Special Issue

Rehabilitation Robotics: Recent Advancements and New Perspectives about Training and Assessment of Sensorimotor Functions

Message from the Guest Editors

An effective rehabilitation intervention for surviving patients, who will exhibit permanent motor deficits, has not been found. Neurological disorders are the leading cause of long-term disability**.** Successful approaches focus on developing therapies that promote neuroplasticity. One of the most promising is the exploitation of robotics technology, rehabilitation robotics. This discipline aims at developing novel solutions for assisted therapy and objective functional assessment of patients. These solutions augment existing conventional therapeutic protocols. However, how can robots be useful in this process, and what is the rationale for their introduction in the rehabilitation arena, are two of the many questions to be answered. Rehabilitation robotics is a fertile multidisciplinary research area, where technology plays a pivotal role in enabling translational applications of most advanced findings in neuroscience, human biology and clinical rehabilitation. This SI aims to cover the mentioned aspects, highlighting the advances in the development of robotic devices and algorithms for their control, with a particular focus on the assessment and training of sensorimotor functions.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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