



INDIAN STATISTICAL INSTITUTE
Theoretical Statistics and Mathematics Unit, Kolkata

Thesis Defence Seminar

Date: April 22, 2024
Time: 04:15 PM

VENUE:

L- infinity

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

TITLE:

Large sample inference in finite population problems

SPEAKER:

Anurag Dey

Stat-Math Unit, ISI Kolkata

ABSTRACT:

This seminar will give an overview of my Ph.D. thesis. A large sample comparison of different estimators of finite population mean and its functions in finite and infinite dimensional spaces under several sampling designs is carried out in this thesis. It also contains several results related to the asymptotic behavior of various quantile processes that arise in finite population surveys and their functions like median, trimmed means, interquartile range, Bowley's measure of skewness, etc. Asymptotic behavior of regression estimators (e.g., least square, asymmetric least square, truncated least square, least absolute deviation, quantile, etc.) in finite populations is also studied in this thesis. One of the major findings of my doctoral 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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