

**IBMC - Instituto de Biologia Molecular e Celular**  
**Research Fellowship (f/m)**

**Internal Code:** Norte2020 HOST28

**Project:** NORTE-01-0145-FEDER-000008, “BIOENGINEERED THERAPIES FOR TISSUE REGENERATION AND INFECTIOUS DISEASES

**Title:** Harness the function of the Thymus during injury and regeneration.

**Host Institute:** Instituto de Investigação e Inovação em Saúde (I3s); Instituto de Biologia Molecular e Celular (IBMC), Porto, Portugal.

**Group and PI:** Thymus Development and Function, Nuno L. Alves

IBMC/i3s is opening one research fellowship to join its Research Program on “Host Interaction and Response”. The laboratory of “Thymus Development and Functions” is seeking for one highly motivate researcher to integrate our team. We study the **differentiation and function of Thymic Epithelial Cells (TEC)**, which provide chief microenvironments for T-cell development and tolerance induction within the thymus. Cortical (cTEC) and medullary (mTEC) subtypes define functionally distinct niches that derive from bipotent TEC progenitors. Yet, the genetic details that control cTEC/mTEC lineage specifications from TEC progenitors are unsettled. Our goal is to identify the nature of TEC progenitors and decipher the molecular principles involved in their self-renewal and cell-fate decision. We take an integrative approach to examine TEC differentiation, proceeding from high-throughput analyses at cellular level to *in vivo* mouse models. The host laboratory will support the selected candidate for future applications for National and International competitive funding.

**Selected Publications:**

**Alves NL**, Ribeiro AR (2016) Thymus medulla under construction: Time and space oddities. **Eur J Immunol.** 2016 Apr;46(4):829-33.

Ribeiro AR, Meireles C, Rodrigues PM, **Alves NL** (2014) The intermediate expression of CCRL1 reveals novel subpopulations of medullary thymic epithelial cells that emerge in the postnatal thymus. **Eur J Immunol.** 2014 Oct;44(10):2918-24.

**Alves NL**, Takahama Y, Ohigashi Y, Ribeiro A, Baik S, Anderson G, Jenkinson WE (2014) Serial progression of cortical and medullary thymic epithelial microenvironments. **Eur J Immunol.** 44:16-22.

Ribeiro AR, Rodrigues P, Meireles C, Di Santo JP, **Alves NL** (2013). Thymocyte selection regulates the homeostasis of IL-7-expressing thymic cortical epithelial cells *in vivo*. **J Immunol.** 191:1200-9.

**Alves NL**, Huntington ND, Mention JJ, Goff OR and Di Santo JP (2010) Cutting Edge: A thymocyte-thymic epithelial cell crosstalk dynamically regulates intrathymic IL-7 expression *in vivo*. **J Immunol.** 184: 5949-53.

**Legislation and Salary:**

A Research fellowship at *licenciatura/Bach* level (745€ per month) will be awarded. Fellowships are regulated by current laws relating to the Statute of Science Research Fellows, namely Law 40/2004 of August 18, amended and republished by Decree-Law No. 202/2012 of August 27 and the Regulation of Scientific Research Studentships of IBMC approved by Fundação para a Ciência e Tecnologia: <http://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2015.pdf>

**Starting date and Duration:** 1<sup>st</sup> of June 2018 (7 months)

**Qualifications:** Applicants must hold at least a Bachelor in Bioengineering, Biochemistry, or similar degree, and a strong background in T-cell biology and autonomy to lead a scientific project. Proved experience in flow cytometry will be valued.

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**Selection Committee:**

Nuno Alves, PhD

Pedro Mendes Rodrigues, PhD

Pedro Ferreira, PhD

**Selection criteria:** Only candidates that fulfill all the requirements will be considered. Top candidates will be ranked by evaluation of curricular achievements, relevance of previous laboratory experience to the proposed project, motivation letter and references. The jury may not award this grant, if the expected quality and requirements of the candidates are not met.

**Dates:** Applications must be received from 7<sup>th</sup> until 18<sup>th</sup> May 2018.

Applications and supporting documentation – **brief motivation letter, Degree certificate, CV and the names of two references** are mandatory - are only accepted *via* the online application system.

<http://www.ibmc.up.pt/gestaocandidaturas/index.php?codigo=Norte2020> HOST28

The ranking list of candidates will be published at IBMC website, and the selected candidate will be notified by email.

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