SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Onsdagen den 15 februari kl. 10–11 presenterar Johan Cassel sitt arbete "Volatility Smirk — Reconstruction of the Unknown Volatility Curve" (15 högskolepoäng, grundnivå).

Handledare: Sara Maad Sasane

Plats: Sal 21, hus 5, Kräftriket

Abstract: The famous Black-Scholes-Merton option pricing model relies on an assumption that volatility is constant, which much evidence suggest is not appropriate. We here study a one-factor continuous diffusion model that deals with that problem by assuming that the volatility is a function of time and the stock price.
We study Crank-Nicolson, a numerical method to solve partial differential equations numerically which is necessary when following this model. We also look at splines as a way to approximate the volatility function. Finally we give a scheme to reconstruct a volatility function from market data, following the studied model.

Alla intresserade är välkomna!