

Scientific/Educational Workshop

Workshop information

Workshop responsables

- Jacopo Zenzeri
- Francesca Marini
- Sivakumar Balasubramanian
- Camila Shirota
- Alejandro Melendez-Calderon*

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Workshop title :

What do we want from technology-driven sensorimotor assessments? – a multi-stakeholder discussion

Workshop goals :

The aim of the workshop is to foster discussion about the role of technology in assessments by bringing together people from different backgrounds. This workshop will (a) take a critical look at current approaches to sensorimotor assessments in neurorehabilitation; and (b) try to reach a consensus on potential avenues for future research that can lead to clinically meaningful and translatable results. This workshop will take an unconventional approach, including a panel discussion involving clinicians, engineers, researchers and technology providers.

Abstract :

Neurorehabilitation technologies are increasingly viewed as tools for quantifying and understanding sensorimotor problems. Engineers and technically-inclined clinicians often claim that technology can overcome some limitations of traditional clinical assessments by providing more objective, sensitive, reliable and time-efficient measurements. However, this view is neither shared by the majority of clinicians and therapists, nor does it take into account constraints imposed by healthcare policies and hospital practices. Current neurorehabilitation tools do not go much beyond standard clinical scales and a trained clinician's observation. Thus, at this point, technology-driven assessments do not appear to have much added value to the current models of care.

The *status quo* raises several questions: what are uses of technological assessments? What hinders their further use, especially in clinic? Where are we missing? Can assessments provide a deeper view of the underlying neuro-motor problems? How can assessments drive clinical decision-making? What steps do we need for standardization? These are important questions that must be answered to drive the field in the right direction.

In this context, this workshop will aim to kindle a critical and open discussion among different stakeholders with different points of view about the current status and the future of the field. To achieve this, the workshop will be carried out in 2x 1.5h sessions. The first session will discuss how advancements in robotic technologies could

change the field of clinical assessment, and enable more effective rehabilitation protocols. New perspectives for the development of innovative robotic outcome measures to assess sensorimotor deficits will be examined in this first part. In the second session, we will discuss the clinical perspective on assessments. We will conduct a community-driven discussion to answer some of the aforementioned questions, and provide recommendations for future directions for the field.

Prior to the workshop, we will set up an online survey to: (a) gather the perceptions of different stakeholders, including patients, about this topic; and (b) propose questions to be discussed in the workshop.

Session 1

Moderators :

- Francesca Marini: Introduction to the session
- Jacopo Zenzeri: Session moderator and session's closing remarks

Speakers :

- Juergen Konczak
- Micheal Holmes
- Roger Gassert
- Olivier Lambercy
- Stephen Scott

Break

Session 2

Moderators:

- Alejandro Melendez-Calderon: Introduction to the session
- Sivakumar Balasubramanian: Moderator of panel discussion
- Camila Shirota: Workshop closing remarks

Speakers:

- Nick Ward
- Stephen Page
- Allen W Heinemann
- Jaap Burke

Panelists:

- Speakers & moderators
- Joel Perry
- Paul Gudonis
- Sarah Guy