

Indian Statistical Institute

Applied Statistics Unit

SEMINAR NOTICE

Speaker: Subhadra Dasgupta, Ruhr University Bochum, Germany

Title: Optimal designs for some bivariate cokriging models

Date: 19 July, 2022

Time: 16:15 PM

Online Platform: Google Meet (meet.google.com/gqx-xvfx-gsy)

Abstract:

Cokriging and kriging techniques are widely used for modeling and prediction in Geostatistics. The design of the experiment determines the quality of prediction for these models. This talk focuses on the estimation and design aspects of a bivariate collocated cokriging experiment. For a large class of covariance matrices, a linear dependency criterion is identified, which allows the best linear unbiased estimator of the primary variable in a bivariate collocated cokriging setup to reduce to a univariate kriging estimator. Exact optimal designs for efficient prediction for such simple and ordinary reduced cokriging models are determined by minimizing the maximum and the integrated prediction variance. The work is motivated by designing an optimal water monitoring system for an Indian river.

This is joint work with Prof. Siuli Mukhopadhyay and Prof. Jonathan Keith.

All are invited to attend.