Einladung

zum Vortrag im Rahmen des **SFB Colloquiums** (Standort Graz), mit dem Titel

Application of the Heath-Platen Estimator in Pricing Barrier and Bond Options

VORTRAGENDE: **Sema Coskun**, University of Kaiserslautern
DATUM: Donnerstag, 9. November 2017
ZEIT: 11:00 Uhr
ORT: KFU Graz

Abstract: Both barrier options and the Heston stochastic volatility model are omnipresent in reallife applications of financial mathematics. Therefore, we apply the Heath-Platen (HP) estimator (as first introduced by Heath and Platen in [1]) to price barrier options in the Heston model setting as an alternative to conventional Monte Carlo methods and PDE based methods. We demonstrate the superior performance of the HP estimator via numerical examples and explain this performance by a detailed look at the underlying theoretical concept of the HP estimator. Furthermore, we show how the concept of the HP estimator can be applied for pricing zero coupon bond options in the stochastic volatility model of Fong-Vasicek.

References

[1] D. Heath and E. Platen. A variance reduction technique based on integral representations. *Qantitative Finance*, 2(5):362–369, 2002.

Das **SFB Colloquium** wird vom **FWF Special Research Program (SFB) Quasi-Monte Carlo Methods: Theory and Application** unterstützt