Pacific Voices IX
PACIFIC POSTGRADUATE SYMPOSIUM
27 SEPTEMBER 2012
FOREWORD

I have been a regular participant at the Pacific Voices Symposium for several years, so it is a special pleasure for me to be asked to write this foreword as it allows me to say something about an annual event that I especially relish. Of course, hearing about new things is always inspiring, but the diversity and depth of topics I have encountered at these wonderful occasions has been consistently awe-inspiring, and the degree of understanding revealed by these remarkable emerging Pacific researchers is comparable to that of papers given at major international conferences.

Because of my expertise, my role at Pacific Voices has invariably involved chairing a session with a scientific theme, although I observe that the science expounded is frequently well outside of my comfort zone in regard to what I really know about. With a background in Antarctic and Arctic marine science, glaciers and sea ice, it is perhaps not surprising that I am still waiting to hear my first Pacific Voices lecture that interconnects absolutely with my own learning! Notwithstanding, the talks are always well-prepared and informative, and I have taken the opportunity to ask one or two challenging questions or to give suggestions about how a presentation can be made even better. This is the nature of collegial interaction, where academic inquiry and advice can enhance research quality and clarity.

Perusing this volume, I see that Pacific Voices IX is yet another exceptional publication that conveys the intensity of creative Pacific scholarship that exists at Otago University. It is our students’ success that we celebrate here – congratulations and well done to the supervisors who will have helped along the way.

The University is proud of its latest Pacific scholars, who, I am confident, have the knowledge, talent and passion to make a difference.

To conclude I personally thank all those responsible for Pacific Voices IX.

Vernon Squire
Deputy Vice-Chancellor
(Academic & International)
Convenor, Pacific People’s Reference Group
CONTENTS

Foreword: Professor Vernon Squire 3

Nonviolent resistance in the Pacific: A comparative study of Samoan and West Papuan independence movements

Sofara Aiono 6

Dissolution kinetics of biogenic calcium carbonate – Effects of saturation state, temperature and surface area

Patila Malua Amosa 8

Migration, development, and left-behind social impacts of Ni-Vanuatu workers in New Zealand’s RSE scheme

Rochelle-lee Bailey 10

Arts-based approaches to community peace education in contemporary Fiji: Telling stories for change in the world

Tui Nicola Clery 12

Mixed Blessings: Oral histories of the part-American/Cook Islands war children

Marsa Dodson 14

A Māori approach to a community-based study of heart health among Māori and non-Māori communities – Baseline findings in the Hauora Manawa/Community Heart Study

Allamanda Faatoese 16

Oral cancer: A silent killer amongst the Pacific Island community living in New Zealand

Ratu Osea Gavidi 18

The scientific and cultural aspects of renewable energy development success in Samoa

Seth Gorrie 20

Legal education of Pacific Islanders in New Zealand

Mara Kawehiwehi Mauliola Hosoda 22

Functional analysis of parapoxvirus-encoded vascular endothelial growth factors (VEGFs)

Marie Kay Inder 24

Employment among schoolchildren and its associations with subsequent adult substance use and psychological wellbeing

Ella Iosua 26

Kiritimati Island renewable energy: Integration of wind energy to the electricity grid

Kireua Bureimoa Kaiea 28

Violence against women in custom and the introduction of a resource extraction wealth in Papua New Guinea

Amie Kirkham 30

Onset of mental disorder, time to treatment and untreated recovery by ethnicity

Jesse Kokaua 32

Academic motivation: Factors influencing learning amongst tertiary students

Kaveeta Kumar 34
Making a living in Vanuatu: Livelihoods and development in peri-urban Port Vila
Emily Leslie 36

Friend or foe? 1962 Friendship Treaty between New Zealand and Samoa: A Samoan perspective
Michael Fusi Ligliga 38

Urban principals’ perception of the impact of leadership and management training in Fiji
Narsamma Lingam 40

Hastened relaxation in a non-failing diabetic heart
Shivanjali J Lingam 42

Selecting embryos: Should we be able to choose a deaf child over a hearing child?
Albany Lucas 44

Searching for a pastoral care model in relation to banishment in Samoan society
Selota Maliko 46

Dependence in Small Island Developing States on imported energy and aid
Keron Niles 48

The cross-cultural adaptation of international medical graduates (IMGs) to general practice in New Zealand
Madhukar Mel Pande 50

Follicles and thecal tissue in the normal and polycystic ovary
Saifagaloa Salä 52

Transgelin: Discovering its role in prostate cancer
Priya Samalia 54

Heritage management and connections to the archaeological past: A Samoan and American Samoan study
Lorena Ileana Sciusco 56

Diversity detection of ectomycorrhizal fungi: Developing methods and ecological application for detection of microbial communities
Suliana E Teasdale 58

Overcoming community participation limitations in tourism planning in Papua New Guinea
Alcinda Trawen 60

Watchdogs of the South Pacific? Australia and New Zealand news coverage of Fiji, PNG and Solomon Islands
Courtney Wilson 62

Faafetai tele lava
Tofilau Nina Kirifi-Alai 64

APPENDIX
Opening address, Pacific Postgraduate Symposium
6 October 2011
Professor Helen Nicholson
Acting Deputy Vice-Chancellor (Research and Enterprise)
SOFARA AIONO

Sofara was born and raised in Wellington/Porirua, and is of Samoan and Tokelauan descent. He received a University of Otago Māori and Pacific Island Entrance Scholarship, in 2008, and holds a BA in Anthropology. He is currently working towards a Postgraduate Diploma in Arts majoring in Peace and Conflict Studies.

Academic department: National Centre for Peace and Conflict Studies, University of Otago

Division: Humanities

Supervisor: Dr Heather Devere

Email: sofara.aiono@gmail.com
NONVIOLENT RESISTANCE IN THE PACIFIC: A COMPARATIVE STUDY OF SAMOAN AND WEST PAPUAN INDEPENDENCE MOVEMENTS

Sofara Aiono

This research evaluates the theory and practice of nonviolent resistance by comparing the Mau movement of (Western) Samoa during the 1920s-30s and the Free West Papua movements today. Both of these movements were largely driven by a desire for independence – Samoa from New Zealand administration and West Papua from Indonesian rule. Several academics have suggested that nonviolent resistance is more sustainable and effective than armed conflict: Sharp proposed pragmatic steps of nonviolent action, and Chenoweth and Stephan provide statistical analysis of conflicts from 1900-2006 to support this argument.

The Western Samoan Mau was a key proponent of an independent Samoa, whose methods and practice were largely based on noncooperation, parallel governance, symbolism and indigenous knowledge. West Papuan movements have incorporated the same processes yet have not attained independence. Comparing and contrasting these movements raises the question of whether West Papua could be guided by the Western Samoa case, or whether the American Samoan Mau approach of ‘dependence with dignity’ rather than full autonomy is more realistic. The dissertation will also take into account the differences in the contexts of these independence movements to acknowledge the complexities and dangers associated with political change.

Keywords: civil resistance, nonviolence, West Papua, Samoa

PatiLa maLua amosa

Patila completed her BSc/DipEd at Flinders University of South Australia. She then worked at the National University of Samoa for 12 years before coming to the University of Otago for a PGDip in Science (2005) and an MSc in Environmental Science (2006). Patila returned to Otago on a Doctoral Scholarship last year for her PhD on the impact of ocean acidification on calcifying organisms.

Academic department: Chemistry, University of Otago

Division: Sciences

Supervisors:
- Professor Keith Hunter
- Associate Professor Abby Smith (Marine Science)
- Dr Kim Currie (NIWA)

Advisor: Dr Sylvia Sander

Email: pamosa@chemistry.otago.ac.nz or amopa712@student.otago.ac.nz
The skeletal framework of many marine organisms is formed of two types of calcium carbonate (CaCO₃) minerals, calcite and aragonite. The dissolution rates of these polymorphs depend on the chemical and physical properties of the seawater in which the organisms grow. Oceanic uptake of atmospheric CO₂ is gradually changing these properties to potentially unfavourable levels that may enhance dissolution.

The major goal of this project is to determine the impacts of the saturation state (Ω) of CaCO₃, the temperature as well as the reactive surface area of the carbonate mineral on the rate of dissolution of biogenic carbonates. The dissolution rates can be measured at steady-state disequilibrium using a pH-stat technique over a pre-determined time. Weighed CaCO₃ samples are titrated with acid of known concentration and the cumulative volume of acid dispensed is used to calculate the dissolution rate. Atomic force spectroscopy (AFM) will be used to directly observe changes on the carbonate surface and to determine the mechanism of dissolution.

Preliminary experiments were conducted with marble cubes and calcite powder at 25°C and at different CaCO₃ saturation states. The measurements were used to calculate the dissolution rate using the empirical rate equation, $R = k(1-\Omega)^n$ where $k$ and $n$ are the rate constant and reaction order respectively. These experiments confirm that, as expected, the apparent rate of dissolution increases as $\Omega$ decreases to values less than one. This confirmation of the utility of our methods now allows us to investigate more realistic scenarios, using biogenic carbonate in tropical corals.

**Keywords:** calcite, aragonite, saturation state
ROCHELLE-LEE BAILEY

Rochelle received her Master of Arts degree in Anthropology with Distinction in 2009 from the University of Canterbury, where she was involved with the Macmillan Brown Centre for Pacific Studies. She is currently a PhD candidate in Anthropology at Otago, investigating the social effects of the RSE Scheme. She is a recipient of an NZAID Postgraduate Field Research Award.

Academic department: Anthropology and Archeology, University of Otago

Division: Humanities

Supervisors: Associate Professor Jacqui Leckie
Dr Gregory Rawlings

Email: bairo239@student.otago.ac.nz
In 2007 New Zealand introduced the Recognised Seasonal Employer Scheme (RSE). The scheme is aimed at sourcing labour for the high demands of New Zealand’s horticulture and viticulture industries. Although this scheme is expected to prioritise New Zealand workers, it also allows New Zealand employers in the horticulture and viticulture sectors to recruit up to 8000 workers from the Pacific Islands.

This scheme is argued to have a dual effect. First, it benefits employers in the horticulture and viticulture industries by providing them with labour that they could not source in New Zealand. Second, the scheme is designed to encourage economic development for the island nations of the Pacific, through the return of remittances that can be used to fund individual and community needs.

Such regulated labour mobility schemes have become a prominent focus in social science research in the past two decades. This is primarily due to an increase of these schemes and the international demand for wage work. Primarily, research on this scheme has focused on the labourers living in New Zealand. However, this research offers an extended analysis of the social and cultural consequences of the RSE on the migrants, as well as the families and communities they leave behind, focusing on Vanuatu. The central aim of this project is to examine the social impacts for ni-Vanuatu workers, primarily recruited from the island of Ambrym, and their families who have participated in New Zealand’s Recognised Seasonal Employer scheme since 2007.

Keywords: migration, development, labour mobility, RSE Scheme
TUI NICOLA CLERY

Tui completed a PhD in Pacific Studies at Te Tumu, University of Otago, in 2012. She holds a BA (Hons) in Social Anthropology and Study of Religions from the School of Oriental and African Studies (SOAS), University of London. She also holds an MA in Pacific Studies from the University of the South Pacific, Suva, Fiji.

Department: Te Tumu – School of Māori, Pacific and Indigenous Studies, University of Otago

Division: Humanities

Supervisors: Associate Professor Jenny Bryant-Tokalau
Associate Professor Jacqui Leckie
(Anthropology and Archaeology)

Email: tui.clery@otago.ac.nz
Arts-based Approaches to Community Peace Education in Contemporary Fiji: Telling Stories for Change in the World

Tui Nicola Clery

Civil Society Organisations (CSOs) in Fiji are increasingly using arts-based approaches for informal peace education within communities. Creative processes are being used to support highly contextualised dialogue about peace and conflict in Fiji, and playfully to initiate wide-ranging discussions about social justice, peacebuilding and community development.

Fiji peace education focuses on building strong relationships between people. This approach supports the creation of ‘safe’ spaces for learning through seeking to remove power differentials, hierarchies, and boundaries between students, facilitators and communities. Arts-based peace education processes often involve pedagogies that are tangible, embodied, and emotionally engaged. Real stories are used as a basis for wider advocacy and activism, assuming that stories can help people to empathise with one another, and that both dialogue and empathy can support cultures and communities of peace.

Using a combination of Pacific (talanoa and tiko) and performative research methods to support the emergence of a diverse range of emotional and embodied stories about peace and conflict, this study offers stories from Fiji CSOs who have chosen to use arts-based tools for peace education. Women’s Action for Change (WAC) is a community-based, feminist theatre company who use theatre for initiating reflection and dialogue about gendered norms and gender-based violence. The Youth Champs for Mental Health (YC4MH) uses arts-based processes to support people with mental health difficulties. It has used creative arts and storytelling within the popular media as forms of advocacy, seeking to challenge and transform public perceptions and stigmatising attitudes towards people with mental health difficulties in contemporary Fiji.

Keywords: arts-based education, Fiji, Civil Society Organisations, Women’s Action for Change, Youth Champs for Mental Health
Marsa is a European American doctoral candidate in Te Tumu. She has a BA in Law and Justice (1992) and a Master’s degree in Social Work (2001). In 2009, Marsa was awarded a PhD in Social Work by the University of Otago for her documentation of customary adoption by Mangaian Cook Islanders. Prior to this, Marsa spearheaded the development of a Mangaian dictionary with the help of eleven of her neighbours.

Academic department: Te Tumu – School of Māori, Pacific and Indigenous Studies, University of Otago

Division: Humanities

Supervisors: Professor Michael Reilly
Dr Michelle Schaaf

Email: dodma146@student.otago.ac.nz
MIXED BLESSINGS: ORAL HISTORIES OF THE PART-AMERICAN/COOK ISLANDS WAR CHILDREN

Marsa Dodson

The aim of this research is to discover what were the social influences on the part-American/Cook Islands children of the occupation for not having their birth fathers around to raise them in an island setting. Did the war progeny have compromised entitlements due to their mixed-race status or where they treated similarly to their fully-indigenous peers? Were there any differences in how the children of the African American fathers were treated compared to the children of European American birth fathers? What became of the fatherless war children?

This qualitative research relies heavily on oral histories from the adult war children and/or their survivors, along with archived documents from missionary records, government documents and newspapers.

Findings indicate that the families of the mothers were heavily engaged in raising their mixed-race kin. By doing so, the children developed their strong Islander identity. As adults, the children received their birthright entitlements of land because they had Cook Islands mothers. There were differences in treatment between the males amongst the African American children and the European American children, with the latter generally receiving better treatment. Some children were treated especially well in their families for having American fathers. School was a trying time for the children because classmates reminded many of them that the stigma from illegitimacy was evident in their society.

In the broader context of this research, being born illegitimate during the war to Cook Islands women held mixed blessings for the war children.

Keywords: adult war children, illegitimacy, stigma, family
Allamanda is a New Zealand-born Samoan who grew up in Dunedin. She completed her undergraduate studies at the University of Otago in 2000. After spending several years working in research and diagnostic laboratories she moved to Christchurch and is currently enrolled as a PhD student. Her research is entitled ‘Screening for cardiovascular disease: a comparison of Māori and non-Māori risk profiles.’

**Academic department:** Medicine, Christchurch School of Medicine & Health Sciences, University of Otago

**Division:** Health Sciences

**Supervisors:**
- Professor Vicky Cameron
- Associate Professor Richard Troughton

**Email:** allamanda.faatoese@otago.ac.nz

---

1 Department of Medicine, University of Otago, Christchurch
2 Māori Indigenous Health Institute, University of Otago, Christchurch
3 Department of Public Health, University of Otago, Christchurch
4 Department of Medicine, The University of Auckland
5 Department of Medical Imaging, Unitec, Auckland, New Zealand
A MĀORI APPROACH TO A COMMUNITY-BASED STUDY OF HEART HEALTH AMONG MĀORI AND NON-MĀORI COMMUNITIES – BASELINE FINDINGS IN THE HAUORA MANAWA/COMMUNITY HEART STUDY

Allamanda Faatoese, Suzanne Pitama, J. Elisabeth Wells, Karen Tikao-Mason, Paul Robertson, Tania Huria, Tawhirimatea Gillies, Rob Doughty, Gillian Whalley, Richard Troughton, Ian Sheerin, Mark Richards, and Vicky A Cameron

The Hauora Manawa/Community Heart Study was designed utilising the Kaupapa Māori Research Framework to determine prevalence of cardiovascular disease (CVD) and associated risk factors in a rural Māori (RM) community (Wairoa, Hawkes Bay), an urban Māori (UM) and an age-and gender-matched urban non-Māori (UNM) community (Christchurch city, Canterbury).

Clinic protocols were modified to align with Māori values. A total of 252 RM, 243 UM and 256 UNM participants, randomly selected from electoral rolls, aged 20 – 64 years, attended a screening clinic that documented personal and family medical history and risk factor levels. $\chi^2$ and ANOVA tests determined statistical significance ($p<0.05$).

Response rates among RM, UM and UN were 58% vs 48% vs 57% respectively. Mean age of participants were 45.7 (SD 11.5) vs 42.6 (11.2) vs 43.6 (11.5) years ($p=0.009$) and % males were 40% vs 45% vs 49% ($p=0.165$). Among RM, UM and UN rates of diagnosed CVD were 7.5% vs 5.8% vs 2.8% ($p=0.055$). A gradient of risk factors were observed in diagnosed Type-2 diabetes (10.7% vs 3.7% vs 2.4%, $p<0.0001$), hypertension (25.0% vs 14.9% vs 10.7%, $p<0.0001$), dyslipidaemia (15.5% vs 7.0% vs 3.1%, $p<0.0001$), current smoking (42.5% vs 30.5% vs 15.2%, $p<0.0001$), BMI (30.7 (SD 7.3) vs 29.1(6.4) vs 26.1 (4.5) kg/m², $p<0.0001$) and systolic blood pressure (130.8 (SD 18.5) vs 128.2 (20.6) vs 124.5 (14.8) mmHg, $p<0.0001$). Rates of undiagnosed hypertension were 22.2% vs 23.5% vs 17.6% ($p=0.233$) and dyslipidaemia (42.1% vs 54.3% vs 42.2%, $p=0.007$).

Centralising Māori values was imperative for this community-based study. We highlight the higher rates of diagnosed and undiagnosed cardiovascular risk factors among Māori communities. Opportunistic screening and management of these salient cardiovascular risk factors are necessary to reduce the health burden among Māori.

Keywords: Māori, cultural alignment, cardiovascular disease, risk factors
RATU OSEA GAVIDI

Osea is originally from the province of Nadroga/Navosa in the Fiji Islands. He works at the College of Medicine, Nursing and Health Sciences (Fiji National University) and has been seconded to the University of Otago to undertake specialist training in oral pathology. He is a recipient of a University of Otago Pacific Island Doctoral Scholarship.

Academic department: Dentistry (Oral Diagnostic and Surgical Sciences), University of Otago
Division: Health Sciences
Supervisors: Associate Professor Alison Rich
Mr Norman Firth
Associate Professor Brian Cox (Hugh Adam Cancer Epidemiology Unit, Preventive and Social Medicine)

Email: osea.dukuno@fnu.ac.fj
ORAL CANCER: A SILENT KILLER AMONGST THE PACIFIC ISLAND COMMUNITY LIVING IN NEW ZEALAND

Ratu Osea Gavidi, Alison Rich, Norman Firth and Brian Cox

Oral cancer is a malignant and debilitating condition that can cause extensive facial disfigurement, loss of function, change in behaviour and financial and social hardships to the affected individuals and their families. It is deemed the “forgotten disease” because it kills more people than testicular cancer, cervical cancer and cancer of the brain each year and receives little publicity in return.¹

The last New Zealand census in 2006 reported that Pacific Island people constituted 6.9% of the total population, an increase of 14.7% since the 2001 census.² The prevalence of oral cancer amongst Pacific Islanders in New Zealand in 2006 was 0.3 per 10,000, an increase of 56.7% since 2001. The New Zealand Health system has to manage the treatment needs and on-going follow-up of the people affected by this alarming increase in oral cancer, but over the longer term it is essential to explore the reasons behind this increase and to formulate strategies to reduce the oral cancer burden in Pacific peoples and to improve their health outcomes and reduce health inequalities.

Keywords: oral cancer, health outcome, health inequalities

Seth is of Samoan descent. He was born and educated in Christchurch. He was drawn to Dunedin as an inaugural recipient of the University of Otago Māori and Pacific Island Entrance Scholarship in 2006. He holds a Bachelor of Science degree in Geography from the University of Otago and recently completed a MSc in Geography as a recipient of a University of Otago Pacific Island Postgraduate Scholarship.

Academic department: Geography, University of Otago
Division: Sciences
Supervisors: Dr Nicolas Cullen
Associate Professor Jenny Bryant-Tokalau (Te Tumu – School of Māori, Pacific and Indigenous Studies)
Email: gorse133@student.otago.ac.nz
In bioenergy developments in the South Pacific, cultural factors are known to influence the long-term sustainability of these projects. However, little is known about how cultural parameters influence the amount of biomass resource made available for power generation.

The aim of this research was to determine the feasibility of sawmill residues for power generation as part of a village scale bioenergy project proposed by the Government of Samoa. To do this, a biomass resource assessment of the tree species *tava* (*Pometia pinnata*) used for timber production as part of the Patamea sawmill operation were classified using satellite imagery. These methods were combined with qualitative methods in a mixed-methodological approach in order to attend to the different epistemologies that this thesis argues shape the success of renewable energy developments in the region. The use of cultural mapping provided a more detailed understanding of how cultural systems and structures such as the customary land tenure system and *fa’a matai* ultimately influence the viability of renewable energy projects.

This research found many synergies between *fa’asamoa* and the structure of the proposed project in addition to discrepancies between land availability as defined from scientific and cultural perspectives. The proposed biomass gasification project could potentially supply more than eight times the current annual electricity demand at the sawmill. This thesis recommends future bioenergy developments carried out in the Pacific Islands region combine rapid appraisals of biomass resource availability using satellite imagery and field observations, with qualitative methods such as semi-structured interviews and community mapping.

**Keywords:** renewable, energy, development, Samoa
Mara is Hawai’ian-Japanese. She completed a BA(Hons) at Occidental College (USA) and an MA at the University of Otago. Currently she is an Assistant Research Fellow in the Māori Indigenous Health Institute at the University of Otago Christchurch School of Medicine and Health Sciences. She is completing a PhD supported by an Otago Pacific Island Doctoral Scholarship.

Academic departments: Faculty of Law, University of Otago Centre for Pacific Studies, University of Auckland

Division: Humanities

Supervisors: Ms Selene Mize (Otago) Dr Melani Anae (Auckland)

Email: mara.hosoda@otago.ac.nz
LEGAL EDUCATION OF PACIFIC ISLANDERS IN NEW ZEALAND

Mara Kawehiwehi Mauliola Hosoda

Throughout New Zealand, Faculties of Law have implemented affirmative action interventions to create equitable education opportunities for Pacific students. The ultimate vision is to increase the number of Pacific law graduates to serve traditionally underserved Pacific communities and capitalise on New Zealand’s rich Pacific diversity. These interventions include quotas, schemes, policies, supplementary tutorials, mentoring programmes and other support services. But what outcomes are these interventions producing?

This research attempts to answer the research question, “Do affirmative action interventions produce better outcomes for Pacific law students?” This research utilises a mixed-method approach triangulating quantitative data from university databases and student feedback with qualitative data from staff and student interviews. Data collection is presently underway.

Tentative research outcomes offer empirical evidence for the effectiveness of interventions specific to each Law Faculty at the Universities of Auckland, Waikato, Victoria and Otago. Documenting the effectiveness of affirmative action programmes is important as they may be repeated in other programmes and contribute to scholarly conversations on supporting minority students generally in tertiary study.

Keywords: Pacific students, affirmative action, Law School, legal education
MARIE KAY INDER

Marie is New Zealand European on her father’s side (Robert Inder) and Samoan on her mother’s side (To’alepai Louella Thomsen-Inder). She graduated with a PhD in Microbiology in August 2012. Marie was the recipient of a Health Research Council Pacific Career Development Award and is the 300-level Teaching Fellow in the Department of Microbiology and Immunology.

Academic department: Virus Research Unit, Microbiology and Immunology, University of Otago

Division: Health Sciences

Supervisors: Dr Andrew Mercer
Dr Lyn Wise
Dr Stephen Fleming

Email: marinda01@hotmail.com
FUNCTIONAL ANALYSIS OF PARAPOXVIRUS-ENCODED VASCULAR ENDOTHELIAL GROWTH FACTORS (VEGFs)

Marie Kay Inder

Orf virus causes skin infections of sheep and humans, and most unusually, it encodes a vascular endothelial growth factor (VEGF). VEGF is critically involved in angiogenesis during wound healing and also in pathological conditions such as inflammatory disorders and tumor formation.

The Orf virus-encoded VEGF-E appears responsible for the extensive vascularization and marked epidermal proliferation characteristic of virus lesions, and the biological activity of VEGF-E was investigated with in vitro and in vivo assays. The results from these studies showed that ORFVNZ2VEGF induced keratinocyte proliferation and migration, and endothelial cell proliferation in vitro, as well as epidermal thickening, endothelial cell proliferation and blood vessel development in vivo. ORFVNZ2VEGF did not stimulate monocyte migration in vitro, or increase dermal monocytes in vivo, which would impair the adaptive immune response and represents an important mechanism for immune evasion by the virus.

The different activity profiles of VEGF proteins investigated in this study suggest that their receptor-recognition may be further fine-tuned for optimal therapeutic angiogenesis. This provides exciting new options to treat several human diseases with significant morbidity and mortality, such as revascularization and healing of diabetic ulcers, and promoting post-ischemic neurovascular remodeling after stroke.

Keywords: microbiology, virus, wound-healing
ELLAS IOSUA

Ella is from Dunedin and is of both Samoan and Palagi descent. She is currently completing a PhD in Public Health (Biostatistics) and is supported by a University of Otago Pacific Island Doctoral Scholarship. She has a BA majoring in Anthropology, with a minor in Statistics, and a Postgraduate Diploma in Applied Statistics.

Academic department: Preventive and Social Medicine, University of Otago

Division: Health Sciences

Supervisors: Associate Professor Bob Hancox
Mr Andrew Gray
Professor Rob McGee

Email: iosel984@student.otago.ac.nz

Involvement in paid employment by school-aged children is common. There has been considerable interest in assessing the potential long-term effects associated with such participation. The literature is conflicting. Many researchers assert that adolescent employment increases the risk of deviant behaviours, whereas other studies fail to demonstrate any evidence for such associations or find that paid employment is in fact protective.

This debate is a political issue. New Zealand is a member of the United Nations and is expected to ratify the United Nations recommendations. Both The International Labour Organisation Convention 138 and Article 2 of the United Nations Convention on the Rights of the Child require participant states to implement a minimum age for admission into paid employment which should not be less than the minimum school leaving age. New Zealand currently does not impose a minimum age, although the government is reviewing this position.

These issues demonstrate the need to investigate the effects of school-aged employment in a New Zealand context. This research examines the association between part-time employment in schoolchildren, and later substance use between 18 and 32 (including tobacco smoking, binge drinking, and both any and regular cannabis use) and psychological wellbeing at 32. Analysing data from the Dunedin Multidisciplinary Health and Development Study (N= 1037), there was little evidence that exposing schoolchildren to employment compromised subsequent health and wellbeing. Potential changes to the current NZ laws to ban part-time employment of schoolchildren are not supported by this research.

**Keywords:** child employment, substance use, wellbeing
Kireua is an Energy Planner in the Ministry of Public Works and Utilities in Kiribati. He holds a Bachelor of Science from the University of the South Pacific and a Postgraduate Diploma in Energy Studies from the University of Otago. He is currently completing a Master of Science degree in Energy Studies supported by a scholarship from NZAID.

Academic department: Physics, University of Otago
Division: Sciences
Supervisor: Associate Professor Bob Lloyd
Email: kbkaiea@gmail.com
KIRITIMATI ISLAND RENEWABLE ENERGY: INTEGRATION OF WIND ENERGY TO THE ELECTRICITY GRID

Kireua Bureimoa Kaiea

Kiritimati Island is a rural outer island in the Republic of Kiribati, 3,000 kilometres from the capital, Tarawa. It has a total land area of 388 km² with a population in 2010 of 5,586. The island is an administration centre for the Line and Phoenix Group of islands and a designated growth centre with a focus on accelerating private sector growth for development. The five villages on the island have access to the electricity grid currently fed by diesel generators. These are operated by the Ministry of Line and Phoenix Development with a monthly tariff charged to residential and commercial customers. Even though petroleum on the island is shipped direct from Fiji at considerable cost, tariffs are low due to heavy subsidy.

The research investigates the feasibility of integrating wind energy to the island grid to reduce the costs associated with diesel power generation as well as lowering the associated greenhouse gas emission. Preliminary findings identify that the daily island load profile ranges between 280 to 340kW with long-term wind speed recorded at about 6.9m/s (at a height of 33 metres). These figures indicate the viability of wind energy integration to the electricity grid to assist in a significant fuel saving in electricity generation as well as lower greenhouse emissions locally.

Keywords: wind-diesel system, hybrid energy, grid integration, island grid
Amie holds a Bachelor of Arts degree from the University of Canterbury and a Postgraduate Diploma in Peace and Conflict Studies from the University of Otago. She is currently completing a Master of Arts at the National Centre for Peace and Conflict Studies at the University of Otago.

Academic department: National Centre for Peace and Conflict Studies, University of Otago
Division: Humanities
Supervisor: Dr Karen Brouneus
Email: kiram053@student.otago.ac.nz
Violence against women is widespread in Papua New Guinea (PNG), particularly in the Highlands region, and new wealth-flows into this region may intensify this violence. Wealth flows introduced from resource extraction projects have, in the past, had irreversible effects on traditional customs in project areas of PNG. The Hela province is in the construction phase of a multi-billion dollar Liquefied Natural Gas Project (LNGP). Wealth flowing from the LNGP into the communities within this province is having dramatic impacts on social life and custom, in particular polygamy.

This research investigates the impact that wealth-flows from the LNGP are having on the custom of polygamy in this province, and the relationship between polygamy and violence against women. In addition, it will investigate the potential link between an increase in polygamy and an increase in violence against women. Using interviews with fifteen women in the Hela province, this research critically examines the increase in levels of polygamy caused by wealth from the LNGP.

**Keywords:** Papua New Guinea, resource extraction, violence against women, polygamy
JESSE KOKAUA

Jesse is a Cook Islander currently living in Roxburgh. He has previously worked as a statistician for the Ministry of Health. Since leaving the Ministry he has been working on his PhD involving an application of Bayesian statistical models to analyse prevalence of mental disorder and service use patterns among Cook Islanders in New Zealand.

Academic departments: Public Health and General Practice (Christchurch School of Medicine & Health Sciences), University of Otago Preventive and Social Medicine, University of Otago

Division: Health Sciences

Supervisors: Professor Elisabeth Wells (Christchurch) Dr Patrick Graham (Christchurch) Professor Richie Poulton (Dunedin)

Email: kokje989@student.otago.ac.nz
ONSET OF MENTAL DISORDER, TIME TO TREATMENT AND UNTREATED RECOVERY BY ETHNICITY

Jesse Kokaua

The aim of this research is to report the cumulative incidence of mental disorder and time to treatment and recovery without treatment among ethnic groups in the New Zealand Mental Health Survey (NZMHS).

Bayesian survival analyses have been used to estimate cumulative lifetime probabilities of mental disorder and time to treatment and recovery with competing risks. The models were developed to produce estimates to take into account the complex survey design of the NZMHS and were run in WinBugs and SAS 9.2.

The lifetime risk of mental disorder among Cook Islanders and New Zealand Māori is nearly 60% compared with 47% for other Pacific peoples and 41% for non-Māori/non-Pacific (Other ethnicities). By age 75 years, 30% of Cook Islanders with a mental disorder will have received treatment and a further 25% will have recovered from a disorder without treatment. After 45 years since the first onset of their disorder, 51% of people from Other ethnicities will have treatment and 28% will have recovered without treatment. For Cook Island and Māori, the proportions who would receive treatment were 44% and 47% respectively while a further 30% and 35%, respectively, will have recovered by themselves.

Cook Islanders, like Māori, also have excessive lifetime risk of any mental disorder. They also are more likely to receive treatment or recover without treatment. Although other Pacific peoples have low risk of disorder those who have a disorder are also least likely to receive treatment or recover.

Keywords: Cook Islanders, Pacific mental health, Bayesian Cox regression models, competing risks
KAVEETA KUMAR

Kaveeta is originally from Fiji. She has a BSc degree majoring in Information Systems from Brigham Young University, Hawaii, and a Postgraduate Diploma in Education and Professional Development from Victoria University of Wellington. She is currently in her final year of a Master of Education degree from the University of Otago.

Academic department: University of Otago College of Education
Division: Humanities
Supervisor: Dr Jacques van der Meer
Email: kavs28@hotmail.com
Academic Motivation: Factors Influencing Learning Amongst Tertiary Students

Kaveeta Kumar

In many countries of the world progression of learners from early age to higher education has been encouraged. This means that higher education providers have the responsibility of preparing larger populations of learners for life after graduation. As a result, institutions and educators in higher education are increasingly challenged to improve student success. How students engage with their studies and what they, other students and educators, can do to influence learning amongst tertiary students has been well researched since the 1990s. Past research has identified several motivation-related factors influencing learning amongst tertiary students.

The aim of this research is to evaluate students’ perceptions of the importance of some selected motivation-related factors for their learning in one particular NZ tertiary institution. The selected motivation-related factors under evaluation are student self-attitude, student-teacher relationship, and peer-influence. This research is set within a qualitative interpretive paradigm. Data collection was conducted via survey questionnaires.

Emerging results suggest that the aforementioned academic factors positively influenced learning amongst tertiary students at the particular NZ tertiary institution under study. What is particularly significant is that many students agreed that student-teacher and peer relationships motivated the students towards their learning. This research will provide a valuable foundation for identifying factors that positively influence the learning outcomes for tertiary students in New Zealand. While past research has identified a number of factors that influence learning amongst students in all educational settings, the outcomes of this research focus entirely on tertiary students and their academic success.

Keywords: tertiary, academic, motivation, factors
EMILY LESLIE

Emily holds a BSc in Geography and Ecology from the University of Otago. Through the Department of Geography, she had the opportunity to take part in the Volunteer Services Abroad UniVol Programme and spent 2010 living and working in Port Vila, Vanuatu. This experience sparked her interest in planning, and Pacific cultures and debates. Emily is enrolled in the Master of Planning Programme.

Academic department: Geography, University of Otago
Division: Humanities
Supervisor: Professor Tony Binns
Email: lesem076@student.otago.ac.nz
MAKING A LIVING IN VANUATU: LIVELIHoODS AND DEVELOPMENT IN PERI-URBAN PORT VILA

Emily Leslie and Tony Binns

In the Pacific Small Island Developing State (SIDS) of Vanuatu, the majority of the population is involved in subsistence agriculture. However, through the processes of globalisation and urbanisation, people are increasingly moving to the economic hub of the country, the island of Efate, to participate in education and the exchange of goods. This migration has led to the growth of peri-urban settlements, and the expansion of existing villages, as well as a change from traditional lifestyles. People who live in the peripheral areas of Port Vila, the capital, are often disadvantaged because they have limited social and infrastructural support from councils and organizations. Such people need to develop supportive livelihood strategies by diversifying the ways that they earn a living.

This study examines the livelihoods of people living in peri-urban Port Vila by identifying the main influences on peri-urban businesses. The field-based research conducted during June 2012 collected primary data from semi-structured interviews with family business owners, chiefs, local NGOs and key decision-makers.

The results reveal how tourism is providing an opportunity for many entrepreneurs and is improving livelihoods for those families. Additionally, the findings reveal that there are limited support systems for peri-urban businesses, and emphasise the importance of landownership for business success.

This research reveals the significance of understanding livelihood strategies in Pacific island nations. Additionally, the research is valuable for future policy development concerning peri-urban areas, and understanding the functioning of local business economic initiatives.

Keywords: peri-urban, Port Vila, livelihoods, economic
MICHAEL FUSI LIGALIGA

Michael has a BA in Political Science and International Peace Building from Brigham Young University in Hawaii, and a Postgraduate Diploma from the National Centre for Peace and Conflict Studies at Otago. He received a Pacific Island Master’s Scholarship in 2012 and is currently completing his Master’s degree in Peace and Conflict Studies. Michael is Samoan.

Academic department: National Centre for Peace and Conflict Studies, University of Otago

Division: Humanities

Supervisor: Dr Heather Devere

Email: michael.ligaliga@gmail.com
This study explores the textual differences in the Samoan and English text of the 1962 Treaty of Friendship between New Zealand and Samoa. Although both nations view the translation of both texts as “equally authentic”, the study explores the cultural significance of the Samoan text of the Treaty. It argues that culturally the text is unbalanced and does not fully reflect the value and belief systems that underpin the purpose and intent of the Treaty.

Five Samoan terms have been selected in this study to explicate this argument. The terms are Feagaiga (Covenant), Uo or Fa’a-Uoga (Friend or Friendship), Pule (Govern), Vavalalata (Close), and Agaga (Spirit). Analysis of the selected texts explores definitional differences between the English and Samoan text of the Friendship Treaty. This is followed by a discussion of the cultural implications of these definitional differences, the place of these texts in Samoan indigenous philosophy, and the political and cultural implications that these textual differences have had on the relationship between New Zealand and Samoa as it is established in the Friendship Treaty.

Keywords: textual analysis, treaty of friendship, New Zealand – Samoa relations
NARSAMMA LINGAM

Narsamma obtained her Master of Education degree with distinction from the University of Otago College of Education in 2012. She has a Bachelor of Education and a Postgraduate Diploma in Psychology from the University of the South Pacific (USP). Currently she is working as a Teaching Assistant as well as completing a PhD at USP.

Academic department: University of Otago College of Education
Division: Humanities
Supervisor: Dr Ross Notman
Email: lingam_n@usp.ac.fj
This study explored urban principals’ perceptions of the impact of leadership and management training on their professional practice and how these practices impacted on the dynamics of school operations in Fiji. This research was prompted by a lack of ‘hard evidence’ on the relationship between the quality of training programmes and leadership practices and their influence on school conditions and student learning outcomes. Set within an interpretive paradigm a qualitative case study approach was used to investigate three urban principals’ experiences of leadership preparation and its influence on teaching and learning. The data gathering methods included document analysis, questionnaires and in-depth interviews with participants. Data were analysed using thematic and cross-case analysis to identify categories of meaning.

The findings of this study suggest that leadership and management training has great potential to influence leadership practices and student achievement. It revealed that various aspects of a leadership training programme strengthened the leadership practices of experienced principals and enhanced leadership knowledge and management skills of new principals. Perhaps not surprisingly, leadership training that was perceived to improve student achievement was not clearly evident in this study. Consequently, the findings indicated a need for continued effort to develop a comprehensive leadership preparation programme that integrates theory with job-embedded leadership practices. In addition, the findings indicate a need for wider consultation and collaboration among Ministry of Education, universities and expert principals to develop effective leadership training programmes that meet the needs and expectations of school leaders in Fiji.

Keywords: leadership, management, leadership training, professional practice
Shivanjali is from Fiji. She holds a Bachelor of Biomedical Sciences degree and a Postgraduate Diploma in Science from the University of Otago. She is currently working towards a Master of Science in Physiology. Shivanjali is a recipient of a University of Otago Pacific Island Master’s Scholarship for 2012.

Academic department: Physiology, University of Otago
Division: Health Sciences
Supervisors: Dr Regis Lamberts
Dr Peter Jones
Email: linsh922@student.otago.ac.nz
HASTENED RELAXATION IN A NON-FAILING DIABETIC HEART

Shivanjali J Lingam

Type 2 diabetes mellitus (T2DM) is characterised by high blood glucose levels and is associated with cardiovascular complications. The prevalence of T2DM in Pacific Island people in New Zealand is nearly three times higher compared to New Zealand Europeans. During T2DM the heart’s relaxation is impaired, which eventually may result in heart failure. The cardiac relaxation pathway is governed by the combined activity of sarco(endo)plasmic reticulum Ca2+-ATPase (SERCA2a) and phospholamban (PLB). SERCA2a activity promotes cardiac relaxation, whereas PLB inhibits this SERCA2a activity, thereby reducing cardiac relaxation. Several studies in diabetic animal models have indicated a reduced SERCA2a activity by observing decreased SERCA2a and increased PLB protein expression. However, the mechanisms underlying reduced SERCA2a activity in humans with T2DM remain undefined.

To examine SERCA2a and PLB expression, western blotting analysis was performed in atrial appendages from T2DM and non-diabetic patients with preserved ejection fraction undergoing coronary artery bypass surgery (CABG). Blot analysis revealed similar total SERCA2a protein levels between T2DM and non-diabetic patients. Unexpectedly, a decrease in PLB protein levels was found in T2DM patients compared to non-diabetic patients, resulting in a decreased PLB:SERCA2a protein ratio, indicating improved SERCA2a activity. Thus, in contrast to previous studies in diabetic animals and humans, results in T2DM patients, who do not yet have systolic dysfunction, indicate an increased SERCA2a activity, suggesting improved atrial relaxation. This suggests that in the pre-failing diabetic heart, SERCA2a activity could be increased as a compensatory mechanism to protect the heart from overt systolic dysfunction.

Keywords: T2DM, SERCA2a, PLB, relaxation
ALBANY LUCAS

Albany was born and raised in Dunedin and is of Kiribati and Dutch descent. She has completed a Bachelor of Arts and a Bachelor of Laws and is currently in her final stages of a Master’s degree in Bioethics and Health Law. Her academic interests include reproductive ethics, disability ethics, feminist ethics and anti-discrimination law.

Academic departments: Bioethics Centre, University of Otago
Faculty of Law, University of Otago

Divisions: Health Sciences and Humanities

Supervisors: Associate Professor Colin Gavaghan (Law)
Dr Mike King (Bioethics)

Email: albany.w.lucas@gmail.com
SELECTING EMBRYOS: SHOULD WE BE ABLE TO CHOOSE A DEAF CHILD OVER A HEARING CHILD?

Albany Lucas

Following in vitro fertilisation, preimplantation genetic diagnosis (PGD) can be used to identify whether the resulting embryos carry a genetic impairment. Couples typically use PGD to avoid the implantation of embryos that, if implanted successfully, would result in a child with a genetic impairment. However, PGD has sometimes been requested by couples who want selectively to implant embryos with genetic impairments, in order to have a child with that genetic impairment. The use of PGD to avoid the implantation of embryos with a genetic impairment is legally permitted. However, the use of PGD to select and implant embryos with a genetic impairment is prohibited in New Zealand.

This dissertation considers the example of a deaf couple who want to use PGD to have a deaf child. It will examine whether a state prohibition on selecting embryos with a genetic impairment discriminates against deaf people who want to use PGD to select embryos with a genetic mutation for deafness. It will question whether this type of discrimination can be legally and ethically justified. The mainstream academic response to the possibility of using PGD to select embryos with a genetic mutation for deafness has been to argue that it is morally wrong because it harms the future child or the child’s interests. These arguments and other arguments for the prohibition will be considered and subjected to ethical scrutiny. It concludes that a prohibition on selecting embryos with a genetic impairment unjustifiably discriminates against deaf people who want to have a deaf child.

Keywords: preimplantation genetic diagnosis, selecting for disability, deafness, discrimination
SELOTA MALIKO

Selota is an ordained minister of the Methodist Church of Samoa, with a Bachelor of Divinity with Honours and a Master of Theology from the Pacific Theological College, Fiji. He is a lecturer at Piula Theological College, Samoa, and is undertaking a PhD in Pastoral Theology, on an Otago Doctoral Scholarship.

Academic department: Theology and Religion, University of Otago

Division: Humanities

Supervisors: Professor Murray Rae
Professor Philip Culbertson

Email: malse905@student.otago.ac.nz
SEARCHING FOR A PASTORAL CARE MODEL IN RELATION TO BANISHMENT IN SAMOAN SOCIETY

Selota Maliko

The practice of banishment1 in Samoa is a multi-faceted topic of national significance. It is traditionally accepted in Samoan society as a method for social control,2 but also creates problems which affect the sanctity of human relationships.3 As such, it requires an in-depth study of its history and the implications for the Samoan people. This study examines this practice through the views and experiences of banished villagers as well as church ministers in selected villages in Samoa.

Through interviews with these participants, the use of the qualitative research approach known as talanoa and discourse analysis, the study seeks to understand how individuals experience and interact with their social world (in terms of banishment), and the meanings that this provides for them. Ultimately, the study hopes to identify meaningful avenues by which a relevant pastoral care model can be developed in response to the increasing prevalence of banishment in Samoa.

Keywords: banishment, pastoral care, Atua or God, Samoa

1 Banishment in this study is a Samoan practice of the excommunication of an individual member or the entire members of a family due to some offenses such as the violation of peace, harmony and integrity of the village. The Samoan translation of banishment used in this study is ‘fa’atea’.
3 Morgan Tuimaleali’ifano, O Tama a Aiga: The Politics of Succession to Samoa’s Paramount Titles (Suva: The University of the South Pacific, 2006), 9.
Keron Niles is a PhD candidate in Energy Management. Originally from Trinidad and Tobago, he was previously a Research Consultant at the Shridath Ramphal Centre for International Trade Law, Policy and Services, at the University of the West Indies. Keron also currently holds the position of Academic Coordinator at Aquinas College.

Academic department: Energy Studies Unit, Physics, University of Otago

Division: Sciences

Supervisors: Associate Professor Bob Lloyd (primary)
Ms Ceri Warnock (Law)

Email: kniles@physics.otago.ac.nz
From prehistoric communal living to recent times, Small Island Developing States (SIDS) in the Caribbean and Pacific have gone from a place of self-sufficiency and energy independence to a position of being dependent on both imported capital and sources of energy. Prehistoric inhabitants of the Caribbean and Pacific lived communally within subsistence economies that centred around the production of a few staple foods. Colonisation in both regions led to a transformation of these islands from subsistence agriculture to export-oriented economies, primarily to serve the interests of metropolitan countries.

Ultimately, SIDS in both regions served simply to provide raw materials to larger markets. In order to produce such goods for mass consumption abroad, these island nations had to develop export-orientated economies requiring both financial capital and an energy supply over and above that available locally. As a result, SIDS in the Caribbean and Pacific found themselves in a strong positive feedback loop necessitating ever-increasing levels of both capital and energy imports.

At present, SIDS are very reliant on imported fossil fuels for commercial energy use and are among the most vulnerable in the world to oil price increases and supply shortages. The dependence of SIDS on external financial assistance is also a cause for concern. Additionally, past assistance from donor entities to the energy sector has not resulted in adequate technology and skills transfer necessary to enhance the effectiveness of energy projects and the self-sufficiency of these nations. Greater emphasis on local capacity building, training and institutional strengthening is therefore required.

Keywords: islands, dependence, energy, aid
MADHUKAR MEL PANDE

Mel Pande is originally from Fiji, and has Bachelor and Master’s degrees in Management Studies from Waikato University. He received a PhD Scholarship from the University of Otago for a nine-month period. He has held positions of Research Advisor and Lecturer in health-related institutions. Mel’s research interests include immigrant experiences, race relations and health services management.

Academic department: Primary Health Care and General Practice, Wellington School of Medicine & Health Sciences, University of Otago

Division: Health Sciences
Supervisors: Professor Tony Dowell
Associate Professor Jackie Cumming
(Victoria)

Email: melpande@yahoo.co.nz
THE CROSS-CULTURAL ADAPTATION OF INTERNATIONAL MEDICAL GRADUATES (IMGs) TO GENERAL PRACTICE IN NEW ZEALAND

Madhukar Mel Pande

International Medical Graduates (IMGs) constitute approximately 40% of the medical and the general practitioner workforce in New Zealand.¹ IMGs from over 40 countries contribute to the general practitioner workforce.² Without IMGs, New Zealand’s health system would not be able to provide quality health care.¹,² After arrival, some IMGs do not get the necessary support and guidance in New Zealand and therefore move to Australia/other countries or move into non-medical work.¹,²,³

This research is investigating the challenges and issues faced by IMGs in adapting to general practice. This is a qualitative study with 17 participants from eight different countries. Participants chose between a personal interview and an e-interview.⁴ The literature review focuses on migration of highly skilled immigrants, and the cross-cultural adaptation of migrants.

IMGs that came in the ’70s and ’80s had a different registration and adaptation experience to those who came in the ’90s and beyond. While the practice of medicine is relatively the same in most countries, New Zealand presents unique challenges in its concepts of accident compensation, regulation of pharmaceuticals and its inherent patient diversity. The fieldwork is complete, the literature review is being updated and the cross-case analysis is underway.

Keywords: acculturation, highly-skilled immigrants, cross-cultural adaptation, e-interviews

¹ Workforce Statistics (2010), Medical Council of Council of New Zealand.
² Workforce Series 1-8 (2005-2008), Royal New Zealand College of General Practitioners.
³ Crisis in the Medical Workforce (2003), New Zealand Medical Association.
⁴ E-Interviews were trialled as a qualitative method and included the same questions as the personal interviews except that the e-interview participants completed the questions via email.
SAIFAGALOA SALÄ

Saifagaloo Salä completed her BSc (Anatomy) in 2006 at the University of Otago, then returned to her home country, Samoa, where for the last 3 years she has worked at the Diagnostic Laboratory of Samoa National Health Services (NHS). She is pursuing a PGDipSci (Anatomy) this year and is funded by a NZAID Pacific Scholarship.

Academic department: Anatomy, University of Otago
Division: Health Sciences
Supervisor: Dr Peter Hurst
Email: loa.sala@anatomy.otago.ac.nz
FOLLICLES AND THECAL TISSUE IN THE NORMAL AND POLYCYSTIC OVARY

Saifagaloa Salā

Hyperandrogenism is only one of the numerous manifestations of polycystic ovarian syndrome (PCOS), a condition that affects between 6 and 10% of women. Over-activity of theca cells, which produce the androgen substrate required for ovarian estrogen biosynthesis, could result in hyperandrogenism. However, it is not yet clear what causes this defect in PCOS thecal cells.

This study will compare the morphology and vasculature of theca cells between polycystic and normal ovaries in a sheep model of PCOS. Blood supply is important for delivery of oxygen, nutrients, hormones and other factors essential to support follicular growth. It is hypothesised that the thecal tissue will be larger and more vascular in polycystic ovaries. This project will study follicle and thecal tissue size in ovaries, and use immunohistochemistry to localise von Willebrand Factor (vWF) that stains endothelial cells and so delineate the vascular patterns within the theca. Follicle and thecal tissue size will be measured in histological slides. I will analyse up to ten healthy follicles of each different follicle type from three animals per group and compare follicle, thecal and blood vessels between the normal and polycystic ovary groups using analysis of variance (ANOVA).

Possible outcomes of this study include being able to show that the morphology of PCO thecal tissue and its vascular system may be larger than that of the normal ovary. This will determine if there is an abnormal change to the androgen-producing tissue, and thus provide further insight into this aspect of the PCOS puzzle.

Keywords: PCOS, hyperandrogenism, thecal tissue, thecal vasculature

---

Priya was born in Suva, Fiji and grew up in Dunedin. At university she undertook a combined medical degree (MB ChB) and PhD. Priya’s doctoral studies were supported by a Genesis Oncology Scholarship. She is currently working as a doctor at Southland Hospital, in Invercargill and will be submitting her PhD thesis this year.

Academic department: Anatomy, University of Otago

Division: Health Sciences

Supervisor: Dr Jo-Ann Stanton

Email: prapr311@student.otago.ac.nz
**TRANSGELIN: DISCOVERING ITS ROLE IN PROSTATE CANCER**

Priya Samalia

In men, prostate cancer is the most common cancer and second leading cause of cancer deaths. The need for accurate diagnostics and therapies is crucial for survivability. This study analyzed prostate specific proteins to attempt to identify a means of earlier diagnosis and alternative treatment targets.

On a cellular level, cancer causes disruption to natural cell proteins and structure. Actin-binding proteins maintain cellular internal structure and function, and therefore pose an attractive target for diagnosis and anti-cancer therapies.

Transgelin is one such actin-binding protein. This study showed that in cancerous prostate cells, transgelin is produced in smaller amounts than normal. By artificially lowering normal transgelin production in healthy prostate cells, we attempted to determine whether low levels of transgelin would promote prostate cancer in otherwise healthy cells. Ultimately, we found that simply lowering the amount of transgelin did not provoke prostate cancer.

Additionally, in metastatic prostate cancer, a natural tumor suppressing growth factor, TGF-b1, is significantly reduced. This tumor suppressing growth factor is involved in promoting normal levels of transgelin. In healthy prostate cells, normal TGF-b1 levels and normal transgelin levels are felt to be protective. However in cancerous prostate cells, decreased TGF-b1 activity is associated with decreased transgelin levels.

This study showed transgelin downregulation was a readily detectable and significant signature in prostate cancer. Transgelin may be an early marker of carcinogenesis despite not being an initiator of typical carcinogenic hallmarks. Transgelin is a potential target for TGF-b1 restoration and therefore may provide a target for new anti-cancer therapies.

**Keywords:** transgelin, prostate cancer, TGF-b1
LORENA ILEANA SCIUSCO

Lorena completed her BA (Hons) at La Trobe University in 1994 and her BSc and Graduate Diploma in Cultural Heritage Management at the University of Canberra in 2001. She has worked as a heritage consultant and archaeologist both with the Australian government and in the private sector. Lorena is studying towards a PhD and currently conducting a case study in Samoa and American Samoa.

Academic department: Anthropology and Archaeology, University of Otago

Division: Humanities

Supervisors: Dr Ian Barber
             Professor Glenn Summerhayes

Email: scilo756@student.otago.ac.nz
HERITAGE MANAGEMENT AND CONNECTIONS TO THE ARCHAEOLOGICAL PAST: A SAMOAN AND AMERICAN SAMOAN STUDY

Lorena I Sciusco

The management of cultural heritage is first and foremost about protecting places of cultural significance. Cultural heritage management (CHM) is now firmly part of the discourse utilised by governments and policy makers in negotiating the cultural identity of nations, and archaeological knowledge and expertise occupies a privileged position within this discourse. This research examines the management of Samoan archaeological heritage across the Samoan archipelago by comparing Samoa’s CHM practices with that of American Samoa. Both these islands share a common archaeological past but are nations under the management of two separate and independent jurisdictions.

Samoa is an independent Pacific nation which operates under a political system that combines the Westminster style system with traditional customary law. In Samoa, archaeological and heritage places are afforded protection under the Planning and Urban Management Act 2004. In contrast, American Samoa is a United States territory. The planning and heritage legislation policies of American Samoa are a product of the bicameral legislature of the USA. The controlling body, the American Samoa Historic Preservation Office (ASHPO), was created by the National Historic Preservation Act of 1966 (as amended). However, existing policies and programs reflect the values placed on archaeological and heritage places by the citizens of American Samoa.

The research has two key aims. First, to understand better the relationship between the archaeological past and contemporary narratives of national identity, and second, to develop a framework for interpreting how Samoan and American Samoan government agencies respond to the archaeological past with a particular focus on planning and heritage protection legislation, policies and guidelines.

Keywords: archaeology, CHM, Samoa, American Samoa
SULIANA E TEASDALE

Suliana is a half Tongan- half New Zealand European born and raised in New Zealand. She has achieved a BSc and PGDipSci, with distinction, in Botany at the University of Otago. Suliana is currently working towards a Master of Science degree, also in Botany, and was awarded a University of Otago Pacific Island Master’s Scholarship to support her studies.

Academic department: Botany, University of Otago
Division: Sciences
Supervisor: Dr David A Orlovich
Email: suli.teasdale@otago.ac.nz
Ectomycorrhizal fungi form symbiotic associations with plants, where limiting nutrients (mainly phosphorus) and water are exchanged for carbon. Southern beech (*Nothofagus*) forests are the dominant native ectomycorrhizal host in New Zealand, and rely on their association for successful establishment in natural systems. Old-growth *Nothofagus* forests are known to form canopy soils, a phenomenon initiated by epiphytic growth accumulating humus, atmospheric nutrients and moisture. Canopy soils can promote growth of non-epiphytic plants as well as ‘canopy roots’ from the host. As with terrestrial roots, canopy roots potentially host ectomycorrhizal fungi, however this relationship is largely understudied. There are a number of techniques to explore the diversity of fungal communities; the most successful involve environmental DNA investigated by molecular methods.

To assess ectomycorrhizal fungal diversity, richness and biomass, this research incorporates molecular techniques: terminal restriction fragment length polymorphism (TRFLP) analysis (diversity/richness measurement), ergosterol concentrations (biomass measurement), and taxon specific primers used in conjunction with sequence analysis (targeted diversity/richness measurement). Taxon-specific primers were effective at screening readily available environmental DNA for a specific ectomycorrhizal fungal genus, but were restricted in determining the true relationship with host species. Canopy and terrestrial fungal communities did not significantly differ, with even species richness and biomass across all samples. Canopy samples also show even species diversity, however terrestrial samples varied greatly, indicating sampling techniques are representative of richness and that terrestrial diversity is more variable. These results differ from other canopy fungi studies where total canopy fungal diversity and richness was much lower than terrestrial.

**Keywords:** ectomycorrhizal fungal diversity, *Nothofagus* (beech), canopy roots, terminal restriction fragment length polymorphism (TRFLP) analysis
Alcinda is from Papua New Guinea and holds a Bachelor of Tourism degree from the University of Otago and a Master of Tourism from James Cook University. She has spent the last five years working in the planning division of the Papua New Guinea Tourism Promotion Authority. She is currently completing a Master of Planning degree.

Academic department: Geography, University of Otago
Division: Humanities
Supervisor: Professor Tony Binns
Email: traal765@student.otago.ac.nz
OVERCOMING COMMUNITY PARTICIPATION LIMITATIONS IN TOURISM PLANNING IN PAPUA NEW GUINEA

Alcinda Trawen

Tourism has been promoted as a sustainable venture where tourism attractions are generally based in local communities. In 2007, Papua New Guinea (PNG) undertook a Product Plan approach, which is a community-focused approach to tourism development to enable village communities to become central targets for participation in the tourism development planning process. This research sheds light on factors affecting community participation that have thus far not been examined with reference to PNG Product Plans.

This research addresses the issue of community participation in tourism with special attention to overcoming the limitations involved in the participation process. It focuses on the communities of the Buluminski Cycling and Tigak Sea Kayaking Product Plans in New Ireland Province. Specifically, this research will be looking at the perspectives of relevant stakeholders in order to shed light on the obstacles in the community participation process. It will reveal the local systems that are used to overcome obstacles in the participation process. In an attempt to explore these areas, field-based research was undertaken with 24 semi-structured interviews and community observations conducted.

The results currently show that limitations are of a structural, operational and socio-cultural nature and that a mixture of traditional and community-orientated approaches may be used to overcome community participation limitations. Tourism is still a new frontier for PNG and relatively little tourism planning research has been carried out. This research will possibly provide insight for key decision makers with the hope of creating more effective community participatory approaches in PNG tourism planning.

Keywords: community-based tourism, tourism planning, community participation

---

COURTNEY WILSON

Courtney completed a Bachelor of Communication Studies from Auckland University of Technology (AUT) and is currently completing a Master of Arts degree majoring in Peace and Conflict Studies. Courtney is of European New Zealand descent.

Academic department: National Centre for Peace and Conflict Studies
Division: Humanities
Supervisor: Dr Heather Devere
Email: courtney.wilson13@gmail.com
RNZ International and ABC Radio Australia are important media outlets in the South Pacific, providing comprehensive news coverage of the Pacific region. New Zealand and Australia both play important roles in Melanesia by providing aid, support and military assistance, such as RAMSI in Solomon Islands.

This paper explores how media coverage of the South Pacific is broadcast and framed for a trans-Tasman audience in the context of peace journalism – reporting that does not just focus on violence but people, processes and peace.¹ In particular, it reviews RNZ’s Morning Report and ABC Radio National’s Breakfast reporting of four Melanesian countries: Fiji, Papua New Guinea, Solomon Islands and Vanuatu. News coverage about these countries, by Morning Report and Breakfast, was conducted between June and July 2012, using content analysis. It critically analysed the extent to which these programmes have a peace journalism or war journalism frame. Lee & Maslog’s 13 indicators of war journalism and 13 indicators of peace journalism have been adapted and utilised for this analysis.² Articles covering the conflict from each paper were systematically scored and classified as peace journalism, war journalism or neutral. This research hopes to identify the key themes present in Morning Report’s and Breakfast’s news coverage of Melanesia.

Keywords: peace journalism, violence, peace, Melanesia

Pacific Voices is here again – for its 9th year!

This year our regular seminars saw an increase in attendance numbers (about 20 every seminar) – some die-hard supporters who turned out every time to hear and support one another; the undergrad students who turned out to be inspired and hear about the wonderful projects our postgrad students are doing, and also the part-timers who popped in to present or to say hi and then vanish to do research. This year also saw great participation from the librarians at the Hocken Collection who would give on the spot advice on accessing library support. And the strength of the postgrad support offered by the Centre is through our academic staff who are our editors again for our Pacific Voices book of abstracts (and a special Faafetai Lava to Dr Claire Matthewson for coordinating the team). The presence of you all has again made this a successful year in the journeys of our postgrad students. Faafetai Lava.

This year we farewelled Dr Charles Tustin, who walked this journey with us from the beginning (go well, Charles, and Faafetai Lava) and straight away Associate Professor Rachel Spronken-Smith picked up from where he left off. Your support through travel grants has enabled our students to gain invaluable experience from attending conferences and workshops. Faafetai lava.

Finally, I offer a big Faafetai Lava to the Vice-Chancellor, Professor Harlene Hayne, who is delivering the Opening Address this year, and to our Pro-Vice-Chancellors and Professors representing the Divisions and chairing the day’s sessions as they always have done from the beginning. The Pacific Voices’ journey over the years is a true testament to the collaboration spirit here in Otago for the success of Pacific students and their communities.

To our presenters and those in this booklet – a special poem just for you.

Pacific Voices Otago

Talanoa
To seek a framework, to find meaning, to connect
A metaphor, perhaps unnecessary
Meaning – perhaps necessary
and In the twilight of research cluster
You paid tribute - to Tangaroa
That binds us all, for Pacific.
Perhaps necessary!
Sao faalalelei
Thank you – seemed unnecessary!

I look forward to the 10th year next year!

Faafetai tele lava.

Tofilau Nina Kirifi-Alai
Manager
Pacific Islands Centre
APPENDIX
Opening Address by Professor Helen Nicholson
Acting Deputy Vice-Chancellor (Research and Enterprise)
Pacific Voices Postgraduate Symposium
6 October 2011

PACIFIC VOICES 2011

Welcome to Pacific Voices VIII. It is my great pleasure to welcome you to what promises to be a fascinating day that will highlight the breadth of the exciting research that is taking place across our University, in Dunedin but also our Northern Campuses. Today is not only a great opportunity to hear about cutting edge research but also to meet your colleagues. Please take time to talk to one other and hear each other’s stories.

The University of Otago vision is to be a research-led University with a reputation for excellence. Indeed Otago is currently recognised as being the first in the country for the quality of its research and also has the highest research intensity of any university on New Zealand. However, we can not afford to rest on our laurels! Importantly we have a responsibility to train the researchers of the future and it is encouraging that a growing number of postgraduate research students, like you, are being attracted to the University. Your research and the skills that you learn whilst undertaking your studies may take you in many directions, so be open to new challenges, push doors and do your best. Life has many surprises and certainly I never thought when I was undertaking my medical training in the UK that I would become a senior academic on the other side of the world!

This leads me to another important aspect of the role of universities. Not only do we have a responsibility to train the researchers of the tomorrow but also to equip the leaders of the future. It is likely that each one of you will have to show leadership in the future, whether that be at work, in the community or with in your family.

I would like to welcome our guests, Pacific Leaders from around the country, to this symposium. Thank you for the support that you have provided to our emerging researchers over the years. None of us can succeed alone and the support of family and community in moulding us and helping us to achieve our best is invaluable.

Finally I would like to take this opportunity to thank the organisers of Pacific Voices VIII, in particular Tofilau Nina Kirifi-Alai, Claire Matthewson, Mele Ma’ata Taumoepeau, Greg Burnett and Nanai Iati Iati.

Have a great day!
Pacific Voices IX
Pacific Postgraduate Symposium
27 September 2012
Pacific Islands Centre
University of Otago
Dunedin 9054
New Zealand