

Motivation Letter

Who am I?

My name is Javier Rozalén Sarmiento, I am twenty-one years old and I am currently studying a Physics degree in Universitat de Barcelona, in the same city where I live. As I state in my CV, I am very passionate about learning; I possess an inherent curiosity for natural phenomena, and the Physics degree has undoubtedly gone a long way towards satisfying this curiosity of mine. My hope is that, someday, I can dedicate myself fully to scientific research and advancement.

Why a Master's degree?

There are two main reasons for this. The first one is simple and sincere: to gain more knowledge in Physics. The second one is that I wish to pursue a future that will involve me working as a scientist, and I believe that taking a Master is the best way to achieve this.

Why *this* Master's degree?

Amongst the numerous fields of Physics that catch my eye, *Quantum Mechanics* and its use for studying different systems is continuously surprising me. I have already had a first contact with some of its cutting-edge applications that have to do with computation; in fact, I am currently using *Machine Learning* techniques to solve a quantum mechanics problem in my FDP (Final Degree Project). I expect the Master's program to further instruct me in this field, but also in *Quantum Computing*, which I find extremely interesting.

Nevertheless, not only does this Master's degree fulfil my academic interests, but I believe that it can also serve as a solid ground from which to pursue a scientific career, whether it is by doing a PhD or by joining a company that develops quantum technologies. In relation to the latter, I must say that the idea of joining *the second quantum revolution* is a strong factor in my decision to take this Master's degree. Furthermore, the fact that some companies with this profile are connected to the Master's program is important to me as well, as this shows me the kind of tasks that I am expected to perform with the formation acquired. I regard this, and also the fellowships available, as an opportunity to start my scientific career.

I do not have any research experience yet; nonetheless, if I ever do, I believe that it will be a program like this one that will provide me with what is necessary to achieve this.