Researcher Position
In the Neuroimaging Research Group at the BarcelonaBeta Brain Research Centre Foundation

About the employer

The BarcelonaBeta 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

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) and the first follow-up visit (2019-2022).

During an every visit, each participant undergoes 2 one-hour time MRI sessions in the BBRC's cutting-edge MRI scanner (Philips Ingenia 3.0T CX dedicated exclusively to research, with the scientific-technical support of Philips, and an online image management and processing system based on XNAT). The sequences performed, especially the one in the second MRI, have a high innovative value and must be analysed in detail to be eventually validated for future research.

About the job

BBRC is looking for a full-time position as a researcher (MS.c. or Ph.D. level) for analyzing neuroimaging and neuropsychological data and disseminating scientific production in the context of clinical neuroscience and Alzheimer's disease research.

The candidate will work within the NeuroImaging group under the supervision of Dr. Raffaele Cacciaglia, on a project funded by the Spanish Ministry of Science and Innovation (Grant RYC2021-031128-I, funded by MCIN/AEI/10.13039/501100011033 and European Union «NextGenerationEU»/PRTR» and grant PID2021-125433OA-I00 funded by MCIN/AEI/10.13039/501100011033), aiming to better understand multimodal brain connectivity profiles in preclinical Alzheimer's disease.

Main Responsibilities

The responsibilities for this position include:

- Analyzing structural, functional and diffusion-weighted MRI data with the specific goal of studying brain networks, using multivariate methods implemented in MatLab, Python, R and standard neuroimaging software suits (SPM, FSL, Freesurfer, etc…).
- Generating and disseminating the scientific work in terms of publications in peer-review journals and participation to international conferences.
- Devising potential novel approaches to investigate brain connectivity and its relation to neuropsychological data.
- Participating in weekly group meetings.

Required qualifications and professional experience

- Degree in Psychology, Medicine, Physics, Engineering or related fields. Holding a PhD will be favorably valued.
- Strong expertise in the analysis of MRI scans with standard tools (SPM, Freesurfer, FSL, etc…).
- General knowledge of clinical and biological aspects of Alzheimer's Disease and related neurodegenerative disorders.
- Proficient in English.
- It is desirable for the candidate to have experience in drafting research manuscripts and presenting research results in scientific conferences.

Personal skills

- Being a team player.
- Proactive attitude.
- Flexibility to work within a multidisciplinary team.
- Capacity to work independently and communicate efficiently.
- 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.
- Salary will depend on experience and will be in accordance to BBRC's salary scales.
- Hybrid working model (on-site + teleworking).
- The Foundation offers an extended vacation period and the possibility of benefit from flexible working hours.
- Possibility to pursue Scientific career / PhD Thesis.
- Join a team of highly specialized staff in neuroimaging analysis and MRI physics.

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.

At 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.

Application process

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

1) Cover letter describing research interests and relevant background;

2) CV with two reference letters

3) All files or inquiries should be submitted electronically to: talent@barcelonabeta.org

Subject: Neuroimaging research position

We inform you that your personal data will be part of a file which Pasqual Maragall Foundation and Barcelonaβeta Brain Research Center is responsible for, in order to manage the job offer you have requested. Once the process is complete, the data processed will be erased.

You have the right to exercise the rights of access, rectification, cancellation and opposition recognized in Regulation (EU) 2016/679 (General Data Protection Regulation), to be addressed to the Pasqual Maragall Foundation and Barcelonaβeta Brain Research Center: Wellington Street 30, 08005 Barcelona.