TheVall d'Hebron Research Institute (VHIR) is a public sector institution that promotes and develops the research, innovationand biosanitary teaching of the Vall d'Hebron University Hospital.Through the excellence of our research, we identify and apply new solutions to the health problems of society and we contribute to spread them aroundthe world.

HR EXCELLENCE IN RESEARCH

In April 2015, the **Vall d'Hebron Research Institute (VHIR)** obtained the recognition of the European Commission **HR Excellence.**

This recognition proves that VHIR endorses the general principles of the European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers **(Charter & Code)**.

VHIR embraces Equality and Diversity. As reflected in our values we work toward ensuring inclusion and equal opportunity in recruitment, hiring, training, and management for all staff within the organization, regardless of gender, civil status, family status, sexual orientation, religion, age, disability or race.

PhD Candidate

Neurodegenerative Diseases Research Group

Our group is looking for PhD candidates. The PhD student will study the mechanisms of inter-organ communication in Parkinson's disease to establish novel pathogenic mechanisms and new possibilities for biomarkers and disease-modifying therapeutic strategies.

Parkinson's disease (PD) is a common progressive human neurodegenerative disorder of unknown origin that is becoming more frequent due to the increase in life expectancy. Importantly, there are no reliable biomarkers that allow an early diagnosis nor therapies that stop or slow down its progression, so it remains an incurable disease.

This project looks more deeply into the communication between the brain and other body organs in PD. Current diagnosis requires the identification of classical motor symptoms, first noticeable when there is already a significant neuronal loss in susceptible brain regions. However, PD patients present with other non-motor symptoms (NMS) that usually appear clinically before the manifestation of parkinsonism in a prediagnostic phase of several years. These include gastrointestinal alterations and other alterations of the autonomic nervous system. Also, an altered microbiota composition has been reported in the gut of PD patients. The main aim is to understand how alterations in the gut-brain axis and other communication axis (i.e. neuroendocrine, immune and metabolic) contribute to the onset and/or progression of disease, with the goal of identifying possible early biomarkers and new therapies to prevent or slow down disease progression.

The transversal position offered ranges from the analysis of human biological samples and clinical data from patients to the basic understanding of the cellular and molecular mechanisms underlying Parkinson's disease in rodent and cellular models.

JOB DESCRIPTION

Education and qualifications:

Required:

- Bachelor's Degree in Health/Life Sciences (preferably with an academic record higher than 8.0).
- Completed Master's degree in Neurosciences, Translational Biomedicine Research, Microbiology or similar.
- Good communication skills and fluency in spoken and written English.
- Certification and experience working with animal models and knowledge of animal experimentation techniques (stereotaxic injection of AdenoAssociatedViral Vectors (AAV), behavioral tests).

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- Previous experience processing animal samples (brain and tissue dissection, tissue sectioning by cryostat and microtome).
- Experience and knowledge of laboratory histological techniques (e.g. stereological cell analysis, IHC, IF, confocal microscopy) and molecular techniques (ELISA, RTqPCR, WB).
- Experience in image acquisition for IHC and IF samples.

Desired:

- Previous knowledge in the field of neurodegenerative diseases, specifically in Parkinson's Disease.
- Experience in specific software for image and data analysis (OlyVIA, Image J, GraphPad).
- Experience in developing Artificial intelligence algorithms for neuronal and glial markers

Experience and knowledge:

Required:

- Previous experience in basic laboratory techniques.
- Proactive, dynamic and outstanding organizational skills.
- Strong sense of responsibility, initiative, self-motivation and social skills as key personal abilities.
- Ability to work independently as well as in a team environment

Desired:

- Previous experience with Neurosciences, Immunology, or Microbiology.
- Experience in handling experimental mouse models and in processing human samples.
- Author of scientific publications.
- Research experience abroad

Main responsibilities and duties:

- Manipulation and surgery of mice and rats to generate and characterize rodent Parkinson's disease models
- Process human and mouse samples (histology, microscopy, biochemical and molecular analyses)
- Analyze and interpret the data generated
- Careful reading of the literature to provide intellectual input to the research project
- Participation in group meetings and scientific seminars…

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Labour conditions:

- Full-time position: 40h/week.
- Starting date: immediate.
- Gross annual salary: 23.871,33 euros
- Contract: temporary**.**

What can we offer?

- Incorporation to Vall d'Hebron Research Institute (VHIR), a public sector institution that promotes and develops the biomedical research, innovation and teaching at Vall d'Hebron University Hospital (HUVH), the biggest hospital of Barcelona and the largest of Catalan Institute of Health (ICS).
- A scientific environment of excellence, highly dynamic, where high-end biomedical projects are continuously developed.
- Continuous learning and a wide range of responsibilities within a stimulating work environment.
- Individual training opportunities.
- Flexible working hours.
- 23 days of holidays + 9 personal days.
- Flexible Remuneration Program (including dining checks, health insurance, transportation and more)
- Corporate Benefits: platform through which you can obtain significant discounts on travel, culture, technology, gastronomy, sports... among many others.

How to apply:

Applicants should submit a full Curriculum Vitae and a cover letter with the reference "PhD Candidate" to the following email addresses: ariadna.laguna@vhir.org and seleccio@vhir.org. **Deadline to apply: 20-04-2023**