Dr. Surupa Chakraborty (Roy)

Designation: Associate Professor

Department: Statistics

Institution: St Xavier's College (Autonomous), Kolkata

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Qualification:

- M.Sc. in Statistics, Calcutta University (1996)
- PhD in Statistics, Calcutta University (2005)

Doctoral Research Topic: "Measurement Error Models: Some Related Inference problems".

Teaching Experience:

- 23 years (UG level, Statistics at St Xaviers's College)
- 3 years (PG level , Data Science at St Xavier's College)
- Guest faculty, MBA (Financial Management) Department of Commerce, University of Calcutta from December, 2020- June, 2023

PhD supervision (working as joint supervisor under the University of Calcutta)

Topic:

- Multivariate ordinal data (degree awarded)
- Under reported count data (Thesis submitted)

Completed Research Projects:

1. "A Methodological Study on Misclassified Binary Responses when predictors are subject to measurement Error" (sole investigator) under DST (SERC FAST TRACK SCHEME) Ref No. SR/FTP/MS-03/2006. Project duration: 1.5.2007- 30.4.2010. Total funding: Rs 3,48,000/-

2. "Ascertainment adjusted familial data analysis under some irregular phenomena" (principal investigator) under CSIR, Ref No. 25(0207)/12/EMR-II. Project duration: 1.2.2013- 30.1.2016.Total funding: Rs 5,88,383/-

Research area of interest:

1. Count and Ordinal Data
2. Measurement error and Classification error
3. Group testing
4. Missing data
5. Machine learning

Talk delivered:

1. Served as a resource person, delivering a talk on "Inferential Statistics using R" at a Faculty Development Program (FDP) titled "Introduction to Research Methodology using Analytical Software." The event was held online from February 19, 2024, to February 23, 2024, and organized by the Department of Business Administration and the Department of Supply Chain Management at Dr. B. C. Roy Academy of Professional Courses, Durgapur.

2. Served as a speaker and panelist in a seminar on "Rashi Vigyan," organized by the Department of Statistics at the University of Calcutta, on the topic "Statistics and/or Data Science" on March 20, 2024.

3. Served as a resource person in a five-day hands-on workshop on "Research Methodologies Based on SPSS, Python, JAMOVI, R, and COMSOL," , held online from April 10 to April 14, 2024, organized by the Department of Mathematics, School of Advanced Sciences, and the Department of MBA, VIT Business School, Vellore Institute of Technology, Chennai.

4. Served as a resource person in a five-day workshop on "Fundamentals of Research Methodology using application software", organized by the Department of Management Studies , NIT Durgapur, held online from June 24th to June 28th, 2024.

5. Served as a resource person delivering a talk on "Regression", in a three-day workshop on "Data-Driven Decision making in Research" organized by the Department of Statistics in collaboration with Postgraduate Department of Sociology held at St Xavier's College (Autonomous), Kolkata from July 18 to July 20 , 2024.

6. Served as a resource person, delivering a talk on "Exploring R: From Basic Statistics to Advanced Techniques" held at at Dr. B. C. Roy Academy of Professional Courses during the faculty development program (FDP) titled "Emerging Trends in Business Analytics for Data-Driven Decision Making", from July 22 to July 27, 2024.

7. Delivered an online talk titled "Mostly Harmless Pooling" as a speaker for the CSA outreach program organized by the Calcutta Statistical Association on August 10th, 2024.

Publication list:

1. ***Roy, S.,*** Adhya, S. & Rana. S. (2024): Estimation of odds ratio from group testing data with misclassified exposure. Biometrical Journal. https://doi.org/10.1002/bimj.202200254

2. Sengupta, D., & ***Roy, S.*** (2023): Modelling zero inflated and under-reported count data. Journal of Statistical Computation and Simulation. 93(14), Pg 2390-2409.

3. Adhya, S., ***Roy, S.*** & Banerjee, T. (2022): Prediction of finite population proportion when responses are misclassified. Journal of Survey Statistics and methodology, 10(5), Pg 1319-1345

4. Sengupta, D., Banerjee, T. & **Roy, S.** (2021): Estimation of Poisson mean with under-reported counts: A double sampling approach. Australian and New Zealand Journal. 62 (4), Pg 508-535.

5. Sengupta, D., **Roy, S.** & Banerjee, T. (2021): Testing of Poisson mean with under-reported counts. Brazilian Journal of Probability and Statistics. 35(3), Pg 523-543.

6. **Roy, S.** & Banerjee, T (2019): Estimation of log-odds ratio from group testing data using Firth correction. Biometrical Journal. 61(3), 714-728.

7. Rana, S., **Roy, S.** & Das, K. (2018): Analysis of Ordinal Longitudinal Data Under Nonignorable Missingness and Misreporting: An Application to Alzheimer's Disease Study. Journal of Multivariate Analysis. 166, 62-77.

8. Das, K., Rana, S. & **Roy, S** .(2017): Evaluation of Alzheimer Disease Progression based on Clinical Dementia Rating Scale with Missing Responses and Covariates. Journal of Biopharmaceutical Statistics. ISSN: 1054-3406 (Print) 1520-5711 (Online) Journal homepage: http://www.tandfonline.com/loi/lbps20.

9. Banerjee T & **Roy, S** (2017): Measurement Error in Astronomy, Wiley StatsRef, Statistics Reference online, DOI: 10.1002/9781118445112.stat07930.

10. Sengupta, D. & **Roy, S.** (2016): One way ANOVA model with under reported counts. CSA Bulletin, 68(1&2) 1-15.

11. Das, K., **Roy, S.** & Chattopadhyay, A.K. (2016): Analysis of ordinal longitudinal data using semi-parametric mixed models. Journal of Statistical Research, 48-50(1), 15-33.

12. **Roy, S.**, Rana, S. & Das, K (2016): Clustered data Analysis under Miscategorized Ordinal outcomes and missing covariates. Statistics in Medicine. 35, 3131-3152.

13. **Roy, S** (2016): Analysis of ordered Probit Model with surrogate response data and measurement error in covariates. , Communications in Statistics: Theory and Methods, 45 (9), 2665-2678.

14. Rana, S., **Roy, S** and Das K (2016): On Analyzing Ordinal Data when Responses and Covariates are both missing at random: Statistical Methods in Medical Research, 25(4), 1564-1578.

15. **Roy, S.**, Sarkar, A and Das, K (2014). : Analysis of Bivariate Binary data with possible chances of wrong ascertainment, Journal of Statistical Computation and Simulation, 84 (4), 724-738.

16. **Roy, S.**, Das K and Sarkar A (2013). : Analysis of binary data with the possibility of wrong ascertainment. Statistica Neerlandica , 67(3) , 293-310.

17. ***Roy, S.*** (2012): Accounting for Response Misclassification and Covariate Measurement Error using a Random Effects Logit Model, Communications in Statistics (Simulation and Computation), 41 (9), 1623-1636.

18. ***Chakraborty, S.*** and Banerjee, T.(2010) : Analysis of mixed outcomes: misclassified binary responses and measurement error in covariates, Journal of Statistical Computation and Simulation, 80(11), 1197-1209.

19. ***Roy, S.*** and Banerjee, T. (2009): Analysis of Misclassified Correlated Binary data using Multivariate Probit Model when Covariates are subject to Measurement Error, Biometrical Journal, Vol 51(3), 420-432.

20. ***Roy, S.,*** Banerjee, T. (2008): Misclassification and Measurement Error Models in Epidemiological Studies: Edited Volume "Statistical Advances in Biomedical Sciences: State of the Art and Future Directions" Editors- Biswas, A, S.Fine, J and Segal, M. Published by John Wiley, NewYork.

21. ***Roy, S.*** and Banerjee, T.(2006): A flexible model for generalized linear regression with measurement error, The Annals of the Institute of Statistical Mathematics, 58(1), 153-169.

22. ***Roy, S.***, Banerjee, T. and Maiti, T. (2005): Measurement Error Model for Misclassified Binary Responses, Statistics in Medicine. 24, Pg 269-283.

23. Banerjee, T. and ***Roy, S.*** (2004): A simple Test for Polarization of multinomial cell probabilities, Calcutta Statistical Association Bulletin, 55(217-218), 29-38.

24. ***Roy, S.*** and Banerjee, T. (2001): Generalised Linear Measurement- Error Models with Multivariate t- Measurement Error, Calcutta Statistical Association Bulletin, 51, Pg 192-203.