Zentrum Mathematik
Lehrstuhl für
Finanzmathematik

Technische Universität München

Announcement SoSe 2016

Advanced Seminar
Investment Strategies and Option Pricing
Prof. Dr. R. Zagst, Prof. Dr. K. Glau

Area: / ModulNr.: Mathematical Finance/ MA6015

Content: This seminar is based upon a list of recent papers on different areas of investment strategies and parametric option pricing. Each participant presents one of the selected papers and discusses subsequent developments in the respective field. This provides a broad overview to all participants on the different fields, recent aspects, and historical development of the topic.

Continued next Semester: No

Audience: max. 8 Master students

Prerequisite: MA3702 (Continuous Time Finance)
Recommended: MA5709 (Investment Strategies)

Literature: Most preprints are available on the web for free.

1. **He, X. D., Zhou, X. Y. (2011).** Portfolio Choice via Quantiles, *Mathematical Finance, 21(2), 203-231*
2. **Martellini, L., Milhau, V. (2012).** Dynamic Allocation Decisions in the Presence of Funding Ratio Constraints, *Journal of Pension Economics and Finance, 11(4), 549-580*
3. **He, X. D., Kou, S. (2014).** Profit Sharing in Hedge Funds, *Working Paper*
4. **Bernard, C., Chen, J. S., Vanduffel, S. (2014).** Rationalizing Investors Choice, *Working Paper*
5. **Chebyshev interpolation and Fast Fourier Transform + Joint Project: FFT versus Chebyshev for call option pricing for various strikes (2 people)**
    1. **Chebyshev interpolation and application to parametric option pricing**
    Trefethen, L. N. (2013). Approximation Theory and Approximation Practice. *SIAM books*
    Gaß, M., Glau, K., Mahlstedt, M., Mair, M. (2015). Chebyshev Interpolation for Parametric Option Pricing, *Working Paper*
    2. **Fast Fourier Transform (FFT) for option pricing**
    Eberlein, E., Glau, K., Papapantoleon, A. (2010). *Applied Mathematical Finance, 17(3), 211–240.*
6. **2-d Implementation of Chebyshev interpolation for option pricing in Chebfun**
    Townsend, A. (2014). Computing with functions in two dimensions, *University of Oxford*
    Gaß, M., Glau, K., Mahlstedt, M., Mair, M. (2015). *Chebyshev Interpolation for Parametric Option Pricing*
    Chebfun tool: http://www.chebfun.org
7. **Kolda, T. G., Bader, B. W. (2009).** Tensor Decompositions and Applications, *SIAM Rev., 51(3), 455–500.*

Certificate: 3 CP

Seminar information: For further information on the preliminary meeting to the seminar (Seminarvorbesprechung) and etc. please visit our homepage at https://www.mathfinance.ma.tum.de/lehre/sommersemester-2016/seminare/advanced-seminar-investment-strategies-and-option-pricing/