



**University of  
Zurich** <sup>UZH</sup>

## Department of Economics – Neuroeconomics Seminar

**September 27, 2018 - 17:00 - 18:00**

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### **Dynamics of fMRI brain activity: perspectives for cognitive & clinical neurosciences**

Over the past decade, approaches from signal processing, machine learning, and network science, have had a profound impact on the analysis and the interpretation of brain activity measured by functional magnetic resonance imaging (fMRI). Functional connectivity studies have not only given insights into how the brain supports coordinated cognition, learning, or stability in a changing environment, but also to what extent networks are altered in neurological disease and disorder. Recently, the quest for better understanding of brain dynamics has triggered new ways to approach functional connectivity; i.e., using time-resolved rather than summarizing correlational measures that miss essential details of network interaction dynamics. In this talk, I will highlight a promising recent advances where fMRI data is analyzed in terms of synchronized transient activity. This new framework can deal with spatial and temporal overlap of functional networks, and thus unravels their interdigitated and parallel organization. I will put these developments in perspective for building better, more mechanistic, models of brain function and their potential for disease diagnosis and prognosis.