Sonderforschungsbereich 1060

The Mathematics of Emergent Effects

Einladung zu einem Vortrag im SFB-Seminar

Prof. Dr. Halil Mete Soner

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spricht zum Thema

Martingale optimal transport

Zeit: **Dienstag, den 27. Januar 2015, 14.15 Uhr**

Ort: **Lipschitz-Saal 1.016, Endenicher Allee 60**

Kaffee/Tee: anschl. im Plücker-Saal 1.015

gez. **Herbert Koch**

Abstract: In robust hedging problems, we are given two measures. Namely, the initial and the final distributions of a stock process. We then construct an optimal connection. In general, however, the cost functional depends on the whole path of this connection and not simply on the final value. Hence, one needs to consider processes instead of simply the transport maps. The probability distribution of this process has prescribed marginals at final and initial times. Thus, it is in direct analogy with the Kantorovich measure. But, financial considerations restrict the process to be a martingale. Interestingly, the dual also has a financial interpretation as a robust hedging (super-replication) problem. In this talk, we prove an analogue of Kantorovich duality: the minimal super- replication cost in the robust setting is given as the supremum of the expectations of the contingent claim over all martingale measures with a given marginal at the maturity. This joint work with Yan Dolinsky from Hebrew University.