

# Position Offered: POSTDOCTORAL RESEARCHER

Project: *Application and Development of Imaging Tools for the 4D analysis of biological processes -from nanoscopy to mesoscopy*

**Technological and scientific fields:** Artificial Intelligence; Image Analysis and Computer Vision; Developmental Biology; Quantitative biology; Live Imaging; Topological Data Analysis; Single-cell omics; In situ detection of gene expression.

**Location:** Seville (Andalusia), CABD (Andalusian Centre for Developmental Biology): <https://www.cabd.es/en/>

**Research Group/PI:** Developmental Control group; PI: Fernando Casares: [https://www.cabd.es/en/research\\_groups/developmental-control/summary-24.html](https://www.cabd.es/en/research_groups/developmental-control/summary-24.html)

## PROJECT SUMMARY

The successful candidate will develop AI tools for the analysis of developmental trajectories (normal and perturbed) and combine them with the spatial embedding of cell states (described by single-cell omics) to not only predict normal and aberrant developmental trajectories, but also to explain the causes of embryonic developmental variability as a combination of cellular interactions in space and time. The successful candidate will be expected to make a significant contribution to the design of the project.

In addition, the successful candidate will be involved in the activities of ALMIA, the Advanced Light Microscopy and Image Analysis Platform of CABD, to provide technical and scientific advice to CABD researchers.

## PROFESSIONAL PROFILE

### Minimum requirements:

The candidate is expected to have a Ph.D. with expertise in image analysis, preferably biological, using artificial intelligence, and an excellent track record. Fluency in English is required.

### Merits to be considered:

Experience in live imaging, quantitative and computational biology, or single cell omics is a plus.

## WHAT IS OFFERED

A four-year postdoctoral contract starting before 31.12.2024 at the CABD, Seville. The salary will be between 41.000 € - 52.000 € per year (gross) depending on the qualifications of the candidate.

The CABD is perhaps the only research institution in Spain dedicated to developmental biology sensu lato. With a structure based on strong shared technological platforms, the CABD stands out for three aspects: advanced imaging, functional genomics (including a large fish facility) and the diversity of model systems that the CABD hosts. Within the institute, the postdoc will have the opportunity to interact with a wide range of colleagues to define his/her research project, including the model system - although zebrafish may be the starting model.

Mentoring will be provided by Prof. Fernando Casares, senior CABD PI and scientific director of ALMIA, and Prof. María José Jiménez, from the Department of Applied Mathematics (I) of the University of Seville and an expert in topological data analysis.

The contract includes an additional allowance for training and meeting expenses.

### Contract conditions:

Indefinite contract for a Postdoctoral Researcher associated to the Momentum Project of 4 years' duration according to Spanish science law. Gross annual salary (41.000 € - 52.000 €).

**Start of contract: before 31 December 2024**

## PRINCIPAL INVESTIGATOR CONTACT

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