



INDIAN STATISTICAL INSTITUTE
Theoretical Statistics and Mathematics Unit, Kolkata

Ph.D. Thesis Pre-Submission Seminar

Date: May 16, 2023, Tuesday
Time: 04:30 PM

VENUE:

L-infinity

(5th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

Large sample inference in finite population problems

SPEAKER:

Anurag Dey

SRF, Stat-Math Unit, ISI Kolkata

ABSTRACT:

This seminar is based on different chapters of my Ph.D. thesis. I shall first discuss the comparison of different estimators of finite population mean and its functions in finite and infinite dimensional spaces under several sampling designs. Then, I shall present some results related to the asymptotic behavior of different quantile processes and their functions (e.g., median, trimmed means, interquartile range, Bowley's measure of skewness, etc.) in finite populations. I shall also discuss the asymptotic behavior of regression estimators (e.g., LS, LAD, quantile, logistic, Poisson, etc.) in finite populations. One of the major findings of my Ph.D. research is that although the use of the auxiliary information in the estimation stage usually improves the performance of different estimators, the use of the auxiliary information in the design stage often has adverse effects on the performance of these estimators.

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