

POSITIONS AVAILABLE FOR MASTER (MSc) STUDENTS 2019

We are recruiting outstanding MSc students to work at the Functional and Translational Neurogenetics Unit of the Institute for Health Science Research Germans Trias i Pujol (IGTP) located in Badalona (Barcelona), Spain. More information about the Neurogenetics Unit [here](#).

The candidates must have a related degree and a strong motivation and interest for scientific research and solid background in any of the following disciplines: molecular biology, biochemistry, bioinformatics, human genetics, cell biology with a particular interest in **neuroscience**. Undergraduate or post-graduate laboratory experience on molecular or cellular biology is strongly recommended. Good academic records and high level of English language are required. After completing the MSc thesis, a PhD project could be offered.

MSc Student positions are available for the following **research projects**:

1. Gene therapy with recombinant vectors based on adenoassociated virus for Friedreich Ataxia.
2. Identification and characterization of genes, molecular pathways and biomarkers causing inherited ataxias.

Research Group description:

The **Neurogenetics Research Unit** was founded by Dr. Antoni Matilla in 2009. It is located in the Can Ruti Campus and is integrated within the Department of Neurosciences of the Hospital Germans Trias i Pujol (HUGTiP). It also provides genetics diagnoses to the Neurology and Pediatrics Services from the University Hospital Germans Trias i Pujol (HUGTiP) and external Hospitals from all over Spain.

Scientific research in the Unit investigates the genetic and molecular mechanisms underlying neurodegenerative processes. The ultimate goal of the research is to identify genes, their products and molecular pathways involved in order to effectively provide genetic diagnosis and selective therapeutic approaches to patients. The Unit uses multidisciplinary strategies to identify genes, proteins and other gene products involved in the function and dysfunction of the nervous system by using next-generation RNA and DNA sequencing, functional assays, biochemical, bioinformatic, proteomics, and molecular neurosignalling studies.

The Unit recently described the genetic and molecular causes underlying cerebellar neurodegeneration in a particular spinocerebellar ataxia subtype, SCA37 (JAMA

Neurology 2013, Brain 2018). Now we aim to identify novel genes and pathways implicated in ataxia.

An important objective of the Unit is to identify and implement treatments for various neurodegenerative diseases. To achieve this, in 2015 the functional biology and experimental therapies laboratory (FBET) was established by Dr. Antoni Matilla and Dr. Ivelisse Sánchez-Díaz. The laboratory uses gene therapy technology based on adenoassociated virus vectors (AAV), screenings of drug compounds and genetic libraries, and in vitro and in vivo preclinical testing of new therapeutic candidates.

Furthermore, we develop large-scale genomics technologies and bioinformatics tools to identify genetic causes underlying neurological diseases.

The **Germans Trias i Pujol Research Institute (IGTP)** is a public research centre located in Badalona a few kilometers away from Barcelona, in the Autonomous region of Catalonia in Northern Spain dedicated to increasing scientific knowledge and transferring it to improve the care and lives of patients. IGTP is accredited as Research Centre of Excellence by both the Spanish Ministry and the Catalan Government and is included in the top 10 Health Research Institutions in Spain. More information about the Institute [here](#).

In June 2018 the IGTP incorporated the new **Comparative Medicine and Bioimage Centre (CMCiB)**, a state-of-the-art centre dedicated to biomedical research and training. This new research infrastructure aims to become a reference centre for comparative medicine, surgery, bioimaging and computational models in Europe, while at the same time developing alternative in vivo research methods. More information about the CMCiB [here](#).

Please send your CV including the academic records, and motivation letter to neurogenetica@igtp.cat.