Indian Statistical Institute

Applied Statistics Unit

SEMINAR NOTICE

Speaker: Malay Naskar, Central Inland Fisheries Research Institute
Title: Some statistical techniques for inland fisheries assessment—data cruising to model-based inferences
Date: 25 July, 2023
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Abstract: Inland fisheries refer to activities associated with harvesting fish and aquatic life in inland waterbodies. And their assessment involve a huge number of attributes, broadly categorised into biological (e.g., plankton, fish, and mammal species), chemical (e.g., salinity, oxygen concentration), physical (e.g., sediment type, oil and gas reserve, currents, space). Further their interaction with fish and fisheries is very complicated, which invite analytical challenges.

In general, fisheries assessment focuses on monitoring those attributes with respect to some performance measures. For fish, in particular, its assessment primarily involves monitoring the performance of fisheries, fish stocks and determining their status. Thus, quantitative fisheries assessments relies on survey-based monitoring data on the aquatic resources, typically collected over space and time. These data are inevitably subject to uncertainty or variability; the role of statistics invariably comes in to reach conclusions under uncertainty. Both descriptive and inferential statistics play a vital role in fisheries assessment. A myriad of theoretical developments and applications of existing statistical tools exist in this domain. In this lecture, however, I picked up a few statistical approaches for the assessment of Hilsa fisheries and plankton in riverine system; it entails raw data collation, processing, exploration and demonstration of inferential techniques. Practical demonstration suggests that even simple statistical tools like histograms, density plots, mode, and empirical cumulative distribution functions, control charts for proportion can effectively assist planners in decision-making. A statistical pathway of modelling has been proposed for the assessment of plotamoplankton to facilitate strategic river management.

All are invited to attend.