

OTMR- BASED RESEARCHERS JOB ADVERTISEMENT

FUNDED Ph.D. CANDIDATE POSITION – SIGNAL PROCESSING IN NEUROIMAGING GROUP- AT THE BCBL- BASQUE CENTER ON COGNITION BRAIN AND LANGUAGE (SAN SEBASTIÁN, BASQUE COUNTRY, SPAIN)

1. INFORMATION ABOUT THE POSITION

Position: PhD student

Researcher Profile: First Stage Researcher (R1- up to the point of PhD)

Number of vacancies: 1

Project: Open, within the Signal Processing in Neuroimaging Group

Location: Spain > Donostia-San Sebastián

Research Field: Psychology > Advanced methods for the acquisition and analysis of neuroimaging and biomedical data

Type of contract/Duration of Contract: 4 years

Job Status: Full-time

Hours per week: 35

Starting date: September 2023

The Basque Center on Cognition Brain and Language (BCBL) in San Sebastián (Basque Country, Spain) offers a 4-year funded PhD opportunity. The PhD student will work on projects with the **Signal Processing in Neuroimaging** research group, which focuses on investigating advanced methods for acquiring, preprocessing and analyzing neuroimaging and biomedical data to advance our understanding of human brain function, structure and physiology. The position is not linked to a specific project; for example, it could focus on any of the following topics:

- Develop new signal and image processing algorithms for functional magnetic resonance imaging (fMRI) and/or functional near-infrared spectroscopy (fNIRS) for robust mapping of brain activity and connectivity in individual subjects (i.e., precision functional mapping).
- Investigate neurovascular processes (e.g., cerebrovascular reactivity, brain perfusion with arterial spin labelling, calibrated fMRI) in healthy subjects and in patients with brain tumors.
- Decoding speech and language from the human brain.
- Brain lateralization of language.

Job description: The selected candidate will develop an original doctoral research project that will involve running neuroimaging experiments, performing state-of-the-art data analyses, participating in the daily activities of the group, and disseminating the results in international and national scientific conferences, meetings, and peer-reviewed journals. She/he will take advantage of state-of-the-art neuroimaging equipment that is fully available for research at the BCBL (<https://www.bcbl.eu/en/infrastructure-equipment>). These tasks will be carried out under the supervision and guidance of the PI.

PI and research group: The candidate will form part of the Signal Processing in Neuroimaging research group (<https://www.bcbl.eu/en/research/research-groups/signal-processing-neuroimaging>) led by Dr. Cesar Caballero-Gaudes (c.caballero@bcbl.eu), who will also be the main supervisor.

2. CANDIDATES' PROFILE AND SELECTION CRITERIA

Required skills:

- Applicants should have a Master's (or equivalent) degree in Engineering (e.g., Biomedical, Telecommunications, Electrical, Electronics), Computer Science, Mathematics, Physics, Psychology, Computational Linguistics, Cognitive Neuroscience, and/or related areas.
- The applicants must demonstrate excellent communication skills in English.

Desirable skills:

- Good scientific programming skills (Python, R, Matlab).
- Experience in neuroimaging research, particularly with MRI or fNIRS.
- Knowledge of statistics, and machine and deep learning tools.

3. WORKING CONDITIONS

Salary: 16.640€ gross/year (year 1 and 2); 17.830€ gross/year 3; 22.290€ gross/year 4

Entitlements and other benefits: <https://www.bcbl.eu/en/join-us/what-is-like-to-work-bcbl>

Training opportunities and Career development plan:

Researchers at any stage of their career, regardless of their contractual situation, are given an opportunity for professional development and for improving their employability through access to a Personal Career Development Plan which includes:

- (1) Training through individually personalized research projects under senior supervision
- (2) Exchanging knowledge with the scientific community and the general public
- (3) Network-wide training in theory and methods
- (4) Complementary training courses
- (5) Involvement in proposal writing, task coordination
- (6) Development of skills for the organization of training and scientific events

4. OTHER RELEVANT INFORMATION

Language policy

- The working language at the center is English.
- The center offers initial level Spanish and Basque lessons to all new staff members.
- The interview will be conducted in English

5. APPLICATION PROCESS

Potential candidates are invited to take part in the *MCIN-Ministerio de Ciencia e Innovación; AEI Agencia Estatal de Investigación* Call for PhD Students expected for December 2022. Before applying, interested candidates are strongly encouraged to contact the PI(s) of the corresponding project in order to express their interest, discuss their potential fit for the position, and request any clarifications about the position and/or the project. Note that each candidate can apply to only 1 (one) project. The BCBL admin team will support potential candidates within the application process once the *MCIN-Ministerio de Ciencia e Innovación; AEI Agencia Estatal de Investigación* Call for PhD Students is open.

Deadline for expression of interest: December 9th 2022

Application process timetable:

To be announced as soon as 2022 *MCIN-Ministerio de Ciencia e Innovación; AEI Agencia Estatal de Investigación* Call for PhD Students is published. Expected: Early December 2022

Contact details for enquiries: hr@bcbl.eu