



The University of Chicago
Department of Statistics

Seminar Series

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**Large Deviations for Point Processes Based on
Stationary Sequences with Heavy Tails**

MONDAY, April 19, 2010, at 4:00 PM
133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

In many applications involving functional large deviations for partial sums of stationary, but not iid, processes with heavy tails, a curious phenomenon arises: closely grouped together large jumps coalesce together in the limit, leading to loss of information of the order in which these jumps arrive. In particular, many functionals of interest become discontinuous. To overcome this problem we move from the functional large deviations to the point-process-level large deviations. We develop the appropriate topological framework and prove large deviations theorems for point processes based on stationary sequences with heavy tails. We show that these results are useful in many situations where functional large deviations are not.

Joint work with Henrik Hult.