



## NZIDRS 2007 - Successful Recipients by country of origin<sup>1,2</sup>

Summaries taken from Candidates NZIDRS Application forms

### Bangladesh – 1

**Jayonta BHATTACHARJEE** – Massey (Veterinary Medicine, Theriogenology)

*Qualifying degree from Bangladesh Agricultural University, Mymensingh, Bangladesh*

Environmental influences acting in early foetal life are reflected in impaired growth and development. This permanently affects structure and metabolism, leading to increased risks for the early onset of diseases in adulthood. This hypothesis proposes that some diseases originate through adaptations made by the foetus when it is undernourished and the idea that it is established in some mammalian species, including humans, that maternal nutrition at the time of conception and/or during gestation affects the development of the offspring. However, there is a paucity of literature examining the applicability of the hypothesis on small ruminants. Almost all studies to date in dairy cattle have investigated the metabolic load on fertility within the animal. In this study, Jayonta seeks to establish whether a relationship exists between the maternal metabolic profile both at the time of conception and during gestation, on the subsequent fertility and survival of female offspring in small ruminants such as sheep and goats.

### Canada – 3

**Brian M. Frame** – Otago (Molecular & Cellular Biology)

*Qualifying degree from École Normale Supérieure de Lyon, Lyon, France*

Brian intends to investigate the functional relationship between bacteriocin expression and transformation in *S. Gordonii*. His proposal has four specific aims:

- To determine whether bacteriocins STH<sub>1</sub> and STH<sub>2</sub> induce the release of DNA from target bacteria;
- To determine whether bacteriocins STH<sub>1</sub> and STH<sub>2</sub> target competing competent bacteria;
- To determine whether bacteriocins target non-transformed bacteria; and
- To assess bacteriocin activity in biofilms.

**Kenton S. STOREY** – Otago (History)

*Qualifying degree from the University of Manitoba, Winnipeg, Manitoba, Canada*

Kenton intends to investigate the transnational repercussions of the New Zealand Wars on both New Zealand's and British Columbia's colonial development. His programme of research will build upon James Belich's groundbreaking investigation of the New Zealand Wars. His research will be facilitated by Dunedin's Hocken Collections Archive which houses a major collection of records related to this conflict.

**Samuel VERES** – Auckland (Materials Engineering)

*Qualifying degree from Dalhousie University, Nova Scotia, Canada*

The aim of Samuel's research will be to investigate how trauma, ageing and degeneration alter the fundamental structural connectivities within the annulus and annulus/endplate system of the

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1 Assuming that all candidates attend their first choice of institution.

2 As taken from summaries provided in candidates' NZIDRS applications

## 2007 NZIDRS incl topic

intervertebral disc (soft tissue organs separating the vertebrae of the spine) and thus contribute to its weakening and the associated clinical problem of disc relapse. His research project will focus upon the following areas:

- The structural disruption of the intervertebral disc resulting from traumatic overloading
- Structural weakening associated with degeneration and prolapse
- Annular wall/vertebral endplate biomechanics.

## Chile – 1

**Rocío Cecilia JAÑA PRADO** - Canterbury (Ecology)

*Qualifying degree from the Universidad de Chile*

Rocío intends to conduct research related to the *Prumnopitys ferruginea* (miro) and its interaction through seed dispersal with kereru (*Hemiphaga novaeseelandiae*), the New Zealand Wood Pigeon. Miro is an endemic species of tree, distributed throughout the North and South Islands. It has a large fruit, for which the most important seed disperser (and, in many places, the only disperser) is the kereru. Miro populations are distributed in discrete patches which are connected by seed movement through bird dispersal. Rocío will study seed movement, direction and frequency in the landscape in order to evaluate the population dynamics and miro persistence in the future. She expects that miro seed movement by birds will be an important mutualism for the maintenance of this species at the landscape level.

## Denmark – 2

**Steen W. KNUDSEN** - Auckland (Evolutionary Biology)

*Qualifying degree from the University of Turku, Nordic Marine Academy, Finland*

The proposed PhD project aims to elaborate phylogenetic and phylogeographic relationships in the sea chub genus *Kyphosus*. Steen plans to achieve this by:

- Describing patterns of gene flow and species boundaries in this group of predominantly widespread species;
- Examining the evolution of dietary and physiological traits in these herbivorous fishes. Tissue samples from 11 of the 12 valid *Kyphosus* species and an undescribed species collected by Assoc. Prof. K. Clements will form the basis of the research

The work will include DNA sequencing of fragments from both mitochondrial and nuclear genes, in addition, population differentiation will be assessed together with phylogenetic analyses. Re-examination of morphological characters is intended to be carried out and compared with molecular results.

**Mette RIGER-KUSK** – Canterbury (Geography)

*Qualifying degree from the University of Århus, Århus, Denmark*

New Zealand's glaciers have experienced a dramatic retreat during the last 100 years, and with annual temperatures on the rise, a future reduction in mass is to be expected. Little is known about the impact of climate change on New Zealand glaciers and more specifically, the changes in hydrological drainage patterns of the glaciers. This is an area of research which has great relevance as catastrophic outbursts of glacial meltwater are known to have had a major impact on both people and developments in periglacial environments. Furthermore, changes in glacial drainage patterns are likely to affect the millions of people around the world who rely on glaciers as a source of drinking water. Mette hopes to better the knowledge of glacial behaviour and changes in glacial hydrology, in particular in the event of global warming.

## Germany – 5

**Nicholas A BUCHMANN** – Canterbury (Mechanical & Biomedical Engineering)

*Qualifying degree from the Technical University of Darmstadt, Germany*

Stroke is the third largest cause of death and long-term disability in the western world and the associated monetary costs are considerable. A key role in stroke plays an arterial structure, which is called the Circle of Willis and its essential function is to distribute oxygenated blood throughout the brain. Many variations of anatomical structure exist and combined with certain clinical conditions

## 2007 NZIDRS incl topic

may alter blood distribution and consequently brain perfusion. Understanding fluid dynamic factors of blood distribution throughout the brain provides insights into risk factors of stroke and enables better clinical decision making and reduced treatment costs. Nicholas aims to develop a physical model (in-vitro) of the Circle of Willis to measure fluid dynamic qualities such as blood pressure and blood flow rates. The proposed study is unique in that there is no other in-vitro model in existence with this capability. Results will be of use to the research group at the Centre for Bioengineering at the University of Canterbury, the New Zealand Neurological Foundation and Neurologists worldwide.

### **Sol HEBER** – Canterbury (Wildlife Conservation)

*Qualifying degree from Georg-August University Göttingen, Germany*

Many species of endangered animals around the world have passed through severe population bottlenecks. With the consequence that surviving populations are often genetically depauperate and inbred in comparison to their ancestral condition. Conservationists are thereby faced with the problem of protecting a species of fragmented and inbred populations. The implementation of a series of experimental translocations between different populations of the New Zealand robin (*Petroica a. australis*) provides an excellent opportunity to study how inbreeding depression may change after the introduction of birds with differing genetic makeup. Sol intends to investigate whether for the long-term survival of inbred and fragmented species, it could be demonstrated that crosses of inbred birds from different populations could 'rescue' an inbred population through the introduction of novel alleles.

### **Sigrid ROEHLING** – Auckland (Electrical & Computer Engineering)

*Qualifying degree from the University of Otago*

Human-computer interaction through natural spoken language relies on synthetic speech. Today's synthetic speech is highly intelligible but it lacks naturalness. This makes it not only less pleasant to listen to but also less efficient. Attempts have been made at adding more expressiveness to synthetic speech in order to enable it to convey all the subtleties of natural speech, such as emotion, attitude and conversational clues. However, much of that is hindered by the fact that knowledge about how these expressions are cued in natural speech is sparse. This research proposes to look at expression of communicative intention through intonation which has not received much attention. With the help of production and perception studies the relationships will be established and then used to build an intonation module which will improve the naturalness of synthetic speech.

### **Fokko Lutz SCHULZ** – AUT (Media & Communication Science)

*Qualifying degree from the University of Hamburg, Germany*

Fokko's research focuses on a specific method of audio production, so-called online audio collaboration. Using this method, the people involved in audio production and creation do not have to work together in the same studio. Instead, they can collaborate using the internet. If, for instance, a Wellington based audio producer coordinates the creation process, and a studio professional from Auckland records the necessary parts, then an engineer in Invercargill could undertake the technical realisation of the audio production. Fokko's goal is to explore the effects of this new method of audio production on New Zealand's media industry and its professionals.

### **Jürgen P. WAGNER** – Massey or Canterbury (Industrial Engineering)

*Qualifying degree from Siegen University, Siegen, Germany*

In manufacturing systems losses of system performance are generally related back to the cost centre where they become obvious, rather than being traced back to where they were actually generated. Jürgen plans to develop a method with which the performance of components of both manufacturing and logistics systems can be monitored continuously. Thereby identifying hidden cost drivers, sources of disturbance and bottlenecks. The method will combine activity based cost accounting with effective methods of production management such as Kanban.

## India – 2

### **M. Vathsala MOHAN** – Massey (Animal Biotechnology)

*Qualifying degree from Madras Veterinary College, Chennai, India*

*Mycobacterium bovis* is the main organism responsible for tuberculosis in cattle, but its involvement as a causative agent of tuberculosis in humans was recognised long ago. Primary human disease due to *M. bovis* is very rare in developed countries, although a reactivated form of the disease is still encountered. Human-tohuman transmission of disease due to *M. bovis* in HIV-positive individuals

## 2007 NZIDRS incl topic

has recently been confirmed. A strain of *M. bovis* resistant to many anti-tuberculosis drugs was the source of infection. *M. bovis* was recognised as a relatively common cause of tuberculosis, being implicated in a number of cases, ranging from 0.1% in France to 5% in the United Kingdom. A PCR amplification technique makes possible the accurate typing of mycobacteria directly from pathological material in just two days. In addition, this technique is able to discriminate *M. bovis* from *M. tuberculosis* from the clinical and epidemiological data from the nosocomial outbreak. The aim of Vathsala's work will be the design and validation of a rapid and easy single tube multiplex-PCR (m-PCR) assay for the unequivocal differential detection of *Mycobacterium bovis* and *Mycobacterium tuberculosis* and characterisation of the same by means of sequencing and cloning.

### **Shukriti SHARMA** – Massey (Veterinary Medicine)

*Qualifying degree from Punjab Agricultural University, Ludiana, India*

Campylobacter infections are considered to be the leading cause of bacterial gastroenteritis throughout the world and accounts for more than 56% of all disease notifications in New Zealand. The main source of human infection is consumption of contaminated meat, however, to date the entry of infection into the human food chain is not clearly understood. Shukriti's proposed research project will investigate the suitability of various molecular typing methods such as flagellin/Lipooligosaccharide/capsular polysaccharide typing using PCR-RFLP, macrorestriction profiling using pulsed field gel electrophoresis (MLST) and single-nucleotide polymorphisms (SNPs) in tracing the organism in the food chain. Mapping using these molecular tools will ultimately help in development of suitable intervention strategies for control of campylobacter infections.

## Korea – 1

### **Myoung Joo PARK** – Massey (Horticultural Science)

*Qualifying degree from Konkuk University, Seoul, Korea*

New Zealand's high level of endemic biodiversity makes a unique contribution to global biodiversity. Of those, 34% of New Zealand's vascular plant species are regarded to be threatened species. It is increasingly important to conserve native species in an optimum and cost-effective way. Long-term seed storage serves as a safe, effective and relatively inexpensive method of plant genetic resources conservation. However, at present, the information on seed storage behaviour (i.e. survival and longevity of seeds under various storage conditions) for those threatened species is largely unknown. This project involves the investigation of seed storage behaviour including seed dormancy mechanisms and the comparison desiccation tolerance mechanisms between orthodox and non-orthodox seeds. This will be applicable to germplasm collections of New Zealand indigenous species for their long-term conservation and potential for sustainable use.

## Latvia – 1

### **Evija TROFIMOVA** – Auckland or Victoria (Film and Literature)

*Qualifying degree from the University of Latvia, Riga, Latvia*

Evija's interest lies in the sphere of literature and film studies. She will be continuing the study of relationships she commenced in her Masters degree, combining her knowledge and interest of post-modern literature, comparative analysis and cinematography. Evija intends to study the 'filmic' fictions of three internationally acclaimed authors – New Zealander Chad Taylor and Americans Paul Auster and Russell Banks – through the lens of film, more particularly *Film Noir* and German Expressionism. The study will address all aspects of the film/literature relationships, investigating the use of cinematographic techniques and filmic modes of narrative structure and representation in contemporary literary discourse. In addition, it will acknowledge the influence that film has had on oeuvres of the particular authors and post-modern literature in general.

## Malaysia – 1

### **Kok Lim YAU** – Victoria (Electrical, Electronics & Computer Engineering)

*Qualifying degree from the National University of Singapore, Singapore*

A mobile ad hoc network (MANET) is comprised of a number of moving wireless nodes that communicate with each other over multihop wireless links in the absence of fixed infrastructure. The unpredictable changing network topology is a prominent feature of MANET that distinguished it from traditional wired and static networks. To enhance network-wide quality of service (QoS) such as

2007 NZIDRS incl topic

throughput and end-to-end delay, the transport, network and other data link layers of the Open System Interconnection (OSI) must be improved. This is the focus of Kok Lim's research.

## Myanmar – 1

**Sandar TIN TIN** - Auckland or Otago (Public Health, Epidemiology)

*Qualifying degree from the University of Auckland, Auckland, New Zealand*

Injury is a leading cause of premature death and disability worldwide. Despite a critical need to obtain direct, reliable evidence about determinants of injury to inform injury prevention efforts, the absence of sufficiently large studies with data across diverse populations remains a major barrier to rigorous analyses addressing serious injuries. Sandar intends to establish the largest known meta-analysis of international cohort (longitudinal) studies to address several outstanding questions regarding patterns of potentially modifiable risks and fatal and hospitalised injuries. She will commence by identifying and pooling participant data on relevant cohort studies in New Zealand and Australia. This will subsequently extend to developing countries in the Asia Pacific region. She hopes that this will facilitate the development of effective injury prevention policies, programmes and services in New Zealand as well as other countries in the Asia Pacific region.

## Nepal – 1

**Bhoj Raj KHANAL** – Lincoln (Regional & Rural Development Planning)

*Qualifying degree from the Asian Institute of Technology (AIT), Thailand*

Since becoming a member of the World Trade Organisation (WTO) in 2004, Nepal began negotiating on agricultural issues with different stakeholders. The Nepalese agricultural sector employs about 80% of its population and has to provide protection to this sensitive sector compared to economic giants such as China and India. Because of political instability, lack of investment and unequal trade treaties with its neighbours, Nepal is unable to negotiate fully with the WTO and its neighbours. The economic integration may be beneficial to the country, but poses a great challenge: how to be competitive? The debate on the opportunities and cost of joining the WTO has intensified in Nepal. Bhoj's study will examine the key issues, challenges and opportunities in agriculture negotiations and provide policy recommendations to the Nepalese Government.

## Pakistan – 1

**Amira KHATTAK** – Auckland (Management/International Business)

*Qualifying degree from the University of Hull, Hull, United Kingdom*

Amira intends to research the international trade of textiles and clothing after the phasing out of the Agreement on Textiles and Clothing (ACT) by the World Trade Organisation. She will conduct a review of the real and practical implications of abolition of quotas and an analysis of the successes and failures of the WTO in bringing the textile trade into the mainstream of WTO rules and regulations.

## Philippines – 1

**Shelia V. SIAR** – Auckland (Development Studies)

*Qualifying degree from the International Christian University, Tokyo, Japan*

In many developing countries, labour migration is now acknowledged and even openly supported by their Governments as a tool to alleviate unemployment and the worsening poverty situation brought about by their volatile social, economic and/or political conditions. In the Philippines, labour migration brings in huge revenues for the economy in the form of remittances – estimated at 12 Billion dollars in 2006. Sheila proposes to investigate how information and communication technologies (ICTs) serve to link migrant workers with their homeland and culture and whether such connection helps in preserving their identities and in nurturing their civic consciousness and responsibility, their pride in their native country. She believes that the results of this study may provide important insights and lessons to Governments and the international community on how the

## 2007 NZIDRS incl topic

negative impacts of labour migration may be mitigated through the use of ICTs and how they can be tapped for nation-building in a globalised world.

## Russia – 2

**Maxim PETROV** – Auckland or Otago (Medicine/Surgery)

*Qualifying degree from Nizhny Novgorod State Medical Academy, Nizhny Novgorod, Russia*

Acute pancreatitis represents substantial health challenges in New Zealand where Māori females have the highest published incidence of acute pancreatitis in the world. Maxim's research will aim to improve the clinical outcomes in these patients by means of optimisation of enteral nutrition strategy and will comprise of three main components. First, a randomised controlled clinical trial to compare the current approach to the treatment of acute pancreatitis (fasting for several days) to early (within 24 hours) enteral nutrition. Secondly, a rodent study will determine the temporal and compositional changes in mesenteric lymph between the fasted state and with the introduction of enteral nutrition. Lastly, a rodent study will examine the impact of novel intra-luminal therapies (glutamine and arginine enrichment, anto-proteases and probiotics) on the composition of mesenteric lymph in acute pancreatitis using advanced proteomic techniques.

**Elizaveta TARASOVA** – Victoria (Linguistics)

*Qualifying degree from Ulyanovsk State Pedagogical University, Ulyanovsk, Russia*

The proposed research is aimed at investigating the matter of nominal compounding with special interest to the inner semantic structure of the constituents of N+N sequences. The semantics are viewed as the key factor in perceiving and producing the units in question by an individual. The growing number of units of such structure fulfilling similar functions in the Russian language makes it necessary to hold a comparative/contrastive study of the N+N problem in English and Russian. The study will contribute to lexicography, general and applied linguistics, cognitive sciences and machine translation.

## Slovak Republic – 1

**Dana Gablasova** – Auckland or Victoria (Linguistics)

*Qualifying degree from Charles University, Prague, Czech Republic*

Dana plans to investigate testing and assessment in relation to both content and language integrated learning. This includes CLIL, or other models combining language learning with the teaching of a particular subject matter). The main problematic areas which are characteristic of these models is related to the relationship between language and content knowledge. In addition, the assessment of discourse-oriented language learning. Specific problems may also arise in relation to affective aspects such as learner beliefs and learner anxiety. Following a detailed theoretical analysis of various models of testing and assessment at work in content based language learning, she would like to conduct an empirical observation/experimental study of selected models of learning.

## South Africa – 2

**Dominic H. Griffiths** – Auckland (Philosophy & Literature)

*Qualifying degree from the University of Pretoria, Pretoria, South Africa*

Dominic's proposed research will involve a comparative exploration of the underlying similarities between Martin Heidegger and T.S. Eliot. This will require a comprehensive overview of their respective work and their influences in order to determine the extent of their similarities. He states that a close reading of their respective work will reveal many aspects on an ontological, historical and aesthetic level that are uncannily similar. For example, one of the concerns which both men shared was the threat of nihilism and both look towards a way of overcoming this problem that involves, very specifically, the poetic domain. Other themes which will be explored include the influence of German Idealism on their respective thinking, their anti-modernist stance, their position on technological materialism, their concern with authenticity and their anti-Semitism.

2007 NZIDRS incl topic

**Maria L. C. PROZESKY** – Auckland (English Literature)

*Qualifying degree from St Augustine's College, Johannesburg, South Africa*

Maria's study will be based on an epistemology which interrogates mystical experience as a valid form of human knowing and a detailed definition of metaphor as a tool for meaning creation. It will explore the functioning and use of metaphor and symbol in the phenomenology and written communication of mystical experience in the writings of fourteenth-century English mystics. In particular Julian of Norwich who represents the kataphatic school of mystical experience and the anonymous author of the *Cloud of Unknowing* who represents the apophatic school. Comparing Julian's two versions of her *Shewings*, written 20 years apart, allows for exploration of her process of creating meaning from the images of her visions. Comparing the instructional *Cloud* reveals how meaning is prepared for. A more modern mystic could be included to study meaning creation in its historicity.

### Sri Lanka – 3

**Wijesinghage B GUNAWARDANA** – Auckland or Canterbury (Environmental Engineering)

*Qualifying degree from the University of Auckland, New Zealand*

Wijesinghage's research will focus on phytoextraction of heavy metals from a multi-metal contaminated medium. The main objective is to explore the effect of application of different organic and inorganic amendments on enhancing the availability, accumulation, uptake and translocation of heavy metals by plants. Laboratory scale experiments will be undertaken using various plant species which will be grown in the presence of different heavy metals/mixtures in their growing medium. Studies will be carried out with/without organic amendments, inorganic ligands and their combinations to discover their effects. Modelling of metal speciation under various treatment options will also be carried out using a suitable programme in order to enhance the investigation.

**Hilary Nath Dilrukshan MANIKKATHIAGARAJAH** – Waikato (Environmental Chemistry)

*Qualifying degree from the University of Madras, India*

The Waikato region largely depends upon ground water (90%) which comes from bore wells to meet fresh water requirements. The bore well water is contaminated with Iron and Manganese metal ions which fall beyond drinking water standards. This in turn gives rise to problems such as the staining of plumbing fixtures and laundry, causes an unpleasant taste, colours the water and leads to scaling of the pipes. Scaling decreases the bore well performance and leads to their eventual failure. Innovative electrochemical treatment processes will eliminate the above issues and will significantly reduce the sludge generation in comparison to the physico-chemical treatment. This process will not require coagulants and flocculants the result of which will be reduced treatment costs. Hilary plans to investigate this issue.

**Uttara C. SAMRAKOON** – Massey (Horticultural Science)

*Qualifying degree from the Postgraduate Institute of Agriculture, Sri Lanka*

*Gentiana* is a novel cut flower within the New Zealand floriculture industry and has potential for expansion. Scheduling flower production has become problematic due to seasonality, wide spread within the flowering season and unreliable recommendations for environmental control. These plants show winter bud dormancy and chilling is required to break this dormancy. Simultaneously other environmental factors may also influence growth, development and subsequently flowering. Therefore, the overall aim of the project is the quantitative description of physiological changes in growth and development of the *Gentiana* in relation to types of buds and environmental factors. Specific objectives are the identification of changes during vegetative and reproductive phases of shoots originating from axillary and adventitious buds, and to model the vegetative growth under different temperature and light regimes.

### Ukraine – 1

**Yuliya KHRYPKO** – Victoria (Language Studies, Linguistics)

*Qualifying degree from the National Technical University of Finance, Information Systems, Management and Business, Kyiv, Ukraine*

These days a document-based search computer engine typically returns too many results and a large percentage of them are not relevant to the original users request. The software is simply searching against a list of keywords unknown and unrelated to one another. To speed the search process up, it

## 2007 NZIDRS incl topic

is important to create a semantic markup of search services which allows them to become computer-interpretable, use-clear and agent ready. The aim of Yuliya's research is to develop an agent method which amplifies the semantic mark-up to support automated interoperability of desktop and web search services. As a result, users will be able to interrogate content based on its exact meaning. She contends that this can be achieved through semantics analysis of content based upon a theory of meaning such as semiotics.

## United Kingdom – 1

**Lesley STRINGER** – Massey (Veterinary Epidemiology)

*Qualifying degree from the Royal Veterinary College, London, United Kingdom*

Johnes Disease, caused by *Mycobacterium avium subsp. Paratuberculosis*, is endemic in the New Zealand sheep and cattle population. Preliminary results of recent research carried out by the Deer Research Group at Massey University have shown that the organism is widespread in deer herds throughout the North and South Islands, with a higher prevalence of clinical disease in the South. Lesley will be joining their research group to take part in a vaccination study, a field evaluation of the efficacy of a candidate vaccine in herds suffering repeated high losses with the disease. Cross-reactivity with the tuberculin test will also be assessed, as well as the validity of various diagnostic testing strategies to establish the basis for a possible herd status programme. An element of modelling of the disease using existing and new data from on-going research studies will also be included.

## United States of America – 6

**Katherine HIGGINS** – Auckland or Canterbury (Art History/Contemporary Oceanic Arts)

*Qualifying degree from the University of Hawai'i, Mānoa, Hawai'i, USA*

In the age of globalisation, Oceania is becoming more accessible and intriguing to a wider audience; apparent in the popularisation of Oceanic art. It is crucial that contemporary Oceania is represented in appropriate contexts, thus appropriate spaces. Katherine proposes to examine the aspects of contemporary art that *have not* been shaped by art schools or institutions and how artists and art are shaping spaces for art in Oceania. In (re)presenting contemporary Oceanic art we must be concerned with the disjuncture between indigenous epistemologies and the Western methodologies that have been applied to and consequently manipulated artistic expression emerging from Oceania. There are innovative artists and groups that create outside of institutional frameworks, thus outside of colonial legacies. Listening to and engaging with these artists we can begin to imagine the future of spaces for Oceanic art. When we begin with and privilege indigenous practices, how does this affect and/or alter the spaces in which we create, interact with and observe art in Oceania.

**Eric W. LAFARY** – Auckland (Geography)

*Qualifying degree from Indiana State University, Terre Haute, Indiana, USA*

Eric proposes to study societal perceptions of estuarine ecosystems in and around metropolitan Auckland area using a trans-disciplinary political ecology framework. The approach will utilise socio-economic data sets, high-resolution remote sensing data, and spatial statistics to unlock the range of benefits. These benefits will be examined and modelled over-time to detect change. In addition to empirical analysis, the research will examine local perceptions of value (economic, aesthetic and ecological) in respect to Auckland's marine ecosystem. The perception component will utilise surveys to document current and historical perceptions of the coastal and estuarine ecosystems. In concert, the empirical and perceptual components of the study will be used to create a new understanding of Auckland's resources and as the basis for assessing future policy initiatives intended to promote economic development along the coast and preserve the integrity of the ecosystems.

**Lane Graves III PERRY** – Canterbury (Higher Education, Servant-Leadership & Service-Learning)

*Qualifying degree from the University of Central Oklahoma, Edmond, Oklahoma, USA*

Servant leadership is the catalyst that can create the change we want to see in our world. This style of leadership embraces those who first choose to serve. Those who first choose to serve will then have the mindset to achieve specified endeavours through the outcomes of moral and ethical leadership. In the classroom, servant leadership can be thought of as the development of the mind through academic opportunities. While outside the classroom, servant-leadership is a hands on service-learning endeavour that penetrates the heart. The generations of the future must have a

## 2007 NZIDRS incl topic

grasp of service and leadership. The construct of servant leadership combines these two attributes and creates a playing field that allows the students to learn how to be effective leaders and in turn make their world a better place. Currently, service-learning is a relatively new concept in New Zealand, and Lane would like to study the effects of service-learning and servant-leadership on student engagement/success both during and post-university experience.

### **Alexa VAN EATON** – Auckland (Geology/Volcanology)

*Qualifying degree from the University of Florida, Gainesville, Florida, USA*

Alexa's research plan centres on the world's youngest super-eruption, the 26,500 year old Oruanui eruption of the Taupo volcano. Merging field observations with fluid dynamical modelling, she aims to quantitatively describe the transport dynamics occurring in the >20 km high ash plume generated during eruption. Once particularly well-defined phase of these deposits will be singled out as a case study and used to constrain the eruption rates and degrees of magma-water interaction required to develop new models for large 'wet' eruption plumes. Results from this project will broadly impact our understanding of global volcanic hazards.

### **Jessie K WILSON** – Victoria (Psychology)

*Qualifying degree from San Francisco State University, San Francisco, CA, USA*

The proposed research will examine components of emotional and cultural intelligence and the contribution of these constructs to an individual's positive psychological and sociocultural adjustment outcomes. Specific investigation within this research areas will include:

- Continued reliability and validity studies of existing emotional and cultural intelligence measures
- Measurement modification if reliability and validity of emotional and cultural intelligence measures cannot be established
- Further delineation of emotional and cultural intelligence differences
- Determination of specific emotional and cultural intelligence components that augment effective psychological and sociocultural adjustment; and
- Investigation of whether these components are trainable skills that can be implemented in cross-cultural programmes to increase effective psychological and sociocultural adjustment.

### **Chikako YAMAUCHI** – Canterbury (Pacific Island Studies)

*Qualifying degree from University of Hawai'i at Manoa, Hawai'i, USA*

Chikako's project draws upon her lifelong engagement with visual and performing arts together with her foundation in Pacific Studies. She will look at narratives of contemporary Oceanic artists alongside the narratives in their work. The research will look at the processes involved in choosing one's own representations for contemporary visual artists exploring what it means to be a Pacific people and New Zealanders. It notes and reflects on the importance of choosing one's own metaphors plays in the process of decolonisation for both Pacific Islander immigrants and Māori New Zealanders. The project will recognise the pluralities of identity and through interviews will record the artists' thoughts in their own words. In addition, she will investigate the power that art can contribute to transcendence.

## **Viet Nam – 1**

### **Van Long NGUYEN** – Massey (Applied Language Studies)

*Qualifying degree from the University of Queensland, Australia*

This experimental study will investigate the effects of using Computer Mediated Communication (CMC) on the development in EFL learners' language competence, focusing on advanced writing skills. The research will take the form of writing and editing experiments in an EFL group, randomly split into two halves. A control group and an experimental group. The results drawn from the study in New Zealand, together with other previous research on other macroskills will sketch an overall picture of applying technology into language education, fostering a confident attitude among language institutes and teachers bringing various CMC types into language classroom settings not only for oral communicative skills but also written communicative proficiency. A fieldwork experiment at the University of Danang, Viet Nam will be incorporated into Van Long's study and data from the students' papers will be analysed in the concept of language competence.