

# **Embodied and Situated Cognition: from Phenomenology to Neuroscience and Artificial Intelligence**

## **BRAIN CORRELATES OF THE EMBODIED SELF**

Olaf Blanke  
Laboratory of Cognitive Neuroscience  
Brain Mind Institute  
Swiss Federal Institute of Technology  
Lausanne, Switzerland

Although most humans have never had any trouble localizing themselves within their own bodily borders, this sense of self location or embodiment is a fundamental aspect of self consciousness and requires specific brain mechanisms. Recent clinical and neuroimaging evidence suggests that two posterior brain regions, the temporo-parietal junction (TPJ) and cortex at/near the extrastriate body area (EBA) are crucial in coding embodiment.

In this seminar I will review two lines of research investigating brain correlates of embodiment. (1) Pathological states of embodiment (such as out-of-body experience, autoscapy, and feeling of a presence) due to focal brain damage to temporo-parietal cortex and extrastriate cortex in neurological patients. (2) Recent findings on activations of the temporo-parietal cortex and extrastriate cortex in embodiment-related tasks using mental imagery in healthy subjects.

I argue that these experimental and clinical findings on embodiment might turn out to be of relevance in defining some of the functions and brain structures mediating self consciousness and subjectivity.