MARIE SKŁODOWSKA-CURIE POSTDOCTORAL FELLOWSHIPS 2025

EXPRESSION OF INTEREST FOR HOSTING MARIE CURIE FELLOWS

HOST INSTITUTION

NOVA Medical School, Universidade NOVA de Lisboa

RESEARCH GROUP AND URL

Cytoskeleton in Development and Disease, https://www.nms.unl.pt/en-us/research/research/research-groups/research-group/n/grupo-ana-marques

SUPERVISOR (NAME AND E-MAIL)

Ana Pimenta-Marques; ana.pmarques@nms.unl.pt

SHORT CV OF THE SUPERVISOR

ORCID: 0000-0001-6318-3922; Ciência Vitae: CC17-1A14-FE62 (Link)

EDUCATION AND PROFESSIONAL EXPERIENCE

2007-2011 **PhD in Development Biology**
Universidade Nova de Lisboa (NOVA) and hosted by Instituto Gulbenkian de Ciência (IGC), Portugal. ***Supervisor:*** Rui Gonçalo Martinho

2003 **Degree on Biochemistry**, Universidade de Évora (UE, Portugal).

PROFESSIONAL EXPERIENCE

2022-onwards **Principal Investigator (PI)** and leader of the Cytoskeleton in Development and Disease laboratory at NOVA-NMS, NOVA University of Lisbon, iNOVA4Health
(6 years contract funded on a competitive basis by the Portuguese Research Council, (FCT, CEEC-IND),

2018 – 2021 **Senior Post-Doctoral Researcher / PI of FCT-funded Project**
Cell Cycle Regulation laboratory / Instituto Gulbenkian de Ciência (IGC) / Portugal.
Supervisor: Mónica Bettencourt-Dias

2012 - 2018 **Post-Doctoral Fellow Researcher**,
Cell Cycle Regulation laboratory / Instituto Gulbenkian de Ciência (IGC) / Portugal.
Supervisor: Mónica Bettencourt-Dias

FELLOWSHIPS / GRANTS /PRIZES

2021-2027 **Assistant Researcher** contract (CEEC-IND), FCT, Portugal

2021 Prize for the **3rd best oral communication** at the Portuguese Drosophila meeting.

2022 Principal Investigator in a **Funded Research Project** (1,5 Years) – FCT – **50k.**

2019 Financial Aid Award **from the Marine Biological Laboratory** for participating as Faculty in the Physiology Course. University of Chicago, USA.

2018 – 2021 **Senior Post Doctoral** contract, FCT, Portugal

2017 Principal Investigator in a **Funded Research Project** (3 Years) – FCT – **200k.**

2016 **Medals of Honour L'Oréal for Women in Science**, L'Oréal, UNESCO and FCT, Portugal (4 Medals awarded out of 80 applications).

2012 – 2018 **Post-Doctoral fellowship**, FCT, Portugal

2007 -2011 **PhD individual fellowship** (SFRH/BD/28767/2006), FCT, Portugal

2009 **Travel grant, Federation of European Biochemical Societies** (FEBS) to attend the *FEBS Practical Course on Protein interaction modules.* Split, Croatia

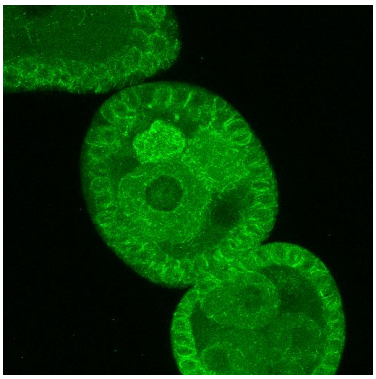
5 SELECTED PUBLICATIONS

(full list at CIENCIA VITAE)

1. Lince-Faria M., Ferreira-Silva A., **PIMENTA-MARQUES A.,** (2025). *The centriole stability assay: a method to investigate mechanisms involved in the maintenance of the centrosome structure in Drosophila cultured cells* ***Bio-protocols (in press).*** **Last and corresponding author.**
2. **PIMENTA-MARQUES A.,** Perestrelo T.,(....), Bettencourt-Dias M., (2024). *Ana1/Cep295 is an essential player in the centrosome maintenance program regulated by Polo kinase and the PCM*. ***EMBO Reports***. 25: 102-127. **First** and **corresponding author**. DOI: https://doi.org/10.1038/s44319-023-00020-6
3. **PIMENTA-MARQUES A.,** Bento I.,(....), Bettencourt-Dias M., (2016). *A mechanism for the elimination of the female gamete centrosome in Drosophila melanogaster.* ***Science.*** pii: aaf4866. **First** and **corresponding author**. DOI: https://doi.org/10.1126/science.aaf4866
4. Werner A., PIMENTA-MARQUES A., Bettencourt-Dias M., (2017). *Maintaining Centrosomes and Cilia*. ***Journal of Cell Science.*** (130):3789-3800. DOI: 10.1242/jcs.203505
5. Cunha-Ferreira I., Bento I., **PIMENTA-MARQUES A.,** (....), Bettencourt-Dias M., (2013). Regulation of autophosphorylation controls PLK4 Self-destruction and centriole number. ***Current Biology***. 23(22):2245-54. DOI: https://doi.org/10.1016/j.cub.2013.09.037

PROJECT TITLE AND SHORT DESCRIPTION

Uncovering Novel Regulatory Pathways of Microtubule Organization Underlying Female Fertility



The microtubule (MT) cytoskeleton is essential for cell function and survival, and its disruption is linked to diseases such as neurodegeneration, microcephaly, infertility, and cancer. MTs are organized by microtubule-organizing centers (MTOCs), with the centrosome being the most studied MTOC, especially in dividing cells. However, most cells in living organisms are differentiated and do not divide. In these cells, centrosomes are inactivated, and MTs are generated by non-centrosomal MTOCs (ncMTOCs). While the role of centrosomes in dividing cells is well understood, we know very little about how they are inactivated in post-mitotic cells and how ncMTOCs are assembled.

This project aims to uncover how microtubule cytoskeleton remodeling supports female fertility during development and differentiation. Using the Drosophila oocyte and follicular epithelium as in vivo models, we will investigate how centrosome attenuation and the assembly of non-centrosomal microtubule organizing centers (ncMTOCs) contribute to the specialized cytoskeletal architecture required for oocyte function and epithelial organization. Our research seeks to provide key mechanistic insights into the cellular transitions that underpin fertility, with broader relevance for tissue development, maintenance, and regeneration.

Understanding these processes is not only fundamental to basic biology but also highly relevant to human health. Aberrant centrosome activity has been linked **to** tumor formation and invasive behavior in cancer**,** while disruption of ncMTOC function is associated with loss of epithelial polarity**,** a hallmark of early cancer progression. Gaining mechanistic insight into how cells regulate these structures may therefore uncover new angles for therapeutic intervention in cancer and other diseases involving tissue dysfunction.

We are seeking for motivated postdoctoral researchers to apply for a **Marie Skłodowska-Curie Postdoctoral Fellowship** and join our team in investigating these fundamental processes. Candidates with a background in **cell biology, developmental biology, cytoskeletal dynamics**, or **advanced microscopy** are especially encouraged to get in touch.

SCIENTIFIC AREA WHERE THE PROJECT FITS BEST*

Life Sciences (LIF)