



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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PhD Position

MSCA-COFUND-TOUCH programme (Neurovascular Diseases Research Group)

TOUCH ("Towards the next generatiOn of excellent yoUng doctoral researchers on mental health by developing an intersectoral & transdisciplinary approaCH") is a new excellent **doctoral programme** led by the Universitat Autònoma de Barcelona (UAB) for the recruitment and training of doctoral candidates **in the field of mental health and wellbeing**, providing a new dimension through highly interdisciplinary and intersectoral research while fulfilling all the principles of Open Science and maintaining the highest research quality standards. UAB is the main Beneficiary and coordinator of the programme (**12 doctoral positions offered**) together with 7 institutions from the Sphere UAB-CIE as Implementing partners by recruiting, hosting, and training PhD students.

Research Project description:

PhD will investigate the diagnosis, prognosis and treatment of Mixed Alzheimer's disease (with cerebrovascular disease).

Data from numerous clinical-pathologic cohort studies have shown that mixed pathology, especially Alzheimer's disease (AD) pathology plus cerebrovascular disease (CVD) is the most common cause of dementia, particularly in older persons. However, most in vivo biomarkers and clinical trials focus on one specific underlying pathology contributing to cognitive impairment.

Our main aim in this project will be to deepen into the diagnosis, prognosis and treatment of Mixed Alzheimer's disease (with cerebrovascular disease). In order to do so, we have generated a cohort of 200 consecutive patients with Typical Alzheimer's disease (AD) (n=140) and Mixed AD with cerebrovascular disease (Mixed AD/CVD) (n=60) with full clinical and neuropsychological and behavioral characterization at baseline and after 2-year follow-up. Biofluid (plasma and CSF) and imaging (MRI) markers will be explored in this cohort (and other pure vascular dementia cohorts) to evaluate their usefulness as diagnostic and prognostic markers.

In parallel, the contribution of the cerebrovascular pathology will be investigated in different in vivo AD models exhibiting or not different grades of vascular pathology (APP23 and 5xFAD transgenic mouse lines). Our aim will be to characterize the models in terms of neuroimaging (cerebral MRI, fMRI and DCE-MRI) in order to define those parameters related with BBB disruption and the appearance of ischemic and hemorrhagic brain lesions associated with advanced age, among other structural and functional parameters specifically altered when a significant alteration of the cerebrovasculature occurs caused by the brain beta-amyloid deposition in vivo. The association of the most relevant neuroimaging features with behavioral disfunction and with biological markers in body fluids, including cerebrospinal fluid or blood, will be accurately explored.



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Please consult the guidelines for applicants for more details of the TOUCH doctoral programme: [Guideline for applicants](#)

Research group description:

The [Neurovascular Research Lab](#) at VHIR is a translational and multidisciplinary group dedicated to investigate the causes of stroke and dementia, and to develop new therapies for these devastating conditions. We are a large team, formed by neurologists, biologists, nurses, statisticians.

Our joint trajectory of work has been recognized with the accreditation as a “Consolidated Research Group” in three consecutive calls from the AGAUR-SGR. Our group also takes part of the National Research Stroke Network funded by ISCIII under the RETICS framework.

Currently, the group is composed by 19 members (including 4 principal investigators). The scientific production of the group has been reflected in several long-term national and international collaborations, in large manuscript production with our leadership, in high-impact collaborative publications in the neurosciences and cell biology fields and in teaching new neuroscientists.

JOB DESCRIPTION

Eligibility criteria:

In support of equality and non-discrimination principles, gender, age, nationality, race, or any other ethical-related issues will not be considered during the application and selection process. Scientific/academic merits and excellence of the candidates are the only criteria for evaluation. The two eligibility criteria to comply by prospective candidates are related to mobility and experience:

- **Mobility rule:** candidates must not have resided or carried out their main activity (work, studies, etc.) in Spain for more than 12 months in the 36 months immediately preceding the deadline for the programme call.
- **Experience rule:** researchers must be doctoral candidates at the date of recruitment, i.e. not already in possession of a doctoral degree at the deadline of the open calls. Researchers who have successfully defended their doctoral thesis but have not yet formally awarded the doctoral degree will not be considered eligible.



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Recruited researchers must be enrolled in a doctoral programme leading to the award of a doctoral degree at UAB at the time of signing the contract.

- **Diversity aspects:** Applications from candidates with disability, special assistance, researchers at risk, LGBTQ+ community, etc. are encouraged: in this respect equal opportunities in terms of diversity will be fully taken into consideration both during the recruitment process and also during the training programme execution. In case of similar CVs, applications from minority or underrepresented groups will be preferably selected.

Education and qualifications:

Required:

- Candidates must hold a degree that allows [admission to the official doctoral programme](#) at UAB.

Desired:

- The candidate should demonstrate a strong interest in neuroscience, and clinical and translational research, a strong academic background and a diverse set of skills.
- A minimum of a bachelor's degree in a relevant field such as health sciences, biology or a related discipline is required.
- Specialized coursework in areas like epidemiology, biostatistics, or pharmacology and a master's degree will be highly regarded.
- Additionally, familiarity with data analysis, statistical methods and the ability to interpret scientific literature are valuable.
- Communication skills, both written and verbal, are essential for collaboration, protocol development and disseminating research findings.
- Technical proficiency in relevant tools and software, coupled with critical thinking and problem-solving abilities, are also valuable skills.
- Adaptability to experimental methodologies and a commitment to ethical research practices round out the skill set needed for this position.



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Labour conditions:

- Part-time position: 37,5h/week
- Starting date: December - March, 2025 (flexible incorporation).
- Gross annual salary: 28.500€
- Contract: Temporary (3 years)

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.
- An excellent training programme, including: Initial workshops, hands-on schools, workshop on research diversity, scientific and communication skills, personal development and secondments.
- 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.
- Healthy Offering: choose from a variety of wellbeing focused activities to be the healthiest you.



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How to apply:

Applicants should submit an application form to the following UAB link: [Application platform – MSCA-COFUND TOUCH \(uab.cat\)](https://uab.cat).

Deadline to apply: 30-06-2024

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 or lopd@vhir.org. In compliance with Regulation (EU) 2016/679, the VHIR has appointed a data protection officer, whose contact details are dpd@ticsalutsocial.cat. You can also lodge a complaint with the competent Data Protection Authority by contacting www.apdcat.cat or www.aepd.es.