

PhD student Fellowship (m/f)

The IBMC/i3S has an open position for a **Ph.D. student Fellowship**, within the scope of the project NCBio: Unlocking Excellence in Research and Innovation in Neurobiology and Neurological Disorders at IBMC/i3S, funded by the European Commission under the topic WIDESPREAD-06-2020 - ERA Chairs.

Scientific Area: Neurosciences (cell biology of synaptic transmission).

Internal Reference: Fellow_BD/ NCBio /IBMC/2003/2023.

Title: “NCBio: Unlocking Excellence in Research and Innovation in Neurobiology and Neurological Disorders At IBMC/i3S”.

Work Plan:

Astrocytes are a major cell type in the brain. Work by our group (and others) has shown that astrocytes are essential for the formation of synapses (points of contact between neurons) in the brain. It appears that astrocytes are specialized to build different types of synapses, including those between either excitatory or inhibitory neurons. Failure of proper synapse formation is thought to lead to impairments in information processing, which causes important neuropsychiatric diseases, such as schizophrenia and autism spectrum.

We are looking for a Ph.D. student to join the team and work on a project aimed at identifying astrocyte secreted factors that differentially modulate synapse assembly. We will use cultured astrocytes expressing a novel biotin ligase localized to the endoplasmic reticulum, enabling us to biotinylate secreted proteins, allowing isolation and subsequent identification using mass-spectrometry. Proteins of interest will then be recombinantly expressed in bacteria, purified and applied to cultured neurons to assess synaptogenic potential. The successful student will develop top-class skills in tissue culture, viral vector use, biochemical assays (including pull-downs and mass-spectrometry), protein expression and purification, and fluorescence microscopy. Work will be conducted at i3S, one of Portugal’s top science institutes, in the newly created ERA Chair group headed by Dr. Matthew Holt.

Requirements:

- Must have obtained a recent M.Sc. in neuroscience. Applicants with a M.Sc. in molecular biology, biochemistry or cell biology with a knowledge of synapse biology will also be considered.
- Must be eligible for admittance to an approved Doctoral School at the University of Porto (and be able to provide supporting documents).
- Must be within the top 10% of year group and committed to a career in top-class science: you are highly motivated and goal-directed.
- Hands-on lab experience (M.Sc. thesis, summer internships etc) is an advantage.
- Capable of working independently and as part of a team.
- Fluent in written and spoken English.

Applicable legislation and regulations: Statute of the Scientific Research Grant Holder, approved by Law no. 40/2004, of 18 August and republished by DL 123/2019, of 28 August; Regulations of Scientific Research Grants of the Foundation for Science and Technology (FCT).

Duration of the fellowship: the fellowship will have an initial duration of 12 months, renewable up to a maximum of 4 years, starting during 2023 and in accordance with the stipulations of the Scientific Research Fellowship Regulations of the Foundation for Science and Technology (FCT).

Work Place: Instituto de Biologia Molecular e Celular IBMC /Instituto de Investigação e Inovação em Saúde – i3S, Supervisor: Matthew Holt.

Monthly allowance: Monthly allowance is € 1.199,64 (net and tax free) based on the current salary scales of the Foundation for Science and Technology (FCT). Voluntary social insurance contributions and University fees are covered.

Selection Criteria:

- Significant academic achievements up to and including M.Sc. level (50%)
- Previous lab experience in the field of neuroscience (30%)
- Letter of motivation (20%)

The final grading system will be based on a scale of 0-100.

Jury Composition: President: Matthew Holt

Other Members: Olga Sin and Paulo Aguiar.

Results: The results of the evaluation (classification from 0 - 100) will be published on the IBMC website, and the successful candidate will be notified by e-mail. For students not currently enrolled at the University of Porto, the final contract is subject to provisional admittance to an approved Doctoral program. The deadline for submitting complaints is 10 working days following first publication of the results and must be submitted via email: rh@ibmc.up.pt

Application deadline and submission forms: The call is open from 20th March to 20th April 2023. Candidates should submit a CV (including the names and contact details of two academic referees), copy of their M.Sc. certificate and motivation letter. Applications must be submitted electronically at:

https://DOZER.i3s.up.pt/applicationmanagement/#/addapplications/Fellow_BDNCBIOIBMC20032023