



SCUOLA
NORMALE
SUPERIORE

SEMINARIO DI FINANZA QUANTITATIVA

martedì 27 marzo 2018
ore 11:00

Scuola Normale Superiore
Pisa
Aula Fermi

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terrà un seminario dal titolo:

“The implied volatility surface in modeling problems”

Abstract:

In the Black-Scholes model, the volatility parameter is constant. But it is well-known that, if we compute this volatility parameter by inverting market option prices, the result (the implied volatility) will depend on the strike price (a variation described graphically as a smile or skew) and on time to maturity. Classical stochastic volatility models, where the volatility is allowed to be a diffusion process, can capture the observed smiles and skews, but they cannot easily explain the term structure. For instance, recent numerical analysis state that the skew slope is approximately $O((T)^{-k})$, for some positive k and where T denotes the time to maturity, while the rate for these stochastic volatility models is $O(1)$. In this talk, we will see how to construct new stochastic volatility models that can describe this phenomena. Towards this end, we will present short-time approximations for the implied volatility skew and smile. The obtained formulas will give us a useful tool to identify the volatilities that can explain this term structure. Based on this approach, some new models have been proposed recently (as, for example, rough volatilities). In this talk we will discuss on the state of the art of this modeling research, and we will discuss the main advantages and disadvantages of these new models.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze