November 7, 2022
2:00 – 3:00 pm
KAP 414

Prof. Sergey Nadtochiy
(Illinois Institute of Technology, Chicago)

Consistency of MLE for partially observed diffusions, with application in market microstructure modeling

Abstract: In this talk, I will present a tractable sufficient condition for the consistency of maximum likelihood estimators (MLEs) in partially observed diffusion models, stated explicitly via the stationary distribution of the fully observed system. This result is then applied to a model of market microstructure with latent (unobserved) price process, for which the estimation is performed using real market data for liquid NASDAQ stocks. In particular, we obtain an estimate of the price impact coefficient, as well as the micro-level volatility and the drift of the latent price process (the latter is responsible for the concavity of expected price impact of a large meta-order). Joint work with Y. Yin.

Zoom link:

Topic: USC Math Finance Colloquium

Time: Nov 7, 2022 02:00 PM Pacific Time (US and Canada)

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