

Prof. Jaap Harlaar is affiliated to the VU University Medical Center (VUmc), department of Rehabilitation Medicine in Amsterdam, The Netherlands. After receiving his masters degree in electrical engineering, in the 80's he started to develop appropriate signals processing methods for EMG recordings in a context of movement analysis and subsequently established a clinical gait lab at VUmc. Since 1992 he is head of the human movement laboratory at the VU University Hospital, and now holds a chair on clinical movement analysis. He teaches clinical gait analysis and 3D movement analysis at the faculty of human movement science of the VU University, as well as clinical movement analysis for clinical professionals in various (inter-)national faculties. Jaap is president of ESMAC (European Society of Movement analysis in Adults and Children) and past president of the Dutch chapter of ISPO (International society of Prosthetics and Orthotics), member of the international Scientific committee of ISPO and holds the scientific chair for the international ISPO congress in 2015.

Jaap is heading a research group that aims at application of (new) movement analysis technologies, including using computational biomechanics and virtual reality driven by clinical problems. Target patient groups are: children with cerebral palsy, adult neurology, and kneeosteoarthritis. With regard to interventions there is a focus on orthotics to support mobility. His research program is part of the research institute MOVE of the VU University in Amsterdam.

Publications

1: Bregman DJ, Harlaar J, Meskers CG, de Groot V. Spring-like Ankle Foot Orthoses reduce the energy cost of walking by taking over ankle work. *Gait Posture*. 2012 Jan;35(1):148-53. doi: 10.1016/j.gaitpost.2011.08.026. Epub 2011 Nov 1. PubMed PMID: 22050974.

2: van der Krogt MM, Doorenbosch CA, Becher JG, Harlaar J. Dynamic spasticity of plantar flexor muscles in cerebral palsy gait. *J Rehabil Med*. 2010 Jul;42(7):656-63. doi: 10.2340/16501977-0579. PubMed PMID: 20603696.

3: van den Noort JC, Schaffers I, Snijders J, Harlaar J. The effectiveness of voluntary modifications of gait pattern to reduce the knee adduction moment. *Hum Mov Sci*. 2013 Jun;32(3):412-24. doi: 10.1016/j.humov.2012.02.009. Epub 2013 May 4. PubMed PMID: 23647833.

4: Zwaan E, Becher JG, Harlaar J. Synergy of EMG patterns in gait as an objective measure of muscle selectivity in children with spastic cerebral palsy. *Gait Posture*. 2012 Jan;35(1):111-5. doi: 10.1016/j.gaitpost.2011.08.019. Epub 2011 Sep 15. PubMed PMID: 21924909.

5: Harlaar J, Brehm M, Becher JG, Bregman DJ, Buurke J, Holtkamp F, De Groot V, Nollet F. Studies examining the efficacy of ankle foot orthoses should report activity level and mechanical evidence. *Prosthet Orthot Int*. 2010 Sep;34(3):327-35. doi: 10.3109/03093646.2010.504977. PubMed PMID: 20738235.

Promovendi

Jaap was co-promotor van 8 promovendi en begeleid er nu 3.