

Abstract:

In order to model dynamical phenomena occurring in an environment subjected to random fluctuations, stochastic differential equations have been used very successfully in many areas of Science and Technology. The course gives an introduction to stochastic differential equations and emphasizes:

- a) some biological applications, particularly to the growth of populations or of individuals living in a randomly varying environment and to fishery modelling;
- b) financial applications (stock market and options, with the classic Black-Scholes model and Black-Scholes formula explained).