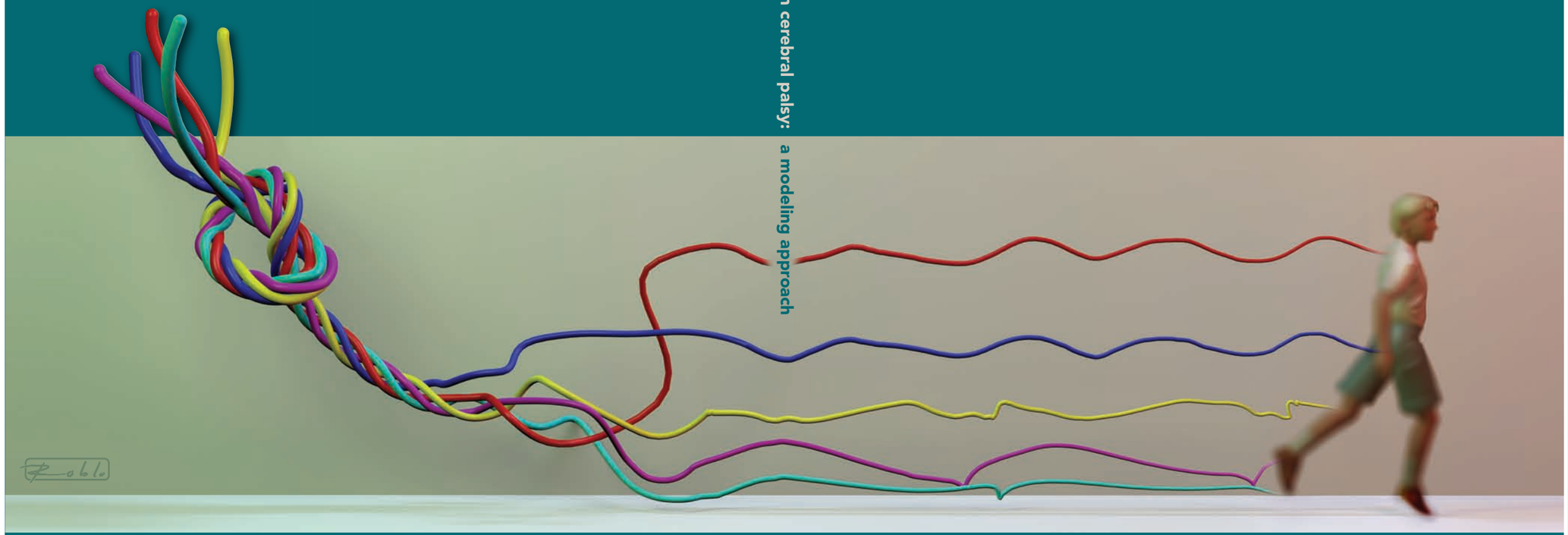
Gait deviations in children with cerebral palsy: a modeling approach



Children with cerebral palsy show a wide variety of gait deviations that can be caused by many different underlying impairments, such as spasticity, weakness, contractures, or limited selective motor control. A good understanding of these causes is essential in order to determine the best treatment for a patient and improve walking capacity. In this thesis, musculoskeletal and forward dynamic modeling techniques are employed to unravel some aspects of this complex knot of factors. These models are combined with experimental data of the gait pattern of children with cerebral palsy. The presented results give insight into the role of spasticity during gait, and into the interplay of spasticity with walking speed and muscle contractures. Furthermore, a dynamic walking model is presented, which is used to illustrate how different gait deviations can be related as a result of the complex dynamics of human gait.

M.M. van der Krogt

Gait deviations in children with cerebral palsy: a modeling approach

Marjolein M. van der Krogt

I F K B

U i t n o d i g i n g

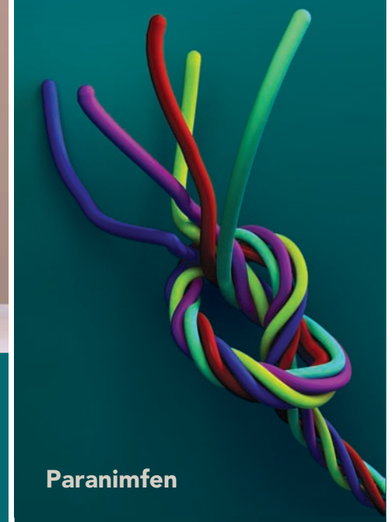
voor het bijwonen van de
openbare verdediging
van mijn proefschrift

Gait deviations in children with cerebral palsy: a modeling approach

Woensdag 27 mei 2009
om 13.45 uur in de Aula
Vrije Universiteit
De Boelelaan 1105
Amsterdam

Receptie na afloop
in de Tuinzaal van de VU
wis- en natuurkundegebouw

Marjolein van der Krogt
Uilenstede 79A
1183 AB Amstelveen
mkrogt@yahoo.com
06-22076329



Paranimfen

Marjolein Blaauboer
me.blaauboer@vumc.nl
06-30352195

Josien van den Noort
j.vandennoort@vumc.nl
06-19916367