POSTDOCTORAL CANDIDATE INTERESTED IN APPLYING FOR A MSCA-IF IN NEUROSCIENCES

COMPUTATIONAL NEUROSCIENCE AND STATISTICAL MODELS TO ESTIMATE BRAIN fMRI CONNECTIVITY

Are you a postdoctoral researcher thinking about your next career move? The Marie Sklodowska-Curie Individual Fellowships (MSCA-IF) are a great option if you are an experienced researcher looking to give your career a boost by working abroad.

Institut of Neurosciences of the University of Barcelona allows you to work in a first class research environment while benefitting from an attractive salary to cover living, travel and family costs.

Group and project information

Applicants will be integrated into the research group “QUANTITATIVE PSYCHOLOGY”. Coordinator. Joan Guàrdia-Olmos, Ph.D.).

General Objective 1

Continue to work on connectivity networks in people with a diagnosis of Mild Cognitive Disorder (MCI), comparing them with those presenting people of normal aging and in the absence of cognitive pathology. The first results (2016 and 2017) indicate that the complexity of the networks and their properties can differentiate clinically defined groups. The work that marks a benchmark in this area is, for example:


General Objective 2

We have launched a protocol to study the behavior of connectivity networks in subjects diagnosed with Major Depressive Disorder (MDD). This is a protocol with which we have already done some pilot tests and will be in force from the fall of 2017, so that these data must already complement some already published works, such as:
General Objective 3

We want to study the brain connectivity networks with fMRI in people with Down syndrome. The challenge is to take advantage of the longevity of these people to study the cognitive aspects, because presenting the same amyloid (21) affected by the Dementia Type Alzheimer’s (DTA), allows us to study differences in the construction of a network in a resting situation (resting state) that lately gives us interesting data beyond the designs with stimulation presentation. The same approach with other pathologies can be found in:


In summary we can identify the following specific objectives:

Specific objective 1: Simulation studies on Bayesian parameter estimation techniques in structural equation models (SEM), following the guidelines of the PSI2013-41400-P project.

Specific objective 2: Simulation studies to assess the goodness of the different indicators of adjustment of structural equation models based on the number of variables involved in the analysis and the number of paths.

Specific objective 3: Study of the cerebral signal to the depressive disorder. Based on the applied research lines of the group and the doctoral studies carried out in recent years.

Specific objective 4: Study of the cerebral signal applied to populations of special interest (Down Syndrome) for the study of connectivity networks.

Functions and tasks

- Collaborate with ongoing research protocols.
- Participate in the recording of data, both derived from psychological tests and signal records. Analyze and modelling data of different levels.
- Generation of statistical models.
- Participate in the writing and analysis of the group's papers.
Requirements for candidates:

Skills/Qualifications:
- PhD or equivalent (Recognised Researcher R2)
- Advanced Statistics Techniques
- Programming in R, MatLab or Python
- Mathematical Tools
- Teamwork
- Ability to teach and learn

Languages:
English: Excellent

Specific Requirements:
- Candidates must fulfilled eligibility MSCA criteria described in the Guide for Applicants

Working conditions:
- Full time temporary contract
- Gross salary of about € 50,000
- Duration: ranging from 12 to 36 months depending on the typology of the fellow
- Starting date: flexible from beginning of May 2021

Support for candidates

The Institute of Neurosciences and the International Research Projects Office at the University of Barcelona could offer you:
- A travel grant to work on your proposal with your future supervisor
- Course on "How to work a successful MSCA IF"
- Personalized support on the application
- Support on other national calls such as Beatriu de Pinós and Junior Leader
- Personalized mentoring

How to apply

Please submit your CV to Joan Guàrdia (jguardia@ub.edu); Reference: MSCA IF Candidate

Deadline: 31/05/2020