

Mathematics Department Presentation Series



Fall 2013

Bruce Sun

*“A Nonparametric Test of Dependence Relation among
Stock Volatility, Return and Trade volume”*

Ketchum 113

Friday, November 22

3-4:15 pm

We apply the models of copulas to find out the pairwise dependence structures among stock volatility, stock return, and the trade volume. The investigation shows that there exists the significantly close relationship among the variables on American stock markets including NYSE, NASDAQ and S&P500. We also examine British Stock Markets by FTSE100, German DAX, and Japanese NIKKEI225. It is found that there exists significant pairwise tail dependence among them, and the dependence is asymmetric.

Prof. Sun is a Graduate Faculty for the Applied and Computational Mathematics (PACM) program at Buffalo State College. He graduated from University of Pittsburgh with a PhD in financial mathematics. He has worked in financial institutions such as a commercial bank and an investment firm for six years. Prof. Sun's research interests are in the fields of applied mathematics, financial mathematics, statistics and actuarial science, including Financial Time Series, Stochastic Analysis, Term Structure Models, Monte Carlo methods, Importance Sampling, Numerical Methods in Ordinary Differential Equations (ODE) and Partial Differential Equations (PDE), Banking and Investment.