Prof. Dr. D. Becherer
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Institute of Mathematics
Stochastics

In summer term 2013 I shall give the following lecture

# *Financial Mathematics II*

(Stochastische Finanzmathematik II)

If the audience wishes, I am happy to teach the course in English.

*Content:*

Stochastic finance in time-continuous; Itô processes, diffusion models and martingale methods; application to the valuation and hedging of the risk from derivative financial instruments; implied volatility smile modeling; models for interest rate derivatives, including modern "Libor" market models

*Prerequisites*:

Basic lectures (Analysis 1+2; Measure Theory (as part of Analysis 3), Linear Algebra 1+2), Stochastics II (Stochastic Processes I), Stochastic Analysis (Stochastic Processes II; could be attended in parallel!) Recommended, no prerequisite is Financial Mathematics I.

*References:*

Lamperton, D.; Lapeyre, B.: Stochastic Calculus Applied to Finance, Chapman Hall, 2008
Brigo, D.; Mercurio, F.: Interest Rate Models Theory and Practice, Springer, 2007
Hull, J. C.: Options, Futures, and Other Derivatives, Pearson Prentice Hall, 2006
Björk, T.: Arbitrage Theory in Continuous Time, Oxford Univ. Press, 2004
Shreve, S.: Stochastic Calculus for Finance II, Springer, 2000

*Lectures::*

Thursday, 09 – 11, RUD 26, room 1'304
Thursday, 11 – 13, RUD 26, room 1'304

*First lectures:* **April 11, 2013**

*Exercises:*

Friday, 11 – 13, RUD 25, room 3.006

*First exercises:* **April 12, 2013**

*Office hours:* tba

Prof. Dirk Becherer