

# SEMINAR

**October 30, 2014 at 3:30pm**

**Sidney Smith Hall, Room 1083**

**\*Refreshments will be served at 3:15pm\***

**Heavy Tailed Time Series With Extremal Independence**

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We consider heavy tailed time series whose finite-dimensional distributions are extremally independent in the sense that extremely large values cannot be observed consecutively. This calls for methods beyond the classical multivariate extreme value theory which is convenient only for extremally dependent multivariate distributions (that arise in e.g. GARCH or ARMA models). We use the Conditional Extreme Value approach to study the effect of an extreme value at time zero on the future of the time series. In formal terms, we study the conditional limiting distribution of future observations given an extreme value at time zero. To this purpose, we introduce conditional scaling functions and conditional scaling exponents. We compute these quantities for a variety of models, including Markov chains, exponential autoregressive models, stochastic volatility models with heavy tailed innovations or volatilities.

Statistical tools and data analysis will be presented.



Statistical Sciences  
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