Curriculum Vitae

Dr. Sumit Kumar

Department of Statistics
Faculty of Mathematical Sciences
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Current Academic Position

Jun, 2023 - Continue — **Assistant Professor**, *Department of Statistics*, University of Delhi, Delhi-11007, India.

Research Interests

- Statistical Quality Control
- Bayesian Inference
- Reliability Analysis
- Applied Statistics
- Data Analysis
- Survival Analysis

Academic Qualification

2020 **Doctor of Philosophy in Statistics**, *Central University of Rajasthan, Ajmer*.
Title-"Some Problems on Process Capability Studies: Statistical Inference and Applications"

2014 **Master of Science**, *C.C.S. University, Meerut*.
Specialization in Statistics

2012 **Bechelor of Science**, *C.C.S. University, Meerut*.
Physics, Statistics, Mathematics

Academic Honors

Qualified UGC- **National Eligibility Test in 2022**.

Membership of Profession Bodies

Life time membership of **Indian Society of Probability and Statistics (ISPS)**.

Experience

Dec, 2021 - Jun, 2023 — **Assistant Professor**, *Department of Mathematics*, Chandigarh University, Mohali, Punjab, India.

Sep, 2020 - Dec, 2021 — **Assistant Professor**, *Department of Engineering and Physical Sciences*, Institute of Advanced Research, Gandhinagar, Gujarat, India.

Research Grant

2025 Received Research Grant of 5 (Lakh) as **Co-PI** under **Faculty Research Programme (FRP)** of the Institution of Eminence, University of Delhi, Delhi-110007.

2024 Received Research Grant of 5 (Lakh) as **PI** under **Faculty Research Programme (FRP)** of the Institution of Eminence, University of Delhi, Delhi-110007.

Invited Lecture/Talks

2024 Delivered lecture in National Faculty Development Program on "Advanced Statistical Techniques for Academic Excellence in Data Analytics (FDP ASTAEDA-2024)" held from 22-28 October, 2024, at CHRIST (Deemed to be University), Bangalore, Yashwanthpur Campus.

2021 Delivered 3 day lecture's series (18-22 June, 2021) on Design Project-I (Statistical methods) for the course M.Des. at NID Ahmadabad, Gujarat.

UG/PG Project

2023 Supervised four UG Students in Minor Project of 6 Credit entitled "Predicting stock price with Data" at Department of Mathematics, Chandigarh University Mohali, Punjab.

Book Chapter

2021 **Kumar S.** (2021). Classical and Bayesian Estimation of the Process Capability Index C_{py} Based on Lomax Distributed. In Yadav D.K. (Eds.), Advance Research Trends in Statistics and Data Science (pp. 115-131). MKSES Publication **(ISBN-978-81-949305-4-9)**.

Published/Accepted Papers

2025 Tripathi, H., Singh Yadav, A., Saha, M., and Kumar, S. (2025). Generalized Inverse Xgamma Distribution: Properties, Estimation and Its Applications To Survival Data. Thailand Statistician, 23 (3), 573–597. (**Scopus, ESCI**).

2025 Saha, M., **Kumar S.**, Pareek, P., Doodwal, G., and Meena, B. (2025). Parametric confidence intervals of generalized process capability index for finite mixture distributions. International Journal of System Assurance Engineering and Management, 1-10. **(Scopus, ESCI) IF-1.6**

2023 Tyagi, S., Agiwal, V., **Kumar S.**, and Chesneau, C. (2023). Theory and practice of a bivariate trigonometric Burr XII distribution. Afrika Matematika, 34(3), 49. **(Scopus, ESCI) IF-0.9**

2023 Dey, S., Saha, M., Anis, M. Z., Maiti, S. S., and **Kumar S.** (2023). Estimation and confidence intervals of CNp(u, v) for logistic-exponential distribution with application. International Journal of System Assurance Engineering and Management, 14(Suppl 1), 431-446. (**Scopus, ESCI, UGC-CARE**) **IF-1.6**

2022 Tyagi S., **Kumar S.**, Pandey A., Saha M. and Bagariya H. (2022). Power xgamma distribution: Properties and its applications to cancer data. International Journal of Statistics and Reliability Engineering. 9(1), 51-60. (**UGC-CARE**)

2022 **Kumar S.**, Saha, M., and Tyagi, S. (2022). Parametric confidence intervals of generalized process capability index and its applications. Life Cycle Reliability and Safety Engineering, 11(2), 177-187. (**Scopus**)

2022 **Kumar, S.** (2022). Classical and the Bayesian estimation of process capability index Cpy: A comparative study. Journal of Reliability and Statistical Studies, 15(01), 153–186. (**Scopus, WOS, ESCI) IF-0.9**.

2021 Yadav, A. S., Saha, M., Tripathi, H., and **Kumar, S**. (2021). The Exponentiated XGamma Distribution: a New Monotone Failure Rate Model and Its Applications to Lifetime Data. Statistica, 81(3), 303–334. (**Scopus,ESCI**)

2021 **Kumar S.**, Yadav, A. S., Dey, S., and Saha, M. (2021). Parametric inference of generalized process capability index Cpyk for the power Lindley distribution. Quality Technology & Quantitative Management, 19(2), 153-186. (**Scopus, SCIE) IF-2.3**.

2021 Saha M., Dey S., and **Kumar S.** (2021). Parametric confidence intervals of Spmk for generalized exponential distribution. American Journal of Mathematical and Management Sciences, 40(2), 1-22. (**Scopus**)

2020 **Kumar, S.**, & Saha, M. (2020). Estimation of Generalized Process Capability Indices C_{py} for Poisson Distribution. Invertis Journal of Management, 12(2), 123-130.

2020 Saha M., **Kumar S.**, and Sahu R. (2020). Comparison of two generalized process capability indices by using bootstrap confidence intervals. International Journal of Statistics and Reliability Engineering. 7(1), 187-195. (**UGC-CARE**)

2019 **Kumar, S.**, Dey, S., & Saha, M. (2019). Comparison between two generalized process capability indices for Burr XII distribution using bootstrap confidence intervals. Life Cycle Reliability and Safety Engineering, 8(4), 347-355.

2019 Saha, M., Dey, S., Yadav, A. S., & **Kumar, S.** (2019). Classical and Bayesian inference of C_{py} for generalized Lindley distributed quality characteristic. Quality and Reliability Engineering International, 35(8), 2593-2611. (**Scopus, SCIE,WOS) IF-2.3**.

2019 Saha, M., **Kumar, S.**, Maiti, S. S., Singh Yadav, A., & Dey, S. (2019). Asymptotic and Bootstrap Confidence Intervals for the Process Capability Index C_{py} Based on Lindley Distributed Quality Characteristic. American Journal of Mathematical and Management Sciences, 39(1), 75-89. (**Scopus**)

2018 Saha, M., **Kumar, S.**, Maiti, S. S., & Yadav, A. S. (2018). Asymptotic and bootstrap confidence intervals of generalized process capability index C_{py} for exponentially distributed quality characteristic. Life Cycle Reliability and Safety Engineering, 7(4), 235-243.

2017 Singh, J., Singh, N., Singh, A. & **Kumar, S.** (2017). Growth Performance and Regional Variation of Industrial Sector in India: Experience of Post Liberalisation. International Journal of Research in Economics and Social Sciences, 7(11), 782-792.

2016   **Kumar, S.**, & Singh, J. (2016). Forecasting of Pulses Production in India: Application of UCM Model. International Journal in Management and Social Science, 4(7), 2321-1784.

Faculty Development Program / Refresher Course/ Induction/Orientation Programme

2023   Interdisciplinary Refresher Course on Advanced Research Methodology, Teaching Learning Centre Ramanujan College, University of Delhi, Delhi.

2023   Faculty Induction/Orientation Programme on Faculty in Universities/Colleges/Institutes of Higher Education, Teaching Learning Centre Ramanujan College, University of Delhi, Delhi.

2023   FDP on Recent Tools and Techniques for Quality Research-RTTQR 2023, Banasthali Vidyapith - Jaipur, Rajasthan.

2021   FDP on Introductory Data Science and Deep Learning, International Institute of Information Technology - Naya Raipur.

2020   Recent Trends and Future Opportunities on Deep Learning, Central University of Rajasthan, Ajmer.

2020   FDP on Data Science for IoT, Indian Institute of Information Technology- Allahabad.

Workshops Attended/Participated

2024   International Workshop on Reliability Theory and Survival Analysis, Department of Statistics, BHU, Varanasi, India during 21-23 December 2024.

2021   Workshop on Data Analysis Using SPSS, Department of Statistics, Manipur University, Canchipur, India during 18-20 October 2021.

2019   Workshop on Data Analytics, Indian Statistical Institute, Kolkata.

2018   National Workshop on Statistical Modeling and Optimization Using R Software, Institute of Infrastructure Technology research and Management, Ahmedabad.

2017   International Workshop Cum Seminar on Data Analytics Using R, Dr. Shakuntala Misra National Rehabilitation University, Lucknow.

2017   National Workshop on Mathematical Modelling and Computational Techniques using Mathematica, Zakir Husain Delhi College, Delhi.

2016   Workshop on Statistical Techniques Using Software (STUS-2016), DIT University, Dehradun.

2014   National Workshop on SPSS & R Software, M. D. University, Rohtak.

Seminars and Conferences

2025   Presented a paper entitled "Generalized Inverse Xgamma Distribution: Properties, Estimation and Its Applications to Survival Data" in a National Seminar on Recent Advances in Statistics: Theory and Applications, organized by the Visva-Bharati University Santiniketan, West Bengal, India, from March 17-18, 2025.

2025 Presented a paper entitled "Classical estimation of process capability index C_{py} for finite mixture distributions" in a Second National Conference on Time Series, Aanlytics and Recent Advances in Statistical Modelling (NCTAS - 2025), organized by the Department of Statistics, Central University of Rajasthan, India, from Feb 10-11, 2025.

2025 Presented a paper entitled "Parametric confidence intervals of generalized process capability index for Xgamma and Akash distributions" in a International Conference on Applied Probability, Statistics, and Stochastic Processes, organized by the Department of Mathematics, NIT Calicut, India, from Jan 30- Feb 01, 2025.

2024 Presented a paper entitled "Time truncated attribute mean control chart for finite mixture distributions" in a Eleventh International Triennial Calcutta Symposium on Probability and Statistics, 2024, organized jointly by the Department of Statistics, University of Calcutta and Calcutta Statistical Association, from 27-30 December, 2024.

2022 Presented a paper entitled "Parametric confidence intervals of generalized process capability index for finite mixture distributions" in a UGC Sponsored two days National Conference (Hybrid Mode) on Advanced Statistics & Applied Science (ASAS-2022), Ramanujan College, New Delhi, from 30-31 March 2022.

2022 Presented a paper entitled "Point and interval estimation of a generalized process capability index through classical and Bayesian estimation methods" in a International Conference (VIRTUAL MODE) on Statistics and Data Science: Theory and Practice for Progress and Prosperity (ICSDS-2021) in Conjunction with 41th annual convention of Indian Society for Probability and Statistics (ISPS), from 27-29 January 2022.

2021 Presented a paper entitled "Estimation and confidence intervals of generalized process capability index for finite mixture distributions" in a 4th International Conference on Frontiers in Industrial and Applied Mathematics (FIAM- 2021) in SLIET Longowal Punjab, India, from 21-22 December 2021.

2021 Presented a paper entitled "Estimation and confidence intervals of generalized process capability index C_{py}: A comparative study" in a three days International Conference of the International Academy of Physical Sciences (CONIAPS XXVII) on Mathematical Modelling in Biological Sciences (M2BS 2021) in Department of Mathematics, NIT Silchar, Assam-788010, India, from 26-28 October 2021.

2021 Presented a paper entitled "Classical and the Bayesian estimation of process capability index C_{py} : A comparative study" in a two days International Conference (Virtual Mode) on Recent Advances in Statistics (ICRAS-2021) Sadguru Gadage Maharaj College, Karad, Maharashtra, India, from 11-12 October 2021.

2021 Presented a paper entitled "Parametric inference of generalized process capability index GPCI C_{pyk} for the power Lindley distribution" in a International Conference (VIRTUAL MODE) on Emerging Trends in Statistics and Data Science in Conjunction with 40th annual convention of Indian Society for Probability and Statistics (ISPS), from 7-10 September 2021.

2019	Presented a paper entitled "Comparison between two generalized process capability indices for Burr XII distribution using bootstrap confidence intervals" in a UGC Sponsored two days National Conference on Emerging trends in statistics and data sciences (ETSDS-2019), Ramanujan College, New Delhi.
2018	Presented a paper entitled "Asymptotic and Bootstrap Confidence Interval of C_{py} for Exponential Distribution" in the 1st National Conference on Statistics for Humanities and Social Sciences: Recent Trends & Advancements at Rajasthan Statistical Association & Department of Lifelong learning, University of Rajasthan, Jaipur.
2017	Presented a paper entitled "Inference on Generalized Process Capability Index Cpy for Lindley Process Distribution" in the National Conference on Advanced Development in Theoretical and Applied Statistics, Banaras Hindu University, Varanasi.
2016	Presented a paper entitled "Forecasting of Pulses Production in India: Application of UCM Model using SAS" in a UGC Sponsored National Conference on Recent Statistical Computing Techniques and their application (RSCTA-2016), Ramanujan College, New Delhi.
2013	Attended National Seminar on Environment and Sustainable Development in India: Issues & Challenges, CCS University Meerut.

Other Academic Activities

- Course on Compute Concept Certificate from NIELIT.
- RS-CIT certificate from Vardhman Mahaveer Open University, Kota
- Diploma in Computer Applications, Business Accounting and Multimedia D.T.P from NIELIT.

Computer skills

Statistical Software	SAS, and Mathematica
Languages	R and Python
Office Tools	MS-Office
Other Software	$\LaTeX$

Languages

Hindi	Mothertoung
English	Intermediate

Declaration

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

Date: $--/--/----$

Place: (*Dr. SUMIT KUMAR*)