RESEARCH ASSISTANT POSITION IN THE BRAIN RHYTHMS AND COGNITION GROUP

Company Description

The Basque Center on Cognition, Brain and Language is a world class interdisciplinary research center for the study of cognition, brain, and language, jointly founded by Innobasque, Ikerbasque, UPV-EHU and the Provincial Government of Guipuzkoa. The BCBL is a multidisciplinary research center within the Basque Science, Technology and Innovation Network (RVCTI), devoted to pursuing excellence in research, training, and knowledge transfer in the cognitive neuroscience of language. Our research activity aims to unravel the neurocognitive mechanisms involved in the acquisition, comprehension and production of language, with special emphasis on bilingualism and multilingualism. We study processes involved in normal child language acquisition and second language learning in adults, as well as learning disorders, language disorders, the language-related effects of aging, and neurodegeneration and language use in different social contexts.

Information

Deadline: 2022-12-23
Category: Business
Province: Gipuzkoa
Country: Basque Country
City: Donostia-San Sebastián

Company

BCBL

BASQUE CENTER ON COGNITION, BRAIN AND LANGUAGE

Main functions, requisites & benefits

Main functions

Information about the project: This project focuses on the development of a close-loop EEG system to improve language comprehension in the general population and in people with learning disabilities, i.e dyslexic readers. The system will be able to measure the alignment between EEG and speech signals, what we call Cortical Tracking of Speech (CTS). Previous studies in our group showed that the CTS is an indicator of the linguistic abilities of individuals. The system includes algorithms that constantly and automatically analyze the EEG signal to detect changes in the CTS pattern in order to realign brain activity with that of the linguistic signal. The proposal is very novel, since currently there are no systems available to improve linguistic competence based on a direct and non-invasive intervention on a brain index. In addition, it is intended to develop a prototype of portable EEG acquisition equipment (sensors and amplifier). Finally, the evaluation of the procedure in children, adults and the elderly, as well as in dyslexics. Job description: We are looking for a technical profile with an interest in research and neuroscience. We are looking for an engineer (i.e, Telecommunications or bioengineering) with programming skills (matlab or python) that will help us developing and implementing the close-loop system. You will assemble the close-loop system and develop the algorithms to calculate the CTS online. You will also collect EEG data in the lab to test whether or not the system improves linguistic abilities. You will learn to analyze EEG data and to write research papers. PI and research group: Mikel Lizarazu and Nicola Molinaro (Brain rhythms and Cognition group)

Requisites

Required skills: Programming skills (Python or Matlab), Interest in Neuroscience research Desirable skills: Master in Neuroscience/Biology

Benefits

Salary: 15.000-17.000€ gross/year 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 Training through individually personalized research projects under senior supervision Exchanging knowledge with the scientific community and the general public Network-wide training in theory and methods Complementary training courses Involvement in proposal writing, task coordination Development of skills for the organization of training and scientific events BCBL seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support contact us.