

**FOM INTERNATIONAL INTERNSHIPS – HM CINAC – MADRID**

**Internship type:** Guided group research

**Principal investigator:** Guglielmo Foffani, PhD

**Collaborators:** Claudia Ammann, PhD, Desire Humanes-Valera, PhD, and other researchers of the group

**Number of students:** 5-6

**Number of hours:** 10h per week (Tuesday afternoons and another day of the week to be defined)

**Internship site:** HM CINAC, Hospital Universitario HM Puerta del Sur, Av. Carlos V, 70, 28938 Móstoles, Madrid. The hospital is located in Móstoles, at 45 minutes bus ride from the center of Madrid.

<https://www.hmcinac.com/>

**Internship language:** English

### **Summary**

The main objectives of the HM CINAC activities are:

- 1) Research in **Clinical Neuroscience**, focused on neurodegenerative diseases, in particular Parkinson's disease, with a comprehensive approach.
- 2) Development of fundamental knowledge through **Experimental Neuroscience**, for which HM CINAC has a pre-clinical research center working on neurobiological mechanisms of neurological diseases.

### **Methodology**

Researchers at HM CINAC apply advanced neuroimaging methods (integrated fMRI-PET), neurophysiology (non-invasive brain stimulation, movement studies and registration of oscillatory activity), neurocognitive tasks (behavioral laboratory) and deep brain techniques (deep brain stimulation, focused ultrasound therapy) to advance pathophysiological knowledge and to develop new therapeutic options for Parkinson's disease and other neurodegenerative pathologies. Furthermore, neurophysiological techniques (single-unit, multi-unit and local field potential recordings), as well as chemo/optogenetic, behavioral and histopathological techniques are employed in Experimental Neuroscience studies.

### **Activities**

Depending on their knowledge, curiosity and time dedication, students will have the opportunity to learn about, observe and/or participate in different activities of ongoing research projects integrating both Clinical and Experimental Neuroscience at our center. They will have a chance to attend and participate in our weekly meetings and journal clubs, they will get familiar with the concepts of experimental design in real research and with the process of acquiring and analyzing human and animal data. Finally, they will learn how to evaluate the data and write short scientific reports. The internship is designed to stimulate the students' scientific curiosity, improve their analytical capacity and maximize their learning experience within the context of meaningful research.

### **Requirements**

Typically students should have passed at least introductory biology/psychology/neuroscience courses and have clear interest toward neuroscience.