Category: Neurorehabilitation, Assessments

Workshop Title: Is technology ready for everyday clinical assessments?

Workshop Organizer(s): David Rodriguez-Cianca

In person Speaker(s):

- Rodriguez-Cianca, David, Spanish National Research Council (CSIC)
- Sanz-Morere, Clara, Hospital los Madroños (HLM)
- Sinovas-Alonso, María Isabel, Spanish National Hospital for Spinal Cord Injury
- Trigili, Emilio, BioRobotics Institute Sant'Anna

Workshop Time: 16:00 - 17:30

Attendee Engagement:

The workshop will start with a short introduction to the topic, followed by two short talks covering the following topics: (1) Current methodologies for patient functional assessment in clinical environments, (2) The use of robotic technologies to complement and improve spasticity assessment.

Afterwards, we will guide attendees through a hands-on experience focused on the use of different sensor technologies, including: inertial measurement units, surface electromyography and sensorized insoles. The objective will be to evaluate their advantages, to discuss their possible implementations in clinical practice, and to experimentally observe their limitations. The workshop will end up with an open debate between the workshop organizers, the speakers and the audience to address some of the questions and concerns raised during the workshop.

The workshop will be advertised through several channels: First, we will promote it through our social media accounts and mailing lists aiming at reaching a wide and multidisciplinary audience that includes a balanced number of engineers and clinicians. Second, we will update the previous year's workshop website (https://wsrehabweek2022.neuralrehabilitation.org) to include new materials and information for this year's event. Besides, prior to the start of the RehabWeek, we will share a survey in the workshop webpage where potential attendees will be asked about their background, attitude towards the topics of the workshop and specific questions for the experts in order to facilitate the discussion sessions.

Abstract:

Standard rehabilitation methods generally assess the effects of the applied therapies and classify patients' evolution by means of well-known validated clinical scales. Though these scales are the gold standard during functional assessments because of their simplicity and effectiveness, there might be room for improvement. Following the success of last year's workshop "Can the collaboration between engineers and clinicians enhance the objectiveness, sensitivity and reproducibility of clinical functional assessment methods?" (https://wsrehabweek2022.neuralrehabilitation.org/), we believe the debate is still open. So, could the rehabilitation field benefit from the integration of new technologies, such as advanced sensors and robotics, and objective metrics for complementing the scales used during the functional assessments? Could this be a first step towards the adoption of updated and more standard clinical scales?

This workshop aims at (1) rising awareness among researchers about the value and challenges of including standardized methods and testing protocols during clinical studies, (2) encouraging a sustained collaboration between engineers and clinicians in everyday research and (3) fostering an open debate to clarify what clinicians want/need from engineers to enhance clinical assessments.