

definingnz

MAY 2009

Sarah Ulmer

French, focus, and a full-time job

Rewarding the passion: Teachers on teaching

The Plunket book – a Kiwi icon

Turning waste into wealth

ISSN 1 775-1423 (Print)
ISSN 1 775-1809 (Online)



Massey University

ALBANY MANAWATU WELLINGTON EXTRAMURAL
www.massey.ac.nz



Steve Maharey

Distinctive teaching for lifelong learning

Massey University has a number of defining qualities. The first is that “excellence in research and learning is at the heart of everything we do”. In previous issues of *DefiningNZ*, Massey’s research tradition has been very prominent. In this issue readers will find we have a lot to say about teaching and learning.

While Massey is one of New Zealand’s leading research universities, most students come to us because of our commitment to teaching. As a multi-campus university based in Albany, Manawatu and Wellington, Massey is able to offer the most comprehensive programme of any university while offering specialisations relevant to each campus. As New Zealand’s extramural university we specialise in offering anywhere, anytime learning for students who, for whatever reason, choose to study at a distance.

For many students, the reason for studying extramurally is that it enables them to pursue national and international sporting success.

Massey has established a distinctive model of teaching and learning which, through a commitment to skills, lifelong learning and access, has served many generations of learners from all backgrounds in New Zealand and overseas.

Our leadership in tertiary teaching is illustrated by the number of awards won by staff – the 2008 winner of the Prime Minister’s Tertiary Teaching Excellence Award, Dr Lisa Emerson, is guest columnist in this issue of *DefiningNZ*. Dr Emerson is one among many staff who have received recognition nationally and by Massey for their outstanding teaching. We also host Ako Aotearoa, the National Centre for Tertiary Teaching Excellence.

Massey wants its teaching to be defined by learner-focused research-informed learning; innovation in curriculum, content, teaching, assessment and modes of delivery; engagement with students; mentoring and career development opportunities, excellent campuses and high quality services to students.

Massey is aware that change is sweeping all levels of the education sector, driven by the needs of learners in a 21st century knowledge economy and society. Today’s learners need to not only know a great deal, they also need to be able to construct knowledge and apply it. This raises many challenges for traditional models of teaching and learning in the university environment. Old methods of instruction are being complemented by learning that encourages active engagement by students in the learning process.

Massey intends to continue to be at the forefront of change by ensuring we have the best digital media and an academic programme that inspires today’s learners to reach their potential.

In this issue you can read the about two of New Zealand’s finest athletes, cyclist Sarah Ulmer and rower Storm Uru, and why they chose distance learning at Massey; Lou Peck, a successful young school teacher who loves his work, but originally planned to do something quite different.; and Air New Zealand chief executive Rob Fyfe on how Massey helped prepare him for the corporate world.

If you find what you read of interest you can read back issues, other publications and sign up for our emailed newsletters at <http://news.massey.ac.nz> ❖

“ Today’s learners need to not only know a great deal, they also need to be able to construct knowledge and apply it. ”



Photograph: Rhys Palmer/Waikato Photography

8 defining profile

Storm Uru

Olympic rower aims to make a difference on and off the water

definingnz



4 Cover story: Sarah Ulmer

Champion cyclist Sarah Ulmer encourages budding athletes to seize their opportunities.



14 Teachers on teaching

Massey's best reveal why they love their work and what keeps them ticking in the classroom.

- 6 Building dreams brings job satisfaction**
Palmerston North teacher Lou Peck relishes every day in the classroom. After a change in career path, he has never looked back.
- 10 Tracking the evolution of Kiwi baby care**
How generations have shaped the Plunket book, a national icon.
- 11 Wellington youth health service evolves**
Rebecca Zonneveld knew two things she wanted to achieve from her nursing training – be an independent practitioner and work with young people.
- 12 Shedding light on mental illness**
A PhD researcher looks at mental illness among Tongans in New Zealand.
- Why people choose health sector work**
Massey researchers aim to find out what attracts young people to the health sector to improve recruitment and address professional shortages.
- 13 Life-long learning**
When Air New Zealand chief executive Rob Fyfe was at a career crossroads, he took up extramural study in business.
- Sky's the limit**
After years of viewing the horizons from the cockpit of his Boeing, a Singapore Airlines captain decided to broaden his own, enrolling at Massey University in Singapore.
- 18 Biochar: Turning waste into wealth**
New research aims to harness the good qualities of waste, while limiting the bad. Biochar is the result.
- 16 Commentary
- 17 Book
- 19 Events

MAY 2009: *DefiningNZ* is a monthly publication produced by Massey University.

Editor: Kereama Beal email: editor@massey.ac.nz For full contact details and enquiries see page 19. © Massey University 2009. www.massey.ac.nz

COVER: Sarah Ulmer Photograph: NZ Herald

A photograph of cyclist Sarah Ulmer celebrating on her bicycle. She is wearing a white cycling jersey with black stripes and the 'sub' logo, a white helmet, and purple sunglasses. Her right arm is raised in a 'V' sign. The background shows a crowd and banners, including one for 'www.novatoWellington.co.nz'.

Olympic champ tells academy class to seize opportunities

Olympic champion and world-record holder Sarah Ulmer is riding strong, but nowadays she races against the clock to complete her university assignments – while holding down a full-time job. Bryan Gibson caught up with her.

Sarah Ulmer's commitment to her sport is unquestioned: Olympic and world championship gold medals, a world record that still stands and two Commonwealth Games medals.

But with her cycling career behind her and a full-time job, her commitment to study is not quite as solid.

"I've just asked for an extension on my first assignment," she laughs. "My course controller is mint, although I think I've used my one get out of jail free card."

It was the northern hemisphere summers spent training near the Pyrenees that fostered the Ulmer's interest in the French language. But at that time, she had more important tasks to focus on.

Now, having retired from international cycling, Ulmer has been able to fit her love of French into her still busy schedule, studying extramurally through Massey from her Cambridge base.

"I love French and taught myself while I was training in France," she says. "Now I've got the perfect situation, where I can continue to study while doing my day job."

It is the freedom that extramural study affords that has Ulmer studying again. One paper short of a sports science degree, she was never in New Zealand long enough to complete the compulsory laboratory components of the course. With extramural study, pursuing her new academic goals won't be a problem.

Like most full-time workers, Ulmer is kept busy with her company the Sarah Ulmer Brand, which promotes women's fitness through cycling. Now a mentor for thousands of women across the country, Ulmer knows the importance of support for elite and novice athletes.

She visited the Manawatu campus last month for the Massey Academy of Sport presentation evening. The academy provides services and support to student-athletes as they juggle their sporting and academic commitments.

"The academy is just awesome," Ulmer says. "It's great they can get support and direction to accelerate the high performance pathway. Being exposed to other sportspeople from different codes is also great, because an athlete can get a bit too caught up in their own world."

Ulmer spoke at length with the 36 academy members,

giving insights into her rise to the top of the Olympic podium. Disillusioned with her inability to improve her times, she retired from cycling prior to the Athens games. But her partner Brendon Cameron talked her into a return and together they took a new approach to training, equipment and strategy.

Ulmer likens the academy to a kind of mini Olympic village, where a community of diverse athletes come together. One athlete who shares one of her Olympic experiences is shooter Rob Eastham, who competed in Beijing.

He finished 14th in the 50m prone rifle event at the games, missing out on shooting in the final round by one point.

Ulmer was in Beijing as part of the athlete support team and, with swimmer Alison Fitch, rugby's Dallas Seymour and triathlete Hamish Carter, helped make the competing athletes feel comfortable in the Olympic village.

Eastham says his first meeting with Ulmer was when she told him to put his hat on at the opening ceremony.

"She was really supportive in Beijing," he says. "Shooting is a solitary sport so there are no team mates around, but she made sure she sought me out every now and then to see how things were going."

Eastham is a third-year academy member and says the programme has helped immensely.

"It's been great for me; you can't replace having someone around to talk to about upcoming events. The access to the gym, nutrition information and sports psychologists is also fantastic.

"Last year, when I was overseas a lot the high performance co-ordinator was helpful in dealing with the academic side of things too."

Eastham says he's focusing on completing his Bachelor of Science this year, although there are some events in his calendar.

Eastham and Ulmer met up again at the academy presentation dinner where, following her presentation, the gold medal winner chatted with athletes.

She told the academy to aim high. "I never had a lot of self belief, never thought I was good enough. But the trick is to have a bloody good crack at it, to grab your opportunity by the short and curlies." ❖

Massey Academy of Sport

"The Academy of Sport is the sports scholarship programme for talented and elite level athletes studying at Massey University.

Academy athletes participate in a wide variety of team and individual sports while studying towards a wide variety of degrees.

I feel very privileged to be in the position of managing the Academy of Sport. The academy recognises the importance of athlete education and development and prepares the athlete for life after sport, which is a concept I deeply believe in.

The academy focuses on the holistic



development of each individual member by providing support to allow each individual continue to develop and achieve success both academically and in their chosen sport.

I did my undergraduate sport and exercise degree here at Massey University while competing worldwide as a professional inline speed skater. This gave

me an appreciation of the unique lifestyle and needs of the student-athlete.

The University has provided me with the opportunities for my dream career path.

This has led to working for the University

in the high-performance sport area and continuing my postgraduate study in sport management.

Massey University clearly continues to define itself as the destination of choice for New Zealand's sporting elite. This has been through support from the Massey Academy of Sport, a wide range of scholarships and funding available for student-athletes, support from academic and general staff members. The University boasts almost one third of this year's 356 Prime Ministers Scholarships.

It is a very exciting aspect of my job to be able to use my experience and knowledge to make sure other student-athletes get the most out of the opportunities made available by the University." ❖

Peter Homburg, High Performance Co-ordinator.

Teacher finds job satisfaction in building dreams

Palmerston North teacher Lou Peck relishes every day in the classroom. He left the film industry to share his love of writing and the media as a teacher – and as Sue Foley found out, he has never looked back.

Photograph: Dave Wiltshire

Teaching as a career was not high on the list of job prospects when Lou Peck first attended Massey University straight out of Palmerston North Boys' High. His thoughts were more towards journalism as he completed his Bachelor of Arts, which included English and Media studies.

So, it was not surprising that after graduating he leaned towards work in the film industry both here and overseas. However, after spending several years in London he and wife Jo returned to Palmerston North, where Peck decided he would like to look at a change of career and found teaching offered many attractions.

He needed to complete only a one-year course; it allowed him still to enjoy the creative arts and he would have a qualification that could take him anywhere in the world.

Four years after graduating with a postgraduate diploma in teaching, it is a decision he has not regretted.

He was one of three men in the 25 on the course that year and says many of the students, like him, had worked elsewhere but decided that teaching offered them more personally than their previous careers in terms of job satisfaction and a feeling of contributing something to the community.

Peck found resuming full-time study and assignments hard work, but also found the staff at the University's College of Education extremely supportive. What he especially appreciates is that the support does not stop after graduation and there are still numerous ongoing learning opportunities.

Those who take up teaching can find many different people on their course, with growing numbers coming from careers ranging from pilots to mechanics to corporate managers.

He remembers his first day in front of his own classroom being so nervous he thinks he introduced himself twice. "When you have 30 young people sitting on the mat in front of you suddenly you realise the responsibility you have.

"However, with that responsibility you also get a great sense of achievement working with these young people and seeing how they develop."

He does not think today's children are significantly different from previous generations. "Children today, like those before them, want to be encouraged, inspired and feel that people positively believe in them."



He is passionate about helping children develop their potential, and tells the story of one young girl in his class who is in the top 5 per cent of writers in her age group in the country. "I encouraged her to stand up and give a lesson to the class. She thrived on it and the other pupils thought it was great."

He is a strong believer in classroom engagement: "It is so special to see a pupil who in the past has been too nervous to speak to the class, who, with encouragement, reaches the point where they are actually putting their hand up to take part in public speaking."

This year he is teaching nine and 10-year-olds at Russell Street School, Palmerston North. He pays tribute to the principal, David Reardon, who he describes as brilliant and extremely supportive of young teachers. He also appreciates all the support he has had from colleagues as well. "It is not that you just go into a school and the support stops; there are many ongoing courses to attend and you feel like you never stop learning."

While teaching has its serious side he also ensures that his pupils have fun and that is one of the great things about teaching. He can also share his love of writing and the media.

In summing up why he is more than happy with his choice of teaching as a career, he points out he very much believes that his role is helping children to build their dreams. There are not too many people who can say that of their work. ❖

Men bring balance to modern classrooms

Senior lecturer at Massey's College of Education and specialist in boys' education Dr Michael Irwin says many of the men who change careers and opt to go teaching have often already had teaching in the back of their minds.

The number of men studying to become secondary teachers at Massey doubled this year, providing an even split between men and women – an exciting development for a profession that has recently struggled to find gender balance in the classroom.

"It is vital to have a balance of good male and female teachers in schools," Irwin says.

"And it is crucially important for girls and

boys to have male teachers as positive role models and to see men enjoying reading, enjoying learning. Men tend to get out into the playground a bit more – kids love that.

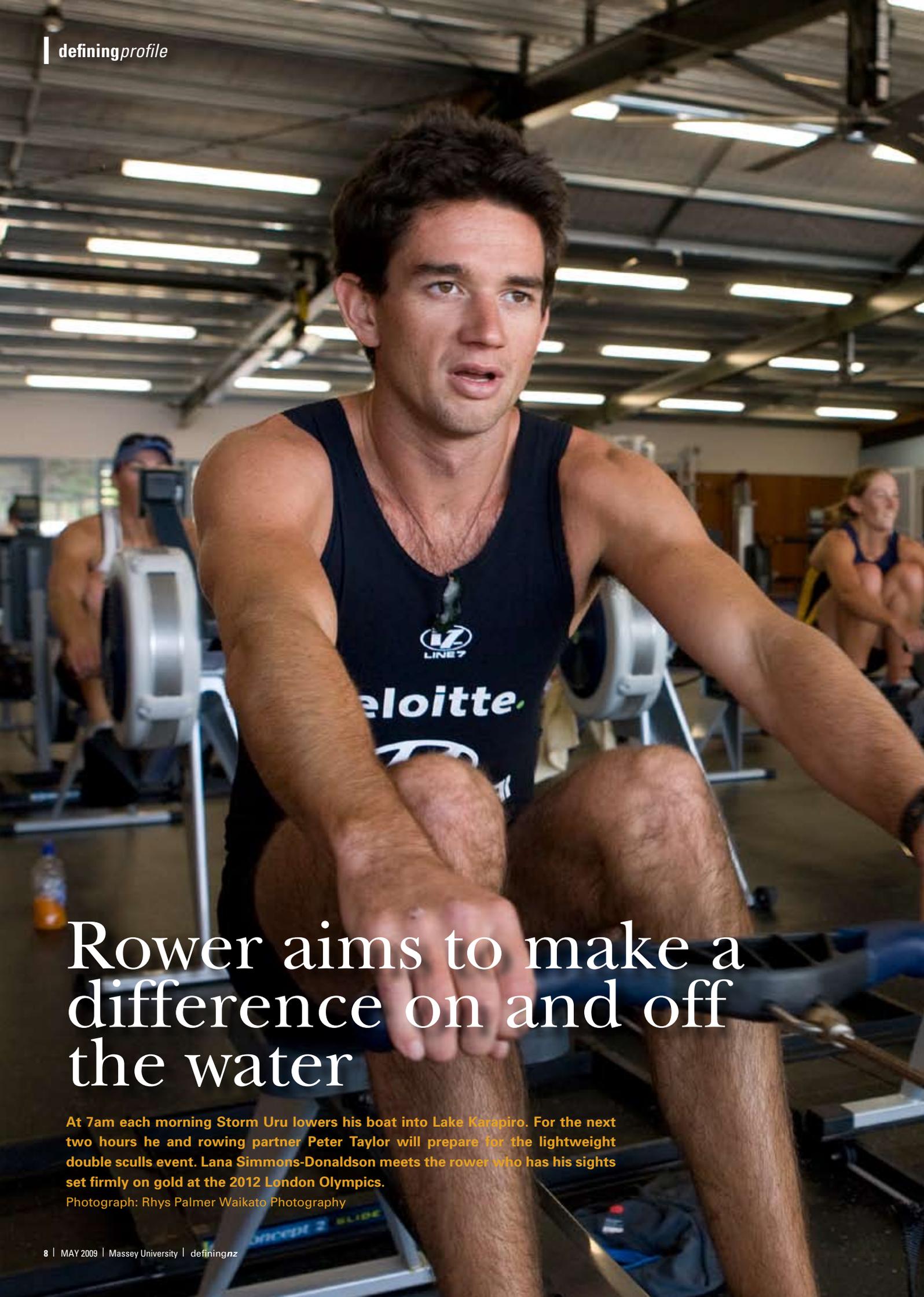
"Male teachers are the ideal people to instil positive masculine values and moral codes into young boys," Irwin says.

"Negative behaviours such as bullying and using violence when angry or to solve problems, can be changed by male teachers modelling positive masculine traits and behaviours for solving problems and building relationships.

"Boys can learn to use their strength in constructive ways." ❖



Dr Michael Irwin



Rower aims to make a difference on and off the water

At 7am each morning Storm Uru lowers his boat into Lake Karapiro. For the next two hours he and rowing partner Peter Taylor will prepare for the lightweight double sculls event. Lana Simmons-Donaldson meets the rower who has his sights set firmly on gold at the 2012 London Olympics.

Photograph: Rhys Palmer Waikato Photography



Storm Uru has just turned 24 and is 1.88m, taller than many rugby players, but weighs just 74kg. His physique is ideal for rowing, with his height and reach giving him an advantage over shorter rowers.

After breakfast at home, Uru will spend another 90 minutes with his books and papers out studying towards his other goal, a Postgraduate Diploma in Business Administration from Massey. Later, at about noon, he will return to New Zealand Rowing's new complex at the lake and work out at the gym. Then it is another 90 minutes' training on the water and home to more study in the evening.

Once a month, on average, the weather gets too rough at the lake and the only training option is the gym. The day I visit Uru is, unfortunately, one of those days and there is a palpable tension and twitchiness in the air of the gym, which is full of the elite of New Zealand rowing.

"We haven't been able to get out on the water for 24 hours," Uru explains, "so we're going to train on the Ergs [rowing machines]."

Uru lives by the philosophy of no boundaries – anything is possible if he puts his mind to it – an outlook he attributes to his parents, who "supported me 100 per cent in everything".

He may live and breathe rowing, but he is already looking beyond that. Last year he completed a Bachelor of Business Studies extramurally to add to the Bachelor of Science in chemistry he did at Canterbury University after leaving James Hargest College in Invercargill five years ago. He plans to enrol in a Master of Management degree next year.

When he left school he thought he would be a chemical engineer, like his father. Now he would like to be "a manager in a successful business and work in international money markets".

He is driven to complete what he starts. "Once I decide it's the right thing for me I have to complete it. Many times I wanted to pull out of study and questioned whether in the big scheme of things qualifications were important. When I do finish I feel proud and thankful that I did.

"It has been great studying extramurally. Massey provides a way I can continue to study wherever I am. I am only in Cambridge for five to six months of the year. During the term I could be anywhere in the world."

He completed two papers last year despite his busy schedule. "I had to complete work for one paper in three weeks after I got back from Beijing. It was really intense."

Next semester he is taking an international business paper. "I am interested in international financial systems, money markets and the financial environment.

"Lightweight double scullers have a very long shelf life; they peak in rowing between the age of 29 and 32 years. I've got a lot of time left in me. It's a sport that has become a career. Having my sponsors, Hyundai and Deloitte, on board has given me a shift in opinion. I am definitely going to stay in the sport for a number of years. When I first got interested I didn't think rowing was going to develop as a career or that I would get to develop the business side through study and exposure to different people and circumstances."

Next month Uru and the New Zealand rowing squad leave for three months' competition overseas, when they will be competing in two world cups, the prestigious Henley Regatta and finishing with the world championships – his main rowing goal this year – in Poland.

Of Ngāi Tahu descent, he says he didn't have much connection with his Māori side growing up. He is proud to be Māori and has been back to his marae and local schools as a guest speaker. As a Sport and Recreation NZ lifestyle ambassador, he chooses to attend events with a Māori focus as a role model. "It has been a cool part of what I have done. Five years ago I never would have thought I'd be doing this. The students' response is overwhelming. Hopefully I can make a difference in other young people's lives." ❖



Dr Jill Clendon

Plunket book's unique multi-generational impact

The small baby care booklet given to New Zealand mothers by Plunket for nearly 90 years to record babies' early health and development has resonance far greater than the practical, clinical advice it offered, says a Massey nursing researcher Dr Jill Clendon.

Introduced in 1921 to promote the childrearing ideology and methods of Plunket founder Dr Truby King, the book contained strict instructions for mothers to follow in regards to sleeping, feeding, eating, weight, bowels and behaviour, says Dr Clendon. It was originally designed to help mothers recognise signs of deadly diarrhoeal disease or advise them of how to prevent their children getting rickets.

Clendon graduated last month from the Albany campus with a PhD in nursing. She studied the origins and history of the Plunket book, as well as how its content and structure adapted to changing views on childcare over time.

She sees it is as a vital document of social history bonding generations of kiwi mothers. "Social influences, such as the high infant mortality rate, the impact of World War I, and the influenza epidemic heightened the emphasis on the preservation of the

health of the mother and the child," she says in her thesis.

Her research included interviews with several generations of mothers and reading Plunket books. She describes them as "a living artefact that represents a person's life and the changing arena in which that life is lived".

The advice and focus of the book evolved over time from a strictly "scientific" approach to a more holistic one that acknowledged emotional wellbeing. Yet it has remained consistent in providing a thread of history that would have remained unrecorded and thus forgotten in many families, she says.

In the 1950s, the influence of childcare experts such as Benjamin Spock, as well as organisations including the Parents Centre, Playcentre and La Leche League, introduced a more relaxed style of parenting recognising the importance of love and nurturing. But it was not until the 1960s that such changes were reflected in the Plunket book.

The book then was primarily concerned with physical health, and it still recommended traditional practices such as "holding out" a baby, as in, holding it over a toilet or potty immediately after feeding for several minutes until it passed a bowel motion.

Although it was renamed the Well Child/Tamariki Ora health book after publication was taken over by the health ministry in 1980 it is still widely known as the Plunket book.

Clendon, a former Massey staff member who teaches nursing at the Nelson Marlborough Institute of Technology, was prompted to do the study after hearing a student talk about her role as a nurse working with new mothers and babies. "She spoke about her use of the Plunket book as a 'taonga' – a treasure – and of how each new mother was given a handmade 'kete' – flax kit – with the Plunket book in it and told to treasure the book, keep it safe..."

She recalled how her own mother had kept her children's Plunket books, and she wondered whether many other mothers did the same. She found, from the 35 participants in her study, how much the book was valued, not only as a record of a baby's first smile, first tooth, its feeding, sleeping and bowel habits, but as "inherently linked to a mother's self-identity".

A number of poignant stories on the special place of the book emerged. One mother, whose child died of meningitis in the 1950s, said it was the only record she has. A Plunket nurse described writing in the book of a child who subsequently died after a woodpile fell on her and being told by the mother that her beautiful description of her daughter was something she frequently re-read.

"The Plunket book has had a multigenerational impact on mothers in New Zealand and will continue to impact on them for generations," says Dr Clendon. As one of the study participants says, "I think there is an interest in the history of what you were like before you knew anything about it, your own history, you yourself, what you did, when you rolled over, when you smiled..." ❖

– Jennifer Little, Photograph: Doug Cole



Wellington youth health service evolves

Rebecca Zonneveld

Rebecca Zonneveld knew two things she wanted to achieve from her nursing training – be an independent practitioner and work with young people.

Through her work at the Evolve Wellington Youth Service she has reached both goals.

Upon completing her Master of Nursing degree at Massey in late 2007 she applied to the Nursing Council to become a nurse practitioner in youth health. Among other skills it equips her with the authority to prescribe medicines.

She now provides a nurse-led clinic and oversees clinical services at the centrally located Youth Health Service which offers primary health services including consultations with GPs, sexual health advice, counselling and social support to those aged between 10 and 25.

Zonneveld notes that her studies at Massey made quite a difference to her nursing practice.

“All the research, the reading, having to do presentations in class made me critically analyse everything. It forced me to think differently about what I was doing in practice,” she says.

“Youth healthcare is an area perfectly suited to someone working in a nurse practitioner role.

“The difference for the clients is they can come in and get what they need at the time instead of having to wait for a doctor to sign a prescription. Because they get what they need they are more likely to be compliant, thus improving their access to health care.”

Another nurse and three part-time GPs work alongside her at the service.

“The important thing is as a nurse practitioner I can work independently and still work as part of a team and [in collaboration] with doctors.”

Services such as Evolve arose from changes to the health sector in the 1990s and are now located throughout New Zealand, though

the Wellington service has a more urban focus and is formally part of a Primary Health Organisation.

Zonneveld, who previously worked for the not for profit Newtown Union Health Service, currently chairs the South East & City PHO Trust Board.

It provides quality health care to people with high health needs and limited financial resources. Its members include Newtown Union, Wellington Peoples Centre, Te Aro Health Centre, Pacific Health Centre and Evolve.

Many of the referrals to the Wellington central city building are made through word of mouth, though contact is also made via school health counsellors, public health nurses and the centre’s part-time youth workers.

“Most [clients/patients] people are aged 13 and upward and you get to see people change over time as they get older,” Zonneveld says.

“There’s been quite a few of them this year who have turned 26 and found it quite hard to leave.”

Unlike most other clinically based practices, Evolve puts great emphasis on offering additional facilities where those registered with the service can drop in, use the computer, grab a cup of coffee or join in other activities.

At present these include kickboxing, art classes, a writers group and yoga.

“Our core philosophy is around youth development and youth participation,” Zonneveld says.

Such an approach helped those registered, who came from both disadvantaged and socially connected backgrounds, to speak more freely about any health issues.

“For all of us it’s about being non-judgmental about what they come to us for, and putting value on what they are concerned with about their health.” ❖

– Paul Mulrooney

Research to shed light on mental illness among Tongans in New Zealand

A traditional healer's exorcism or a psychiatrist's drug prescription? The choice can be a very real and difficult one for mentally unwell Tongans. Understanding such cultural attitudes, values and dilemmas surrounding mental illness is the subject of Tongan PhD student Sione Vaka's Health Research Council-funded study.

Vaka, an experienced mental health nurse who has worked in New Zealand and Tonga and is based at the Albany campus, says Tongans living in New Zealand who suffer mental illness are often torn between traditional healers who use massage, herbal potions and exorcism, and Western drug and therapy treatments.

His study, titled *An Exploration of the meaning of mental illness for Tongan people in New Zealand*, is for Tongans born in New Zealand and Tongan immigrants. He wants to find out why those born in New Zealand appear to have a higher risk of developing mental illness.

Tongans, he says, have a particular perspective on what mental illness means which is shaped by cultural beliefs, religious taboos and the powerful status of traditional healers.



Sione Vaka

These interpretations can make it difficult for people to seek the help they need for accurate diagnosis and appropriate treatment.

"Traditional healers believe mental health problems result from a person being possessed by a spirit or a curse, or because they don't believe in the church or God.

"There are a lot of misunderstandings about mental illness," he says. "When we see a patient we have to acknowledge these beliefs while encouraging them to understand that medication can help control their symptoms."

In his role as part of the Counties Manukau District Health Board's Pacific Mental Health services, or Faleola (House of Life), he gained plenty of experience in developing ways to help to steer clients and their families between

two seemingly contradictory treatment approaches.

He hopes the findings from his study will provide a better understanding of similar cultural issues related to mental illness for other Pacific Island people. ❖

Researching why people choose health sector work

Is it the life and death drama of an accident and emergency ward, the technical challenge of microsurgery or the opportunity to care for and comfort the sick and injured that lures today's youth to work in the health sector?

Massey researchers aim to find out what attracts young people to the sector in order to improve recruitment, and help prevent workforce shortages.

Led by sociologist Professor Paul Spoonley, director of research and Albany regional director of the College of Humanities and Social Sciences, the team of researchers is evaluating the effectiveness of the Hawke's Bay District Health Board's pioneering Incubator programme, which educates and mentors senior secondary school pupils interested in health careers.

The programme, launched in 2007, is designed to nurture a passion for a vocation in health by giving year 12 and 13 pupils workplace experience in hospitals and clinics. Pupils are linked with health professional mentors so they can learn more about the challenging and satisfying aspects of working in health that are not often reported in the media.

Researchers, including Dr Stephen Neville and Dr Denise Wilson from the School of Health and Social Sciences, and Jeff Adams from the Centre for Social and Health Outcomes Research and

Evaluation, will establish how successful the programme has been in recruiting secondary school leavers into the health sector.

The district health board hopes the programme, which has won a number of awards including last year's innovation category of the Health Innovation Awards, will be adopted by other boards.

Meanwhile, nurses from Kaitaia to Invercargill are enrolling in postgraduate nursing programmes at Massey's Albany and Wellington campuses, where staff have streamlined professional development programmes in response to new clinical challenges and career paths opening up for nurses in recent years.

"There have been a lot of changes in the health sector since 2000. There are more career paths and a clearer educational framework for nurse education now," says Dr Wilson.

The Master of Nursing qualification has grown significantly, with a doubling of enrolments at this year's intake. The majority who enrol are working nurses who study part-time and complete the degree within five years.

At undergraduate level a Bachelor of Nursing is offered in Wellington for those wanting to become registered nurses. Postgraduate programmes include a Master of Arts (Nursing) and a clinically-focused Master of Nursing. ❖

Learning a never-ending journey - Fyfe

When Air New Zealand chief executive Rob Fyfe was at a career crossroads he decided to enhance his skills in business by dipping his toes into extramural learning at Massey.

In the mid-1980s Fyfe was planning to leave his job as a Royal New Zealand Air Force engineer to work in a commercial environment and had his sights set on banking.

He enrolled as an extramural student in papers in marketing and accountancy, which he says were ideal preparation for the world beyond the military.

"It was really good for me," he says. "You have to be adaptable and willing to change. People who put themselves out of their comfort zone can add enormous value to an organisation."

"People who are successful are those who keep learning, adapting and evolving faster than their peers."

Studying these subjects also helped him understand terminology that would be key in his future success.

"When people talk about simple concepts like customer value proposition or stakeholder model I knew what these things were and I could connect with people – and that is acutely important in business."

Speaking to new graduates from the College of Business at one of the Albany campus ceremonies in the Bruce Mason Centre, Takapuna, last month, Fyfe told them what he most valued was being taught how to learn.

"You must accept that what you have learnt in obtaining your degree will be obsolete in three years time."

"Our success is not based on what we know, but how quickly we can adapt and evolve our business to reflect our customer needs and expectations."

Three years ago when he joined Air New Zealand – "about the time it takes to get a degree" – on-line ticket sales were worth \$150 million. They now stand at \$1.2 billion. The website has gone from 30,000 visitors a day to 500,000 visitors after the introduction of "grab-a-seat" and million-dollar advertising campaigns have been replaced by viral ads that cost a few thousand dollars.

He says to succeed you must continue the journey of learning and discovery, with university education as a springboard – extramural can add an extra dimension.

"Extramural is a great solution, it has worked for me. When you are in a career which involves a few months deployment overseas you have to be flexible."

His schedule is now too busy for the books but he does not rule out a return to the academic learning environment – and his subjects of choice would add a new set of skills to his toolbox.

"As my career has evolved, I realise how important people are," he says. "I'd love to study psychology or sociology. My role now is about leadership and people are at the heart of that." ❖

– Kathryn Farrow



Rob Fyfe

Sky's the limit for Singapore Airlines pilot

After years of viewing the horizons from the cockpit of a Boeing, Captain Ng Kok Seong decided to broaden his own by enrolling in a course at Massey University.

The Singapore Airlines pilot says he realised he needed to keep up to speed with a constantly changing environment and began studying for a Bachelor of Aviation Management.

The programme is offered extramurally to pilots as part of the School of Aviation's partnership with the Singapore Aviation Academy.

Seong, who is currently an instructor pilot on the B747-400 fleet in Singapore, says: "For a while, I was only preoccupied with my job of flying from point to point. I had little knowledge of some of the other important issues which have an impact on aviation."

"The aviation industry has undergone tremendous changes since I first joined the airline. Aviation is continually undergoing changes. I wanted to challenge myself and improve my skills."

"This course has equipped me with a better knowledge of some of the safety and management issues facing aviation."

Seong's career means he flies around the world but finds that through distance learning he can combine career with study in far-flung destinations.

"The course offers me the opportunity to learn at a pace which suits me," he says. "My job entails quite a bit of travelling but also offers me time to study, especially when I am overseas."

He says elements such as the heavy aeroplane performance paper, which offers an in-depth insight into jet aircraft, are directly relevant to the highly technical work of pilots. In addition, the papers in Aviation Human Factors, Managing Cultures in Aviation and Air Safety Investigation offer insight into safety issues.

"At times, it was tough on me due to the many distractions but the challenge of mastering the management papers, a subject which was new to me, was perhaps the most enjoyable part of this course," says Seong, who is due to graduate next year.

He is confident that young pilots just starting out in the industry have a bright future, especially with the

low cost carriers making travel possible for those who could not have afforded it in the past.

"With this window opened, demand for travel will only grow," he says.

"The current recession is only a temporary dampener on this urge by people to travel. But the economy will improve and aviation will grow again." ❖



Captain Ng Kok Seong



"Massey is the only New Zealand University that consistently enables internal students to be in regular contact with extramural students who are already working in their chosen field."

Dr Hamish Anderson



"Great speeches, like music, can bring us to tears or lift us to heights within seconds, and I get to share my love of them with students."

Dr Heather Kavan



Rewarding the passion



"It is wonderful when you see students draw on their learning to critique and explore new concepts and to apply these in different contexts."

Dr Juliana Mansvelt

As part of the University's commitment to teaching excellence and innovation, each year several staff are selected for Vice-Chancellor's tertiary teaching excellence awards and some of those winners are nominated to represent Massey in the national awards.

The University has done extraordinarily well, with 11 national awards in the seven years since their inception. Last year Dr Lisa Emerson won the supreme national award. She is *DefiningNZ's* guest columnist this month (see page 16).

Massey's top teachers are as passionate about their craft as they are about their subject areas and meet regularly to discuss ways to develop and promote teaching across the University. We asked them what they liked best about teaching at Massey.

Dr Hamish Anderson, Department of Economics and Finance:

Massey has an incredibly diverse range of delivery modes and student body, in terms of age, background and culture. It is the only New Zealand university that consistently enables internal students to be in regular contact with extramural students who are already working in their chosen field. The extramural students typically have a wealth of work experience, which enriches class discussion, both face-to-face and on-line. This is particularly true in my area of finance and business studies in general. It is this diversity that makes teaching enjoyable and so richly rewarding.

Dr Heather Kavan, Department of Communication, Journalism and Marketing:

There are two types of people: those who are fired up with a single passion and those who enjoy the sparkle of different experiences. I'm in the latter group, and Massey has given me the flexibility to teach subjects as diverse as Zen Buddhism and media law. Massey also gave me the opportunity to create my speech writing

course. Great speeches, like music, can bring us to tears or lift us to heights within seconds, and I get to share my love of them with students.

Associate Professor Trevor Kitson, Institute of Fundamental Sciences:

For me, the most fulfilling aspect of teaching is watching the astonishingly dramatic development of an inexperienced nervous young first-year student into – within what seems at my age to be no time at all – a confident, talented, knowledgeable, enthusiastic, successful PhD graduate with a great future awaiting, and to know that in some small part I have contributed to that wonderful metamorphosis. Moreover, as a chemist, I get immense satisfaction from sharing my passion for this subject – the "central science" that makes up literally everything in the world, including us.

Dr Juliana Mansvelt, School of People, Environment and Planning:

What I enjoy most about teaching is helping students actively reflect on their own assumptions and knowledge, encouraging them to consider the implications of these for perspectives on contemporary issues.

It is wonderful when you see students draw on their learning to critique and explore new concepts and to apply these in different contexts. Geography is great subject to teach because it enables students to develop a critical awareness of the world around them, to understand how and why 'places' and 'spaces' are produced and to consider how people and environments are connected. I really appreciate the range of backgrounds and experiences of Massey geography students and the contributions both extramural and internal students bring to my courses.



"As a teacher of teachers, the most exciting aspect of my work is when my students begin transferring the theory into their own practice."

Associate Professor Tracy Riley



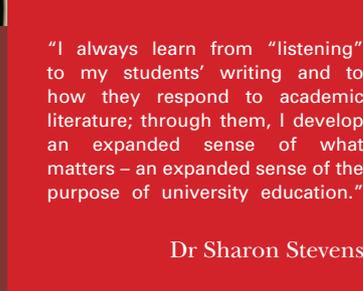
"At the moment we have students from Kenya, China, Lao PDR, and Papua New Guinea as well as Aotearoa – as one of our Kiwi students commented, 'each week I join a brain gym of interesting people!'"

Associate Professor Regina Scheyvens



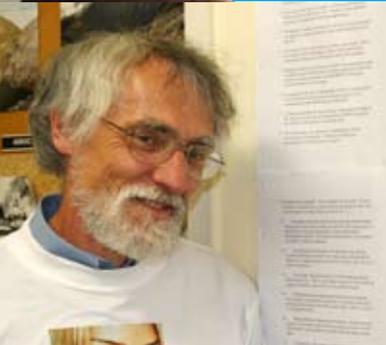
"For as long as I can remember I have wanted to be an academic. The word is a sparkling one, suggestive of people striving to make the world a more intelligible place for students; people who can lift back the veil and make visible what was previously opaque."

Dr Richard Shaw



"I always learn from "listening" to my students' writing and to how they respond to academic literature; through them, I develop an expanded sense of what matters – an expanded sense of the purpose of university education."

Dr Sharon Stevens



"As a chemist, I get immense satisfaction from sharing my passion for this subject – the "central science" that makes up literally everything in the world, including us."

Associate Professor Trevor Kitson



"It's the applied nature of the research and teaching that is most enjoyable in Sport Management and Coaching at Massey."

Dr Andy Martin

Dr Andy Martin, Department of Management: It's the applied nature of the research and teaching that is most enjoyable in sport management and coaching at Massey. My teaching aims to engage the students using their own experiences to discuss and critically analyse the literature in linking theory to practice and providing opportunities of transfer of learning to both personal and professional contexts. In particular, integrating workplace and theoretical learning for sport management and coaching students in a business college provides a graduate point of difference that sport employers value. My role centres on developing a positive learning environment using a variety of facilitation and experiential methods to enhance the learning process for the individual student.

Associate Professor Tracy Riley, School of Curriculum and Pedagogy: My passion is ensuring that gifted and talented children have their strengths, abilities and qualities identified and catered for in responsive learning environments. As a teacher of teachers, the most exciting aspect of my work is when my students begin transferring the theory into their own practice. The ripple effect that occurs between my teaching and their learning means that I can make a difference to not only their lives, but those of the children they teach. I am inspired by my students and their enthusiasm makes teaching the best part of my job at Massey.

Associate Professor Regina Scheyvens, School of People, Environment and Planning: I really enjoy teaching our diverse group of postgraduate development studies students as they bring so much knowledge and experience to the classroom. At the moment we have students from Kenya, China, Lao PDR, and Papua New Guinea as well as Aotearoa – as one of our Kiwi

students commented, 'each week I join a brain gym of interesting people!' These students are eager to learn about theories of development and approaches to overcoming poverty, but we also encourage them to challenge dominant discourses of poverty-alleviation, human rights, sustainable development and so forth. That makes for some great class debates and discussions.

Dr Richard Shaw, School of People, Environment and Planning: For as long as I can remember I have wanted to be an academic. The word is a sparkling one, suggestive of people striving to make the world a more intelligible place for students; people who can lift back the veil and make visible what was previously opaque. There's a good deal to recommend teaching politics at Massey. Because we teach both internally and extramurally, there's the privilege of contributing to the intellectual development of a wide range of students, the pleasure of seeing people grow in confidence as they overcome initial anxieties and master new knowledge, and the sense that you are doing something worthwhile and being of service to others.

Dr Sharon Stevens, School of English and Media Studies: As the coordinator of Written Communication, a large writing paper taken by first-year students from across the campus (especially from the Humanities and Social Sciences), I have the privilege of teaching a diverse group of students. Writing can be very personal, and even though Written Communication requires that students address a public and academic audience, my students often write about their core interests and values, choosing topics from a myriad of academic disciplines. I always learn from "listening" to my students' writing and to how they respond to academic literature; through them, I develop an expanded sense of what matters – an expanded sense of the purpose of university education.



Dr Lisa Emerson

Great teachers ask questions

“ By paying attention to each student, by creating multiple learning paths for students to choose from, we say to our students ‘in this big university, you matter’. And that is a great place for learning to start.
– Dr Lisa Emerson ”

What makes a great tertiary teacher? Parker Palmer, an American educationalist, says it has little to do with technique – and I’d agree. For me it’s about the fascination of being in a classroom or working with a student. It’s about asking questions.

As a university writing teacher, I am faced with one overarching question: how can I best help my students understand the shaping of an academic essay, a life story, a scientific paper, or a PhD thesis? But every teaching situation brings me new questions: how do I help this young ADHD student overcome her fear of writing? How do I support this 80-year-old war veteran as he turns his memories into part of New Zealand’s social and military history?

Asking questions is at the heart of learning. And that doesn’t mean just my questions! I want my students to ask questions – including questions for which I don’t know the answer. In this way we open up a class, teacher and students alike, to new possibilities and new knowledge.

We also need to see each student as an individual. Elearning, for example, comes down to this: one student sitting in front of one computer, with a longing to learn something. By paying attention to each student, by creating multiple learning paths for students to choose from, we say to our students “in this big university, you matter”. And that is a great place for learning to start.

Recently we asked Massey staff who they want our students to be or do in the world. The answers were passionate and visionary: whether our students emerge as vets or teachers, accountants or writers, designers or horticulturists, we want them to be life-long learners, to contribute positively to society, to be leaders and thinkers, with the ability to critique and contribute to the world around them. As one staff member put it: I want my students to have the skills, knowledge, passion, ability to diversify, and the capacity to be innovative in their field – to enjoy successful, fruitful lives.

It is no accident that Massey University teachers hold such a vision for their students, or that we have so many award winning teachers. At the heart of the University’s strategic vision is a commitment to ensuring an exceptional and distinctive learning experience for all students.

Teachers are the key to achieving this vision. It is by valuing and supporting its teachers that Massey University enables its students to become, in the words of Peter Senge, “the authors of their own lives” – lives that will make a difference to the New Zealand community and beyond. ❖

Lisa Emerson is a senior lecturer in the School of English and Media Studies and won the Prime Minister’s Supreme Award for Tertiary Teaching last year, as well as Massey University’s Darrylin O’Dea Award for e-learning.

The life story of Dr Ranginui Walker

From conservative Catholic boy growing up in rural Opotiki to outspoken urban activist, academic, educator and cultural commentator – Dr Ranginui Walker (Te Whakatohea) is among Māoridom's most influential leaders and eloquent spokesmen of his generation.

His fascinating life story, and an assessment of the impact he has had on Māori–Pākehā relations, is told in full for the first time in his just-published biography *Mata Toa – the Life and Times of Ranginui Walker* (Penguin NZ), written by Massey sociologist Professor Paul Spoonley.

Walker, 77, earned the reputation of being an uncompromisingly vociferous advocate for Māori rights since the early 1970s as one of those who was at the founding of Ngā Tama Toa (the young warriors). The group was formed following a conference at the University of Auckland, organised by Walker, to address threats to Māori culture and confront injustices to Māori under the Treaty of Waitangi.

Spoonley, Albany regional director for the College of Humanities and Social Sciences, says in the foreword that *Mata Toa* is “the story of how he [Walker] came to play an important role in the transformation of New Zealand's cultural politics. For many, Ranginui Walker personified the radical face of Māori activism, while for others, he was an authoritative source of information on a colonial history, Māori ambitions and current events.”

It was his training as a teacher and University of Auckland academic as well as his abilities as an astute observer and coolly intelligent commentator that made him pivotal to Pākehā understandings of Māori aspirations, Spoonley says.

In his *Listener* and *Metro* magazine columns as well as in his books and lectures published throughout the 1980s and 90s, Walker deciphered for mainstream audiences the struggles for Māori land rights, cultural identity and a political voice that have shaken, reshaped and redefined life in New Zealand over the past 40 years.

In the book, he outlines the metamorphosis of a boy raised by religiously devout, strict yet caring whāngai (adoptive) parents, Wairata and Isaac Walker, who had high expectations of their son as a future leader, to urban liberal intellectual influenced by newly emerging indigenous rights movements worldwide, as well as husband to Deidre – a Pākehā – and father of their three.

Spoonley says while it may seem curious that a Pākehā sociologist and not a Walker family member or Māori historian has written the book, the two have much in common academically, having both written on Māori/Pākehā relations over the past 30 years.

When he mentioned writing Walker's biography at a James Belich book launch they attended in 2001, the latter was taken aback and commented to his wife Deidre that “I'm not even dead yet and someone wants to write my biography”.

When she reminded her husband of the difficulties he had had in writing a biography of Sir Apirana Ngata and how much easier the task of biography writing would be with a live subject, he agreed.

Spoonley, who has written about 25 books but never a biography before, says Walker and his family were very open during numerous interviews he did. His research for the book included visits to Opotiki, the National Library and reading the diaries written by Wairata Walker.

He says readers will learn much from *Mata Toa* (meaning “the eyes of a warrior”) about Walker, including the critical role of his wife, “a powerhouse” heavily involved in his writing and political activities.

The book's subtitle, *The Life and Times of Ranginui Walker*, deliberately reflects Spoonley's view that “the story of Ranginui Walker is as much a story of a country as it struggled, and partially succeeded, in more adequately recognising the rights of Māori as the indigenous people of Aotearoa”.

Mata Toa will be launched during Auckland Writers and Readers Festival on May 15. ❖

– Jennifer Little



Professor Paul Spoonley

“ For many, Ranginui Walker personified the radical face of Māori activism, while for others, he was an authoritative source of information on a colonial history, Māori ambitions and current events.” ”

- Professor Paul Spoonley

Biochar: turning waste into wealth

As all gardeners know, manure helps the flowers grow. But that manure also gives off greenhouse gases, contributing to global climate change.

At the newly established Biochar Research Centre at the Manawatu campus, researchers are trying to harness the good qualities of waste, while limiting the bad. Biochar is the result.

Associate Professor Marta Camps has been recruited to help lead the centre. She says biochar can help in many ways.

“Biochar has the potential of carbon sequestration as it is much more stable than the carbon from the material it is made, and it can remain in soils for hundreds to thousands of years,” she says. “In New Zealand, there are high methane and nitrous oxide emissions as a result of the agriculture industry. The biochar technology may help New Zealand as a country in terms of meeting its international obligations regarding greenhouse gas emissions.”

But what is this wondrous waste?

“Biochar is a fine-grained charcoal that is produced by a process called pyrolysis, or thermal decomposition under oxygen-limited conditions,” Camps says. “In addition to sequester carbon, biochar has other potential environmental and agronomic benefits when applied to the soils.”

Camps and her team, which will be joined by another Professor and five PhD students later in the year, has been working on different biochars in the laboratory and will soon begin trials.

“We’ll begin with sandy soils which are low in nutrients and can’t retain water,” she says. “But ultimately we need to know the responses of all types of soil and also chart the characteristics of different types of biochar.”

To make the process more sustainable, it is important to get the waste material from close to where it will end up once converted, she says.

The Government funds the centre professorships. The University’s proposal to host the centre was led by Professor of Soil Science Mike Hedley, New Zealand Biochar Network co-ordinator Bill Dyck and acting director of the Centre for Energy Research Attilio Pigneri.

Camps says Hedley has been inspirational. “I’m now picking the flowers he planted,” she says of the centre.

Hedley and Dyck also led the team instrumental in the University gaining another major government funded project. The Life Cycle Assessment Centre will be set up at Massey later in the year, thanks to a \$1.3 million contract from the Ministry of Agriculture and Forestry. The centre will focus on managing New Zealand’s environmental footprint – from greenhouse gas emissions to water use.

Partners in the centre include AgResearch, Landcare Research, Scion and Plant & Food.

As well as ensuring New Zealand retains its environment, the venture supports the economy by enabling producers to meet the needs of the “green” consumer, a market growing rapidly worldwide.

Vice-Chancellor Steve Maharey says he is extremely pleased the University is leading sustainability research in New Zealand.

“The appointment of the professor, formation of the Life Cycle Centre and development of the associated teaching and



Associate Professor Marta Camps

research programmes in life cycle assessment align closely with our own strategic plan,” Maharey says. “We want to contribute to understanding and provide innovative responses to the social, cultural and environmental issues confronting New Zealand.

“Central to this vision is our intention to take a lead role in sustainability, providing a sustainable future for all New Zealanders.”

The University is supporting the new professorship and centre by funding three PhD scholarships and fees, to ensure a team can be appointed.

The new Life Cycle Centre will be hosted by Massey’s Agribusiness, Logistics and Supply Chain Management Group at the Institute of Food, Nutrition and Human Health, supported by the Agricultural and Horticultural Systems Management Group at the Institute of Natural Resources and the Sustainable Processing Cluster at the School of Engineering and Advanced Technology.

The professor will also work with the Centre for Ecological Economics, a Massey-hosted collaboration with Landcare Research.

Key goals for the Life Cycle Assessment Centre include environmental footprinting of existing export products, providing information to export markets on the environmental and resource impact of food and fibre production, and design of low environmental footprint production systems.

The centre will provide specific methodologies for New Zealand products, working with MAF and industry, to ensure environmental footprinting is fair and transparent in New Zealand. ❖

– Bryan Gibson, Photograph: David Wiltshire



may 23 jun 29 jul 11

Extramural Academic Seminar III: Answering Exam Questions

10am – noon
Albany Campus, Quad B, 1

As students prepare for the end of term exams, the workshop provides the necessary information and skills needed to answer the different types of exam questions. Helpful hints are also provided on how to budget one's time whilst taking the exam so that there is enough time for revision towards the end.

Contact: Lilia Sevillano
09-414-0800 ext 9288

Wellington graduation ceremonies

9am - 4pm
Michael Fowler Centre

Graduation is one of the most important celebrations of the University year. Students and staff from the Wellington campus are pleased to congratulate new graduates and welcome them into the Massey University family of Alumni.

Two ceremonies will be held at the Michael Fowler centre.



Professorial Lecture Series Professor John Raine

"The mysterious case of the driver who wasn't - myths and truths of vehicle crash investigation."

7pm Albany campus
Sir Neil Waters Lecture Theatres, NW200

Was the crash caused by the vehicle, the driver, the weather or the road? Was it deliberate? Case studies will be used to illustrate how vehicle crash analyst interprets scene evidence, vehicle damage, what has happened to occupants or pedestrians, and performs calculations to determine impact speeds, how and why the crash happened, or who was driving. Research directions and the use of advanced computer modelling in crash analysis will be discussed.

Contact: Karen Triggs
09-414-0800 ext 9555

Let's Get Going - Semester Two – Palmerston North

9am – 1pm Manawatu campus - Turitea

If you are a new student to Massey, either straight from school or returning to study after a number of years, then Let's Get Going is the ideal way to start your life at Massey University.

The programme features introduction sessions to help make the transition to University and is a fantastic way to meet people in the same position as you!

Sessions include:

Student Life, Study Smart, Keeping Safe and Being Successful, Timetables
As well as introductions to the Library, Web CT and Stream.
The day is finished off with a campus tour.

definingnz



Massey University

A monthly publication profiling research, success and innovation from New Zealand's defining University.

Massey University
Private Bag 11-222, Palmerston North
New Zealand
www.massey.ac.nz

Editor/design: Kereama Beal
Email: editor@massey.ac.nz Ph: 06-350-5019

Communications Director
James Gardiner
Email: j.gardiner@massey.ac.nz Ph: 06-350-5255

Communications Manager
Lindsey Birnie
Email: l.birnie@massey.ac.nz Ph: 06-350-5185

Māori Communications Manager
Lana Simmons-Donaldson
Ph: 04-801-5799 ext 62333
Email: l.t.p.simmons-donaldson@massey.ac.nz

Albany:
Kathryn Farrow Email: k.farrow@massey.ac.nz
Jennifer Little Email: j.little@massey.ac.nz

Manawatu:
Kereama Beal Email: k.beal@massey.ac.nz
Bryan Gibson Email: b.r.gibson@massey.ac.nz

Wellington:
Paul Mulrooney Email: p.mulrooney@massey.ac.nz



Master of Public Policy Analosa Ulugia-Veukiso speaks on behalf of graduates at Albany's 10th ceremony to honour Pasifika graduates.

Photograph: James Gardiner

Massey University celebrates graduation across its three campuses during April and May with thousands of new graduates capped in Albany, Manawatu and Wellington.

Graduates at six Albany ceremonies last month included 20 new doctorates – five in computer science, technology and mechatronics, four in business, three in maths, two in psychology, and one each in science, food technology, education, nursing, English and music.

Honorary doctorates were awarded to former Turners & Growers managing director Don Turner and to businesswoman Alison Paterson, and at Manawatu on May 13, to Māori educator Turoa Royal.

Special ceremonies to honour Māori graduates are held at each campus, and this year Albany also celebrated its 10th ceremony to honour Pasifika graduates. The Manawatu and Wellington campuses will hold similar ceremonies for the first time this year.

"Graduation is the highlight of the academic year," Vice-Chancellor Steve Maharey says. "This where we come together to celebrate the success and hard work of our students, some of whom are already studying for further and higher qualifications. Others will be returning from jobs around New Zealand and around the world to have their degrees conferred."

Thirty-two new doctorates will be conferred in Manawatu during seven ceremonies from May 11, and in Wellington, two ceremonies will see further doctorates conferred on May 29.

More than 3000 graduates will join the University's family of alumni.

Enrolments are now open for Semester Two
Check out our website today for programmes
available for a mid year start



Massey University

Contact Massey University Tel: 0800 MASSEY Fax: +64 6 350 5618

Web: www.massey.ac.nz Email: contact@massey.ac.nz TXT: 5222