



Séminaires ISIR

Mercredi 28 mai 2014 de 14h00 à 16h00

Ted Milner

Campus Jussieu, 4 place Jussieu, Paris
Salle 304

Title : Fundamental principles and neural mechanisms involved in motor learning

Abstract : We have exceptional abilities to control movement, interact with objects and adapt to our environment. How do we learn the appropriate patterns of muscle activation to do this? From experimental observations of adaptation to novel mechanical environments we have identified several principles which form the basis of an algorithm that incrementally changes the activation of a number of muscles according to rules that lead to improvements in performance and reduction in metabolic energy cost. The model closely replicates experimental observations of trial to trial changes in muscle activation during learning as well as changes in limb mechanics.

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.