



Friday, April 10, 2026



12.00 o'clock



Inselspital, Kursraum
Neurologie
INO B118, Entrance 34
Rosenbühlgasse 25 3010 Bern



[Link here](#)

Genetic dissection of subcortical circuits pertaining to motor control and recovery of locomotion after spinal cord injury

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Spinal cord injury interrupts the flow of information between the brain and the spinal cord. The spinal cord contains all the circuitry necessary and sufficient to generate locomotion. However, in the absence of descending inputs from the brain, patients with spinal cord injury cannot walk again. Interestingly, most spinal cord injuries are incomplete, thus opening the possibility of using neuro-prosthetic approaches to target spared neuronal pathways to promote functional motor recovery.

In this presentation, I will talk about our recent studies investigating the functional contribution of subcortical circuits in motor control and recovery. Combining kinematic and electrophysiological recordings with optogenetic or genetic manipulations in freely behaving mice, I will show which and how genetically identified neuronal populations of subcortical nuclei initiate, modulate, and stop locomotion in normal conditions and how their stimulation can improve functional recovery of locomotion after spinal cord injury.

Chair: Prof. Vincent Pernet