2/21/2010

Special Topics in Financial Engineering

Course Time and Place should be discussed at 2:10 PM on Feb. 24th in Room 台積206.

This course covers two special topics as follows.

Volatility Models in Continuous Time – Local Volatility and Stochastic Volatility

1. Estimation: Markov chain Monte Carlo and Fourier Transform Method
2. Option Pricing/Risk Management and Monte Carlo Simulations with Variance Reduction
3. Option Hedging/Value at Risk with Empirical Performance
4. Model Calibration to Implied Data

Large Deviations Theory with Financial Applications

1. Motivations from finance and insurance
2. Introduction to Large deviations
3. Finance in High Dimension: Credit Risk

No textbook. Course notes or relevant papers will be distributed.

In addition, students are encouraged to participate

Workshop and Spring School of Stochastic Calculus and Applications

held during April 9 - April 17, 2010 at the Institute of Mathematics, Academia Sinica. Its official link is

http://www.math.sinica.edu.tw/www/file_upload/conference/201004_WSC/index.htm