

GRADUATE SEMINAR

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Introduction to First Hitting Time Models and Threshold Regression

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3:30pm

Math and Stat Lounge (CW 307.20)

Abstract: Many types of lifetime, duration or time-to-event data may be interpreted as first hitting times(FHT's) of a boundary or threshold state by sample paths of a stochastic process, which may be latent or observable. FHT model is a technique of modeling time-to-event data, which is useful in a multitude of areas, including medicine, environmental science, engineering, business, economics and sociology. Introducing regression structures into FHT models allow the effects of covariates to explain the inherent dispersion of the data, thereby taking account of variability and sharpening inferences. Regression structures also provide scientific insights into potential causal roles of covariates in the underlying processes, boundary sets and time scales. This talk introduces aspects of FHT models and is concerned especially with regression structures, which will be referred to as threshold regression(TR).

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