

STATISTICS COLLOQUIUM

MONDAY, OCTOBER 26, 2009

TALK: 4:00 PM — SCIENCE CENTER, ROOM 309

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

“Stock Prices and the Peculiar Statistics of Rare Events”

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ABSTRACT

When it comes to the prices of stocks and other “securities,” it seems that rare events are never rare enough. But they are too rare for meaningful statistical study. In order to test financial models of price fluctuations, focused on excursions, I will side step the issue of small samples by declaring an event “rare” if it is unusual relative to the interval of observation. Every interval has its own rare events, by fiat, and in fact as many as we need. Different classes of models have different invariants to the timings of these “rare” events. These invariants open the door to combinatorial-type hypothesis tests, under which many of the usual models do not hold up very well. I will give evidence for very rapidly changing dynamics and discuss the implications for model building.