

Scientific/Educational Workshop

Workshop title

Applying Electrical Myographic Signal and Bluetooth on Assistive Technology

Workshop organizer

Paulo Marcos Aguiar (Federal Institute of Sao Paulo - IFSP)

Speakers

Paulo Marcos Aguiar

Workshop goals

Attendees will learn the basics about Electrical Myographic Signals (EMG) and Bluetooth applied on assistive technology. They will understand how to use these technologies for controlling assistive devices. It will be also showed the basic structure of the electrical circuit, and mechanical connections. The attendees will have the opportunity to wear the Bluetooth system and control the wheelchair and the hand prostheses by electrical myographic signals. In addition, a powered wheelchair kit will be available for checking and learn how does it work.

Abstract

Assistive technology devices are available in a variety of categories to address functional capabilities of people with disabilities, here will focus on daily living and mobility aids controlled by myoelectrical signals. A range of assistive technology devices are available. Some are relatively “low technology” and inexpensive. For example, a fork grip is an assistive technology device that may be used to make easier the task of eating. Here will work with a technology that provides some solutions that was not available recently. Through myoelectrical signals it is possible to control many devices as powered wheelchair and hand prostheses. The attendees will learn the basics about Electrical Myographic Signals (EMG) and Bluetooth applied on assistive technology. They will understand how to use these technologies for controlling assistive devices. It will be also showed the basic structure of the electrical circuit, and mechanical connections. The attendees will have the opportunity to wear the Bluetooth system and control the wheelchair and the hand prostheses by electrical myographic signals. In addition, will be used a commercial wheelchair powered by a kit that will be available for learning. This kit was developed using a simple and cheap technology providing independence for many children. This workshop will help attendees to understand the proposed technology itself and how to apply it on Assistive Devices.