1145-60-526 **Gunduz Caginalp*** (`caginalp@pitt.edu`), Mathematics Department, Univ of Pittsburgh, Pittsburgh, PA 15260. *Volatility maxima as a forecaster of trading price extrema.*

This is joint work with Carey Caginalp. The relationship between price volatility and a market extremum is examined using a fundamental economics model of supply and demand. By examining randomness through a microeconomic setting, we obtain the implications of randomness in the supply and demand, rather than assuming that price has randomness on an empirical basis. Within a very general setting the volatility has a maximum that precedes the extremum of the price. A key issue is that randomness arises from the supply and demand, and the variance in the stochastic differential equation governing the logarithm of price must reflect this. Analogous results are obtained by further assuming that the supply and demand are dependent on the deviation from fundamental value of the asset. The supply/demand approach also shows that fat tails (in particular with x^{-2} falloff) are endogenous to the trading mechanism. (Received September 08, 2018)