

Biosketch

Dr. Miguel Bernabé Rubio is currently a Research Fellow in Prof. Fiona Watt's lab at King's College London. Miguel obtained his PhD in 2017 at the Centre for Molecular Biology "Severo Ochoa". There, he worked on the mechanisms underlying primary cilium formation in epithelial cells. His studies uncovered a novel model for cilium biogenesis, where the midbody remnant supplies the centrosome with specialised membranes for ciliary membrane assembly (Bernabé-Rubio et al., 2016, *J Cell Biol*, Bernabé-Rubio and Alonso, 2017, *Cell Mol Life Sci*).

In 2018, Miguel was awarded an EMBO Long-Term Fellowship to investigate the mechanisms underlying stem cell plasticity, with a focus on dedifferentiation. Miguel found that wound-induced dedifferentiation is dependent on c-Myc and involves mechanotransduction. (Bernabé-Rubio et al., 2023, *Nat Cell Biol*). In parallel, Miguel has developed a project on oral squamous cell carcinoma, exploring how the tumour immune microenvironment influences cancer progression (Bernabé-Rubio and Watt, 2024, *PNAS*).

Miguel is in transition to establishing independence and his future research will focus on expanding our knowledge of cancer cell plasticity, which is responsible for therapy evasion. To address this, he will explore the hypothesis that tumours hijack stem cell repair programs. Miguel will examine how dedifferentiation contributes to cancer initiation and heterogeneity, using genetic and epigenetic single-cell analysis techniques alongside genetic models to identify key cell state transitions and microenvironmental factors that sustain these plastic states.