GRADUATE SEMINAR

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Statistical Modelling of Spatio-Temporal Extremes

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3.30 PM

Math and Stat Lounge (CW 307.20)

Abstract: Modelling rare events has tremendous applications in diverse areas including environmental sciences, financial markets and agriculture. In particular natural hazards such as heavy precipitation, major hurricanes or severe droughts have a significant impact on societal infrastructure and agribusiness. Classical extreme value theory as a tool of modelling the extremal properties of a single random process has its own merit. However, since many extreme value problems are spatio-temporal in nature, developing an appropriate model that reflects dependence in space and in time is of great importance.

In this talk, I will present the basics of univariate and multivariate extreme value theory. I will also discuss some existing methods on modelling dependence structure of spatio-temporal extremes including copula-based models and max-stable processes.

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Mathematics and Statistics