

2008 - NZIDRS Successful Recipients by Country of Origin

Bangladesh - 1

Farhana R. PINU – University of Auckland (Microbiology) - Accepted

- The controversial topic of synthetic dyes in food has resulted in a current consumer preference for naturally derived pigments. However, the current availability of natural pigments is limited and mostly produced from plant based sources which are relatively expensive. Pigment production via microbial fermentation is an attractive alternative technology for production of natural food colorants. Farhana's research aims to evaluate the nature of pigments produced by microbes held within the University of Auckland's School of Biological Sciences (where they hold a large culture collection of environmental-isolated microbes containing hundreds of pigment producing strains), to assess their potential for industrial application. Selected microbial strains will be subjected to metabolic engineering studies to improve production yields under fermentation conditions.

Belgium - 1

Catherine BALLÉRIAUX – University of Auckland (History) - Accepted

- Catherine proposes to undertake a comparative study of the English, Spanish, French and Dutch conceptions of the New World 'Savage' in the first half of the seventeenth century (c. 1600-1660). Her sources will mainly be travel writings and popular discourses about 'barbarian' peoples, together with philosophical texts. Her study will include facets of how Europeans understood American natives as well as European reflections on nature, humanity and bestiality in the sixteenth and seventeenth centuries.

Canada - 4

Etienne LALIBERTÉ – University of Canterbury (Forestry) - Accepted

- Pastures and rangelands are the most extensive land uses on earth, and are expected to undergo rapid intensification to meet the forecasted doubling in global food demand by 2050. Because agricultural intensification is one of the main drivers of global biodiversity loss and environmental change, there is a crucial need to explore how long-term changes to biodiversity brought on by land use affects the functioning of ecosystems, their resilience in the face of unexpected environmental change, and the services they provide to humanity. Etienne's research project will explore the long-term impacts of agricultural intensification on plant functional diversity, and how this in turn affects ecosystem functioning, ecosystem services and the resilience in New Zealand's high country rangelands, specifically in the Mackenzie Basin. He plans to quantify the trade-offs associated with different land-use scenarios in the region to better inform management.

Victoria C MARTIN – University of Auckland (Psychology) - Accepted

- Past research into episodic memory has focussed on our ability to recall previous experiences. However, recent evidence suggests that a common neural network may underlie both our ability to remember our past and the capacity to imagine ourselves in the future. Victoria aims to clarify the cognitive processes used in 'mental simulation'. Using fMRI, her goal is to gain further insight into episodic memory and its role in allowing the mental simulation of future events.

Gina SNELGROVE – University of Otago (Psychology) - Accepted

- Gina's research project will test control subjects in different handedness groups and subjects lacking the corpus callosum (the largest fibre bundle which connects the two brain hemispheres) on both novel and intermanual transfer tasks (in which one hand learns a motor pattern and the other repeats it) and novel bimanual motor tasks. Brain scans will then be performed on controls using functional magnetic resonance imaging (fMRI) to see which brain areas are active during both the learning and transfer tasks. This will allow examination of the role of the corpus callosum in both tasks and to determine whether the outcome is dependant on handedness and/or the symmetry of the motions.

Jolene SUTTON – University of Otago (Conservation Biology) - Accepted

- Theory predicts that genetic bottlenecks should initially decrease allelic diversity through random sampling of individuals from the source population, and subsequently through inbreeding and genetic drift if populations remain small. Contrary to predictions, neutral microsatellite markers reveal no significant difference in genetic diversity between source and translocated populations of New Zealand's South Island Saddlebacks. Studies indicate that levels of variation at the major histocompatibility complex (*Mhc*), a highly polymorphic multi-locus gene complex responsible for generating the immune response in vertebrates, may be positively correlated with offspring survival. In her research, Jolene intends to examine *Mhc* diversity among source and translocated Saddleback populations and compare the data to levels of diversity observed at neutral loci.

China – 1

Chi Yeung (Jimmy) Choi – Massey University (Ecology) - Accepted

- The timing of migration is considered to be a critical component in the fitness of migratory birds. While the importance of fixed cues such as day length in entraining the general timing of migration is well understood, it is increasingly evident that birds migrating north towards the Arctic can encounter food of increasing quality as they migrate. There may be a 'spring wave' of growth in plant of invertebrates that birds capitalise on, or there could be an underlying latitudinal gradient in prey quality. For Red Knots (*Calidris canutus*), a mollusc-eating shorebird that migrates huge distances to the High Arctic to breed, it has been suggested that unexpectedly late departures from NW Australia to China are enabled by prey quality being much higher in China than in Australia. Jimmy's research will test whether the timing of migration of Knots in the East Asian-Australasian Flyway corresponds with an increase in prey quality on an hemispheric scale, from New Zealand to China.

Denmark - 1

Steen W. KNUDSEN – University of Auckland (Marine Biology) - Accepted

- Steen's proposed project aims to elaborate phylogenetic and phylogeographic relationships in the seachub genus *Kyphosus*. This is to be achieved by a) describing patterns of gene flow and species boundaries in this group of predominantly widespread species, and b) 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, and 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.

El Salvador – 1

Coralia V. VALDIZON GARCIA – University of Auckland (Chemistry) - Accepted

- The proposed research will relate to the chemical and olfactory characterisation of the volatile compounds found in the tropical white fruits White Sapote and Cherimoya (both found in NZ), and their release from precursors. Samples of the fruit will be extracted in order to obtain the volatile compounds, which will then be qualitatively and quantitatively analysed. She will also be investigating the metabolic origin of the volatiles.

Germany - 8

Carolyn M BOESE – Victoria University of Wellington (Geophysics) - Accepted

- Carolyn's research project looks at seismogenesis (earthquake generation) on the central section of the Alpine fault in New Zealand's South Island. As a member of the Southern Alps Micro-earthquake Borehole Array project, she intends to record the ground motion of earthquakes down to a magnitude of 0.5. by investigating the collected seismic data, earthquake hypocentres can be relocated to get a detailed knowledge of the fault structure in this region. Carolyn's proposal states that there appears to be a gap in the seismic activity in the central section of the Alpine Fault, where elastic strain could build up or where elastic strain could be released by means other than that of large destructive earthquakes. Therefore, the central section of the Alpine Fault could be a zone of high earthquake risk, but also a potential geothermal reservoir.

Peter BREU – University of Waikato (Psychology/Traffic & Road Safety) - Accepted

- The aim of Peter's research is to help address the young driver problem by testing new innovative ways on how life saving higher level driving skills such as hazard detection, risk management and self control can be taught via real traffic video simulations from the safety of their computers. The effect of this training on real driving behaviour will then be evaluated by installing GPS based data trackers into the cars of the trainees so that their post training driving behaviour can be objectively recorded, evaluated and further corrected.

Saskia HINRICHS – AUT University (Marine Biology) – **Declined Award**

Jens HORSTKOTTE - AUT University (Marine Biology)

- Although the squid family *Cranchiidae* is among the most numerous squid family in the world's oceans, their systematics remain unclear. Most species show a huge ontogenetic change in morphology that various growth states in a single species have been attributed to different genera or species. Jens plans on undertaking a systematic revision which will include morphological and genetic investigation of different growth states. This will help to understand the systematic of *Cranchiidae*.

Arno LEIST – Massey University (Computer Science) - Accepted

- Arno's research focuses on the application of the small-world phenomenon to the routing of messages within large-scale computer networks. His goal is to create a practical implementation of the small-world network model which can be used to store and discover semantic metadata. This data is the foundation for the Semantic Web as proposed by standards organisations like the World Wide Web Consortium. He intends to implement and evaluate a number of small-world models developed by well known authors in this field. The findings of his experiments will then be used to create a new model that takes the properties of large-scale computer networks in general and of a network for the distributed storage of semantic metadata into account.

Benjamin LINDT – University of Canterbury (Sociology) - Accepted

- This research aims to explore how caste-based inequalities are reproduced and what the consequences for the Indian Information Technology Industry and wider society are. In order to analyse both the dimension and the meaning of the phenomenon, quantitative and qualitative methods will be used. Part I involves a statistical analysis of the caste composition of the workforce in a representative company. As a few small-scale studies imply, a strong overrepresentation of high caste members in this part of the industry is likely to be evident. Part II will be based upon qualitative, semi-structured guided interviews. Conducted with applicants who have been through the industry's recruitment process, the interviews will explore the participants' perceptions of the role caste plays in selection, which is supposedly based only upon merit. These interviews will compare the views of high and low caste members, and of those who were recruited and those who were not. Finally, these results will be contrasted with interviews conducted with HR managers within the industry.

Christian LINKE – University of Auckland (Biological Science) - Accepted

- Christian's PhD project investigates the molecular mechanisms by which the widespread pathogen *Streptococcus pyogenes* infects humans. This bacterium causes common diseases such as pharyngitis, as well as lethal diseases such as toxic shock syndrome. Infection depends upon virulence proteins called adhesins that enable the pathogen to adhere to human tissues. He aims to solve the atomic structures of certain adhesins in order to discover how they mediate binding to human cells.

Natalie J B LORENZ – University of Auckland (Molecular Medicine) - Accepted

- *Staphylococcus aureus* is the major cause of hospital acquired infections and post-surgical sepsis worldwide. The development of multiple antibiotic resistant strains requires the development of new infection treatment approaches, which can only be based upon the best possible understanding of the *S. aureus* organism and its infection strategies. The objective of Natalie's research is to determine the role of Superantigen-like protein 7, a recently discovered virulence factor of *S. aureus*, throughout the infection of the host organism. The generation of a Δ ssl7 isogenic knockout and ssl7⁺ strain of *S. aureus* will be followed by experiments comparing the infection rates of both strains in a mouse model. To finalise her project, she will test the effect of prophylactic vaccination with

attenuated forms of SSL 7 protein and the ability to suppress virulent infection in a mouse model system.

Susanne E. SCHÜLLER – University of Otago (Marine Science)

- Susanne seeks to identify and understand mechanisms that control the sedimentation and preservation of phytoplankton from the water column into the sediment in Fiordland, New Zealand. She proposes to investigate the selective loss of phytoplankton groups through the water column in fjords in order to understand the mechanisms driving selective preservation, to investigate the effect of varying physiochemical gradients within fjords on phytoplankton and to identify the grazing pressure on the fjords phytoplankton community. A lack of knowledge in this area as well as the unique and physiochemical gradients and deep anoxic basins offer an ideal setting in which to shed light upon these mechanisms. Benefits of Susanne's research include a better understanding of the 'carbon pump' – sequestration of atmospheric carbon dioxide by phytoplankton and burial in sediments, and should therefore, provide valuable information on the role of fjords in carbon cycling.

India - 6

Samudragupta BORA – University of Canterbury (Cognitive Science) - Accepted

- The aim of Samudragupta's research is to describe the development of executive functioning and motor ability of 6-year old children born to mothers enrolled in methadone maintenance treatment during pregnancy. He plans to examine the effects of prenatal methadone exposure, early brain structure and development, postnatal socio-familial risk factors and influences on the developmental trajectories of children. The proposed study will contribute to knowledge about the effects of methadone exposure and family adversity on children's later cognitive, behavioural and socio-emotional development.

Sagar Satish DATIR – Lincoln University (Botany) - Accepted

- Potato tubers accumulate reducing sugars at low temperatures, a phenomenon referred to as cold-induced sweetening (CIS). The increase in reducing sugars has detrimental effects on the quality of fried potato products. Sagar's research will investigate the genetic, biochemical and molecular factors contributing to the initiation and/or control of CIS in potato tubers. He will construct a genetic map of the potato using progeny from a cross between potato cultivars with poor and excellent CIS response. This will define specific genes associated with CIS by including molecular markers designed for candidate genes with assigned functional roles in carbohydrate metabolism. Gene constructs designed to eliminate candidate gene expression in tubers will also be designed and transferred to potatoes. Analysis of the resulting plants will provide additional evidence to verify the identification of key genes for the future genetic improvement of tuber properties with respect to long term storage and processing characteristics.

Pranav KARMMWAR – University of Otago (Biotechnology) - Accepted

- Most patients prefer oral delivery for prescribed drug regimens. Peptide/protein therapeutics have had a place for some time in the treatment of human afflictions. Such treatment however, is largely intravenous or subcutaneous. In a joint project between Massey and Otago Universities, Pranav seeks to use a natural, biocompatible carbohydrate, pectin, as a drug carrier and delivery agent. The specific targeted delivery area is the colon. Pectin will preserve the integrity of the peptide/protein therapeutic through the GIT for delivery to the colon where it will be degraded and release the drug.

Albert KURUVILA – University of Canterbury (Social Work & Human Sciences) - Accepted

- 'Empowering People and Organisations – An experiment with Not-for-Profit Social Service Organisations in Christchurch, NZ' is an experimental study which aims to formulate and implement a need based management training programme for personnel working in not-for-profit social service organisations (NPOs) in Christchurch. His specific objectives include studying the profile of personnel in NPOs, to understand the current management practices of NPOs, identify the management training needs of these personnel then to formulate, deliver and evaluate the impact of this training. He will then develop and publish formal training materials for both trainers and trainees in the NPO management sector.

Santosh Kumar SAHU – Massey University (Veterinary Medicine) - Accepted

- Santosh's objective is the development of a suitable cryo-protective agent and diluent for the deep freezing of ram semen. Frozen semen has been used on a limited scale in sheep breeding programmes because of the unavailability of suitable cryo-protective agents for long term preservation of frozen ram semen. This research has the potential to be of great value to the New Zealand sheep and wool industry as it will allow an increased usage of superior sires with better reproductive performance.

Megha Rajesh SHAH – University of Auckland (Biological Sciences) - Accepted

- DING-mediated pathogenic interactions of *Pseudomonas* with human cells. DING proteins are still poorly studied although they are ubiquitous in animal and plant isolates, but also present, though more variable in a limited range of microbes. Poor availability of the proteins and a lack of genetic structure have hampered the progress in elucidating the roles of these proteins. Recently, the cloning and expression of a recombinant DING protein from *Pseudomonas fluorescens* SBW25 in *Escherichia coli* has provided a unique opportunity to investigate the physiological roles of DING proteins. With the availability of recombinant protein, it is now easier to make mutated versions of the same. Megha is particularly interested in studying the interaction of these proteins with eukaryotic cells, focusing on cell adherence, penetration and effects on cell signalling pathways.

Iran - 2

Zeinab DEGHAN-SHOAR – Massey University (Food Technology) - Accepted

- Zeinab plans to conduct research in relation to enriched foods. Extruded cereal-based foods including snacks, pasta and noodles are widely used convenience foods; however, these products are low in all nutritional attributes other than energy. Zeinab contends that they are therefore good targets for enrichment. Fruit and vegetable by-products are underutilised, cheap sources of nutrients. Tomato skin, a major by-product of tomato processing, is particularly important because it contains large amounts of both fibre and lycopene. Dietary fibre and lycopene are considered to reduce the risk of cancer and obesity and to promote gut health. Lycopene also has potent antioxidant activity. The development of Tomato Enriched Extruded food products (TSEE) produces novel foods that will provide energy while incorporating essential nutrients. However, the effect of extrusion – high temperature and shear processing – used during the production of many foods on the functionality of lycopene and fibre is poorly documented.

Mahsa MOHAGHEGH – Massey University (Computer Engineering) - Accepted

- Developing techniques for finding meanings of unknown words in context is a challenging problem in both text and speech translation and will be a problem of interest for Mahsa's study. Her research group is focusing on the case in which an unfamiliar script encodes a known language. They will consider which scripts are easy or hard to decipher, how much data is required and the robustness of techniques. A rule-based parser will be designed and tested for the Farsi language and she will also be developing algorithms using recent fuzzy logic theories, hardware methods and apparatus with the intention of processing a spoken request from a user.

Israel – 1

Idan SHAPIRA – Massey University (Conservation & Behavioural Ecology) - Accepted

- The aim of Idan's research project is to further understand rodents' olfactory communication behaviours and to improve conservation practices by developing methods which will reduce or eliminate poison usage, shorten eradication times, and aid rodent control in a cost-effective manner using field and laboratory methods. Soon after their introduction, the Pacific, Norway and ship rats together with the house mouse became widespread across the NZ archipelago causing severe effects on the native flora and fauna. Since this time a great effort has been put into eradicating them and Idan plans to focus on their dependence upon olfactory communication.

Kenya – 1

James R KOSGEY – Lincoln University (Plant Science) - Accepted

- To maximise dry matter yields, crops must intercept solar radiation for the longest possible duration. However, leaf senescence reduces the duration of interception and thus reduces dry matter yield. 'Stay-green' cultivars remain green for longer periods than conventional cultivars; hence absorb more solar radiation and increase their yield potential. In addition, they also exhibit some degree of drought tolerance. James' research aims to establish the physiological basis of the 'stay-green' characteristic in forage maize as well as establishing the mechanism of its drought tolerance. His objectives include determining the role of nitrogen (N) in the expression of the 'stay-green' trait. In addition, he intends to establish the mechanism of their drought tolerance and will explore the possibility of a nitrogen and water interaction in explaining the 'stay-green' characteristic. The findings of his study will be useful in matching the genetics of the crop with the most suitable environment in order to maximise dry matter yields.

Malaysia – 1

Shin Tien HOH – University of Auckland (Chemical Engineering) - Accepted

- The title of Shin Tien's proposed research topic is 'Biofuels as a renewable energy resource and other useful chemicals derived from fats and oils'. Her objective is to study in-depth the production of biofuels, including reaction kinetics and various processing parameters effecting its physical properties such as pour point and combustibility etc. The scope of her project will include the design and erection of a pilot scale biofuel plant which will enable the detailed investigation of the set parameters with the intention of moving towards optimum biofuel manufacturing conditions with possible commercial application.

Pakistan - 1

Saddam Akber ABBASI – University of Auckland (Statistics) - Accepted

- In a Statistical Process Control Tool Kit, the control chart is the most commonly used and most powerful tool for process monitoring. Memory less control charts such as the Shewhart control schemes address larger shifts in process parameters whereas memory control schemes such as the exponentially weighted moving average (EWMA) and CUSUM control structures instead address smaller shifts in control parameters. In EWMA, CUSUM and the Shewhart setup, robust control schemes (least affected by outliers) are always desirable. Sample statistics mostly used in the literature such as sample range and sample standard deviation are severely affected by the presence of outliers in the data. Saddam proposes to research the memory control charts which are based on such sample statistics robust to outliers such as the Gini means' difference or the Probability Weighted Moments (PWM).

Sri Lanka - 1

S. M. Maheshini R. MAWALAGEDERA – Victoria University of Wellington (Crop Science)

- Maheshini will be evaluating the antioxidant potential of *Sonchus oleraceus*. She plans to measure the antioxidant potential of different ecotypes (identification and quantification of antioxidants) in correlation with the soil and climatic condition of the geographic locations being surveyed. She will then identify via agronomic studies the plant nutrient and water supplement required for optimum harvestable yield and antioxidant potential. The feasibility of soil-less cultivation (such as soil-less grow bag culture, trough culture and aeroponics, each combined with suitable elicitors) for standardisation, higher consistency and optimisation of antioxidants will be evaluated. She also intends to look at the feasibility of bioreactors to produce and extract antioxidants at large scale from cell cultures.

United States of America – 8

Alice DOUGHTY – Victoria University of Wellington (Earth Sciences) - Accepted

- Detailed exposure-age chronologies exist for several Holocene and Late Glacial moraine sequences in the South Island of New Zealand. However, we do not currently understand how this evidence of glacier fluctuations relates to past climate fluctuations and several compelling hypothesis exist. Alice's research will include collecting measurements from the Fox, Cameron and Tasman Glaciers, including size, flow rates, snow pit stratigraphy and modern climate. In addition she intends to build mass balance and glacier flow models to simulate accumulation versus ablation, flow rates and fluctuations in present-day glaciers. She will adjust the temperature and precipitation parameters to drive glaciers out to the dated moraines. Through her research project, she hopes to test the hypothesis that New Zealand moraine records principally reflect temperature changes. This will lead to a deeper understanding of past climate changes and their overall causes.

Matthew HARMS – University of Waikato (Cultural Anthropology) - Accepted

- The community based Maungatautari Ecological Island project (MEIT) has since 2002, fenced a 3400 hectare montane area, removed non-native mammalian pests, and reintroduced native biota. From an anthropological standpoint, the project's success likely comes from a degree of collaboration among the community's Māori and Pakeha members. Matthew proposes to build upon his Masters research into the sociocultural and historical factors associated with New Zealand's community based conservation, and will investigate the actual influence of these factors and the extent of biculturalism attained in the MEIT project. He intends to conduct fieldwork while living in the Waipa district to perform project volunteer work that will permit conversational interviewing and discussion with community/project members in a connected, mutually-beneficial relationship. In addition, he plans to highlight key findings by comparing the factors of the MEIT community and project to those at work in an aptly parallel (postcolonial, Polynesian minority) Hawaii.

J Ari KORNFELD – University of Canterbury (Biology) - Accepted

- Plant respiration releases 50-60 gigatons of carbon into the atmosphere – 10 times as much carbon as from anthropogenic sources. Although photosynthesis may absorb as much carbon as is released, small shifts in the relationship between plant photosynthesis and respiration could result in dramatic shifts in the amount of carbon released into the atmosphere, which could have possible consequences for global climate change. In particular, plants have an enigmatic respiratory enzyme, alternative oxidase (AOX), that 'wastes' energy which would otherwise have been gleaned from the oxidation of carbohydrates to CO₂. Laboratory studies confirm that engagement of AOX can increase the relative amount of carbon released by a plant. Further laboratory studies indicate that AOX is activated in response to stresses such as soil nutrient or water deficiency. Ari proposes to study, through a combination of field and glasshouse research, how these stresses may affect AOX engagement and therefore, the CO₂ balance in natural environments.

Crystal LENKY – University of Canterbury (Antarctic Studies) - Accepted

- Changing climate conditions in the Antarctic may result in fitness impacts on resident organisms. Weddell seals are key Antarctic predators, yet we know little about their feeding habits, especially in lactating females. Previous research suggested organic osmolytes found in marine organisms may serve as dietary biomarkers in Weddell seals. A key issue is whether osmolytes vary sufficiently among taxa to be used as biomarkers of consumption of particular prey types. Crystal's research will analyse prey species of Weddell seals using NMR to ascertain typical concentrations of osmolytes across taxa in order to develop taxon-specific biomarkers. Measurements of the concentration of these same osmolytes in plasma and milk samples of female Weddell seals during lactation will allow determination of what the seals have been eating and when.

Kevin ROBINSON – University of Auckland (Geology) - Accepted

- Kevin intends to look at the application of paleolimnological techniques to lake sediment cores from multiple study sites in order to produce the first high-resolution climatic history of the Auckland region spanning the past 2000 years. Quantification of sedimentary chlorophyll-*a* concentrations through innovative diffuse reflectance spectroscopy techniques will be paired with diatom counts and associated transfer functions in order to resolve a history of variations in target lakes' primary productivity rates and physiochemical characteristics. The resulting records will be correlated to pre-existing short-term tree-ring inferred records of paleotemperature and hydrology to identify and quantify pre-historical natural environmental changes and temporally extend the understanding of

late-Holocene climatic trends. High quality data representative of specific climatic variables will be integrated in existing climate models to help improve the prediction of future climatic variations.

Zachary SCHLADER – Massey University (Food, Nutrition & Human Health) - Accepted

- Exercise Fatigue affects everyone, and can limit the lives of individuals living with disease and even severely affect people whose occupations push them to their physical limits. Exercise in the heat stresses the homeostatic balance of the body that results in the acceleration of fatigue, which appears to be due to an increase in body temperature, or hyperthermia. The short-term goal of Zachary's research is to analyse and integrate the two hypotheses which have been put forward to explain the accelerated fatigue associated with exercising in the heat. This research will be directly applicable to individuals whose occupational or recreational activities commonly place them in danger of hyperthermia, and potentially could result in improved environmental ergonomics. Long-term, hyperthermia induced fatigue could be used as a model to evaluate general exercise fatigue.

Brandon WHITEHEAD – University of Auckland (Geography) - Accepted

- Petabytes of geoscientific information, with varying degrees of precision, accuracy, and empirical certainty are being stored across discordant private, public, and research data archives. Coincidentally, geoscientific tools are rapidly being developed for assorted tasks in the professional and research communities respectively. The creation of such a vast array of data and tool sets has created challenges in conveying the knowledge and insights offered by any of the digital resources held in data archives. Those who create such resources are increasingly not those who use them, so how should they be understood and interpreted? Brandon's research will attempt to deal with this problem by developing a representation language for the process of scientific discovery in the geosciences that provides an account of how ascribed meaning is developed and evaluated. This will serve as a permanent record of interpretive activity for the analyst(s) involved and a means to communicate their understanding to others.

Jessie WILSON – Victoria University of Wellington (Psychology) - Accepted

- Jessie's research seeks to further harmonise and conceptually integrate intercultural adaptation assessment and instrument development. Specific focus within this area will include:
 1. A meta-analysis examining successful predictors of socio-cultural adaptation
 2. Revision and expansion of Ward and Kennedy's (1999) Socio-cultural Adaptation Scale (SCAS)
 3. Inclusion of the socio-cultural predictors identified by meta-analysis to validate revised SCAS using adult and adolescent samples; and
 4. Initial exploration of the behavioural skills included in the SCAS for potential manipulation or observation in an experimental setting as determinates of successful socio-cultural adaptation.