ISTITUTO DI BIOROBOTICA
Sant'Anna
Scuola Universitaria Superiore Pisa

THE ROLE OF KINEMATICS IN HUMAN-ROBOT INTERACTION

Lecture by Laila Craighero - Università di Ferrara

BIOSKETCH

Laila Craighero is **Full Professor** of **Psychobiology at the Università di Ferrara**. Her research interest is on the role that the sensorimotor system plays in the origin and development of cognitive functions. She deals specifically with the study of neuronal processes necessary for interaction with the environment and with others. She has experience in multidisciplinary collaboration to implement in artificial systems operational processes compatible with the findings of cognitive neuroscience (she was in the research network of many EC grants on the topic, including MIRROR, NEUROBOTICS-coordinated by SSSA-, and ROBOTCUB).

ABSTRACT

"**Human-Robot Interaction** (HRI) is a field of study dedicated to understanding, designing, and evaluating robotic systems for use by or with humans" (*Goodrich & Schultz, 2007*).

Among HRI-related problems, a key theme regards how to guarantee an efficient, safe, and fluent collaboration. The success of human-human interaction mainly derives from the ability of individuals to recognize others' actions and to foresee their consequences. In this seminar, prof. Laila Craighero will discuss the basic kinematic characteristics of biological movement and how these are affected by the intent of the agent. The possibility to collaborate successfully depends on the ability to **decode intentions from movement kinematics**.

Evidence will be presented showing that actions performed by robots moving with **non-biological kinematics** are processed differently from the same actions performed by a human or a robot moving with **biological kinematics**.

The workshop is promoted by **Marco Controzzi**, Assistant Professor at The BioRobotics Institute, within the framework of the **H2020 European project APRIL** (*multipurpose robotics for mAniPulation of defoRmable materIaLs in manufacturing processes*, DT-FOF-12-2019: Handling systems for flexible materials, GA #870142).

Date
29/10/2021

Hours
5 p.m.

Place
Streaming on Teams and in presence in Aula 1 at the BioRobotics Institute

Scan Qr Code to join meeting