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Titolo	Converging Clinical and Engineering Research on Neurorehabilitation III : Proceedings of the 4th International Conference on NeuroRehabilitation (ICNR2018), October 16-20, 2018, Pisa, Italy / / edited by Lorenzo Masia, Silvestro Micera, Metin Akay, José L. Pons
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Descrizione fisica	1 online resource (1,170 pages)
Collana	Biosystems & Biorobotics, , 2195-3570 ; ; 21
Disciplina	610.28
Soggetti	Biomedical engineering Automatic control Robotics Automation User interfaces (Computer systems) Human-computer interaction Medical care Technological innovations Biomedical Engineering and Bioengineering Control, Robotics, Automation User Interfaces and Human Computer Interaction Health Care Innovation and Technology Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Translating research prototypes to bedside: the lesson-learnt of the RETRAINER EU project -- Computer Models in the Design of Neurotechnologies and Rehabilitation Tools -- Improving Strategies for Human-Robot Interaction for Rehabilitation Robotics applications -- Shaping robotic training to maximize patient outcome: new trends and perspectives -- Balance control during walking-related motor tasks -- Multimodal neural interfaces for rehabilitation and assistance of people

with disability -- Application of Functional Electrical Stimulation (FES) to lower limb movement assistance -- Pattern Recognition Techniques for assessment, training and rehabilitation -- Reshaping Perception and Action in Human-Machine Interfaces.

Sommario/riassunto

The book reports on advanced topics in the areas of neurorehabilitation research and practice. It focuses on new methods for interfacing the human nervous system with electronic and mechatronic systems to restore or compensate impaired neural functions. Importantly, the book merges different perspectives, such as the clinical, neurophysiological, and bioengineering ones, to promote, feed and encourage collaborations between clinicians, neuroscientists and engineers. Based on the 2018 International Conference on Neurorehabilitation (ICNR 2018) held on October 16-20, 2018, in Pisa, Italy,, this book covers various aspects of neurorehabilitation research and practice, including new insights into biomechanics, brain physiology, neuroplasticity, and brain damages and diseases, as well as innovative methods and technologies for studying and/or recovering brain function, from data mining to interface technologies and neuroprosthetics. In this way, it offers a concise, yet comprehensivereference guide to neurosurgeons, rehabilitation physicians, neurologists, and bioengineers. Moreover, by highlighting current challenges in understanding brain diseases as well as in the available technologies and their implementation, the book is also expected to foster new collaborations between the different groups, thus stimulating new ideas and research directions.