



The Vall d'Hebron Research Institute (VHIR) is a public sector institution that promotes and develops the research, innovation and 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 around the world.



HR EXCELLENCE IN RESEARCH

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## Licensed Research Technician

### Neurodegenerative Diseases Research Group

Our group is looking for candidates to fill in a Licensed Research Technician. 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.



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- 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.
- Certification and experience working with animal models and knowledge of animal experimentation techniques (stereotaxic injection of AdenoAssociatedViral Vectors (AAV), behavioral tests).
- Previous experience processing animal samples (brain and tissue dissection, tissue sectioning by cryostat and microtome).
- 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.



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## 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

## Labour conditions:

- Full-time position: 40h/week
- Starting date: January 2024
- Gross annual salary: 23.871,33 euros /// (Remuneration will depend on experience and skills. Salary ranges are consistent with our Collective Agreement pay scale)
- Contract: *Technical and scientific activities contract linked to the project activities*

## 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.



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- 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.
- Healthy Offering: choose from a variety of wellbeing focused activities to be the healthiest you.

### How to apply:

Applicants should submit a full Curriculum Vitae, a cover letter and 1-2 reference letters. Indicate the reference "PhD candidate inter-organ communication in PD" to the following email addresses: [ariadna.laguna@vhir.org](mailto:ariadna.laguna@vhir.org) and [seleccio@vhir.org](mailto:seleccio@vhir.org).

**Deadline to apply: 05-03-2024**

The Fundació Hospital Universitari Vall d'Hebron-Institut de Recerca - "VHIR", with NIF G-60594009, address in Barcelona -08035- Passeig Vall d'Hebron 119-129, Edifici Mediterrània, 2a planta and telephone (34) 934 89 30 00 is the data controller for the processing of your personal data. The data will be processed exclusively for the purpose of managing your participation in the selection process, as well as, if necessary, managing your participation in other selection processes.

Unless you give your informed consent to keep your personal data for future selection processes, in the event that the selection process is completed and you are not the person selected, your personal data will be deleted and blocked in order to be able to respond to any possible liabilities that may arise.

The legal basis of the processing is the execution of a contract to which the data subject is party or in order to take steps at the request of the data subject prior to entering into a contract.

The recipient of the data will be the VHIR's Professional Development personnel and no transfer of personal data is foreseen, except for the fulfilment of legal obligations applicable to the data controller. International data transfers are not foreseen. No automated decisions will be taken, including profiling. In general, personal data will not be communicated to third parties, except for legal obligations in accordance with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (GDPR) to persons who are entitled to request them. You have the rights of access, rectification, deletion, portability, limitation and opposition that can be exercised at any time through the email [dpd@ticsalutsocial.cat](mailto:dpd@ticsalutsocial.cat) or [lopdp@vhir.org](mailto:lopdp@vhir.org). In compliance with Regulation (EU) 2016/679, the VHIR has appointed a data protection officer, whose contact details are [dpd@ticsalutsocial.cat](mailto:dpd@ticsalutsocial.cat). You can also lodge a complaint with the competent Data Protection Authority by contacting [www.apdcat.cat](http://www.apdcat.cat) or [www.aepd.es](http://www.aepd.es).