. My research has attracted funding from University Grants Commission, New Delhi, India. Till date I have supervised 04 PhD students. I am guiding 03 PhD students at Namibia University of Science and Technology. In future, I shall carry out the same interdisciplinary research. I invite students from India and abroad to do PhD in Mathematics in the area of queuing theory under my supervision at the School of Mathematics, SMVDU, Katra.
Research Projects	
<ol style="list-style-type: none"> Project Title: Transient solutions of Markovian Queuing Models with Customer Impatience and Retention of Reneged Customers Role: Principal Investigator Sponsoring Agency: University Grants Commission (UGC) Funding Amount: INR 989000 Place: School of Mathematics, Shri Mata Vaishno Devi University, Katra, India (2015-18) Project Title: Fund for Improvement of S&T infrastructure in universities & higher educational institutions (FIST) Program-2020, Level-1, School of Mathematics, Shri Mata Vaishno Devi University, Katra, India Role: Co-Principal Investigator Sponsoring Agency: Department of Science & Technology (DST), Government of India Funding Amount: INR 2800000 Place: School of Mathematics, Shri Mata Vaishno Devi University, Katra, India (2021-2026) 	
Journal Publications	
<ol style="list-style-type: none"> Sapana, S., Kumar, R., Soodan, B.S. and Singh, P. (2023). Queuing models with customers' impatience – a survey. International Journal of Mathematics in Operational Research, Vol 26, No. 4, 523-547. [Scopus] Sapana, S., Kumar, R., Kuaban, G. S., Soodan, B.S. and Singh, P. (2023). Performance and cost evaluation of an adaptive queuing system with customer renegeing and retention: Steady-state and transient analysis. International Journal of Services, Economics and Management, DOI: 10.1504/IJSEM.2023.10054965.2. [Published Online First] [Scopus] Yohapriyadharsini, R. S, V. Suvitha, Kumar, R. (2023). A Queueing System With Heterogeneous Arrivals, Two Kinds Of Vacations And Impatient Customers. International Journal of Mathematics in Operational Research, DOI: 10.1504/IJMOR.2023.10059372. [Published Online First] [Scopus] Ayyappan, G., Thilagavathy, K., and Kumar, R. (2023). Cost Optimization of MMAP/PH(1), PH(2)/1 Pre-emptive Priority Retrial Queueing model with Standby Server, Orbital Search, Server Breakdowns, Phase Type repairs and Impatient Customers. International Journal of Mathematics in Operational Research, DOI:10.1504/IJMOR.2023.10060048. [Published Online First] [Scopus] 	

5. Soodan, B. S. and Kumar, R. (2022) A single server queuing system with correlated reneging and feedback of served customers. *Communications in Statistics: Theory and Methods*, Vol. 51, No. 18, 6461-6475. [SCIE, WOS I.F. = 0.8]. ISSN 0361-0926. [Scopus]
6. Kumar R., Soodan, B.S., Kuaban, G.S., Czekalski, P., Sharma, S. (2021). Performance Analysis of a Cloud Computing System using Queuing Model with Correlated Task Reneging. *Journal of Physics: Conference Series*, Vol. 2091, Issue 1, pp. 012003. DOI: 10.1088/1742-6596/2091/1/012003. [Scopus]
7. Kumar R. and Sharma, S. (2021). Transient analysis of a Markovian queuing model with multiple-heterogeneous servers' and customers' impatience, *Opsearch*, Vol. 58, 540-556. [SCOPUS, WOS I. F.=1.6]. ISSN: 0030-3887.
8. Kumar R., Soodan, B. S. and Sharma, S. (2021). Modelling health care queue management system facing patients' impatience using queuing theory, *Reliability: Theory and Applications* , Vol. 16, No. 1, 161-165. [SCOPUS]. ISSN: 1932-2321.
9. Amrita Agrawal, Deepika Garg, Arun Kumar and Rakesh Kumar (2021). Performance Analysis of the Water Treatment Reverse Osmosis Plant, *Reliability: Theory and Applications*, Vol. 16, No. 3, 16-25. [SCOPUS]. ISSN: 1932-2321.
10. Tripti Dahiya, Deepika Garg, Sarita Devi and Rakesh Kumar (2021). Reliability Optimization Using Heuristic Algorithm In Pharmaceutical Plant, *Reliability: Theory and Applications* , Vol. 16, No. 3, 195-205. [SCOPUS]. ISSN: 1932-2321.
11. Kuaban, G. S., Kumar, R., Soodan, B. S. and Czekalski, P. (2020). A multi-server queuing model with balking and correlated reneging with application in health care management. *IEEE Access*, Vol. 8, 169623-169639. [SCIE, WOS I.F.=3.367]. ISSN: 2169-3536.
12. Kumar, R. and Soodan, B. S. (2020). Transient Solution of a Single Server Queuing Model with Correlated Reneging using Runge-Kutta Method, *International Journal of Mathematical, Engineering and Management Sciences*, 5(5), 886-896. [SCOPUS, WOS I.F. = 1.6]. ISSN: 2455-7749.
13. Suranga Sampath, M. I. G., Kumar, R., Soodan, B.S., Liu, J., Sharma, S. (2020). A Matrix Method for Transient Solution of an M/M/2/N Queuing System with Heterogeneous Servers and Retention of Reneging Customers, *Reliability: Theory and Applications*, Vol. 15, No.4, 128-137. [SCOPUS]. ISSN: 1932-2321.
14. Vijaya Laxmi, P., Girija Bhavani , E. and Kumar, R. (2020). Correlated Reneging in an Optional Service Markovian Queue With Working Vacations, *Reliability: Theory and Applications*, Vol. 15, No.4, 102-116. [SCOPUS]. ISSN: 1932-2321.
15. Kumar, R., Sharma, S., Soodan, B. S., Vijaya Laxmi, P. and Som, B. K. (2020). Transient Solution of a Heterogeneous Queuing System with Balking and Catastrophes, *Reliability (Theory and Applications)*, Vol.15, No. 1,42-50. [SCOPUS]. ISSN: 1932-2321.
16. Kumar, R., Sharma, S. and Ammar, S.I. (2019). Transient and steady-state analysis of a queuing system having customers' impatience with threshold, *RAIRO Operations Research*, Vol. 53, No. 5, 1861-1876. [SCIE, WOS I.F.= 1.8]. ISSN: 2804-7303.
17. Kumar, R., Sharma, S. (2019). Transient Solution of a Two-Heterogeneous Servers' Queuing System with Retention of Reneging Customers, *Bulletin of the Malaysian Mathematical Sciences Society*, Vol.42, No.1, 223–240. [SCIE, WOS I.F.= 1.2]. ISSN: 0126-6705.
18. Kumar, R. and Sharma, S. (2019) Transient analysis of an M/M/c queuing system with retention of reneging customers, *International Journal of Operational Research*, Vol. 36, No.1, 78-91. [SCOPUS]. ISSN: 1745-7645.
19. Kumar, R. and Soodan, B. S. (2019). Transient Analysis of a Single-Server Queuing System with Correlated Inputs and Reneging, *Reliability (Theory and Applications)*, Vol.14, No. 1, 102-106. [SCOPUS]. ISSN: 1932-2321.
20. Kumar, R. and Soodan, B. S. (2019). Transient numerical analysis of a queueing model with correlated reneging, balking and feedback. *Reliability (Theory & Applications)*, 14 (4), 46-54. [SCOPUS]. ISSN: 1932-2321.
21. Kumar, R. and Sharma, S. (2018). Transient analysis of an M/M/c queuing system with balking and retention of reneging customers, *Communications in Statistics-Theory and Methods*, Vol.48, No. 6, 1318-1327. [SCIE, WOS I.F.=0.8]. ISSN: 0361-0926.
22. Kumar, R. and Sharma, S. (2018) Transient performance analysis of a single server queuing model with retention of reneging customers, *Yugoslav Journal of Operations Research*, Vol. 28, No. 3, 315-331. [SCOPUS]. ISSN: 0354-0243.

23. Som, B. K. and Kumar, R. (2018). A heterogeneous queuing system with reverse balking and renegeing, *Journal of Industrial and Production Engineering*, Vol.35, No. 1, 1-5. [SCOPUS, ESCI, WOS I.F. = 4.5]. ISSN: 2168-1015.
24. Kumar, R. (2017). A transient solution to the M/M/c queuing model equation with balking and catastrophes, *Croatian Operational Research Review*, Vol. 8, No.2, 577-591. [SCOPUS]. ISSN: 18480225.
25. Kumar, R. and Sharma, S. (2017). Time-Dependent Analysis of a Single-Server Queuing Model with Discouraged Arrivals and Retention of Reneging Customers, *Reliability (Theory and Applications)* Vol. 12, No. 4, 84-90. [SCOPUS]. ISSN:1932-2321.
26. Dharmaraja, S. and Kumar, R. (2015). Transient Solution of a Markovian Queuing Model with Heterogeneous Servers and Catastrophes, *Opsearch*, Vol. 52, No.4, 810-826. [SCOPUS, WOS I. F.=1.6]. ISSN: 0030-3887.
27. Kumar, R., Som, B. K. and Jain, S. (2015). AN M/M/1/N Feedback Queuing System with Reverse Balking, *Journal of Reliability and Statistical Studies*, Vol. 8, No.1, (2015) 31-38. [ESCI, SCOPUS, WOS JCI=0.4] ISSN: 0974-8024.
28. Kumar, R. and Sharma, S.K. (2014). A Markovian multi-server queuing model with retention of renegeed customers and balking, *International Journal of Operational Research*, Vol. 20, No. 4, 427-438. [SCOPUS]. ISSN: 745-7645.
48.
29. Kumar, R. and Sharma, S.K. (2014). A single-server Markovian Queuing system with discouraged arrivals and retention of renegeed customers, *Yugoslav Journal of Operations Research*, Vol. 24, No. 1, 119-126. [SCOPUS]. ISSN: 0354-0243.
30. Kumar, R., Jain, N. K. and Som, B.K. (2014). Optimization of M/M/1/N Feedback Queue with Retention of Reneged Customers, *Operations Research and Decisions*, Vol 24, No.3, 45-58. [SCOPUS, ESCI, WOS I.F. = 0.4]. ISSN: 2391-6060.
31. Kumar, R. (2013). Economic analysis of an M/M/c/N queuing model with balking, renegeing and retention of renegeed customers, *Opsearch*, Vol. 50, No. 3, 383-403. [SCOPUS, WOS I. F. = 1.6]. ISSN: 0030-3887.
32. Kumar, R. and Sharma, S.K. (2013). An M/M/c/N queuing system with renegeing and retention of renegeed customers, *International Journal of Operational Research*, Vol. 17, No. 3, 333-344. [SCOPUS]. ISSN:1745-7645.
33. Kumar, R. and Sharma, S.K. (2013). Economic analysis of M/M/c/N queue with retention of impatient customers, *International Journal of Mathematics in Operational Research*, Vol. 5, No. 6, 709-720. [SCOPUS]. ISSN :1757-5850.
34. Kumar, R., Som, B. K., Sharma, S.K., and Jain, S. (2013). Profit Optimization in Insurance Business Facing Customer Impatience, *Global Journal of Pure and Applied Mathematics*, Vol. 9, No. 1, 25-34. [SCOPUS].
35. Kumar, R. (2012). A Catastrophic-cum-restorative queuing problem with correlated input and impatient customers, *International Journal of Agile Systems and Management*, Vol.5, No.1, 122-131. [SCOPUS]. ISSN:1741-9174.
36. Kumar, R. and Sharma, S.K. (2012). Queuing with Reneging, Balking and Retention of Reneged Customers, *International Journal of Mathematical Models and Methods in Applied Sciences*, Vol. 6, No. 7, 819-828. [SCOPUS]. ISSN:19980140.
37. Rakesh Kumar (2012). A catastrophic-cum-restorative queuing system with correlated batch arrivals and general service time distribution, *Pakistan Journal of Statistics and Operation Research*, Vol. 8, No. 1, 43-53. [SCOPUS, ESCI, WOS JCI= 0.69]. ISSN: 1816 2711.
38. Kumar, R. and Sharma, S.K. (2012). M/M/1/N queuing system with retention of renegeed customers, *Pakistan Journal of Statistics and Operation Research*, Vol. 8, No. 4, 859-866. [SCOPUS, ESCI, WOS JCI= 0.69]. ISSN: 1816 2711.
39. Kumar, R. (2010). Transient solution of a catastrophic-cum-restorative M/M/2 queue with heterogeneous servers, *Pakistan Journal of Statistics*, Vol. 26, No.4, 609-613. [SCOPUS]. ISSN:10129367.
40. Kumar, R. (2008). A catastrophic-cum-restorative queuing system with correlated batch arrivals and variable capacity, *Pakistan Journal of Statistics and Operation Research*, Vol.4, No.2, 55-62. [SCOPUS, ESCI]. ISSN: 1816 2711.

41. Jain, N. K. and Kumar, R. (2007). Transient solution of a catastrophic-cum- restorative queuing problem with correlated arrivals and variable service capacity, International Journal of Information and Management Sciences, Vol. 18, No.4, 461-465. [SCOPUS]. ISSN: 10171819.
42. Jain, N. K. and Kumar, R. (2005). Transient Solution of a Correlated Queueing Problem with Variable Capacity and Catastrophes, International Journal of Information and Management Sciences, Volume 16, Number 4, 39-47. [SCOPUS]. ISSN: 10171819.

Conference Publications

1. Kumar, R., Sharma, S. and Singh, P. (2023). A Queueing Model for Computer-Communication Network Under Catastrophic Events and Retransmission of Dropped Packets,” 2023 7th International Conference on Information, Control, and Communication Technologies (ICCT), Astrakhan, Russian Federation, 2023, pp. 1-4, doi: 10.1109/ICCT58878.2023.10347116. [Scopus indexed]
2. Kumar, R. and Soodan, B. S. “Modelling and Analysis of Cloud Computing Systems using Queueing Models with Correlated Arrivals and Correlated Reneging,” 2022 International Conference on Information, Control, and Communication Technologies (ICCT), Astrakhan, Russian Federation, 2022, pp.1-5, DOI: 10.1109/ICCT56057.2022.9976500. [Scopus indexed]
3. Kuaban, G. S., Soodan, B. S., Kumar, R. and Czekalski, P., “A Queueing-theoretic Analysis of the Performance of a Cloud Computing Infrastructure: Accounting for Task Reneging or Dropping,” 2022 International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Maldives, Maldives, 2022, pp. 1-7, doi: 10.1109/ICECCME55909.2022.9988250. Publisher: IEEE. [Scopus indexed]
4. Kuaban, G. S., Soodan, B. S., Kumar, R., and Czekalski, P. (2021). Analysis of the Performance of a Cloud Computing Processing Queue with Correlated Reneging of Tasks and Resubmission, Proceedings of the International Conference on Electrical, Computer and Energy Technologies (ICECET), Cape Town, South Africa, 2021, pp. 1-8, doi: 10.1109/ICECET52533.2021.9698583. ISBN: 978-1-6654-4232-9. Publisher: IEEE. [Scopus indexed]
5. Kumar, R., and Sharma, S. (2017). Transient analysis of a multi-server queueing model with discouraged arrivals and retention of reneging customers, Proceedings of the International Conference on Analytical and Computational Methods in Probability Theory and its Applications, Russia during 23-27 October, 2017, pp 700-704.
6. Kumar, R., and Sharma, S. (2017)., Transient numerical analysis of a single server Markovian queueing system with discouraged arrivals and retention of reneging customers, Proceedings of the 5th Annual International Conference of GSTF on Operations Research and Statistics, Singapore during 6-7 March, 2017, pp 132-136.
7. Kumar, R. and Sharma, S. K. (2014). A queueing model for performance analysis of an insurance business facing pre-mature surrenders of policies, Proceedings of National Conference on Business Dynamics: Contemporary Issues and Challenges at Management School, Kathua Campus, University of Jammu, (March 21-22, 2014), pp50-58.
8. Kumar, R. (2013). Optimization of a Single-server Finite Capacity Markovian Queueing System with Retention of Reneged Customers, Proceedings of National Conference of advances in Mathematics and its applications, NIT Hamirpur, (25-27 June, 2013), pp 317-320.

Book/Chapters Written

BOOKS:

1. Title: Non-Markovian Queues with Catastrophe and Restoration
 Author: Rakesh Kumar
 Publisher: Lap- Lambert Academic Publishing (Germany)
 Year of Publication: 2013
 ISBN-10 : 3659328952
 ISBN-13 : 978-3659328954

2. Title: Transient Study of Queues with Impatience and Retention
 Authors: Sapana Sharma and Rakesh Kumar
 Publisher: Lap- Lambert Academic Publishing (Germany)
 Year of Publication: 2022
 ISBN-10 : 6204982834
 ISBN-13 : 978-6204982830
3. Title: Advances in Queuing Theory and Applications (Special Issue)
 Name of Editor: Rakesh Kumar
 Journal Name: American Journal of Operational Research (USA)
 Volume 3A
 Year: 2013
 Print ISSN: 2324-6537, e-ISSN: 2324-6545.
4. Title: Queuing and Reliability Models with their Applications (Special Issue)
 Names of Editors: Pawan Kumar and Rakesh Kumar
 Journal Name: Reliability-Theory and Applications (USA)
 Volume 14
 Year : 2019
 e-ISSN: 1932-2321.
5. Title: Proceedings of the 1st International Conference on Mathematical and Statistical Sciences (ICMSS-1) organized by the Department of Mathematics, Statistics and Actuarial Science, Namibia University of Science and Technology, Namibia from 3-4 July, 2023. (Conference Proceedings)
 Names of Editors: Sunday A. Reju and Rakesh Kumar
 Year: 2023
 ISBN: 978-99916-55-80-2

Book Chapters:

1. Suranga Sampath, MIG, Kalidass, K., Liu, J., Kumar, R., and Som, B. K. (2024). Impatient customers on an M/M/1 queueing system subjected to differentiated vacations, Chapter 8, Pages:27. Book: Statistical Modeling and Applications on Real-Time Problems, CRC Press. ISBN: 9781003356653
2. Som, B. K., Kumar, R., Kalidass, K., and Suranga Sampath, MIG (2024). A Single-server feedback queueing system with Encouraged Arrivals Customers' Impatience, and Catastrophe, Chapter 9, Pages: 11. Book: Statistical Modeling and Applications on Real-Time Problems, CRC Press. ISBN: 9781003481263.
3. Kumar, R., Sharma, S. and Soodan, B.S. (2023). Multi-server queueing system with feedback and retention. Published in the Book: Applications of Mathematical Modelling, Machine Learning, and Intelligent Computing for Industrial Development, CRC Press, Chapter: 5, Page: 15. eBook ISBN: 9781003386599, DOI: 10.1201/9781003386599-6.
4. Kumar, R., Som, B. K., Kalidass, K. and Suranga Sampath, M. I. G. (2023). Queueing system with customers' impatience, retention, and feedback. Published in the Book: Applications of Mathematical Modelling, Machine Learning, and Intelligent Computing for Industrial Development, CRC Press, Chapter:3, Pages: 11. eBook ISBN: 9781003386599, DOI:10.1201/9781003386599-4.
5. Kuaban G.S., Soodan B.S., Kumar, R., Czekalski P. (2020). Performance Evaluations of a Cloud Computing Physical Machine with Task Reneging and Task Resubmission (Feedback). In: Gaj P., Gumiński W., Kwiecień A. (eds) Computer Networks. CN 2020. Communications in Computer and Information Science, vol 1231. Springer, Cham. https://doi.org/10.1007/978-3-030-50719-0_14 [Scopus]
6. Kumar, R., Sharma, S., Rykov, V. (2019). Transient Solution of a Heterogeneous Queueing System with Balking and Retention of Reneging Customers. In: Gaj, P., Sawicki, M., Kwiecień, A. (eds) Computer Networks. CN 2019. Communications in Computer and Information Science, vol 1039. Springer, Cham. https://doi.org/10.1007/978-3-030-21952-9_25.
7. Kumar, R., Sharma, S. and Bura, G. S. (2019). Transient and steady-state behavior of a two heterogeneous servers' queueing system with balking and retention of reneging customers, K. Deep et al. (eds) Performance Prediction and Analytics of Fuzzy, Reliability and Queueing Models, Asset Analytics, http://doi.org/10.1007/98-981-13-085-4_19. Chapter 19, ISBN: 978-981-13-0857-4.(Springer).
8. Kumar, R. and Som, B. K. (2017). An M/M/c/N Feedback Queueing Model with Reverse Balking and Reneging. In: Manchanda P., Lozi R., Siddiqi A. (eds.) Industrial Mathematics and Complex

Systems. Industrial and Applied Mathematics, (2017) pp 259-269, Chapter 18, ISBN: 978-981-10-3757-3 (Springer).

9. Kumar, R., and Sharma, S. (2017). Transient Analysis of a Multi-server Queuing Model with Discouraged Arrivals and Retention of Reneging Customers. In: Rykov, V., Singpurwalla, N., Zubkov, A. (eds) Analytical and Computational Methods in Probability Theory. ACMPT 2017. Lecture Notes in Computer Science, vol 10684, 54-64. Springer, Cham.
https://doi.org/10.1007/978-3-319-71504-9_6. [SCOPUS]. ISBN: 978-3-319-71503-2
10. Kumar, R., Performance Analysis of a Markovian Queuing System with Reneging and Retention of Reneged Customers, Stochastic Processes and Models in Operations Research, Chapter 6, ISBN13: 9781522500445. (2016), pp. 97-105, IGI Global (USA).

Research Supervision

S. No.	Name of the Student	Thesis Title	Role	Department	University	Status of Ph.D. Work
1	Sumeet Kumar Sharma (Ph.D. in Mathematics)	Markovian Queuing Models for Retention of Reneged Customers	Sole Supervisor	School of Mathematics	Shri Mata Vaishno Devi University, Katra, India	Date of Award: 27 th May, 2015.
2	Bhupender Kumar Som (Ph.D. in Statistics)	Stochastic Models in Finance with Reverse balking and Reverse Reneging	Co-supervisor	Deptt. of Statistics and Operational Research	Kurukshetra University, Kuruksheta, India	Date of Award: 27 th May, 2015.
3	Sapana Sharma (Ph.D. in Mathematics)	A transient Study of Queues with Impatience and Retention	Sole Supervisor	School of Mathematics	Shri Mata Vaishno Devi University, Katra, India	Date of Award: 28 th February, 2020.

4	Bhavneet Singh Soodan (Ph.D. in Mathematics)	A Study on Queues with Correlated Reneging	Sole Supervisor	School of Mathematics	Shri Mata Vaishno Devi University, Katra, India	Date of Award: 7 th August, 2021.
5	Tobias Kaenandunge (Ph.D. in Mathematics)	Queueing Models with Correlated Reneging, Catastrophes and Restoration with their Applications in Health Care Management	Main Supervisor	Department of Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Ongoing

6	Jan Swartz (Ph.D. in Statistics)	Sampling Theory	Co- Supervisor	Department of Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Ongoing
7	Otlaadisa Tafila (Ph.D. in Spatial Science)	Modelling of Surface Water and Groundwater Dynamics in the Okavango Delta for Sustainability of the Ecosystem and Livelihoods	Main Supervisor	Department of Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Ongoing
8	Selma Shifokota (Ph.D. in Statistics)	Sampling Theory	Co- Supervisor	Department of Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Ongoing

Masters Supervision

S. No.	Name of the Student	Batch	Title of Project
1	Supriya	2008-10	Applications of Operations Research in Health Care
2	Rasia Gupta and Adytee Bargoetra	2009-11	Biological Applications of Stochastic Processes
3	Anku Sharma	2010-12	Optimization of Queuing Models
4	Neel Kumar	2011-13	Operational Research Application in Media Selection Problem during the Lok Sabha Election with Reference to J&K

5	Samridhi Sharma	2012-14	Applications of Markov Analysis
6	Sumit Sudan Dhiraj Singh	2012-14	Role of Demand Forecasting in Decision making
7	Deepika Kotwal and Indu Jasrotia	2013-15	Statistical Inference in Queuing Theory
8	Smiley Vats and Vishali Dubey	2014-16	Performance Analysis of Queuing Systems using Control
9	Akshi Raina and Deepika Jasrotia	2014-16	Application of Queuing Networks
10	Sunali Seth, Sahil Sudan, and Rohit Sharma	2015-17	Queuing Systems with Customers' Impatience
11	Komal Sharma and Sonika Thakur	2016-18	Minimum Cost Balanced Diet for Heart Patients by using
12	Deepika Bandral, Anju Devi and Deepika Sharma	2016-18	Determining Optimum Cost Balanced Diet for Diabetic Patients by using Linear Programming
13	Koushal Singh and Rahul Gupta	2017-19	Transient Solution of Queuing Models
14	Archana Sharma and Shali Jasrotia	2017-19	Estimation in Queuing Theory
15	Rupali and Supriya Katal	2018-20	Markovian Queuing Models with Feedback
16	Sakshi Sharma, Chahat Sharma and Shubham Singh	2018-20	Transient Solutions of Markovian Queuing Models with Feedback using Matrix Method
17	LNM Letta	2022-continue	Queueing models with catastrophes for insurance business

Honours Supervision

S. No.	Name of the Student	Thesis Title	Role	Department	University	Status
1	Selma Amutenya (Student Number: 218122225)	Statistical analysis of factors affecting fatality of road accidents (a case study of Khomas region, Namibia)	Sole Supervisor	Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Date of Award: 25 th November, 2021.

2	Ndapandula N. J. Jatileni (Student Number: 216092531)	Queueing Systems with Reverse Balking	Sole Supervisor	Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Date of Award: 2 nd February, 2023.
3	Titus Denzel Kapofi (Student Number: 218055013)	Queueing network model for minimizing queues at Windhoek Central Hospital	Sole Supervisor	Mathematics, Statistics and Actuarial Science	Namibia University of Science and Technology	Date of Award: 7 th February, 2024.

Conferences / Workshops/ FDP/STC /Training/Skill Dev Courses Organized

1. Coordinator, Mathematics and Member-Fundraising Committee, 32nd Annual Conference of the South African Association for Research in Mathematics, Science and Technology Education (SAARMSTE) during 16-18 January, 2024 at International University of Management, Windhoek, Namibia.
2. Co-Chair, 1st International Conference on Mathematical and Statistical Sciences, July 3-4, 2023 at Namibia University of Science and Technology.
3. Panel Co-Chair (online) during International conference on Science, Engineering Management and Information Technology (SEMIT 2023) held on 14-15 September 2023 in Ankara, Turkey.
4. Panel Chair (online) in an International Conference on Optimization and Data Science in Industrial Engineering (November 16-17, Istanbul, Turkey).
5. Program Committee Member, International Conference on Data Science, Machine Learning and Artificial Intelligence, Namibia University of Science and Technology, Namibia during August 9-12, 2021 (<https://dsmlai.nust.na/committee>).
6. Program Committee Member, International workshop on Small and Big Data Approaches in Healthcare, November 1-4, 2021 at Leuven, Belgium (<http://science.lpnu.ua/sbdah2021/program-committee>).
7. 12. Program Committee Member, 28th International Science Conference on Computer Networks-CN 2021, Poland (<https://easychair.org/cfp/cn2021>).
8. Organizing Committee Member of Online International Conference on Mathematical Sciences and Computational Intelligence 21st -22nd December, 2020. (https://www.smvdu.ac.in/images/stories/pdf/events/2020/november/7112020_Conference_Brochure.pdf)
9. Program Committee Member, 27th International Science Conference on Computer Networks – CN 2020, Poland.
10. Program Committee Member, 4th International Conference on Mathematical Techniques in Engineering Applications (ICMTEA-2020), Dehradun, India. (<http://icmtea.in/organizingteam.php>).
11. Program Committee Member, 1st International Workshop on Digital Content & Smart Multimedia, at Lviv Polytechnic National University, Lviv, Ukraine during December 23 – 25, 2019 (<http://science.lpnu.ua/dcsmart-2019>).
12. Organizing Committee Member of 4th National Conference on Recent Trends in Mathematical Sciences in association with International Academy of Physical Sciences during 13-14 December, 2019 at School of Mathematics, Shri Mata Vaishno Devi University, Katra, India. (https://www.smvdu.ac.in/images/stories/pdf/events/2019/dec2019/25112019_Mathsconf_Brouchure.pdf)
13. Program Committee Member, 8th Annual International Conference on Computational Mathematics, Statistics and Operational Research (CMSOR 2019) at Singapore during 8-9 April, 2019. (<http://mathsstat.org/committee/>)

14. Steering Committee Member, Two weeks Refresher Course on Introduction to MATLAB and Research Enhancement Tools at SECE in collaboration with HRDC, SMVDU, Katra (2018).
(<https://www.smvdu.ac.in/index.php/latest-news/113-2018/october/810-smvdu-organises-refresher-course-on-matlab-research-tools>)
15. Program Committee Member, 84th Annual Conference of Indian Mathematical Society, Shri Mata Vaishno Devi University, India, 27-30 November, 2018.
(<https://www.smvdu.ac.in/index.php/event-march-2017/104-november/644-84th-annual-conference-of-indian-mathematical-society>).
16. Program Committee Member, GSTF Conference on Operations Research and Statistics, Singapore, 2018 (<http://mathsstat.org/committee/>).
17. Organizing Committee Member of National Conference on Algebra, Analysis and Applications during 7-8 March, 2017 at Department of Mathematics, SMVDU, Katra.
18. Organizing Secretary of the 3rd National Conference on Recent Trends in Mathematical Sciences (9-10 February, 2017) at Department of Mathematics, SMVDU, Katra.
19. Organizing Secretary of a National Conference on Recent Trends in Mathematical Sciences (October 8-9, 2015) at School of Mathematics, SMVDU, Katra.

Conferences / Workshops/ FDP/STC / Training/Skill Dev Courses Participated

1. Attended one week Faculty Development Program on Teaching Sciences and Mathematics at Faculty Development Centre, SMVDU, Katra during January 21-25, 2019.
2. Attended a Two months NPTEL-AICTE approved Faculty Development Programme on Introduction to Operations Research from IIT Madras during August- September, 2018.
3. Attended a Two weeks Refresher Course on Introduction to MATLAB and Research Enhancement Tools at SECE in collaboration with HRDC, SMVDU, Katra during 20-29 October, 2018.
4. Attended a Three day Faculty Development Program on Effective Teaching– Learning in Higher Education during 4-6 July, 2018 at SMVDU, Katra.
5. Attended a Two week AICTE approved Faculty Development Programme on Pedagogy for Online and Blended Teaching-Learning process conducted by IIT Madras from 3-30 May, 2018.
6. Attended a Two week AICTE approved Faculty Development Programme on Foundation Program in ICT for Education, conducted by IIT Madras from 8th March -12th April, 2018.
7. Attended a Two weeks Refresher Course on Research Methodology at HRDC, SMVDU, Katra during 14-27 March, 2017.
8. Participated in one week TIES sponsored national workshop on “Basic Econometrics” w. e. f. 3rd March, 2014 to 8th March, 2014 at School of Business, Faculty of Management, Shri Mata Vaishno Devi University, Katra.
9. Participated in a Two weeks workshop on Control Systems under the National Mission on Education through ICT (MHRD, Govt. of India) during 2-12 December, 2014 conducted by IIT Kharagpur at SMVDU University, Katra.
10. Attended a Three week Refresher course in Mathematical Science (Mathematics and Statistics) at UGC-ASC, University of Mysore w.e.f. 1-3-2013 to 21-3-2013.
11. Attended a Four week General Orientation Course at UGC-ASC, University of Jammu w. e. f. 20-11-2012 to 17-12-2012.
12. Attended a TWO-DAY ISTE WORKSHOP on Research Methods in Educational Technology Under the National Mission on Education through ICT (MHRD, Govt. of India) 2nd & 9th February 2013 at Shri Mata Vaishno Devi University, Katra.
13. Participated in a six weeks “Summer Faculty Research Fellow Programme-2012 at IIT Delhi” w. e. f. 4th June, 2012 to 13th July, 2012 under Quality Improvement Programme/Continuing Education Programme.
14. Participated in a two weeks AICTE approved Staff Development Programme on “ Introduction to MATLAB and Matrox Imaging Library with emphasis on hands on practice (WMMIL’11), December 16-29, 2011 at SECE, SMVDU University, Katra, J&K.
15. Organized a Mathematics Session during INSPIRE camp at SMVDU, Katra, April 19-23, 2010.
16. Participated in one day Faculty Development Programme on “Developing Leadership Skills” at Jaipuria Institute of Management, Ghaziabad on 31st May, 2008.
17. Conducted an Academic Forum and deliberated on the topic “Live Projects as Pedagogical Tools) at Hindustan Institute of Management, SGI, Greater Noida.

18. Participated in a DST sponsored National symposium on “Applications of Statistics and Operations Research in Indian Industries” Dec. 17-20, 2007 at Indian Statistical Institute (ISI), Hyderabad.
19. Attended a Faculty Development Programme at Amity Business School, Amity University on May 13, 2006.
20. Attended a Faculty Development Workshop, at ICFAI National College, Meerut on “New and Innovative Pedagogy in Higher Education” January 24, 2006.
21. Attended a training programme in “Bio-Statistical Methods” at Institute for Research in Medical Statistics, ICMR, New Delhi during June 18-22, 2001.

Expert Talks

1. Delivered a Keynote lecture (online) on Applications of Queuing Models with Correlated Reneging at the 7th International Scientific Conference on Information, Control and Communication Technologies (ICCT 2023) during October 2-6, 2023, Astrakhan, Russian Federation.
2. Delivered a Keynote lecture (online) on Queuing Models for Cloud Computing in the 1st International Symposium on Celebrating the Contributions of Ramanujan in Mathematics at Amity University- Uttar Pradesh, Noida, India.
3. Delivered a Keynote lecture (online) on Queuing Theory and its applications-some research directions in an International Seminar on the works of Srinivasa Ramanujan and their applications in Science and Engineering on 22 December 2023 at Border Security Force, Rustam Ji Institute of Technology, Tekanpur, Gwalior, India.
4. Delivered an invited talk (online) on Performance Analysis of Cloud Computing using Queuing Models in an International Conference on Statistics, Data Science and Reliability: Exploring Trends, Methods and Applications during 24-26 December, 2023, MD University, Rohtak India.
5. Delivered an invited talk (online) on Career Opportunities in Mathematical Sciences at Central University of Himachal Pradesh during the National Mathematics Day celebration on 22 December 2023.
6. Delivered an invited talk (online) on Mathematics and Society at Central University of Himachal Pradesh (CUH) during the Foundation Week of CUH on 25 January, 2023.
7. Delivered an invited talk on Latest developments in Queuing theory with customer impatience in an Online International Workshop on System Modelling and Artificial Intelligence (SMAI-2021) during July 26-30, 2021 at Manipal University, Jaipur, India.
8. Acted as a Resource Person in an Online International Webinar On Mathematical Science & Technology: Latest Applications on July 3, 2021 at GGN Institute of Management & Technology, Ludhiana, India
9. Acted as a keynote speaker in a Student Seminar on National Science Day on 28-02-2021 organized by Department of Mathematics, Cluster University of Jammu, India and delivered a keynote address on “Applications and Job Opportunities in Mathematics”.
10. Delivered an invited talk on Applications of Queuing Theory in Cloud Computing in online international webinar on Applications of Queuing Theory on February 6, 2021 at Department of Business Management, GGNIMT, Ludhiana, India.
11. Delivered an invited talk on Applications of Queuing Theory in an International Conference on Recent Advances in Computational Mathematics and Engineering during 19-21 March, 2021 at Department of Applied Sciences and Humanities, BK Birla Institute of Engineering and Technology, Pilani, India.
12. Delivered an invited talk on Applications of Queuing Theory in Health care in an International Conference on Analysis and Applications organized by Nepal Mathematical Society in collaboration with the Central Department of Mathematics, Tribhuvan University; South Asian University, New Delhi, India; Association of Nepalese Mathematicians in American; Department of Mathematics, Valmiki Campus, Nepal Sanskriti University during April 9-11, 2021.
13. Delivered an invited talk on Advancements and Applications of Queuing Models with Retention of Reneging Customers, in a Virtual International Conference on Emerging Trends in Engineering, Science, Management and Commerce during May 21-22, 2021 at the Department of Electronics and Communication Engineering, Madhyaanchal Professional University, Bhopal, Madhya Pradesh, India.
14. Delivered an invited talk on Queuing Models with Reverse Balking in an online International Conference on Recent Trends in Science, Humanities and Engineering during 18-19 June, 2021 at SGBP College, Nawalgarh, Rajasthan, India.

15. Delivered a Plenary talk on Queuing Systems with Customers' Impatience and Retention in the 11th International conference on Operations Research for Sustainable Development, February 1-2, 2020 at Janapriya Multiple Campus, Pokhara, Nepal.
16. Acted as a resource person in the One Week International Faculty Development Program on "Real, Applied and Computational Mathematics" at PRDS College, Kerala, affiliated to MG University, India and delivered an invited talk (online) on "Role of Queuing Theory in Cloud Computing" on 28th August, 2020.
17. Acted as a resource person in the One Week International FDP on "Application and implements of mathematics" at Hindustan College of Engineering and Technology, Coimbatore on 22nd August, 2020 and delivered an invited lecture (Online) on 'Queuing models with reverse balking and their extensions'.
18. Acted as a resource person in a national level one day workshop (webinar) and delivered an invited talk on 'Queuing with retention of impatient customers' at department of science and humanities, Hindustan College of Engineering and Technology (Affiliated to Anna University Chennai) on 12th June, 2020.
19. Delivered an invited talk on Transient Analysis of Queuing Models in a National Workshop on Applications of Analysis, at Department of Mathematics, University of Jammu, India during 24-28 February, 2020.
20. Delivered an invited talk on Transient Solutions of Queuing Models in the 4th National Conference on Recent Trends in Mathematical Sciences in association with International Academy of Physical Sciences during 13-14 December, 2019 at School of Mathematics, Shri Mata Vaishno Devi University, Katra, India.
21. Delivered an invited talk on Mathematical Models and Applications of Queuing Systems in an International conference on Mathematics in Space and Applied Sciences during 29-30 November, 2019 at Department of Mathematics, NSCBM Government Degree College, Hamirpur, H. P., India.
22. Delivered an invited talk on Mathematical Modeling of Queuing Systems in National Mathematics Research Scholar Meet at Department of Mathematics, University of Jammu, India during 20-22 August, 2019.
23. Delivered an invited talk on Basic Statistics-II in the FDP on Marketing Research & Business Analytics with Econometric Applications in Business Management at School of Business, Shri Mata Vaishno Devi University, Katra during 6-17 May, 2019.
24. Delivered an invited talk on Queuing Models with Retention of Impatient Customers' in an international conference on Recent Inventions and Innovations in Mathematical Sciences at the Department of Applied Mathematics, Andhra University, Visakhapatnam during 28th February, 2019 to 1st March, 2019.
25. Delivered 09 lectures on Operations Research as a resource person in the Department of Mathematics, Central University of Himachal Pradesh in the workshop mode from 15th to 17th February, 2019.
26. Delivered two lectures on Introduction to Operations Research and its Applications in the Refresher Course in Mathematical Sciences organized by Department of Statistics, University of Jammu in collaboration with H.R.D.C University of Jammu on 13th February, 2019.
27. Delivered an invited talk on Data Interpretation in Research Methodology in the TEQIP- III funded two week refresher course on Introduction to MATLAB and Research Enhancement Tools at SECE in collaboration with H.R.D.C. (S.M.V.D.U., Katra) during 13-22 July, 2018.
28. Delivered an invited talk on Getting Familiar with Operations Research in a National Seminar on Recent Advances in Complex Analysis and Operator Theory and 27th Annual Conference of the Jammu Mathematical Society at University of Jammu, February 15-17, 2018.
29. Delivered an invited talk on Recent Developments in Queuing Systems with customers' Impatience in two-days National Conference on Mathematical Sciences and its Applications organized by the GGMSC, Jammu during 19-20 January, 2018.
30. Delivered two lectures in 1Week Faculty Development Program on Research Methodology at H.R.D.C. (S.M.V.D.U., Katra) during 4-8 December, 2017.
31. Delivered an invited talk on Applications of Queuing Systems with customers' Impatience in 27th international conference of Forum for Interdisciplinary Mathematics in conjunction with the 3rd convention of IARS on Interdisciplinary Mathematics, Statistics, and Computational Techniques during 2-4 November, 2018 at the Department of Statistics, University of Jammu.

32. Delivered an invited talk on Role of Differential Equations in Mathematical Modelling in a National Seminar on Recent Advances in Differential Equations and their Applications during 3-4 February, 2017 at Department of Mathematics, Meenakshi College for Women, Chennai.
33. Delivered an invited talk on Modelling Queues with Customers' Impatience in National Conference on Advances in Mathematical Sciences during 21-22 December, 2016 at Department of Mathematics, NSCBM Government Degree College, Hamirpur, H. P.
34. Delivered an invited talk on Recent Advances in Queuing Modelling with Customers' impatience in National Seminar on Recent Advances in Mathematics and its Computational Aspects during 11-12 November, 2016 at Department of Mathematics, SMP Government Girls P.G. College, Meerut, U.P.
35. Delivered an invited talk on Queuing Systems with Customers' Impatience-Recent Extensions in Silver Jubilee Conference of the Jammu Mathematical Society and a National Seminar on Recent Developments in Complex Analysis, Operator Theory and Related Areas during 20-22 October, 2016 at Department of Mathematics, University of Jammu, Jammu.

Consultancy: None

Title of Consultancy	Client Organization	Faculty Involved	Amount(INR)	Status

International & National Exposure

Sr.No.	Title	Description
1	Professor (Statistics) at Namibia University of Science and Technology, Namibia	I worked as a Professor (Statistics) at the Department of Mathematics, Statistics and Actuarial Science, Namibia University of Science and Technology, Namibia from February, 2021 to May, 2024. I was on Extra Ordinary Leave during this period from Shri Mata Vaishno Devi University, Katra, India
2	Delivered Plenary talks, Invited Talks and acted as Session Chair in International Conferences Abroad	I have visited countries like Singapore, Russia, UK, Poland, Nepal and Namibia for attending international conferences.

Honors & Recognitions Achieved

Sr.No.	Title	Activity	Given By	Year
1	Best Researcher of the Year Award (2023) in the Faculty of Health, Natural Resources and Applied Sciences	Institutional Research Week	Namibia University of Science and Technology	2023
2	Mathematical Sciences Top Scientist in Namibia	Annual Ranking	AD Scientific index	2023
3	Certificate of Official Distinction of 26th International Science Conference on Computer Networks	26th International Science Conference on Computer Networks, Poland, June 25-27, 2019	Convener of the conference	2019

4	Faculty Performance Linked Award	Annual Performance linked Awards	Shri Mata Vaishno Devi University, Katra, India	2017-2018 & 2018-2019
5	Summer Faculty Research Fellowship	Annual Summer Faculty Research Fellowship Awards	Indian Institute of Technology (IIT), Delhi	2012
6	University Medal for M.Sc. Statistics	Convocation	Kurukshetra, University, Kurukshetra, India	2003
7	University Research Scholarship for doing Ph.D. in Statistics	Scholarship Awards	Kurukshetra, University, Kurukshetra, India	2003
8	Guest Editor	Special Issue	Journal: Reliability: Theory and Applications	2019
Links				
LinkedIn	https://www.linkedin.com/in/dr-rakesh-kumar-2772671b/			
Research gate	https://www.researchgate.net/profile/Rakesh_Kumar168			
Facebook	https://www.facebook.com/profile.php?id=1216060940			