

GRADUATE SEMINAR

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Stochastic Modelling of Heavy-tailed Precipitations in Canadian Prairies

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Via Zoom

Abstract: The statistical modelling of extreme precipitation structures is essential in many aspects such as assessing and managing risks resulting from the occurrence of such extreme events for agricultural purposes, in particular. Typically, daily precipitation time series in Canadian Prairies contain many zero (on dry days) and positive (on wet days) observations, and they exhibit characteristics such as heavy-tailedness, volatility clustering and spatial dependence, which make it challenging to develop an effective model for both the theoretical and observations viewpoints. In this talk, a dynamic mixture model based on the generalized crack distribution will be introduced with an application to a historical precipitation data set from twelve stations in Canadian prairies where precipitation is a crucial factor in agriculture.

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