

**6T: Wednesday, February 20, Room C**

**Tutorial: Signal Processing and Optimization in  
Financial Engineering**

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Financial engineering may seem alien to many in the signal processing community, but this is a misconception. The underlying connections between financial engineering and signal processing as well as optimization are too strong to be ignored. At the core, engineers try to model the system they deal with, be it a wireless communication channel or the price fluctuations in the financial markets. With a model of the reality in hand, one can then start making forecasts and design strategies for the future. In a wireless link, one may want to optimize the statistics of the signal to be transmitted by the antennas, whereas in a financial market one may attempt to optimize the investment strategies. This talk will provide a glimpse of financial engineering from a signal processing and optimization perspective, including topics like robust estimation and Kalman filtering, while exploring connections to other engineering disciplines.