

## **Aarhus MEG Special 2014**

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DNC Auditorium

Aarhus University Hospital, Building 10G

Nørrebrogade 44, 8000 Aarhus C.

**Dr. Markus Siegel** (University of Tuebingen)

*Spectral fingerprints of large-scale neuronal interactions*

### Abstract:

Normal brain function requires the interaction of functionally specialized but widely separated cortical regions. I will discuss a series of M/EEG experiments, in which we investigated large-scale cortical interactions by assessing correlations between neuronal oscillations in different brain regions. We found evidence that coherent oscillations mediate the attentional selection, perceptual disambiguation, and cross-modal integration of sensory inputs. Furthermore, we found that spontaneous cortical oscillations exhibit characteristic global correlation patterns that are specific for the underlying oscillation frequency and that are sensitive markers of pathological cortical development. Together, these data suggest that cognition is mediated by correlated oscillations within large-scale cortical networks. These oscillations may be 'spectral fingerprints' of underlying canonical neuronal computations.