Abstracts

Nominees for the Research with Impact Award   Red Lecture Theatre   8.45-10.30

Linda Kestle and Regan Potangaroa: ‘Establishing the added-value of various roles of post-disaster personnel in the response and recovery of Christchurch’
Structural and infrastructural damage from the Christchurch earthquakes of September 4th 2010, February 22nd, and June 13th 2011 resulted in necessary and extensive responses from various primarily publicly funded organizations and professional consultants. The multi-disciplinary management framework developed by Kestle (2009) for collaborative international projects was previously tested in scientific, humanitarian aid and post-disaster contexts and found to be very effective in modelling and understanding the in-field and management issues related to the provision of aid in remote locations, and following natural disasters. In this research, the authors extend the application of that framework to identify where value was added (both perceived and actual) by the various roles in the post-disaster response and recovery of Christchurch. Interviews have been conducted with a range of operational and consultant participants, to collect data from a representative sample of the wide ranging aid and recovery population involved in the response and recovery post-disaster phases in Christchurch. The Kestle (2009) framework provided the vehicle to compare what was seen and experienced in the field with what may have been planned by management in the various organisations. The data analysis identified the main challenges of this particular disaster as a lack of a relevant management framework in the early recovery phase, gaps in knowledge, and protracted decision processes. Value-adding by the various roles and responsibilities was also identified for future reference.

Heart failure is a common condition that arises as a natural consequence of many heart conditions and results in significant health burden. Patients with heart failure are at very high risk of readmission to hospital. The majority will have at least one admission per year and the many will have more. The principal reason for hospital admission in this condition is fluid overload that results in difficulty in breathing and ankle swelling. For most people this can be managed in the community, but it requires accurate identification of this fluid overload. Typically, patients are asked to weigh themselves each day, with doctor visits for other assessments. This research is for developing a robotic chair that can measure several clinical parameters at once or within a short period of time. When used together, these measurements will provide a comprehensive assessment of the severity of heart failure symptoms and this information may then be used to guide management and avoid hospital admission. This may be particularly advantageous in remote locations with limited access to secondary and even primary health care.
The proposed robotic chair is a mobile robot that can carry a person. It is equipped with several measuring devices for taking clinical measurements mentioned above. In addition to that, it is equipped with several sensors for obstacle avoidance, map building, localization, detecting humans etc. It is also equipped with motor controllers and other actuators for motion control.
The robot chair is capable of engaging users with interactive dialogs through a touch screen and by using human-robot interaction techniques. It has a scalable modular architecture so that adding new hardware and software modules is straightforward. The software framework is based on Robot Operating System (ROS) open source robotic middleware.
The chair is controlled by a distributed controller that spans multiple hardware devices and multiple operating systems. It consists of a notebook computer (Linux) for low-level control, tablet PC (Windows) for user interactions, and few microcontroller modules for real-time data acquisition and control.
The current version of the chair is capable of measuring blood pressure, blood oxygen saturation, pulse rate, and body weight. Other measurement modules will be added as the research continues.

Marcus Williams: ‘Rosebank, cultural capital as agency: Examining the relationship between art, enterprise and community’
The proposed paper will describe the research behind the site specific community project ‘Rosebank’, involving a multidisciplinary group of artists, designers and performers, many from Unitec. The various projects take place on Rosebank Peninsula as part of the 2013 Auckland Arts Festival.
The curatorial framework explores the relationship between art and community development by facilitating collaboration between existing community organisations and creative professionals who work in some way
The project will revolve around the industrial precinct of Rosebank Rd built over an estuarine peninsula of significant ecological worth and geological interest. At the northern tip, the Motu Manawa Marine Reserve protects some 500 hectares of the inner reaches of Auckland's Waitemata Harbour. It includes the intertidal mudflats, tidal channels, mangrove swamp, saltmarsh, and shell banks surrounding Pollen and Traherne Islands. Pollen Island is named after the first European land owner and was the site of a brick works in the 19th century. Existing there are the residue of 50 million year old peat swamps and the unique Callianassid Burrow Fossils. The area was cultivated for many centuries and is the site of the oldest market gardens in Auckland. In the 1930s pioneer horticulturalist Hayward Wright selected and propagated a kiwifruit vine there and one of his original vines remains on the old Canal Rd property. Unitec and the Rosebank Business Association have formed an alliance through an interface organisation called TEPU (meaning platform, concept developed by Unitec students). Other community groups involved include Avondale Community Gardeners, Avondale College, Rosebank Primary School, the Motu Manawa Restoration Group, Friends of the Whau and the Avondale-Waterview Historical Society Inc.

There will be a well mapped route for a public art walk on Rosebank Rd during the festival and an exhibition of maps, texts, artifacts, photographs and moving image documentation at Unitec's Snowhite Gallery, linked to concomitant web content. A public symposium on the relationship between art, enterprise and community will be run at Te Noho Kotahitanga Marae in conjunction with the event, during the Auckland Festival. A publication with critical essays will document the project and the symposium.

Nigel Adams, Lorne Roberts, Tamsin Orr-Walker, Josh Kemp and Eric Spurr: ‘Mitigating the impact of the toxin 1080 on native birds during pest control operations’

The toxin 1080 (sodium fluoroacetate) is used widely in New Zealand to directly control introduced populations of brushtail possums and rats and indirectly to control stoats. These animals have a severe impact on native flora and fauna and in the case of possums is an important vector in the spread of bovine tuberculosis in the national cattle herd. Delivery of 1080 in cereal bait by aerial scattering remains by far the most effective control way of targeting pests, particularly in rugged terrain. The effectiveness of the toxic laced bait drop is increased by pre-feeding with nontoxic cereal-based pellets. By-kill of non-target native bird species by 1080 does occur. This is clearly undesirable for species that may be already at low population densities. The pre-feeding provides the opportunity for introducing bird-specific repellents to pellets to reduce this by-kill. We tested the effectiveness of a combination of repellents, introduced to the cereal bait, in deterring consumption by a near-threatened native parrot, the Kea. There was considerable individual variability in the response to the repellent. However, our results indicate that birds rapidly develop a learned aversion to the bait and consumption rates by kea dropped to levels that would make unlikely that birds would receive a lethal dose of 1080. This occurs at repellent concentrations not likely to affect palatability of the pellet to the target pest species. Treatment of cereal bait pellets with repellents may therefore substantially reduce mortality rates of kea and other native birds during pest control operations. In response to this research, Department of Conservation is now considering a change in practice of 1080 aerial drops to include the incorporation of bird repellents into pre-feed cereal baits. The use of bird repellants using a range of different delivery mechanisms is also being explored to reduce kea attacks on sheep and damage to property reducing likely conflict situations with people.

Roger Birchmore, Robert Tait, Kathryn Davies: ‘Use of roof space ventilation to address summertime overheating in New Zealand houses’

Previous research in New Zealand houses has indicated that recent increases in insulation and double glazing requirements may have led to increased problems with summertime overheating. Monitoring of a typical New Zealand house (standard three-bedroom, lightweight timber frame construction) in the Auckland region has shown that the roof space achieves extremely high temperatures in summertime and even mid-season. The roofspace therefore is a heat source that has the potential to impact significantly on overall internal temperatures.

Although the principle of ventilating the roof space to outside is well established in the northern hemisphere, traditional best practice in house design in the New Zealand climate recommends against it. However, this advice is based on older construction standards, which included single glazing and lower levels of insulation than are currently required. This paper reports on the results of a project to test the impact of passive ventilation of the roof space in a New Zealand house built to current standards, with the intention of improving comfort levels within the living spaces. The ventilation system tested consists of air vents inset into the soffits on both the north and south sides of the house, with a ridge vent along the length of the house.
The house has been monitored across summer, autumn and winter conditions, recording internal air temperature and relative humidity throughout the living spaces and roof space of the house. Results indicate that the passive ventilation is an effective measure to reduce summertime temperatures in the roof space, with subsequent impact on the temperatures experienced in the living spaces of the house. Wintertime temperatures appear to be relatively unchanged. The project demonstrates that there is a case to be made for the adoption of passive ventilation of roofspaces to improve the thermal performance of homes in New Zealand.
Bettina Schwenger: ‘I learn through my research: Teaching and learning enquiry as the nexus between teaching, learning and research’

This presentation is designed to illustrate how a group of Unitec teachers have utilised an (action research) enquiry approach for improving teaching and learning. The teachers have been learners and researchers to find out more about their teaching practice and related questions. The projects have employed rigor in collecting data so that ‘informed’ change is possible.

In the presentation, the background to action research enquiry at Unitec will be outlined followed by an overview of each of the projects. The projects are:

- How to use your Moodle: Insights from students on online design and social relationships (Kay Hammond)
- A small-scale collaborative research project to explore how Foundation Studies lecturers are responding and using the Assessment Tool data (Sue Crossan and Trisha Hanifin)
- Reflecting on one-to-one teaching: can a checklist help? (Caroline Malthus)
- Investigating Arabic-speaking students’ language needs and teaching strategies relating to reading (Marcus Thompson)
- Maths Anxiety (Renu Choudhary)

The presentation will then engage participants in thinking about how action research enquiry might be applied in their own context.

Giles Dodson: ‘A conservation partnership for development? Marine conservation and indigenous empowerment at Mimiwhangata’

This study is an examination of the participatory communication and conservation activities conducted as part of the Mimiwhangata marine reserve proposal developed by the Department of Conservation (DOC) and tangata whenua, Te Uri o Hikihiki, between 2001 and 2005. In New Zealand conservation partnership is identified as a means to achieve both effective environmental conservation and indigenous empowerment. Drawing on the discourse of contemporary Maori-Crown politics the paper suggests however that within current frameworks, the extent to which meaningful authority and control can be devolved to tangata whenua is limited. Existing marine conservation policy inadequately accommodates customary values and cultural perspectives, which seriously limits partnership as a conservation and development model. The Mimiwhangata project demonstrates the attempts by indigenous tangata whenua and conservationists to overcome these limitations and the utility of participatory processes in partnership formation and in confronting policy shortcomings. Existing marine conservation frameworks are demonstrated as limited, and although the successful implementation of culture-centred conservation offers the possibility of a conservation model which both accommodates state-led goals and provides for the cultural empowerment of tangata whenua, structural change is required to achieve this outcome.

Annemarie Meijnen, Bettina Schwenger, Hua Dai, Ksenija Napan: ‘Teachers in the sandpit: Playing with academic co-creative inquiry’

Our intention is to present how we played with Academic Co-creative Inquiry during 2012 and how our experimentation has a potential to grow into an exciting research project.

At the beginning of 2012 a group of devoted teachers from various disciplines and tertiary teaching institutions set out to ‘play’ with ACCI to see how it can be contextualised in their unique settings. Our intention was to truly play with it and see if it is of any use in contexts different to social practice where it was originally invented. We met at Unitec Marae for a day and used ACCI principles to establish a project. Katrina applied it with students training to be professional guides in the Adventure Tourism industry at NMIT in Nelson; Malin applied it with her social work students at Waiairiki Institute of Technology; within Unitec Hua applied it in her work as an academic support person; Annemarie in her Sociology class within Foundation Studies; Bettina focussed on the principle of relevance exploring how it fits within an Adult Literacy development programme for staff; and Ksenija applied it in five different courses in 2012, and will report on distinctive features in each setting and teaching/learning theories that emerged from its application.

We are going to share our experiences and are keen to invite other teachers interested in this type of teaching and researching to join us in 2013 when we are planning to take this project to another level.

In many developing nations dogs present a significant issue in terms of human health, safety and animal welfare. We assessed attitudes towards dogs and their management in Samoa, a developing South Pacific island nation, using a questionnaire. It demonstrated that Samoa has one of the world’s highest recorded levels of household dog ownership (88%) but a comparatively low rate of vaccination (12%) and sterilisation (19%). Those interviewed believe dogs were important and should be considered part of the family; however most households reported that their dogs were kept for protection (79%). There was a clear skew in the sex distribution. The dog population showed a strong male bias (71%) suggesting females are removed from the population. Of those surveyed only 16% had received any education about dogs and their management and overall the respondents showed a clear disparity between attitudes and behaviour (e.g. the majority believe dogs should be vaccinated (81%) yet most dogs in this sample (72%) had never been to a veterinarian). Overall there was a willingness to manage the free-roaming dog population which was considered by many to be a nuisance, however there were few enforceable mechanisms by which this could occur and most dogs were not confined. Harm or killing of dogs was relatively commonplace with 30% of households reporting they knew someone who had harmed or killed a dog and 26% of respondents indicating they believed harming or killing dogs was good for Samoan society, presumably by reducing problems associated with the free-roaming population. Dog bites were relatively frequent in Samoa and reports from two hospitals indicated a frequency of 37 new bites per annum requiring hospitalisation per 10,000 head of population. Furthermore, this paper outlines strategies and further research that could be considered to improve dog welfare and reduce the need to harm or kill dogs, namely improvements in veterinary provision and dog focussed education. It also considers the need for legislative controls and more research and funding to be made available for small developing nations to explore their animal welfare obligations.

Gillian Whalley: ‘Collaboration in research – an impenetrable barrier or essential for knowledge advancement?’

Researchers by their very nature are private thinkers. Most research ideas start as an idea; a question; a passing thought. This is, by definition a solo pursuit. Often one’s ideas are not released into the world until they are well-developed; the originator of the original thought is protective (rightly so) of their intellectual property. Letting others contribute to your idea; change your idea; or dissect your idea; is challenging for most people and challenging for the idea of research collaboration. Are the benefits of collaboration worth this loss? Collaboration can occur at different levels and may include close colleagues to distant unknown research partners; and it may include one or dozens of researchers. Research collaboration brings new and different expertise to the group, but new and different problems arise; and larger samples sizes allow more definitive and useful results but with less individualized data.

Research collaboration results in critical engagement at an early stage and often adds rigour and relevance to research. Using examples of my own research activity, the benefits (and challenges) of research collaboration will be explored.

10.40 – 11.55

Stream 2 (Blue) 183-2049

Penny Cliffin: ‘Unitec Arboretum’

Unitec Institute of Technology is well known locally for its park like grounds. Unitec’s campus and tree collection can be understood in its wider urban vegetation context, and has the potential to be developed into a more widely recognised and utilised arboretum resource. The tree collection has been documented by the institute, assisted by research from botanist Mike Wilcox and senior lecturer Penny Cliffin.

Greening of cities has become a significant motivation for landscape architects, urban designers, and architects, as well as a growing public expectation. While there is need for the development of new technologies to accomplish some of this greening, a reappraisal of traditional New Zealand parks (19th century), often modelled on the English Landscape parks of earlier centuries, such as found at the Unitec campus, may also offer innovative contributions to the understanding of green networks (or urban forest) in the city, through their plant selection, management, promotion and evolution.

This paper will illustrate the project progress to date, and reflect on the impact of these developments in relation to urban vegetation values, such as biodiversity, green infrastructure and watershed management, public recreation, amenity and education.
Students are currently developing concepts for the arboretum including improved path networks, connections to the wider community via pedestrian and cycleways, and planting proposals for enhancing Arboretum themes such as bird habitat and fruiting trees as well as experiential aspects of spatial design. Along with this design exercise, students are undertaking campus tree research and documentation, by updating and enhancing the campus database, including the addition of photographs and Geotagging. Online and direct mapping and visitor interpretation such as a brief history of the campus and tree labels, is also being developed to promote the arboretum as a resource for staff, students and the public, in order to better understand urban vegetation values and provide student with experience for their future practice.

Lauren E. Edwards: ‘Developing a methodology for assessing judgement bias in laying hens’
An exciting new development in the field of animal welfare science is the use of judgement bias to assess the emotional state of animals. This experiment investigated a technique of assessing judgement bias in laying hens, and was conducted in collaboration with the Department of Psychology at the University of Waikato. Laying hens (n = 6) were trained to respond to visual stimuli (either vertical or horizontal lines on a small screen) by pecking at keys in a Skinner box. The hens learned to associate the vertical stimulus with a positive outcome (more feed reward) and the horizontal stimulus with a negative outcome (less feed reward). During training, half of the hens (n = 3) were group-housed outdoors in an enriched aviary environment, and the remaining hens (n = 3) were housed individually in barren cages. These housing conditions were presumed to induce a negative affective state in the cage-housed hens, and a positive affective state in the aviary-housed hens.

After three months of training, the hens were tested for their response to ambiguous stimuli (judgement bias). These ambiguous stimuli consisted of diagonal lines that were intermediate in angle to the vertical and horizontal lines used during training. The hens had to decide whether the diagonal lines represented a vertical line (something positive, and thus an optimistic judgement) or a horizontal line (something negative, and thus a pessimistic judgement), and indicate their decision by pecking at the corresponding key. Preliminary results indicate that laying hens housed in the barren cage environment showed a negative judgement bias (i.e. displayed pessimistic decision making behaviour) in comparison to the hens housed in the aviary. These results indicate that housing hens individually in a barren cage results in a negative emotional state indicative of poor welfare. Further research in this area will compare the results of judgement bias tests to traditional measures of animal welfare in laying hens.

Carolyn Cox (and corresponding author), Sue Wake, Deborah Rolland: ‘Highly productive green talent?’
The creation of green growth and a sustainable future requires green talent, experts across all disciplines who know how to create sustainable opportunities and solutions within organisations (profit, not for profit and public sector), communities and classrooms. To meet this need Unitec has made a formal commitment to integrating sustainability content within all existing programmes by signing The United Nations Commitment to Sustainable Practices of Higher Education Institutions and creating an Environmental Sustainability Strategy (ESS) action plan for teaching. Benchmarking staff and student knowledge, values and perceptions of sustainability through an annual survey was made a priority for action under the ESS.

This presentation is based on the results of the staff Sustainability Survey conducted in 2012 (the student survey will be completed later in 2012). Unitec staff ranked education for sustainability as the third priority behind greening campus operations and advocating for sustainability. Results showed Unitec staff have a good overall awareness of sustainability concepts, high levels of belief in the significance of related issues, and frequently take personal actions supporting environmental outcomes. However, less than half of the respondents saw themselves as having strong skills and knowledge to create change for a sustainable future and only a small percentage saw Unitec as a leader in sustainability. Existing research shows that while there is support for embedding sustainability in the curriculum, lecturers are uncertain about how to do this, and feel that it might reduce core subject content and create conflict with programme agendas.

The New Zealand Tertiary Education Commission identifies environmental issues such as climate change and the greening of business as key trends within its next investment period but provides no performance indicators or support around this within its Statement of Intent. This presentation reports findings from the Unitec survey and suggests how Unitec might look at overcoming these barriers.

Keywords: Education for Sustainability, Green Growth, Teaching, Values
Winston Hiliau: ‘Investigation into the use of limestone as road construction aggregate in the Kingdom of Tonga’

Limestone rock, or ‘Coral Rock’, has been the only resource for road and general construction in Tonga, and other Pacific Islands, as there are no alternatives. It is also common geology knowledge that coral rock is a form of sedimentary rock. However, the exact composition can vary between biological, clastic or chemical hence making it challenging to be used as a reliable road construction material where strength, consistency and reliability are essential. In comparison, Igneous Basalt rock is in abundance and most commonly used in New Zealand due to favourable density and bearing capacity properties.

One of the main objectives of this work is to determine an alternative method of improving the density and bearing properties of coral rock, other than the conventional rolling approach. This would assist Tonga on the economic as well as the environmental sustainability aspect by prolonging the design life of its road structures, hence reducing the constant demand on raw material.

Tonga, and other Pacific countries, have spent many millions of dollars of International Aid over the years on building, then continuously rebuilding and resurfacing its road infrastructure. New Zealand and Australia have been very generous with aiding the Pacific Islands.

Long term success of this project would ease some of the frustration demonstrated above, plus the continuous reconstruction process can be planned effectively by achieving the life expectancy, or close to, of the delivered products.

There have been four major carriageway rehabilitation projects, some completed as recently as March 2012, undertaken in Tongatapu since 2010. These were funded, like all major reconstruction projects in Tonga, through various types of grants, loans or development partners such as the Asian Development Bank (ADB).

The demand on the pavement surfacing aggregate demand alone, for both chipseal and asphaltic concrete, is estimated at 20 000 tonnes (t) up to year 2014 (McCotter, Tupou, Bloomfield: October 2011).

In addition to this will be the continuous maintenance of the existing 400kms of sealed surface plus the additional 218kms to be added at the end of the above 4 reconstruction projects.

It is essential that the objectives of this research are realized in order reduce the need and demand on the limited limestone resource. There are many environmental and economic benefits to be achieved as a byproduct of the solutions for this project.


(New Zealand is a small isolated island nation in the South Pacific with a population of 4.4 million people. As part of national branding to promote exports of bio-commodities especially from agriculture and horticulture and encourage tourism, New Zealand is aiming to reduce greenhouse gas emissions to 50% of 1990 levels by 2050. New Zealand has an abundant supply of low cost renewable electricity generation that could be used for powering an electric vehicle fleet and reducing greenhouse gas emissions. This renewable resource using biomass and wind alone is as much as 11 times the 2009 annual electricity demand. In this study we investigate the potential impact of plug-in hybrids (PHEV) on greenhouse gas emissions (GHG) from the New Zealand vehicle fleet to 2050 using the partial equilibrium techno-economic model UniSyD. We find that the impact of consumer purchase perceptions of capital cost, fuel savings, and infrastructure availability have the effect of reducing the market share of PHEVs with a range of 64 km from 27% to 9% under a scenario where the oil and carbon prices stabilize in 2030 at US$120/bbl and US$60/t-CO2eq, respectively. In addition we find the market share of PHEVs is strongly correlated with range. PHEVs with a range of 16 km achieve five times more market share than PHEVs with a range of 256 km however reductions in GHG are 10% and 8% respectively over a fleet with no PHEVs. By 2050 PHEVs could consume up to 5% of electricity from the national grid and reduce GHG emissions by over 20% if market share of the vehicle fleet reaches a predicted maximum of 27%. Fiscally neutral federal policies are shown to mitigate consumer barriers.

10.40 – 11.55

Stream 3 (Red)  183-3047

Paul Bennett: ‘Professional development that supports change in teachers’ practice, in the context of a new curriculum’

The presentation will present the findings of a thesis submitted in partial fulfilment of the requirements for the degree of Master of Educational Management and Leadership. The thesis considers how the revised New
Zealand Curriculum (NZC) (Ministry of Education, 2007) is challenging teachers to change, which professional development approaches are being used to support these changes and which of these approaches are leading to sustained change. It offers an argument that national and school-wide change initiatives are experienced differently by different schools, subject areas, and individual teachers and that evaluation of curriculum implementation journeys tend to focus on the fidelity of implementation, rather than on how the change in curriculum has affected students’ learning and achievement. The thesis concludes by recommending that when implementing school-wide initiatives, leaders need to plan change processes that allow for the unique context of their school, draw on a range of professional development approaches, make use of various professional development activities and introduce these approaches at the right time.

Kim H Penetito: ‘Te Ako Whaiora: Through learning is wellbeing’
A research project was embarked upon to learn more about how effective the teaching and learning pedagogy of a particular Unitec programme was for the Māori learner. A key focus of this study was to assess the adaptability of teaching staff to suit an all Māori learning collective. The assumption was that there was likely to be some mismatch between culturally relevant pedagogy practiced, and the aptitude for Māori students to master the learning as a consequence of this. It has become evident that specific Māori models of teaching and learning pedagogy were not common or familiar to all the tutors, and therefore did not play any significant influence on the course delivery specific to this context. What was uncovered was, that the kind of pedagogies that were utilised aligned comfortably to Māori models like Ako and Te Whare Tapa wha, and that there were environmental and relational aspects that when combined, the students interacted and responded to most positively. This particular programme’s philosophy around teaching and learning promotes reciprocity of learning and the tutors were able to experience this essentially through the student management of tikanga and leadership around mātauranga Māori. The tutors’ exposure to Māori cultural norms through this approach provided familiarity with cultural protocols, built a greater respect and understanding for the tutor around the capability in the student collective, highlighted the tutor cultural limitations and created an increased affinity with and appreciation of the Māori learner.

The effectiveness of the existing teaching and learning pedagogies revealed has been reassuring for tutors and where improvements were brought to light, professional development goals to increase knowledge around Māori pedagogies have been initiated with a view to consolidate the valuable formula that has learnt from this experience. After all, it has resulted in maximised Māori student engagement, retention and success.

Marcus Thompson: ‘Investigating Arabic-speaking students’ language needs and teaching strategies relating to reading’
The presentation reports on an action research project into the difficulties many Saudi students experience with written English, particularly word recognition skills. Part of the difficulties that Arabic readers face learning to read English relates to differences in the written forms (orthographies) and sounds (phonologies) of the languages. These differences mean that word recognition strategies that are effective in Arabic are less so when transferred to written English. The research involved a group of 13 Saudi students studying English on the Certificate in Intensive English at Unitec. They were spread across the elementary to upper-intermediate levels of the programme, with a wide range of prior education. Following an action research approach, the project consisted of three stages: the initial, implementation, and evaluation stages. The initial phase of the research involved several assessment tasks to observe performances in reading familiar to unfamiliar, and simple to complex words. It was found that two areas presented challenges for all participants in recognising words: vowel digraphs (two letters representing one sound) and multi-syllabic words. The implementation phase was conducted over an 8-week period and involved a range of embedded classroom activities, separate workshops, and online self-study activities. The main aim of the phase was to develop strategies for tackling complex and less familiar words by focusing on high-frequency and/or familiar patterns within the word. Activities included regular practice (such as flashcard, dictation, word search activities) to develop familiarity of patterns, and awareness-raising input and discussions (such as comparing Arabic and English writing systems) to make new strategies more explicit. In the final phase, participants completed similar assessment tasks as the initial phase, and another interview. The results showed either little change in performance, or a marked improvement. The interviews suggest that many participants did not do the tasks regularly. However, those who did made improvements in their performances, and were able to articulate clearly the knowledge and strategies they had learned.

Jill Hadfield: ‘Motivation theory and translation into practice’
Recent advances in motivation research have shifted the focus to the relationship between motivation and the
learner's identity. Within this approach, the *L2 Motivational Self System* (Dornyei 2005) is an important new theory, backed by considerable research. The Motivational Self System is a tripartite construct of L2 motivation, consisting of the Ideal L2 Self (the internal desires and vision of the learner), the Ought-To Self (external pressures and incentives) and the L2 Learning Experience (the actual experience of engaging in the learning process). This new approach has very direct practical implications as it opens up a whole new avenue for promoting student motivation by means of generating a positive and vivid vision in the students regarding their language learning potential. However the approach up till now lacks any direct practical applications which could be used by L2 teachers.

I am investigating ways in which this new theory can be taken forward into practice, I am particularly interested in how the organization of the theoretical constructs need to be repositioned to translate them into a workable syllabus, and in how far a new theory will entail the design of activities that are not only new variations on existing activity types but activity types that are new to the discipline.

Robyn Gandell, Bettina Schwenger: ‘Are student numeracy and literacy linked? A collaborative investigation of the AT data’

Over the last decade, in New Zealand and internationally, tertiary education has increasingly focussed on students’ numeracy and literacy. This led to the development of the Assessment Tool (AT), to diagnose students' knowledge and skills in reading, writing and numeracy. Since 2011 the Tertiary Education Commission has mandated the use of the AT for courses at Levels 1 – 3 in tertiary education, which, at Unitec, includes all Foundation Studies: Whitinga (FS) students.

Although it is generally assumed that good literacy skills are needed in numeracy tasks, any connection between adult numeracy and literacy, and any pedagogical consequences of this connection, is largely missing from literacy and numeracy research. In this research study, a Unitec FS lecturer and Te Puna Ako advisor, examined FS students’ AT data for semester 1 2012 reading and numeracy and discovered a strong link between reading and numeracy. The authors will report their findings, and discuss the consequences for the teaching and learning of adult numeracy.
Introduction: When oxygen uptake (VO\textsubscript{2}) is expressed as a function of pulmonary ventilation (V\textsubscript{E}) during incremental exercise, the slope of the non-linear relation has been termed the “Oxygen Uptake Efficiency Slope” (OUES). Modelled by: VO\textsubscript{2} = a \log_{10} V\textsubscript{E} + b, where ‘a’ represents OUES. The OUES may be considered a measure of the efficiency of the physiological systems supporting the ability to perform exercise.

Ventilatory efficiency has been quantified by the slope of the linear relation between carbon dioxide output (VCO\textsubscript{2}) and V\textsubscript{E} when measured during incremental exercise. This linear relation is modelled by: V\textsubscript{E} = a VCO\textsubscript{2} + b, where ‘a’ represents ventilatory efficiency.

There is a paucity of data for concomitant measures of OUES and ventilatory efficiency in trained athletes, and no previous reports quantifying any correlation between these measures. The aims of the current study were to:

1. Quantify system efficiency using the OUES and ventilatory efficiency,
2. Quantify the possible correlation between OUES and ventilatory efficiency.

Methods: Twelve trained rowers (VO\textsubscript{2}peak 5.51 ± 0.42 l·min\textsuperscript{-1}) performed a progressive rowing ergometer test of six stages with 4 min increments, separated by 1 min recovery intervals. Test protocol was individualised on work capacity by ascertaining best time for 2000 m from each participant, converted to a 500 m\textsuperscript{-1} pace. Addition of 4 s 500 m\textsuperscript{-1} gave a target 500 m\textsuperscript{-1} each participant was required to maintain in the sixth stage of the test. Successive 6 s 500 m\textsuperscript{-1} was then added to the 500 m\textsuperscript{-1} to calculate pace for recessive workloads. Measures of VE, VCO\textsubscript{2} and VO\textsubscript{2} were taken throughout exercise.

Results: Oxygen uptake efficiency slope = 5.82. Ventilatory efficiency slope = 29.02. Coefficient of determination (R\textsuperscript{2}) = 0.84, 0.80 respectively. Moderate but significant negative correlation (r = -0.68, P<.05).

Discussion: Coefficients of determination indicate appropriateness of the models to fit the data. System efficiency of rowers, demonstrated by OUES, is high. Values > 5 are indicative of the increased VO\textsubscript{2} efficiency typical of a trained athlete. Ventilatory efficiency appears poor; values should range from 19 – 30. However, this is likely due to inclusion of data of higher relative exercise intensities that required a disproportionately larger increase in VE for increase in VO\textsubscript{2}. Correlation is observed between the measures of ventilatory efficiency and OUES for maximal progressive testing protocols; however it appears the OUES is a more robust measure of system efficiency for these populations and protocols.

Saeed Ur Rehman, Kevin Sowerby, Colin Coghill: ‘The analysis of RF fingerprinting for low-end wireless receivers’

The ability to recognize a specific wireless device based on the unique features present in its analog signal waveform is called RF fingerprinting. The unique features are due to the imperfection in the analog components of the transmitter front end. This imperfection is caused by the randomness in the manufacturing phase.

In literature, RF fingerprinting is proposed to provide an additional layer of security for Wireless devices. The unique RF fingerprinting can be used to establish the identity of a specific wireless transmitter in order to prevent masquerading/impersonation attacks. Most existing RF fingerprinting techniques have been evaluated with high-end receivers and promising classification results have been reported in the literature. However, the realization of RF fingerprinting in today’s low-end (i.e. low cost) portable devices requires the validation of the existing RF fingerprinting techniques with low-end receivers. Low-end receivers built with inexpensive components have their own limitations and impairments.

This research work analyzes the performance of RF fingerprinting for low-end receivers. Universal Software Radio Peripheral (USRP) is used as low-end receiver and its performance is compared with high-end receiver, which consists of expensive spectrum analyzer and Oscilloscope. Experiments are performed for three USRP transmitters and analog signals are captured with one high-end receiver and three low-end receivers using Universal Software Radio Peripheral (USRP). It is found that the classification accuracy of RF fingerprinting varies for different low-end receivers. Results show that low-end receivers provide good classification results at high receiver SNR but high receiver SNR is rare in a typical wireless communication environment. Whereas, high-end receiver performs well even at low SNR.
Wayne Holmes: ‘Development of a wood density independent function for electromagnetic measurement of timber properties’

The final performance of any product or structure is heavily influenced by the properties of the raw materials used. Wood is one such raw material extensively used in both structures and products (such as paper, plywood and LVL). The fundamental quality influencing property of wood is its moisture content (mc). The assessment of mc is critical in the processing and application of wood based products and has ramifications on energy use during processing and structural performance.

Traditional methods of measurement of wood moisture are inherently inaccurate (>10% error) as none of the current in-line techniques cater for the large variation in basic density (bd) of wood and hence these errors flow into the measurement of mc. The technique presented shows a method for non-invasive electromagnetic measurement of timber mc which will cater for the effects of basic density and earlywood \ latewood banding. This in essence is a true measurement of moisture content, which can be applied in real-time measurement situations.

Such a sensor can be used for increasing energy efficiency in wood drying kilns (by segregating timber into batches based on mc), and also as a key indicator in the measurement of wood strength and stiffness for structural use. A system based on these techniques for the measurement of moisture content and basic density is described and experimental results are presented.

This work describes the measurement of the dielectric properties of the typical timber types of Heartwood, Sapwood and internal Branches. Measurements were made using the waveguide cell technique covering the frequency range of 2.3 to 6.5GHz. Additional work was undertaken to establish a method to correct these measurements for variations in basic density and earlywood \ latewood banding, giving rise to a potential moisture content estimation error of 0.63%.

These results show that the technique has potential for the rapid measurement of moisture content, and outlines the future directions for this project. This work will lead to improved moisture measurement and in the case of imaging systems improved spatial location of features of interest.

2.25 – 3.10
Stream 2 (Blue) 183-2049

Roger Birchmore, Jovan Andric: ‘Double glazing: friend or foe?’

As an energy saving measure, part of an integrated response to mitigate climate change, the New Zealand Government raised the legal minimum requirements for the thermal performance of new homes. A carbon footprint provides a means to quantify the effect this action has had to reduce the impact our new homes have on the environment. To date however, no study has been conducted to ascertain the carbon footprint of this change. An investigation was made to quantify the additional embodied energy required to meet the new standard, and the resulting savings in electrical home space heating energy use. A scientific test and control method was employed. A standard timber framed three bedroom house design complying with the new thermal insulation standard was tested against the same design complying with the old standard over an operational life of 50 years. The test was conducted in New Zealand’s three climate zones with the aid of the ALF computer programme. It was found that double glazed windows make up the bulk of the additional embodied energy and carbon. The benefits of the increase in thermal insulation increased with the colder climate zones which produced the largest carbon footprint saving. The heating schedule employed within the home proved to be the most influential factor to both the carbon footprint size and the rate of environmental/carbon payback. The study showed that carbon payback for the increase in embodied energy could not be reached through heat energy savings within the 50 year operational life of the building if a typical intermittent heating schedule was used powered through electricity generated by all renewable energy sources.

Keywords: carbon footprint, residential construction, insulation standards

Garikai Tachiwona, Andries Du Plessis & Ken Simpson: ‘The potential of the balanced scorecard to drive a high performance culture in a New Zealand information technology organisation’

This paper shed light on how managers can use the balanced scorecard to transform low performing information technology service teams into highly productive and profitable units that meet customer service expectations. Two research questions are answered: what were the major drivers of low business performance, and how were they addressed? How did managers get the necessary buy-in from employees for the balanced scorecard to be successful? An exploratory research was executed covering three years of the
balanced scorecard implementation in a New Zealand Information Technology Service Organisation interviewing managers, employees and a customer director. Some findings are: a lack of process and management leadership; communication was poor; relationships between engineers, managers, Medicare and NZIS were also tense and distrustful.

**Key words:** human resource management, development, leadership

Saul Taylor: ‘Setting suns and rising stars. Succession planning in New Zealand’s Deaf education leadership workforce: a national study’

A small but growing body of international and New Zealand educational literature indicates mainstream workforces are skewed towards ageing due to a unique demographic turning point as baby-boomers reach retirement age. In the small arena of New Zealand Deaf education workforce ageing presents a special concern. Teaching personnel in this small workforce are highly specialised and leaders in this area hold exquisitely contextual tacit knowledge. This thesis is concerned with investigating the need to ensure the quality and quantity of future leadership for Deaf students. If many seasoned leaders and experienced teachers are due to depart the system in the near term, and there are insufficient formalised succession mechanisms in place, future leadership could be at risk. Three key questions concerning the need for succession planning were analysed as part of this study. This project is the first national study into the Deaf education workforce in New Zealand. Until the findings in this research, no data was known about the demographic make up of the national workforce or their motivation to lead. This thesis includes all of the education providers for Deaf students in New Zealand.

The methodology chosen was a mixed-method approach that involved a quantitative survey of the three Deaf education providers in New Zealand. This was followed by seven qualitative semi-structured interviews with the senior leaders drawn from across these organisations. The survey was administered online and the interviews were conducted with leaders in person across New Zealand. Quantitative data underwent three levels of statistical analysis to reveal the first national demographic picture of the workforce. Qualitative findings revealed the workforce’s motivation to lead and also leader’s perceptions of succession planning methods and the sustainability of applicant pools for future leadership positions. Methodological triangulation of the findings from the two research tools revealed three main areas; firstly ageing workforce, secondly motivation to lead and thirdly development of future leadership. A need to formalise succession planning mechanisms for this small workforce due to an ageing leadership was established. Support and encouragement for leadership preparation in addition to development was made clear. Specific reluctance and driving factors for leadership were uncovered and the importance of high interpersonal relational skills was emphasised to nurture aspirants and develop leadership cultures.
Sara Donaghey: ‘Portraits of our lives: exploring lesbian identity through transgenerational narratives’

This research explores lesbian identity across generations by comparing and contrasting the oral narratives of older and younger lesbians from personal accounts of their experiences.

More specifically, the project aims to:

- Explore key life experiences drawn from autobiographical content
- Allow each participant pair of a younger and elder lesbian to perform both roles as interviewer and interviewee
- Allow the narrative process to explore both the individual and comparative experience
- Position the participants at the forefront of the interview process whilst the researcher takes on a secondary role as facilitator and observer
- Allow the recorded materials (audio and visual) to be used for the development of further creative products.

The project comprises 2 phases: a set of pilot interviews and the main project; a total of 20 women will be interviewed.

The project will lend a unique voice to lesbian women in New Zealand whose lives and experiences remain largely undocumented and unresearched. The interviews will also touch on challenges faced and how they were overcome and reflections on these experiences. It aims to bring into focus the lives of lesbians who comprise a significant minority of the population through interviews which will provide a forum for recollection, reflection and comment.

This innovative technique will allow the participant voices to textualise the gendered fabric of their lives. The oral narratives will illustrate the multiple meanings and evolution of lesbian sexual identity and by doing so, inform representations of gender and sexuality in New Zealand. By bringing a greater public awareness to lesbian lives, it is anticipated that the narratives will make a valuable contribution to existing knowledge for all communities of interest regardless of their sexual orientation. Finally, the project provides an opportunity to contribute to contemporary debate and to collect evidence from individuals excluded from dominant interpretations.

Such a frame will not only offer reflections on the past but also views on the present and thoughts about the future in ways that inform the contemporary representation of homosexuality in western society.

Helen Gremillion: ‘Developing a methodology for rethinking concepts of gender within feminist and men’s movements in Aotearoa/New Zealand’

Feminist and men’s movements are diverse, yet they tend to be stereotyped as two opposing ‘camps’. Arguably, many of the broad socio-political goals of (strands of) these movements are shared, involving transformations in dominant constructions of gender identity. In this presentation I will argue that members of these gender ‘movements’ talk past one another when they unknowingly engage in culturally dominant concepts of gender that represent identity in essentialist ways. Essentialist and dichotomized concepts of gender appear in different forms within men’s and feminist movements and become the focus of critique from ‘the other side’, even though these concepts share some basic assumptions that can be deconstructed. I am interested in developing an ethnographic, praxis-oriented research project that will help unpack and refigure the meanings of gender in these contexts. What possibilities for dialogue and rapprochement might open up between feminist and men’s movements if understandings of gender are shifted for both ‘sides’? This presentation will propose both methodological and theoretical approaches to addressing this question, with the aim of stimulating new ideas in the preliminary stages of a potential, long-term research project. The familiar and problematic positioning of the researcher as ‘cultural critic’, and the implications for research of alternative positionings, will receive special attention.

Pieter S. Nel, Andries J. du Plessis: ‘A longitudinal comparison of aspects of diversity in two commonwealth countries’

The focus is on diversity pointers based on four empirical surveys stretching over 10 years and forecasted for another 10 years for three of the four surveys. Diversity is defined as “all forms of difference among individuals, including culture, gender, age, ability, religious affiliation, personality, economic class, social status and sexual orientation.”
Research was executed via mailed questionnaires in 2000 in New Zealand (NZ) and forecasted for 2010 and compared with an identical repeat study in NZ during November 2010 to obtain longitudinal data. Both studies collected data via Human Resources Institute of New Zealand (HRINZ). The 2000 survey had a response rate of 10.1% and the 2010 survey had a response rate of 15.4%.

Using the identical questionnaire with minor editorial adjustments, the study was repeated in South Africa in 2002 with forecasts for 2010 using the Institute of People Management (IPM) membership list to gather data and resulted in a response rate of 12.5%. The IPM is the exact equivalent of the HRINZ. The data could therefore be compared with the NZ results for comparative purposes to establish trends.

A further snapshot study was also executed in NZ only in 2008 which focussed on themes identified in the previous studies and resulted in a 34% response rate. Themes focused on: diversity, equal opportunity change management, work-life balance and strategic competencies of HR practitioners.

The comparative results and trends indicate a heightened awareness of diversity, equal opportunity in the workplace and an increased role of HR practitioners to steer organisations to “do the right things”. Various recommendations are made to enable HR practitioners to manage the issues which were identified. It is, however, concluded that HR practitioners possess competencies and capabilities to increase HR effectiveness as far as diversity related issues in particular are concerned in both commonwealth countries.

Key words: diversity, organisations, culture, human resources

Anna Guo: ‘Never Mind ‘the Bollocks’! Examining vulgarism in the film ‘The Town’ by implementing Nida’s equivalence theory in the Chinese subtitle context’

This paper uses the framework of Nida’s dynamic equivalence approach to explore the translation of vulgarism. Translation is usually seen as the reproduction of the closest natural equivalent of the source language’s message. To achieve this goal, translators need to make adjustments in order to capture the contextual meaning especially when culture-specific items such as vulgarism are embedded in the source text. This paper aims to investigate the strategies used to attain the equivalent effect in the Chinese cultural context in the translation of subtitles of a selected Hollywood film, namely THE TOW.

Keywords: vulgarism, subtitling, formal equivalence, dynamic equivalence, contextual meaning, target audience-centered, culture-specific-item.

3.20 – 4.20
Stream 2 (Blue) 183-2049

Jonathan D. Leaver, Achela K. Fernando: ‘Improving student success and retention in civil engineering technician and technologist education’

To support an innovation led economy New Zealand requires an annual increase in engineering graduates with two or three year qualifications of up to 233% on 2008 numbers. At Unitec Institute of Technology engineering student numbers increased 24% from 2010 to 2011. However pass rates for the first year of the Diploma in civil engineering declined from 69% to 60% while those in the Degree increased from 79% to 81%. Detailed analysis of 73 courses delivered over an 18 month period showed that pass rates were independent of both the class size and the mathematical content of the course. A lack of self-directed learning skills is considered the main drawback for first year Diploma students. More rigorous pre-entry assessment along with the establishment of an engineering focused pre-entry certificate are planned to improve student success.

Keywords: Success, retention, technologist, technician.

Anthony Wareham: ‘Evaluating the effectiveness of plumbing and gas-fitting pre-trade programmes in New Zealand’

The objectives of this research were to examine the activities and to evaluate the effectiveness of three plumbing and gas-fitting pre-trade programmes in New Zealand. This research project was in response to the situation whereby the decreasing number of suitable school leavers entering trade training coupled with a significant outflow of trades-people from New Zealand led to fears that there will be insufficient skilled workers to provide for the needs of the country. These problems are exacerbated by the increasingly complex technologies and the highly specialised nature of the work which has transformed plumbing and gas-fitting into complex trades in which workers need the ability to work to complex installation instructions and to certify that their work complies with the relevant regulatory standards. In response to the growing shortage of suitable trade trainees the Government increased its funding to the various Industry Training Organisations (ITOs) which led to a number of pre-trade programmes being established. These programmes are primarily to
allow school leavers to be introduced to the trades before leaving school, however the utility and success of these programmes has gone largely unexplored. A case study evaluation methodology was used to explore the experiences, perceptions and opinions of three participant industry groups. These were the managers of three pre-trade programmes, an apprentice group, and lastly a selection of employers. This research revealed that there are significant differences within the three pre-trade programmes examined and identified key advantages and dis-advantages of pre-trade training in relation to both the students and employers. This study concludes that while these programmes were mainly successful in terms of their achievements, some improvements could be included to improve their effectiveness.

Achela K. Fernando, Peter Mellalieu, Edward Chai: ‘Effectiveness of MECS - a predictive tool to enhance Motivation, Engagement, Completion, and Success’

Traditional methods teachers deploy to encourage their students have limited success. Presuming engineering students will be more inclined to adopt positive behavioural changes if a mathematical model provides them with quantitative evidence that such changes of behaviour can lead to success and improved course grades, a predictive tool (MECS- Motivation, Engagement, Completion, Success) was developed. MECS-Tool can predict the course outcome (final examination mark) from input variables such as early attendance, overall attendance, and marks obtained in the formative assessments leading to the final examination. It was developed using the data for a cohort of students who completed a first year course (Fluid Mechanics) in 2010, validated with the data for the 2011 cohort, and made available to the cohort in 2012. The tool was particularly useful for the lecturer to identify the at-risk students early and offer appropriate additional support while the students who used it in 2012 responded that they (1) worked harder on remaining assignments (2) allocated more time for revision and tutorials, (3) determined not to miss lectures (4) chose to attend additional catch-up tutorials offered by the lecturer (5) decided to undertake assignments to a higher standard, and (6) started practicing previous exam questions early in their study. The completion rate for 2012 (76% of 68) was higher than that for 2010 (71% of 56) and, in particular, 2011 (61% of 79). It is inferred that all the above behavioural changes contributed to the higher success rate in 2012. Although the adoption of the tool for students was not widespread, an overwhelming majority of all respondents (not only its users) recommended it be made available to future cohorts.

Keywords: Predictive tools, Student Motivation, Student Engagement, Course completion.

Edward Chai: ‘Correlation between entry criteria and performance of students’

New students are accepted into a Civil Engineering programme when they meet the entry criteria for that programme. This study examines the performance of a recent new cohort into a Civil Engineering programme by following their progress through the first 3 semesters to see how their performance correlated with the extent to which they satisfied the entry requirements. The purpose of this research is (1) to find out if the entry requirement, especially mathematics, for this programme is adequate, and (2) if necessary, what the revised mathematics entry requirement is for this programme to enhance the success rates. For this particular cohort, the courses in which most of them were enrolled in for the 3 consecutive semesters were identified. Four courses in each of the 3 semesters were chosen. The student performance results in these courses were then obtained from PeopleSoft. The entry qualifications of the new cohorts were downloaded from NZQA records. The results of each of these chosen courses were studied, and the success rates of the new cohort under 4 categories were analysed. The 4 categories are (1) students satisfying entry requirements, (2) students not meeting entry requirements, (3) mature students with prior studies or relevant work experience, and (4) students with overseas qualifications or qualifications not in NZQA records. The preliminary results of the investigation show that the performance of category (1) is better than category (2) throughout the two semesters, but the gap is narrowing in the second semester. However, the students in category (1) are underperforming as well, even though they have satisfied the entry requirements. The best performer is category (3) and they have been consistently outperforming the other groups for the first two semesters. The initial conclusions that can be drawn are (1) the entry requirements for the new domestic students are not adequate, and (2) the entry qualifications cannot predict accurately the performance of students especially after the first semester in the programme. After the third semester results are analysed for this cohort, a more convincing conclusions can be drawn for this study and appropriate recommendations given.

Keywords: entry requirements, entry qualifications, performance
The speckled skink (Oligosoma infrapunctatum) is the only documented reptile species on Mokoia Island. The skink population was discovered in 1996, but as the viability of the population was unknown it was excluded from the Mokoia Island Ecological Management Strategy. Thus, we set out to provide population and health data so a speckled skink management plan can be developed for the Department of Conservation and Te Arawa. Skinks were caught using pitfall traps in November (n = 28) and March (n = 44). All skinks were weighed, measured, checked for external parasites and had small tail tip samples removed for genetic analyses. Cloacal swabs were also taken to assess the load of potentially pathological bacteria; these were later examined using a professional microbiological laboratory. During handling any excreted faeces were stored for investigation of any unicellular parasites as well as any eggs of metazoan parasites. Blood was drawn from the ventral tail vein in 22 individuals and blood smears prepared for evaluation of potential blood parasites using a microscope. We documented that the average mass of skinks was 8.2 g in November and 4.8 g in March and the average snout-vent length was 82 mm in November and 52 mm in March. Six animals were suspected to be in the late stages of pregnancy in November whereas no animal was suspected to be pregnant in March. These results suggest that like other New Zealand skinks, speckled skinks on Mokoia Island give birth between December and March. Tail re-growth was observed in 65% of skinks. No external or blood parasites were observed in any of the skinks. Similarly, no cloacal swab samples had Salmonella, Campylobacter, Yersinia, Pseudomonas or Aeromonas species isolated. The population has low genetic variation suggesting a small founder population for the speckled skinks of Mokoia Island.

Internationally, mega events have been used by cities to enhance their image and improve urban spaces. Cities may be viewed as commodities, particularly when local or national governments are making the pitch for hosting rights of such events. As a commodity, they need to sell themselves, often requiring some change in the way they look and perform. New Zealand’s hosting of the Rugby World Cup (RWC) in 2011 created an opportunity for New Zealand to carry out much-needed improvements to the image of the country, the big cities and especially Auckland in particular. Of the 48 World Cup games, 15 were held in Auckland, including the semi-finals and the final, as well as the opening and closing ceremonies for the event. The city required significant changes and improvements to local infrastructure, as well as expansion and upgrade of a number of venues, all within a relatively short space of time. This paper looks at some of the transformations that took place in Auckland in the lead up to the Rugby World Cup 2011 (RWC), and explores the impacts of the event on planning processes and performance in the city.

The paper first identifies the range of projects undertaken as part of the RWC upgrade in Auckland, and then focuses on the perceptions of seven industry representatives who were involved with key projects in the RWC development in Auckland. These individuals all participated closely in the planning and development processes of their respective projects. They have provided their reflections on how the RWC affected their projects, and lessons learnt in delivering within the context of such a mega event. The paper also briefly considers their perceptions of the social and economic impacts resulting from the RWC developments, and the opportunities lost and gained in the process.

Glenn D. Aguilar, Mark J. Farnworth: ‘Stray cats in Auckland, New Zealand: Discovering geographic information for exploratory spatial analysis’

Stray cats are a common feature of urban landscapes and are associated with issues of animal welfare and negative environmental impacts. Management, planning and decision-making require readily accessible information on stray cats. However, much of the existing data is not immediately useful for a geographic information system (GIS) in terms of format, content and explicit location information. Spreadsheets were obtained from a single large shelter in the Auckland region. They contained records of stray cat pickups and admissions for an entire year (n = 8573) of which 56.4% (n = 4834) contained data that could be processed to derive relevant spatial information. Published census databases and shapefiles were matched with the data to build a GIS of stray cats. Global and local regression analysis was employed to discover spatial distribution characteristics including the identification of areas with relatively high and low concentrations of stray cats.
and to explore relationships between socioeconomic condition and stray cat density. Significant clustering is more evident in South Auckland than elsewhere in the region. Specific geographical information is valuable, not only for understanding population dynamics of stray cats, but also to allow spatial and temporal targeting of resources to minimise their impact and promote responsible ownership.

Jenny Collins: ‘Negotiating spaces in a male domain: The principalship in New Zealand, 1880-2011’

Historical forces create the conditions principals inherit, they shape their professional practice and underpin the conceptual frameworks through which they understand the world. This paper builds on recent scholarship on the gendered nature of educational work to argue that while conceptualisations of the principalship are underpinned by scholarship and policy assumptions that construct the work of the principal as a male domain, women have responded to opportunities presented by changing historical, political and social contexts, creating professional spaces for themselves as principals in primary and secondary schools within both state and Catholic school systems. The final section of the paper expands the consideration of the principalship beyond the northern hemisphere by examining selected data on principal appointments and the significance of issues relating to gender and religion in New Zealand schools during the years 1880-2011.