



DODD-WALLS CENTRE

for Photonic and Quantum Technologies

The Dodd-Walls Centre is a national Centre of Research Excellence, one of ten flagship research organisations spanning diverse areas of scholarship across the New Zealand university sector. The Centre involves five NZ universities and is hosted by the University of Otago.

The research of the Centre focuses around New Zealand's acknowledged strength in the fields of precision atomic and quantum optical physics, with its name drawn from two kiwi pioneers in these fields.

This research explores the limits of control and measurement at the atomic scale through the use of laser light, the generation and manipulation of light at its most fundamental, quantum level and the processing and physical nature of information in this quantum realm.

Increases in the precision of measurement techniques and control of the manipulation of materials at the individual atomic scale push the boundaries of technological achievement as well as contribute to our fundamental knowledge of the universe around us.

New Zealand has a long history of being at the forefront of developments in this area. The Dodd-Walls Centre builds on this history of achievement, creating an organization of international significance and profile.

As well as world class research teams built around the four themes of *Sensors and Imaging*, *Sources and Components*, *Quantum Fluids and Gases*, and *Quantum Manipulation and Information*, the Centre has dedicated Industry and Education Teams.

The former works towards the translation of the Centre's research in to profit-making businesses, through licensing and the establishment of new companies, and the latter, in partnership with the NZ museum sector and especially the Otago Museum, to spread the excitement and passion for science and technology inherent in the Centre.

Together the Centre's research, technology transfer, and educational programmes are contributing to the delivery of a higher tech, more prosperous, more exciting New Zealand of tomorrow.