

Subrata Rana

Assistant Professor of Statistics (W.B.E.S.)

Department of Statistics, Maulana Azar College, Kolkata, West Bengal, India

 ranasubrata@gmail.com



Research Interests: Categorical and Ordinal Data Analysis, Longitudinal Data Modelling, Analysis of Missing and Incomplete Data, Miscategorized/Misclassified Data, Measurement error

Education

Ph.D. in Statistics (University of Calcutta, 2018)

Title: *Analysis of Multivariate Ordinal Data under Some Complex Models*

M.Sc. in Statistics (University of Calcutta, 2009)

B.Sc. (Hons.) in Statistics (Presidency College, Kolkata, 2007)

Teaching Experience

Assistant Professor in Statistics, West Bengal Education Service (W.B.E.S.)

Krishnagar Government College (*September 2014 – August 2025*)

Maulana Azad College (*August 2025 – present*)

- Courses taught: Descriptive Statistics, Probability Theory, Statistical Inference, Regression Analysis, Multivariate Analysis.
- Supervised student projects and seminars in applied statistics.

Research Supervision

Presently Co-supervising a Ph.D. Scholar registered at Department of Statistics, Visva-Bharati, Santiniketan.

Publications

1. **Rana, S., & Roy, S.** (2024). Ordinal family data analysis with measurement error in covariates. *Communications in Statistics - Simulation and Computation*, 1–15. <https://doi.org/10.1080/03610918.2024.2443200>
2. Roy, S., Adhya, S. & **Rana, S.** (2024): Estimation of odds ratio from grouped testing data with misclassified exposure, *Biometrical Journal*, 66(1), DOI: 10.1002/bimj.202200254.
3. Banerjee, P., Laha, R., Dikshit, M.K., Hui, N.B., **Rana, S.**, Pathak, V.K., Saxena, K.K., Prakash, C. & Buddhi, D. (2024): A study on the performance of various predictive models based on artificial neural network for backward metal flow forming process, *International Journal of Design and Manufacturing (IJIDeM)*, 18(3), 1141-1150.
4. **Rana, S.** (2022). Analysis of longitudinal ordinal data using semiparametric mixed model under missingness. *Communications in Statistics – Simulation and Computation*, 51(10), 5631-5642.
5. **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.
6. Das, K., **Rana, S.**, & Roy, S. (2017). Evaluation on Alzheimer's disease progression based on clinical dementia rating scale with missing responses and covariates. *Journal of Biopharmaceutical Statistics*, 28(5), 893-908.
7. Roy, S., **Rana, S.**, & Das, K. (2016). Clustered data analysis under miscategorized ordinal outcomes and missing covariates. *Statistics in Medicine*, 35, 3131–3152.
8. **Rana, S.**, Roy, S., & 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.

Invited Talks:

- Delivered invited talks on the topics “**Applied Regression Analysis**” and “**Regression Diagnostics**” in the **Ph.D. Coursework** on ‘**Applications of Statistics**’ organized by Department of Statistics, West Bengal State University during 23.09.2024 to 27.09.2024.
- Delivered invited talks on the topic “**Generalized Linear Model (GLM)**” for M.Sc. students at **West Bengal State University**.
- Delivered invited talks on the topic “**Sequential Probability Ratio Test (SPRT)**” for B.Sc. students at **Ramakrishna Mission Residential College, Narendrapur**.

Conference Presentations

1. *Ordinal Family Data Analysis with Measurement Error in Covariates* in the Eleventh International Calcutta Triennial Symposium on Probability and Statistics organized jointly by the Department of Statistics, University of Calcutta and Calcutta Statistical Association held on December 27-30, 2024.
2. *Ordinal Family Data Analysis correcting for Ascertainment adjustment and Measurement Error* in the Fifth Regional Science and Technology Congress organized by the Department of Science and Technology and Biotechnology, Government of West Bengal and West Bengal State University held on January 19-20, 2023.
3. *Analysis of Ordinal Longitudinal Data Under Nonignorable Missingness and Misreporting* in the 10th International Triennial Calcutta Symposium on Probability and Statistics organized jointly by the Department of Statistics, University of Calcutta and Calcutta Statistical Association held on December 27-30, 2018.
4. *Clustered data analysis under miscategorized ordinal outcomes and missing covariates* in the Two Day National Seminar on Probability and Statistics organized by the Department of Statistics, West Bengal State University held on March 28-29, 2016.
5. *Analyzing longitudinal ordinal data when responses and covariates are both missing* in the National Seminar “STATQUEST 2016” organized by the Department of Statistics, University of Calcutta held on March 18, 2016.
6. *Analysis of Multilevel Mixed Ordinal Missing Data* in the National level Seminar “STATQUEST 2012” organized by the Department of Statistics, University of Calcutta on February 06, 2012.

Professional Development & Training

- Instructional School for Teachers (IST) on Advanced Topics in Statistical Learning held at Indian Statistical Institute, Kolkata (July 11-23, 2022).
- Refresher Course in Mathematics & Statistics (Pure & Applied), UGC HRDC, Gauhati University (Jan–Feb 2022).
- Refresher Course in Research Methodology, UGC HRDC, Utkal University, Bhubaneswar (Sept–Oct 2018).
- Orientation Programme, UGC HRDC, Kumaun University, Nainital (Feb–Mar 2018).

Additional Administrative Responsibility

- **Nodal Officer (2016–2017):** Supervised the district-level sample survey on *Old Age, Widow, and Disability Pension* conducted by the Government of West Bengal.

Memberships

- Life Member, **Calcutta Statistical Association**

Industry Experience

- ACNielsen ORG_MARG Pvt Ltd (December 2009 – April 2010)
- ICRA Techno Analytics Ltd (May 2010 - June 2011)