

POSTDOCTORAL POSITION IN EXPERIMENTAL NEUTRINO PHYSICS

The **Experimental Neutrino Physics Group** at the **Instituto de Física Corpuscular (IFIC)** welcomes applications for an open position as postdoctoral researcher to work on the **Deep Underground Neutrino Experiment (DUNE)**.

IFIC is a joint centre of **CSIC** (the Spanish National Research Council) and the **Universitat de València** devoted to experimental and theoretical research in particle physics. Our group participates in two experiments —DUNE and NEXT— that study the properties of neutrinos, the most abundant matter particles in the universe, but the least understood.

DUNE is a next-generation, long-baseline neutrino oscillation experiment under construction in the USA. Once built, DUNE will consist of two new neutrino detectors exposed to a high-intensity, broadband muon-neutrino beam that will be generated at Fermi National Accelerator Laboratory (Fermilab), in Illinois, USA. The so-called near detector, located approximately 0.6 km downstream of the neutrino source, will characterize the energy and composition of the beam before oscillations. Neutrinos will oscillate in their journey of 1300 km from Fermilab to the far detector, a modular liquid argon time-projection chamber (LArTPC) with an active mass of nearly 70000 tons, that will be built at a depth of 1.5 km at the Sanford Underground Research Facility (SURF) in South Dakota, USA.

Our group is currently involved in the development of the temperature monitoring and photon detection systems of the DUNE far detector, with activities both in our laboratory and in the large-scale prototype at CERN (ProtoDUNE). Also, the group has a leading role in the search for physics beyond the Standard Model in DUNE; in particular, searches for dark sectors in the MeV–GeV mass range, which can explain the origin of neutrino masses or explain experimental anomalies such as the anomalous muon magnetic moment.

Applicants are expected to have a PhD in physics as well as previous experience in instrumentation in particle physics and in data analysis and simulation. The post will require international travel and to attend (online) meetings outside usual working hours. The dissemination of results in oral presentations at meetings and conferences is also expected. The position, funded by a national grant, has a duration of 2 years. Interested candidates are requested to send their application, including a presentation letter, CV and the contact information of two people who could provide letters of reference to Dr Anselmo Cervera (anselmo.cervera@ific.uv.es) and Dr Justo Martín-Albo (justo.martin-albo@ific.uv.es). Review of applications will start as soon as the first applications are received and continue until the position is filled.