

Lecture.

## **Network Analysis, Data Sciences and Control in Computational Neuroscience**

The human brain is probably one of the most complex objects in nature. In recent years many network models have been proposed to analyze brain dynamics and study certain neurological disorders.

In nearly every study conducted on human brain networks the questions asked were what are the hubs of the network, e.g. the nodes with highest degree?

There is however another important network characteristic set of nodes, arising from network controllability theory, which for the time being remained beyond the attention of researchers: identify a minimum set of driver nodes, providing controllability of the network.

In this talk we are going to discuss a spectrum of problems in computational neuroscience, whose solution needs tools from data sciences and control