Martin Schweizer: "Which implied volatilities?" (with J. Wissel)

Abstract:

We give an overview of some recent work on the construction of joint models for assets and derivatives. The goal is to specify the joint dynamics of all tradables by a system of SDEs. Absence of arbitrage then imposes a number of constraints on these models, and in particular brings up the two problems of (i) finding a good parametrisation of the quantities to be modelled, and (ii) providing sufficient conditions, on the SDE coefficients, for the resulting system to have a solution.