

## **Cognitive Science Seminar**

Thursday, Jan. 9th (17:00), Institute of Psychology, 6 Ingardena St., room 2.15

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### **Source based effective connectivity reveals internal communication within the dorsal attentional network**

Estimation of effective connectivity can be a powerful tool for inferring about the causality of brain activations. The challenges of joint source localization and EEG/MEG effective connectivity analysis in high temporal resolution will be discussed. Preliminary results will be presented from the procedure regarding the role of the dorsal attention network (DAN) subdivisions in endogenous allocation of spatial attention. The parietal DAN portion is divided into subsystems devoting to reorienting (i.e. SPL) or maintaining attention (i.e. ventral IPS). The MEG study uses the effective connectivity approach to examine the causal relationship between the frontal eye fields and parietal DAN regions during an attention task, where cues indicated either to maintain or to reorient covert attention. The results indicate that reorienting vs. maintaining attention is associated with the sequence of top-down and bottom-up fronto-parietal information exchange of right hemisphere conveyed in beta band.