1. Record Nr. UNINA9910227349203321 Autore Isaac L. Kurtzer Titolo Supraspinal Control of Automatic Postural Responses Which Pathway Does What? Frontiers Media SA, 2017 Pubbl/distr/stampa Descrizione fisica 1 electronic resource (105 p.) Collana Frontiers Research Topics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Rapid corrective actions, termed automatic postural responses, are Sommario/riassunto essential to counter the destabilizing effect of mechanical perturbations during natural behaviors. Previous research has demonstrated that automatic postural responses of the limbs and body share a number of capabilities in adapting to the prevailing circumstances and these abilities reflect contributions from multiple supraspinal pathways, including brainstem nuclei, basal ganglia, and primary motor cortex. However, we do not know the contextdependent contribution from specific generators, whether different neural pathways have a common role across different effectors, and how sensory and central deficits in one pathway are accommodated by those remaining. Bridging these gaps is essential to integrate the diverse set of studies, develop general theories of motor control, and explicate how the nervous system addresses the partially distinct behavioral demands of co-evolved effector system. The considerable flexibility and multiple interacting pathways of automatic postural responses also make it ideal for understanding how powerful formal

hierarchical neural network.

theories, like optimal feedback control, are achieved by a distributed