

## Descripción:

The Experimental Neutrino Physics Group at the Instituto de Física Corpuscular (IFIC) [1] invites applications for a PhD student position. The successful candidate will join the NEXT collaboration [2], in which our group is strongly involved.

The NEXT program is focused on the development of high-pressure xenon gas time projection chambers (HPXe TPC) with electroluminescent amplification for neutrinoless double beta decay searches. Our group participates in the construction and commissioning of a 100 kg detector (NEXT-100) at the Laboratorio Subterráneo de Canfranc, in northern Spain, as well as in the research and development of novel photon collectors for a future tonne-scale phase of the experiment.

The PhD thesis project will include detector-related tasks and physics analysis of the NEXT-100 data. In addition, the selected PhD student will be involved in the on-going R&D effort *NEXT-BOLD*, a proposal to instrument a barium-tagging detector in a HPXe TPC, recently funded with a Synergy-Grant/ERC.

Applicants are requested to send their application, including a motivation letter, CV, academic transcripts and the contact information of at least two referees willing to write a reference letter, to Dr Justo Martín-Albo ([justo.martin-albo@ific.uv.es](mailto:justo.martin-albo@ific.uv.es)) and to Dr Neus López March ([neus.lopez@ific.uv.es](mailto:neus.lopez@ific.uv.es)) by 30 Nov 2021.

[1] <http://ific.uv.es>

[2] <https://next.ific.uv.es/next>

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## Titulación:

Master's degree

## Experiencia :

The ideal candidate has a strong motivation for fundamental research, and has received education in Particle Physics. Experience in programming, data analysis and particle detectors are not required, but will be valued positively.

## Funciones:

The selected PhD student will get involved with the current research activities of our group, including data analysis and detector development for future NEXT detectors. In particular, the student will learn state-of-the-art data analysis techniques, including machine learning and advanced statistical analysis. The dissemination of results in oral presentations at international conferences is also expected.

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