Postdoctoral researcher position in the ERC Starting Grant project HeBe in the Barcelonaβeta Brain Research Center

About the employer

The Barcelonaβeta Brain Research Center (BBRC) is a research center, constituted by the Pasqual Maragall Foundation and the Pompeu Fabra University. The goal of BBRC is to become an **internationally recognized centre of excellence in our understanding of age-related cognitive disability** in order to provide practical solutions to the global challenges posed by the **world's aging population**. Our goal will be achieved by **championing primary and secondary prevention programs for Alzheimer's disease and other related neurodegenerative disorders**, the study and promotion of healthy aging, and the research of the basic physiological mechanisms of cognitive functions affected by healthy or pathological aging. The vision of BBRC is to provide society with distinct and innovative solutions for age-related cognitive disability by leveraging complementary research programs to attain a multidisciplinary comprehension of the aging process and the pathophysiology of neurodegeneration.

Pasqual Maragall Foundation, Pompeu Fabra University and "La Caixa" Foundation are permanent members of the BBRC Board. International competitive recruitment, 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 affiliated and located in the Campus Ciutadella of the Barcelona Pompeu Fabra University, the building contains excellent technical facilities, **including a research-dedicated 3T MR scanner, Clinical Trials facilities, EEG and Eye Tracker labs**.

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.

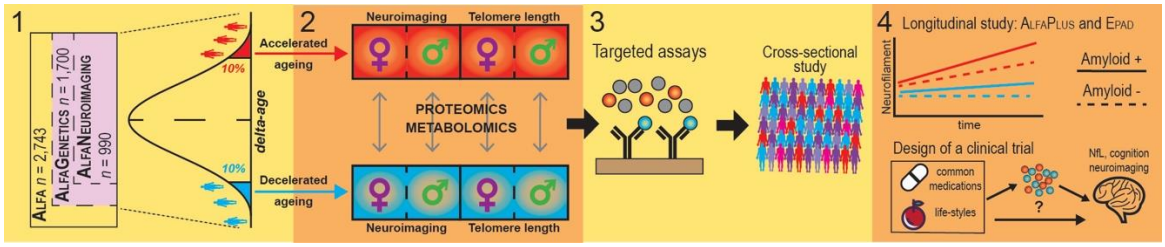
BBRC endorses the Requirements and Principles of the **European Charter for Researchers**, the **Code of Conduct for the Recruitment of Researchers**, and Open, Transparent, Merit-based recruitment promoted by the European Commission and follows Equal Opportunities policies. On October 2020, BBRC Barcelona was awarded the '**HR Excellence in Research**' logo. This recognition reflects the commitment of the Institute to the continuous improvement of its human resources policies.
For more information see: www.fpmaragall.org and www.barcelonabeta.org

About the project

ALFA (for ALzheimer and FAmilies) is a prospective study that follow-ups a cohort of cognitively unimpaired participants, most of them first-degree descendants of AD patients. The ALFA parent cohort is composed of 2743 cognitively unimpaired participants representing the whole spectrum of risk of developing AD that will leverage with different projects.

Our institution has recently been awarded with the prestigious a **European Research Council (ERC) Starting Grant** project. The project is entitled **"Identification of age-related Human Blood factors as a therapeutic target for Alzheimer's disease (HeBe)"** (PI: Marc Suárez-Calvet). HeBe is an ambitious project aimed at discovering blood factors that have the capacity to rejuvenate the brain and can hence be used as therapeutic targets in age-related diseases like AD (https://www.barcelonabeta.org/en/hebe). Following ERC philosophy, this is a high-risk/high-gain project.

Schematic diagram of the HeBe Project



About the job

In BBRC we look for a **highly motivated Postdoctoral Researcher** to join our team and work in the ERC Starting grant-funded HeBe project. The Postdoc will work in the new BBRC lab, which is located in the PRBB building, under the supervision of Dr Marc Suárez-Calvet.

The Postdoc **main duty** will be to perform the mass spectrometry proteomics analyses of blood samples of the HeBe project. In collaboration with the proteomics unit at PRBB (led by Eduard Sabidó, http://www.crg.eu/proteomics), the Postdoc researcher will analyse the plasma samples of the ALFA cohort in order to discover blood factors that have a rejuvenating and ageing effect in the brain. The Postdoc will take the lead in this part of the HeBe project, and will be in charge of the experimental design, proteomics experiments, data collection and analysis, write-up and dissemination of the results (publications, talks and posters).

The Postdoc will also collaborate with the Clinical Metabolomics Platform at IMIM-Hospital del Mar (led by Óscar Pozo) to measure metabolites in the ALFA plasma samples. Additionally, the Postdoc will also coordinate a collaboration with OLink using the ALFA blood samples. The Postdoc will eventually analyse all the proteomic and metabolomic data with the support of a data scientist.

Moreover, the Postdoc will be encouraged to join currently on-going projects of our team, focused on the measurements of fluid biomarkers in the preclinical stage of Alzheimer's disease. The lab will be equipped with state-of-the-art platforms, including Simoa and MSD instruments.

The Postdoc will also be given the opportunity to investigate research questions that drive their curiosity. He/she will be expected to become increasingly autonomous over the course of their time in the lab and supervise junior team members. The Postdoc will receive the mentorship needed to pursue their own scientific career. Funding to attend international scientific meetings will be provided. The post will be funded for 3 years in the first instance. The start date for the position is September 2021, but negotiable +/- a few months.

Responsibilities

- Lead the proteomic studies of the HeBe project, including experimental design, sample preparation (blood), and analysis by means of mass spectrometry and bioinformatics to identify and quantify proteins.
- Participate and coordinate the metabolomic and OLink studies.
- Perform basic biochemistry techniques (e.g. ELISA, Western blot, immunoprecipitation) and biomarker analyses with ultrasensitive assays (Simoa, MSD platforms) in human samples (CSF, blood).
- Assist with the instructing and training of students, fellows, technicians and laboratory assistants as required.
- Preparing and publishing high quality scholarly papers, contributing to the academic environment of the laboratory and institute. Participate in applications for competitive research funding support.
- Participate in regular internal meetings and internal as well as external collaborations.

Required qualifications, competences and technical skills

Must have

- A PhD degree (or will hold in Autumn 2021) in biological and/or chemical sciences (e.g. biochemistry, molecular and cell biology, biomedicine, medical chemistry, neuroscience, analytical chemistry or similar).
- Previous experience and technical expertise in proteomics, mass spectrometry and similar techniques. Candidates with a track record in using proteomics for the discovery of disease biomarkers in blood and/or the study of neurological diseases are strongly encouraged to apply.
- Previous experience in a biochemistry lab.
- Strong statistics and data analyses skills. A high priority will be given to candidates with competence in generating, analyzing and publishing 'big data'.
- A solid publication record with first-author research publication(s) in peer-reviewed international journals
- Excellent communication and writing skills in English.
- Able to work both independently and collaboratively.
- A high level of motivation, drive, initiative and enthusiasm.

Desirable but not required/ Nice to have

- Experience in Alzheimer's disease or other neurodegenerative diseases research.
- Experience in biomarker analyses.
- Experience in metabolomics.
- Experience in Proximal Extension Analyses (Olink) assays.
- Experience in supervising undergraduate students, leadership roles.

We Offer

- A unique research opportunity in a highly innovative project in a multidisciplinary institution.
- A brand-new *state-of-the-art* lab located at the PRBB (www.prbb.org)
- Starting date: **Autumn 2021** (starting date can be negotiated)
- The position is scheduled for 3 years
- Salary will depend on experience and will be in accordance to BBRC's salary scales

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.
In the foundation we also care about developing your professional career so you will participate in internal and specific training for your job, promotion opportunities and development of your professional career. We evaluate the potential of our team in order to develop those skills necessary to achieve a high level of professional performance

Selection Process

Pre-selection: The pre-selection process will be based on qualifications, expertise and motivation reflected on the candidate cover letter and CV. It will be merit-based.

Interview: Preselected candidates will be interviewed by Dr Suárez-Calvet and other team members as well as staff from the Human Resources Department.

Offer Letter: Once the successful candidate is identified the Human Resources department will send a Job Offer, specifying the start day, salary, working conditions, among other important details.

Application procedure

To apply, please submit a single PDF file containing the following:
1) Cover letter addressed to Dr Marc Suárez-Calvet describing research interests and relevant background
2) CV
3) The names of up to three individuals who could provide reference letters. All files or inquiries should be submitted electronically to: rh@barcelonabeta.org

Subject: PostDoc HeBe project

Deadline: 31st May 2021