



PhD position on the robustness of cell fate specification programs at the Developmental Biology Institute in Marseille

A PhD position is available starting in September/October 2022 at the Developmental Biology Institute of Marseille (IBDM), France, in the group of Vincent Bertrand. The position is funded for 3 years.

A large diversity of cell types is generated during embryonic development. This process has to be very robust to both internal variability and external perturbations for the correct number of cell types to be produced. Cell fate specification heavily relies on transcriptional regulation and for development to occur correctly, the expression of genes has to be tightly controlled both temporally and spatially, a process called transcriptional precision. However, the molecular interactions at the basis of transcription are intrinsically noisy, raising the question of how transcriptional precision can be achieved. The aim of this PhD project is to analyze how specific genomic features affect gene expression variability and precision during embryonic development. This question will be addressed using *C. elegans*, an excellent system to analyze the robustness of embryonic development. The project will combine CRISPR genome engineering, quantitative *in vivo* imaging of transcription, single-molecule FISH and single-cell RNA-seq data analysis.

We are seeking a highly motivated candidate with a Master in molecular biology, genetics, cell biology or developmental biology. The working language in the laboratory is English.

The IBDM is an internationally renowned research center in developmental biology, located on the Marseille Luminy Campus in the heart of the Calanques National Park. It is part of the Turing Centre for Living Systems, which promotes the interdisciplinary study of biological systems. More information about the laboratory can be found here : <http://www.ibdm.univ-mrs.fr>

A letter of motivation, a CV and contacts of two references should be sent to Vincent Bertrand (vincent.bertrand@univ-amu.fr).

