Title

# Extremal properties of the long memory stochastic volatility process.

Abstract: The long memory stochastic volatility (LMSV) process has been introduced to model some stylised facts of financial time series, namely,uncorrelatedness of the returns and long memory of squares (or other non linear transformation) and heavy tail of the marginal distribution. Although it has been widely studied, its extreme value properties are not known.
In this talk we will first present results for the tail empirical process of the LMSV process and apply it to prove the consistency and asymptotic normality of the Hill estimator of the tail index of the marginal distribution. Then we will study the extremal properties of the joint distributions of the process and in particular the conditional distribution of future events given that the present was an extreme event.

This is a joint work with Rafal Kulik (Ottawa).