

PhD-course: "Financial Modelling with Jump Processes"

Lectures by Rama Cont (Columbia University), June 18-20 2007 at the Copenhagen Business School. Arranged by the Danish Doctoral School of Finance.

The course is open (and free) to all finance (related) PhD-students at Nordic universities. Contact Betina Thestrup (bt.fi@cbs.dk) from CBS for registration.

A limited number of seats is available to non-(PhD-students); contact Rolf Poulsen (rolf@math.ku.dk) from the University of Copenhagen.

Deadline for registration: June 1.

Course literature: The text-book is Cont & Tankov (2004), "Financial Modelling with Jump Processes", Chapman & Hall; this may be supplemented by articles and working papers.

Course outline:

- * Basics of jump processes: Poisson process (quick review), point processes, Poisson random measures and compensated Poisson random measures, Poisson integrals
- * Levy processes: def, properties, examples. Markov property.
- * Exponential Levy models for option pricing: examples, Fourier-based pricing methods, calibration issues.
- * Loss models for credit portfolios
- * Models for electricity prices
- * Simulation of Levy processes
- * Stochastic integration and stochastic calculus for jump processes
- * Integrodifferential equations associated with a Markovian jump process. Option pricing via PIDEs.
- * Hedging in models with jumps