# Asset Pricing, Heterogenous Beliefs, and Liquidity

Johannes Muhle-Karbe[*1]

[1]Imperial College London – United Kingdom

### Abstract

This paper studies the equilibrium price of an asset that is traded in continuous time between N agents who have heterogeneous beliefs about the state process underlying the asset's payoff. We propose a tractable model where agents maximize expected returns under quadratic costs on inventories and trading rates. The unique equilibrium price is characterized by a weakly coupled system of linear parabolic equations which shows that holding and liquidity costs play dual roles. We derive the leading-order asymptotics for small transaction and holding costs which give further insight into the equilibrium and the consequences of illiquidity.

[*]Speaker