

Indian Statistical Institute

Applied Statistics Unit

SEMINAR NOTICE

Speaker: Subhankar Chattopadhyay

Title: Discrete-valued time series

Date: 02 August, 2022

Time: 16:15 PM

Venue: ASU Seminar Room

Online Platform: Google Meet (meet.google.com/ckj-eqao-bzq)

Abstract:

The study of discrete-valued time series involves two classes of time series data, namely: (i) the count time series and (ii) the categorical time series. In the literature, the integer-valued autoregressive (INAR) process and Pogram's operator-based autoregressive (PAR) method are widely used for modelling count time series data and categorical time series data, respectively.

An INAR process has two components, namely: (i) the survival part and (ii) the innovation terms. Most of these INAR processes involve no time varying covariates in their innovations. But in some real-life scenarios like health data and COVID-19 data, we can observe that the innovation terms depend on time varying covariates. Therefore, we have developed models to tackle the time varying innovations. We have mainly employed the INAR process with time varying Poisson innovations in the study regarding count time series data. And for the analysis of categorical time series data, the PAR model involves the indicator kernel function. The indicator kernel function has a drawback to the conditional distribution setup of the PAR process. To get rid of the issue, we are currently working on a modified PAR process.

All are invited to attend.