

Indian Statistical Institute

Applied Statistics Unit

SEMINAR NOTICE

Speaker: Radhendushka Srivastava, IIT Bombay

Title: Relationship between ice accumulation rate and temperature based on Antarctic ice core data

Date: 19 September, 2023

Time: 16:15

Venue: ASU Seminar Room

Online Platform: Google Meet (meet.google.com/sbb-xkax-kmw)

Abstract: We will discuss a semiparametric model for describing the effect of temperature on Antarctic ice accumulation on a paleo-climatic time scale. The model is motivated by sharp ups and downs in the rate of ice accumulation apparent from ice core records, which are synchronous with movements of temperature. We prove strong consistency of the estimators under reasonable conditions. We conduct extensive simulations to assess the performance of the estimators and bootstrap based standard errors and confidence limits for the requisite range of sample sizes. Analysis of ice core data from two Antarctic locations over several hundred thousand years show a reasonable fit. The apparent accumulation rate exhibits a thinning pattern that should facilitate the understanding of ice condensation, transformation and flow over the ages. There is a very strong linear relationship between temperature and the apparent accumulation rate adjusted for thinning.

All are invited to attend.

Please write to SOMENATH DAS somenath1011@isical.ac.in in case you do not receive the invitation link 48 hours before the seminar time.