



PHD STUDENT POSITION IN NEURODEVELOPMENTAL BIOLOGY AT THE DEPARTMENT OF MEDICINE AND LIFE SCIENCES UNIVERSITAT POMPEU FABRA (BARCELONA, SPAIN)

Our main aim is to **understand how neuronal diversity is generated during embryonic development** and to provide a holistic view of how cell fate decisions are taken in the brain. During brain development, progenitor cells balance proliferation and differentiation to generate an enormous diversity of neurons in the correct numbers and proportions. In the past years, we have explored how cell behaviors, mechanical forces and cell specification events participate in brain development and morphogenesis [Calzolari et al, EMBO J 2014; Letelier et al, PNAS 2018; Voltes et al, Development 2019; Bezunce et al, PLoS1 2020; Hevia et al, Cell Reports 2022; Blanc et al, eLife 2022; Espinosa-Medina et al, Neuron 2022]. Now, we are addressing how spatiotemporally coordinated cell progenitor specification and differentiation occur alongside morphogenesis, aiming to gain biological insights into **i) how tissue growth is intertwined with cell proliferation and differentiation, ii) how the heterogeneity of neural progenitors is generated, and iii) how distinct progenitor pools contribute to the final circuits**. We will focus on the embryonic brainstem, the hindbrain, using zebrafish embryos and combining cutting-edge complementary approaches such as: CRISPR-Cas9 genome editing, high-resolution 4D-imaging paired with cell tracking tools for cell lineage reconstruction, and transcriptional profiling. To know more see <https://pujadeslab.upf.edu/>.

The PhD candidate will be involved in **deciphering the contribution of distinct progenitor pools to specific functional neuronal circuits during hindbrain morphogenesis**. For this, he/she will combine intersectional genetic fate mapping, *in vivo* imaging and transcriptomic approaches.

CANDIDATE REQUIREMENTS:

We are seeking for highly motivated and enthusiastic candidates with Graduate studies related to Biomedicine. They will integrate the International PhD Program in Biomedicine of the Department of Medicine and Life Sciences (UPF, <https://www.upf.edu/web/phd-biomedicine>), which has been awarded with the Quality Mention by the National Agency for Quality and Assessment. Candidates are required to be proficiency in English.

They will benefit from working in a dynamic group, at a university department that received the Maria de Maetzu Award for its scientific excellence (<https://www.upf.edu/web/biomed/>). We are located within the PRBB in Barcelona, a vibrant research park harboring several research institutions and cutting-edge core facilities.

Interested candidates are encouraged to contact Cristina Pujades. To apply, send a letter of interest, CV, and contact details of 2 referees to cristina.pujades@upf.edu

