

Curriculum-Vitae

Rohtash Kumar, Ph.D.

Asst. Professor
Department of Statistics
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Education

Ph.D. (Statistics)-2008, MD University, Rohtak
M.Phil. (Statistics)-2004, MD University, Rohtak
M. Sc. (Math. Statistics)-2003, MD University, Rohtak
B.Sc. (Non-Medical)-2001, MD University
Computers: Adv. PGD Compt. Appl.

Honors/ Medals/Scholarships

University Gold Medal- M.Sc.
University Topper- M.Phil.
University Research Fellowship-Ph.D. (Ranked First)

Research Interests

Stochastic Modeling; Reliability Theory; Modeling & Applications, Systems Maintenance
Modeling & Cost analysis, System Failure Analysis.

Research Projects/ Grants

Principal Investigator-UGC Funded Major Research Project, F. No. 42-34, 2013(SR). [Completed]

Research Supervision

Ph. D. Registered Candidates: 04

Professional Affiliations/ Associations

National/ International

Life Member IARS-Indian Association for Reliability & Statistics

Life Member ISCA-Indian Science Congress Association

Life Member ISPS-Indian Society for Probability and Statistics

Life Member SRQOM-Society of Reliability, Quality and Operations Management

Life Member Punjab Academy of Sciences

Life Member IAENG International Association of Engineers

Life Member FIM-Forum for Interdisciplinary Mathematics

Member IISA- International Indian Statistical Association

Research Publications

Full Length Research Papers

- **Bhardwaj, R. K., Kaur, Komaldeep & Malik, S.C.(2017)**, Reliability Indices of a Redundant System with Standby Failure and Arbitrary Distribution for Repair & Replacement Times, 2017, Int J. Syst Assur. Eng. Manag, Vol.8,2 , pp. 423-431.
- **Bhardwaj, R. K. & Singh, R. (2017)**, Long Run Performance of a Standby System under Repair Time Threshold & Server Failure, 2017, Int. J. of Stat. & Reliab. Engg, Vol. 4,1, pp. 38-45.
- **Bhardwaj, R. K. & Kaur, Komaldeep (2017)**, Reliability and Profit Analysis of A Standby System with Arrival Time of Server using Weibull Distribution , 2017, Int. J. of Stat. & Reliab. Engg, Vol. 4,1, pp. 19-28.
- **Bhardwaj, R. K. & Singh, R. (2016)**, Stochastic Model of a Cold-Standby System with Waiting for Arrival & Treatment of Server, American Journal of Operations Research, Vol. 6, pp. 334–342.
- **Bhardwaj, R. K. & Singh, R. (2016)**, MTSF and Profit Modeling of a Standby System with Corrective Decision Subject to Inspection, 2015, Int. J. of Stat. & Reliab. Engg, Vol. 2,2, pp. 129-151.
- **Bhardwaj, R. K., Kaur, Komaldeep & Malik, S.C.(2015)**, Performance Analysis of a Stochastic System with Standby Failure & Maintenance, 2015, Int. J. of Comp. App., Vol. 125,1, pp. 006–011.
- **Bhardwaj, R. K. & Singh, R. (2015)**, A Cold-Standby System with Server Failure and Delayed Treatment, 2015, Int. J. of Comp. App., Vol. 124(17), pp. 031–036.

- **Bhardwaj, R. K., Kaur, Komaldeep & Malik, S. C., (2015)**, Stochastic Modeling of a System with Maintenance and Replacement of Standby Subject to Inspection, 2015, American J. of Theoretical & Applied Statistics, Vol. 4,5, pp. 339–346.
- **Bhardwaj, R. K. & Singh, R. (2015)**, Semi-Markov Model of a Standby System with General Distribution of Arrival and Failure Times of Server, 2015, American Journal of Applied Mathematics and Statistics, Vol. 3,3, pp.105–110.
- **Bhardwaj, R. K. & Singh, R. (2015)**, An Inspection-Repair-Replacement Model of a Stochastic Standby System with Server Failure, 2015, Mathematics in Engineering, Science and Aerospace , Vol. 6,2, pp. 191–202.
- **Bhardwaj, R. K. & Singh, Ravinder (2015)**, Stochastic Modeling and Analysis of a Standby System with Server Failure under Arbitrary Distributions, 2015, Int. J. of Adv. Comp. & Math. Sc., Vol. 6,1, pp. 06–17.
- **Bhardwaj, R. K. & Singh, Ravinder (2014)**, Steady State Behavior of a Cold-Standby System with Server Failure and Arbitrary Repair, Replacement & Treatment, 2014, Int. J. of App. Engg Res., vol. 9,24, pp. 26563–26578
- **Bhardwaj, R. K. & Singh, Ravinder (2014)**, Semi Markov Approach for Asymptotic Performance Analysis of a Standby System with Server Failure, Int. J. of Comp. App., Vol. 98(3), pp. 09–14.
- **Bhardwaj, R. K. & Kaur, Komaldeep (2014)**, Reliability and Profit Analysis of a Redundant System with Possible Renewal of Standby Subject to Inspection, 2014, Int. J. of Stat. & Reliab. Eng, Vol. 1,1, pp. 36–46.
- **Bhardwaj, R. K. & Malik, S. C., (2012)**, Fuzzy Reliability Evaluation of a Fire Detector System, 2012, Int. J. of Comp. App., Vol. 43(3), 41–46.
- **Bhardwaj, R. K., Dhankar, A. K. & Malik, S. C., (2012)**, Reliability Modeling and Profit Analysis of a System with Different Failure Modes and Replaceable Server Subject to Inspection, 2012, Int. j. of Stat.& Analysis , Vol. 2,3, pp. 245–255.
- **Bhardwaj, R. K. & Malik, S. C., (2011)**, Asymptotic Performance Analysis of 2oo3 Cold Standby System with Constrained Repair and Arbitrary Distributed Inspection Time, 2011, Int.J. of App. Engg. Res., Vol. 6,8, pp. 1493–1502.
- **Bhardwaj, R. K. & Malik, S. C., (2011)**, Stochastic Modeling and Performance Analysis of 2(K)-out-of-3(N) System with Inspection Subject to Operational Restriction, 2011, J. of Reliab. & Stat'l Studies, vol. 4,1, pp. 85–93.
- **Bhardwaj, R. K. & Malik, S. C., (2010)**, Stochastic Analysis of 2-out-of-3 Redundant Systems with Random Appearance and Disappearance of Repair Facility, 2010, Int. J. of Comb., Info. & System Sc., Vol. 35(1-2), 43–59.

- **Bhardwaj, R. K., Malik, S. C. & Grewal, A. S. (2010)**, Probabilistic Analysis of a System of Two Non-Identical Parallel Units with Priority to Repair Subject to Inspection, 2010, Int. J. of Reliab. & Statistical Studies, Vol. 3,1, pp. 01–11.
- **Bhardwaj, R. K. & Malik, S. C., (2010)**, MTSF and Cost-effectiveness of a 2-out-of-3 Cold Standby System with Probability of Repair and Inspection, Int. J. of Engg Sc. & Tech., Vol. 2,10, pp. 5882–5889.
- **Bhardwaj, R. K. & Malik, S. C. (2009)**, Mathematical Analysis of Three Unit Redundant System under Post-Failure Inspection, 2009, Dronacharya Research Journal, Vol. 1,1, pp. 31–39.
- **Bhardwaj, R. K. & Malik, S. C., (2009)**, Reliability and Economic Analysis of 2-out-of-3 Unit Redundant Systems with Priority to Repair, Afr. J. Math. & Comp. Sci. Res., Vol. 2,11, pp. 230–236.
- **Bhardwaj, R. K. & Malik, S. C., (2009)**, Cost- Benefit Analysis of Stochastic Model of 2-out-of-3 Unit Redundant System with Inspection, Proc. Int. Conf. on Reliab. & Engg Mgnt., pp 800-816.
- **Bhardwaj, R. K. & Malik, S. C., (2008)**, Profit Analysis of Stochastic Model of 2-out-of-3 Redundant Systems with Inspection by a Server who Appears and Disappears Randomly, 2008, Int. J. of Business and Engg. Res., Vol. 1,1, pp. 49–56.
- **Bhardwaj, R. K. & Malik, S. C., (2008)**, Profit Analysis of 2-out-of-3 Unit Redundant Systems with Feasibility of Repair, 2008, J. of Maths & Sys. Sci., Vol. 4,2, pp. 23–36.
- **Bhardwaj, R. K. & Malik, S. C., (2007)**, Economic Analysis of Repairable Systems with Random Appearance and Disappearance of Service Facility, J. of Maths & Sys. Sci., Vol. 3,1, pp. 36–49.
- **Bhardwaj, R. K. & Malik, S. C., (2007)**, Reliability and Cost-Benefit Analysis of 2-out-of-3 Unit Redundant Systems with General Distribution of Repair and Waiting Time, 2007, DIAS Tech. Review- An Int. J. of Bus. & IT, Vol. 4,1, pp. 28–35.
- **Bhardwaj, R. K. & Malik, S. C., (2007)**, Reliability Modeling of 2-out-of-3 Unit Redundant System Subjected to Conditional Arrival Time of the Server, 2007, Proc. 13th ISSAT- Int. Conf. on Reliability and Quality in Design, Seattle(USA), pp 206-210.

Conference Presentations/ Invited Talks

- International Conference on New Frontiers of Engineering, Science, Management and Humanities, Institution of Electronics and Telecommunication Engineers- A Scientific and Research Organization (IETE-SIRO), Chandigarh, July, 29, **2017**.
Talk: MTSF and Cost Benefit Analysis of a Standby System with Repairable Server.

- International Conference on New Frontiers of Engineering, Science, Management and Humanities, Institution of Electronics and Telecommunication Engineers- A Scientific and Research Organization (IETE-SIRO), Chandigarh, July, 29, **2017**.
Talk: Stochastic Modeling and Performance Analysis of a Redundant System.
- National conference on Statistics and Optimization Techniques, Department of Statistics, MD University Rohtak, Feb. 11-13, **2017**.
Talk: Stochastic analysis of a rectifiable system with rectifications subject to inspection.
- International Conference on Recent Advances in Statistics, University of Mumbai, June 27-29, **2016**.
Talk: Probabilistic Performance Analysis of a Redundant System using Regenerative Point Technique.
- International Indian Statistical Association (IISA) International Conference on Celebrating Statistical Innovation and Impact in a World of Big and Small Data, Pune University, Pune, Dec. 20-24, **2015**.
Talk: Performance Evaluation of a Repairable Standby System with Server Failure.
- National Conference on Recent Trends and Developments in Statistics, Department of Statistics, MD University Rohtak, Feb. 21-23, **2015**.
Talk: Reliability and Cost Benefit Analysis of a Redundant System with Server Failure.
- Indian Science Congress, University of Jammu, Feb, 03-07, **2014**.
Talk: Reliability and Performance Analysis of Redundant System with Waiting Time of Server.
- International Conference on Frontiers of Statistics and its Applications, Pondicherry University, Pondicherry, Dec. 21-23, **2012**.
Talk: Reliability Modeling of a Computer System with Arrival time of the Server at H/w and S/w Failure.
- International Conference on Interdisciplinary Mathematics, Statistics and Computational Techniques, Punjab University, Chandigarh, Dec. 15-17, **2012**.
Talk: Probabilistic Analysis of a Computer System with Priority of H/w Repair over S/w Replacement.
- International Conference on Optimization Modeling and Applications, University of Delhi, Nov. 29- Dec.01, **2012**.
Talk: Stochastic Modeling and Reliability Analysis of a Cold Standby System with waiting time of Server.

- National Conference on Modeling, Computational Fluid Dynamics & Operations Research, Department of Mathematics, Birla Institute of Technology and Science (BITS), Pilani, Rajasthan, Feb. 4-5, **2012**.
Talk: Reliability Modeling and Profit Analysis of a System with Different Failure Modes and Replaceable Server Subject to Inspection.
- International Conference on Statistics, Probability and Related Areas, Cochin University of Science and Technology, Cochin (Kerala), Dec. 19-22, **2011**.
Talk: Performance Analysis of a Repairable System with Probability of Fluctuations and Degradation.
- International Congress on Productivity, Quality, Reliability, Optimization and Modeling, Indian Statistical Institute (ISI), New Delhi (India), Feb. 07-08, **2011**.
Talk: Reliability and Cost Analysis of 2-out-of-3 Units Redundant System with Arbitrary Distribution of Inspection and Repair Times.
- National Workshop on Modeling, Optimization and their Applications, Department of Statistics, M.D. University, Rohtak (Hr.), August 17-21, **2010**.
Talk: Reliability Modeling and Profit Analysis of 2-out-of-3 Units Redundant System under Inspection.
- International Conference on Quality, Reliability and Infocom Technology, University of Delhi, New Delhi (India), Dec. 18-20, **2009**.
Talk: Measures of System Effectiveness of 2-out-of-3 Units Redundant System with Post-Failure Inspection and Repair.
- International Conference on Interdisciplinary Mathematical and Statistical Techniques, Jaypee University (JUIT), Wagnaghat, Himachal Pradesh, (India), August 02-04, **2009**.
Talk: Economic Analysis of a System with Repair and Inspection Subject to Weather Conditions and Degradation.
- National Conference on Social Developments under the Ages of Operations Research, M.M. PG College, Fatehabad (Hr.), March 21-22, **2009**.
Talk: Reliability and Profit Estimation of 3-Units Cold Standby System.
- International Conference on Operations Research Applications in Engineering and Management, Anna University, Truchirrapalli, Tamil Nadu (India), May 27-29, **2009**.
Talk: Cost- Benefit Analysis of Stochastic Model of a 2-out-of-3 Redundant System with Inspection.
- International Conference on New Trends in Statistics and Optimization, University of Kashmir, Srinagar, J & K (India), Oct. 20-23, **2008**.

Talk: Stochastic Modeling of 2-out-of-3 Units Redundant System Subject to Inspection.

- National Seminar on Modern Trends in IT, Dronacharya College of Engineering, Gurgaon (Hr.), July 16th **2008**.

Talk: On Reliability of Multi-Units Redundant System.

- National Conference on Emerging Trends in Statistical Methods and Optimization Techniques, University of Jammu, J & K, Feb. 22-23, **2008**.

Paper: Reliability and Economic Analysis of 2-out-of-3 Units Redundant System with Priority to Repair.

- National Symposium on Applicable Mathematics to Engineering and Technology & 11th Annual Conference of GAMS, Jaypee Institute of Engineering and Technology, Guna (M.P.), April 22-23, **2006**.

Paper: Stochastic Analysis of a System of Two- Parallel Units Working Under Different Weather Conditions.

- National conference on IT- Setting Trends in Modern Era & 8th Annual Conference of Indian Society of Information Technology, N. C. College of Engineering, Panipat (Hr.), March, 18-20, **2006**.

Paper: Profit Analysis of a System of Two Parallel-Units with Simultaneous Repair.

Training Programme/ Workshops

- QIP- Short term course on Theory Numeric and Applications of Differential Equations, IITG-Indian Institute of Technology, Guwahati, Dec. 10-14, **2007** (One Week).
- QIP-Short Term Course on Applied Numerical Methods, IITR-Indian Institute of Technology, Roorkee, July 07-11, **2008**(One Week).
- QIP-Short Term Course on Mathematical Computations Using Software Tools, IITR-Indian Institute of Technology, Roorkee, July 01-05, **2008** (One Week).
- Training Program on Creative Thinking, D.C.E. Gurgaon, June 19, **2009** (One day).
- Training Program on Six Sigma, D.C.E. Gurgaon, June 18, **2009** (One day).
- National Workshop on Applicable Statistics, M.D. University Rohtak (Hr.), March 28-30, **2010**.
- National Workshop (DST sponsored) on Modeling, Optimization and their Applications Department of Statistics, M.D. University, Rohtak (Hr.), August 17-21, **2010** (one week).
- Orientation Course, UGC-Academic Staff College, Punjabi University Patiala, from 3rd May to 30th May **2012** (Four Weeks).

- Refresher Course on Information Technology and its Applications, UGC ASC Punjabi University, Patiala, from 14-11-2013 to 04-12-**2013**.
- FDP Workshop under SPOKEN TUTORIAL Project of IIT Bombay, Punjabi University Patiala, 10/**2016**.
- Refresher Course on Research Methodology in Physical & Life Sciences, UGC HRDC Punjabi University, Patiala, from 02-01-2017 to 21-01-**2017**.

(R.K. Bhardwaj)