Leo Neufcourt* (neufcour@msu.edu), Wells Hall, Office C442, Michigan State University, East Lansing, MI 48824. Continuous expansion of a filtration with a stochastic process: the information drift.

In this joint work with Philip Protter we consider a general market with a semimartingale asset price and study the situation where an “insider” agent has access to a continuous flow of additional information generated by a stochastic process. Assuming no arbitrage opportunity is created, the price process remains a semimartingale for the expanded filtration; it is then characterized by an (additional) information drift. The information drift is a key proxy to the statistical advantage provided by the additional information. The core of our results consists in a series of convergence theorems for semimartingale decompositions based on $L^p$ norms, which provides a representation of the information drift for continuous expansions. These tools are employed to study a new class of models for the information accessible to high-frequency traders. (Received February 03, 2020)