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Titolo	Progress in Motor Control : Theories and Translations / / edited by Jozsef Laczko, Mark L. Latash
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Descrizione fisica	1 online resource (XVI, 388 p. 94 illus., 48 illus. in color.)
Collana	Advances in Experimental Medicine and Biology, , 0065-2598 ; ; 957
Disciplina	612.04
Soggetti	Neurosciences Sports sciences Biomedical engineering Sport Science Biomedical Engineering/Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Modularity for motor control and motor learning -- Synergies in grasping -- Encoding temporal features of skilled movements--what, whether and how? -- Predictability and robustness in the manipulation of dynamically complex objects -- Fifty years of physics of living systems -- The relationship between postural and movement stability -- Principles of motor recovery after neurological injury based on a motor control theory -- What do TMS evoked motor potentials tell us about motor learning? -- Motor control of human spinal cord disconnected from the brain and under external movement -- Anticipation in object manipulation: Behavioral and Neural correlates -- Brain plasticity and the concept of metaplasticity in skilled musicians -- The coordination dynamics of observational learning: relative motion direction and relative phase as informational content linking action-perception to action-production -- Rethinking the study of volition for clinical use -- Motor lateralization provides a foundation for predicting and treating non-paretic arm motor deficits in stroke -- Control of cycling limb movements: aspects for rehabilitation -- Impaired voluntary movement control and its rehabilitation in cerebral palsy -- Can motor recovery in stroke be improved by non-invasive brain

stimulation?.- Organizing and reorganizing coordination patterns.- A computational index to describe slacking during robot-therapy.

- Toward a proprioceptive neural interface that mimics natural cortical activity.

Sommario/riassunto

This single volume brings together both theoretical developments in the field of motor control and their translation into such fields as movement disorders, motor rehabilitation, robotics, prosthetics, brain-machine interface, and skill learning. Motor control has established itself as an area of scientific research characterized by a multi-disciplinary approach. Its goal is to promote cooperation and mutual understanding among researchers addressing different aspects of the complex phenomenon of motor coordination. Topics covered include recent theoretical advances from various fields, the neurophysiology of complex natural movements, the equilibrium-point hypothesis, motor learning of skilled behaviors, the effects of age, brain injury, or systemic disorders such as Parkinson's Disease, and brain-computer interfaces. The chapter 'Encoding Temporal Features of Skilled Movements—What, Whether and How?' is available open access under a CC BY 4.0 license via link.springer.com.