



PhD openings in Quantum Physics

University of Valencia (Spain)

We are announcing two PhD positions within the project “Quantum optics meets quantum technologies: Novel directions for complex-state preparation and quantum simulators” led by [Prof. Carlos Navarrete-Benlloch](#) (funded by the Generalitat Valenciana through its GenT program). The project aims at finding novel phenomena connecting quantum optical platforms and exotic many-body phases. It will be developed within the [Quantum Optics, Nonlinear Optics, and Laser Physics Group](#) at the University of Valencia in Spain ([Burjassot campus](#)), in close collaboration with [Prof. Germán de Valcárcel](#) and [Prof. Eugenio Roldán](#).

Contact. If you are interested in joining us, please, contact Carlos at carlos.navarrete@uv.es introducing yourself and you will receive further instructions. More info about the research lines and related articles can be found at www.carlosnb.com/physics.

Timeline. First round of evaluations in February 2024. Accepting applications until positions are filled. Positions funded until 2028.

Conditions. Yearly salary of 22192€ (about 1300€ per month after tax) the first 3 years and 27500€ the last one. You will have a starting fund for computers and continued support for trips to conferences and scientific collaborations abroad. The latter is expected to be an integral part of your PhD training and you can expect regular visits to our various collaborators in Germany, China, Spain, Australia, Poland, Sweden, etc.

Requirements. Only candidates with a Master degree (or about to obtain it in 2024) can be considered.

What you can expect from us. You will be joining a group with lots of experience in training students. Carlos, in particular, loves mentoring and teaching as much as doing research; he has supervised 4 PhD students, apart from many more master and bachelor students.

With us you will be able to learn about the theoretical description of a wide range of experimental quantum optical platforms such as optical cavities, superconducting circuits, and cold atoms. You will be trained in the theory of open quantum systems and how to approach them both through analytical and numerical techniques, with which you will be able to identify interesting novel phenomena of use for quantum technologies and fundamental physics.

We are far from workaholics and encourage students to keep a good balance between their life inside and outside of academia.

What we expect from you. We look for candidates with a strong passion for quantum mechanics and good training on it at the undergrad level. Basic training in quantum optics or many-body physics will be a plus, as will be being familiar with computational tools such as Mathematica, MatLab, or Python. We expect students to be communicative, willing to perform team work, and open to creating personal bonds with their colleagues.

What you can expect from the city. [Valencia](#) is the third city in Spain by size. Its metropolitan area hosts more than a million inhabitants, 15% of which are foreigners, so you can expect a vibrant international scene. With an extension of about 200km², connection between all parts of the city is easy and quick. Being way less expensive than most European cities, directly connected to the Mediterranean sea, and having a very active cultural scene, Valencia is always high up in the “quality of life” rankings.