Professor Dilip Madan  
(University of Maryland/Morgan Stanley)  

“Dynamic Nonlinear Valuation and Hedging”

Abstract: Nonlinear valuation methodologies related to solutions of pure jump Backward Stochastic Partial Integro-Di.erential Equations are introduced. The valuations are based on distorting tail exposures using measure distortions. Value maximizing hedges are formulated for an options book in a Markovian context when the stock is modeled as a spatially inhomogeneous bilateral gamma process. The hedging methodology is illustrated on a book of options on SPY.