

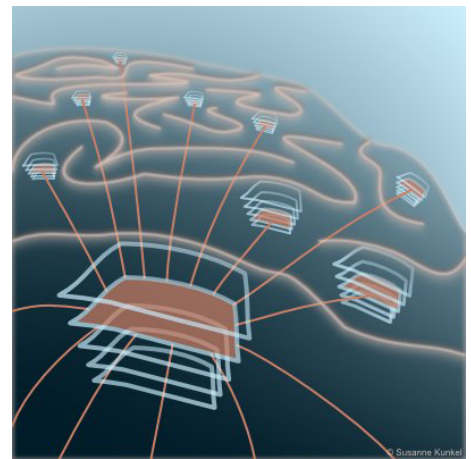
Spatio-temporal organization of cortical processing during complex behavior

date/time: January 30th (Thursday) 16:00~17:00
place: CiNet 1F Main Seminar Room

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We aim at getting an understanding into the processing of the cortical network during natural behavior. Such a task requires a number of components which I will outline in my talk and present some approaches.

In order to observe network interaction it is required to observe many neurons or populations of neurons simultaneously while a subject is performing a complex task, as done by our experimental partners. The data need to be analyzed in a trial-by-trial manner to be able to relate the time varying features of the neuronal activities to the behavior. For the identification of network interactions and their dynamics the data are analyzed for time dependent correlations between the activities of neurons. I will present the development of such statistical methods and preliminary results of their application to massively parallel data.

Intense collaboration with experimental labs and the interest in analyzing the same data by various approaches led us to start to develop reproducible workflows and related necessary software. At our institute (www.csn.fz-juelich.de) we combine insights from analysis of experimental data and network modeling.

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