The capacity for movement is at the center of most behaviors. Of movements, locomotion is one of the most fundamental. It requires complex coordination, episodic expression and steering control. Here, I will focus on recent work that has elucidated the brainstem control of locomotor circuits needed to perform these roles. I will show that molecularly defined populations of excitatory brainstem neurons mediate the start and stop of locomotion, control the speed locomotion as well as implementation of different gaits of locomotion expressed in different behavioural context. Additionally, defined neuronal populations in the brainstem control turning of locomotor. Together these studies have identified the command pathways directly involved in determining the episodic expression of locomotion and its directionally. The pathways are subject to specific control from higher brain areas and impose precise control of spinal locomotor circuits.