

Scientific/Clinical Workshop

Workshop Title

Novel Technology for Improving Gait Performance of Children with Cerebral Palsy in Daily-Life: Analysis, Design and Development

Workshop Responsible

Cristina Bayón (University of Twente)
Marije Goudriaan (VU Amsterdam)

Speakers

Iona Novak, Anna McCormick, Cristina Bayón, Zachary F. Lerner, Annemieke Buizer

Attendee Engagement

After each presentation, two theses will be addressed in an interactive discussion with the audience, who will vote via an online real-time response system. This would allow to reach a consensus on the main topics presented in the workshop.

Abstract

Gait impairments derived from neurological or motor disorders are a global societal problem. Among all people affected, Cerebral Palsy (CP) is the major cause of physical disability in young patients.

Emerging technologies (e.g. lower limb exoskeletons, powered or dynamic orthosis) have gained extensive interest in the last decades to help reducing the physical load of conventional physiotherapy for CP, to decrease deformations of lower limbs, and to alleviate contractures or spasticity. Although these novel technologies have positively impacted short-term effects of current treatments, there are still multiple limitations that prevent the extensive and continuous promotion of gait for these patients in daily-life activities: Which kind of assistance is the most suitable for the specific gait deviations of individual patients? Should the child's autonomy prevail against the replicability of normal walking patterns? How real-world gait measures can facilitate clinical decision-making? Which kind of improvements to current assistive technology are needed to facilitate and enrich gait in daily-life activities?

The aim of this workshop is to provide a better understanding of the requirements to assist pathological gait in CP for a better performance in daily. Experts coming from both academia and clinical centers will provide an overview of the current state-of-the-art in CP gait analysis, and in the design and development of novel technology to improve children's gait.

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