The University of Chicago
Department of Statistics

Mini-seminars for First Year Ph.D. Students

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Model-based Geostatistics

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ABSTRACT

Conventional geostatistical methodology solves the problem of predicting the realized value of a linear functional of a Gaussian spatial stochastic process based on spatial data. The aim of this paper is to extend the geostatistical method to situations in which the stochastic variation in the data is known to be non-Gaussian. In current practice, the most widely implemented methodology for coping with this problem is trans-Gaussian kriging. In contrast, this paper is to embed linear kriging methodology within a more general distributional framework, analogous to the embedding of the Gaussian linear model for mutually independent data within the framework of the generalized linear model. MCMC is used as computational tool. I will describe the theory and real example.