

# Abstract Information

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<b>Address :</b>	Department of Neuroscience, University of Copenhagen Denmark
<b>Participation :</b>	symposium
<b>Title of the Symposium :</b>	Brain circuits for motor and social Behaviors
<b>Category :</b>	Academic/Researcher
<b>Thematic Area :</b>	Sensory, and Motor Systems
<b>Title :</b>	Motor Circuits Prioritizing Safety-Seeking
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<b>Abstract :</b>	<p>Animals continuously adapt their behavior to balance survival and fulfilling essential needs. This balancing act involves prioritization of safety over the pursuit of other needs and involves ambulatory movement towards desired objects, amid a constant conflict with need for safety. Initiating ambulatory movement is crucial not only for approaching targets but also for shifting priorities to ensure safety when necessary. The specific deep brain circuits that regulate safety-seeking behaviors in conjunction with motor circuits are not well understood. In this talk I will focus on work that has identified neuronal hypothalamic circuits that bridge with brainstem circuits and eventually spinal executive motor circuits to implement safety seeking. The lecture will report the finding of a distinct glutamatergic neuron population in the lateral hypothalamus (LHA) that targets locomotor initiating circuits in the pedunculopontine nucleus. This LHA-PPN orchestrates context-dependent locomotion and governs the prioritization of safety over essential needs. This circuit may be trigger both intrinsically and by external cues. Our study reveals a crucial link between neuronal circuits and adaptive actions. The findings demonstrate how brain circuits orchestrate context dependent locomotion, bypassing cortical or basal ganglia inputs to the brainstem.</p>
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