

Dr. Nitin Gupta

Date of joining IIT Kharagpur 22nd July 2013. Presently working as Associate Professor at IIT Kharagpur since 2 September 2021.

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Research Interests

- Applied Probability;
- Mathematical Statistics;
- Reliability Theory.

Sponsored Projects

1. Title: Investigation on residual life time and inactivity time of coherent systems.
Principal Investigator : Nitin Gupta
Funding Agency/ Total grant sectioned:
National Board for Higher Mathematics, Department of Atomic Energy, Government of India/
Rs. 962000 Duration: 2012-2015
2. Project Title : Redundancy allocations in system
Principal Investigator : Nitin Gupta
Funding Agency/ Total grant sectioned:
Science and Engineering Research Board, Department of Science and Technology, Government
of India/ Rs. 1041000
Duration: 2014-2017
3. Project Title : Reliability Properties Under Random Operating Environment
Principal Investigator : Nitin Gupta
Funding Agency/ Total grant sectioned:
Sponsored Research & Industrial Consultancy, IIT Kharagpur/ Rs. 100000
Duration: 2014-2017

Research Work Publications in Journals

1. "Preservation of Some Aging Properties and Stochastic Orders by Weighted distributions", (jointly with Profs. Neeraj Misra and Ishwari D. Dhariyal) **Communications in Statistics-Theory and Methods**, 37, 627-644 (2008). Taylor & Francis
2. "Stochastic Properties of Residual Life and Inactivity Time at a Random Time", (jointly with Profs. Neeraj Misra and Ishwari D. Dhariyal). **Stochastic Models**, 24, no. 1, 89-102 (2008). Taylor & Francis
3. "Stochastic Comparisons of Multivariate Frailty Models", (jointly with Profs. Neeraj Misra and Rameshwar D. Gupta). **Journal of Statistical Planning and Inference**, 139, 2084-2090 (2009). Elsevier
4. "Optimal allocation of active spares in series systems and comparison of component and system redundancies", (jointly with Profs. Neeraj Misra and Ishwari D. Dhariyal). **Journal of Applied Probability**, 46, 19-34 (2009). Applied Probability Trust
5. "Reliability Under Random Operating Environment: Frailty Models", (jointly with Prof.'s Ishwari D. Dhariyal and Neeraj Misra) **Journal of Combinatorics, Information and System Sciences**, 35 No. 1-2, 117-133, 2011.
6. "On Some Reliability Properties of Residual Life and Inactivity Time of Series and Parallel System", (jointly with Neeraj Gandotra and Rakesh K Bajaj). **Journal of Applied Mathematics, Statistics and Informatics**, Vol 8, No. 1, 5-16, May 2012.
7. "On Partial Monotonic Behavior of Some Entropy Measures", Nitin Gupta and RK Bajaj. **Statistics and Probability Letters**, Volume 83, Issue 5, May 2013, Pages 1330-1338. Elsevier
8. "Stochastic comparison of residual life times and inactivity times of coherent systems", Nitin Gupta. **Journal of Applied Probability**, Vol 50, No. 3, Sep 2013. Applied Probability Trust

9. "Fuzzy entropy in fuzzy weighted linear regression model under linear restrictions with simulation study", T. Kumar, RK Bajaj and Nitin Gupta **International Journal of General Systems**, 43(2), 135-148 (2014). Taylor & Francis
10. "Preservation Properties of the Laplace Transform and Moment Generating Function Ordering of Residual Life and Inactivity Time", Neeraj Gandotra, Nitin Gupta and Rakesh K Bajaj, **Journal of Statistics and Management Systems**. Vol. 17, No. 4, pp. 301-310 (2014). Taylor & Francis
11. "Stochastic comparisons of component and system redundancies with dependent components", Nitin Gupta and S. Kumar. **Operations Research Letters**,42 (4), 284289 (2014) Elsevier
12. "Stochastic comparisons in parallel/series systems with Frechet distributed components", Nitin Gupta, L.K. Patra and S. Kumar. **Operations Research Letters**, 43, 612-615 (2015) Elsevier
13. "Stochastic comparisons of residual life times and inactivity times of coherent systems with dependent identically distributed components", Nitin Gupta, N. Misra and S. Kumar. **European Journal of Operational Research**, 240 : 425430 (2015) Elsevier
14. "On Partial Monotonic Behaviour of Varma Entropy and its application in coding theory", M.M. Sati and Nitin Gupta. **Journal of the Indian Statistical Association**,53(1,2) 135-152 (2015)
15. "Stochastic comparison study of series and parallel systems having Kumaraswamy's and Frechet distributed components", M. Datta, Nitin Gupta. **Journal of the Indian Statistical Association** -55, 103-126 (2017)
16. "On Various Weighted Past and Residual Entropy Measures", S. Bansal, Nitin Gupta. **Journal of the Indian Statistical Association** -56, 127-153 (2018)
17. "Stochastic comparisons of multivariate reversed frailty model", S. Bansal, Nitin Gupta. **Statistica Neerlandica** - 73(4) 451-524 (2019) Wiley
18. "Stochastic comparison of Extended Inverse Lindley distribution using heterogeneous components", M. Datta, Nitin Gupta. **Journal of Probability and Statistical Sciences**- 18 13-28 (2020)
19. "Reliability of a coherent system equipped with two cold standby components", A. Roy, Nitin Gupta. **Metrika**-83, 677-697 (2020) Springer
20. "Reliability function of k -out-of- n system equipped with two cold standby components", A. Roy, Nitin Gupta **Communications in Statistics-Theory and Methods**, 1-20 (2020) Taylor & Francis
21. "Weighted Extropies and Past Extropy of Order Statistics and k -Record Values", S. Bansal, Nitin Gupta **Communications in Statistics-Theory and Methods**, 1-18 (2021) Taylor & Francis
22. "Stochastic ordering inequalities in parallel and series systems with Gumble distributed components", S. Biswas, Nitin Gupta **Calcutta Statistical Association Bulletin**, 1-11, (2022)
23. "Stochastic comparison for extreme order statistics arising from PHR, PRHR or location model", M. Datta, Nitin Gupta **Revstat- Statistical Journal**, Accepted for publication (2022)
24. "Some characterizations of continuous symmetric distributions based on extropy of record values", Nitin Gupta, S.K. Chaudhary **Statistical Papers**, Accepted for publication (2023)
25. "On General Weighted Extropy of Ranked Set Sampling", Nitin Gupta, S.K. Chaudhary **Communications in Statistics-Theory and Methods**, Accepted for publication (2023)

Papers in conferences

1. "Stochastic comparisons and aging properties of multivariate reversed frailty model", Proceedings of International Conference on Mathematical Sciences-2007 (ICMS-2007) Bangi-Putrajaya, Malaysia, 200, 993-1015 (jointly with N. Misra and R.D. Gupta).
2. "R-norm Intuitionistic Fuzzy Information Measures and its Computational Applications", Rakesh K Bajaj, Tanuj Kumar and Nitin Gupta, Springer: Communications in Computer and Information Science, 2012, Volume 305, Part 8, 372-380, DOI: 10.1007/978-3-642-32112-2 43.
3. "Vendor Selection under Intuitionistic Trapezoidal Fuzzy Multiple Criteria Decision Making Model with Entropy Weights", Neeraj Gandotra, Rakesh K Bajaj and Nitin Gupta, IEEE proceedings of Second International conference on Advances in Computing & Communications (ICACC), 2012, 18-21, DOI:10.1109/ICACC.2012.5.
4. "Reliability Evaluation of Series and Parallel Systems using Trapezoidal Intuitionistic Fuzzy Sets", Tanuj Kumar, Nitin Gupta and Rakesh K Bajaj, IEEE proceedings of Second International conference on Advances in Computing and Communications (ICACC), 2012, pp. 219-222, DOI:10.1109/ICACC.2012.50.

5. "Utility and Fuzziness Aspects of the Information Measures in Experimental Observations and Computations", Rakesh K Bajaj and Nitin Gupta, IEEE proceedings of Second International conference on Advances in Computing and Communications (ICACC), 2012, pp. 9-13, DOI:10.1109/ICACC.2012.3.
6. "Reliability Properties of Series and Parallel Systems under Equilibrium Distribution", Nitin Gupta, Neeraj Gandotra and Rakesh K Bajaj, IEEE proceedings of Second International conference on Advances in Computing and Communications (ICACC), 2012, pp. 203-206, DOI:10.1109/ICACC.2012.47.
7. "‘NTV’ Metric based New Similarity Measure for Intuitionistic Fuzzy Sets with its Computational Application in Medical Diagnosis", Rakesh K Bajaj, Tanuj Kumar and Nitin Gupta, IEEE proceedings of Second International conference on Advances in Computing & Communications (ICACC), 2012, 1-4, DOI:10.1109/ICACC.2012.1.
8. "Fuzzy Entropy on Restricted Fuzzy Linear Regression Model with Cross Validation and Applications", Tanuj Kumar, Nitin Gupta and Rakesh K Bajaj, IEEE proceedings of Second International conference on Advances in Computing and Communications (ICACC), 2012, pp. 5-8, DOI:10.1109/ICACC.2012.2
9. "Sorting of Decision Making Units in Data Envelopment Analysis with Intuitionistic Fuzzy Weighted Entropy", Neeraj Gandotra, Rakesh K Bajaj and Nitin Gupta, Springer: Advances in Intelligent and Soft Computing (DBLP, Ulrich's, EI-Compendex, SCOPUS, Zentralblatt Math, MetaPress, Springerlink), Proceedings of 2nd International Conference on Computer Science, Engineering and Applications (ICCSEA 2012), Volume 166/2012, 567-576.
10. "Estimation of the location parameter of a general half-normal distribution", L.K. Patra, S.Kumar and Nitin Gupta Springer Proceedings in Mathematics & Statistics, V. 253, 281-293, 2018.
11. "On Partial Monotonic Behaviour of Past Entropy and Convolution of Entropy", S. Bansal and Nitin Gupta Recent Advances in Intelligent Information Systems and Applied Mathematics. ICITAM 2019. Studies in Computational Intelligence, pp 209-217, vol 863. Springer.
12. "Usual stochastic ordering results for series and parallel systems with components having Exponentiated Chen distribution", M. Datta, Nitin Gupta. Springer Proceedings in Mathematics & Statistics: Mathematical Analysis and Applications: MAA 2020: V.381, pp 305-322

Papers presented in Seminar/Conferences

1. Presented a paper titled "Optimal allocation of spare in series system and component and system redundancies", in 3rd International Conference in Statistics (IASSL-2017) : 28-29 December 2017, Taj Samudra hotel in Colombo, Sri Lanka.
2. Presented a paper titled "Stochastic comparison of used system and system made of used components", in 2nd International Conference in Statistics (IASSL-2014) 28-30th December, 2014 at Galadari Hotel, Colombo, Sri Lanka.
3. Presented a paper titled "On stochastic comparison of used system and system of used components", in 2nd Annual National Conference of HSCA on Science: Emerging Scenario & Future Challenges-II (SESFC-II) at Himalayan Forest Research Institute, Shimla, Himachal Pradesh, India on May 17-18, 2014.
4. International Congress of Mathematicians (ICM 2010), a contributed talk titled "On Some Reliability Properties of Mean Inactivity Time Order under Weighing", held in Hyderabad International Convention Centre (HICC), Hyderabad, India during 19 - 27 August, 2010.
5. Presented a paper "Stochastic Properties of Multivariate Frailty Models", in Third Open House at Department of Mathematics and Statistics IIT Kanpur April 4-6, 2008.
6. Participated in Diamond Jubilee Symposium on Statistical Techniques: Recent Trends and Advances, in Department of Statistics, Panjab University, Chandigarh, March 18- 19 , 2008
7. Presented a paper in International Conference on Mathematical Sciences, November 28 -29, 2007, Equatorial Hotel, Bangi-Putrajaya, Malaysia
8. Attended Hyderabad Symposium in Probability and Statistics Hyderabad, December 17 - 19, 2007
9. Presented a paper "Stochastic Properties of Weighted Distribution and Residual Life (Inactivity Time) at a Random Time", in Second Open House at Department of Mathematics and Statistics, IIT Kanpur Jan 20, 2007.
10. Given a talk on Statistics Day in Department of Mathematics and Statistics, IIT Kanpur Oct 14, 2006

Books Published

- Neeraj Gandotra, Rakesh Kumar Bajaj, Nitin Gupta (2015). Reliability Properties and Intuitionistic Fuzzy Decision Making. : Lambert Academic Publishing. [ISBN : 978-3-659-75289-6]

Thesis Supervision Ph.D.

1. Dr. Neeraj Gandotra: Thesis titled “Reliability Properties Of Residual Life Time, Inactivity Time and Decision Making in Intuitionistic Fuzzy Environment” completed on 2014 from JUIT Waknaghat, Co-guide Dr. Rakesh K. Bajaj.
2. Dr. Madan Mohan Sati: Thesis titled “Generalization of Verma and Tsallis Entropies and their properties”, completed on 2017 from JUIT Waknaghat, Co-guide Prof. Harinder Singh.
3. Dr. Madhurima Datta: Thesis titled “Stochastic comparison of extreme order statistics” completed on 2021 from IIT Kharagpur.
4. Dr. Shilpa Bansal: Thesis titled “Study of multivariate reversed frailty models, weighted entropies and extropies” completed on 2022 from IIT Kharagpur
5. Dr. Achintya Roy: Thesis titled “Reliability study of a coherent system equipped with cold standby components” completed on 2022 from IIT Kharagpur
6. Santosh Kumar Chaudhary: Ongoing joined in August 2021.
7. Pradeep Kumar Sahu: Ongoing joined in July 2022.
8. Sarikul Islam: Ongoing joined in January 2023.

Courses Taught Courses Taught at IIT Kharagpur

- Stochastic Processes and Applications (MA20208) 2021-22(Spring)
- Stochastic Processes/Stochastic Process and Simulation (MA41017/MA60067) 2016-17 (Spring); 2017-18(Spring); 2018-19 (Spring), 2019-20 (Spring), 2020-21 (Spring), 2021-22(Spring)
- Probability and Stochastic Processes MA20106 for B.Tech (EE/MT/EC/IE), 2013-2014 (Spring); 2014-2015 (Spring); 2015-16 (Spring); 2016-17 (Spring); 2017-18 (Spring); 2018-19 (Spring), 2019-20 (Spring), 2020-21 (Spring), 2021-22(Spring)
- Statistical Inference MA20008/MA41108 (shared 1/2 course with Prof. S. Kumar) for 5-year Integrated M.Sc, 2013-2014 (Spring); 2014-2015 (Spring).
- Regression and Time Series Models MA60056 2015-16 (Spring)
- Stochastic Processes in Finance MA41031 2015-16 (Autumn); 2016-17 (Autumn); 2017-18 (Autumn); 2018-19 (Autumn); 2019-20 (Autumn), 2020-21 (Autumn), 2021-22 (Autumn), 2022-23 (Autumn)
- Computational Statistics MA51109/ MA60049, 2013-2014 (Autumn); 2014-2015 (Autumn); 2019-20 (Autumn)
- Probability and Statistics MA41009 for M.Sc Mathematics 2013-2014 (Autumn); 2015-16 (Autumn); 2016-17 (Autumn)
- Statistical Technique and Computer Programming (MA60061) 2014-2015 (Autumn); 2017-18 (Autumn); 2018-19 (Autumn), 2020-21 (Autumn), 2021-22 (Autumn), 2022-23 (Autumn)
- Regression and Time Series Model MA31020/MA41025 (shared 1/2 course with Prof. S. Kumar) 2016-17 (Autumn)
- Statistical Methods MA60017 2014-2015 (Autumn); 2015-16 (Autumn)

Courses Taught at JUIT Waknaghat

- Biostatistics for B.Tech (Bioinformatics); Course-coordinator, 2009-10 (Odd Semester), 2010-2011 (Even Semester);
- Probability and Random Process for B.Tech (Electronics/IT/CS); Course-coordinator, 2009-10 (Odd Semester);
- Probability and Statistics for B.Tech (Biotech/Bioinformatics); Course-coordinator, 2009-10 (Even Semester), 2010-2011 (Odd Semester);
- Numerical Methods for B.Tech (Civil); Course-coordinator, 2009-10 (Even Semester);
- Numerical Techniques for B.Tech Elective Course;

- Research Methodology and Computational Techniques, for Ph.D. 2009-10 (Even Semester), 2010-2011 (Odd Semester);
- Game Theory, for Ph.D. 2009-10;
- Probability Theory, for Ph.D. 2009-10.

Teaching Assistantships at IIT Kanpur during Ph.D.:

- Reliability Theory for M.Sc. (Statistics), Teaching Assistant;
- Stochastic Processes for B.Tech/M.Sc. (Statistics), Teaching Assistant.

Professional Membership and Activities

- Reviewer for Journal of Multivariate Analysis, Elsevier; European Journal of Operational Research, Elsevier; Operations Research Letters, Elsevier; Metrika, Springer; Computational Statistics & Data Analysis, Elsevier etc.
- Life Member of *The Indian Science Congress Association*;
- Life Member of *Indian Statistical Association*.
- Life Member of *The International Indian Statistical Association (IISA)*.

Educational Qualifications

- Ph.D. (Statistics)
Indian Institute of Technology Kanpur, India, in 2010.
Title: *Some Contributions of Theory of Stochastic Orders and Their Applications*.
Supervisors: Prof. Neeraj Misra & Prof. Ishwari D. Dhariyal.
- M. Phil. (Statistics)
Department of Statistics, Panjab University, Chandigarh, India
1st Div. (75%) in 2003.
- M. Sc. (Statistics)
Department of Statistics, Panjab University, Chandigarh, India
1st Div. (65%) in 2002.
- B. Sc.
Panjab University, Chandigarh, India
1st Div. (60%) in 1999.
- Intermediate (class 10+2)
Himachal Pradesh Board of School Education, Dharmshala, India
1st Div.(69%) in 1996.
- High School (class 10)
Himachal Pradesh Board of School Education, Dharmshala, India
1st Div.(80%) in 1994.

Academic Positions

- Associate Professor at Indian Institute of Technology Kharagpur since 2 Sep 2021
- Assistant Professor at Indian Institute of Technology Kharagpur from July 2013 to Sep 2021
- Senior Lecturer at Jaypee University of Information Technology from Mar 2011 to June 2013
- Assistant Professor at IGNOU from Dec 2010 to Feb 2011
- Lecturer at Jaypee University of Information Technology from July 2009 to Dec 2010

Awards and Recognition

1. Qualified Graduate Aptitude Test in Engineering (GATE) in the year 2003;
2. Qualified JRF-NET conducted jointly by CSIR and UGC, India in July 2004;
3. PG Diploma in Operations Research in 2004 from Pondicherry University;
4. Research Scholarship from IIT Kanpur from July 2004 to July 2005;
5. Research Scholarship from CSIR from July 2005 to June 2009;
6. Cash Award form DRPG IIT Kanpur for publishing recognized research papers.
7. Best Paper Award Nomination in Second International Conference on Advances and Communications Kochi, India, August 9-11, 2012, for the paper “Utility and Fuzziness Aspects of the Information Measures”.

Invited Lectures

- Invited as a resource person in the Science Camps under INSPIRE Internship programme funded by Department of Science and Technology (DST), Government of India, New Delhi, organized at Shoolini University during 29th to 3rd July, 2011.
- Given a invited talk in 2nd International Conference in Statistics (IASSL-2014) 28-30th December, 2014 at Galadari Hotel, Colombo, Sri Lanka.
- Organised and chaired a session on "Applied Probability" in 3rd International Conference in Statistics (IASSL-2017) : 28-29 December 2017, Taj Samudra hotel in Colombo, Sri Lanka. Also given a invited talk in IASSL-2017.
- Given an online invited talk (webinar) titled "Simulation and its applications" for faculty and research students of Department of Mathematics, Amity School of Applied Sciences, Amity University, Haryana on 11 May 2022.

Short Term Courses and Workshops

- Taught and prepared slides for a module-Introduction to Probability in course of Foundations of Artificial Intelligence And Machine Learning for Centre for Excellence in AI, IIT Kharagpur in 2019.
- Short term course on Statistical Methods in Data Analysis in Department of Mathematics, IIT Kharagpur on 25th Feb -1st Mar, 2017
Topic Taught : Gauss Markov model, multiple and polynomial regression models.
- Attended NBHM school for Lecturers held at Jaypee University of information and Technology, Waknaghat, HP during June 4 to 16, 2012 on the topic "Partial Differential Equations".
- Workshop on "Data Mining and Parallel Computing" held at Jaypee University of Information Technology, Waknaghat, HP during August 2 to 5, 2011;
- Workshop on "Artificial Neural Networks, Pattern Recognition, Computer Vision and Multimedia Information Retrieval" held at Jaypee University of Information Technology, Waknaghat, HP during July 4 to 8, 2011.

Extra Curricular Activities

- Program Officer NSO-Health and Fitness for unit 10 from 2014 to 2017 at IIT Kharagpur.
- Member of Organizing committee of IMST 2009-FIM XVIII held at Jaypee University of IT, from August 2-4, 2009.
- Coordinator of sessions in 2nd International Symposium on Emerging Trends and Technologies in Libraries and Information Services (ETTLIS-2010) held during 3-5 June, 2010 in JUIT, Waknaghat, Solan (H.P.), India.
- Member of Organizing Committee for cultural programme in International Conference on Statistical Inference and Reliability to honour Prof. Jayant V. Deshpande; along with the XXI annual conference of Indian Society for Probability and Statistics (ISPS) and Annual Conference of Indian Chapter of International Society of Bayesian Analysis in Dec 21-24, 2001 held at Deptt. of Statistics, Punjab University Chandigarh.

Personal Details

Name : Nitin Gupta

Date of Birth : April 07, 1979

Gender : Male

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Declaration:

I hereby declare that the information furnished above is true to the best of my knowledge.

(NITIN GUPTA)