School of Basic and Applied Sciences

Department of Mathematics, Central University of Jammu, India

Curriculum-Vitae

Dr. Kamlesh Kumar

(Ph.D. in Mathematics from IIT Roorkee, Roorkee, India)

Designation: **Professor & Head**

Official Address: **Department of Mathematics**,
Central University of Jammu, India

Date of Joining: **16th July, 2024** (as a **Professor**, continuing)
26th December, 2013 (as an **Assistant Professor**)

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List of published/accepted research papers in the International Journals:

1. **Kamlesh Kumar,** Saurabh Garg and Shalini Sharma **(2025):** Cost Optimization for a Retrial Repairable Queueing Healthcare System with Working Vacation and Unreliability using the Genetic Algorithm and Particle Swarm Optimization, *Operations Research, Data Analytics, and Logistics (Elsevier)*, **Accepted (29th March, 2025), ESCI, Scopus, (Impact Factor-2.1.)**

2. Parmeet Kaur Chahal and **Kamlesh Kumar (2025):** Cost Optimization for Computer Numerical Control Machining Workshop: A Queueing Modelling Approach using the Meta-Heuristic Techniques, *ISA Transactions (Elsevier)*, **Accepted (21st March, 2025), SCIE, Q1, (Impact Factor-6.3).**

3. **Kamlesh Kumar** and Shalini Sharma **(2025):** Modelling and Computation for a Queueing Manufacturing Plant System with Server Working Vacation under Control Policies**,** *Journal of Systems Science and Systems Engineering (Springer)*, **Accepted (19th March, 2025), SCIE (Impact Factor-1.7).**

4. Shalini Sharma, **Kamlesh Kumar**, Saurabh Garg and Madhu Jain **(2024):** Cost optimization of a single server machine repair system with hybrid vacation under a bi-level (N, M) policy and reneging, *Quality Technology & Quantitative Management* **(Taylor & Francis)**, **Accepted** (**4th December, 2024**), **SCIE, Q1, (Impact Factor-2.3). DOI:** https://doi.org/10.1080/16843703.2024.2442135

5. Amina Angelika Bouchentouf, **Kamlesh Kumar** and Parmeet Kaur Chahal **(2024):** Particle swarm optimization for a redundant repairable machining system with working vacations and impatience in a multi-phase random environment, *Swarm and Evolutionary Computation* **(Elsevier),** Vol. 90, pp. 101688. **Accepted (27th July, 2024), (Impact factor-8.2), SCIE, Q1 DOI:** https://doi.org/10.1016/j.swevo.2024.101688

6. Shalini Sharma, **Kamlesh Kumar** and Saurabh Garg **(2024):** Cost analysis for machine repair problem under triadic policy with discouragement and multiple working vacations, *International Journal of Management Science and Engineering Management* **(Taylor & Francis**), **Accepted (1st July, 2024), (Impact Factor-4.8), Scopus, ESCI, Q1 (Acceptance rate 5 %). DOI:** http://dx.doi.org/10.1080/17509653.2024.2381741

7. Parmeet Kaur Chahal, **Kamlesh Kumar** and Bhavneet Singh Soodan **(2024):** Grey Wolf Algorithm for cost optimization of cloud computing repairable system with N-policy, discouragement and two-level Bernoulli feedback, *Mathematics and Computers in Simulation* **(Elsevier),** Vol. 225, pp. 545-569. **DOI:** https://doi.org/10.1016/j.matcom.2024.06.005 **(Impact Factor-4.4), SCIE, Q1.**

8. Shalini Sharma and **Kamlesh Kumar (2024):** Cost optimal analysis for a differentiated vacation machining system with discouragement under the two threshold control policies, *Results in Control and Optimization* **(Elsevier)**, Vol. 15, pp. 100409**,** ISSN No. 2666-7207**, DOI:** https://doi.org/10.1016/j.rico.2024.100409, **Scopus, ESCI, Q2.**

9. Parmeet Kaur Chahal and **Kamlesh Kumar (2024):** A genetic algorithm for cost optimization in queueing models of machining systems with multiple working vacation and generalized triadic policy, *Decision Analytics Journal* **(Elsevier)**, Vol. 10, 100395**, DOI:** https://doi.org/10.1016/j.dajour.2023.100395. **Scopus, Q2.**

10. Parmeet Kaur Chahal, **Kamlesh Kumar** and Bhavneet Singh Soodan **(2024):** Reliability analysis and ANFIS computation for multi-server redundant machining system with the generalized triadic policy, *Yugoslav Journal of Operations Research*, Vol. 34, No. 02, pp. 307-336. **DOI:** https://doi.org/10.2298/YJOR230915030C**, Scopus**

11. Parmeet Kaur Chahal and **Kamlesh Kumar (2023):** Queueing models of machine repair problems with control policies: A survey and analysis, *International Journal of Operational Research*, **DOI:** 10.1504/IJOR.2023.10060548, **Accepted, Scopus**

12. **Kamlesh Kumar**, Madhu Jain and Chandra Shekhar **(2023):** Machine repair system with threshold recovery policy, unreliable servers and phase repairs, *Quality Technology & Quantitative Management* **(Taylor & Francis),** Vol. 21, No. 5, pp. 587-610. **DOI:** https://doi.org/10.1080/16843703.2023.2232639, **Accepted, (Impact Factor-2.82) SCIE. Q1**

13. **Kamlesh Kumar** and Madhu Jain **(2023):** A queueing model with balking, server vacation and working breakdown, *International Journal of Mathematics in Operational Research*, **DOI:** 10.1504/IJMOR.2023.10060110, **Accepted, Scopus**

14. Sreekanth Kolledath and **Kamlesh Kumar (2023):** Performance analysis for F-policy machine repair problem with unreliable server balking, working breakdown and retention, *International Journal of Operational Research*, **DOI:** 10.1504/IJOR.2023.10057145, **Accepted, Scopus.**

15. **Kamlesh Kumar**, Madhu Jain and Chandra Shekhar **(2019):** Machine repair system with F-policy, two unreliable servers and warm standbys, *Journal of Testing and Evaluation*, Vol. 47, No. 1, pp. 361-383. **DOI:** https://www.astm.org/jte20160595.html (**Impact Factor-1.2) SCI.**

16. Sreekanth Kolledath, **Kamlesh Kumar** and Sarita Pippal **(2018):** Survey on queueing models with standbys support, *Yugoslav Journal of Operations Research*, Vol. 28, No. 1, pp. 3-20. **DOI:** https://doiserbia.nb.rs/Article.aspx?ID=0354-02431700024K **Scopus.**

17. Sarita Pippal and **Kamlesh Kumar (2018):** Impact of LTNE on Double Diffusive Convection with Radiation in a Square Cavity, *International Journal of Advance Research in Science and Engineering*, Vol. 7, No. 2, pp. 169-178.

18. Sreekanth Kolledath, **Kamlesh Kumar (2017):** Performance Analysis of Three Stage Tandem Queues, *International Journal of Mathematics Trends and Technology (IJMTT),* Vol. 52, No. 3, pp. 171-176. **DOI:** http://www.ijmttjournal.org/2017/Volume-52/number-3/IJMTT-V52P523.pdf

19. **Kamlesh Kumar** and Madhu Jain **(2014):** Bi-level Control of Degraded Machining System with Two Unreliable Servers, Multiple Standbys, Setup and Vacation, *International Journal of Operational Research*, Vol. 21, No. 2, pp. 123-142. **Scopus. DOI:** https://doi.org/10.1504/IJOR.2014.064540

20. **Kamlesh Kumar** and Madhu Jain **(2013):** Threshold F-policy and N-Policy for Multi-component Machining System with Warm Standbys, *Journal of Industrial Engineering International (Springer)*, Vol. 9, No. 28, pp. 1-9, **Scopus. DOI:** https://doi.org/10.1186/2251-712X-9-28

21. **Kamlesh Kumar** and Madhu Jain **(2013):** Threshold N-policy for (*M, m*) Degraded Machining System with K-Heterogeneous Servers, Standby Switching Failure and Multiple Vacations, *International Journal of Mathematics in Operational Research*, Vol. 5, No. 4, pp. 423-445.**Scopus. DOI:** https://doi.org/10.1504/IJMOR.2013.054719

List of Published Research Papers in the Conference Proceedings/Book Chapters:

1. Parmeet Kaur Chahal and **Kamlesh Kumar** (2024): Reliability Analysis for a Repairable Redundant Machining System with Unreliable Servers and a Triadic Control Policy, *Elsevier Edited Book on Modelling and Computational Intelligence for Quality and Reliability Assurance*.

2. Parmeet Kaur Chahal, **Kamlesh Kumar** and Shalini Sharma (2024): Performance Analysis of Redundant Machining System with Multiple Working Vacations under Generalized Triadic Policy, *Optimization Techniques and Associated Applications (CRC Press Taylor & Francis) in December 2023*. DOI: https://doi.org/10.1201/9781003407386, eBook ISBN No.9781003407386

3. Sreekanth Kolledath and **Kamlesh Kumar** (2019): Performance Analysis of Series Queue with Customer's Blocking. *In: Deep K., Jain M., Salhi S. (eds) Performance Prediction and Analytics of Fuzzy, Reliability and Queuing Models*. *Asset Analytics (Performance and Safety Management). Springer, Singapore*, pp. 191-201, https://doi.org/10.1007/978-981-13-0857-4_14.

4. **Kamlesh Kumar** and Madhu Jain (2013): Controlling F-policy and Threshold N-policy for the Machine Repair System with Provision of Warm Standbys, *Elsevier Proceedings of International Conference on Information and Mathematical Sciences (IMS-13), 24-26, October 2013, Bathinda, Punjab, ISBN No. 9789351071624, Elsevier, pp. 447-451.*

5. **Kamlesh Kumar** and Madhu Jain (2011): Bi-level Control Policy of Machining Repair Problem with Two Unreliable Servers, Multiple Standbys, *Proceedings of International Conference on Advances in Modeling, Optimization and Computing (AMOC-2011), 5-7 December, 2011, IIT Roorkee, Roorkee, ISBN No. 81-86224-71-2, pp. 1750-1761.*

Research Guidance/Supervision:

Ph. D. (Degree Awarded)

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Name of the scholar	***Thesis Title***
1. Sreekanth K.	Performance Analysis of Some Queueing Models with Standbys Support
2. Parmeet Kaur Chahal	Control Policies for the Queueing Modelling of Machine Repair Problems

Ph. D. (Thesis Submitted)

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Name of the scholar	***Thesis Title***
1. Shalini Sharma	Queueing Modelling of Machine Repair Problems with Vacation Policies

Ph. D. (Ongoing)

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Name of the scholar	***Thesis Title***
1. Sukhbeer Singh	Modelling and Analysis of Queueing Repairable Systems with Server Unreliability

M.Sc. Projects (Degree Awarded)

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(Session 2022-24)

Roll No	***Name***	***Title of the Project***	***University***
18532040008	Preeti Choudhary	Degeneracy in Transportation Problems	Cluster University of Jammu, J & K
22MMAT01	Priyanka Malhotra	Introduction to Linear Programming Problems	Central University of Jammu
22MMAT02	Sadiya Parveen	Discrete Probability Distributions	Central University of Jammu
22MMAT33	Dipakshi Sharma	Game Theory and its Applications	Central University of Jammu

22MMAT44	Sidhant Kumar Parida	Connectedness and its Properties with Applications in Topological Spaces	Central University of Jammu
22MMAT50	Sayan Kumae De	Introduction to Two Dimensional Random Variables with Applications	Central University of Jammu
22MMAT53	Sumit Gangwar	Transportation Problems and its Applications	Central University of Jammu

(Session 2021-23)

Roll No	***Name***	***Title of the Project***
0300321	Aisha Noura T.A.	Introduction to Fourier Series
0700321	Ananya T.	Introduction to Game Theory
1300321	Dilip Parihar	Introduction to Assignment Problems
1500321	Irfana Shaheen	Introduction to Transportation Problems
1600321	Latika Choudhary	Sequence and Series
2600321	Prashant	Function of Two Variables and Their Properties
2800321	Radha Kishan Dara	Introduction to Probability Theory
3100321	Ravi Prakash	Reimann Integrals and its Properties
4200321	Suman	Limit, Continuity and Differentiability of Two Variables
4500321	Swati Charak	Introduction to Random Variables

(Session 2020-22)

Roll No	***Name***	***Title of the Project***
0700320	Atul Kumar Rai	Distribution Functions
1600320	Gourav Sharma	On a Curious Identity of Ramanujan
1800321	Hiteshwar Sharma	Proof of Fermat's Little Theorem
3000321	Nivea Verma	On Some Sequences Related to Sums of Powers
4000320	Ravi Prakash Sharma	Functions of Several Variables
4300320	Sandeep Kumar Sahoo	Countable Sets and Transfinite Numbers
5000320	Surinder Singh	Sequences and Series

(Session 2019-21)

Roll No	***Name***	***Title of the Project***
0800319	Deepali Verma	Linear Programming Problems
1200319	Kajal	Queuing Theory
1900319	Neeraj Verma	Transportation Problems
2300319	Partap Singh	Basic Set Theory
2400319	Priya	Sequences and Series Functions
2700319	Radhika Rani	Transportation Problems
2900319	Roojah	Queuing Models
3600319	Shivani Verma	Linear Programming Problems
3700319	Simran Sharma	Stochastic Processes

(Session 2018-20)

Roll No	***Name***	***Title of the Project***
0600318	Diksha Bhatt	Study of Markov Chain
1100318	Karity Gotra	Introduction to Stochastic Problem
2200318	Shruti Bhambri	Transportation Problem
2800318	Syed Hussain	Introduction to Assignment Problem
3000318	Umar Maqbool Sheikh	Function of Several Variables
3100318	Varinder Kour	Discrete Random Variables
3800318	Megha Radha	Introduction to the Random Variables
3900318	Riya	Introduction to the Game Theory

(Session 2017-19)

Roll No	***Name***	***Title of the Project***
0500317	Archana Devi	Solutions of Linear Programming Problems
0900317	Kamaljit Kaur	Transportation Problems
1500317	NaziaKousar	Game Theory
2200317	Ruby Katal	Probability Distributions
2300317	Samiya Akhtar	Replacement Problems
3000317	Ulfat Anwar	Non-Linear Programming Problems

(Session 2016-2018)

Roll No	***Name***	***Title of the Project***
1200316	Diksha Kumari	Some Methods to Solve Linear Programming Problems

2400316	Priya Sharma	Estimation Theory and its Applications
2900316	Shalu Sharma	Some Distributions and Their Properties
3100316	Versha Devi	Game Theory
3400316	Vishali	Introduction to Queuing Theory

(Session 2015-2017)

Roll No	***Name***	***Title of the Project***
1000315	Tania Gupta	Solutions of Linear Programming Problems
1300315	Parul Gandotra	Transportation Problems and its Applications
1500315	Rabiya Gupta	Introduction to Replacement Problems
1800315	Sneha Kumari	Some Probability Distribution Functions
2300315	Nisha Devi	Some Continuous Functions
2000315	Varun Kumar	Functions of Several Variables

(Session 2014-2016)

Roll No	***Name***	***Title of the Project***
0400314	Bharti Karsyal	Queuing Modelling of Machine Repair Problems
0900314	Manisha Devi	Linear Programming Problems and its Applications
1400314	Raveena Bibi	Analysis of Sequence and Series of Functions
1500314	Ravi Kumar	Queuing Theory and its Applications
2300314	Shabnam Akhtar	Stochastic Processes or Random Processes

(Session 2013-2015)

Roll No	***Name***	***Title of the Project***
0100313	Imran Kaur	Queue in Machine Repair Problems
0300313	Ramandeep Kaur	Queue with Server Breakdowns
0800313	Shikha Dogra	Queue with Server Vacations
1800313	Ramni Devi	Queuing Models and its Applications
2500313	Monika Devi	Machine Repair Problem with Standbys Support

(Session 2012-2014)

Roll No	***Name***	***Title of the Project***
0200312	Bua Ditta	Disconnected Spaces in Topology
0600312	Gulshan	Continuity in Topological Space
2200312	Sanjeev Kumar Bhagat	Mobius Transformation in Complex Dynamics
2300312	Shakeel Ahmed	Connectedness in Topological Space

Workshops/Conferences/Seminars Organised:

1. **Dr. Kamlesh Kumar** successfully organised a one-day seminar on **"Life and Work of Srinivasa Ramanujan"**, **20th December, 2023**, in the Department of Mathematics, Central University of Jammu.
2. **Dr. Kamlesh Kumar** successfully organised a workshop on "**Introduction to LATEX**" in the Department of Mathematics, Central University of Jammu from **25-02-2022 to 27-02-2022**.

Sessions Chaired:

1. **Dr. Kamlesh Kumar** chaired a session at the **1st International Conference on Mathematical and Statistical Sciences (ICMSS-1)** held on **03-04, July, 2023** and conference was organized by the **Department of Mathematics, Statistics and Actuarial Sciences, Namibia University of Science and Technology**.

Invited Lectures/Talks:

1. Prof. Kamlesh Kumar delivered an invited talk on the topic "*Markov Chains with their Classifications & Applications*" on 10-09-2024 in the National Seminar on "*Recent Advances in Analysis and Allied Areas*" held on September 12-14, 2024 and organized by the **Department of Mathematics, University of Jammu, Jammu & Kashmir, India**.

2. Dr. Kamlesh Kumar delivered an expert lecture on the topic "*Markov Process*" on 31-03-2016 during the Faculty Development Programme on "*Operations Research*" through ICT for the teachers of Engineering Colleges and Polytechnics conducted by Department of Applied Sciences, **National Institute of Technical Teachers' Training & Research, (NITTTR), Chandigarh, India.**

3. Dr. Kamlesh Kumar delivered an expert lecture on the topic "*Stochastic Process*" on 31-03-2016 during the Faculty Development Programme on "*Operations Research*" through ICT for the teachers of Engineering Colleges and Polytechnics conducted by Department of Applied Sciences, **National Institute of Technical Teachers' Training& Research, (NITTTR), Chandigarh, India.**

4. Dr. Kamlesh Kumar delivered an expert lecture on the topic "*Game Theory*" on 04-09-2015 during the short-term course on "*Advanced Mathematical Programming Problems with use of Softwares*" for the teachers of Engineering Colleges and Polytechnics conducted by Department of Applied Sciences, **National Institute of Technical Teachers' Training & Research, (NITTTR), Chandigarh, India.**

Administrative Responsibilities:

1. I have been a **Liaison Officer for PwD** since **September, 2014 to September, 2020** at the Central University of Jammu.

Professional Development Courses/Programmes/Workshops/FDPs:

1. Completed a **12-week** course on ***"Introduction to Probability Theory and Stochastic Processes"*** approved by **NPTEL-AICTE** and funded by MoE, Government of India from **July-October, 2023**.
2. Completed a **12-week Faculty Development Programme (FDP)** on ***"Introduction to Queueing Theory"*** approved by **NPTEL-AICTE** and funded by MoE, Government of India from **January-April, 2023**.
3. Completed **12-week Faculty Development Programme (FDP)** on ***"Introduction to Fuzzy Set Theory, Arithmetic and Logic"*** approved by **NPTEL-AICTE** and funded by MoE, Government of India from **July-October, 2022**.
4. Attended one-week online Faculty Development Programme (FDP) on *"Recent Research Area and Its Application in Mathematics"* organized by the Department of Mathematics, Vel Tech Multi Tech Dr. Rangrajan Dr. Sakunthala Engineering College (Affiliated to Anna University, Chennai) from 10th to 15th October 2022.
5. Attended one-week Faculty Development Programme (FDP) on *"Artificial Intelligence/Artificial Wisdom-A Drive for Improving Behavioral and Mental Health Care"* from 06-09-2021 to 10-09-2021 at Central University of Jammu.
6. Attended one-week Faculty Development Programme (FDP) on *"Mathematical Tools and Recent Advances in Mathematics"* from 21-09-2020 to 25-09-2020 organised by Mathematics and Scientific Computing Department, Madan Mohan Malaviya University of Technology, Gorakhpur, Uttar Pradesh, India.
7. Attended one-week Faculty Development Programme (FDP) on *"Effective Online Teaching and Learning"* from 14-09-2020 to 19-09-2020 jointly organised by Panjab University Chandigarh and Dibrugarh Assam, India.
8. Attended one-week Faculty Development Programme (FDP) on *"Pedagogical Techniques for Virtual Class Room"* from 02-09-2020 to 06-09-2020 jointly organised by Panjab University Chandigarh and Dibrugarh Assam, India.
9. Attended one-week Short Term Course on "*Plagiarism & Ethical Issues in Research Work"* at HRDC, Guru Nanak Dev University, Amritsar from 03-03-2020 to 09-03-2020.
10. Attended one-week Faculty Development Programme (FDP) on *"Teaching Sciences and Mathematics"* from 21-01-2019 to 25-01-2019 organised by Faculty Development Centre, Shri Mata Vaishno Devi University Katra, Jammu and Kashmir.

11. Attended a Refresher course in *"Research Methodology & Data Analysis"* held at HRDC, Panjabi University, Patiala from 01-12-2017 to 21-12-2017.
12. Attended QIP Short Term Course entitled "*Stochastic Modelling and Optimal Control of Engineering System"* at IIT Roorkee, Roorkee from 22.05.2017 to 26.05.2017.
13. Attended an Orientation program at HRDC, Panjab University, Chandigarh from 29-11-2016 to 26-12-2016.

Conferences/Workshops Attended:

1. Attended a SERB-INAE sponsored 5-days workshop on "***Innovation, Entrepreneurship and Start-Up for Young'*** organized by National Institute of Technology Mizoram from 26th to 30thSeptember 2022.
2. Attended one-week workshop on **"*Emerging Trends in Optimisation Technology for Research*"** (Online Mode) 18-07-2022 to 23-07-2022 organized by REST Society for Research International (RSRI) Krishnagiri, Tamil Nadu, India.
3. Attended an International Conference on "***Information and Mathematical Sciences (IMS-13)***" in collaboration with DST, CSIR and Indian National Science Academy held at Baba Farid College of Engineering and Technology, Bathhinda, Punjabfrom 24-26, October 2013.
4. Attended a National workshop on "***Scientific/Research Paper Writing***" from 05-07, April, 2013 organized by The National Academy of Sciences, India held at Mohanlal Sukhadia University, Udaipur, Rajasthan.
5. Attended a UGC sponsored DRS-I under SAP-National workshop on "***Challenges before Applied Mathematicians: Fluid Dynamics and Optimization Techniques***" from 11-13, March 2011 organized by the Department of Mathematics, University of Rajasthan, Jaipur.
6. Attended and done voluntary work in the "***National Meet of Research Scholars in Mathematical Sciences-2009***" from 19-23 December 2009 organized by Department of Mathematics, Indian Institute of Technology Roorkee, Roorkee, India.

Attended/Participated some other programmes:

- Participated in ***IP Awareness/Training program*** under National Intellectual Property Awareness Mission (NIPAM) on January 31, 2022 organized by *Intellectual Property Office, India***.**