

February 7th, 2020

KAP 414

3:30 P.M. – 4:30 P.M.***

Professor Moritz Voss

(University of California, Santa Barbara)

“A Two-Player Price Impact Game”

Abstract: We study the competition of two strategic agents for liquidity in the benchmark portfolio tracking setup of Bank, Soner, Voss (2017), both facing common aggregated temporary and permanent price impact à la Almgren and Chriss (2001). The resulting stochastic linear quadratic differential game with terminal state constraints allows for an explicitly available open-loop Nash equilibrium in feedback form. Our results reveal how the equilibrium strategies of the two players take into account the other agent's trading targets: either in an exploitative intent or by providing liquidity to the competitor, depending on the ratio between temporary and permanent price impact. As a consequence, different behavioral patterns can emerge as optimal in equilibrium. These insights complement existing studies in the literature on predatory trading models examined in the context of optimal portfolio liquidation problems

*****THIS IS A FRIDAY COLLOQUIUM AND WILL BEGIN AT 3:30PM!*****