



GETTING TO KNOW TEQ'S MEMBERS

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Profession: PhD student

Age: 28

How did you choose your field of studies?

My choice of studying Physics does not come from an undoubted dragging passion, it rather arises from a very long and suffered decision process, during which I was contemplating all the possible courses I could have enrolled at the University. I was torn apart by the widespread romantic idea of trying to explain physical phenomena and to put them in order through the formulation of theories, and at the same time I could not think of giving up the humanistic side of knowledge. I like to tell myself that the final decision came after a deep research and an informative comparison of universities programs that led to a wise ponderation; but the reality is simpler than that: I just liked it, and when it was the time to choose I just did it.

Can you briefly introduce yourself and your work?

My name is Marta Maria Marchese, and I am a PhD student in the Quantum Technology Group at Queen's, in Belfast. Before moving to UK, I was living in Italy and I got my bachelor's degree in Palermo, then a Master in Theoretical Physics, in Trieste. The leitmotif of my work has been an interest in the foundations of quantum physics, with a focus on theories that go beyond quantum mechanics, such as collapse models. The general aim of my current research project is to explore, test and characterize those models. This involves using a variety of tools and methodologies ranging from the description of open systems to hypothesis testing protocols with applications to optomechanical cavities.

What do you mostly like about your research? What are the challenges?



The side I love the most in the research is the interaction and the exchange of ideas between people from both my research group and all over the world. I also really appreciate the freedom you have in organizing and planning your work, following your personal interests. At the same time this is for me one of the hardest challenges to face, that in my opinion makes the research different from other equally demanding jobs: you have to constantly motivate yourself, especially when you do not get the expected results and it seems like you failed and wasted a lot of time; or you might go through less creative periods and it could be frustrating feeling like you do not have a direction. There are of course other challenges, related to the practical difficulties of staying in

academy, like for example the search for grants and the flexibility you must have to move places quite often. However, I think that all the challenges are manageable with a little of effort and overall, they give an extra spark of excitement to the job.

What advice would you tell students who want to become scientists in the future?

From my point of view I would say that the best advice is to take initiative and have determination, so keep trying and never give up, even when you might feel disheartened. Experience the most and get all the opportunities you might encounter.