Consiglio Nazionale delle Ricerche

CNR-Istituto di **Elettronica** e di **Ingegneria** dell'**Informazione** e delle **Telecomunicazioni**

Thursday seminars

Taking a Look at the Future: a cocktail hour event!

THE BIOROBOTICS INSTITUTE

Sant'Anna School of Advanced Studies – Pisa

Prof. Christian Cipriani

(Scuola Superiore Sant'Anna)

The Myokinetic Control Interface: Tracking Implanted Magnets As A Means For Prosthetic Control

Upper limb amputation deprives individuals of their innate ability to manipulate objects. Such disability can be restored with a robotic prosthesis linked to the brain by a human-machine interface (HMI) capable of decoding voluntary intentions, and sending motor commands to the prosthesis. Clinical or research HMIs rely on the interpretation of electrophysiological signals recorded from the muscles.

However, the quest for an HMI that allows for arbitrary and physiologically appropriate control of dexterous prostheses, is far from being completed. Here we propose a new HMI that aims to track the muscles contractions with implanted permanent magnets, by means of magnetic field sensors. We called this a myokinetic control interface. In this talk I will present the concept, the features and the work done in the past years to prove the feasibility, limits and potentials of such a HMI in implementing direct and simultaneous control over multiple digits of an artificial hand.

Registration form

Teams Webinar • 27 April 2023 – 17:30

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