



CALL FOR AWARDING GRANTS AND PROJECTS UNDER R & D INSTITUTIONS

Título: Post-doctoral fellowship (BPD)

One Post-doctoral Fellowship (BPD) is open at the **Fundação da Faculdade de Ciências da Universidade de Lisboa**, at the Gene Expression and Bioinformatics Unit - RNA Biology and Bioinformatics Group - of the Center for Biodiversity, Functional and Integrative Genomics (BioFIG) to work in the project "Regulation of mRNA metabolism by the U2AF and PTB splicing factors - novel mechanisms for the coordination of gene expression? ", ref *PTDC/BIA-BCM/118430/2010*, financed by national funds by FCT / MCTES (PIDDAC) under the program "Concurso de Projectos de Investigação Científica e Desenvolvimento Tecnológico em todos os Domínios Científicos — 2010", under the following conditions:

1. **Scientific Area:** Cell and Molecular Biology
2. **Requirements for admission:** PhD in Molecular/Cell Biology, Biochemistry or related areas, preferably with some experience in RNA Biology and/or Gene Expression studies. Excellent knowledge of English (oral and written). We are looking for a highly motivated, independent and creative researcher to develop this project. Preference will be given to candidates that enjoy team work and have experience in training graduate students.
3. **Work plan:** The fate of an mRNA is determined through sequence specific interactions with RNA binding proteins (RBPs) and microRNAs. We have previously demonstrated that U2AF⁶⁵ and PTB, two mammalian splicing factors that recognize pyrimidine tracts, associate with a discrete subset of cellular mRNAs [1]. The functional classification of these interaction profiles revealed underlying mRNA populations encoding proteins involved in common cellular functions, strongly suggesting that their expression is coordinated through overlapping post-transcriptional networks defined by U2AF⁶⁵ and PTB. The goal of this project is to unravel the biological significance of the U2AF⁶⁵ and PTB-mRNA interaction networks. As a first approach, we will explore the novel post-transcriptional functions we have identified for U2AF⁶⁵ by performing a detailed characterization of the interactions established by this protein with a selected panel of target mRNAs, determine the associated functional outcomes and dissect the underlying mechanisms and protein complexes involved. Next, we will try to understand how U2AF⁶⁵ and PTB act together on common mRNA targets, addressing their mode of interaction and uncovering the impact on gene expression. By concentrating our attention on a limited number of selected targets we expect to maintain the focus required to characterize the basic regulatory processes underlying larger regulatory networks. The work presented in this proposal will lead to the characterization of novel cellular functions for the essential splicing factor U2AF⁶⁵ and provide new perspectives into the function of mRNA-protein interaction networks in the post-transcriptional control of gene expression. [1] Gama-Carvalho M, Barbosa-Morais NL, Brodsky AS, Silver PA, Carmo-Fonseca M. (2006). Genome-wide identification of functionally distinct subsets of cellular mRNAs associated with two nucleocytoplasmic-shuttling mammalian splicing factors. *Genome Biol.* 7(11):R113.
4. **Legislation framework:** Portuguese Law Nr. 40/2004, from 18 August (Research Grant Holder Statute); Regulation of Advanced Training and Qualification of Human Resources 2012.
5. **Place of work:** The work will be developed at the Faculty of Sciences of Lisbon - Center for Biodiversity, Functional and Integrative Genomics (BioFIG), in the RNA Biology and Bioinformatics Group, under the scientific guidance of Professor Margarida Gama-Carvalho.
6. **Fellowship duration:** This position is initially open for 6 months and will begin on September 2012. The grant contract may be renewed for an additional 12 months, with a maximum total duration of 18 months.
7. **Monthly allowance:** The amount of the scholarship amounts to € 1495, according to table values of the scholarships awarded directly by the FCT, IP in the country (<http://alfa.fct.mctes.pt/apoios/bolsas/valores>). The Fellows will have a



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personal accident insurance and, if not covered by any social protection scheme can ensure the right to social security through adherence to voluntary social insurance scheme, pursuant to Decree-Law No 9 40/89 of February 1
The scholarships will be paid monthly by bank transfer

8. **Selection method:** Candidates will be assessed by the quality of their CV (75%) and possibly also an interview and seminar (25%) for the top candidates. CV evaluation will focus on academic background, publications and communications, experience in techniques related to the project and personal references. Interview will evaluate scientific knowledge, motivation and working skills.
9. **Selection Committee:** Presidente do júri: Prof. Doutora Margarida Gama Carvalho. Vogais efectivos: Prof. Doutor Carlos Farinha; Doutor Luka Clarke. Vogais suplentes: Prof. Doutora Margarida Telhada; Doutora Anabela Ramalho.
10. **Publication/notification of results:** The final results of the evaluation will be made public through a numerically ordered list, which will be posted at the entrance hall of the **Fundação da Faculdade de Ciências da Universidade de Lisboa**, located at the Faculdade de Ciências da Universidade de Lisboa, C1 bldg – 3rd floor, Campo Grande, 1749-016 Lisboa. All candidates will be notified by email before September 1st.
11. **Deadlines:** This call for applications is open from July 4th to July 25th.
12. **Application:** Applications may be filed via e-mail to mhcarvalho@fc.ul.pt attaching the following documents: motivation letter and CV, including two personal references and copy of degree certificate.