

1. Record Nr.	UNINA9910462066503321
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Titolo	Fundamentals of motor control [[electronic resource] /] / Mark L. Latash
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier/Academic Press, 2012
ISBN	1-280-85134-1 9786613711700 0-12-391412-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (365 p.)
Disciplina	152.3
Soggetti	Motor ability Motor learning Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Fundamentals of Motor Control; Copyright; Contents; Preface; Chapter 1A philosophical introduction; 1.1Adequate language; 1.2Specific features of biological objects; Chapter 2Elements of history; 2.1From Ancient Greece to the early twentieth century; 2.2Classical biomechanics and neurophysiology of the twentieth century; 2.3Nikolai Bernstein and the levels of movement construction; Self-test questions; Essential references and recommended further readings; Chapter 3Features of the system for movement production; 3.1The muscle; 3.2 Neurons and neural pathways; 3.3Sensory receptors 3.4Reflexes3.5Motor redundancy; 3.6Motor variability; Self-test questions; Essential references and recommended further readings; Chapter 4Instructive examples; 4.1Do stars and planets measure the distances to each other?; 4.2Posture-movement paradox; 4.3Opening a door with a mug of coffee in one's hand; 4.4Tonic stretch reflex and voluntary movements; 4.5Equifinality and its violations; 4.6Effects of deafferentation on voluntary movements; Self-test questions; Essential references and recommended further readings; Chapter 5Control with forces and torques; 5.1Force control 5.2Are interaction torques special? The leading-joint hypothesis5.3Generalized motor programs; Self-test questions; Essential references

and recommended further readings; Chapter 6 Control with muscle activations; 6.1 Introduction; 6.2 Dual-strategy hypothesis; 6.3 Pulse-step model; 6.4 Control of multi-muscle systems: muscle synergies; Self-test questions; Essential references and recommended further readings; Chapter 7 Control theory approaches; 7.1 The basic notions; 7.2 Servo-control and Merton's servo-hypothesis; 7.3 Optimal control; Self-test questions

Essential references and recommended further readings Chapter 8 Physical approaches; 8.1 Mass-spring models; 8.2 Threshold control; 8.3 The equilibrium-point hypothesis; 8.4 Control with referent configurations; Self-test questions; Essential references and recommended further readings; Chapter 9 Coordination; 9.1 Introduction; 9.2 Optimization; 9.3 Dynamical systems approach; 9.4 Synergy; 9.5 Perception-action interactions; 9.6 Perception-action coupling; Self-test questions; Essential references and recommended further readings; Chapter 10 Neurophysiological structures; 10.1 The spinal cord; 10.2 Central pattern generators; 10.3 The brain: A general overview; 10.4 Cortex of the large hemispheres; 10.5 Loops through the basal ganglia; 10.6 Loops involving the cerebellum; Self-test questions; Essential references and recommended further readings; Chapter 11 Exemplary behaviors; 11.1 Posture; 11.2 Locomotion; 11.3 Reaching; 11.4 Prehension; Self-test questions; Essential references and recommended further readings; Chapter 12 Effects of practice and adaptation; 12.1 Introduction; 12.2 Learning to be quick and accurate: Speed-accuracy and speed-difficulty trade-offs; 12.3 Learning motor synergies; 12.4 Stages in motor learning

Sommario/riassunto

Motor control is a relatively young field of research exploring how the nervous system produces purposeful, coordinated movements in its interaction with the body and the environment through conscious and unconscious thought. Many books purporting to cover motor control have veered off course to examine biomechanics and physiology rather than actual control, leaving a gap in the literature. This book covers all the major perspectives in motor control, with a balanced approach. There are chapters explicitly dedicated to control theory, to dynamical systems, to biomechanics, to different beh
