



Category: Development and Implementation of Technology, Human Centered Design

Workshop Title: Transfer of Research into Clinics for Upper Extremity Assessment in Cervical Spinal Cord Injury – The Patient Gain of Clinician, Therapist and Engineer Collaboration

Workshop Organizer(s): Cristian Federico Pasluosta

In person Speaker(s):

- Fridén, Jan, Swiss Paraplegic Centre
- Bersch, Ines, Swiss Paraplegic Centre
- Pasluosta, Cristian, Swiss Paraplegic Centre and University of Freiburg
- Alberty, Marie, Swiss Paraplegic Centre

Workshop Time: 10:30 - 12:00

Attendee Engagement:

Participants will be asked to elaborate case-specific assessment and treatment strategies using electrical stimulation in groups and to test this on themselves with the devices provided in the workshop. At the end, there will be a 5-minute presentation by each group in the plenary.

Abstract:

The validity of clinical reasoning is often compromised by subjectivity-biased outcome measures. Strengthening of collaborations between clinicians, therapists and engineers to elaborate a more holistic approach in patient assessments will promote evidence-based objective decision-making.

Learning objectives:

- To get to know the realisation of interprofessionality
- To become familiar with an assessment battery as a basis for decision-making in the treatment of the paralyzed upper limb in people with tetraplegia

Workshop presenters: Prof. Jan Fridén has >30 years of experience in the field of hand and tetrahand surgery to improve upper extremity function through tendon- and nerve transfer surgery. Dr. Ines Bersch has been working in the field of functional electrical stimulation for >30 years using it for diagnostics as well as treatment in people with SCI. Dr. Cristian Pasluosta has >10 years of experience in the field of biomedical engineering with a strong focus on human motion analysis and the application of machine learning algorithms for pattern recognition in neurological disorders. Marie Alberty's PhD project unites the three disciplines to create an accurate picture of the patient that allows the treatment of tetraplegic hand to be specified and individualised. In this workshop, the importance of a multiprofessional approach to define individual objective test compilations to validly reflect the patient's situation and to guide therapy towards the fulfilment of the patient's needs is highlighted. Each presenter's task and the test battery currently applied at the Swiss Paraplegic Centre in Nottwil, Switzerland; will be illustrated with 2 patient cases. Participants are then asked to elaborate case-specific assessment and treatment strategies using electrical stimulation in groups and to test this on themselves with the devices provided in the workshop. At the end, there is a 5-minute presentation by each group in the plenary.