



Séminaire ISIR

Lundi 9 novembre à 15H

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Campus Jussieu, 4 place Jussieu, Paris
Salle de réunion H20

Advancing Functional Electrical Therapy (FET)

Abstract : The FET is an exercise that comprises voluntary reaching & grasping with simultaneous externally assisted grasping by an electrical stimulation (ES) system that generates able-bodied like, slow movements. Clinical trials showed that the FET speeds up and promotes better recovery of stroke patients. The likely reasons are: early intervention, intensive task related exercise is a part of FET, ES is phased and timed to match the natural flow of afferent and efferent information (mimicking able-bodied pattern of sensory-motor systems activation), increased motivation to exercise due to the fact the grasping and releasing are facilitated (electrical augmentation of motor functions). However, in this protocol, patient triggers stimulation with healthy hand and, as a result, “unnatural” feedback is produced. New generation of FET protocol is designed to pair in time, the brain signals with the sensory information arising from muscles when they are activated through an electrical stimulator for peripheral nerve stimulation controlled by the brain signals. Chronic stroke patients may further benefit from this research.

Short bio : Mirjana B. Popović received the B.Sc. degree in electrical engineering, M.Sc. and Ph.D. degrees in biomedical engineering from the University of Belgrade, Serbia, in 1976, 1985, and 1995, respectively. She is Professor of Biomedical Engineering at the School of Electrical Engineering, University of Belgrade. Currently she is involved in biomedical research at the University Rehabilitation Center “Dr. Miroslav Zotovic” and at the University Clinical Center for Neurology, Belgrade. Her scientific career includes employment and collaboration with several institutions in North America and Europe (University of Alberta, Canada, University of Miami, US, and the Center for Sensory Motor Interaction, Aalborg University, Denmark).