

Post-doctoral Fellowship (M/F)

Title of the Project: Spatiotemporal control of epithelial architecture during cell division (PTDC/BEX-BCM/04432/2014, project funded by FCT)

Internal Reference: PR041501

Working place: Cell Division and Genomic Stability, I3S (Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Rua Alfredo Allen, 208, Porto) supervised by Dr. Eurico Morais de Sá

Summary of work program: The cohesive structure of the epithelium is achieved by polarized localization of cell-cell junctions, whose distribution is particularly significant when epithelial cells divide and must coordinate morphological changes with the attachment to the surrounding tissue. We and others have found that the midbody is positioned apically during epithelial cytokinesis, which is essential to propagate epithelial organization during proliferation. Polarized cytokinesis is dependent on adherens junctions (AJs), but how and whether these are physically linked to the contractile ring is unknown. Using *Drosophila* genetics, quantitative microscopy, and induced-polarity in cell lines, we aim to decipher the mechanical connection of AJs to the cytokinetic ring and its significance for the robustness of epithelial cytokinesis. Furthermore, we will establish induced-polarity in mammalian cells to address the molecular conservation of these processes. Since loss of epithelial architecture underlies many pathological conditions, this project will provide mechanistic insight to tackle pathways deregulated in human disease, and which are essential to form a cohesive barrier during epithelial proliferation.

Candidate profile: We are looking for a high motivated and independent fellow holding a PhD degree in Biochemistry, Biology or related area and having at least one paper as first author in peer-reviewed journals. Preference will be given to candidates with prior experience in confocal microscopy, *Drosophila* genetics and/or mammalian cell culture. Good-knowledge of spoken and written English is essential. Autonomy in the development of computer based analysis of microscopy data is also positively considered.

Application procedure: Applications should include a letter of motivation, *curriculum vitae*, at least one reference letter and a short description of research achievements. They must be submitted between **2nd May until 20th of May 2016** on the IBMC webpage: <http://www.ibmc.up.pt/gestaocandidaturas/index.php?codigo=PR041501>

Legislation and applicable laws: Employment at the IBMC is regulated by current laws relating to the Statute of Science Research Fellows of Fundação para a Ciência e Tecnologia, I.P. - 2015, namely Law 40/2004 of August 18, amended and republished by Decree-Law No. 202/2012 of 27 August and the Regulation of Scientific Research Studentships of the IBMC approved by Fundação para a Ciência e Tecnologia (www.ibmc.up.pt/fellowships.php)

Evaluation of applications:

The candidates with the required profile will be selected based on the written documentation (CV (35%), motivation letter (5%) and references (10%)). The most qualified candidates from the initial selections will be then subjected to a final selection step based on a personal interview (50% to sum up with the evaluation of the written documents).

Jury: President – Eurico Morais de Sá (PhD); Ordinary members – Claudio Sunkel (PhD) and Carlos Conde (PhD).

Results: the final results are announced at the IBMC web site, and the approved candidate contacted via e-mail.

Grant conditions:

The fellowship is expected to start in the 1st of June, 2016 and will be awarded initially for 6 months, being renewable for a maximum of 36 months. The monthly amount of the fellowship is € 1495.00 (<http://alfa.fct.mctes.pt/apoios/bolsas/valores>), preferentially paid by bank transfer. The selected candidates will benefit from an excellent research environment, and have access to state of the art facilities for advanced light microscopy.