



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

Centre de Neurosciences Psychiatriques

CNP SEMINAR

ANNOUNCEMENT

Friday, June 10, 2016, 11 a.m.

“Coordinated infra-slow neural and cardiac oscillations mark fragility and offline periods in mammalian sleep”

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Université de Lausanne, Suisse
<https://www.unil.ch/dnf/fr>

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One of the most remarkable properties of sleep is that it promotes recovery while maintaining alertness to important events, such as a baby crying. We find that sleep alternates every 20-25 seconds between a period of high arousability and a period of protected sleep that favors internal memory processing. This time scale is determined by coordinated oscillations in brain electrical rhythms and heart rate in both rodent and human. It probably originated during evolution from the need to maintain vigilance during recovery periods. Disorganization of this fundamental rhythm of sleep could underlie inappropriate arousals during sleep disorders and cardiovascular diseases.

Selected Publications:

1. Astori, S., Wimmer, R.D., and Lüthi, A. (2013). Manipulating sleep spindles - expanding views on sleep, memory, and disease. *Trends Neurosci.* 36, 738-748.
2. Wimmer, R.D., Astori, S., Bond, C.T., Rovó, Z., Chatton, J.Y., Adelman, J.P., Franken, P., and Lüthi, A. (2012). Sustaining sleep spindles through enhanced SK2-channel activity consolidates sleep and elevates arousal threshold. *J. Neurosci.* 32, 13917-13928
3. Rovó Z , Mátyás F, Barthó P, Slézia A, Lecci S, Pellegrini C, Astori S, Hangya B, Lüthi A*, Acsády L* (2014) Phasic, non-synaptic GABA-A receptor-mediated inhibition entrains thalamocortical oscillations. *J Neurosci* 34:7137-7147