

## Rodolphe Héliot

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### Work experience

**05/01/2005 → 31/12/2007** **Ph.D. Student at INRIA & CEA – LETI** (Electronics and Information Processing laboratory)  
(expected)

**Ph.D. Thesis** : "Sensory-motor modelling of lowers member control in man, and its application to functional rehabilitation"

When controlling postural movement through artificial prosthetic limbs or muscle Functional Electrical Stimulation, an important issue is the patient interaction with the artificial system by means of his valid limb motions. In this thesis, our objectives are: 1) to detect and identify subject voluntary actions as early as possible after a movement decision is taken, and 2) to monitor the current motion in order to estimate the task state variables.

➤ 3 months fellowship in Aalborg University (Denmark): "Timing of muscle activation sequences"

**04/2004 → 09/2004** **INRIA** (National Institute for Research in Computer Science & Control)  
*Final Internship*

As a part of a global approach aiming at developing ambitious equipments to help disabled people, led a feasibility study of a system which should include an active prosthesis (eg for the leg), a microsensor-based motion analysis system, and required movements models. This included first a bibliographic part, followed by the set up of experimentations and the development of signal processing algorithms.

**2003** **UNIC – CNRS** (National Scientific Research Organization)

*Research Internship*

Carried out a study on image processing by the human brain, in order to highlight interactions between cortical neurons. Described non – linearities. First studied theoretical issues (computer simulations), and then created an experimental protocol.

### Education

**July 2, 2004** Master's Degree of Science in electronic hardware and software structures  
**2001 – 2004** Supélec, a top Engineering School in electronics, computer science, and signal processing

### Specials Skills

Working English  
Conversational Spanish

### Community Involvement

**2002 – 2003** **Chairmanship of Supelec Robotics club**

Goal : build a robot in order to take part in the Robotic French Cup.

Leader of a 15 student team; planned, organized, defined tasks, and chose technical solutions

**1999** Set up and led a LAN games association

**Activities and Interests:** cycling, hiking, reading

References available upon request