Physics PhD scholarship available in one the worlds top 10 cities

**Scanning Tunneling Microscopy studies of rare earth nitrides and related materials**

This is an opportunity to explore how new rare earth nitride materials can be made and how they can be probed using scanning tunneling microscopy.

Scanning Tunneling Microscopy is a powerful tool to obtain both atomic resolution imaging of the surface of materials and spectroscopic information about their electronic structure. This new project will extend the MacDiarmid Institute’s highly successful programme on the development of Rare Earth Nitride (ReNs) materials [for a review see Progress in Materials Science 58, 1316 (2013)]. In particular the project seeks to understand the apparent co-existence of superconductivity and magnetism in certain ReNs, but the project will be flexible enough to allow exploration of the properties of several other novel materials being developed within the Institute. The successful candidate must have a good honours degree in Physics or a related subject and will be based in Christchurch in the group of Prof Simon Brown but will contribute to a larger program on ReNs working with Prof Joe Trodahl, A/Prof Ben Ruck and Dr Frank Natali at Victoria University of Wellington.

The successful candidate will have enthusiasm, a good honours or masters degree in physics (or related subject), and a desire to work in a multi-institutional, multi-disciplinary, collaborative environment.

The successful candidate will be a member of the MacDiarmid Institute for Advanced Materials and Nanotechnology, a national Center of Research Excellence the provides may collaborative opportunities and a thriving environment to work in. The scholarship is worth $27,000 per annum and includes all student fees.

The research will take place at the University of Canterbury in Christchurch, which has recently been rated as one the world’s top 10 cities to visit by Lonely Planet. [http://www.lonelyplanet.com/new-zealand/christchurch-and-canterbury/christchurch/travel-tips-and-articles/77531](http://www.lonelyplanet.com/new-zealand/christchurch-and-canterbury/christchurch/travel-tips-and-articles/77531).

Please note that all applications must include:
- A full Curriculum Vitae, INCLUDING your University transcript (i.e. list of grades awarded).
- The names of at least two people who are prepared to act as referees.
- Evidence of your English language ability.
- A clear statement about when you would expect to be able to come to NZ.

Only applications received before the deadline of 7 June 2015 will be considered. All applications should be emailed to Simon.Brown@canterbury.ac.nz.