HR EXCELLENCE IN RESEARCH

barcelonaβeta
BRAIN RESEARCH CENTER

C/Wellington 30
08005 Barcelona
T +34 93 316 09 90
info@fpmaragall.org
www.barcelonabeta.org
www.fpmaragall.org

PET Analyst - Neuroimaging Facility
Barcelonaβeta Brain Research Center

About the employer

The Barcelonaβeta Brain Research Center (BBRC) is a research center dedicated to the prevention of Alzheimer's disease and the study of cognitive functions affected in healthy and pathological aging. It was created in 2012 by the Pasqual Maragall Foundation, with the support of the Pompeu Fabra University.

The mission of the BBRC is to provide innovative solutions to decipher and prevent biological changes and cognitive dysfunction associated with neurodegenerative diseases. Due to the aging of the world population, these diseases constitute a global challenge, since for example, dementia can reach epidemic levels in 2050, with a forecast of more than 150 million people affected, if is not found a way to prevent its appearance and development.

The BBRC received the HR Excellence in Research award (HRS4R) granted by the European Commission; a recognition that shows its adherence to the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Research Staff. The center offers a **stimulating and favorable working environment** in accordance with the Charter and Code, which describe the rights and responsibilities of researchers and their employers, and contributes to the **creation of a transparent, attractive and open ecosystem** at international level.

Pasqual Maragall Foundation, Pompeu Fabra University and “la Caixa” Foundation are permanent members of the BBRC Board. The center is affiliated and located in the Ciutadella Campus of the Pompeu Fabra University of Barcelona, in a building inaugurated in 2016. The BBRC headquarters has excellent technical facilities, including a 3TMR scanner dedicated to research, and spaces for conducting Clinical Trials and EEG. State-of-the-art scientific facilities, effective management and continuous high-standard peer-review evaluation are the BBRC core proceedings to ensure achieving world-class research results.

BBRC is also part of the Barcelona Biomedical Research Park (PRBB), a large research facility that hosts other seven different research institutions related to biomedical research, including the Center for Genomic Regulation (CRG), the Hospital del Mar Medical Research Institute (IMIM), the Department of Experimental and Health Sciences of the Pompeu Fabra University (CEXS-UPF), the Institute of Evolutionary Biology (IBE CSIC-UPF), the Barcelona Institute of Global Health (ISGlobal) and the Barcelona site of the European Molecular Biology Laboratory (EMBL), among others, in a multidisciplinary, collaborative and stimulating international environment in close contact with a clinical setting, thus conducive to translational research.

More information about BBRC: www.barcelonabeta.org

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About the project

The ALFA (for Alzheimer and Families) parent cohort, established by the BarcelonaBeta Brain Research Center, comprises nearly 3.000 cognitively normal participants, most of whom are first-degree descendants of AD patients. This cohort was established as a research platform to characterize preclinical Alzheimer's disease (AD) in asymptomatic individuals and will serve to untangle the natural history of the disease and to model the preclinical stages to develop successful trials to prevent AD. Within the ALFA programme, the ALFA+ cohort study is composed of 420 cognitively unimpaired participants, aged between 45 and 65 years at ALFA baseline visit, who have been thoroughly characterised from a sociodemographic, clinical, lifestyle, cognitive, genetic and biomarker (both fluid and neuroimaging). Participants are followed every 3 years: so far we have conducted the study's baseline visit (2016-2019), the first follow-up visit (2019-2022), and are currently performing the second follow-up visit (2023-2025)

Within ALFA+, PET scans to measure the presence, burden and extent of abnormal amyloid-β and tau pathology are performed. PET scans with other tracers (e.g. FDG PET) have also been collected or are being considered. These scans are analysed in combination with MRI scans using state-of-the-art quantification pipelines to unlock their full research value

About the job

The Neuroimaging Facility supports research projects at BBRC involving acquiring, managing, and processing brain imaging data through magnetic resonance imaging (MRI) and positron emission tomography (PET).

BBRC is looking for a full-time position as PET Analyst, that will coordinate the acquisition of high-quality PET brain images, their processing, and the development of new techniques, as well as assist BBRC researchers with neuroimaging data.

The candidate will collaborate closely with the neuroimaging research group.

Main Responsibilities

The responsibilities for this position include:

- ***Image Acquisition:*** Coordinate and execute the capture of high-quality PET brain images with the PET machines provided by our external collaborators.
- ***Image Processing:*** Develop and apply innovative methods for processing and analyzing PET brain images, incorporating various quantification techniques for amyloid-β, tau, and FDG PET scans (e.g., Centiloids, CenTauR, staging methods).
- ***Research and Development of New Techniques:*** Exploring, implementing, and validating innovative neuroimaging methods and protocols to improve detecting and monitoring brain changes related to Alzheimer's and other neurodegenerative diseases.
- ***Provides Research Support:*** Assisting BBRC researchers and external collaborators with study design, data analysis, and result interpretation from PET neuroimaging data.

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Requirements

- Degree in Physics, Engineering, or related field.
- Holding a PhD in Neuroimaging will be favorably valued.
- Good knowledge of PET physics.
- Strong expertise in the analysis of amyloid and tau PET scans.
- Knowledge of kinetic modeling of PET data will be favorably valued.
- Experience with standard neuroimaging tool suites (e.g., SPM, FreeSurfer, FSL, PMOD).
- General knowledge of Alzheimer's disease or other neurodegenerative diseases.
- Knowledge of scripting in Matlab, Python, and/or R.
- Proficient in English.
- Capacity to work independently and communicate efficiently.

Personal skills

- Be a team player.
- Flexibility to act with multidisciplinary teams.
- Capacity to work independently and communicate efficiently.
- Should demonstrate integrity values and must possess effective interpersonal skills.
- Interest in joining a non-profit organization with a mission of high social impact.

We offer

- Starting date: Immediately.
- Full-time position, 38 hours weekly with flexible working hours.
- Permanent contract
- Salary will depend on experience and will be in accordance to BBRC's salary scales.
- Hybrid working model (on-site + teleworking).
- Possible to pursue Scientific career / PhD Thesis.
- Join a team of highly specialized staff in neuroimaging analysis

We offer and promote a diverse and inclusive environment and welcomes applicants regardless of age, disability, gender, nationality, ethnicity, religion, sexual orientation or gender identity. We offer as well, the unique research opportunity in a highly innovative project in a multidisciplinary institution.

In the BBRC we also care about developing your professional abilities and career. We evaluate the potential of our team in order to develop the skills necessary to achieve a high level of professional performance.

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Application process

To apply, please submit a single PDF file containing the following:

1) Cover letter describing research interests and relevant background;
2) CV
3) All files or inquiries should be submitted electronically to: talent@barcelonabeta.org

Subject: PET Analyst