



1° Start up meeting

TRAMA Project

May 11°, 2007



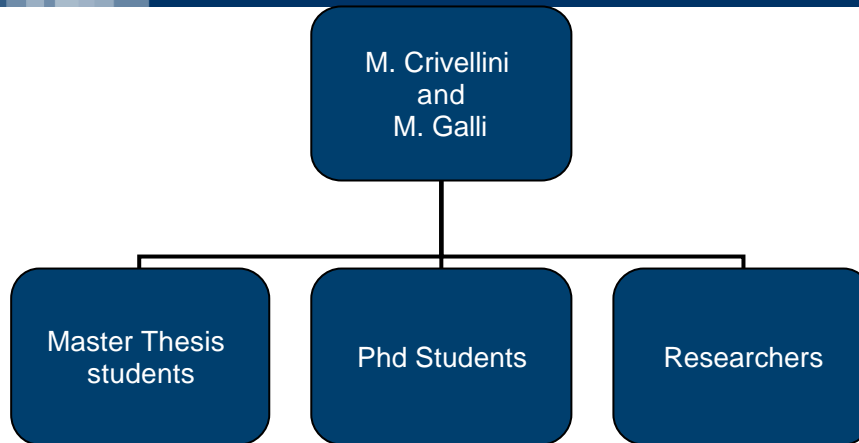
## Introduction

*The Motion analysis Gait Lab "Luigi Divieti"*  
*Bioeng Dept , Politecnico di Milano*

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## The staff of our Lab



(about 23 thesis each year in movement analysis )

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## The mission



**Development of protocol, experimental set up, software,... for a user-friendly application of movement and gait analysis in clinical field (for rehabilitation)**

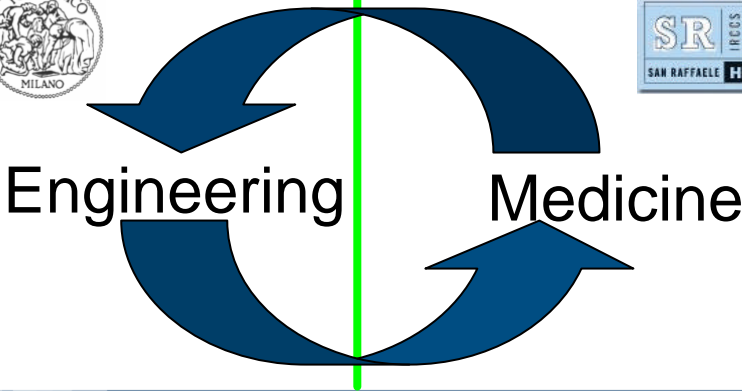




**RESEARCH APPLIED IN CLINICS**

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TRAMA  
PEOPLE




Engineering Medicine

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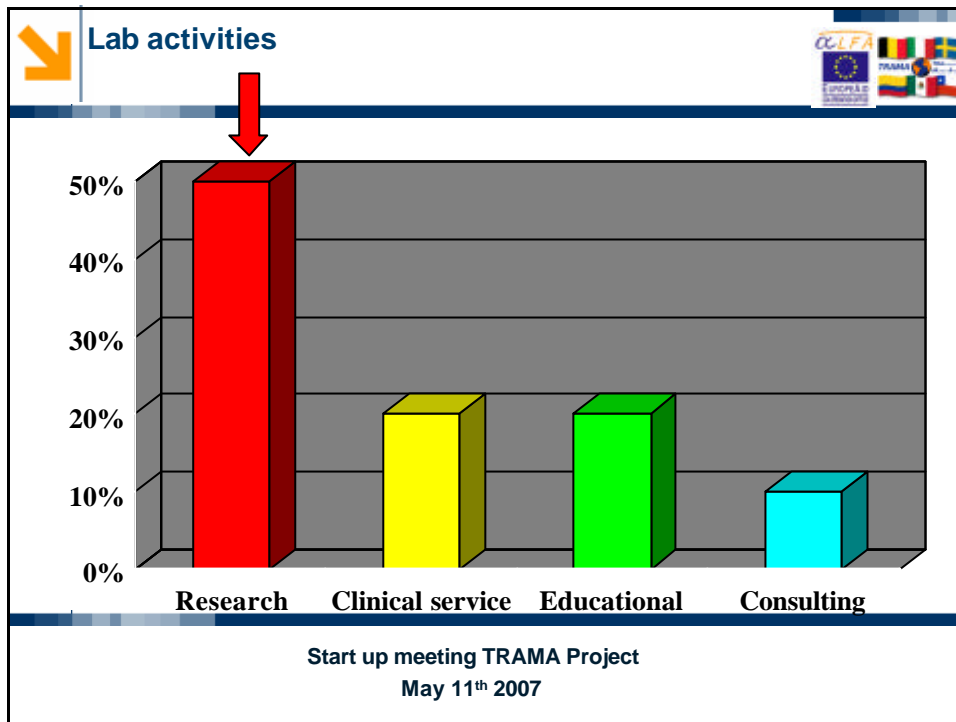
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The Posture and Movement Analysis Lab “Luigi Divieti”, Bioeng Dept, Politecnico of Milan

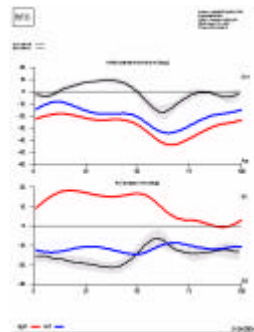


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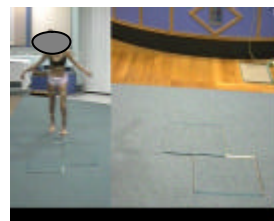
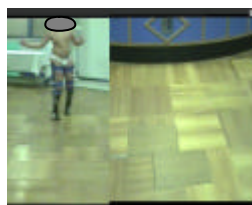
- Research**
- 🇪🇺 Development of new methodologies and new protocols for movement analysis in clinics;
  - 🇪🇺 Definition of new protocols for any kind of movement and for different applications.
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### Gait Analysis in children with Cerebral Palsy



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- To monitor the patient locomotor alterations
- To evaluate decision making
- To evaluate treatment outcome



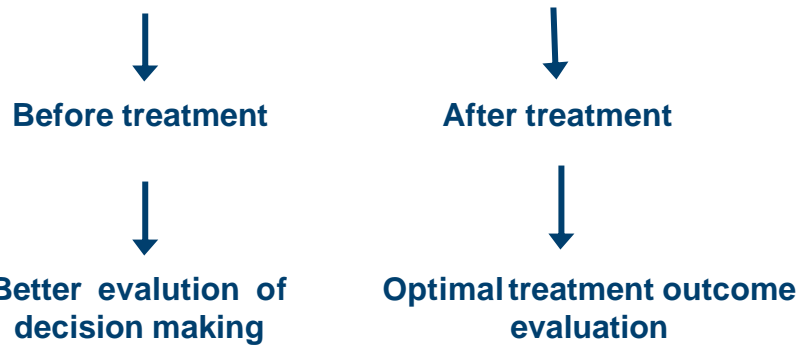
Evaluation of 2500 patients with CP

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## Research in Cerebral Palsy



The use of gait analysis has radically changed the treatment of CP children

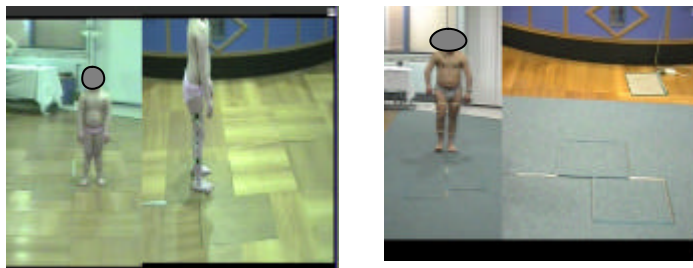


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## Research



Movement analysis in children with Down syndrome



Evaluation of 350 patients with Down syndrome

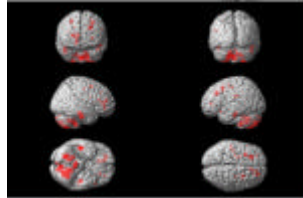
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## Research in Down syndrome



### DOWN Syndrome studies



VBM



Mouse model with DS  
In collaboration with Institute  
of Basic Research NY

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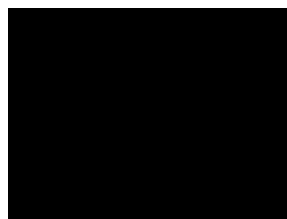


## Research

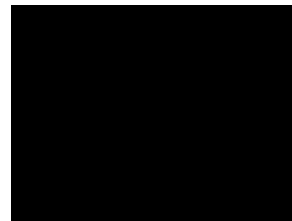


Posture and movement analysis in elderly  
(risk of fall).

Gait analysis in subject with Parkinson  
disease.



L- DOPA OFF



L- DOPA ON

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## Movement analysis in obese subjects



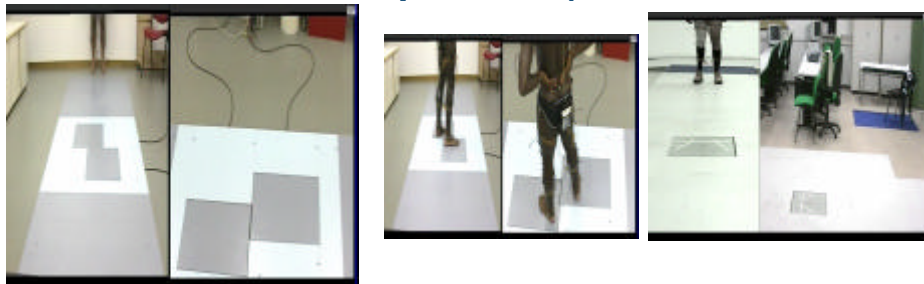
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## Posture and movement analysis in patient with cancer

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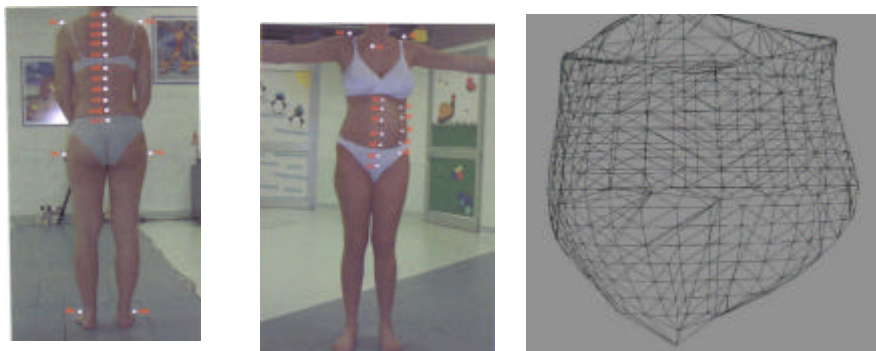


## Gait analysis in subjects with knee pathologies (ACL rupture, pre post knee prosthesis)



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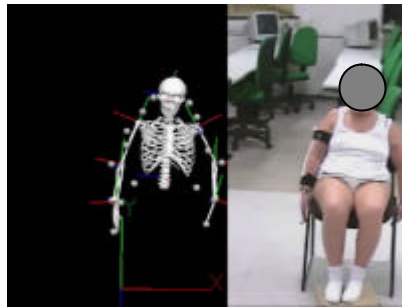
## Posture and movement analysis in pregnant women



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## Research :development of new protocols



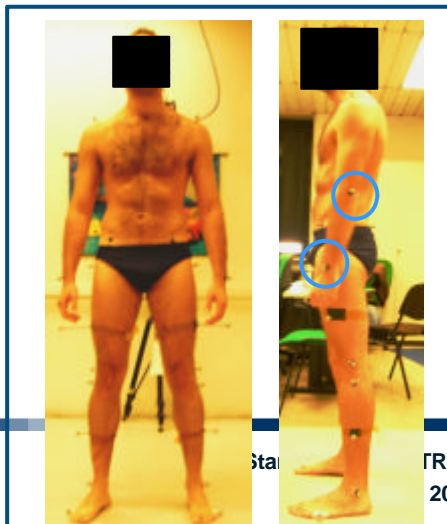
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## Research



Davis' protocol (Davis, 1991) + **Upper limb**



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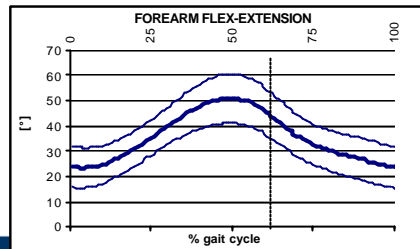
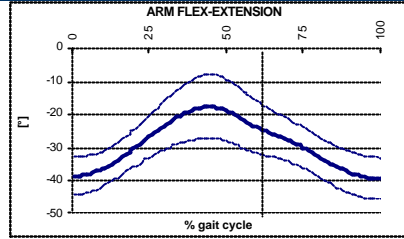
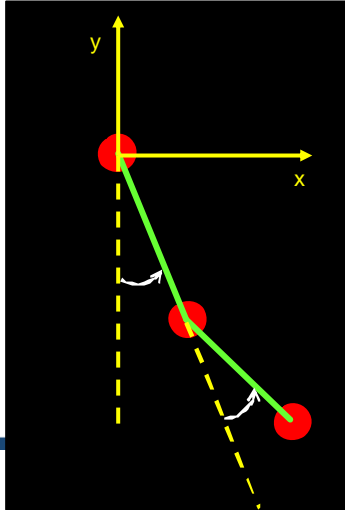
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## Results: Normative ranges



### Sagittal plane



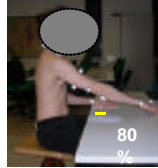
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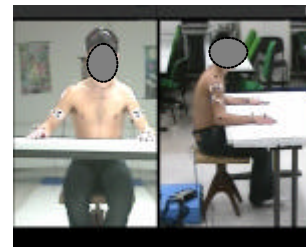
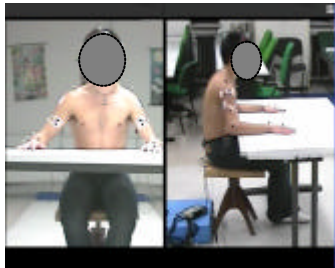
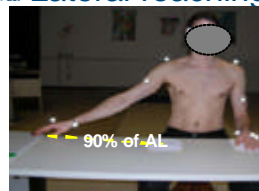
## Research



### Frontal reaching



### Lateral reaching



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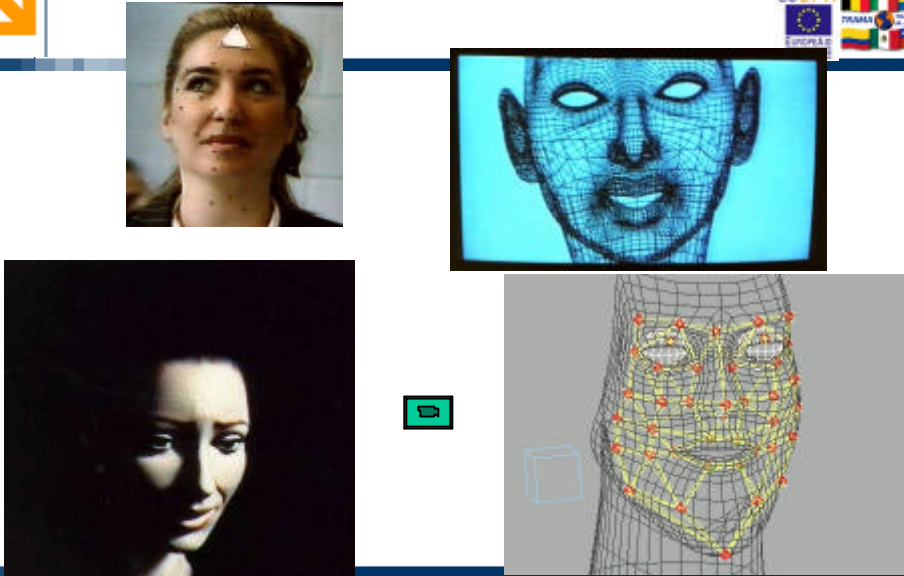
## Development of new protocols.....not only for clinics

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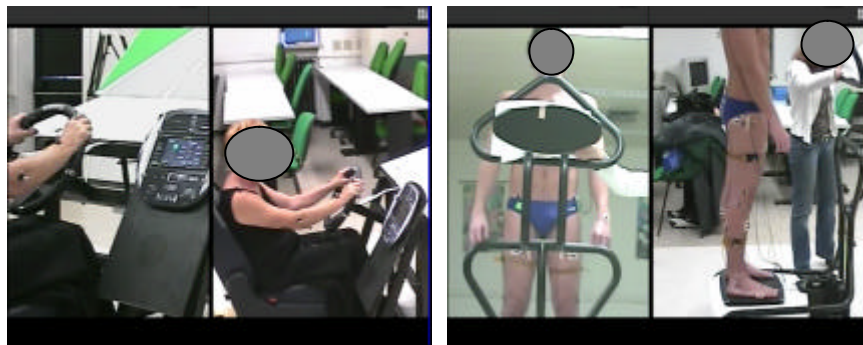
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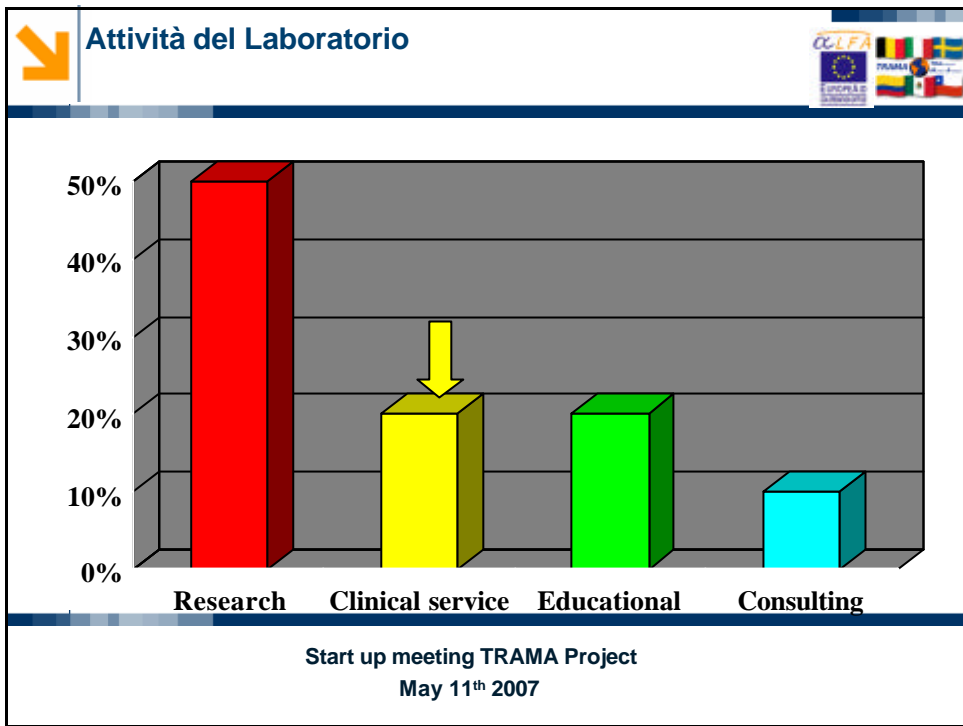
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## Research



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**Clinical Service**

Execution of movement analysis tests for hospitals that they haven't a Motion Analysis Lab.

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