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Séminaires ISIR

Lundi 2 juin 2014 de 14h00 à 16h00

Ted Milner

Campus Jussieu, 4 place Jussieu, Paris
Salle de réunion 304

Title : Robot-assisted rehabilitation of hand function following stroke

Abstract : Impairment of hand function is one of the most persistent motor deficits following stroke. Given the biomechanical complexity of the hand and the critical role played by somatosensory feedback in the control of dexterous hand movements, rehabilitation of hand function presents a significant challenge. We began designing systems for robot-assisted rehabilitation of hand function about 8 years ago, focusing primarily on grasp and twist motion and coordinated finger actions. In this talk, I will describe the impairments that we have identified, the rehabilitation exercises that we have developed and the improvements in hand function that post-stroke subjects are able to achieve following training. I will also describe current projects aimed at better understanding how sensory information is processed in motor (re-)learning following stroke using functional connectivity analysis in resting-state fMRI.

Short Bio : Ted Milner received his B.Sc. in Physics and M.Sc. and Ph.D. in Physiology from the University of Alberta. He conducted post-doctoral research at MIT in Brain and Cognitive Sciences and then accepted a position at the Institut de génie biomédical of the Université de Montréal in 1986. In 1992, he moved to the School of Kinesiology at Simon Fraser University and then in 2008 he became Departmental Chair of the Department of Kinesiology and Physical Education at McGill University. He recently published a book: Human Robotics Neuromechanics and Motor Control with Etienne Burdet and David Franklin, who both worked in his lab at Simon Fraser University. He currently has a Marie Curie International Incoming Fellowship to work in the Rehabilitation Engineering Lab at ETH-Zurich.