

## Scientific/Clinical Workshop

### Workshop Title

Upper Limb Spasticity After Stroke: Technology-Aided Approaches for Assessment and Treatment

### Workshop Responsible

Raffaele Ranzani (RELab, ETH Zurich)

### Speakers

Alberto Jardon, Olivier Lambercy, Derek Kamper, Rocco Salvatore Calabrò

### Attendee Engagement

discussion rounds with invited experts, interactive quizzes to determine important keywords/topics, breakdown in focus groups to discuss identified topics/themes

### Abstract

Upper limb spasticity affects 20 to 40% of chronic stroke survivors and greatly compromises their quality of life due to reduced mobility, pain, and inability to perform daily life tasks (Zorowitz et al., 2013). Technology-assisted approaches for assessment and treatment of spasticity could offer new solutions for the rehabilitation of spastic patients. On the one hand, technological solutions allow continuous and objective assessments of upper limb spasticity, which are not affected by clinician's subjectivity or expertise (de-la-Torre et al., 2020). On the other hand, technology can be used to offer adjunct patient-tailored therapies that, in combination with traditional treatments (e.g., pharmacological treatments), may improve the patient prognosis and promote motor and functional recovery (Paolucci et al., 2021). In this workshop, state-of-the-art approaches for technology-aided assessment and treatment of upper limb spasticity after stroke will be discussed. Based on experts' consensus, the workshop aims to 1) define which existing assessment/therapy approaches are more promising/effective, 2) propose guidelines to establish assessment-driven technology-assisted therapy protocols for the rehabilitation of patients with upper limb spasticity, 3) underline challenges and knowledge gaps that should be further investigated.