

UNIVERSITY OF

Otago

MAGAZINE

ISSUE 20: JUNE 2008

SCIENTISTS TAKE A FRESH APPROACH
TO NEUROSCIENCE

ENCOURAGING RURAL PRACTICE

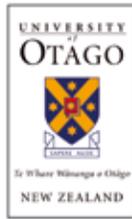
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University of Otago Magazine

A magazine for alumni and friends of the University of Otago

Issue 20 ~ June 2008

ISSN - 1175-8147

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CIRCULATION

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To update or change delivery address

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This year the University is celebrating the 60th anniversary of the School of Physical Education. As a multidisciplinary faculty studying human movement in all its forms, the School of Physical Education has a high international reputation for the quality of its teaching and research. Ever since its establishment, the school has set the agenda for sport and exercise science in New Zealand.

There were only three staff when the School of Physical Education opened its doors to the first intake of 30 diploma students in March 1948. Today the four-year Bachelor of Physical Education course is complemented by postgraduate programmes up to doctoral level. The academic staff has increased more than tenfold and includes graduates from leading universities around the world.

Many people have contributed to this stellar development, but none more so than the first Director of the School, Philip Ashton Smithells. Affectionately known as “PAS” by his students, Smithells was, in fact, one of the most remarkable people to have taught at the University.

Philip Smithells was an Englishman who had graduated from Cambridge in English and economics. He had a liberal view of physical education as something that could empower people of all abilities. From the outset he was convinced that the study of physical

education should be intellectually rigorous. One of his former students, Dr Bruce Ross, described him in an article as a complex person: “He was large and attractive with a healthy ego. He was sensitive, thoughtful, vain, politically active ... He was active in the Society of Friends, an artist, an actor, a friend of writers and artists ... He read widely and was a collector and lover of books. He promoted dance as an art form and as a recreation. He had a deep concern for the disadvantaged and the disabled. He was a parent, a teacher, a sloppy dresser, an orator, a broadcaster, a scientist, a cartoonist, a calligrapher ...”

Universities can be prone to academic snobbery and, at first, some people questioned whether physical education was an appropriate subject for Otago. The fact that Philip Smithells was such an intellectual and cultured person, with a strong commitment to research, shut the critics up. He was a Renaissance man. When he was awarded a personal chair in 1969 he became the first professor of physical education in the Commonwealth.

Attending alumni functions, I often hear graduates reminisce about Philip Smithells. Universities nowadays tend to be judged by things that are easy to measure, such as research citations or resources for e-learning. We should never forget a less tangible asset – the power of the inspirational teacher.

David Skegg

Professor David Skegg Vice-Chancellor – University of Otago



Thinking outside the sphere

OTAGO'S NEW BRAIN HEALTH AND REPAIR RESEARCH CENTRE TAKES A FRESH APPROACH TO NEUROSCIENCE.

AT 78, FORMER HISTORY TEACHER Henry has forgotten more about the history of Western civilisation than most people will ever learn.

Sadly though, Henry has also forgotten the name of his wife, has no real recollection of most of the key events of his life and his granddaughter usually leaves in tears when she comes to visit because, to him, she is a stranger.

There are the lucid moments – where something of the old schoolmaster, husband, father and granddad return, but they tend to be only fleeting, far outnumbered by the episodes of confusion and, sometimes, fear. Alzheimer's disease has slowly but steadily stolen the old Henry away.

This is only one of the numerous diseases and conditions that affect the brain. They range from age-related conditions, such as Alzheimer's disease, to the likes of stroke, Parkinson's disease and epilepsy, as well

as conditions such as cerebral palsy, brought on by oxygen starvation at birth.

Understanding such conditions in the minutest detail is vital if cures and better treatments are to be found – and that is the focus of the University of Otago's Brain Health and Repair Research Centre (BHRRC, www.otago.ac.nz/bhrrc).

Director Professor Cliff Abraham says the centre – launched last year – draws in biomedical researchers from the Departments of Physiology, Anatomy and Structural Biology, Biochemistry, Pharmacology and Toxicology, Medicine, Zoology, the School of Physical Education and his own Department of Psychology.

"There has been a long history of strong neuroscience research at Otago and, from the start of the centre, our goal was to bring together the neuroscience groups interested in neurological disorders," he says.

THE FACTS

In New Zealand, it is projected that 25 per cent of the population will be over the age of 65 by 2050, so the incidence and cost of all age-related neurological diseases will become a huge burden for our society during this time if good therapies are not found.

Approximately 20 per cent of people over 80 have some form of dementia, with Alzheimer's disease accounting for at least half of these cases.

About one per cent of the total population currently has Alzheimer's or other forms of dementia. In terms of health-care expenses and lost wages of both patients and their caregivers, the cost of Alzheimer's disease nationwide in the United States is estimated to be \$100 billion per year. Scaled for New Zealand on a population basis, this would be approximately \$1.25 billion.

Stroke is a leading cause of death and disability in New Zealand. Cerebrovascular disease is responsible for 85 per cent of the deaths due to neurological disorders.

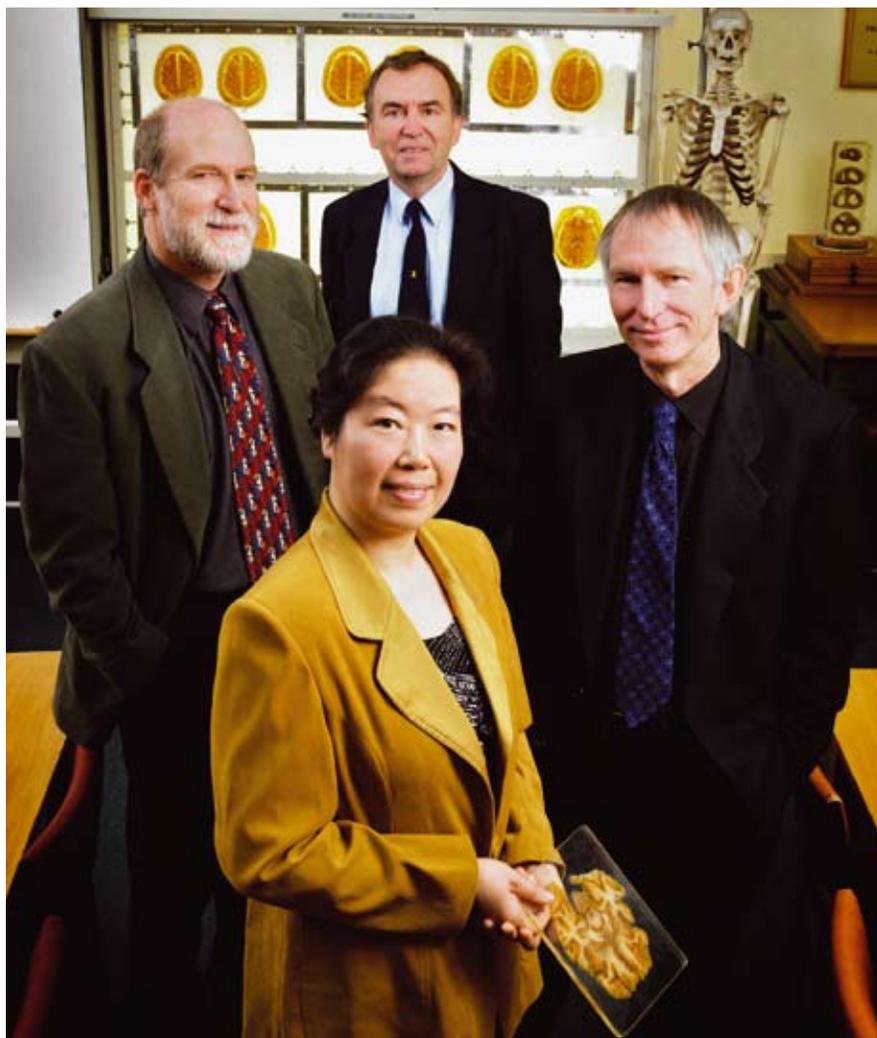


Photo: Alan Dove

The Brain Health and Repair Research Centre steering group (from left): Professor Cliff Abraham, Richard Farquhar, Associate Professor Ian McLennan and Dr Ping Liu (foreground). Absent: Associate Professor Greg Anson, Dr Steve Kerr and Dr Louise Parr-Brownlie.

“We don't just work on particular diseases, we are also looking more generally at brain function, which ends up linking to a wide range of brain disorders.

“The point of having a centre is that there are potential points of synergy and collaboration otherwise not readily apparent. We hope that exploiting them will help us make progress even faster.”

The work of the centre is overseen by a seven-person steering group, headed by Abraham and involving senior researchers such as Associate Professor Ian McLennan from the Department of Anatomy and Structural Biology.

“Neuroscience research goes across departments and requires input from all the traditional disciplines, such as anatomy, physiology, psychology and others,” says McLennan. “But one of things that is happening in neuroscience is that, as we develop

new techniques and get to know the brain, our disciplines are beginning to merge.

“A group like mine may look just at molecules, but we need to look at how they affect behaviour, an area that has traditionally been part of psychology.”

The BHRRC has recently set up a Behavioural Phenotyping Unit that will allow more research into that relationship.

“If we want to look at Parkinson’s disease, we can look at not only the cellular and molecular aspects, but also how they relate to behaviour,” he says.

“Ultimately that’s what we need to be able to do. To me it is building those bridges – and those bridges are critical.”

Abraham says the BHRRC is also keen to promote community contacts and interactions.

A recent open day, co-sponsored with the Neurological Foundation of New Zealand, attracted about 250 people from the wider community. There were talks by researchers, and displays both by the centre and community support groups linked to neurological disorders.

The centre is also involved in the “Brain Bee”, an international quiz aimed at Year-11 students, which involved nearly 100 students locally in the first round. “It has an educational role,” says Abraham, “but it also stimulates interest in neuroscience research and careers.”

One of the centre’s key community links involves the Neurological Foundation of New Zealand, a community-based fundraising organisation that now puts about \$2 million a year into neurological research.

Its Otago/Southland community liaison officer Richard Farquhar, who is also a member of the BHRCC steering committee, says the foundation supports research, using money raised from the community, rather than tapping into government funds.

“The money is invested and it is the interest that is used to fund research,” he says. “The foundation has always felt it is an important way of keeping continuity and allowing researchers to plan ahead.

“I think people like the idea that, if they give a gift to the foundation, that gift effectively goes on forever more,” he says.

Farquhar does a lot of speaking engagements as well as arranging for some of the BHRRC researchers to give presentations.

The Neurological Foundation has 4,000 members south of the Waitaki and, with one in five people directly affected by neurological conditions – either through themselves or friends – the organisation has a wide reach.

As our aged population increases, neurological conditions will affect many more people, Farquhar says. “The more we know about the brain, the more we can understand, the better we can treat and prevent these conditions.”

There are about 230 people with Parkinson’s in Otago and field officer for the Otago Parkinson’s Society Paula Ryan says the BHRRC is also important to their members.

“Our members like to know that they are not disadvantaged by living in New Zealand, and that people are out there trying to find a cure and better ways of managing and treating their Parkinson’s.”

She says new drugs and therapies mean people with Parkinson’s are being kept more mobile and independent than they used to, but it is the unpredictability of this disease that can be frustrating and frightening.

“A lot of the time health professionals, families and carers concentrate on the mobility issues of Parkinson’s, when there are actually a lot of other non-motor symptoms that may be just as disabling, such as anxiety, depression and fatigue.

“People with Parkinson’s need to be treated holistically because it is more than just a movement disorder.”

Ryan says the society has a core group of about 20 willing volunteers who have been working with the Department of Psychology as they carry out a variety of research.

“They tell me that if there is anything they can do to help find a cure they will do it,” she says.

“We don’t just work on particular diseases, we are also looking more generally at brain function, which ends up linking to a wide range of brain disorders.”



RESEARCH UNDER the Brain Health Repair and Research Centre’s umbrella can be divided roughly into four main areas: sensory neuroscience; movement and movement disorders; memory, anxiety and neural plasticity (the neural basis of learning and memory) and neurological disorders and ageing.

For example, Abraham’s own research focuses on memory mechanisms, including understanding memory loss in Alzheimer’s disease. He works closely with Professor Warren Tate from the Department of Biochemistry and Dr Joanna Williams (left) from the Department of Anatomy and Structural Biology.

The team is particularly interested in a protein called sAPP α , or secreted amyloid precursor protein-alpha. Little is known about this protein, although its production is limited in Alzheimer’s, which may provide clues to understanding the disease.

Williams says that a lot of research has focused on β -amyloid, which is derived from the same parent molecule as sAPP α .

“We know the β -amyloid is bad for you, but it appears the sAPP α is good – it can protect nerve cells from damage and promote the growth of new cells,” she says. “What we are trying to find out is what sAPP α does and how it does it.”

Williams’ team is able to isolate individual synapses – the connections between brain cells – to examine how they change during memory formation and ageing.

Being part of a centre is important for Williams, who says there is no point doing research as an isolated island. “On your own you don’t grow and develop. I have always enjoyed working with people from other labs because they look at things in a different way.”

MUCH OF Dr Liana Machado’s work involves comparing the brain function of healthy adults with that of people with neurological conditions such as stroke and Parkinson’s disease.

By doing this she can then see the differences in brain function between these groups and gain a better understanding of how the brain is affected.

“My main interest is in visual orienting, including attention and eye movements, with a particular focus on how more advanced brain structures orchestrate the activities of more primitive brain structures in order to generate strategic behaviours: for example, how humans can

respond flexibly, rather than reflexively.”

Machado and her team use a range of tools, from eye-tracking devices to high-resolution magnetic resonance imaging, which enables them to determine accurately the location of brain damage.

They also use a tool called transcranial magnetic stimulation that can temporarily disrupt brain activity and thereby mimic localised brain damage.

This research has given them a better understanding of voluntary actions and why more reflexive behaviours re-emerge after brain damage.



DR RUTH NAPPER (left) uses an animal model to investigate the effects of a single alcohol binge in early or late pregnancy.

“Even a single binge during early pregnancy, the first two or three weeks following conception, can cause major damage.”

She has also been examining single binges in what would be in the equivalent of the third trimester and says even drinking which produces a blood alcohol level around that of a regular social drinker has an impact.

“There is significant acute cell death and a long-term reduction in brain cell numbers, and there are long-term behavioural changes.”

Napper says being part of the BHRRC gives her easier contact with other people and other ideas. “It makes people more available, their work more available and collaboration easier.”

MECHANISMS IN the brain targeted by cannabis are being investigated as potential drugs' targets to counter brain-cell damage after a stroke.

Dr John Ashton (right) and his team from the Department of Pharmacology and Toxicology were the first in the world to show that the cannabinoid CB2 receptor – a protein produced as part of the body's immune response system – appears in the rat brain following a stroke.

“This immune response, triggered by stroke, causes the inflammation that damages the area of the brain around where the stroke has occurred,” says Ashton.

“If the inflammation can be stopped or reduced, then it offers the hope of reducing the extent of the damage caused by stroke – and CB2 offers a potential target for such a drug.”

Drugs targeting CB2 could also have potential therapeutic use in other conditions involving inflammatory damage to the brain, such as Huntington's disease and Alzheimer's disease.



BHRC steering group member Dr Ping Liu is interested in the neurobiological mechanisms of ageing.

Before coming to Otago in 1994 to do a PhD in psychology, she was a doctor in China, working with the aged.

“We tend to learn slowly and forget quickly when we are old. Approximately 40 per cent of people over the age of 65 display various degrees of memory deficits. Ageing is also the major risk factor for several neurodegenerative diseases, such as Alzheimer's disease. My main research interest is to understand the neurobiological basis of brain ageing,” she says.

She is particularly interested in the metabolic pathways of arginine. The free radical, nitric oxide, generated from

arginine is thought to play an important role in the ageing and neurodegenerative processes.

Her recent work has provided the first evidence of the involvements of the other two metabolic pathways of arginine in the normal process of brain ageing – including the role of agmatine, a newly-discovered neurotransmitter, in learning and memory.

“If you give agmatine to young animals they perform better in some tasks, suggesting it can modulate learning and memory.”

The treatment effects of agmatine will be further evaluated, and positive results may lead to a future therapy for cognitive impairments in normal ageing and Alzheimer's disease.

ASSOCIATE PROFESSOR Dorothy Oorschot (right) is researching four topics, including the effects of low oxygen levels in the neonatal brain, which is relevant to cerebral palsy and brain damage due to extreme prematurity.

“Fifty to 70 per cent of children born as early as 22 to 28 weeks will have some sort of neurological disability – from memory to ADHD-like symptoms.”

Developing new treatments is a key focus and Oorschot's research has recently shown that combining two treatments – an antioxidant and moderate hypothermia – can protect nerve cells and preserve fine motor skills.

Her group is also working collaboratively on mapping the microcircuitry of the basal ganglia to help identify which nerve cells talk to which other nerve cells and eventually provide the neuronal circuitry of the brain.

Oorschot is also involved in research into Huntington's disease.



Mark Wright

Photos: Alan Dove

Talking the walk



Professor Jean Fleming: "Scientific literacy is one issue, but scientists also need to understand how deep-seated some people's beliefs are."

JEAN FLEMING HAS HAD A CAREER-LONG INTEREST IN TAKING SCIENCE TO THE WORLD. NOW, AS A PROFESSOR IN OTAGO'S NEW CENTRE FOR SCIENCE COMMUNICATION, SHE HOPES TO SEE A NEW GENERATION OF GRADUATES WELL EQUIPPED TO COMMUNICATE THE CRITICAL ISSUES OF THE DAY.

PROFESSOR JEAN FLEMING has an international reputation for meticulous science, particularly her research on the origins of ovarian cancer. But, she says, the critical moments of her career have always turned on good communication.

Now, after leaving Otago for a three-year stint at Griffith University, she is back to focus on the external face of science, as Professor in the University's newly-established Centre for Science Communication.

For several heady months in 2004, Fleming seriously believed she was onto something remarkable.

It had long been noted that some ovarian cancers seemed to develop from the cells lining ovarian cysts. As they manifest themselves as tumours, about 90 per cent of ovarian cancers are made up of cells that look like epithelial cells. However, the normal ovary does not contain many obvious epithelial cells – the closest match are the cells covering the surface of the ovaries and this is where much international research was focusing.

But Fleming and her research group came to suspect a different part of the organ was being overlooked. The *rete ovarii* is a network of tubules at the neck of the ovary, long disregarded as a remnant of development – “its usefulness is thought to be over once it's been decided whether you will be a boy or a girl as a fetus”. These tubules indeed contained some very promising-looking epithelial cells.

Enter the team of Swiss-Webster lab mice. Ovulation was stimulated in these mice for up to a year and, to Fleming's surprise, some astonishingly huge cysts emerged in the ovaries and appeared to be dilations of the *rete ovarii*. It was a breakthrough. Results were published and cancer researchers around the world became interested in the *rete ovarii* on the strength of the findings.

Fleming, however, needed to show that these cysts and the *rete ovarii* tubules really were relevant to the origins

of ovarian cancer in women. She wanted to make sure the study could be replicated, controlling for various factors such as diet and the type of mouse used in the experiments.

Further studies looking at cyst formation in other strains of mouse, and controlling the level of plant oestrogens in their diet, led to the conclusion that this cyst production was unique to the Swiss-Webster strain of mouse.

End of story? Well, not quite.

“I have to be honest, it was hugely disappointing,” she says. “Ovarian cancer is so horrifying as there are no reliable bio-markers yet and it's often fatal as the symptoms can go unnoticed for years.”

Her hopes for what she might have been able to achieve for the many women who develop the cancer were dashed.

The research *was* useful all the same, she acknowledges. Much more is known about the biological effects of incessant ovulation, not to mention the *rete ovarii*. There is also much to follow up on the effects of the high-soy diet the mice were fed.

Fleming is using the knowledge obtained in these experiments to follow up other research directions on the origins of ovarian cancer. But, as she knows, “an in-depth study of an interesting structure peculiar to one specific strain of lab mouse is unlikely to get funded” – or make good headlines.

However, it was still good basic research and certainly advanced the understanding of ovarian cell biology. It was also a reminder that, behind the public face of scientific breakthroughs, there is a whole other drama involving hope, triumph and despair – and lots of hard work.

It was also not the first time Fleming has had pause to consider the difference between the behind-the-scenes graft and the external face of science. She arrived at the University of Otago's Wellington School of Medicine and Health Sciences as a postgraduate student, her work on

“And people are hungry for information and evidence, rather than rumours and beliefs ...”

activin and inhibin gene expression in Booroola sheep spurring a passion for reproductive biology and earning her the inaugural Zonta International Medal for Women in Science in 1990.

Since then, as she developed her international reputation in the lab in Otago’s Department of Anatomy and Structural Biology, she has had a career-long interest in taking science to the world. In 1993 she led the first Association for Women in Science conference in honour of the centenary of women’s suffrage. In 1998 she joined the committee of Otago’s renowned Hands-On Science summer camp for secondary students, convening the committee from 2000 to 2005.

A champion and mentor of women in science, Fleming’s efforts have earned nationwide accolades, including a Suffrage Medal in 1993, a Royal Society of New Zealand Silver Science and Technology Medal in 1998, and an ONZM for services to science in 2002.

Through first-hand experience, she became aware of the need for caution when feeding the media beast. But it was as a Commissioner for the Royal Commission on Genetic Modification in 2000–2001 that she gained a real sense of the gulf between science and society, and the need for better communication.

It was a watershed moment, causing Fleming to confront the concept that science communication was not about telling people scientific facts, but actually trying to achieve an understanding of the views of those who opposed a technology. And it cuts both ways: “scientific literacy is one issue, but scientists also need to understand how deep-seated some people’s beliefs are.

“It wasn’t just that there were people who failed to understand the science involved, although that was a problem. The deeper issue was that opponents and proponents of GM were talking right past each other. It’s not actually possible to discuss questions about the meaning of life and ownership of identity with a scientific argument.”

Suffice to say, in Fleming’s new role helping to shape New Zealand’s first Centre for Science Communication – alongside centre director and holder of the Stuart Chair in Science Communication Professor Lloyd Spencer Davis – her vision is not of teaching students to produce

hyped-up press releases. “I think the public has become desensitised about endless articles that claim to have found a cure for cancer.”

What she hopes to see is a new generation of graduates, more capable of communicating the critical issues of the day.

“Climate change is one of the greatest issues facing us right now. Everyone wants to know what they can do to reduce their carbon footprint. But also, developments in areas such as stem-cell research and human cloning mean we have big ethical issues that everyone needs to think about. And people are hungry for information and evidence, rather than rumours and beliefs, that will help them make their own personal decisions about these technologies.”

She envisages a virtual science communication centre where anyone can come to find user-friendly, reliable sources of information on topics ranging from ecology to health. Her students are encouraged to produce useful outputs for the community, using media such as video, film, podcasts and interactive displays.

She wonders aloud about running targeted courses for people who need to become conversant in specific scientific topics, “for example, a programme on molecular biology for biotech business executives”.

And it’s possible that, in the process, she might be able to open some eyes to what it means to be a scientist. “My students have recently been interviewing scientists across the University about their research and many have come back commenting about how passionate the scientists are about their work. That’s the word everyone is using: ‘passionate’.”

And why not? Science is the chance to focus all your energy into understanding the world a bit better. It’s about finding answers that help us be sure about what we know, or opening up new questions and areas of exploration. It’s about producing results that will contribute, in large and small ways, to the welfare of humankind and the planet we inhabit. It’s quite inspiring really, put like that.

Nicola Mutch

Endless possibilities

PROFESSOR BRENDAN GRAY SHARES HIS THOUGHTS ON ENTREPRENEURSHIP.

OFF THE CUFF, coming up with a definition of entrepreneurship isn't straightforward. You might hesitate, even stumble, because it's not necessarily an easy concept to define – even though we know what it means, right?

Such is the challenge put to Professor Brendan Gray, recently-appointed to the Dunedin City Chair in Entrepreneurship, who is – unsurprisingly – able to offer not one, but several definitions.

There's the traditional view, which is about small enterprises embarking on risky and innovative ventures – the small boat pioneering a new course across the stormy sea of the commercial marketplace.

But there are other definitions. Increasingly, larger corporations are embarking on entrepreneurial journeys. They recognise that they're handicapped in the innovation stakes by their size and innate conservatism, and so choose to spawn new project groups or companies, with a different culture and structure, in order to launch new and innovative products or services. This, Gray informs, is dubbed "intrapreneurship".

Entrepreneurship has also "crossed over" into non-commercial areas such as government departments and the environmental sector (the latter instance called, cutely, "ecopreneurialism"). This broader application is evident when government, social, environmental and other non-profit organisations adapt entrepreneurial approaches used by their colleagues in commerce.

Indeed, the spirit of entrepreneurialism is even encountered in academia in the guise of innovative teaching and research practices, and part of Gray's mandate is to foster such initiatives within the School of Business and across the wider University.

"My main role is to be a facilitator, a motivator and a networker," says Gray, who is championing the "radiant" model of entrepreneurialism, which fosters an entrepreneurial culture throughout the whole organisation. This is opposed to the "magnet" model, which predominates in many universities, where entrepreneurial activities tend to be limited to particular centres such as engineering and/or business schools.

One of Gray's first actions was to establish the Centre for Entrepreneurship and its main aims are to encourage and facilitate multidisciplinary research and teaching throughout the University, and to improve links with business and the wider community.

If, to non-business alumni readers, all this sounds a bit like business-new-age-speak, then be assured Gray is comfortingly brass-tacks when encountered in his office, scrutinising the flip sheets on which he recently devised the skeleton of a five-year plan for the new centre.

"We're not directly tied to any existing University research groupings," enthuses Gray. "Rather, we have indirect links with a number of groups within the University, and also with the Schools of Business and Design at Otago Polytechnic."



*Professor of Entrepreneurship
Brendan Gray: “My main role is to be a
facilitator, a motivator and a networker.”*

Photo: Alan Dove

The multidisciplinary approach is not new; indeed, many of the centre’s research projects can best be described as relating to social entrepreneurship, where corporate solutions are used for community betterment. These include an investigation of “ecopreneurship” – how businesses are developing solutions which enable them to be more environmentally friendly – and a community development initiative in the Chatham Islands.

Thus, the idea of studying entrepreneurship ought not to be pigeon-holed as pure business studies. The possibilities seem almost endless, which is why the pages of Gray’s flip chart are crammed with black-marker script.

Gray’s own extensive research interests probably reflect, to some extent at least, his unconventional background. After completing a Bachelor of Arts in English, he began his career as a journalist, working for newspapers, radio and television before establishing his own public relations and marketing consultancy.

After completing an MBA degree in 1989, which included conducting research into the internationalisation of television production services – with particular focus on Dunedin production company Natural History New Zealand – his growing interest in international business marketing led to a PhD.

“I started teaching part-time and realised that I might have more fun if I was a full-time academic and a part-time consultant,” he laughs, “and not the other way round.”

Since then his research has focused increasingly on the service industry sector, combining his fascination with international marketing with his enduring interest in communication.

“Until 10 years ago, service industries were under-researched in the marketing and management literatures,” Gray says. “Yet it was an area of growing importance because service industries make up the majority of developed countries’ economies.”

This anomaly clearly inspired Gray’s curiosity and he set about researching aspects such as the branding, competitiveness and market orientation of service industries with colleagues in the Marketing Performance Centre, while continuing research efforts in areas such as advertising effectiveness.

These far-ranging interests have led in unexpected directions, including the Arctic Circle,

where he worked in Tromsø with the Norwegian Fisheries Research Institute on food-producer market orientation, and also into the field of social marketing, researching areas such as road-safety advertising effectiveness. To this end, Gray is a trustee of the Harold Richardson Memorial Road Safety Research Grant, which provides up to \$10,000 a year to assist with research into aspects of road safety.

“As well as having an interest in helping companies to make money, I also have an interest in how to make New Zealand a safer and more enjoyable place to live,” explains Gray, who believes entrepreneurial approaches can be used in the social context to empower traditionally disadvantaged groups.

The Dunedin City Chair in Entrepreneurship, to which he was appointed in July 2007, was another unforeseen bend in the road, generated by the serendipitous thinking of both the University – which recognised an opportunity to assert its leadership in the area of entrepreneurship research – and the Dunedin City Council, which wanted to encourage entrepreneurial initiatives.

The chair was one of 27 projects established by the University under its Leading Thinkers initiative, in which external funds (in this case from the DCC) are matched dollar for dollar by the Government’s Partnerships for Excellence framework.

It is expected the chair will help develop innovative thinking among local businesses and the council.

“We felt that entrepreneurship was important to securing the economic development of Dunedin City,” says DCC chief executive Jim Harland. “In particular, we felt that the large number of students who come from outside the city was an enormous intellectual resource which we should do more to tap. We hope to obtain more sustainable employment out of it to solidify the town/gown relationships and also build on Dunedin’s historical success as a ‘can-do’ culture.”

Although the Centre for Entrepreneurship has been operating for less than a year, it has already won recognition

as an innovative way of assisting business development. The University of Otago was recently chosen as a finalist in the Vero Excellence in Business Support Awards, based on the success of the Leading Thinkers programme in general, and the Centre for Entrepreneurship in particular, to forge closer business links.

“This is an important recognition of the University’s commitment to improving the economic as well as social well-being of its wider community,” Gray says.

“Otago was founded, at the commercial level at least, by entrepreneurial people who, either directly or indirectly, were associated with the gold rush,” Gray says. “Over time, we lost most of the larger institutions that developed here as a result of that bonanza, so now we’re trying to actively develop a new wealth stream. We still have innovative organisations here, but, in some ways, we are looking for a new gold rush.”

Gray cites the internet as one example of an opportunity for innovation among service providers.

“Some of the things users demand now are being able to co-create value,” he explains. “They don’t necessarily just want to buy something, they want to help make it.”

Gray points to social networking sites like Bebo and Facebook, where the value lies in users working with the provider, as examples of this phenomenon.

“There is also a strong movement towards open-source and a feeling that information should be free, which means that business models need to be re-jigged,” says Gray. “So, if we’re giving away IP, we need to re-think about how we can make money.”

But, if one thing is clear, it’s that there are no hard and fast rules about what that re-thinking might be, or even that it has to be about making money. Modern entrepreneurship can take many guises, but chances are Gray and his colleagues will research many of them.

Rebecca Tansley

“Otago was founded, at the commercial level at least, by entrepreneurial people who, either directly or indirectly, were associated with the gold rush ... We still have innovative organisations here, but, in some ways, we are looking for a new gold rush.”

To make a donation or bequest to the University of Otago, please contact the Development Office.

Tel 64 3 479 8834 Email leadingthinkers@otago.ac.nz

Practising for rural practice

OTAGO'S RURAL MEDICAL IMMERSION PROGRAMME IS NOW IN ITS SECOND YEAR, AND GROWING. ESTABLISHED TO ENCOURAGE MORE DOCTORS INTO RURAL PRACTICE, IT IS ALSO PROVING TO BE AN EXCELLENT WAY FOR STUDENTS TO LEARN ABOUT MEDICINE.

HOW CAN RURAL COMMUNITIES attract doctors if medical students get little or no exposure to life in rural general practice?

Most student doctors train almost exclusively at universities and teaching hospitals. Even as interns, they see cases that reflect only a small proportion of the patients in the greater community.

But, for a select few, that is no longer the case. Te Waipounamu Rural Health Unit of the University of Otago's Department of General Practice is now in its second year of a new rural medical immersion programme for fifth-year students.

Programme director Dr Pat Farry saw the problem when he was South Island director of rural health in 2000. He started a seven-week rural health attachment at the Dunedin School of Medicine – and initially got a mixed response.

“The students were a bit resistant at first to going out and doing things in rural areas,” he says. “They went out in groups of three, to six rural teaching centres and when they came back they were absolutely astonished at how good it was. They came back excited, saying it was some of the best teaching and learning they had experienced.”

Farry looked at the possibility of running a three-year programme for fourth-, fifth- and sixth-year students to immerse themselves in rural general practice. Cambridge, England, had recently launched a similar curriculum, set up in response to criticism that they did not have a community-based programme, but it appeared to be working well.

Approaches to then Health Minister Annette King received an enthusiastic welcome, but the idea foundered between the Health and Education ministries.

In 2006 Farry met with Health Minister Pete Hodgson and again raised the problem that students who were interested in rural practice had no way to get community experience. Hodgson asked for a written proposal, and within months the project had the green light and Farry had his funding.

“It's ironic that after years in limbo here we were rushing around trying to set up the programme and find six appropriate students to do it by the start of the year. They were brave because it came out of the blue. I was writing the book as they were doing the course. It was fortunate that we had been thinking about such a course for so long that we knew what we wanted to do and most of the faculty gave great support.”



Photo: Suelien Boag

Dr Pat Farry (right) with fifth-year students (left to right) Roxanne Shahtahmasebi, Brad Stone and Mike Tolmay who are taking part in a rural medical immersion programme.

Where most fifth-year students would be spending a year in tertiary hospitals, three from each of the Dunedin and Christchurch Schools of Medicine were placed in two centres – Queenstown, where Farry is based, and Greymouth, a popular rural placement.

“They had all expressed an interest in rural health as a career, had shown flexibility and resilience as students, had a track record of self-directed learning and an acceptable academic record. We were very lucky to get such good students –adventurous and willing.”

Living and working alongside doctors in the communities, the students interacted with patients and were able to follow their progress from first contact to treatment, including visits to local rural and tertiary hospitals.

They also had to meet their academic goals with supervision from local clinicians and support from regional co-ordinators.

Farry believes the combination of practice and theory is a good one.

“I think that general practice is where students learn best – it’s where the patients are. Historically, it may not have been so important to go out to the community, but these days hospital stays for patients are so short. It’s expensive and they can’t stay any longer than they absolutely have to.

“Hospital-based students will often try to follow up on a patient they have been allocated and the patient has gone home. Patients in teaching hospitals are only two per cent of the people who go to see a doctor. Students in tertiary hospitals are missing out on the other 98 per cent of reasons for seeing a doctor.

“They are much more likely to have a continuing relationship with a patient who is in the community where they are working.”

Farry found the first year lived up to his expectations. “I was really pleased with it and so were the students. One emailed me halfway through to say that, after five years of medicine, this was the first time she felt she was learning about what it meant to be a doctor.

“In a small community people remember you. Like I went to the pub for a quiet drink and found that the guy I had been stitching up in A&E was the bartender.”

“You are not just another student but you are part of the team and they discuss things with you. You are involved in decisions of management. This almost never happens in a bigger centre where you are just an onlooker.”

– Comments from students in an independent review of the programme’s first year.

“Another student, now on an elective at a rural hospital in India, wrote to say how much the year had helped hone her clinical skills.

“The students got very excited about the number of patients they were seeing – sometimes we had to remind them to get back to their books and not get too distracted from study. Every patient in practice had to be followed up with the theory.”

The year is based on experiential learning. Students see patients, reflect on what they have seen and study cases in theory. They use textbooks, papers and IT resources, refer to local and distant advisers, and have access to Dunedin tutorials through video links or DVD recordings. They also hold peer-group conferences and report regularly over the web.

Generalist and specialist practitioners provide advice, feedback and assessment.

The first year’s success has led to the programme being extended. This year 39 students expressed an interest and 18 applied for the 12 places on offer.

The successful students are based in four communities – Queenstown, Greymouth, Balclutha and Dannevirke. Next year will see 20 students with new centres added to serve the Canterbury and Wellington areas, the idea being to set up rural placements that relate to the University’s three schools of medicine.

As the programme grows, Farry hopes that the College of General Practitioners will provide a specific

rural general practice vocational training programme so that there will be a pathway into rural medicine.

“Part of the aim of the programme is to get more rural health providers, but it’s also a great way to learn medicine.”

Tom Stevenson, one of the first year’s students, is now in his final year, working as a trainee intern at Dunedin Hospital.

“I’m still open-minded about what I’ll do. I have a couple of options, but rural general practice is certainly one of them, and what I did definitely put it more into the forefront of my mind.

“It was a great course. I expected it to be hands-on with seeing more patients and I certainly got all that. It was good to see how rural general practice works.

“The best points were getting patient contact, learning medicine by seeing patients and actual cases rather than just through tutorials and textbooks. The self-learning was one of the things I was worried about, but it was easier than I thought it was going to be.

“I think I missed out on some specialist teaching I would have got at a hospital, but I’m getting that now so it’s all working out. The good parts more than balance that out.”

So would he advise others to do the course?

“I have and I will.”

Nigel Zega

Surfers to the rescue

A SURFING HOLIDAY TO THE MENTAWAI ISLANDS CHANGED DR DAVE JENKINS' LIFE FOREVER: IN THIS POVERTY-STRICKEN TROPICAL PARADISE EVERY FOURTH CHILD WAS DYING. HE GAVE UP HIS CORPORATE LIFESTYLE AND ESTABLISHED SURFAID INTERNATIONAL.

DR DAVE JENKINS wants to change the world. He's already made a start by improving the lives of thousands of Indonesian islanders.

SurfAid, which Jenkins founded in 2000, aims to improve the health and well-being of people living in isolated areas. Its ground-breaking and effective approach to aid work was recently recognised with a Humanitarian Award from the World Association of Non-Governmental Organisations (WANGO). SurfAid won the 2007 award from a field of about 70,000 other aid agencies, much to Jenkins' surprise.

"I didn't even know they knew who we were, but being recognised by your peers, who understand the difficulties of what you are doing, was like winning a world title," says Jenkins.

SurfAid has made rapid progress and Jenkins has come a long way since student days at Otago. He'd wanted to study medicine since he was a teenager, inspired by conversations with his uncle, who was a doctor, and by what he read about physician and philosopher Albert Schweitzer.

Otago attracted him, both for the University and for the nearby mountains for skiing and tramping. In Dunedin he discovered surfing and was hooked for life, managing to mix medicine and surfing Meccas, interning at Gisborne and doing postdoctoral work in Taranaki.

He trained with the College of General Practitioners and, for a few years, he surfed and did locums, gaining experience before buying a large rural practice in the Bay of Plenty. "It was one of the biggest in the country – about 6,000 patients – and I had this mad idea of creating a high quality service in this rural area," says Jenkins.

Jenkins' mad idea worked out and, after five years, he'd expanded to three doctors and a teaching practice. His interest in education led to an experimental job facilitating professional development.

"There were problems in supporting rural GPs. We set up programmes and started trialling such things as satellite education and online peer groups. Some of the things we began are still going."

The work led to becoming educational director of a multinational health organisation in Singapore, running

programmes for medical professionals around Asia and the Pacific. Jenkins headed a team of trainers, using conferences and remote learning to keep doctors and nurses up to date with managing risks for various diseases.

One holiday Jenkins hired a luxury yacht to indulge in one of surfing's greatest destinations – the Mentawai Islands. Anchored offshore, Jenkins decided to visit a nearby village. The encounter changed his life.

“When they found out I was a doctor the chief asked me to come back and see some people. When we turned up there were 200 people waiting for us.

“We had quite an emotional afternoon coming to terms with the state of the health there, seeing desperate children who were sick. They had worms, were anaemic, had pot bellies from malnutrition. One woman with pneumonia was brought to me in a wheelbarrow. She died later that night. Whole families were wasting away from tuberculosis.

“It was quite a contrast between the big luxury boat that I was able to charter with my corporate salary package and the plight of these people just 50 metres away. It was a turning point in my life.

“I did a lot of soul searching. I realised that helping these people would be a better journey for me than the one I was on. The thing that struck me was that most of these diseases were either treatable or easily preventable. It all came down to behaviour and habits.

“I was irritated and saddened by the fact that here was a tropical paradise with wild spinach and other nourishing food growing, but there were all these malnourished kids. It was crazy, but I did find some hope. We could work on changing their belief systems. We could show them agricultural skills and get them eating well. Well-nourished kids can fight off major killers such as chest infections and diarrhoea. I had hope that we could turn this situation around.”

Jenkins enquired if there was anyone to help. He was told Dr Manuchoer and his wife Nita had been working in the area.

“They are very spiritual people – magical human beings with a lot of compassion. When I met them they said they had been waiting for me to arrive – as if they knew what was going to happen. They had run some clinics out there, but they knew they were just the ambulance at the bottom

of the cliff. What the islanders needed more than anything was an education as to how to care for themselves. They needed to change their way of life.”

Jenkins knew that there were medical solutions, but he didn't have a clue as to how to implement them in such a foreign and isolated place. He explored the complex logistics of setting up a non-governmental organisation based in New Zealand and came up with the idea of SurfAid.

“These remote islands are the Disneyland of surfing,” he says. “The only people who go there are surfers. If any group was going to help it had to be us.”

He had the idea of approaching the big surfing companies to raise funds, but it was slow going. The idea received a further setback when Manuchoer explained that money was not enough. He could not implement any programme that was set up. Someone else would have to run it.

“I had no experience of tropical diseases,” says Jenkins. “I didn't think I was qualified to do all this – and I was right. But when I found out the mortality statistics – every fourth kid was dying – I had to try.”

Mentawai was off the radar for the big aid agencies who saw western Indonesia as wealthy. The islands were a pocket of extreme poverty in an area seen as relatively rich.

Jenkins resigned from the corporate world and did locums while he researched what was happening in the villages and planned for the future.

Working in London he met Andrew Griffiths, a New Zealander planning a surfing trip after a successful career in the financial world. Griffiths volunteered to distribute mosquito nets for SurfAid, fell in love with the islands and offered his business acumen to Jenkins.

“Finally I felt we had a chance of succeeding,” says Jenkins. “With Andrew on board we raised funds at the corporate level. We had a donation from Lonely Planet – the biggest we'd ever had. We realised that if we were going to make a go of this we had to give up our jobs and go and live there full-time – so we did. We set up an office in the cheapest hotel we could find and lived on \$10 a day for over a year.”

Funding from the New Zealand Government paid for a small anti-malaria programme using long-lasting mosquito

**“These remote islands are the Disneyland of surfing.
The only people who go there are surfers.
If any group was going to help it had to be us.”**

nets in five villages. It had a dramatic effect, cutting malaria by about 75 per cent, and was expanded to 23 villages.

An article in *Surfer* magazine led to a presentation to manufacturers of surfing gear. “Some of them cried,” says Jenkins. “It launched us internationally and we got more funding from the industry. At that stage we felt we had a real shot at becoming a stable organisation.”

When the Boxing Day tsunami of 2004 swept through the area, SurfAid was in the right place at the right time.

“We were in this peculiar position where we had trained staff, offices and communications systems, and knew the local charter boats and the area. We focused on island groups north of us that no one else knew how to get around and we stuck to our strengths, working on preventing a second wave of disease sweeping through. We became an emergency response organisation, going from 25 to 150 people in three weeks.

“It was really bizarre that the UN and the US Navy were working with this little organisation that no one had ever heard of. But, as we sent back really good information from the island groups, people started to take notice of us.

“That put us on the map with the aid business, especially with AusAID and NZAID, who are now our biggest sponsors. Now we are doing more long-term work.”

But Jenkins is still not happy and plans to upscale his



Dr Dave Jenkins with Junaidi in the village of Katiet in the Mentawai Islands. Junaidi’s health was in serious decline until SurfAid intervened.

educational health programmes. “We are unashamedly ambitious and I won’t consider we are a success until we are a very large organisation with some of the best programmes in the world, and having a strong influence on how the large donors make decisions about where money is being spent in health because it is not being spent well now – there’s clear evidence of that.

“For example, getting mothers to breastfeed exclusively for the first six months of life can save up to 18 per cent of children under five dying. Is 18 per cent of the total childhood health budget being spent helping communities achieve this? Not even a minute fraction of it is.

“It’s hard work, but there are very large social entrepreneur opportunities like this in the aid sector that need exploring. We’re all about piloting and proving that grassroots action that focuses on

high-impact behaviour change and shifting cultural norms can be successful and, in fact, are the best return for the donors’ dollar as the impact echoes on forever.

“We’re building models that can be upscaled and replicated cost-effectively to provide lasting improvements in the health of at-risk communities. Step by step, we’re getting there.”

Nigel Zega

For further information about SurfAid, please go to www.surfaidinternational.org

Photo: Kirk Willcox, SurfAid International

Scaling the heights

**YEARS OF HARD WORK ARE PAYING OFF FOR OTAGO
MUSIC GRADUATE ANNA LEESE WHO, EARLIER THIS YEAR,
PERFORMED WITH OPERA GREAT JOSÉ CARRERAS.**

IT'S A BIG JUMP from the University's Marama Hall to Covent Garden, but one Otago graduate who has successfully leaped or – to continue more accurately the analogy – pole-vaulted that hurdle is Anna Leese.

Just six years after graduating with a Bachelor of Music (Honours) from Otago, the soprano is ascending the almost unscaleable summit of elite opera singers about as rapidly as her voice can climb to a high C. It's been a swift trajectory, but one which Leese has worked hard to earn.

"There is a real hierarchy in opera," confirms Leese from her London base. This is where her professional career began in 2006 with the role of Tamiri in Mozart's *Il Re Pastore* for the Lindbury Theatre and, soon afterwards, with Musetta in Puccini's *La Bohème* at the Royal Opera House. "I've managed to climb up a bit of it," she adds modestly – not long after having shared a stage with José Carreras.

Early Covent Garden engagements such as Musetta – for which she was lavished with praise from critics when she filled the role at the eleventh hour – and Micaela in *Carmen* have helped to ensure Leese is now in the enviable position of picking and choosing her work at an age when most aspiring singers are still picking and choosing auditions. More recent engagements such as the Carreras concert, a Wigmore Hall recital with internationally-renowned accompanist Graham Johnson and a string of roles at the Royal Opera House have cemented her position as a singer much in demand on the international opera circuit. Leese

is now represented by international artist management firm Askonas Holt.

As effortless as it sounds when she is performing, Leese's mastery of her art is the result of years of hard work and coaching which continues to this day. Growing up in Palmerston North, Leese began her vocal career as a church chorister, an experience which provided her with a solid foundation in musicality. She was a member of both the New Zealand Secondary Schools and New Zealand Youth Choirs before deciding to develop her solo voice. She chose to come to Otago, where she studied under senior teaching fellow Isabel Cunningham, and gives credit to the Department of Music where she began life as a soloist, saying there is good reason the University of Otago enjoys more than a pro-rata share of singers who go on to enjoy international success after graduating.

"It is an incredible vocal department, easily the best in New Zealand," affirms Leese, who also believes the amount of performance opportunities for young singers in Dunedin is unmatched elsewhere in the country.

"We were given a lot of exposure at a young age, and yet it was a sheltered environment so you knew it didn't matter if you stuffed up. Everyone was very supportive and wanted you to succeed. It's like taking a leap and seeing if you can fly."

Choral singing, however, cultivates a different voice to that developed for solo singing, and Leese had to work hard

at Otago to nurture the characteristics in her voice that would eventually shine.

“[When she first arrived at Otago] Anna sang musically and with confident musicianship,” Anna’s former teacher, Isabel Cunningham remembers. “Her voice was of good quality, but lacking colour – like a boy soprano – a sound which is often encouraged by choral conductors.

“The voice is an instrument which has to be built with systematic technical work and judicious choice of repertoire,” Cunningham explains. “Much work has to be done in training the ear of the mind – the inner ear – to a high degree of discernment in recognising well-balanced vowel colour, imbued with an appropriate balance of light and dark quality, then retaining that degree of aural acuity and control at all times over the entire vocal range.

“Once Anna took on board this systematic voice-building regime, her voice started to grow in colour and intensity. Reluctantly, Anna decided she would have to stop all her choral commitments and, at this point, her voice was freed up to develop naturally into a gleaming solo instrument.”

As she progressed with her studies Anna’s potential was recognised with many first places in vocal competitions around the country. This culminated in 2002 with her winning the New Zealand’s Mobil Song Quest and, in 2003, the McDonald’s Aria Scholarship at the Sydney Opera House.

For both of these prestigious national contests Anna was accompanied by the University of Otago’s Professor Terence Dennis. An internationally-respected accompanist who will accompany Leese on a Chamber Music New Zealand tour in August 2008, Dennis describes Leese’s voice emphatically as “a quality instrument, a very silvery sound, a real soprano voice”.

“The timbre is beautiful,” Dennis adds, “but also the size of the voice. I was there [at the 2002 Mobil Song Quest], on the stage, and I can attest that it was the only voice that effortlessly carried to the back of the hall. People don’t realise that when they are listening to it on the radio or television, because it’s balanced by technicians. But Anna doesn’t have to force her voice because of fine vocal technique and lots of training. She was the youngest and

least experienced singer competing, but I don’t think there was any question about who would win.”

After graduating from Otago Leese undertook postgraduate studies at the Royal College of Music in London. Here she attended the Benjamin Britten

International Opera School under the tutelage of esteemed tenor Ryland Davies. As the only school in England with its own dedicated opera theatre, this also gave Leese – a veteran of many concerts and recitals back at home, but no opera roles – the opportunity to develop dramatic skills in fully-fledged opera performances for the first time.

“I was completely immersed in opera,” recalls Leese, “and I loved it!”

Although she has completed her formal training, Leese’s days are still filled with musical learning. Rehearsals often tie up the days until a performance season begins, and there are coaching sessions to attend and music to be researched. Anna also spends time at her piano thoroughly learning pieces or roles she is preparing. Performances take her away from home

frequently; in 2009 she makes her North American debut with Canadian Opera as Musetta, a favourite role.

In 2007 Leese recorded her first CD in an old church hall in the English countryside. “EMI wanted to use natural acoustics,” explains Leese, “so we went to an old hall in the middle of a paddock, which had the most beautiful acoustics, and set up a recording studio in the kitchen.”

For Leese, accustomed to focusing on live, acoustic performances, the experience was new and exciting. Another milestone was the February 2008 recital with José Carreras, about which the question must be asked: what was it like to sing with the famous tenor?

“He was lovely,” says Anna. “I thought I would feel out of my league, but he made me feel like I wasn’t. I was expecting this huge personality, but he would always say something lovely about my singing every time I left the stage. But then he’s also a Spanish man so he’s used to giving charming compliments to women!”

New Zealand audiences will have the chance to hear Leese, live, with accompanist Dennis on their 10-date Chamber Music New Zealand tour in August.

Rebecca Tansley



Photo: supplied

Anna Leese: “There is a real hierarchy in opera. I’ve managed to climb up a bit of it.”

Lauding Lauder Lindsay

FOLLOWING A FOUR-MONTH STAY IN DUNEDIN IN 1861–62, SCOTTISH DOCTOR WILLIAM LAUDER LINDSAY MADE SUBSTANTIAL CONTRIBUTIONS IN A NUMBER OF FIELDS – PSYCHIATRY, BOTANY, GEOLOGY, FOREST CONSERVATION, SCIENCE AND, AS DR WARWICK BRUNTON CONTENDS, TO THE ESTABLISHMENT OF A UNIVERSITY.

IT WAS ONE OF THOSE NAMES that kept cropping up: in a reference to attitudes towards mental health in colonial New Zealand; in correspondence in the Nelson Provincial Archives; in a passing, if somewhat dismissive, mention in a history of the University of Otago; in an exalted position in the history of “lichenology”; in a collection of rocks left to the Otago Museum; in writings on acclimatisation and on the conservation of forests.

However, the range of disciplines in which it appeared was so disparate that only relatively recently has the penny dropped. Dr William Lauder Lindsay was an extraordinary individual and a man who had a significant influence on the development of psychiatry, science and education in early colonial New Zealand, and was an early advocate of the establishment of, what he called, “a university in Dunedin”.

Dr Warwick Brunton, a senior teaching fellow in the Department of Preventive and Social Medicine at the University of Otago, first encountered the man some years ago while researching his PhD thesis.

“I came across Lindsay when I was trying to gauge public attitudes towards mental illness in New Zealand ... and was trawling through thousands of newspapers in the towns and cities that eventually established provincial lunatic asylums,” he recalls.

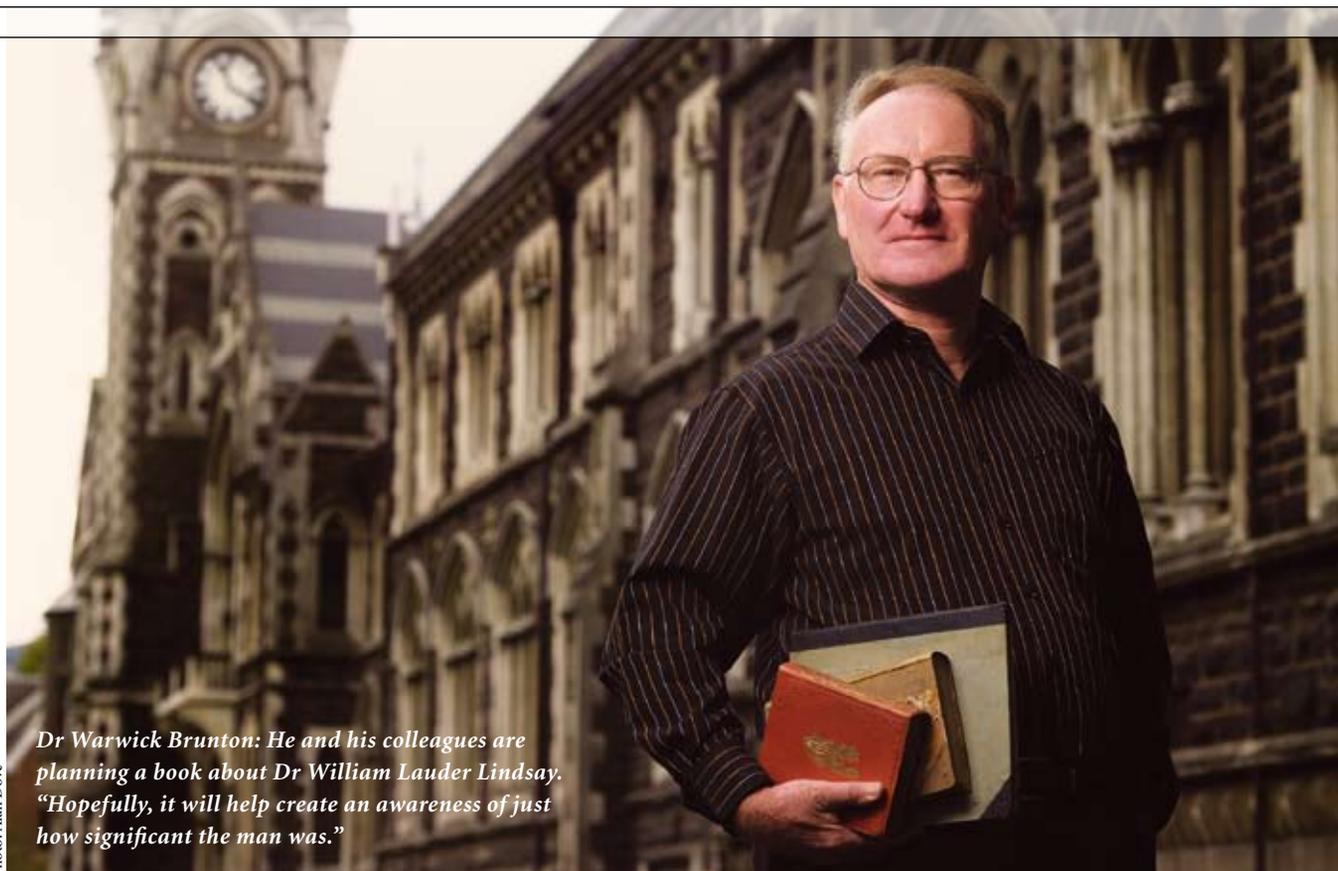
“I found this quite fascinating letter to the *Otago Colonist* by Lindsay setting out his views on what should be done in Dunedin and he signed himself quite authoritatively as an expert in the field.

“I didn’t think anything much more about it until I came across some correspondence in the Nelson Provincial Archives in which he was offering advice and help to select staff for their asylum in the 1860s ...”

As an historian with a career in national health policy-making behind him and a particular expertise in the history of mental health, Brunton’s interest was piqued. These were clues, as he was to discover, to a much larger and multi-faceted story. He later found that Lindsay had published several articles in learned journals of the day on mental health organisation policy with some specific suggestions for New Zealand. But so far the frame of reference was 19th-century psychiatry.

That changed for Brunton when the distinguished local lichenologist, Dr David Galloway, gave a lecture at the Hocken Library on Lindsay’s contributions to natural history in southern New Zealand.

“It was quite clear,” says Brunton, “that, as a botanist and geologist, he was seeing Lindsay through very different eyes to what I had, and that Lindsay made a solid contribution to



Dr Warwick Brunton: He and his colleagues are planning a book about Dr William Lauder Lindsay. “Hopefully, it will help create an awareness of just how significant the man was.”

New Zealand in a way I was completely unaware of. In the same way, he was largely unaware of the impact Lindsay had had in the field of psychiatry.”

It soon transpired that Lindsay had also come to the attention of several other scholars in the Department of History at the University. Dr James Beattie, now at Waikato University, encountered him in relation to early forest conservation and acclimatisation issues. Dr Neil Clayton discovered he’d had a particular interest in tutu and poisoning. Dr Paul Star encountered Lindsay’s idea of colonial science. Professor Howard Lee, currently at Massey University, noted the influence on education. Then there were the rocks left to the Otago Museum and the books Lindsay gave to the University Library.

Intrigued, this group of scholars has met periodically to look into the extent of Lindsay’s influence on early New Zealand – and discovered connections between Lindsay and the establishment of the University of Otago.

“The cornerstone of the connection was a lecture Lindsay gave to the YMCA in Dunedin in late 1861,” says Brunton. He didn’t actually deliver it himself because he was unwell – which often happened with Lindsay – but he obviously prepared it and it was essentially an agenda for developing natural sciences in Otago.

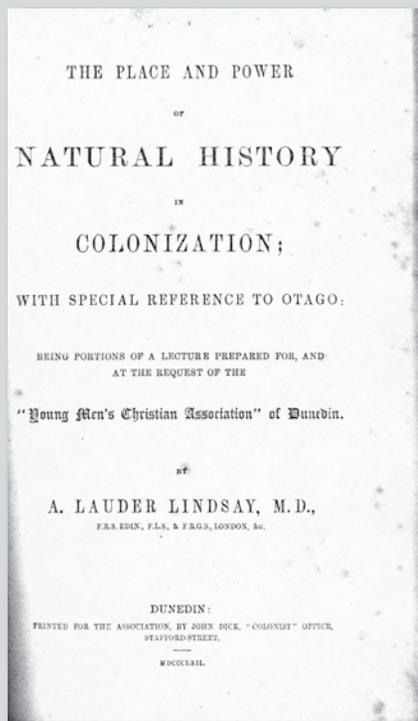
Among other things, Lindsay’s list included provincial surveys of geology and natural history, a museum with its own library, a botanic garden, the teaching of natural history in high schools, a natural history society, forestry conservation, acclimatisation experiments, economical applications of flax fibre and other plants, and the formation of an acclimatisation society.

“Many of these ideas were achieved over the next decade or so,” says Brunton. And it was in that context that he mooted the idea of “a university in Dunedin, or at all events at first the nucleus thereof”.

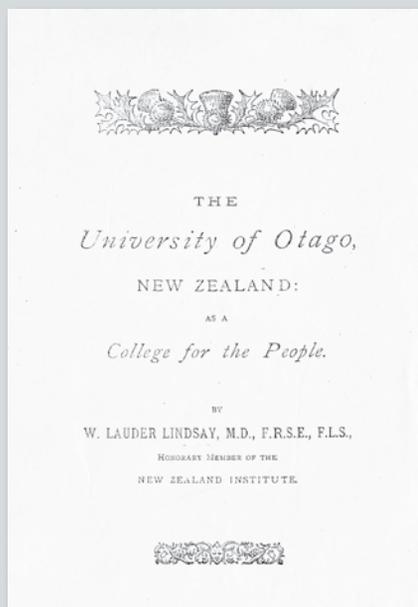
William Lauder Lindsay was born in Edinburgh, Scotland, in 1829, the first of four children of a senior civil servant. He excelled at high school and went on to study medicine at Edinburgh University.

“The impression I get is that he would have loved to have been a scientist – most likely a botanist or a geologist – but there weren’t the openings then,” explains Brunton. “Medicine was the umbrella under which people could do a science course.”

At Edinburgh, Lindsay came under the sway and tutelage of John Hutton Balfour, the Professor of Medicine and Botany who stimulated Lindsay’s interest in botany, and lichenology in particular (see cover illustration).



Lindsay's YMCA lecture (above) was an agenda for developing natural sciences in Otago. (The attribution to A Lauder Lindsay was a typographical error.) A later pamphlet (below) described the University of Otago as "more than a mere college of science".



He saw the University of Otago as a young university that "had all this potential to honour the values of Scottish education".

But there were few openings in the field and Lindsay stayed with medicine. He was resident physician at the Edinburgh City Cholera Hospital during the 1853–54 epidemic, but turned to psychiatry soon after. Following a short stint at the prestigious Crichton Royal Institution, Dumfries, he was headhunted, at the age of 25, by what is now the Murray Royal Hospital in Perth in 1854.

He quickly made his mark, giving the asylum a therapeutic and management shake-up. Very much a progressive in his approach to the mentally ill, he modernised the treatment regime at the hospital and "worked with great gusto and flair to develop the non-restraint system with its ordered rhythm of work, recreation, worship, rest and cultivation of the institution as community".

By 1859, Lindsay had been given both the management and clinical reins at the hospital. He also married Elizabeth Reid – his "Lizzie" – that year. But it was around this time that his expanding responsibilities and hyperactive approach to life and work began to get the better of his health. Beginning to "burn out", in 1861 he was advised to take a complete break and take a long health trip. He was paid a year's leave of absence and a return fare to New Zealand, setting sail in July 1861 and arriving in Otago in October. He left in January 1862 and sailed home after visiting Nelson, Auckland and the Thames goldfield.

Lindsay wanted to make the most of his time in New Zealand, pursuing his botanical and geological interests, but that was not so easy.

"On the voyage out he met one of Cargill's sons ... and Lindsay leaves the impression that Cargill introduced him to influential political, civic and professional leaders in Dunedin," says Brunton. "And they kept picking his brains as an expert ... which he resented on account of the fact that he wasn't paid."

There is a recorded comment indicative of at least chagrin, the good doctor having left New Zealand shores not "one penny the richer".

Despite the fact that he remained only four months in Dunedin, Lindsay made a substantial mark in several fields, the full extent of which Brunton believes is still to be realised.

There is some debate over his exact role in the formation of the University. While Robert Gillies, secretary of the Dunedin YMCA at the time of Lindsay's visit, credited Lindsay as being the first person to come up with the idea of a university, some histories ignore him altogether, including W P Morrell in his centennial history of the University, and others merely mention him in passing. G E Thompson's University history of 1919 mentioned Lindsay, but disparaged individual claims to priority as "both useless and vain" because, as Thompson pointed out, the idea had pre-existed as part of the plans for the settlement. K C McDonald's history of Dunedin city points to James Macandrew as the University's "founder".

But there seems less dispute that Lindsay was well placed to make a contribution. His YMCA address was underscored by his later paper, written on return to Scotland, *The University of Otago, New Zealand: as a College for the People*. Published in 1875 (six years after the University of Otago was established), it described the University of Otago, with Lindsay envisaging it as being more than a "mere college of science", but as possessing the nucleus of "all the faculties which go to the equipment of a regular university of the British type", including the arts, medicine, law, divinity and science.

Brunton says that Lindsay also made a significant contribution as a benefactor and a publicist for the University. He donated the very first books to the library, some of which are still held here, and a collection of Northern Hemisphere rocks to the museum which was then run as an adjunct to the University.

"And he was obviously inspired by the potential of the University as a model for developments in Dundee. He had progressive views on education ... education for women, night classes, distance learning."

He saw the University of Otago, says Brunton, as a young university that "had all this potential to honour the values of Scottish education".

Lindsay's trip to New Zealand did not do much to improve his health, and only a year or so after his return to Scotland a double tragedy compounded his "nervous" condition. His wife Lizzie died and, soon after, their new baby.

It was a double blow that, Brunton speculates, may have led to something of a personality change. Lindsay was a prolific writer over a wide range of subjects and there are

so far 277 known publications to his name, 48 of them relating to New Zealand. But some of his later efforts did not perhaps display the scientific rigour of his earlier work. He also found himself in dispute with the directors of his hospital. He eventually died in 1880, not long after taking early retirement.

Surprisingly, he remains perhaps more unknown in Scotland – even in the hospital that he ran for 25 years, as Brunton discovered on a visit – than he is in New Zealand. But underscoring his relative anonymity in this country is the fact that there is only one copy of his University of Otago pamphlet in New Zealand libraries. It is not held by the University of Otago.

Yet Brunton found there is definitely an interest to learn more about Lindsay in his home country as well as here, and the planning of a book, to be published in the next year or two by Brunton and his

colleagues, may go some way to meeting this. The book, he explains, will include an extended biographical essay, a bibliography of all Lindsay's known publications and several essays on the man in his various roles – psychiatrist, botanist, geologist, educationalist and environmentalist among them – in the context of his contributions to these fields in New Zealand.

"Hopefully, it will help create an awareness of just how significant the man was."

Simon Cunliffe

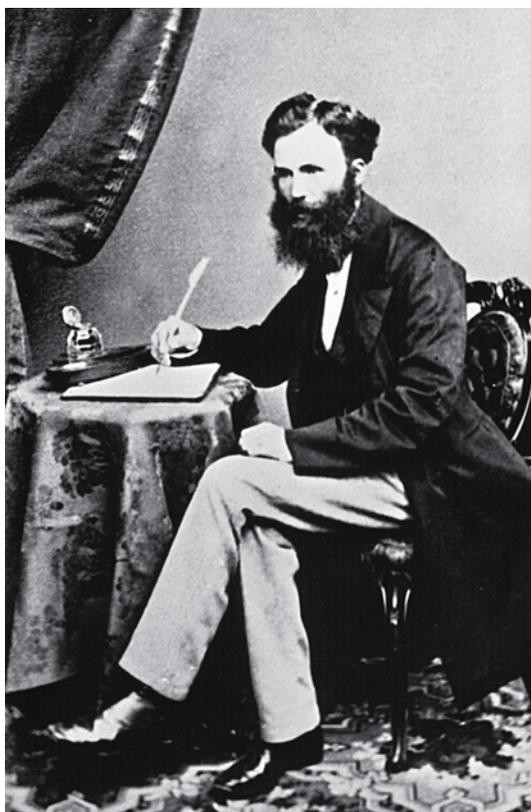


Photo: supplied

William Lauder Lindsay: His exact role in the formation of the University of Otago is debated.

The Electoral Finance Act and kneejerk legislation



Photo: Bill Nichol

Associate Professor Andrew Geddis: “The politicians have had their turn at making rules for New Zealand’s elections. It is time for the voters to have theirs.”

NEW ZEALAND’S ELECTORAL LAW is like the knee. When it works, you do not even notice it is there. But damaging it can seriously disrupt your everyday life.

Unfortunately, if I may extend the metaphor, this country recently has suffered the equivalent to a torn ACL. The Electoral Finance Act 2007, enacted in response to perceived problems with election funding at the 2005 election, has become the focus of much public angst.

Political parties trade accusations over who has breached the law on a weekly, if not daily, basis. Media organisations, most notably the *New Zealand Herald*, are campaigning

actively against the legislation. Every decision on how the law applies is scrutinised and critiqued from all corners.

Of course, the Electoral Finance Act always was going to be controversial. The balance it attempts to strike between the important democratic values of freedom of participation and general equality of influence is open to reasonable dispute.

Furthermore, politicians have a vested interest when it comes to designing election rules, so their motivations in this area always are questionable. Nevertheless, the level of current dispute, as well as its acrimonious nature, is

“... the Electoral Finance Act has caused damage to our electoral process that now needs fixing.”

concerning. First, it indicates that a significant portion of those directly involved in the election process (as well as the voting public more generally) do not believe the basic ground rules the Electoral Finance Act sets for our election campaigns are fair.

Belief in the fairness of the election rules is a necessary prerequisite for accepting the final election result. It is why the losers at the polls consent to the winner gaining public power, even though they may violently disagree with the winner's substantive policies and goals. When this belief is threatened, it undermines the whole point and purpose of elections.

Second, unhappiness with the rules contained in the Electoral Finance Act is leading some to question the actions of those charged with overseeing and administering them. In particular, the Electoral Commission's actions have been challenged repeatedly, with an underlying message that this agency is either partisan or incompetent.

Such messages, although demonstrably untrue, undermine public trust in the way our election process is run. Losing this trust would be a disaster. A society that does not think its elections are conducted in an honest and fair fashion ends up in a situation like Kenya or Zimbabwe find themselves in today.

Of course, any claim that the Electoral Finance Act is going to destroy New Zealand's democracy is silly. Even the opponents of that legislation's limits on third-party election expenses would not put them in the same league as stuffing ballot boxes or beating up rival supporters.

But the Electoral Finance Act has caused damage to our electoral process that now needs fixing. How we might now undertake that restorative project depends in part on how the damage was caused in the first place.

A good portion of the blame for the present situation lies with the legislation's authors. While the actions of the Exclusive Brethren and the like during the 2005 election campaign gave the Labour-led Government legitimate reasons to consider changing our electoral laws, the way it

went about enacting those reforms was ill-considered and overly rushed.

The normal parliamentary process for considering and enacting law misfired with regards to the Electoral Finance Act. This failure has important flow-on consequences.

For one thing, it is hard to see how Parliament alone can now put the matter right. The level of vitriol that the Electoral Finance Act has attracted means any replacement legislation promoted by any political party will likely be attacked as equally partisan.

It is questionable whether even a set of measures recommended by outside experts could now generate broad respect and agreement. The selection of those experts, and the terms of reference given to them, would be subject to intensive scrutiny and questioning.

Given this situation, the best way forward may be to put the issue of election funding directly to the New Zealand public. Canada's recent use of citizens' assemblies to address issues of electoral reform provides a model for how this could be done.

A randomly-selected, representative group of voters from around the country would be charged with deciding how to regulate the issue of electoral financing. Over a series of weeks, they would engage in a process of education on the topic, as well as hear submissions from interested persons or groups, before collectively deciding on the best way forwards.

Their recommendations then would provide a signal as to how ordinary, fully-informed New Zealanders want their electoral processes to work. It would then be a brave, or particularly mendacious, government that would dare ignore such a message.

Simply put, the politicians have had their turn at making rules for New Zealand's elections. It is time for the voters to have theirs.

Associate Professor Andrew Geddis
Faculty of Law, University of Otago



Photo: Bill Nichol

Professors Jeff and Lisa Smith: They believe museums encourage people to think about broader social issues.

Museums' civilising effect

IF YOU HAD the chance, how long would you look at one of the world's finest artworks? Typically, less than 30 seconds and rarely more than a minute.

That revelation was a surprise to Professors Jeff and Lisa Smith, who ran the Office of Research and Evaluation at the Metropolitan Museum of Art, New York, for 18 years.

A work of art is different to a book, symphony or ballet, where the participant is committed to the experience for several hours, they explain.

A single artwork, regardless of its status or fame, is generally not a major attraction in itself. More often, people spend a few hours in a major museum taking in an entire exhibition through a series of brief encounters with up to 100 individual pieces.

Now both professors at the University of Otago College of Education, the Smiths continue to be fascinated by how people use museums. They believe museums have a "civilising effect", encouraging people to think about broader social issues.

"Each artwork poses a challenge or opportunity to the viewer," Jeff explains. "It gets people thinking about who they are, their relationships with others, and even their role in society."

"This contemplation leads to changes in people's lives," Lisa adds. "It leads to learning and, as educators, that is what we are interested in."

Their studies have generated international interest; they co-edit the journal *Psychology of Aesthetics, Creativity and the Arts*. Jeff is co-director of the New Zealand National Education Monitoring Project and Lisa is Professor of Education for Research and Development at Otago.



Photo: Todd Sisson

Associate Professor Henrik Kjaergaard: "We need to rethink the way phosphorus cycles in the environment."

New element to atmosphere

WITH THE current focus on understanding the atmosphere, the recent discovery of a form of phosphorus in the upper troposphere has only underscored how little is known about all the elements and compounds.

Associate Professor Henrik Kjaergaard, of the Chemistry Department, has secured Marsden funding to find out more about the presence of phosphorus in the atmosphere.

"We need to rethink the way phosphorus cycles in the environment," he says.

"The biologically relevant elements all have these cycles. For example, carbon exists in various forms in the atmosphere, soil and ocean, and it cycles readily between these forms."

Until now, phosphorus has only been considered to have ocean and soil components of its cycle. However, the recent discovery of phosphine in the lower and upper troposphere suggests the existence of an atmospheric part.

By comparison, a lot is known about the sulfur cycle. For example, scientists know there is plenty of sulfuric acid at high altitudes and Kjaergaard suspects something analogous may happen with phosphorus, with high altitude oxidation of phosphine leading to phosphoric acid in the upper reaches of the atmosphere.

"That to me is the thrill of it – the possibility of kicking up something totally new."

He will work with postdoctoral fellow Joseph Lane on theoretical investigations of the spectral properties and reaction mechanisms of phosphorus compounds in the atmosphere.

They will then work with atmospheric scientists to search for these compounds in the atmosphere using spectroscopy.



Photo: Alan Dove

Professor Marian Simms: “In the Westminster system it has traditionally been more of a team emphasis ... The argument is that this is happening less.”

Washington or Westminster?

WE MAY NOT be a republic yet, but elections in New Zealand – like its Commonwealth sisters Australia and Canada – appear to be becoming more presidential.

Professor Marian Simms (Politics) has received a two-year University of Otago Research Grant to examine the extent to which New Zealand and Australia’s politics, and especially their election campaigns, focus on party leaders.

“In the Westminster system it has traditionally been more of a team emphasis – where the leader is more answerable to the party and parliament. The argument is that this is happening less,” she says.

“The term ‘presidentialisation’ has been bandied around, but I want to give it a clearer meaning.”

Her most recent book, *Kevin ’07*, focuses on the 2007 election and presidentialisation in her native Australia.

Simms says television puts a greater focus on the leader, and the leaders’ debate has become a reference point for how people think about politics.

“New Zealand is a bit different in that MMP means leadership is more shared and a good leader is one who is a consensus builder.”

Simms says presidentialisation and the personalisation of leaders means everyone knows their stories – John Key’s rags to riches story being a case in point.

“Previously their private lives were much more guarded.”

Simms is also interested in media coverage in this year’s New Zealand election campaign and the parties’ use of new media, such as the internet, something Kevin Rudd did well in Australia last year.

“Australia was more presidentialised and personalised – will New Zealand follow suit?”



Photo: Ross Coombes

Professor Eric Espiner and Dr Tim Prickett: “This could greatly assist in the early diagnosis and treatment of growth disorders in thousands of children ...”

Heart hormone signals skeletal growth

FOR MORE THAN two decades the Christchurch Cardioendocrine Research Group has been breaking new ground in understanding the role that heart hormones, such as ANP and BNP, play in heart failure and cardiac disease. However, the function of one heart hormone remained unclear until recently.

Professor Eric Espiner and Dr Tim Prickett have now found that the heart hormone C-type natriuretic peptide (CNP) also acts as a vital signal for skeletal growth at crucial stages in fetal and childhood development.

“This could greatly assist in the early diagnosis and treatment of growth disorders in thousands of children, as well as rare bone disorders,” explains Espiner.

“We’ve shown that CNP is produced at high levels in the fetus and during rapid bone development at birth, then slowly falls as growth rate slows. There’s another surge in CNP at puberty, with a new growth spurt and skeletal development.”

The key to these findings, and improved diagnosis and treatment, is a special assay or test developed by Prickett and Associate Professor Tim Yandle which measures CNP levels in the blood. Internationally, no other research group has achieved this, although many have tried.

It has also been found that CNP production is greatly increased in the fetus and also produced by the placenta, while another study suggests that measuring CNP could be useful to detect stress in the unborn child.

Espiner says this series of results shows how new and unexpected roles for hormones may arise from heart research and reveal findings in other biomedical fields.



Photo: Alan Dove

Associate Professor Tony Poole: He has received Marsden and Otago Medical Research Foundation funding to investigate the role of cilia in polycystic kidney disease.

Unravelling the cilium

THINK OF IT like a tiny aerial on a remote-controlled toy. But instead of picking up radio signals, the minuscule primary cilium found on the outside of almost all cells, picks up signals from the surrounding environment, prompting the cell to respond.

A zoologist by training, University of Otago researcher Associate Professor Tony Poole (Department of Medical and Surgical Sciences) was familiar with cilia being used by minute organisms for propulsion and feeding.

As he moved into human biomedical research, he was surprised to find cilia in dense connective tissues like cartilage.

“I eventually hypothesised that it was a cellular cybernetic probe used for information gathering and ‘blackbox’ processing, to produce co-ordinated cellular responses. Instead of propelling, this cilium was static, being pulled by the environment and signalling the cell.”

In connective tissue it senses mechanical load, sending signals to the cell to stimulate the appropriate growth in the right direction.

Poole’s research now includes the role of cilia in the cells that line the kidney’s nephrons, where the cilia sense the flow of fluid. The failure of the cilium appears to trigger a range of kidney diseases, and he has received Marsden and Otago Medical Research Foundation funding to investigate its role in polycystic kidney disease, which affects one in 500 people.

“Each of these diseases is characterised by excessive connective tissue fibrosis along with cystogenesis,” he says.

“If primary cilia can’t sense the mechanical forces anymore, the cells make excessive fibrotic tissue which chokes the kidney.”



Photo: Nelson Provincial Museum

Paula Haines: “In some cases we can trace the family back to the period of the garments, but we don’t always know who wore the garment.”

Unpicking the past

RESEARCH BY Otago Master of Consumer and Applied Sciences student Paula Haines forms the basis of an exhibition at the Nelson Provincial Museum, *Unpicking the Past: Revealing our Dress Collection*.

The museum’s collection of garments and textiles dates back to the earliest days of European settlement. Many are very fragile and some have not been stored well.

“They were originally worn on dirt roads and in front of open fires, so we are lucky many of them have survived at all,” says Haines.

She adopted a multifaceted research approach, which included matching garments with database entries and examining each item in detail, with measurements taken, fibres collected for identification and photographs taken to record details of fabric structure, seam and stitch types, construction methods and overall style.

Fibre microscopy was used to identify the natural fibres (mainly silk, wool, cotton). Some samples were further examined by electron microscope.

By looking through old newspapers, diaries, letters and photos, as well as shipping records, electoral and rating rolls, cemetery records and unpublished manuscripts, Haines was able to weave stories around the garments and, in some cases, trace descendants.

“In some cases we can trace the family back to the period of the garments and we’ve found some descendants in Nelson, Wellington and Kaitaia, but we don’t always know who wore the garment.”

The exhibition, which runs until July, tells stories of the cultural and social contexts in which the garments were worn, and how they have been treasured and interpreted into the 21st century.

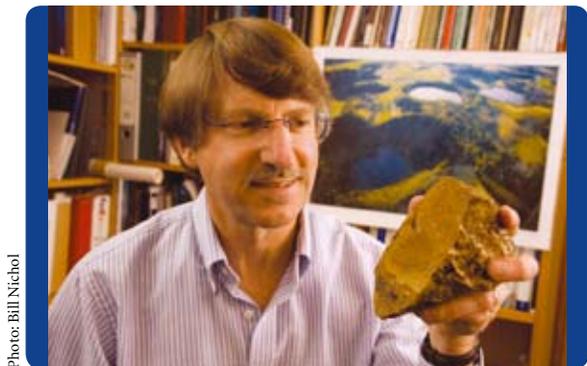


Photo: Bill Nichol

Associate Professor James White: “The challenge is to understand why some explosions are so violent and some are not.”

Volcanoes behaving badly

WHY DO SOME volcanoes fizz away quietly for years while others explode with such violence their names are remembered with fear for centuries? Krakatau and Tarawera are two fine examples of volcanoes behaving badly, pyrotechnically speaking.

Researchers from Otago’s Department of Geology are exploring how eruptions change when hot magma meets groundwater near the surface to create a series of violent steam explosions.

When Mt Tarawera erupted in 1886, the eruption started on the mountain itself, says vulcanologist Associate Professor James White. But later a fissure extended into the geothermal area, producing a series of violent explosions that excavated the deep basin now filled by Lake Rotomahana, demolishing the world-famous Pink and White Terraces in the process.

White’s PhD students are working closely with colleagues at the University of Wuerzburg, in Germany, to replicate in the laboratory the explosive effects of injecting water at various rates into magma, made from crushed volcanic rock re-melted at extreme temperatures, albeit on a smaller scale than Tarawera and company.

“The challenge is to understand why some explosions are so violent and some are not,” White says. It would be very useful if scientists could be more specific about the potential magnitude of explosions when magma meets groundwater at certain depths.

An understanding of the pyrotechnic properties of magma when encountering various combinations of sediments and water could help geologists map hazard areas of well-known volcanic fields like those, for example, under Auckland, New Zealand’s largest city.



Photo: Todd Sisson

Dr Julia Horsfield: Her aim is to understand better the pathways that are affected when chromosome cohesin proteins are damaged or lost.

Cohesins – hold and divide

COHESINS, as their name suggests, stick things together. Traditionally, they hold chromosome pairs together as they prepare to split during cell division.

But Dr Julia Horsfield – who heads the Chromosome Structure and Development Group based in the Department of Pathology – has found that cohesins are more than just chromosome glue.

“They can also control the expression of developmental genes, so our new group has been set up to examine this further and see how it can affect things like animal development and cancer.”

Cohesin mutations are associated with human developmental disorders such as Cornelia de Lange and Roberts syndromes, which feature several characteristics ranging from distinctive facial features to slow growth and mental retardation.

Horsfield will use a Marsden grant to get a better understanding of the downstream pathways that are affected when chromosome cohesin proteins are damaged or lost. The group works with tiny zebrafish, a new animal model she has recently introduced to Otago.

They will use microarray technology to compare the function of genes in normal zebrafish with those that lack cohesins to see what genes are affected and whether they form a functional pathway.

One of the strengths of the zebrafish as a model is that their embryos develop in a transparent shell and, within 24 hours of fertilisation, the full body pattern of the fish can be seen.

“It is a very good animal for modelling development, because when something goes wrong it is very easy to see,” Horsfield says.



Photo: Bill Nichol

Dr Anna Thompson and Dr Brent Lovelock: Their primary focus is on developing high quality research for all forms of nature-based recreation.

Focus on recreation research

RESEARCHERS FROM Otago are at the forefront of studies into the recreational use of conservation parks, a nationwide strategy by the Department of Conservation to open up access to the backcountry outside national parks.

The newly formed Centre for Recreation Research, developed as a strategic initiative within the School of Business, plays an important role in generating data on how New Zealanders and visitors to the country use the great outdoors.

Over the last three summers, tourism researchers have been working closely with DOC to survey recreational users of the Ahuriri, Ruataniwha and Hakatere (Ashburton Lakes) Conservation Parks.

Opening access to these areas has resulted in a huge influx of family groups as well as a broader diversity of users – predominantly New Zealanders – than those using national parks, says Dr Anna Thompson, co-director of the new centre.

Detailed recreational studies generally show high levels of satisfaction with their experiences, Thompson says. Popular activities include hunting, fishing, horse trekking, bird watching, tramping, mountain-biking and four-wheel driving.

“The visitor market may change and grow over the years, so it’s important to get baseline data to help DOC plan facilities and services offered in the area,” says fellow co-director Dr Brent Lovelock.

“The roles of the centre are still evolving, but our primary focus is on developing high quality research for all forms of nature-based recreation,” Lovelock says.

The centre will provide students with opportunities to engage in outdoor recreation studies, and also develop links with other research centres and recreation providers.



Photo: Todd Sisson

Dr Barbara Galland: “What we want to find out is if their full potential in terms of concentration, memory, intelligence and learning could be protected if the condition is resolved early ...”

Snoring and child learning

POOR CONCENTRATION and memory, behaviour problems, tiredness and irritability are all known problems for many children who are chronic snorers.

Now researchers from the Paediatrics section of Otago’s Department of Women’s and Children’s Health are digging deeper to examine how much sleep-disordered breathing (SDB) affects early-childhood learning and longer-term academic achievement.

Dr Barbara Galland says children often grow out of SDB by about age nine, but there is real concern about the potential damage done by then, so they have launched the two-year BEAR (Breathing Education Achievement and Readiness) Sleep Study to learn more.

“We know that if you treat children for their SDB then their concentration and behaviour improve, but this is only proven in the short term. What we want to find out is if their full potential in terms of concentration, memory, intelligence and learning could be protected if the condition is resolved early, before the sensitive period when they develop their full cognitive and learning capabilities.”

Until now studies have been done retrospectively, identifying poor learners at age 13 and finding out if they had SDB problems as children.

PhD student Amelia Gill, a Masonic Fellow, is working with Galland and Dr Libby Schaughency (Psychology) to recruit 90 three-year-old children with SDB, and a control group of the same size to compare them with.

They will monitor their sleeping, oxygen levels, heart rate, breathing and snoring yearly, as well as follow their daytime functioning in terms of attention, memory and learning. They will also collect extensive background information from parents.



Photo: Alan Dove (location: Otago Museum)

Dr Dan Bendrups: His research indicates a recent resurgence of interest in ancient Rapanui (Easter Island) tradition.

Rapanui: a cultural bridge

RAPANUI, or Easter Island, is often portrayed as a desolate and isolated place. And yet, for Otago ethnomusicologist Dr Dan Bendrups, it represents a fertile field of study because it combines his research interests in performance, ethnography and popular culture in Latin America and the Pacific.

Rapanui music serves as a bridge between South American and Pacific Islands cultures, he says. The island became a colony of Chile in 1888, and that was a dominant factor in the evolution of a unique blend of Polynesian and Latin American influences.

Bendrups has recently returned from two months' fieldwork in Santiago (Chile) and Rapanui, funded by a University of Otago Research Grant, to investigate the representation and reception of Rapanui culture in contemporary Chile. While on Rapanui, he documented the 2008 Tapati Rapa Nui festival, which he describes in a forthcoming article as a "contact zone" between Chileans, Rapanui islanders and other Polynesians.

His research identifies music and dance participation as important cross-cultural practices, as it is through performance that Tapati participants come to appreciate the festival's place in safeguarding and disseminating Rapanui cultural heritage. He focuses on the way that tradition is perceived, preserved and adapted in contemporary Rapanui culture, and his findings indicate a recent resurgence of interest in ancient tradition, particularly among Rapanui youth.

Bendrups' research into contemporary Rapanui culture and identity will continue later this year when he documents Rapanui participation at the quadrennial Festival of Pacific Arts in American Samoa, funded by a Humanities Research Grant.



Photo: Ken George

Dr Sara Filoche: "We've found that plaque bacteria from different people react differently to the same mouthwashes ..."

Combating oral disease

WHAT WORKS for one person, may not work for another when combating oral disease, according to dental researcher Dr Sara Filoche (University of Otago, Wellington).

Filoche is investigating bacterial management regimes to combat oral disease, a health issue most people will have to deal with at some time.

"Oral disease includes tooth decay or gum disease or both, and it's a serious and growing problem in New Zealand. It's often associated with other health issues, as well as low socio-economic status."

Researchers are testing different washes with a unique artificial mouth – developed by the Dental Research Group – which grows plaque and simulates growth conditions akin to oral disease. Washes are seen as an important additional treatment to normal dental care because they can reach inaccessible areas of the mouth.

"The results so far have been rather a surprise," she says. "Most interestingly, we've found that plaque bacteria from different people react differently to the same mouthwashes – there's not a consistent result with one type of wash."

"It's not a simple equation either of one type of mouthwash zapping all bacteria. Some washes, like manuka honey, will work on one type of bacteria, while Listerine will affect another."

However, with 50 per cent of New Zealand five year olds now having some kind of tooth decay and, in some areas, 70 per cent, the need for determining the best additional treatment for oral disease is taking on new urgency. Filoche hopes her research will provide some answers.

Photo: APOPO



Otago researchers' diagnostic markers for TB smell sweet to African detector rats.

Sniffer rats aid TB research

SCIENTISTS at the University's Christchurch campus may be on to a winner in their efforts to develop a unique breath test for tuberculosis (TB), if the noses of giant African rats are anything to go by.

The Otago researchers have discovered volatile bio-markers for TB which could enable much swifter diagnosis. Now, specially trained TB-detecting rats in Tanzania indicate that these bio-markers may be on the money.

Dr Mona Syhre recently travelled to Tanzania with samples of the compounds, which she had earlier identified with fellow Otago researcher Professor Stephen Chambers.

She visited the APOPO research facility (www.apopo.org) in Tanzania with whom she is collaborating, where the facility's giant Gambian rats proved able to detect the bio-markers down to the level of one part per quadrillion.

Syhre says she was amazed at the rats' extraordinary sense of smell, a faculty which APOPO puts to use through training the rats to detect TB in sputum samples as well as their original focus of locating landmines.

"The results indicate that our bio-markers appear to be relevant for diagnosing TB as they have been sniffed out by the rats," she says.

The researchers' work is being supported by a \$50,000 Proof of Concept grant from the University's commercialisation arm, Otago Innovation Limited.

Otago Innovation commercialisation manager David Christensen says the potential of the work is exciting because it could lead to vast improvement in diagnosing a deadly disease which afflicts millions.

"This research is ground-breaking because, for the past 100 years, it has been a long process to confirm if someone actually has TB or not. It is done firstly by the direct microscopic examination of sputum specimens, and then

further culturing of bacteria in the laboratory to confirm the initial diagnosis – a process which can take up to two months to get a clear result," Christensen says.

The project clearly stood out among the shortlisted applicants for the latest Proof of Concept grant, he says.

"A number of the other applicants also impressed the judging panel. They represented a variety of disciplines, demonstrating the breadth and depth of commercially applicable research at the University."

Researchers honour Hillary's memory

AN OTAGO research team undertaking physiology studies in the Himalayas also presented a \$6,000 gift to Sir Edmund Hillary's charitable trust during their time in Nepal.

Before travelling to Nepal, the team collected donations for the Himalayan Trust, which was established by Sir Edmund in 1960 and is devoted to improving the welfare of the Sherpa people.

Dr Phil Ainslie (Physiology), who led the 18-strong team, says the donation was a timely and fitting way to honour Sir Edmund's memory.

The researchers' four-week field trip studied the effects of high altitude on the human body. The experiments were run at the Pyramid research laboratory near Base Camp Everest, which is the highest laboratory in the world.

The work included examining the mechanisms by which abnormal breathing and high pressure in the lungs and brain often develop at high altitude.

The studies were funded by the Otago Medical Research Foundation and SPARC New Zealand.

Photo: Jim Cotter



The Pyramid research laboratory near Base Camp Everest, where Otago scientists recently carried out four weeks of physiology studies.

University signs MoU with Ngāti Toa

THE UNIVERSITY has formalised its relationship with Ngāti Toa, Wellington, through the signing of a Memorandum of Understanding.

The iwi and the University already have a long-standing relationship through the University of Otago, Wellington, and its School of Medicine and Health Sciences, particularly the Eru Pōmare Centre, which has a strong research focus on Māori health.

University Director of Māori Development Darryn Russell says the signing looks to formalise the existing strategic relationship with Ngāti Toa.

The University last year approved its Māori Strategic Framework and Russell says the Ngāti Toa signing, which is for six years, was another example of the framework in action. Otago now has MoUs with several iwi and key Māori providers throughout New Zealand and continues to build on these relationships through research and teaching opportunities.

Otago House in Samoa opened

THE NATIONAL University of Samoa (NUS) has gifted a house to the University for research purposes, and as accommodation for visiting Otago staff and students.

University of Otago House was officially opened during a recent visit to Samoa by Vice-Chancellor Professor David Skegg.

The initiative will help Otago fulfil its stated commitment to strengthen its links with Pacific communities, both within New Zealand and in the Pacific region.

In a speech at the opening ceremony, NUS Pro-Chancellor Toomata Alapati Poese Toomata said the house stood as a symbol of friendship and co-operation between the two institutions.

He described the friendship as beginning with the 2004 signing of the Memorandum of Understanding (MoU), which has resulted in the expansion of greater co-operation and collaboration between the two universities.

He noted that the MoU had already seen two NUS lecturers recently obtain Masters in Environmental Science and History, respectively, while four further lecturers would this year complete Masters in Music, Geography, Computer Science and Tourism Management.

The new facility is expected to encourage more collaboration and research between staff and students of both organisations.



A south-west aerial impression of the planned Psychology building.

New building for Psychology

CONSTRUCTION of a major new environmentally-friendly building for the University's Department of Psychology is set to begin within the next couple of months.

The five-storey, 4,700m² facility will be built to a 5-Star green rating standard. This rating signifies New Zealand excellence in the New Zealand Green Building Council's Green Star system.

This building will contain state-of-the-art laboratory facilities for testing human participants, new classroom and seminar space, and it will house the Psychology Clinic.

The new building will be amongst the first university buildings in New Zealand to achieve a 5-Star green rating.

It will be built with sustainably-produced and manufactured materials, and there will be careful control of the construction process and the recycling of resulting waste.

Other green features will include natural ventilation and controllable shades for the building, rain water harvesting and recycling, the installation of a wood-pellet boiler for heating, and secure bicycle racks.

The building is expected to be ready for the beginning of the 2010 academic year.

*The University's new Hunter Centre for students in health sciences' professional courses will also achieve a 5-Star green rating and is due for completion later this month.

Applied design collaboration

OTAGO Polytechnic and the University are establishing an Applied Design Research Centre as part of their Otago Institute of Design collaboration.

The centre will combine the talents and equipment of Design Studies at the University and the Design Department of Otago Polytechnic to offer design expertise to business.

The Applied Design Research Centre aims to offer not only practical solutions for business, but also encourage

research initiatives in areas pivotal to New Zealand's business future.

New inductees to Wall of Fame

ANOTHER GROUP of well-known New Zealand sporting personalities has been added to the Wall of Fame at the University's School of Physical Education.

Former All White Michael McGarry, Olympic and Commonwealth Games runner the late Sylvia Potts, New Zealand netball representatives turned coaches Lyn Gunson and Robyn Broughton, and leading academic in leisure studies Professor Grant Cushman were all inducted at a special gathering in Dunedin on Friday 2 May.

They are only the second group of inductees, joining other well-known New Zealand sporting identities, including Lorraine Moller, Graham Henry, Leigh Gibbs and Farah Palmer, as well as sports scientists Dr Lindsay Carter and the late Dr James Hay. The Wall of Fame, with its first inductees, was unveiled in May 2006.

The Wall of Fame is sited in the school's main building at 55 Union Street. It was established after Associate Professor

Rex Thomson pledged a generous donation as he departed the school in 2003 after more than 25 years' service.



Wall of Fame inductees (from left): Allan Potts (accepting for the late Sylvia Potts), Peter Milburn (accepting for Grant Cushman), Robyn Broughton, Michael McGarry and Lyn Gunson.

Funding success for projects

SIX MAJOR projects involving the University recently received substantial backing from the Government's new Encouraging and Supporting Innovation Fund.

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School of Business
Unlimited Future, Unlimited Possibilities
Te Kura Pakihi

They include the recently launched Centre for Sustainable Cities – led by Professor Philippa Howden-Chapman of the University’s Wellington campus – the work of which is already resulting in valuable outcomes, including healthier homes for New Zealanders.

The National Centre for the Study of the Islamic World – a joint venture between Otago and Victoria University – will receive one year of funding for its establishment, while the University’s National Energy Research Institute (NERI), established nine months ago, has had its importance confirmed by the continuation of funding.

Otago is also one of three partners in a University of Canterbury-led project – “Partnering for Innovation in Technology-based Business” – which received \$3 million in the funding round. The University is also part of the Engaging with China proposal led by Victoria and the Seafood Sector proposal with Canterbury.

Appointments

Dr **Bill Anderson** as the University’s Director of Distance Learning.

Sharon Dell as the new Hocken Librarian, replacing **Stuart Strachan** who has retired after 32 years with the Hocken, including 23 years as head librarian.

Professor **Philip Hill** to the University’s new McAuley Chair in International Health.

Professor **Liam McIlvanney** will take up the new Stuart Chair in Scottish Studies, while **Angela McCarthy** has joined the University as a Professor of Scottish and Irish History.

Obituaries

Associate Professor **Glenn Buchan** (51), Microbiology and Immunology. A leading immunology researcher and inspiring teacher, he also served as Otago School of Medical Sciences Associate Dean, Research (2003–2008), and was a former President of the Royal Society’s Otago Institute.

Emeritus Professor **Barbara Calvert** (89). A former head of the University’s Department of Education (1976–1983), she was the first woman in New Zealand to occupy a Chair of Education.

Emeritus Professor **Ewen Kirk** (73). A former professor and head of Department of Conservative Dentistry (now Oral Rehabilitation) at the School of Dentistry.

Dr **Ruth Dallas** (88). Noted New Zealand poet and literary figure. She held the Robert Burns Fellowship in 1968 and was awarded an Honorary Doctor of Literature in 1978.

Dianne Ruth Pettis (BA (Hons) 1982) (53). A writer and poet, she held the University of Otago Robert Burns Fellowship in 2006.

Achievements

Associate Professor **Annette Beautrais** (Psychological Medicine, Christchurch) received the American Foundation for Suicide Prevention’s 2008 Research Award in recognition of her contributions to suicide research.

Dr **Pat Farry** (General Practice) received the New Zealand Rural General Practice Network’s Peter Snow Memorial Award.

Fellowships/Scholarships

Bill O’Brien is the University of Otago College of Education Writer in Residence for 2008.

Professor **Rob Lawson** (Marketing) was made a fellow of the Australian and New Zealand Marketing Academy.

Dr **Mele Taumoepeau** (Psychology) gained a HRC Pacific Postdoctoral Fellowship to investigate the influence of language on childhood social development.

PhD candidate **Julia Wilson** (Pathology) received a HRC Māori Career Development Award for the 2007 year to undertake research on the genetics of panic disorders.

First-year student **Emma Hutton** has won a Girdlers Scholarship to Cambridge University where she plans to study music. Her fellow first-year student **Alex Ross** will also embark on a degree at Cambridge with the support of the 2008 Douglas Myers Scholarship.

Six of the University’s doctoral students were awarded Top Achiever Doctoral Scholarships in March: **Christopher Burke** (Gender Studies), **Emily Crawford** (Psychology), **Peter Green** (Mathematics and Statistics), **Hongjun Shi** (University of Otago, Wellington), **Stephanie Win** (Microbiology and Immunology), **Amy Wolff** (Psychology).

Emeritus Professors

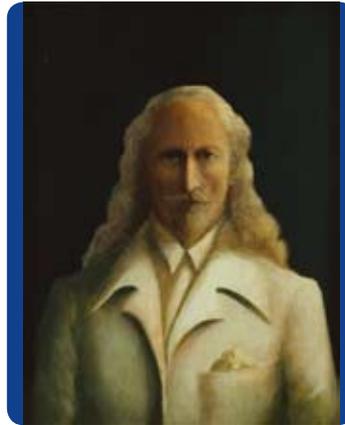
Helen Leach (Anthropology) and **Brian Monteith** (Dentistry) have been granted the status of Emeritus Professor.

Honorary Doctorate

Poet **Cilla McQueen**, was awarded the honorary degree of Doctor of Literature by the University at a graduation ceremony in May.

New Year Honour

The last issue of the *University of Otago Magazine* omitted to note that Dr **Laurie Smith** (MB ChB 1955) was awarded an ONZM for services to medicine.



Lionel Terry, *Self Portrait*
oil on wood, 804 x 611mm
Hocken Collections Uare Taoka o Hākena,
University of Otago, Acc 74-174

Man of time

EDWARD LIONEL TERRY stares from his self-portrait with all the pious, learned, defiant self-righteousness one might expect from someone spending his life in an insane asylum, having gunned down an elderly, defenceless Chinaman to try to show the law was an ass.

Born in Kent and educated in Merton College, Terry embarked on a military career that included serving with South African Police in the Jamestown raids. Upon emigrating to New Zealand, Terry refined both his racist arguments and resilience for communicating them; publicity for his 1905 book, *The Shadow*, involved a 900-mile walking tour.

Later that year, Terry shot Joe Kum Young on a Wellington street. He went home to write a letter to Governor Lord Plunket explaining his actions and turned himself in to the police. The nation was gripped by the ensuing court case, in which Terry conducted a flashy, erudite and long-winded defence.

What right did the law of Britain have to punish him for shooting a man who, as an alien, did not come under its protection? How could British law apply to those who did not share the cultural values by whence it had developed?

The exasperated judge instructed the jury to disregard Terry's polemic and to concentrate only on the matter of whether Terry was sane at the time of the killing. Terry was horrified at the insinuation, arguing that, if he should be found insane, the effect of his action would be wasted. After a 30-minute deliberation, the jury returned a guilty

verdict with a "strong recommendation for mercy on the grounds the prisoner was not responsible for his actions as he was suffering from a craze caused by his intense hatred towards the mixing of British and alien races".

Thus Terry was sentenced to death, commuted to life imprisonment on the basis of the jury's recommendation. He continued to enjoy public support: a 5,000 signature-strong petition in 1910 calling for his release claimed his acts were "those of a patriot". Meanwhile, he remained in the public spotlight by regularly setting fire to his cell and escaping from prison.

Terry's erratic and increasingly paranoid behaviour prompted authorities to move him to Sunnyside and later Seacliff mental hospitals. There he brokered a deal with the superintendent, promising not to escape again if he was allowed a garden to tend. It was here also he furthered his skills as an artist and poet: the Hocken Collections' archive holds his screeds of moral treatise, cartoons accompanied by politically satirical verse and a courtroom play, *The Making of a Madman*, dramatising the rhetoric of his trial. His few paintings are somewhat more enigmatic – his bold, robust forms offer both grandiose imperialism and dark, but clear-eyed, beauty.

Terry remained at Seacliff until he died in 1952, spending the last 12 years of his life in solitary confinement after assaulting a doctor who tried to give him a typhoid inoculation.

Nicola Mutch

Hocken Collections Gallery Exhibitions

Until 24 August 2008

A World of Art: Selected Works from Pictorial Collections

This includes works by William Fox, Doris Lusk, Ian Scott, Milan Mrkusich, Brent Wong, Robin White, Michael Smither, Joanna Paul and Jeffrey Harris.

1 September - 20 November 2008

Colin McCahon: By Design

This exhibition showcases the design work of Colin McCahon, demonstrating his involvement with New Zealand's decorative arts 1940–1970.

Anatomy of a Medical School: a History of Medicine at the University of Otago 1875–2000

Dorothy Page, Otago University Press, August 2008

THE UNIVERSITY OF OTAGO Medical School was New Zealand's first and only medical school for nearly a century, and second only to Melbourne in Australasia.

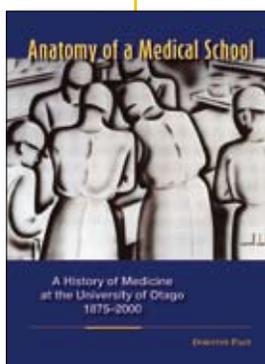
As such, it has played a vital role in tertiary education in this country. With more than 10,000 graduates it has also been instrumental in the evolution of New Zealand's health-care system, and medical research both nationally and internationally.

The need to bring this history up to date (the last history took the narrative only to 1959) has long exercised the minds of medical school staff and alumni. But it was the efforts of the late Professor John Hunter, a former Dean of the school and co-founder of the Otago Medical School Alumnus Association Inc, that ultimately ensured it happened. In the 1990s Hunter personally approached many former staff, encouraging them to write reminiscences and also to give money to support the writing of a definitive book. This "nest egg" has now helped fund *Anatomy of a Medical School: a History of Medicine at the University of Otago 1875 – 2000*, by former Associate Professor of History Dorothy Page.

Since her retirement in 2000, Page has worked her way through vast quantities of material, including personal memoirs, newspapers, *Critic*, the *Medical Digest* (a medical school publication produced annually from 1934 to 1978) and the *New Zealand Medical Journal*, as well as the official records of the Faculty of Medicine. It is unsurprising that her greatest challenge has been not so much what to put in the book, but what to leave out!

The school's earlier years divide neatly into periods dominated by the Deans. "In the school's first 83 years there were only three different Deans – Professor John Scott, Sir Lindo Ferguson and Sir Charles Hercus," Page says. "These men were in charge for decades, not years, and were very powerful." The development of the school since then has been impressive and complex, but the role of individuals has been less all-pervasive.

Within a broad chronological framework the book



follows a number of different themes, such as the role of the school in wartime ("Hercus is supposed to be the only man who went ashore at Gallipoli carrying a microscope"); the changing student experience; staff, teaching and curriculum changes; the development of research; growth and the "three-legged stool" (as a 1981 report described the Dunedin, Christchurch and Wellington schools – "each leg is essential for the stool to stay upright"); cultural changes; politics and challenges.

Page explores the impacts of the health and education reforms of the 1980s and '90s, and the dramatic change in the student population in terms of ethnicity and gender – "for many years until the 1970s the female roll was a steady 10 per cent; now it is over 50 per cent".

Some extraordinary people have been associated with the school and interspersed in the narrative are mini-biographies or biographical notes of some of the most influential of them, both the heroes and the characters. These include the obvious such as Ferguson, Nobel laureate Sir John Eccles and plastic surgeon Sir Archibald McIndoe, but also some of the less well known such as Dr Reg Hamlin who, together with his wife, established the Fistula Hospital in Addis Ababa. And there were women who made their mark in a profession heavily dominated by men, such as nutritionist Dr Muriel Bell whose physiology classes were described by a student as "riotous delight". Illustrations – portraits, buildings, events and caricatures – add another dimension to the story.

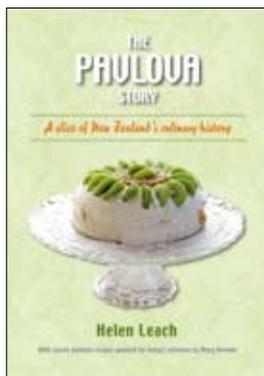
The publication of *Anatomy of a Medical School* is welcomed by Professor Don Robertson, Pro-Vice-Chancellor Health Sciences and Dean of the Faculty of Medicine.

"This book represents a milestone for the Medical School," he says. "Our graduates are recognised worldwide for their high level of skill and breadth of vision. It is important to be able to reflect on their achievements and to learn from the past – this helps us to determine the correct pathways for the future."

Book and order details are available on the Otago University Press website www.otago.ac.nz/press

SPECIAL OFFER: Before 30 June 2008 University of Otago alumni are entitled to a special price of \$45.00 (please contact the Press for overseas postage) from booksales@otago.co.nz or download flyer from website.

On publication, *Anatomy of a Medical School* will retail for \$59.95.



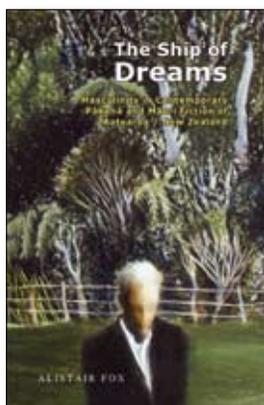
The Pavlova Story: A slice of New Zealand's culinary history

Helen Leach, April 2008

AUSTRALIANS and New Zealanders have long debated which country invented the pavlova (a large meringue dessert cake said to emulate the lightness of the famous ballerina, Anna Pavlova), but the real story of the ballerina's visit to the two countries and the emergence of three different pavlovas has been neglected.

This book shows the evolution of these pavlova types, that their recipes have never become fixed, and that creative and innovative cooks have played the most important roles in transforming a fashionable afternoon tea cake into an iconic dessert. The parts played by a gelatine manufacturer, a Dunedin spinster and numerous other New Zealand housewives are all revealed in this fascinating contribution to food history.

Helen Leach recently retired as a Professor of Anthropology at the University of Otago. Her research interests include the evolution of the human diet and prehistoric horticulture. Her sister, food-writer Mary Browne, updated and photographed 12 classic pavlova recipes for the book.



The Ship of Dreams: Masculinity in contemporary Māori and Pākehā fiction of Aotearoa/New Zealand

Alistair Fox, May 2008

NOTORIOUSLY self-contained and private, Kiwi men are often reluctant to talk about their personal feelings and are embarrassed at the thought that any private emotional difficulties could be exposed to critical examination. One must go to their imaginative literature to make contact with the reality that lies below the (deceptive) surface.

Discussing these issues in this book, Alistair Fox demonstrates the crucial importance of Pākehā and Māori cultural influences on masculine identity in this country – often at the cost of great psychic pain for the men involved. This is the first critical study to investigate at length how masculinity is represented in contemporary New Zealand fiction.

Alistair Fox is a Professor of English at the University of Otago.



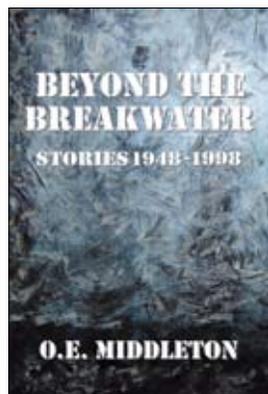
Pasifika Styles: Artists inside the museum

Edited by Rosanna Raymond and Amiria Salmond, May 2008

Published in association with the Museum of Archaeology and Anthropology, Cambridge

IN MAY 2006, 15 artists from New Zealand took over the Museum of Archaeology and Anthropology in Cambridge (UK) as part of Pasifika Styles, a ground-breaking experiment in the display of contemporary Pacific art. Installing their works in cases next to taonga collected on the voyages of Cook and Vancouver, they flung open the stores of the museum to bring more of its unparalleled Oceanic collections to light. Over the next two years, visiting artists continued to bring vitality to the collections, offering workshops, seminars, public activities and a festival of performing arts. This book describes the making of Pasifika Styles, from the perspectives of artists, museum professionals and scholars involved in this pioneering project, placing it in the context of current debates about museums, cultural property and art.

Rosanna Raymond is an artist, performer and freelance curator who helped to establish the Pasifika Festival in Auckland. Amiria Salmond is a curator and lecturer at the University of Cambridge.



Beyond the Breakwater: Stories 1948–1998

O E Middleton, edited by Lawrence Jones, June 2008

FOLLOWING CLOSE on the heels of the volume of Dan Davin stories edited by Janet Wilson and published in 2007, this book brings together 26 short stories from another major New Zealand writer, Osman Edward Middleton (1925 –). He began publishing stories in 1949 and made his own distinctive contribution to the New Zealand tradition of vernacular social realism. Editor Lawrence Jones describes him as “a subtle artist who can extend the sympathetic imagination of his readers, increase their awareness of basic human worth and show the evils of racial and economic injustice”.

Lawrence Jones is a leading historian of New Zealand fiction, and Emeritus Professor in the University of Otago’s Department of English.

Recent Otago University Press titles

Landfall 215: Waiting for Godzone, edited by Paul Morris and Mike Grimshaw.

For further information:
email university.press@otago.ac.nz
or visit www.otago.ac.nz/press

Recently published books of Otago alumni

Magnetic South, by Sue Wootton, Steele Roberts, 2008.

Slips: Cricket Poems, by Mark Pirie, Earl of Seacliff Art Workshop, 2008.

Rebalancing the Constitution: the Challenge of Government Law-Making under MMP, Dr Ryan Malone, Institute of Policy Studies, 2008.

Fluoride Poisoning: is Fluoride in your Drinking Water – and from other sources – Making you Sick? (revised second printing), by Bruce Spittle, Paua Press, 2008.

This is His Story: an Overview of Christian History, by Ian Bourne, Parish Pastoral Productions, 2008.

A Revolution Almost Beyond Expression: Jane Austen’s Persuasion, by Jocelyn Harris, University of Delaware Press.

The Effective Director: Building Individual and Board Success, by Neville Bain, Kogan Page, 2007.

Hegemony and Education, Gramsci, Post-Marxism and Radical Democracy Revisited, by Deb J Hill, Lexington Books, 2007.

A Six-Pack of Iced Buns, poems by Janet Carrington, Carrington, 2007.

A Touch of Sleeve: Hisashi’s Story, by Susan Bell, Longacre Press, 2007.

Worship: the Mark of True Humanity, by Ian Bourne, Parish Pastoral Productions, 2007.

Performing Aotearoa: New Zealand Theatre and Drama in an Age of Transition, edited by Marc Maufort and David O’Donnell, PIE Peter Lang, Brussels, 2007.

Flora of New Zealand Lichens (revised second edition), by David Galloway, Manaaki Whenua Press, December 2007.

The Birds at Shirley Links, written and published by Dr Peter Law, Christchurch, 2007.

Te Ope Whakaora: the Army that Brings Life, edited by Harold Hill, Flag Publications.

Māori: a Linguistic Introduction, by Ray Harlow, Cambridge University Press, 2007.

Vauxhall Gardens: Dunedin’s Notorious Victorian Pleasure Gardens, by Ian Dougherty, Saddle Hill Press, 2007.

All Blacks’ Kitchen Gardens, poetry collection by Tim Jones, HeadworX, 2007.

Anarya’s Secret: An Earthdawn Novel, by Tim Jones, RedBrick, 2007.

Caddy-Talk: Psychology of Being a Great Golf Caddy, by Vicki Aitken and Daniel A Weigand, DAWVIJA, 2007.

Principles of Astrophysical Fluid Dynamics, by Cathie Clarke and Bob Carswell, Cambridge University Press, 2007.

Private Detective: Poems, by Mark Pirie, Kilmog Press, 2007.

Straight, by Michael O’Leary, Earl of Seacliff Art Workshop, 2007.

Alumni: If you have written a book lately email the editor at mag.editor@otago.ac.nz

A word from the Head

ONE OF THE greatest pleasures of my job as Head of the Alumni Office is hearing stories from alumni about how life was for Otago students in past times. Recent memories from new graduates jostle with those from the distant past to paint a picture of Otago life in all its variety and rich history.

In this issue we feature a fascinating contribution from Afamasaga Toleafoa (BCom 1970), an outstanding alumnus from Samoa, who has written a lively account of life as a Pasifika scarfie in the late 1960s. This is in the context of the University's wider relationship with students from that part of the world throughout the years. Our grateful thanks to him for sharing his memories.



Alison Finigan

There will be plenty of chances to share more Otago stories at any one of a number of events on the calendar this year. A list of upcoming alumni receptions to be held in New Zealand and abroad features on these pages, and these are a great way to reconnect with old friends and make new

ones. Also listed below are a number of class and residential college reunions happening in 2008 that promise to revive a host of great memories. If an event is coming to your neighbourhood sometime soon, then please do come along and join in the fun.

Finally, the 2008 Annual Appeal is in preparation, and supporters will be interested to read of the recently introduced tax changes that lift the ceiling on the tax rebate from charitable donations. From now on it will be even easier to support this wonderful institution.

College of Education graduates

THE MERGER of the Dunedin College of Education and the University of Otago was completed in January 2007. Since then the Alumni and Development Office has been working to incorporate all records of Dunedin College graduates who from now on will receive the *University of Otago Magazine* and invitations to University of Otago alumni events. If you know of any Dunedin College of Education graduate who does not receive communications from us, we would be grateful if you could encourage them to update their contact details.

Annual Appeal

THANK YOU to all those alumni who have generously supported the University of Otago Annual Appeal.

Donations to the 2007 appeal have supported the recently-established Centre for Science Communication, allowed the library to purchase electronic backfiles of journals, and funded scholarships for 12 students beginning their first year of study at Otago in 2008.

The 2008 appeal will be launched in August and this year will support scholarships and four research centres: the Centre for Entrepreneurship, the Centre for International Health, the Centre for Science Communication and the Centre for the Study of Agriculture, Food and the Environment.

If you wish to make a contribution please visit the Alumni and Friends web page www.otago.ac.nz/alumni or email annualappeal@otago.ac.nz



Alumni scholars (left to right): Clare Gwynne (Marlborough Girls' College), David Owen (Newlands College), Harriet Miller (St Margaret's College), Helen Owen (St Hilda's Collegiate School), Suzie Tyree (James Hargest College), Anna Watson (Columba College), Annie Manning (Columba College), Florence Van Dyke (Nelson College), Ruth Delaney (Samuel Marsden Collegiate), Chloe McDonald-Nairn (Bayfield High School), Sophie Eames (Havelock North High School), Kate Perniskie (St Peter's College).

Alumni events 2008

Blenheim, Montana Brancott Winery, February



New Plymouth, Okurukuru Winery, March



Taupo, Millennium Resort, Manuels, March



Melbourne, University House, University of Melbourne, April



Cities and dates for the rest of 2008:

Los Angeles	Tuesday 3 June
London	Thursday 12 June
Hong Kong	Tuesday 24 June
Auckland	Thursday 24 July
Sydney	Friday 8 August
Toronto	Tuesday 30 Sept
New York	Thursday 2 October
Kuala Lumpur*	Tuesday 21 October
Kuching*	Thursday 23 October
Wellington	Thursday 6 November
Christchurch	Friday 21 November
London*	Thursday 27 November

*Please note the dates for events in London, Kuala Lumpur and Kuching have changed since publication in the February issue of the University of Otago Magazine.

Dates for 2008 are also posted on the Otago alumni web pages, at www.otago.ac.nz/alumni/functions.

For information about any of these events, please email functions.alumni@otago.ac.nz or contact Alix Cassidy at the Alumni and Development Office on 64 3 479 5649.

Upcoming University celebrations

- 2008** Robert Burns Fellowships 50th anniversary
- OUSA Blues Awards centenary
- School of Physical Education 60th anniversary
- Aquinas College reunion
- 2009** Knox College centenary
- 2010** Hocken Library centenary

- 2011** Department of Home Science and Consumer and Applied Sciences centenary
- St Margaret's College centenary
- Studholme College centenary
- Department of Preventive and Social Medicine centenary
- Department of Pharmacy centenary
- 50 years since the University of Otago became autonomous from the University of New Zealand

Robert Burns Fellowship 50th anniversary

The Robert Burns Fellowship was established in 1958 to commemorate the bicentenary of the birth of Robert Burns. The fellowship aims to encourage imaginative New Zealand literature and past fellows include Janet Frame, James K Baxter, Maurice Shadbolt, Roger Hall, Michael King and Maurice Gee. A book is being published to celebrate the 50th anniversary and will include a chapter on each of the 48 fellows from the past 50 years. Published by the University of Otago Press, it is planned to be launched during the Otago Festival of the Arts when a number of the Burns Fellows will be in Dunedin for a special literary event titled "Nurse to the Imagination", 9–11 October.

OUSA Blues Awards centenary

The Otago University Students' Association is holding a combined OUSA Life Members/Blues Awards celebration dinner on 20 September. Guest speakers will be Lorraine Moller (1973 Blues winner) and Chris Laidlaw (1962 Blues winner). Other events planned for the centenary weekend include the Golds Awards dinner on Thursday 18 September and the Great Comedy Debate on Friday 19 September. For further information please email ousa@ousa.org.nz

Hocken Ball

After the success of a ball held last year to celebrate 100 years since the signing of its Deed of Trust, the Hocken Collections is holding another dinner and dance at Larnach Castle on 13 September. All welcome. For more information or to reserve tickets please telephone 03 479 8868 or email hocken@otago.ac.nz

School of Physical Education 60th anniversary

The School of Physical Education is celebrating 60 years of excellence this year with a series of reunion functions held around New Zealand. Events have already been held in Wellington and Dunedin, and further celebrations are planned for Auckland (31 July) and Christchurch (7 November). The celebrations in Dunedin were hosted in conjunction with Wall of Fame inductions and the inaugural Smithells Scholarship presentation. For further information and registration details visit www.physed.otago.ac.nz

Aquinas College reunion, 2008

This year marks the 20th anniversary of the University's ownership of Aquinas College and a reunion for all past residents, including those of Dalmore House and Dominican Hall, is being organised. For more information please contact alison.finigan@otago.ac.nz

Knox College centenary, 7–9 August, 2009

Knox College celebrates its centennial year in 2009. Plans are well advanced for a weekend of reunion and celebration. Events will include a centennial ball and a dinner, both to be held in the Dunedin Town Hall, as well as tours and informal social events at Knox. The college has also commissioned a history, which is nearing publication. Written by historian Dr Alison Clarke, the book is tentatively titled *A Living Tradition*. For further information telephone 03 473 0107, visit www.knoxcollege.ac.nz or email alumni@knoxcollege.ac.nz

Department of Home Science and Consumer and Applied Sciences centenary, 2011

In February 2011 Home Science/Consumer and Applied Sciences will commemorate 100 years at Otago. Please visit www.otago.ac.nz/caps or register your interest to us at Consumer and Applied Sciences Centenary, PO Box 56, Dunedin 9054.

Reunions**Home Science 1968–1970**

24–26 September 2008, Wellington.
Contact: Jane Girdlestone (nee Borrie) girdlestone@iconz.co.nz or Sue Velvin (nee Blakely) sue@kelburnsurgery.co.nz

MB ChB Class of 1978

5–7 September 2008, Dunedin.
Contact: Paul Bennett paul@drpaul.co.nz

MB ChB Class of 1958

24–27 October 2008, Dunedin.
Contact: Martin.Pollock@otago.ac.nz

MB ChB Class of 1973

24–27 October 2008, Queenstown.
Visit: www.conference.co.nz/index.cfm/Classof73/index.cfm/classof73

MB ChB Class of 1977

24–27 October 2008, Queenstown.
Contact: Gail.Williams@otago.ac.nz

MB ChB Class of 1988

24–26 October 2008, Dunedin.
Visit: www.dcms.co.nz/classof88.html
Contact: mebrooker@yahoo.com

BDS Class of 1968

4–5 October 2008, Coolum Resort, Queensland.
Contact: Roger Stuart-Andrews hanoger@netspace.net.au

MB ChB Class of 1963

Planning underway for March 2009, Auckland.
Contact: Lynda Leng at lrleeng@xtra.co.nz

MB ChB Class of 1984

Planning underway for Labour weekend 2009, Dunedin.
Contact: Kitty Caldwell kittyc@ihug.co.nz

MB ChB Class of 1989

Planning underway for 6–8 November 2009, Dunedin.
Contact: Leanne O'Sullivan leanne.osullivan@yahoo.co.nz

For help organising reunions contact Lizzy Lukeman on 64 3 479 5246 or email lizzy.lukeman@otago.ac.nz

Regional alumni groups

REGIONAL alumni groups are operating in a variety of locations around the world, including Melbourne, Sydney, Canberra, Perth, Malaysia and UK/Europe. Each of these groups is co-ordinated by a local volunteer or committee who work with the Alumni and Development Office in Dunedin.

Two enthusiastic alumni are now eager to establish Otago alumni groups in Shanghai and Beijing. The Alumni and Development Office would like to gauge support for this. If you would be interested in attending alumni get-togethers in these cities please contact Alix Cassidy (see below).

For further information about regional alumni groups, or to register your interest in becoming a regional contact or co-ordinator, visit www.otago.ac.nz/alumni or contact Alix Cassidy on 64 3 479 5649 or email alix.cassidy@otago.ac.nz

Tax regulations for charitable giving

1 APRIL 2008 has seen the introduction of new tax rules for New Zealand donations to registered charitable organisations. The changes include the removal of the \$1,890 rebate threshold on donations made by individuals and the five per cent deduction limit on donations made by companies and Māori authorities. Individual donors and companies are now able to claim back 33 cents in every dollar donated to a registered charitable organisation, including university trusts and foundations. (Please note that donations are limited to an individual's taxable income). We hope this will encourage you to contribute to the University of Otago and help build better educational opportunities for the generations to come.

Otago School of Mines

ON 11 MARCH a small group of graduates from the Otago School of Mines and their partners joined University of Otago Council members and a number of Otago staff to witness the reinstatement of the Otago School of Mines plaque on the Archway building. With the controversial transfer of the School of Mines to Auckland University in 1986, the students of the day decided to take with them the Otago School of Mines plaque which hung in the foyer of the Archway West building. In May 2005, at an alumni reception in Christchurch, Otago School of Mines graduate and past chairman of the Department of Mineral Technology, Professor Michael Buckenham, handed the plaque back to the Vice-Chancellor, Professor David Skegg, for restoration to its previous home. The plaque can now be found on the outside of the building and is accompanied by a brief description of the plaque's travels.



Standing beside the newly reinstated School of Mines plaque (left to right): John Gillies (BE 1956), Elizabeth Naylor (MB ChB 1954), Ina Black (DipHSc 1951), Ben Naylor (AOSM 1949) (back), Les Black (BE 1952), Ron King (BE 1964), Dr Errol Kelly (BE 1963, AOSM 1965, PhD 1966), Jan Kelly (BA 1966).

An alumni story

Coming of age in Samoa

Contributed by Afamasaga Toleafoa (BCom 1970)

OFFICIAL OPENINGS are almost always happy events and it was so when the University of Otago House at the National University of Samoa campus was officially opened by Vice-Chancellor Professor Skegg in April this year. The event was yet another milestone in the long relationship between the University of Otago and Samoa.

New Zealand's southernmost university has always been the university of choice for Samoan students and parents alike. The bracing climate may be an attraction for some, but Otago University's user-friendly environment, academic reputation, laid-back campus atmosphere and distance from the distractions of Auckland are more likely the standout attractions.

KEEP IN TOUCH

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Web www.otago.ac.nz/alumni

Email alumni@otago.ac.nz

The Alumni and Development Office website carries information on what's happening in the office and around the globe. Via the website you can:

- receive updates about what's on for alumni
- RSVP to alumni functions
- update your contact details so you continue to receive publications from Otago
- post a message on the alumni noticeboard
- view information on how to contact other Otago alumni
- find out how you can support the University.

Beginning in the late 1950s, as New Zealand's largest Pacific territory was preparing for independence, Samoan students started going to the University of Otago for study. It was a journey that began with the week-long sea voyage on the Union Steamship boats that carry bananas to the port of Lyttelton. Then there was the all-day Southern Express train ride across the Canterbury plains with the Southern Alps in the distance, through the hills of North Otago, and then the city of Dunedin itself.

This was home for the next three or four years, depending on the students' chosen course of studies, and ability and stamina to stay the course. The journey itself was an introduction to a whole new world, of cities and towns, of vast open spaces – by Pacific Islands standards – of sheep and of modernity, South Island-style



University of Otago alumni gathered in Apia, October 2007, to share memories of student life at Otago and catch up with the latest news from their alma mater.

Some stayed longer than four years, but the majority stayed the course and got through their studies and play in regulation time. They would then head back home with degrees or some other such evidence of scholastic endeavour. They also took with them a taste for Dunedin ale, for fish and chips, and a passion for rugby and other local pastimes. Some had had encounters of the heart and returned with New Zealand spouses, much to the consternation of their New Zealand Ministry of Education minders, not to mention parents and family elders.

Medicine and dentistry blazed the trail in the 1950s with a handful of students who might have gone to the regional Medical School in Fiji. But Samoa needed specialists and medical skills not available there. Dr Bill Williams and Dr Ailao Imo were the first to return home,

an achievement widely celebrated by a nation that was itself learning to be one. Dr Vio Annandale, Dr Semisi Maiiai, Dr Ata Matatumua, Dr Pita Taouma and Dr Moana Soonalole followed.

Dr Maiiai is retired and lives in Auckland as does Dr Pita Taouma. Dr Annandale, like Dr Matatumua and Dr Soonalole, is a member of the Otago Alumni in Apia, after practising medicine in the UK for a number of years. All remain active in Samoa's political and community life.

Many more have followed them in the intervening years, and still do. They cover almost every field of study and tertiary training. According to University records, some 263 Samoan students have made the journey south from 1993 when country-of-origin records were started, except now they come by jet-plane.

Today, the University's alumni chapter in Samoa reads like a who's who of Samoa. Medicine has strong representation, but law also has a distinguished following including Aeau Semi Epati, the first Pacific Islander appointed to the bench in New Zealand. Samoa's present Chief Justice, Patu Falefatu Sapolu started his law studies in Dunedin, but later moved north to other universities to be closer to home.

Samoa's first graduate in pharmacy is an Otago and Arana College veteran. Le Mamea Ropati Mualia first applied his pharmacy skills to Samoa's health problems before trying them on Samoa's political ills and going into politics. He is still a member of Parliament after a time as cabinet minister and leader of the Opposition. Several other Otago alumni, like commerce and economics graduates Taua Latu Lome and Afamasaga Toleafoa, have also gone into Parliament, Afamasaga after a career in diplomacy.

The story is repeated in almost every profession and walk of life as others have gone on to make names for themselves and to contribute to the development of Samoa, first as a newly independent state, and today as a fully-fledged member of the community of nations. That development has included the spiritual side as well. With Christianity fully embraced today, what better place is there to learn about the ideas of Knox than the Edinburgh of the South itself? An estimated third of the enrolments in theology classes in the early 1980s to the mid 1990s were Samoan students.

When the Samoa chapter is formalised soon, it will be a coming of age in more ways than one; of a relationship with a new chapter, of a new nation that is almost come of age itself and of those trailblazers who had the good fortune to have ridden the Southern Express to Dunedin.

The Anatomy Museum?



Photos: Alan Dove

Today the Anatomy Museum is a hands-on resource for students, compared to the 1930s when most specimens were locked away in glass cabinets.

WITH VAULTED SKYLIGHTS, polished wooden banisters, classical statues, and rows of exquisite porcelain models, the “anatomy” of the Anatomy Museum belies a past time. However, today this is truly a hands-on resource, used by thousands of University of Otago and Otago Polytechnic students each year.

Established in 1877, the Anatomy Museum has seen much change, and is testament to dedication and skills of the many academics, curators and staff to whom it has been entrusted.

Established while the University was still at its original Princes Street location, the museum later moved to the bluestone buildings now occupied by the Department of Geology and, since 1927, has been housed in purpose-built rooms in the Lindo Ferguson building.

Beginning with just a few potted specimens from the dissection room, the museum’s collection quickly grew. It owes much to the foresight of Professor John Scott, who held the position of Professor of Anatomy and Physiology from 1877 to 1914. An avid anthropologist and noted



Some of the resources available to students. Fibreglass replicas of the Steger dissection models, skeletal specimens, potted projections, plastinated tissue and purchased models line the shelves and tables of the museum.

artist, much of his anatomical work is still in use today. Together, he and his technician, Alfred Jefferson, prepared more than 130 specimens for the museum's collection.

He was also responsible for acquiring a series of porcelain models by the Leipzig firm of Steger, one of the most complete collections to be found anywhere in the world. Although some 120 years old, current curator Chris Smith says they are still the best available – “The artist worked side-by-side with the anatomist during the dissection” – and museum staff are now making fibreglass reproductions for hands-on teaching purposes.

A series of similarly dedicated people followed Scott's lead. Among them were Professor William Gowland, a great promoter of research, Margaret Ogilvie whose illustrations continue to be used, and Professor William (Bill) Trotter after whom the museum is now named.

When relocated to the Lindo Ferguson building in 1927, the museum was undoubtedly impressive, but very much of its time. Displays were locked in glass cabinets and

inaccessible to students. The mezzanine floor, which housed a large collection of Māori and Moriori bones, was closed to them altogether. (Many of these bones, collected by Scott, have since been returned to the iwi.)

This was a quiet and solemn place where specimens were brought out at exam time only and it stayed this way until the 1970s, during Trotter's tenure as Professor of Anatomy. He was responsible for turning the museum into a “classroom”, with the removal of most of the large glass cabinets and the creation of a number of separate tutorial and special collections rooms.

Today the museum's collection comprises more than 3,000 catalogued specimens and 2,500 radiographs – 95 per cent of which are moved in and out of the museum for lectures and labs, a practice which Smith says would happen in few, if any, other universities.

Desks and computers have replaced the old cabinets, and students have access to all but the most valuable and fragile items. “Students are able to work with a physical model, their



The museum dissection room in the 1920s (in what is now the Department of Geology) set out with models for a medical exam. Professor William Gowland is on the left.



One of Thomas Kelsey's wax busts with corresponding illustrations by Margaret Ogilvie.

notes, textbook and interactive computer software, all at the same time.”

However, it is not only the way in which this museum is used which sets it apart; it is also the range of materials on display, from the historically-significant embryology collection and wax models by Friedrich Zeigler (Berlin), to the papier mâché dissection casts from the French firm of Auzoux – all the more unusual in that they were taken from young, healthy criminals who died by death penalty – and the wax busts of mustachioed Edwardian gentlemen created by museum preparator Thomas Kelsey in the 1920s.

Furthermore, this museum has itself been an innovator in the preparation of anatomical materials. Russell Barnett, preparator from 1979 to 2007, was a pioneer in the field of plastination, a process that replaces the fluids in specimens with silicone, so they do not have to be preserved in fluids, and renders them long-lasting and durable. A plastinated gastrointestinal tract, displayed vertically and life-sized, is an extraordinary example of his skills.

As student numbers continue to grow, so do the demands on the museum's resources. Smith says there is a balance to be struck between maintaining the traditional feel of the museum with modern technology; the constraints of finance with the need to purchase more specimens. A particular challenge, he says, is to obtain skeletal material that better represents the stature of New Zealand's population – in the past most skeletons have been sourced from the Indian sub-continent.

And, while committed to continuing to provide a hands-on resource for students, the museum takes seriously its responsibility to the rights of the deceased and to look after the human tissues within its collection. Students are instructed in how to handle specimens with care and respect. The museum is not open to the general public; this is a teaching resource and not one for morbid curiosity.

Karen Hogg

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¹ Ministry of Research, Science and Technology. *Research and Development in New Zealand*. (Wellington, 2006)

² Tertiary Education Commission. *PBRF Quality Evaluation 2006*. (Wellington, 2007)

