

## **SEMINAIRE SCIENTIFIQUE**

Mardi 28 Juin 2016 à 9h30 – Salle Jules Verne, IFSTAR, Bron

### **Human movement analysis and musculoskeletal modelling for clinical applications in rehabilitation**

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#### **Abstract:**

Analysis of human movement has evolved from early applications of technology, that were pioneered in the seventies/eighties of the last century, to current applications in which movement analysis is performed routinely in many clinical laboratories. More recently the possibility to model the musculoskeletal system and simulate human movement has opened new perspectives to understanding the motor behaviour. Integration of the two processes, analysis and synthesis, can improve our capability to investigate very complex mechanisms adopted in physiologic and pathological conditions. It seems likely that several aspects related to treatment of neuromotor disorders will be dramatically enhanced when models for simulation of dynamic phenomena, based on individual characteristics, will be available with sufficient accuracy.

#### **Biography:**

Carlo Frigo has been working in the area of movement analysis and motor control since 1976, when he has graduated at Politecnico di Milano. He has participated in the development of one of the early systems for movement analysis, the ELITE System, and also has contributed to realize one of the first clinically oriented Gait Analysis laboratories in Italy (SAFLo: Servizio di Analisi della Funzionalità Locomotoria). He has contributed to the constitution of the Italian Society for Clinical Movement Analysis (SIAMOC) of which he has been the first Secretary and then President from 2007 to 2009. He has been part of the committee of ESMAC (European Society for Movement Analysis in Adults and Children), and has organised the ESMAC-SIAMOC joint congress in 2001. He is at present the national secretary of ISPO Italia, affiliated to ISPO (International Society for Prosthetics and Orthotics). His present interests, beside clinical movement analysis and movement biomechanics, are musculoskeletal modeling, computer simulation, and all related applications in the field of orthotics and prosthetics, functional surgery, motor control and recovery of motion.