

# Jessica Santiago

2019 • PHD - Doctor of Philosophy, Mathematics

Having always loved learning about stars, galaxies and the universe, Jessica began a degree in physics with the intention of studying astronomy.



Along the way, she found she enjoyed mathematical physics and decided to do a Master's in general relativity and quantum field theory, which led her to a PhD at Te Herenga Waka—Victoria University of Wellington.

“It's been very exciting learning about black holes and their thermodynamic behaviour. I see my research interests as diverse yet connected with an underlying theme—to understand how the presence of gravity affects the statistical and thermodynamical behaviour of matter.

“Gravity fascinates me since it has a very different nature from the other forces. It is the physical representation of the fact that space and time are not absolute and separated, but interactive and affected by the presence of matter. It manifests itself as a long range and attractive force, which changes the standard statistical methods applied to matter interacting gravitationally. Its interactions with quantum fields also creates fascinating outcomes, like the Hawking and Unruh effects.”

Jessica says her supervisor is very passionate about physics, supportive and always happy to talk.

“If you're thinking about pursuing a PhD then study a subject that you love and are passionate about.”