

## **University of Otago Summer Studentship Research sponsored by Canterbury Graduate Women**

Canterbury Graduate Women sponsored the following two research projects for the 2015/16 summer

### **Identifying factors contributing to the vulnerability of infants admitted to a regional Mothers and Babies service.**

Helena Trollope and her supervisor Dr Liz MacDonald investigated the vulnerability of infants admitted to a regional Mothers and Babies service. Vulnerability in early life is a current policy focus in New Zealand. Identifying vulnerable children may allow us to intervene to prevent the downstream effects of being “at risk”. The South Island Regional Perinatal Mental Health Service is based at Princess Margaret Hospital providing inpatient and out-patient mental health support for those with severe and enduring mental illness. Helena Trollope collected information about the factors in the antenatal period and first year of life that may contribute to childhood vulnerability. Quantifying factors that contribute to the poor physical and mental health outcomes in a population of infants admitted to a regional Mothers and Babies service can better inform us about how to support the needs of this population.

### **Early detection of deteriorating patients using wearable fitness technology.**

Fraser Jeffery and his supervisor intensive care specialist Professor Geoff Shaw fitted wearable sports heart rate monitors to the chests of patients recovering in the Surgical Progressive Care Unit in Christchurch Hospital. They studied heart rate variability data to see if there was a connection between ongoing heart rate variability and a deterioration of the patient’s condition. Professor Shaw says early results from the small-scale, preliminary study (less than a dozen patients were involved) showed heart rate variability recovers quickly in patients who are progressing well. However an improvement in variability was not clearly seen in sicker patients with more complex conditions. Professor Shaw says leveraging technology developed for the sports industry could provide an inexpensive way to improve patient care. He hopes to extend this preliminary work to larger groups of hospitalised patients.

Canterbury Graduate Women sponsored the prize awarded to Dean Ramage for best presentation

### **Can non-attendance to Pulmonary Rehabilitation be predicted prospectively using a question based scoring system**

The Pulmonary Rehabilitation (PR) programmes have been offered across the Canterbury region since 2009 according to best practice guidelines. There is a 50% drop out rate from the time of referral to booking participants into an assessment appointment slot and a further third drop out after the commencement of the programme. Reasons for withdrawal have been collected and international literature that has identified specific attributes and demographics that put people at risk of non-attendance and non-completion.

Deans 10-week project created a questionnaire to screen patients before they started a programme (identifying the risks early) and offer the appropriate support to facilitate patient’s journey into and through our PR programme. The aim of such a questionnaire is to help the clinician offer the appropriate level of support to prevent non-attendance.