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Biographical Sketch

Did my B.Sc. with major in Statistics from Presidency College, Kolkata. Then did my M.Sc. in Statistics and subsequently my Ph.D. from the University of Calcutta. Joined the Department of Statistics, University of Calcutta, as Lecturer, in 1989 and superannuated as Professor in Statistics from the Department in August, 2025. Have also been a visiting professor in several Indian and foreign universities/institutes. My research interests are primarily in the areas of Time Series Analysis, Regression Analysis, Survival Analysis, Development Statistics, Applied Multivariate Analysis and Functional Data Analysis and have guided research students in these areas. I have also been involved in collaborative work with faculties from other institutes and universities in India and abroad. I have also been actively involved in several projects and have served as consultant for various agencies and institutes.

Areas of Specialisation and Research

Time Series Analysis, Regression Analysis, Survival Analysis, Econometrics, Development Statistics, Functional Data Analysis

Teaching Experience

Permanent position: Department of Statistics, University of Calcutta : April, 1989–August, 2025

Visiting Positions	University of Nebraska, Lincoln, USA (2000-2001)
	Monash University, Melbourne, Australia (2007)
Guest Positions	Presidency College (1996-2000)
	Indian Statistical Institute (2000)
	Indian Institute of Management (2001)
	Department of Economics, University of Calcutta (1999-2013)

	Presidency University (2021-)
	St. Xaviers' University, Kolkata (2023, 2025)

Administrative Responsibility

Head of the Department of Statistics : 2005–07 and 2018–20.

Publications

1. On Some Asymptotic Results for Multivariate Autoregressive Models with Estimated Parameters (with A.K.Basu) : *Calcutta Statistical Association Bulletin*, (1986), **35**, 139-140, pp 123-132.
2. On Some Asymptotic Prediction Problems for Multivariate Autoregressive Models in the Unstable Non-explosive Case (with A.K.Basu) : *Calcutta Statistical Association Bulletin*, (1987), **36**, 141-142, pp 29-37.
3. On speed of Convergence in the Central Limit Theorem for parameter estimation in autoregressive model, with A.K.Basu, The Proceedings of the International Symposium on Stochastic Models and Decision making held in Delhi, (1987), Khama Publisher, Delhi, p.85-97.
4. On Rates of Convergence in the Central Limit Theorem for Parameter Estimation in Random Coefficient Autoregressive Model (with A.K.Basu) : *Journal of the Indian Statistical Association*, (1988), **26**, pp19-25.
5. On Asymptotic Prediction Problems for Multivariate Autoregressive Explosive and Non-explosive Model (with A.K.Basu) : *Calcutta Statistical Association Bulletin*, (1989) **38**, 149-150, pp 43-56.
6. On Rates of Convergence in the Central Limit Theorem for Parameter Estimation in General Autoregressive Models (with A.K.Basu) : *Statistics*, 1990, **3**, pp 461-470.
7. On Some Asymptotic Prediction Problems in Random Coefficient Multivariate Autoregressive Model (with A.K.Basu) : *Journal of the Indian Statistical Association*, (1990), **28**, pp17-29.
8. Asymptotic Theory of Estimation of Parameters in General Autoregressive Models under General Set-up of the Roots (with A.K.Basu) : *Communications in Statistics – Theory and Methods*, (1993), **22**, pp 285-300.
9. A Note on Asymptotic Prediction Problems of a Non-explosive Vector Autoregressive Model (with A.K.Basu) : *Journal of Applied Statistical Science*, (1995), **2**.
10. The Rate of Convergence of the Estimators of an Invertible MA(q) Process with Martingale Difference Innovations : *Stochastic Modelling & Applications*, (1999), **2**, 2, pp 30-34.

11. Population Ecology of *Phlebotomus Argetipes* (Diptera : Psychodidae) in West Bengal, India (with others) : *Journal of Medical Entomology*, (1999), **36**, 5, pp 588-594.
12. Predictions in an Invertible Moving Average Process with Martingale Difference Innovations : *Stochastic Modelling & Applications*, (2002), **5**, 2, pp 46-53.
13. Asymptotic Distribution of the Estimators in a Vector Autoregressive Model under General Set-up of the Roots (with A.K.Basu) : *Journal of the Indian Statistical Association*, (2003), **41**, 2, pp 173-188.
14. Regression Diagnostics in an Autocorrelated Model (with S.Guria) : *Brazilian Journal of Probability and Statistics*, (2004), **18**, 103-112.
15. Predictions in a Causal Invertible ARMA(p, q) Process using Innovations Estimated from an Independent Sample (with S.Bhattacharya) : *Stochastic Modelling & Applications*, (2004), **7**, 2, 33-45.
16. Prediction in a Causal Invertible ARMA(p, q) Process with Martingale Difference Innovations (with A.K.Basu and S.Bhattacharya) : *Journal of Statistical Theory & Applications*, (2005), **4**, 3, 256-271.
17. Prediction Problems related to a first-order Autoregressive Process in the presence of Outliers (with S.Chakraborty) : *Applicationes Mathematicae*, (2006), **33**, 3-4, 265-274.
18. Diagnostics in Logistic Regression Models (with S. Guria) : *Journal of the Korean Statistical Society*, (2008), **37**, 89-94.
19. Estimation of Regression Parameters in the presence of Outliers in the Response (with S.Guria), *Statistics*, (2009), **43**, 6, 531–539.
20. Comparison of drinking water, raw rice and cooking of rice as arsenic exposure routes in three contrasting areas of West Bengal, India (with Debapriya Mondal ,Mayukh Banerjee ,Manjari Kundu, Nilanjana Banerjee, Udayan Bhattacharya, Ashok K. Giri, Bhaswati Ganguli, David A. Polya) : *Environ Geochem Health*, (2010), **32**, 6, 463-477.
21. Estimation and Prediction in an Autoregressive process in the presence of multiple missing observations (with S.Chakraborty) : *Annales de l'I.S.U.P.*, (2011), **55**, 2-3, 27-42.
22. Rate of Convergence to Normality of estimators in a random coefficient ARMA (p, q) model (with S.Bhattacharya) : *Communications in Statistics – Theory and Methods*, (2011), **40**, 1081-1092.
23. Asymptotic Distribution of Estimators of Parameters in an ARMA(p, q) process in the presence of explosive roots (with S.Bhattacharya) : *Applicationes Mathematicae*, (2012), **39**, 3, 257-272.
24. A spatially disaggregated time series analysis of the short-term effects of particulate matter exposure on mortality in Chennai, India (with K. Balakrishnan, B. Ganguli, S. Ghosh, S. Sambandam, A. Chatterjee) : *Air Quality, Atmosphere and Health*, (2013), **6**, 1, 111-121.
25. Rate of Convergence in the CLT for parameter estimation in a causal, invertible ARMA(p,q) model (with S.Bhattacharya) : *Journal of Time Series Analysis*, (2013), **34**, 1, 130-137.

26. Missing values in Linear Regression : Imputations using Error Contaminated Linear Predictors (with S.Guria) : *Communications in Statistics – Theory and Methods* (2013), DOI: 10.1080/03610926.2012.748918.
27. Diarrhoeal Health Risks Attributable to Water-Borne-Pathogens in Arsenic-Mitigated Drinking Water in West Bengal are Largely Independent of the Microbiological Quality of the Supplied Water (with D. Mondal, B. Ganguli, B. Halder, N. Banerjee, M. Banerjee, M. Samanta, A. K. Giri and D. A. Polya : *Water* (2014), *6*, 1100-1117; DOI : 10.3390/w6041100.
28. Asymptotic properties of the estimated parameters of an ARMA(p,q) process with mixing innovations (with S.Bhattacharya), *Brazilian Journal of Probability and Statistics*, (2015), **29**, 3, 640-655.
29. Missing Values in Linear Regression : Imputations Using An Error-Contaminated Linear Predictor (with S. Guria), *Communications in Statistics – Theory and Methods* (2015), **44**(8), 1735-1744, DOI: 10.1080/03610926.2012.748918.
30. Estimating the Hazard Functions of two Alternating occurring Recurrent Events : (with M. Chatterjee) : *Journal of Applied Statistics*, (2015), **42**(7) 1547-1555, DOI : 10.1080/02664763.2014.1001329.
31. Measuring Visible Underemployment (with S.Chakraborty) : *Journal of Economic and Social Measurement*, (2016), **41**, 85–101, DOI 10.3233/JEM-160426.
32. Deletion Diagnostics for detection of influential observations from a Generalised Linear Mixed Model (with B.Ganguli, M.Naskar, E.J.Malloy & E.A.Eisen), *Statistics in Medicine*, (2016), **35**, 9, 1488-1501.
33. Diagnostics for a Multivariate Regression Model with Autocorrelated Errors (with S.Guria) : *Journal of Statistical Theory and Applications* (2016), **15**, 4, 424-433.
34. Estimating the hazard functions of two alternating recurrent events in the presence of covariates (with M. Chatterjee), *Advances in Statistical Analysis* (2018), **102**(2), 289-304, DOI 10.1007/s10182-017-0316-1.
35. A copula-based approach for estimating the survival functions of two alternating recurrent events (with M. Chatterjee), *Journal of Statistical Computation and Simulation* (2018), **88**(16), 3098-3115, DOI 10.1080/00949655.2018.1499741.
36. A study on the selection pattern of players in any team sport (with M. Chatterjee), *Statistica* (2019), **79**(4), 445-460.
37. Probing ADP Induced Aggregation Kinetics During Platelet-Nanoparticle Interactions: Functional Dynamics Analysis to Rationalize Safety and Benefits (with S. K. Bandyopadhyay, M. Azharuddin, A. K. Dasgupta, B. Ganguli, H. K. Patra and S. Deb), *Frontiers in Bioengineering and Biotechnology* (2019), doi: 10.3389/fbioe.2019.00163.

38. Effects of covariates on alternating recurrent events in accelerated failure time models with M. Chatterjee), *International Journal of Biostatistics* (2021), **17**(2) 295-315. doi.org/10.1515/ijb-2019-0099.
39. Analysis of GHI Forecasting Using Seasonal ARIMA (with A. K. Barik, S. Malakar, S. Goswami, B. Ganguli and A. Chakrabarti, Data Management, Analytics and Innovation. *Advances in Intelligent Systems and Computing* (eds. Sharma N., Chakrabarti A., Balas V.E., Martinovic J.), **1175**, 55-69 Springer, Singapore. https://doi.org/10.1007/978-981-15-5619-7_5.
40. Modelling the influence of social network with a multiple group latent class analysis (with A. Dey and D. Mukherjee), *Journal of Mathematical Sociology* (2020), **46**(1), 1-21. DOI: 10.1080/0022250X.2020.1821199
41. Measuring Child labour : The Indian Scenario (with S. Chakraborty and N. Roy), *Journal of Quantative Economics* (2021), **19**(1), 67-85. DOI : 10.1007/s40953-020-00219-7.
42. Designing a long short-term network for short-term forecasting of global horizontal irradiance (with S. Malakar, S. Goswami, B. Ganguli, A. Chakrabarti, K. Boopathi and A.G. Rangaraj), *SN Applied Sciences* (2021), 1-15.
43. A novel feature representation for prediction of global horizontal irradiance using a bidirectional model (with S. Malakar, S. Goswami, B. Ganguli, A. Chakrabarti, K. Boopathi and A.G. Rangaraj), *Machine Learning and Knowledge Extraction* (2021), **3**(4), 946-965.
44. Deep-learning-based adaptive model for solar forecasting using clustering (with S. Malakar, S. Goswami, B. Ganguli, A. Chakrabarti, K. Boopathi and A.G. Rangaraj), *Energies* (2022), **15**(10), doi.org/10.3390/en15103568.
45. Estimating subject-specific hazard functions (with M. Chatterjee and B. Ganguli), *Journal of the Royal Statistical Society, Series C* (2023), **72**(3), 739-749. doi.org/10.1093/jrsc/qlad030
46. Latent class modeling in a complex sampling design – an advanced modeling approach in epidemiology (with A. Dey and D. Mukherjee), *EFI Bulletin* (2023), **4**(1), 23-29. Doi.org/10.56450/EFIB2023.v3i01.006
47. Elucidating the association of key socio-economic factors underlying happiness and well-being in the eastern Indian Bengali population (with M. Dhauria, T. Pyne, K. Nandagopal, M. Sengupta and M. Das), *International Journal for Bioinformatics and Intelligent Computing* (2024), **3**(1), 26-44.