

## 2015 AWARDS RECIPIENTS

28 MAY 2015 - A selection of the Speakers

### MAREE SHIROTA

With the generous support of the NZFGW, I was able to travel to the United Kingdom in July of 2014 to attend and present at two major conferences: the Leeds International Medieval Congress and the Liverpool Medieval Chronicles Conference. From the paper that I presented at these conferences, I have developed an article that will be published this September in *Parergon*, a peer-reviewed journal affiliated with the Australia and New Zealand Medieval and Early Modern Association. At both conferences, I presented research based on my MA thesis on royal English genealogical chronicle rolls. One of these rolls, (Canterbury, MS 1), is held at the University of Canterbury Library's Special Collections, making it an excellent manuscript to examine for my MA thesis in New Zealand. It is a 5-metre long scroll that depicts through visual diagrams and Latin text the genealogy of the kings of England, from the biblical Noah to Henry V of England (d. 1422). My paper approaches the fifteenth-century genealogical roll through the lens of contemporary political ideologies in a way that had not been assessed previously. I examine the depictions of royal depositions on the manuscript and what this can reveal about the relationship between genealogy, political theory, and the conception of English kingship. I am grateful for the financial aid provided by NZFGW to fund my trip, which had led to wonderful opportunities for my research and career.



### ANNALISE FLETCHER

My research focuses on speech production changes in older New Zealand speakers and people with neurological speech disorders. As part of my PhD, I am investigating different methods of measuring the acoustic speech signal—with the aim of delineating normal speech variation from changes associated with acquired neurological disease. I recently completed a computerised speech analysis of 149 healthy New Zealand speakers aged between 65 and 90. This investigation explored how speech rate changes as people age. The study found a relationship between people's speech rate and vowel articulation—suggesting that a slower rate of speech may enable older speakers to maintain more precise articulatory movements. A CFGW travel award provided financial assistance to present this work at the American Speech-Hearing Association Convention in Orlando, Florida. The feedback I received at this conference has helped me considerably in publishing my research. I am very grateful to the New Zealand Federation of Graduate Women for their financial assistance.



### FELICITY THOMAS

Imagine an endurance athlete in the coast to coast fighting to win and an intensive care unit (ICU) patient fighting to survive.

What do these two people have in common?

Both of these people have regulatory systems that are under an unusual amount of stress. Their blood sugar (glucose) metabolisms are being pushed to the limits whether it be from stress induced hormones and medications or the shear physical and mental effort required to travel 240km in one day.

So as an engineer I say what can be done to help both these individuals perform better or recover better? – How can I optimise this situation? These questions are the basis of my thesis.

In this presentation I will cover:

**The why?** – Why is blood sugar control so important for ICU patients and Athletes?

**The what?** - What work have I done so far towards achieving the goal of aiding ICU patient recovery and athlete performance?

**And the how?** - How is the granted scholarship money going to be spent?



## KATE WOOTTON

My research focuses on ecological communities and how they respond to disturbances. Disturbances such as drought, pollution and habitat loss can have devastating effects on ecological communities. It is therefore important to understand what makes a community more or less susceptible to these disturbances, especially as human activities increase their magnitude and frequency. To investigate a wide variety of communities, I used mathematical models to simulate thousands of communities and subjected each to multiple disturbances. I found that both the properties of the community and the species within the community affect the community's response to disturbance. This research will help us determine which disturbances are likely to be most catastrophic to which communities and how it might be possible to mitigate those effects.



## ELLYSE GORE

### **Paleoseismology of the Lees Valley system, South Island, New Zealand**

I am undertaking research on active tectonics in Canterbury, focusing on the Lees Valley fault. My research involves extensive field mapping of surface fault traces and excavating a paleoseismic trench (analysing geologic sediments and rocks, for indication of ancient earthquakes) to determine slip rates and earthquake recurrence intervals for this fault. The Lees Valley fault and surrounding region has undergone significant stress changes following the Canterbury Earthquake Sequence in 2010-2011. Consequently, the work I will complete on the fault will contribute to enhancing our understanding of the fault characteristics and its potential. Of particular benefit will be understanding its characteristics in terms of larger scale faults in New Zealand and the hazard potential for the surrounding communities.



## JENNIFER DICKSON

Prematurity and stress in very premature infants (~23 - 30 weeks gestational age) can result in abnormally high blood sugar concentrations. This condition is similar to transient diabetes, and is associated with increased risk of infection, reliance on life support technology, other complications such as blindness and brain injury, and death. Insulin can be used to lower blood sugar levels, but carries the risk of driving blood sugar levels too low, which is also dangerous. The ability to safely dose insulin is complicated by huge variability in the degree of patient response to insulin, which changes between patients and over time. My research has developed a protocol for safe and effective dosing of insulin in very premature infants in neonatal intensive care. It uses mathematical modelling to map known glucose-insulin physiology, and applies statistical forecasting methods to predict future blood sugar changes based on current patient condition. This forecasting enables selection of insulin dose based on desired blood sugar outcome and treatment targets. This protocol is currently in use as a standard of care in Christchurch Women's Hospital, where clinical results detailing the safety and efficacy of control outperform any other results currently reported in literature.



## AMY RICE

I am currently working towards a Master of Commerce degree in Economics and my research looks at trade data inconsistencies between China and New Zealand. That is, it seeks to understand why New Zealand's reported imports from China far exceed China's reported exports to New Zealand. This is not a phenomenon unique to New Zealand and China, and much of my work to date has focused on the international literature and theoretical reasoning for why such trade data discrepancies arise. Using data from the United Nations' COMTRADE database I have begun analysing the extent of the problem in New Zealand and the industries in which it is most prevalent, with the hope of shedding some light on how the two countries' trade data could be, at least partially, reconciled.



## JOSEPHINE CLARKE

### **Representation and Participation of, by and for New Zealand Māori post-MMP.**

This thesis investigates Māori representation and participation in the policy process of New Zealand government since the change to MMP. The change in electoral system promised greater representation for Māori, however this study aims to investigate whether the policy process has been opened evenly to Māori across different fields and stages of policy process. A series of interviews with Māori policy makers, advocates and community leaders is supplemented with secondary literature research to understand the reality of the political opportunity structures and to identify possible improvements that could be made in the policy processes to achieve the goals of representation identified by the Royal Commission on the Electoral System (1986) and also the principles of the Treaty of Waitangi. The findings of this research provide insight into the current parliamentary practice, and allow lessons for other groups in New Zealand's rapidly diversifying population. This thesis shines a light on New Zealand's policy making process, which is both interesting nationally given recent questions of parliamentary review, and internationally for those countries looking to embark on political and policy reform.



## CATHERINE O'DONNELL JACKWAYS

Earlier this year I was granted a scholarship by the Canterbury branch of the New Zealand Federation of Graduate Women. My scholarship enabled me to attend the 4th ASEM Rectors' Conference and Students' Forum, which was held in Hangzhou, China. My speech this evening will help describe what the conference was about, the preparation involved, what was achieved at the end of the conference and what is hoped for in the future post-conference. I would also like to express my heartfelt gratitude to the Branch for providing me with the resources to be able to attend this event.



## BRIDGET SANDRI

I am currently in my final year of study towards a Bachelor of Speech and Language Pathology at UC. We work with people who have difficulty speaking and communicating with others. As part of our course, we have many practical experiences. Last year, I was given the opportunity to travel to Birmingham, England for my 5 week block placement. The NZFGW awarded me with a Study Travel Grant, which was a significant contribution towards funding this experience. The knowledge that I gained while overseas was invaluable. I spent time working with children in a Speech/Language clinic - some of who were bilingual - adults in a Traumatic Brain Injury rehabilitation hospital and adults in the Birmingham community with intellectual disabilities. I hope the unique skills that I learned on this placement will help me to stand out when applying for graduate jobs towards the end of the year so that I can continue to help people who have these disabilities.



## SOPHIE DAVIS

One of the things I find exciting about contemporary art is the way it consistently strives to claim new territory, exploiting new mediums and technologies to respond to the conditions of the present. My research considers the current possibilities of the book as an artistic medium - or what has come to be known as the 'artists' book'. Although this idea has been around for quite some time and has its roots in the artistic developments of the 1960s and 70s, there has recently been a surge of artists making books the post-internet era. Looking closely at the work of New Zealand artists Ruth Buchanan and Michael Stevenson, and the American artist and writer Frances Stark, my MA thesis considers the book as a social medium, alternative exhibition space and a vehicle for circulating ideas today. Artists' books by their very nature sit at the intersection of a number of different disciplines, such as literature and graphic design, and often require different skills and expertise to realise their production. As such, my thesis explores Stark, Buchanan and Stevenson's books as catalysts for collaboration and exchange, as well as considering the role of the book within the broader practices of each artist. One of my main interests is to consider how books allow artists to explore the development and dissemination of their work as social and political acts.



## NIXI BODDY

### Large-scale variability in stream fish diversity and abundance

Streams are among the most threatened ecosystems globally due to losses in biodiversity attributable to increasing human pressures. Decreasing variability in physical characteristics across catchments, such as water temperature and flow, is one of the primary drivers of recent changes in the diversity and abundance of aquatic biota. Consequently, the need to make informed management decisions to maintain or increase physical variability in stream catchments is critical to sustain or improve freshwater biodiversity. Currently our ability to make these decisions is limited by a lack of information on how to quantify the importance of large-scale variability in physical characteristics for freshwater fish diversity and abundance. I conducted a large-scale field survey to investigate if patterns in fish diversity and abundance around stream confluences were related to the magnitude of the difference in physical characteristics between the two streams. We found confluences of streams with greater differences in temperature and flow tend to facilitate higher fish diversity at the catchment scale.

