The mission of the Catalan Institute of Nanoscience and Nanotechnology (ICN2) is to achieve the highest level of scientific and technological excellence in Nanoscience and Nanotechnology. Its research lines focus on the newly-discovered physical and chemical properties that arise from the behaviour of matter at the nanoscale. ICN2 has been awarded with the Severo Ochoa Center of Excellence distinction for three consecutive periods (2014-2018 and 2018-2022 and 2023-2026). ICN2 comprises 19 Research Groups, 7 Technical Development and Support Units and Facilities, and 2 Research Platforms, covering different areas of nanoscience and nanotechnology.

**Job Title: PhD Student**

**Research area or group:** Theoretical and Computational Nanoscience Group

**Description of Group/Project**:

The PhD student will be in charge of developong Hamiltonian models using artificial intelligence methods in the context of the ERC Starting Grant AI4SPIN.

**Main Tasks and responsibilities:**

Deploy simulation workflows in using tools such as AiiDa and ASE.
Develop machine learning strategy to infer the multilayer properties from its contituents.
Develop and implement artificial-intelligence-based electronic models of Hamiltonians.

**Requirements:**

- **Education:** Master in physics or electrical/ mechanical engineering
- **Knowledge:** Quantum mechanics,DFT simualtions, programing machine learning tehcniques
- **Professional Experience:** Programing in PYTHON/C languages
- **Personal Competences:** Demonstrated competitive ability in using DFT simulations, and machine learning techniques (optional)

**Summary of conditions:**

- Full time work (37,5h/week)
- Contract Length: Temporary
- Location: Bellaterra (Barcelona)
- Salary will depend on qualifications and demonstrated experience.
- Support to the relocation issues.
- Life Insurance.

Estimated Incorporation date: October 2024

**How to apply:**

All applications must be made via the ICN2 website and include the following:

1. A cover letter.
2. A full CV including contact details.
3. 2 Reference letters or referee contacts.

Deadline for applications: 8th August 2024

**Equal opportunities:**

ICN2 is an equal opportunity employer committed to diversity and inclusion of people with disabilities.

ICN2 is following the procedure for contract of people with disabilities according with article 59 of the Royal Decree 1/2015, of 30 of October.