



Ferdinando Mussa-Ivaldi

**Professor at Northwestern University,
Director of the Robotics Laboratory in the
Rehabilitation Institute of Chicago**

Professor Ferdinando (Sandro) Mussa-Ivaldi is a PhD in Biomedical Engineering who brought a breakthrough in understanding human neuro-motor control by integrating robotics, biomechanics, and computational neuroscience. He became famous for an elegant solution of kinematic redundancy by controlling joint impedance which developed with Professor Neville Hogan when he was a researcher in Department of Brain and Cognitive Science in Massachusetts Institute of Technology. His current research covers neuroscience on motor control, human-body interface, and neurorehabilitation.

Wednesday, March 4th, 2015

12:00~13:00

Room 3B213, University of Tsukuba

hosted by Jun Izawa, Contact: izawa@emp.tsukuba.ac.jp

The Body-Machine Interface

Body-machine interfaces establish a way to interact with a variety of devices, allowing their users to extend the limits of their performance. Recent advances in this field, ranging from computer interfaces to bionic limbs, have had important consequences for people with movement disorders. The authors provide an overview of the basic concepts underlying the body-machine interface with special emphasis on their use for rehabilitation and for operating assistive devices. They outline the steps involved in building such an interface and highlight the critical role of body-machine interfaces in addressing theoretical issues in motor control as well as their utility in movement rehabilitation.