Dear Sir or Madam,

First of all, I would like to thank you for allowing me to take a little of your time to make a letter-shaped portrait of myself and explain why I want to be a future MSc. Quantum Science and Technology (QST) student.

Many physics students had their first contact with science at an early age. Thanks to a book, a documentary, or even a TV show. I am no different, as it is on human nature and, more precisely, in a potential scientist to be amazed by the world surrounding us. In my case, this eagerness first appeared when I saw a documentary about the mortal fate of our Sun. It impressed me a lot and surprised me even more that no one spoke of it. This shock made me investigate and read about the stars, so I discovered physics. As I grew up, this passion for natural sciences began to take a more practical direction.

When I decided to study physics, it came naturally to me to study mathematics as well. It is a way to make this knowledge more tangible. For this, I took the Scientific Bachillerato and studied the Bachelor's Degree in Physics + Bachelor's Degree in Mathematics at the Autonomous University of Barcelona (UAB).

During my undergraduate phase, I found myself very appreciative of the degree of mathematics, and for a while, I began to consider focusing on this field. However, in my third year, I took quantum physics courses. It was when Alice and Bob drew my attention. I took Quantum Mechanics and Quantum Information and Nanophysics as elective courses to explore this subject both theoretically and experimentally. In my last year of university, it was clear enough to me that I wanted to know more about quantum information and quantum computing. I picked a theme for the physics thesis based on this. It consists of Bell's non-locality in many-body systems using Tensor Networks.

As mentioned earlier, mathematics is fundamental to my academic training. I believe it provides me with tools for a deeper understanding of the puzzling features of quantum theory such as indeterminacy, entanglement, and non-locality.

Outside of my curriculum training, I was allowed to participate in the Erasmus + project Diversity in Physical Cultures. This program focuses on supporting young women who complete their undergraduate studies in physics so that, through knowledge related to professional culture and derived from gender research, they have the necessary tools to develop in their career together with an intergenerational and international network. This project gave me the power to embrace my intersectionality, as a woman and an immigrant, and to focus on my perspective of science.

I am convinced of the socio-cultural impediments of science and how sometimes those can be challenging to overcome. At a first glance, it may seem that no extra obstacles can be found in a student pursuing a STEM career like me. However, the glass ceiling can become a concrete roof. Academia can overlook your socioeconomic situation. I am

not afraid of acknowledging my humble roots even if sometimes this may have caused me more difficulties to study. I would like to help to make science accessible to everyone or be an example for girls and immigrant children that do not see someone like them in these positions.

After graduating this year, I decided to explore my career prospects. I also considered Covid's situation, so I started working as a data analyst in a renewable energy company. This enables me to improve my coding skills (and how to apply them) as I use Python on my daily basis. Other skills I'm improving are problem-solving, writing, and communication which are also essential for a scientist. Now that I have had the opportunity to evaluate the academic path and the professional, I believe that scientific research is what suits me best.

I reckon the QST master is one of a kind. First, it strengthens interdisciplinarity as physics, mathematics, chemistry, engineering, and data science are complementary branches. It will enable me approaching research from several points of view and acquire knowledge from all these branches. Also, having the opportunity to work on my master's thesis at pioneer centers as ICFO, IFAE, BSC; it will allow me to experience research with the guide of expert researchers.

I would like to focus on the theoretical area of QST since for now, quantum information theory attracts me very much. I am ready and motivated to learn what the masters can offer me.

Quantum computers are to classical ones what a light bulb is to a candle. I believe that quantum science and technology will play an essential role in the future and in the paradigm shift we are facing. I want to be a part of this (second) quantum revolution and studying the QST master is the right step in this direction.