

**May 6, 2013**  
**KAP 414**  
**2:15 PM- 3:15 PM**

**Prof. Nizar Touzi**  
(Ecole Polytechnique)

***“Martingale optimal transport and model-free hedging”***

**Abstract:** The martingale optimal transportation problem is motivated by model-independent bounds for exotic options in financial mathematics. In this talk, we extend the one-dimensional Brenier's theorem to the present martingale version. We provide the explicit martingale optimal transference plans for a remarkable class of coupling functions corresponding to the lower and upper bounds. Our approach relies heavily on the (weak) duality result, and provides, as a by-product, an explicit expression for the corresponding optimal semi-static hedging strategies. Using the extension to the multiple marginals case, we also provide the analogous result in continuous-time. In particular, the continuous-time limit provides a remarkable PCOC process, namely a pure jump martingale local Levy process with prescribed marginals.