Abstract:
In recent years the computational complexity of mathematical models employed in financial mathematics has witnessed a tremendous growth. Advanced numerical techniques are imperative for most present-day applications in the financial industry. The motivation for this training network is the need for a network of highly educated European scientists in the field of financial mathematics and computational science, so as to exchange and discuss current insights and ideas, and to lay groundwork for future collaborations.

Besides a series of internationally recognized researchers from academics, leading quantitative analysts from the financial industry also participate in this network. The challenge lies in the necessity of combining transferable techniques and skills such as mathematical analysis, sophisticated numerical methods and stochastic simulation methods with deep qualitative and quantitative understanding of mathematical models arising from financial markets.

The main training objective is to prepare, at the highest possible level, young researchers with a broad scope of scientific knowledge and to teach transferable skills, like social awareness which is very important in view of the recent financial crises. The current topic in this network is that the financial crisis in the European countries is a contagion and herding effect and is clearly outside of the domain of validity of Black-Scholes and Merton's theory, since the market is not Gaussian and it is not frictionless and complete.

In this research training network our aim is to deeper understand complex (mostly nonlinear) financial models and to develop effective and robust numerical schemes for solving linear and nonlinear problems arising from the mathematical theory of pricing financial derivatives and related financial products. This aim will be accomplished by means of financial modelling, mathematical analysis and numerical simulations, optimal control techniques and validation of models.

Details:
Call: FP7-PEOPLE-2012-ITN
Webpage: http://www.itn-strike.eu/
Budget: ca. 3.58 Million Euros
Duration: 01/2013 - 12/2016

Network:
Coordinator University of Wuppertal with Network of 11 full partners: (Wuppertal, Comenius U Bratislava, UP Valencia, U Rousse, TU Lissabon, UA Zittau/Görlitz, TU Vienna, TU Delft, U Greenwich, U Würzburg, U Antwerp) from 9 different EC Countries

9 associated Partners:
3 Unis (U Paris 6, U Sussex, U Coruna) and the 6 companies MathFinance AG, d-fine, Postbank AG, Ortec Finance, ING Bank and Rabobank.