



## Start up meeting TRAMA Project

May 11th 2007

Prof Guy CHERON

Director of the LNMB of the Université Libre de  
Bruxelles (ULB).....



## The Team

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Guy Chéron, PhD  
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Caty De Saedelleer, PhD  
Jean-Philippe Draye, PhD, Ing  
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Françoise Leurs, PhD student  
Catherine Pelck, MD  
Sonia Wellens, PhD student



## Presentation of the :

- Université Libre de Bruxelles
- Institut of Motor Sciences
- Laboratory of Neurophysiology & Movement Biomechanics (LNMB)
- Hôpital Universitaire des Enfants Reine Fabiola (ULB), Dept. of Neurolo

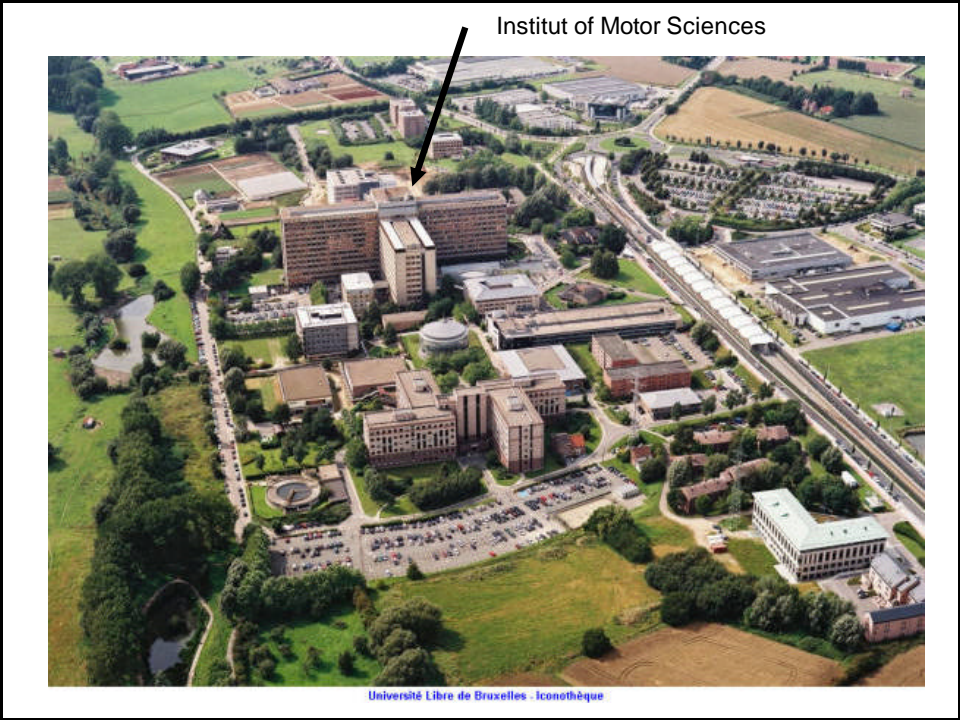
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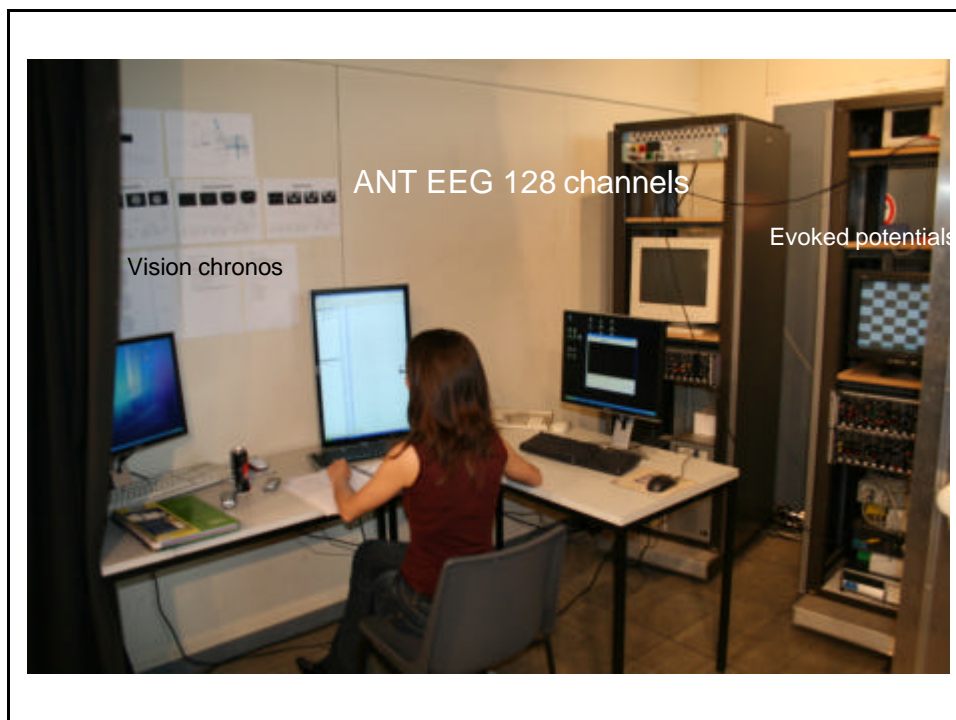
This Modernist building, constructed in 1929 by the Architect Adrien Blomme, houses today's University Administrative offices, including those of the ULB President



The Erasmus hospital is now the focal point for a new campus which houses the Faculty of Medicine, the School of Public Health and the Institute of Motor Sciences








Université Libre de Bruxelles  
(ULB)



Hôpital Universitaire des Enfants  
Reine Fabiola (ULB)   
Dept. of Neurology

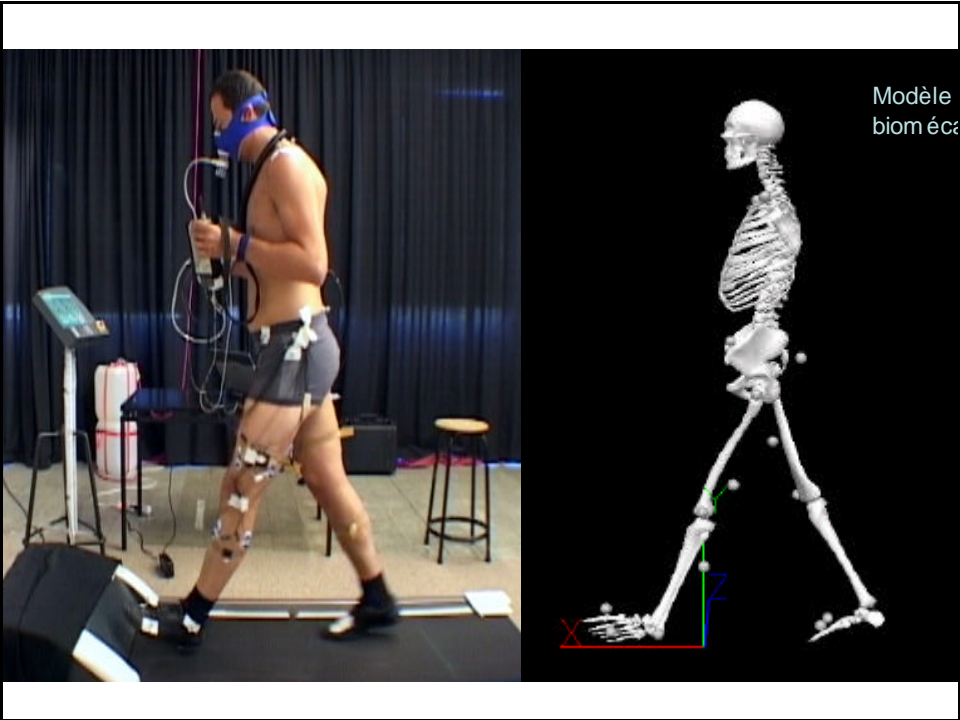


Interuniversity Reference Centre  
For Cerebral Palsy (CIRICU)  
ULB – VUB – ULg

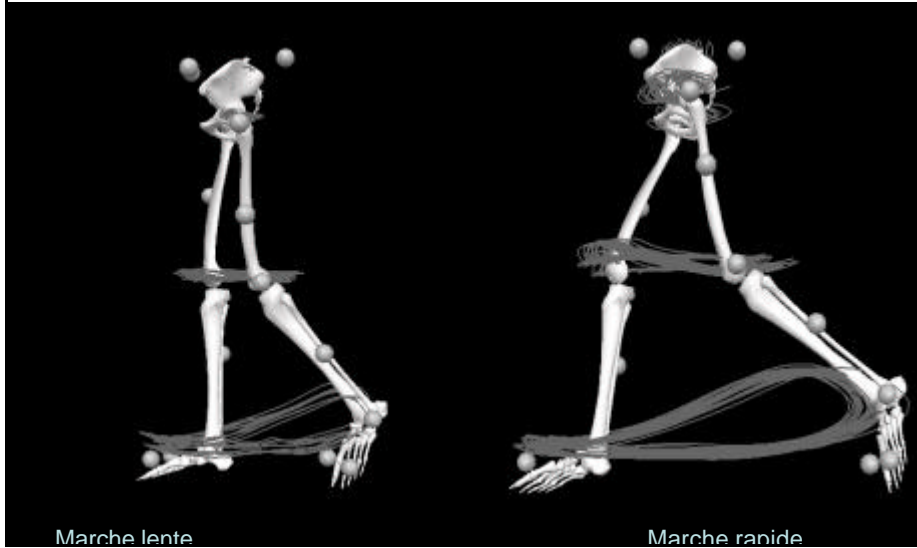


Belgian Society  
of Paediatric Neurology

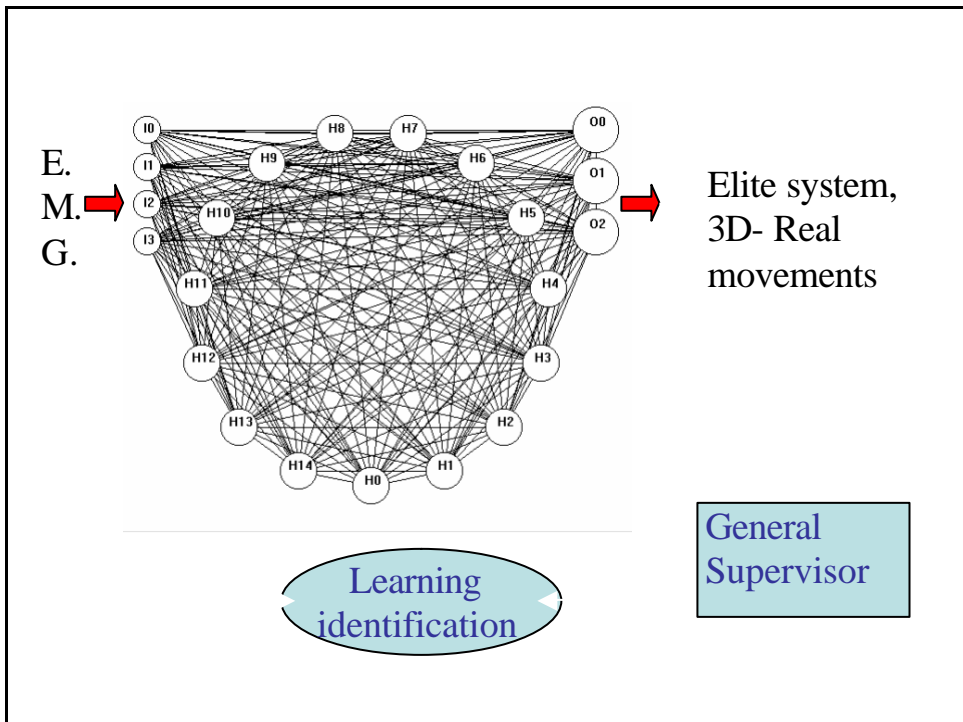
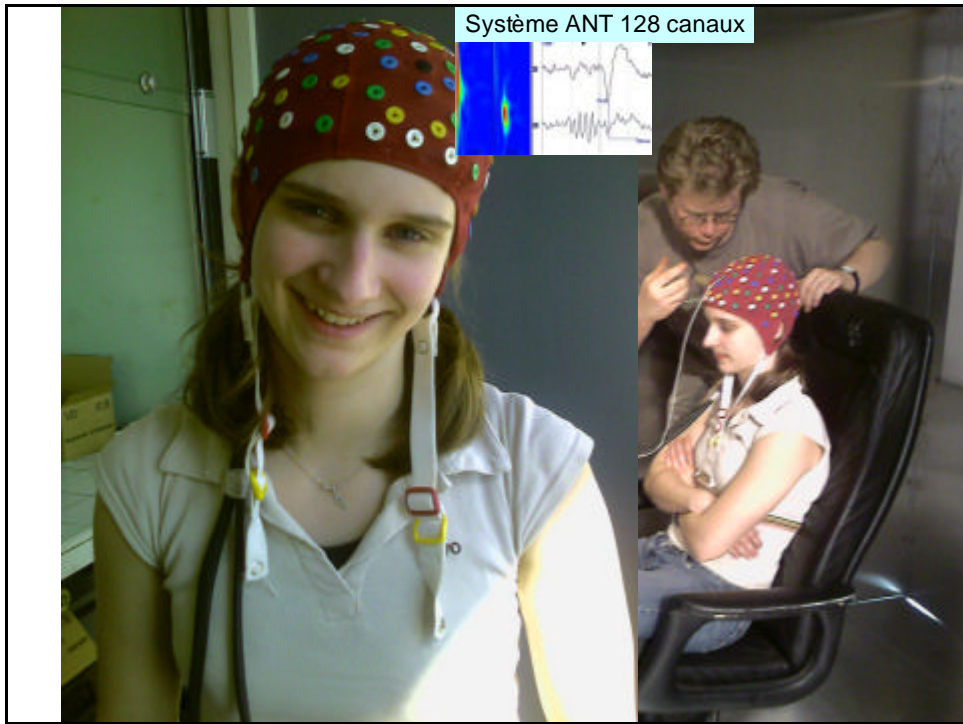
[bernard.dan@ulb.ac.be](mailto:bernard.dan@ulb.ac.be)



## analyse des trajectoires

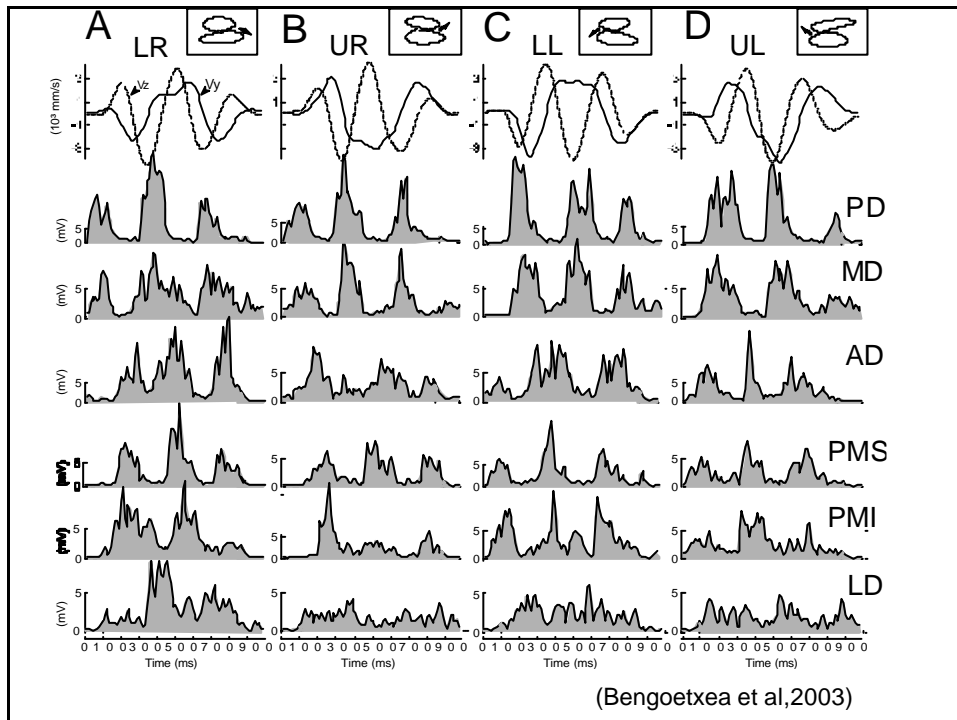
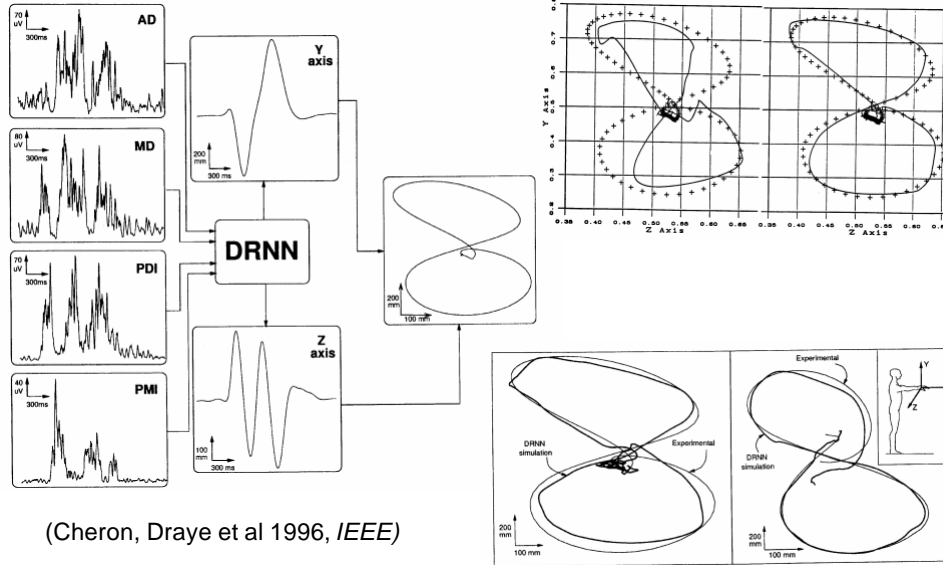


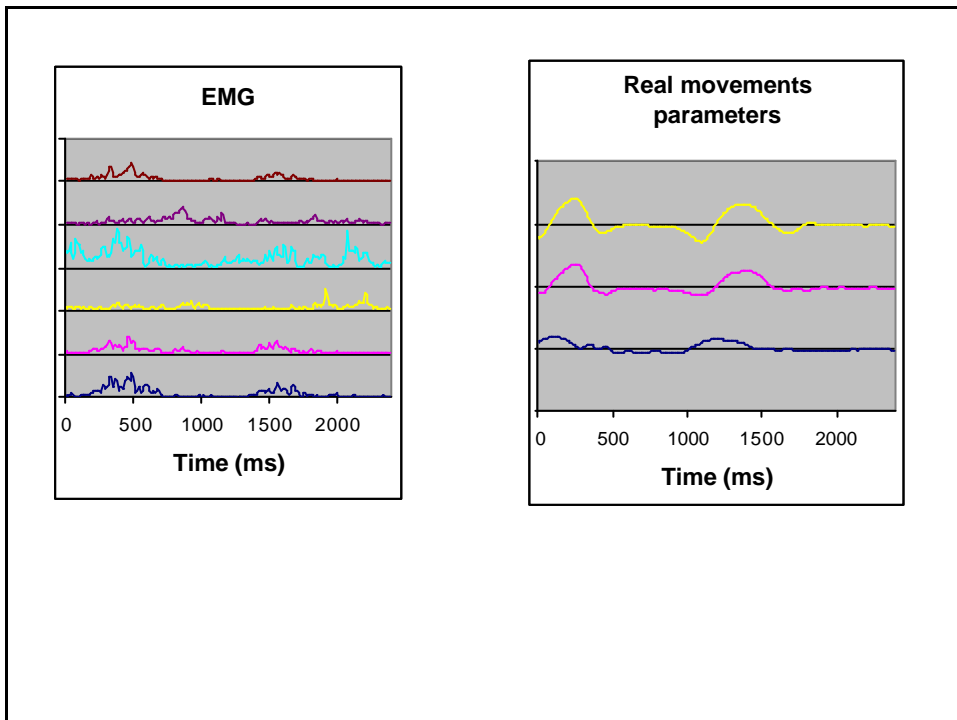
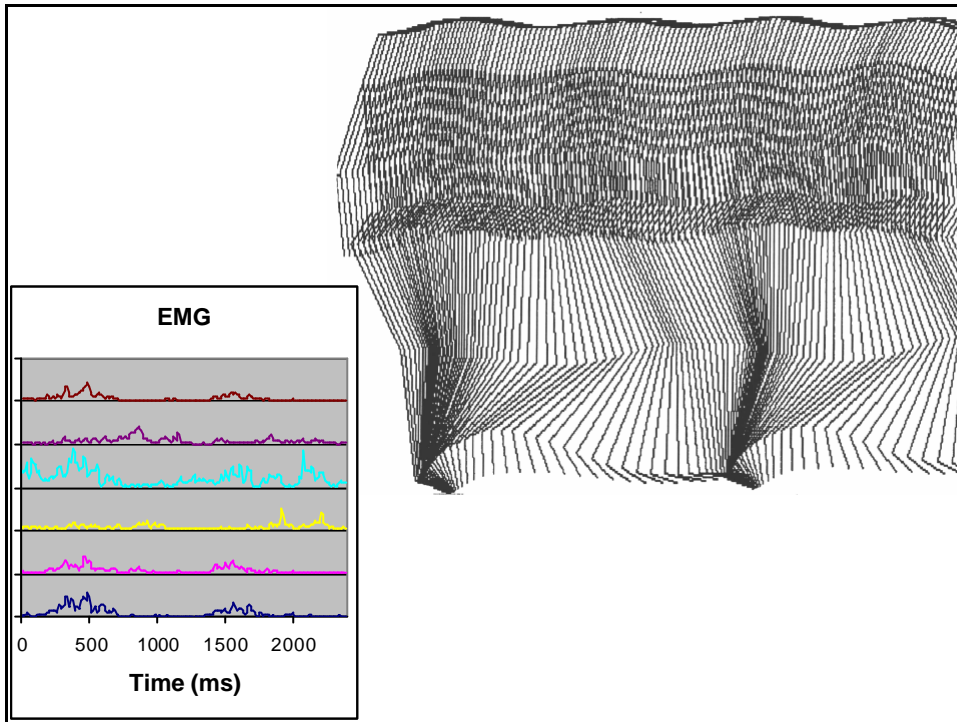
Chronos Vision  
3D eye movements

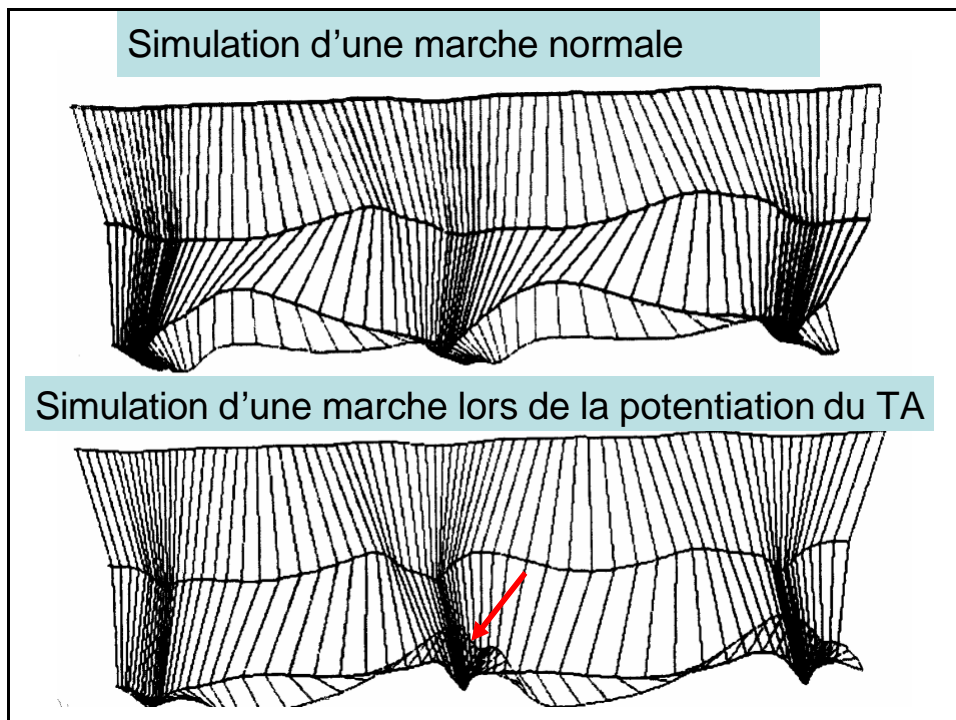
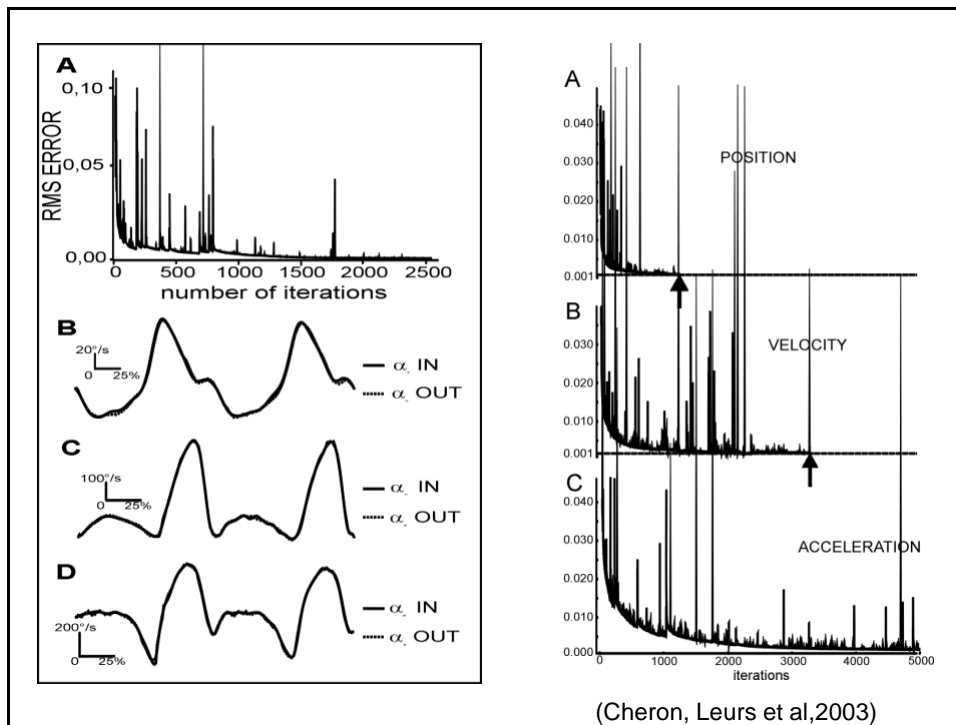




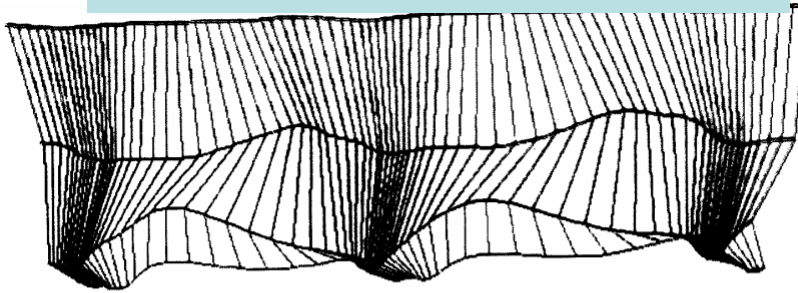
# Apprentissage de mouvements figuratifs complexes



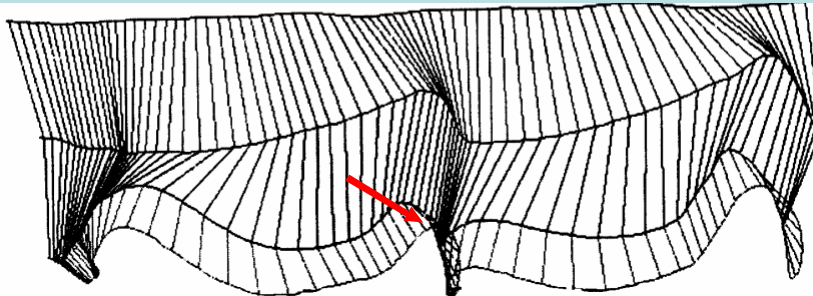




### Simulation d'une marche normale



### Simulation d'une marche avec potentiation du SOL



#### REVIEW ARTICLE

## Reconstructing cerebral palsy

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Free University of Brussels (ULB), Brussels, Belgium

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<sup>3</sup> Laboratory of Electrophysiology, Université de Mons-Hainaut, Mons, Belgium

#### Abstract

Forty years ago, a consensual definition of the cerebral palsy concept was suggested, delineating it as a disorder of movement and posture secondary to non-progressive pathological processes that affect the immature brain. Because this concept is pragmatic and based on function, it has survived unaltered many changes in pathophysiological knowledge, diagnostic technology and general nosology. However, its basis has appeared to be flawed. Its main justification remains management, for

#### Introduction

Certainly, there have always been individuals with developmental motor problems, but the idea of the current grouping and categorization of many of them under the label 'cerebral palsy' (CP) is relatively recent. This category is not a fixed and inevitable correlate of specific neuropathology or pathophysiology. Rather, it emerged in nineteenth century medicine as a heuristic product of contemporary epistemology. Little's seminal 1862 paper was entitled 'On the influence of abnormal parturition, difficult labours, premature



## THE DEFINITION OF CEREBRAL PALSY

*Developmental Medicine and Child Neurology 2005; 47: 571-576*



**Peter Rosenbaum MD**, CanChild Centre for Childhood Disability Research, Hamilton, Ontario, Canada.

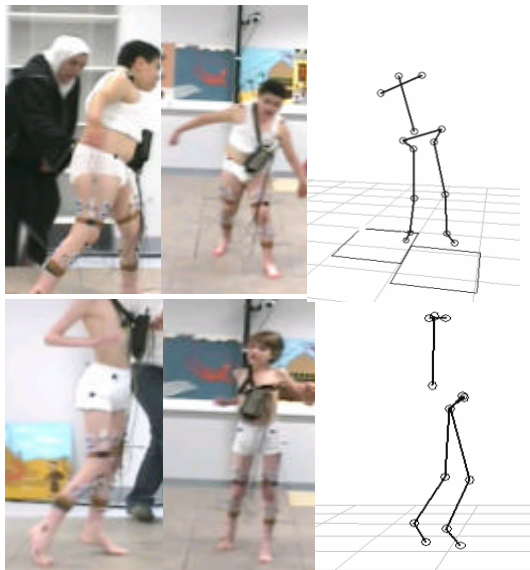
**Bernard Dan MD PhD**, Hôpital Universitaire des Enfants, Reine Fabiola, Université Libre de Bruxelles, Belgium.

**Alan Leviton MD**, Neuroepidemiology Unit, Children's Hospital, Carnegie, Boston, MA, USA.

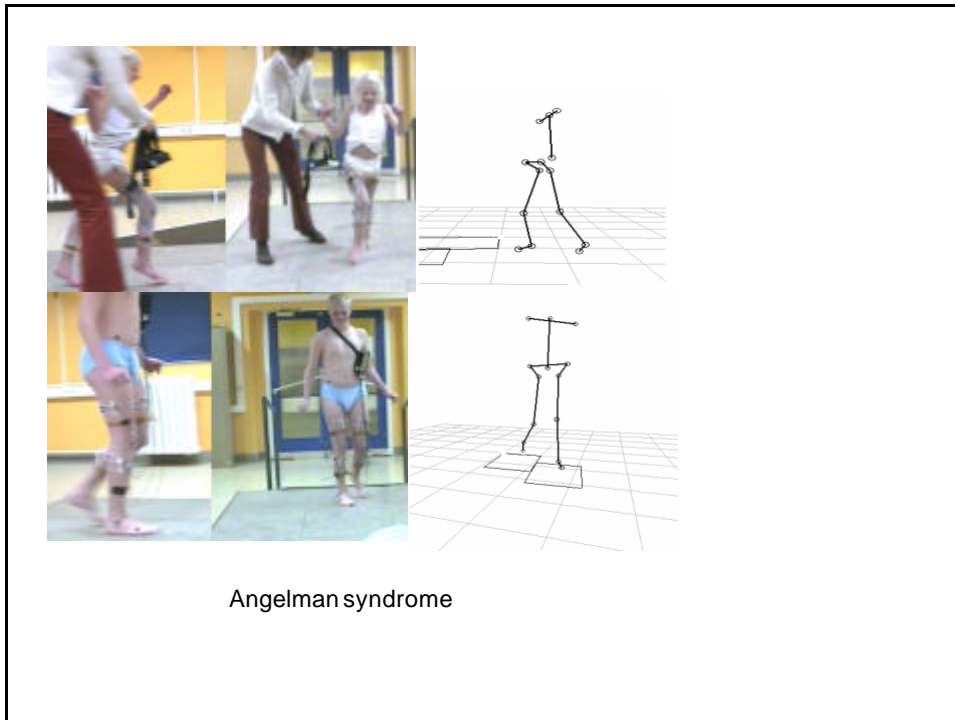
**Nigel Paneth MD**, Department of Epidemiology, Michigan State University, East Lansing MI, USA.

**Murray Goldstein DO**, Medical Director, United Cerebral Palsy Research & Educational Foundation, Washington DC, USA.

**Martin Bax DM FRCP**, Emeritus Reader in Child Health, Division of Paediatrics, *Department of Paediatrics, University of Cambridge, Cambridge, UK.*




Rett syndrome

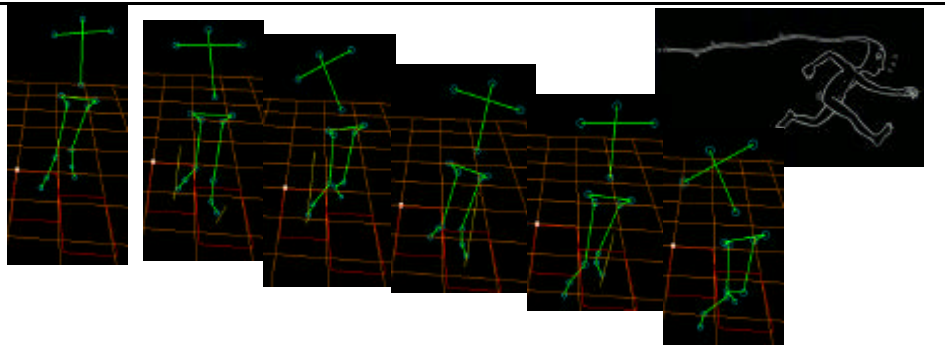


**Define objectives clearly:**

- Functional
  - improve voluntary movement
- Non-functional
  - reduce pain
  - ease nursing
  - prevent deformity

 **neurochild**

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Focus on Cerebral Palsy Research

ISBN 1-59454-092-6

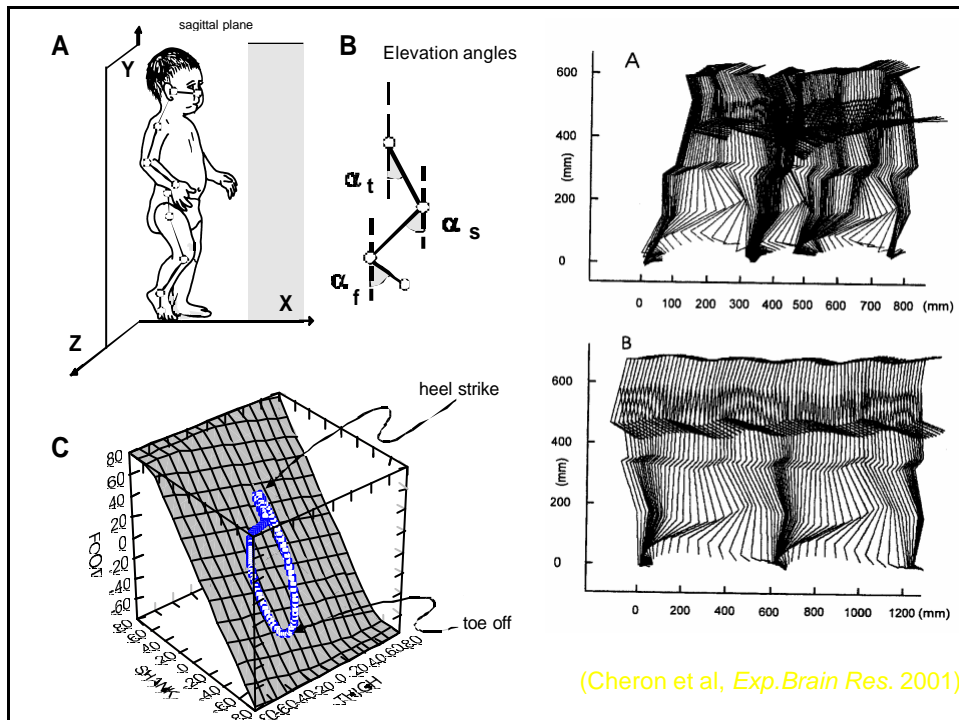
Chapter VI

## Strategies of Locomotor Control in Cerebral Palsy

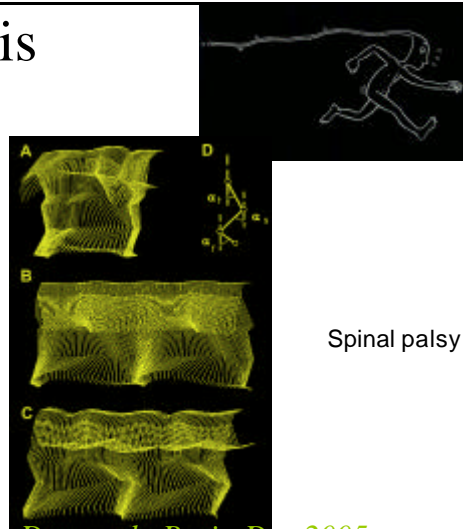
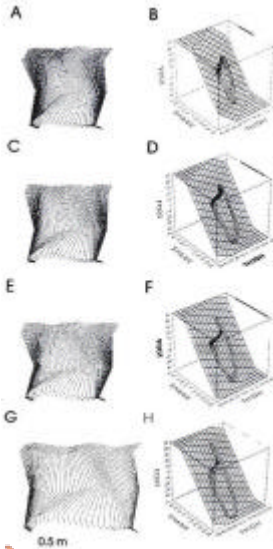
*Bernard Dan*



In order to organize locomotion, patients with cerebral palsy must find a compromise between postural stability of the erect posture integrating the direction of gravity and dynamic control of



# Movement analysis



*Dan et al., Brain Dev 2005*

*Dan et al., Neurosci Lett 2000*

Familial spastic paraplegia (REEP1)



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