



## Centre de Desenvolupament de Sensors, Instrumentació i Sistemes UNIVERSITAT POLITÈCNICA DE CATALUNYA

[The Center for Sensors, Instruments and Systems Development \(CD6\)](#) is a research and innovation center of the [Universitat Politècnica de Catalunya \(UPC\)](#) that operates in the field of Optical and Photonics Engineering.

CD6 is currently offering a pre-doctoral position, to work and develop a PhD thesis within the framework of a project focused on the development of novel technologies for vision science.

### Position description:

- Full-time pre-doctoral contract.
- Duration: 4 years.
- Estimated start date: 01/01/2025.
- Annual salary:
  - 1st year: 19.479,04€
  - 2-4rd year: 24.348,80€
- Supervisors: [Mikel Aldaba](#) and [Jaume Pujol](#).

### Requirements:

- MSc in Photonics, Optometry, Physics, Engineering or related disciplines.
- Fluent spoken and written English.
- Also valued:
  - Programming skills in Matlab, Python,...
  - Communication skills.

### Project description:

Biophotonics is an interdisciplinary field that combines principles from biology, physics, and engineering using technologies based on light. This is a key field in the advancement of medical diagnostics and therapy, and in particular, it has a strong implementation in the field of vision. However, the implementation of photonic tools is not equal among specialities, and there is a lack of progress in some areas that could benefit from new developments in biophotonics.

The general objective of the InBioVis project is to develop photonic tools for the early diagnosis and treatment of visual anomalies in paediatric population, cognitive impairment diagnosis and ocular refraction. More specifically, the current position will carry out research in photonics-based technologies and machine learning algorithms to develop a head-mounted accommodation monitoring and refraction system, based on eye tracking technology and aberrometry.

### Contact:

Send CV and motivation letter to Mikel Aldaba: [mikel.aldaba@upc.edu](mailto:mikel.aldaba@upc.edu)

### Call information and application form:

<https://rdi.upc.edu/ca/financament/carrera-investigadora/r1/ajuts-formacio-de-doctors-2024/ajuts-formacio-de-doctors-2024>

Deadline for the reception of candidatures: 27/10/2024