Title of the symposium: Mobile Healthcare (mHealth) in brain disorders and beyond

Chairs:
- Gøril Storvig, MPhil., Department of Psychology, Norwegian University of Science and Technology, Trondheim, Norway.
- Alexander Olsen, ph.d., Department of Psychology, Norwegian University of Science and Technology, & Clinic of Rehabilitation, St. Olavs Hospital, Trondheim, Norway.

Presenters:
- Gøril Storvig, MPhil., Department of Psychology, Norwegian University of Science and Technology, Trondheim, Norway: *"Digital solutions for concussion (DiSCO): a development and usability study"*

- Dr. Bert Lenaert, Faculty of Psychology, Open University, Heerlen, the Netherlands: *"Using mHealth tools to monitor and treat common symptoms in brain disorders."*

- Anker Stubberud, MD, ph.d., Department of Neuroscience and Movement Disorders, Norwegian University of Science and Technology, Trondheim, Norway: *"Forecasting migraine and postconcussion symptoms with machine learning based on mobile phone diary and wearable sensor data."*

- Roshan das Nair, MPhil, PhD, Health Division, SINTEF, Trondheim, Norway, & School of Medicine, University of Nottingham, UK: *"Using mHealth tools to deliver cognitive screening and rehabilitation in multiple sclerosis."*

Brief description of symposium:
Mobile Health (mHealth) is an emerging field with great potential to radically change how research is performed and efficient healthcare can be provided. This symposium aims to inspire healthcare professionals, researchers and stakeholders by demonstrating the immense potential of mHealth in brain disorders. Practical aspects of developing and testing mHealth solutions, as well as its clinical and scientific value will be discussed. This will include presentations of work on early-stage development of new solutions, as well as use of mHealth solutions in clinical trials, and technologies currently being embedded within healthcare services. Ethical considerations regarding mHealth use and challenges related to data privacy and security, and issues of digital exclusion will also be discussed. The symposium will provide insight into recent studies using mobile phone-based and wearable solutions to capture data from patients with brain disorders such as mild traumatic brain injury, migraine, early dementia, and multiple sclerosis. These studies will also show-case how advanced analytical techniques, including machine learning, can generate crucial insights for enhanced diagnostics, treatment and rehabilitation. Presentations will highlight how mHealth solutions can enable personalized and highly granular symptom mapping for patients with persistent postconcussion symptoms, delineate variability in subjective and objective cognitive functioning in daily life in older age and early dementia, enable prediction of disease progression and symptoms in people with migraine using machine learning, provide innovative ways for reducing fatigue after brain injury, and enable routine screening for cognitive problems in multiple sclerosis.