

**Presentation title:**

Dynamics of synaptic transmission in the neocortex: mathematical models and functional implications

**Date:** Thursday 7 July 2011

**Abstract**

In my lecture I will first review basic experimental observations about short-term synaptic dynamics and the way to capture them in simple phenomenological models. Analysing the models result in some interesting predictions about how neuronal populations exchange information in the cortex during spontaneous activity and when driven by sensory stimuli. In the second part of the lecture, I will describe more recent developments regarding the potential role of short-term synaptic facilitation in working memory.