

WORKSHOP  
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## Laminar organization and function of cortical oscillations

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### **Abstract**

Oscillatory activities are ubiquitous in the cortex. Early work hypothesized that these oscillations are the result of a thalamic pace-maker. More recent evidence, mostly obtained from in vitro preparations, suggested that these oscillations could be of a cortical origin. We investigated this problem in awake, behaving animals. Monkeys were trained to perform an intermodal selective attention task. Local field potentials and multiunit activities are simultaneously sampled in V1, V2, V4 and IT with a linear multi-contact electrode array spanning the six layers of the cortex. Aided with advanced statistical methods including Granger causality, we were able to reveal distinct laminar organizations of cortical 10 Hz oscillations in the occipital and temporal lobes. The functional significance of these laminar organizations will be discussed in the context of attentional modulation of cortical oscillations.