# Position Offered: PREDOCTORAL RESEARCHER

# Project: Machine Learning and Artificial Intelligence for the Optimisation of Nanomedicines (MELINA)

**Technological and scientific fields:** Artificial Intelligence, Nanotechnology, Design of New Drugs

Location: Barcelona, Catalonia, Institut de Química Avançada de Catalunya - <u>https://www.iqac.csic.es/</u>

Research Group/PI: Nanomedicines for Therapeutic Applications (NM4T) / Ibane Abasolo

# PROJECT SUMMARY

Artificial intelligence (AI) tools, and more specifically machine learning (ML), have accelerated the discovery of new chemicals and materials with unprecedented efficiency, resilience and precision. In recent years, these strategies have begun to be implemented timidly in the field of nanotechnology where multiple factors, from the synthetic process to the size or functionalization of the nanoparticle, have a relevant impact on the effectiveness of the final product. In the MELINA project, we seek to develop -and exploit- the full potential of ML tools towards the experimental design of new nanomedicines.

# **PROFESSIONAL PROFILE**

#### Minimum requirements:

- Degree in the field of bioscience (Nanotechonology, Biology, Biotechnology, Pharmacy, etc.).
- Master in biomedicine-related topics, in disposition to being admitted to a Doctorate program during the 2024-25 academic course.
- Proficiency in Spanish and English.
- Scientific Publications related to the application of Machine Learning tools.

#### Merits to be considered:

- Proven experience (>6 months) in cell culture, cell viability assays, flow cytometry and microscopy.
- Knowledge in the synthesis and biological evaluation of nanoparticles.
- Experience in Python programing.

# WHAT IS OFFERED

We offer the participation in a multidisciplinary scientific project combining state-of-the-art technologies in the fields of artificial intelligence and nanomedicine, under the co-supervision of Dr. Sergi Vela (Theoretical and Computational Chemistry, IQAC). The project is associated with a comprehensive training plan (271 ECTS) in experimental methodologies and computational tools, which also includes short stays in renowned institutions abroad.

#### Contract conditions:

Predoctoral Researcher contract of 4 years' duration. Gross annual salary of 23,871.33 €.

# Start of contract: before 31 December 2024

# PRINCIPAL INVESTIGATOR CONTACT

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