

PhD position in experimental particle physics with the ATLAS experiment

IFIC–Valencia (<http://ific.uv.es>) is a leading research institute in experimental particle physics and current holder of the “Severo Ochoa” distinction of Excellence in Research, with strong involvement in the ATLAS experiment at the CERN Large Hadron Collider (LHC). The institute plays a major role in detector development, data taking, and physics analysis at the forefront of fundamental science.

The PhD student will join a dynamic research group working on Higgs boson physics, top-quark physics, and searches for new phenomena beyond the Standard Model. The group also has a strong commitment to the operation and performance of the ATLAS detector, including the hadronic calorimeter and inner tracker, providing the student with hands-on experience in both detector physics and data analysis.

The research topics of the group include precise measurements of Higgs boson couplings (to taus and muons), Higgs boson pair production, and searches for lepton-flavour-violating Higgs decays and additional scalar particles.

In top-quark physics, the work focuses on precision measurements and interpretations within Effective Field Theory, offering a powerful framework to probe new physics beyond the direct reach of the LHC.

The project also explores searches for long-lived particles and heavy neutral leptons, key targets of current and future collider experiments.

The PhD grant has a duration of four years. The selected candidate will become a full member of the ATLAS Collaboration, working with the datasets from LHC Run 3 and contributing to internationally visible research. The PhD training will include advanced data analysis, detector performance studies, Monte Carlo simulations, and the application of machine learning and artificial intelligence techniques. The student will also participate in software development, detector activities, and international conferences, with opportunities for research stays at CERN and close interaction with an international scientific community.

Interested candidates are requested to send their application (including a motivation letter, CV, academic transcripts, and the contact information of two persons who could provide letters of reference) to:

Dr. Salva Martí García (Salvador.Marti@cern.ch) and

Prof. Luca Fiorini (Luca.Fiorini@cern.ch)

Applications received by 20th of January 2026 will receive full consideration.