



HBIGS Lecture

by

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„On how knowing what to predict alters the threshold of conscious perception, timing and neuronal dynamics“

Date: Wednesday, 24 Aug 2011

Start of Lecture: 17:00 s.t.

Venue: INF 282 (ZMBH), R001

Abstract:

It is widely accepted that perception is not solely determined by bottom-up information. Top-down processes play a key role in determining which information gains access to consciousness. Major theories of consciousness agree that attention plays a key role on granting access to consciousness. However, the role of top-down expectations/predictions in conscious perception is less explored. In particular, it is currently unknown whether and when expectations/predictions interact with sensory evidence in granting access to conscious perception, and how this is reflected electrophysiologically. In my talk I will present studies showing that predictions on a short time scale, i.e. predictions based on information from a previous trial, and predictions on a long time scale, i.e. predictions based on extensive perceptual learning, affect visibility at threshold. In addition, I will show that the electrophysiological signatures of conscious perception do not afford a strict timing, but depend on whether access to consciousness relies on bottom-up information alone or on an interplay between top-down processes and sensory evidence. Thus, our results may resolve the current controversy whether the neuronal correlates of consciousness occur early or late.