



Département de psychiatrie  
Centre de neurosciences psychiatriques  
Site de Cery  
CH-1008 Prilly - Lausanne

# Centre de Neurosciences Psychiatriques

## CNP SEMINAR

### ANNOUNCEMENT

Friday, February 21, 2014, 11:15 am

**“A New Look at the Vestibular Sense: Influences on Spatial Cognition,  
Body Representation, and Affective Processes”**

**Prof. Fred Mast, PhD**

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**BIO-SKETCH:** Fred Mast is a full professor and Head of the Department of Psychology at the University of Bern. His research is focusing on multisensory integration, mental imagery, and visual perception. His recent research shows that the vestibular system is connected with other mechanisms of bodily perception including affect and mood regulation.

**ABSTRACT:** In this talk I will point out three emerging streams of research highlighting the importance of vestibular input: *Spatial Cognition, Body Representation and Affective Processes and Disorders*. Recent research in humans demonstrates the involvement of vestibular information in tasks that are seemingly remote from well-known functions such as space constancy or postural control. 1) Modulation of vestibular signals can induce specific changes in spatial cognitive tasks, and 2) numerous studies demonstrate that vestibular stimulation changes the representation of body parts, and sensitivity to tactile input or pain. 3) Moreover, studies in psychiatric patients and patients with a vestibular disorder report a high comorbidity of vestibular dysfunctions and anxiety disorders. I will provide evidence from research carried out by my team for all three domains of research, and hopefully encourage discussions leading to a more profound understanding of the vestibular network, and how it interfaces with cognitive, affective, and body-related tasks.

**Selected Publications:**

1. Lopez, C., Blanke, O. & Mast, F.W. (2012). The human vestibular cortex revealed by coordinate-based activation likelihood estimation meta-analysis. *Neuroscience*, 212, 159–179.
2. Falconer, C. & Mast, F.W. (2012). Balancing the Mind: Vestibular induced facilitation of egocentric mental transformations. *Experimental Psychology*, 1-8.
3. Lopez, C., Schreyer, H.-M., Preuss, N. & Mast, F.W. (2012). Vestibular stimulation modifies the body schema. *Neuropsychologia*, 50, 1830-1837.
4. Preuss, N., Mast, F.W. & Hasler, G. (accepted). Purchase decision-making is modulated by vestibular stimulation. *Frontiers in Behavioral Neuroscience*
5. Preuss, N., Hasler, G. & Mast, F.W. (in press). Caloric vestibular stimulation modulates affective control and mood. *Brain Stimulation*, DOI: 10.1016/j.brs.2013.09.003