



Contribution ID: 9

Type: **Talk**

## Of Brains and Markets

*Thursday, 19 September 2019 11:30 (30 minutes)*

In this talk, we explore an approach to understanding price fluctuations within a market via considerations of functional dependencies between asset prices. Interestingly, this approach suggests a class of models of a type used earlier to describe the dynamics of real and artificial neural networks. Statistical physics approaches turn out to be suitable for an analysis of their collective properties. We first motivate the basic phenomenology and modeling arguments before moving on to discussing some major issues with inference and empirical verification. In particular, we focus on the natural creation of market states through the inclusion of interactions and how these then interfere with inference. This is primarily addressed in a synthetic setting. Finally we investigate real data to test the ability of our approach to capture some key features of the behavior of financial markets.

### Summary

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**Session Classification:** Session 3