



## Thesis Project Form

**Title (tentative):** Alterations in interpersonal interaction in persons with dementia

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### Description

#### Motivation and application domain

Recent studies suggest that social skills deterioration might represent a relatively early sign of at least some forms of dementia. Therefore, impaired social skills may be used as neurophysiological markers of dementia.

#### General objectives and main activities

To study alterations in joint action in persons with dementia, using experimental protocols based on dyadic sensorimotor interaction mediated by haptic interfaces.

#### Training Objectives (technical/analytical tools, experimental methodologies)

The student will learn about:  
programming and control of haptic interfaces  
experimental procedures with human subjects  
analysis and modeling of human sensorimotor functions

**Place(s) where the thesis work will be carried out:** Bioengineering Lab (DIBRIS) and Neurological Clinic (DINOEMI)

### Additional information

**Pre-requisite abilities/skills:** Matlab, simulink and interest to work with human subjects

**Maximum number of students:** 1