

Neuronal and circuit diversity controlling motor actions

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Our ability to move to seek food, interact socially, navigate our environment and avoid danger is fundamental for our survival. Therefore, locomotion is intimately linked to many behaviors - while the locomotor movements are seemingly simple and stereotyped, the path to their execution is complex and entails many levels of integration. Brain circuits must be endowed with mechanisms enabling a precise tuning of the onset of locomotion, its speed and coordination to match the intended behavioral outcome such as slowly approaching a prey or rapidly escaping a predator. In this lecture, I will outline our current state of knowledge of the organization and function of neural circuits controlling locomotion in particular and motor actions in general.