definingnz

www.massey.ac.nz
OCTOBER 2009

Balancing her passions

Research that makes a difference

Gearing up for *BLOW*

A lifetime love of lilies

DIY RELIGION • CLASSROOM POLITICS • DEVELOPING A MARKET LEADER

MASSEY UNIVERSITY

ISSN 1175-1428
ISSN 1175-1686 (Web)

Steve Maharey

World-leading research and scholarship

> "New Zealand's future will be built on research, science and technology. We live in the knowledge age where the smartest will thrive."

Excellent research is essential if New Zealand is to build a better future. Without it all the talk of a knowledge-based, innovative, creative, dynamic market economy and society will come to nothing. Our standing in the world will suffer. Teaching and learning in our universities will be anodyne. There will be no knowledge to be transferred to end users.

It is, therefore, imperative to produce an environment in which excellent research can thrive, research that will display the highest standards of international scholarship.

This is exactly what Massey University is about. As New Zealand's defining university we have always aspired to make a contribution through research and teaching that will shape the nation's future.

While agri-food is often used as the best example of Massey's groundbreaking work, there are many others. At Massey's recent Research and Teaching Awards the outstanding work of people like Professor Peter Schwerdtfeger, from the Institute of Advanced Study at the Albany campus, Professor Anne Noble, from the College of Creative Arts in Wellington, and the Volcanic Risk Solutions team based in the Institute of Natural Resources at the Manawatu campus, led by Associate Professor Shane Cronin, shows that there is excellent work taking place in many areas.

During the past century, Massey developed an enviable reputation for research with impact not only in New Zealand but around the globe. Indeed, it is noticeable that when New Zealand universities are talked about around the world it is Massey that is most often referred to.

But as knowledge and the application of knowledge become ever more important, we do not intend to rest on our record. We aim to maintain a culture where first-class research is the norm, where colleagues urge each other to greater heights and where every researcher feels they are part of a rich intellectual community.

Our research strategy focuses on building a world class research environment, investing in our areas of specialisation, growing our postgraduate programme, increasing private and public sector investment in our research and expanding our reputation world-wide.

These goals reflect the University's belief that New Zealand's future will be built on research, science and technology. We live in the knowledge age where the smartest will thrive.

In this issue of *DefiningNZ* you will find examples of the great work going on at Massey. Carlene Starck's study of structural biochemistry is the basis of work that has won the Advancing Human Health and Wellbeing category of the MacDiarmid Awards, while researchers working with Fonterra have helped develop a milk product that has become the market leader in Asia.

Research Fellow Associate Professor Margaret Walshaw's research sheds a fascinating light on classroom politics, Associate Professor Peter Lineham discusses the Kiwi DIY attitude to religion, and Associate Professor Claire Robinson shares her passion for political spin and design as the Wellington campus prepares to hold its annual *BLOW* creative festival.

If you like what you read, do not hesitate to contact us to discuss how we might work in partnership with you, your business or your community to build a great future.

8 Creative festival blows in

definingnz

Regular features:

OCTOBER 2009: *DefiningNZ* – published by Massey University

Editor: Kereama Beal **email: editor@massey.ac.nz**
For circulation changes/requirements please contact:
David Wiltshire email: d.wiltshire@massey.ac.nz

When good proteins go bad

MacDiarmid winner Carlene Starck doesn't believe all of life's answers can be found by looking down a microscope, but her passion for making a difference lends itself to groundbreaking research as Bryan Gibson discovers.

– Photographs: David Wiltshire

When Carlene Starck ended her final year at Feilding High School it was veterinary science that drew her to Massey University, as it does hundreds of other first-year students.

But it became clear before she even started that another path beckoned.

"I went and worked on my sister's farm over the holidays, and there was a cow that was dying. I love animals and wanted to help it survive but I realised I was more interested in why it was sick, the details, so I thought maybe I shouldn't be a vet."

That decision led her to study structural biochemistry at the Manawatu campus, and her work has now won the Advancing Human Health and Wellbeing category of the MacDiarmid Awards.

Starck's focus has been on the myostatin precursor protein: the early, immature form of myostatin that inhibits excess muscle growth in humans.

Proteins need to fold into their correct three-dimensional structure to function properly. Starck says misfolding can be genetic but may also be caused by stresses such as pollution and a bad diet as cells cannot function properly when overwhelmed with toxins.

Her research shows that the myostatin precursor protein could be a factor in the development of sporadic inclusion body myositis, a disease that leads to progressive muscle wasting and weakness.

"The findings add weight to the theory that proteins can misfold if they have the conditions to do so, which means that the environment and our diets are likely to play a big role," Starck says. "As well as bringing us one step closer to a cure for the disease, the research highlights the fact that we may have some ability to prevent it through a better lifestyle.

"My passion is understanding how the load we place on our bodies ends up influencing our susceptibility to these types of disease later in life."

Starck's research is supported by the Neuromuscular Alliance of New Zealand, giving her interaction with people who have muscle wastage disorders and their families.

"One of the most rewarding parts of my work is the knowledge that these people consider me a hope for answers and treatments for their debilitating disorders. My research brings together my passion for science and my passion for helping people."

It was a lecturer she encountered in her first year at Massey who encouraged her initial foray into biochemistry. "I did a broad science course and it was Stan Moore who made me fall in love with biochemistry. He was just so passionate about it and he made it all so interesting.

"It combines every part of science; it has all the cool genetics stuff, and then has chemistry and has a bit of maths. It has everything."

But she is not the type of scientist who thinks all life's answers can be found by looking down a microscope.

"I'm into the alternative, holistic approach to life, which is odd for a scientist, apparently, but I don't think so," she says. "I think that true health and wellbeing comes from the inside and is about balance of mind and body and soul."

Sport and the outdoors also play a big role in her life. "I train horses and they are extremely humbling; just when you think you are getting somewhere they do something to make you realise you have so much to learn. You can't take stress to the horse, so you have to leave it at the door and they teach you to be in the now, in reality, because sometimes research can take you completely away from these things.

"Mountain biking does the same thing, but it is an extremely physical workout which I find so fantastic for balancing out the 'mind' stuff. I always say that mountain biking and horse riding are excellent for keeping you grounded – if you think too much you hit the ground, literally."

She also has a love of music and plays the piano, while cooking and travelling are also high on the list of things that help unwind from the laboratory.

"I love trying new things," she says. "Challenges are the good stuff in life, they teach you so much. I think it's so important to always keep pushing yourself out of your comfort zone."

The MacDiarmid award application process brought not only a scientific accolade but also a newfound clarity to her work.

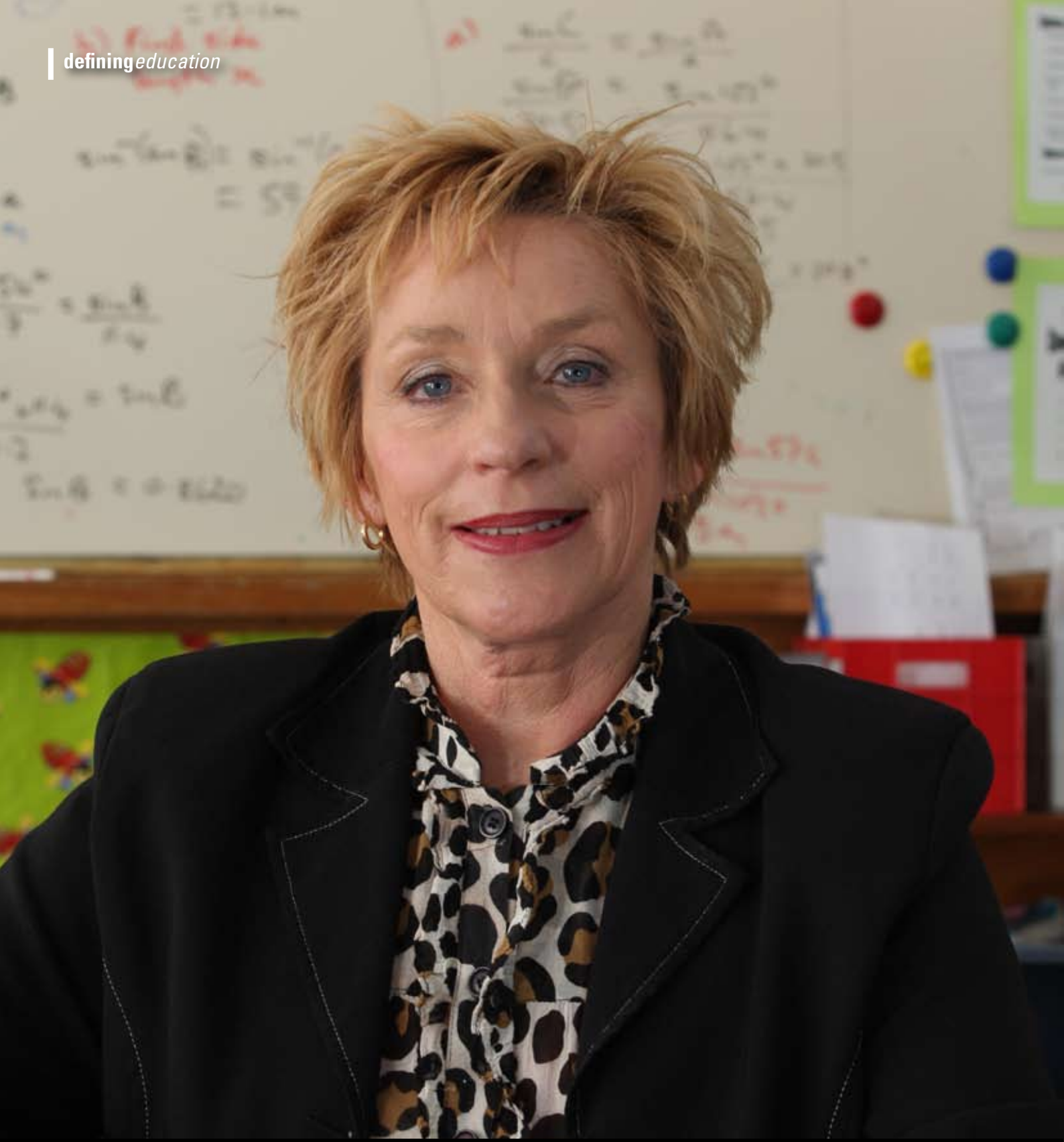
"I often say that I go to work and play. It's like being in a sandpit, making little tracks with tractors. Only now the tracks have real-life consequences."
– Carlene Starck

"It involved communicating your research to the general public," she says. "You have to write an essay and make a poster that a 16-year-old could understand. It made me stop and think about exactly what I was doing and made me think, 'oh, this is why I am doing this research'. It gave me perspective.

"The thing I like the most about my work is also the thing I hate the most, and that is that you can't see what you're working with. It involves constant problem solving and it's not like you go to a book and read up on how to do things. Sometimes you just have to create them for yourself, and figure out how you are going to answer each question. That is the cool thing. I often say that I go to work and play. It's like being in a sandpit, making little tracks with tractors. Only now the tracks have real-life consequences."

Starck will finish her PhD later this year and a job in an offshore lab is the next step, although, typical of her approach to her academic career so far, exactly where is still up in the air.

"This area of research is completely new, and so what I really want to do is go and work in a laboratory that is actively working in these areas, one that's set up to answer all the questions that I've got. I don't know where that's going to be yet."



Classroom politics

Rules and regulations in the classroom can both encourage and inhibit girls' achievement in mathematics. Associate Professor Margaret Walshaw talks to Kereama Beal and explains that these rules are not always set by the teacher, but by the pupils themselves.

– Photographs Graeme Brown

Associate Professor Margaret Walshaw says that being aware of the effects of social positioning in the classroom is an important tool for understanding achievement in mathematics, particularly for girls.

Walshaw is based within the School of Curriculum and Pedagogy in the College of Education and is co-director of the Centre of Excellence for Research in Mathematics Education.

Historically, older theories suggested that it was not a woman's place to become educated, which Walshaw says helped form the idea that women did not have the calibre to do mathematics.

"There was a movement around the 1970s in mathematics education where people were beginning to say 'Hey this can't be right'. This led to people questioning what goes on in classrooms and how that might be used to explain why girls were not doing so well in mathematics."

Walshaw says the researchers at that time looked at how often girls asked questions in the classroom and what they believed constituted a good mathematics student.

"Girls came back with the answer 'good, kind, and helpful' whereas the boys' answers tended to focus on intelligence and ability. Girls' work would be praised for being neat and tidy – but not necessarily because it was good, or correct.

"This is an example of an idea or attitude operating in classrooms at that time that didn't allow some girls to develop as well as they might in mathematics.

"The feeling was that maybe our classrooms weren't conducive enough for girls to actually do well. It was found that they asked fewer questions, so it then became an issue of finding ways for them to feel more comfortable to do so. This I think, was the beginning of the turnaround.

"I believe that turnaround was useful because it allowed influential people to come and say that girls can do anything, and it made an improvement. It gave people a different perspective."

She says that understanding the ways that girls do things is important, as is the way any single person views themselves in a social setting.

"My research has been built around ideas that try to unpack how people are positioned in society and my work is directly related to people in mathematics education. So I'm not as interested in the way people perform in mathematics, but I'm looking at a micro-level of what happens in classrooms to try and explain how they're positioned in a social setting and how it might affect them."

For a two-year Marsden study she looked closely at the inter-relationships in the classroom of different decile schools and found aspects of practice in the classroom that may not normally have been visible.

She used microphones attached to individual pupils at their desks to listen to their conversations, and then interviewed them following the lesson.

"Many people assume that a lot of the conversations carried out in the classroom by the pupils themselves are off-task conversations, but in fact the pupils would often relate what they were doing in their class work to their activities outside of the classroom in their own life.

"The pupils were also very focused on their academic work, and a lot of brainstorming would happen too, which was an interesting aspect."

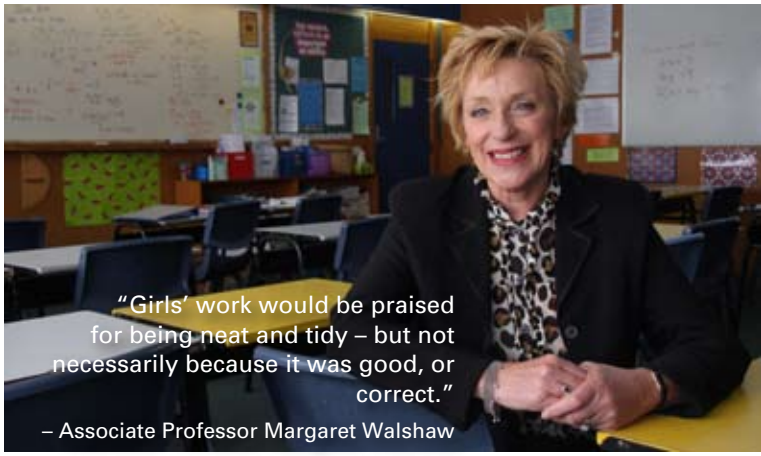
Walshaw says that what was particularly interesting were the conversations that happened in a year-12 classroom between two girls who sat in front of two boys, all accelerated students studying mathematics at a higher level.

"It was a fascinating exchange that I didn't fully understand until I interviewed the girls afterwards. In the girls' view the boys were trying to distract them and get them into trouble, by kicking their chairs, and making them laugh – which was a no-no in this classroom.

"I saw a little of this happening, but the girls' perception of this may have been escalated. But what's important is the way they perceived what was going on and how it affected what they were doing."

Dr Walshaw says that one of the students in particular, who was prone to giggling, was significantly affected.

"The boys' behaviour did prompt her to giggle in the class which had the effect of creating a difficult relationship between her and the teacher.



"It was difficult for her to get beyond this, and as a result she didn't feel she could do anything good enough for the teacher. Over a period of time, in some way this incident contributed to her disengaging with the mathematics and deciding herself that she couldn't do it, when in fact she was a gifted student.

"These are the sort of things you are able to pick up when you look at the relationships within the classroom in a direct way."

In a group interview, the girls had criticised the boys' behaviour, but Walshaw found that they were even more critical of the other girls in the classroom, over seemingly minor things such as gestures or expressions that other girls may have made.

She examined how social and structural processes interact in the shaping of female subjectivities and looked at how girls monitored and categorised the behaviour of other pupils in the classroom.

"I developed the idea that it isn't just the teacher who sets the rules and regulations for the classroom, but the pupils themselves.

"What emerged is a view of the very political and strategic nature of classroom life, which we often don't consider.

"Teachers are busy people and a lot of what goes on in classrooms is not apparent, It's only when you have the luxury of a fine-tuned research investigation that you're able to see what goes on.

"Teaching in any classroom is not an isolated event."

College of Creative Arts communications adviser Jeanette Troon, College Associate Pro Vice-Chancellor Claire Robinson and *BLOW'09* festival director Drew Naika pictured in the tea gardens of the Museum Building with exhibits which will feature in the Surplus and Creativity exhibition which takes existing objects and puts them to different use.

Creative festival blows in

Associate Professor Claire Robinson tells Paul Mulrooney how a fasincation for political spin and a love of design has inspired her, and helped shape Massey's annual *BLOW* creative festival which runs from November 6-21 this year.

– Photographs: Mark Coote

It opens the night after Guy Fawke's Day - and Massey's creative arts festival *BLOW* is a sure fire way to end the academic year with a bang.

From November 6-21 the Wellington and Albany campuses will be pulsating to an onslaught of arts, fashion, dance and especially design.

Associate Professor Claire Robinson, from the College of Creative Arts, believes the Festival has come to represent so much of Massey's vision and expertise in the area of creativity.

While Robinson carries the official title at the College of Assistant Pro Vice-Chancellor for Business and Operations, when it comes to championing *BLOW* a more apt job description would simply be cheerleader.

In three short years, she says, the fortnight long celebration has cemented itself not just on the university consciousness but also among other tertiary institutions. In Wellington.

Elements of this year's festival include exhibitions, screenings, performances workshops and public lectures.

"It's really got a life of its own now. We want it to still be a Massey thing but more than happy for Massey to be a facilitator and not just show Massey events."

Such a philosophy is also a neat fit for the *Road to 2020*, Massey's prospectus for the near future, which has creativity and innovation at its core.

With preparations for *BLOW'09* cranking up, the challenge for organisers is to expand on the mounting reputation both the college and the festival have already built.

Robinson shares the responsibility of shouldering that challenge. Back in early 2007, a brainstorming session she led helped push *BLOW* into being.

At the time the College staged separate events for its fashion show and *Exposure* exhibition of work by graduating Bachelor of Design and Fine Arts students – but the opportunity was ripe for expansion.

A third event, the Hall of Fame dinner to honour illustrious alumni, was added and soon the college was grappling with the question of how best to present such a creative combination.

"We asked ourselves what were the defining points of a festival?" Robinson recalls.

"In a city where there is nearly a festival every week we had to come up with a point of difference – and that is when we came up with the idea of 'Fresh Creative Perspectives."

Workshopping the first word of the phrase generated the name *BLOW* – Nga hau e wha (four winds), with its connotations of a breezy new approach to the arts and obvious associations with the city's windy reputation.

"You don't have to be in Wellington long to realise the concept," laughs Robinson. What organisers hoped, but could not predict, was how much of an impression the event had on some, inadvertently leading to another expression with audiences speaking of being "blown away".

For the inaugural 2007 festival the *Expose* show, featuring the best animation and digital productions by design graduates, was a highlight. The ingenuity behind the boogie-board style Quash board – a portable exercise unit for diabetic children, which encourages play and exercise while measuring glucose levels, also had tongues wagging.

In 2008 a treat was the visit of American film-maker and "media ecologist" Gerry Fialka, the curator of the *PXL This Festival* of movies made by the Fisher Price PXL Vision toy camera.

This year industrial design will be in the spotlight with two separate shows.

Design Demystified exhibits work by School of Design staff, which shows what is involved in the making of everyday products, while the exhibition *Surplus and Creativity* features the re-invention of pre-loved objects. A hot water bottle becomes a garden watering can; a computer monitor is turned into a chicken coop.

In addition, the *Exposure* exhibitions in both Wellington and Auckland will showcase innovative work by graduating students from textiles to design, fashion, photography, while the festival will be bolstered by the involvement of six international art and design specialists.

Robinson's involvement is also a bonus. Following last year's *BLOW* festival, the then head of the Institute of Communication Design at the College, left the University after 15 years, to take up a senior role within the Ministry of Foreign Affairs as Director of Public Diplomacy and Outreach.

Less than a year later she was lured back to Massey.

"I was shocked at how risk averse and conservative the public service was compared to the university environment. I missed the energy, optimism and creativity that is at the heart of the College of Creative Arts and Massey."

It was the second time academia had triumphed over the public service in her career, which started with a political science degree from Victoria University and an early career in the public service, including time at the State Services Commission, Ministry of Foreign Affairs and Ministry of Women's Affairs.

While on a diplomatic posting in Kiribati she met up with painter Robin White who inspired her to try some art classes on return to Wellington. After night and summer school classes with Basia Smolnicki, John Drawbridge and Kura Te Waru Rewiri the seed was sown to move on to design school.

But first she had one last foray into the fringes of politics as private secretary to then Social Welfare and Women's Affairs Minister Jenny Shipley in 1991.

It was the time of the benefit cuts and finance minister Ruth Richardson's "Mother of all Budgets" and when both politicians were vilified across New Zealand. So unpopular was Shipley, "I'd accompany Jenny around and everywhere we went we'd be egged", Robinson remembers.

Associate Profesor Claire Robinson pictured alongside the College of Creative Arts' Hall of Fame. Three more alumni will join it at an official dinner to be held during the *BLOW* festival.

Back at the Beehive, her interest in political advertising was piqued when an advertising agency was enlisted to try to sell the benefit cuts.

"I became fascinated by political spin."

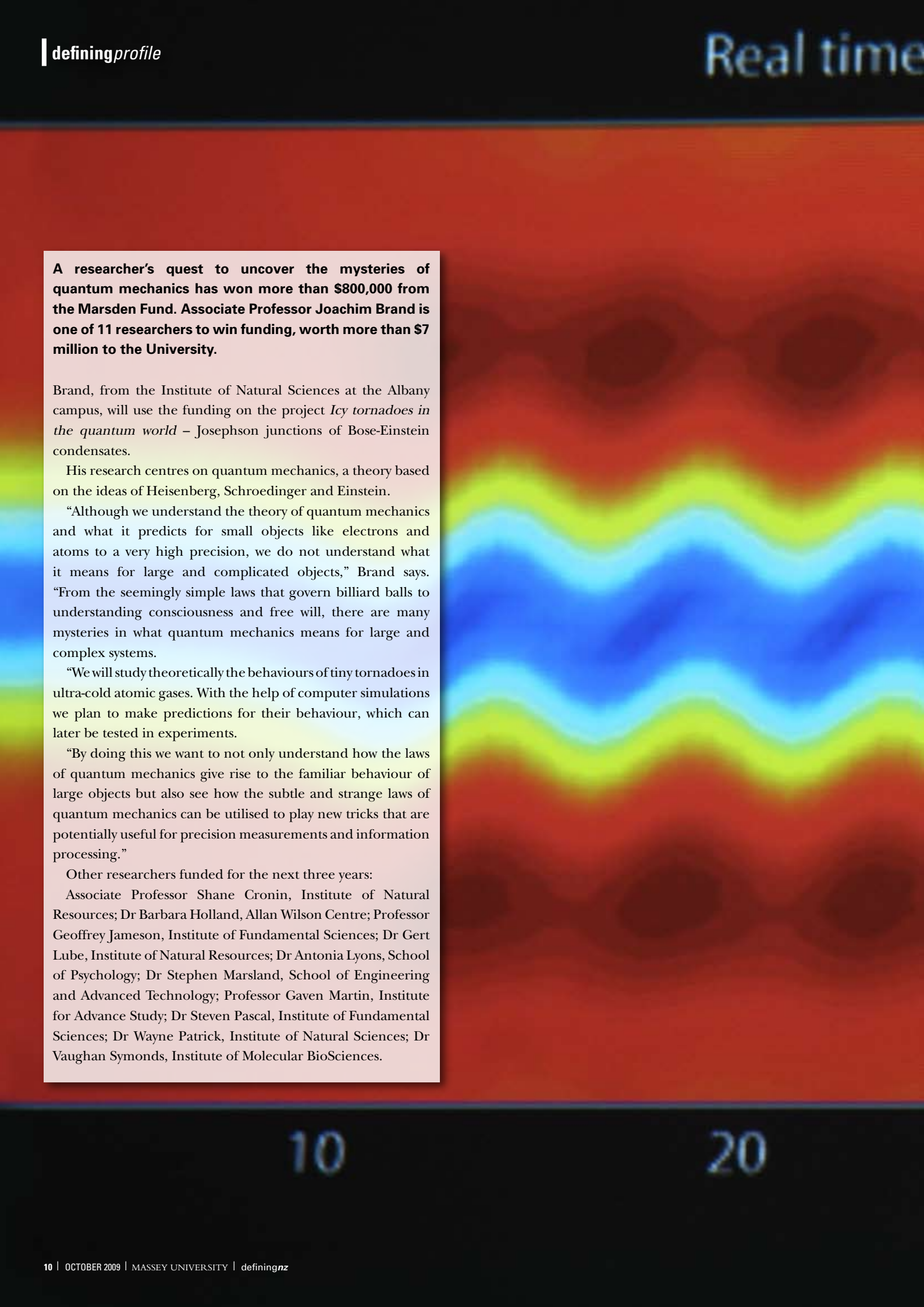
By then she was pregnant with her first child and applied and was accepted for design school at the former Wellington Polytechnic – a world away from her previous impressions of academia and the public service.

"I absolutely loved it. It was life changing. I couldn't believe it was possible to do a degree and enjoy every minute of the day drawing pictures and creating new designs."

With the advent of computer design, her graphic design talents became so obvious she soon knew more than the tutors and was offered a full-time job as a graphic design lecturer.

Between 2002-2006 she completed a PhD in political advertising and marketing and became a popular commentator on election campaigning in the news media, while progressively working her way from being a senior lecturer to head of department where the inspiration for *BLOW* was born.

This year, Robinson says events like *Dance/Objectif*, jointly organised by final-year photography students at Massey and dance performance students from the New Zealand School of Dance, will illustrate the collaborative spirit behind the festival.



A researcher's quest to uncover the mysteries of quantum mechanics has won more than $800,000 from the Marsden Fund. Associate Professor Joachim Brand is one of 11 researchers to win funding, worth more than $7 million to the University.

Brand, from the Institute of Natural Sciences at the Albany campus, will use the funding on the project *Icy tornadoes in the quantum world* – Josephson junctions of Bose-Einstein condensates.

His research centres on quantum mechanics, a theory based on the ideas of Heisenberg, Schroedinger and Einstein.

"Although we understand the theory of quantum mechanics and what it predicts for small objects like electrons and atoms to a very high precision, we do not understand what it means for large and complicated objects," Brand says. "From the seemingly simple laws that govern billiard balls to understanding consciousness and free will, there are many mysteries in what quantum mechanics means for large and complex systems.

"We will study theoretically the behaviours of tiny tornadoes in ultra-cold atomic gases. With the help of computer simulations we plan to make predictions for their behaviour, which can later be tested in experiments.

"By doing this we want to not only understand how the laws of quantum mechanics give rise to the familiar behaviour of large objects but also see how the subtle and strange laws of quantum mechanics can be utilised to play new tricks that are potentially useful for precision measurements and information processing."

Other researchers funded for the next three years:

Associate Professor Shane Cronin, Institute of Natural Resources; Dr Barbara Holland, Allan Wilson Centre; Professor Geoffrey Jameson, Institute of Fundamental Sciences; Dr Gert Lube, Institute of Natural Resources; Dr Antonia Lyons, School of Psychology; Dr Stephen Marsland, School of Engineering and Advanced Technology; Professor Gaven Martin, Institute for Advance Study; Dr Steven Pascal, Institute of Fundamental Sciences; Dr Wayne Patrick, Institute of Natural Sciences; Dr Vaughan Symonds, Institute of Molecular BioSciences.

Photograph: Geoff Dale

No bones about it

A strong scientific base is the key to a milk product that has become the market leader in Asia. Professor Marlena Kruger from the Institute of Food, Nutrition and Human Health and Dr Linda Schollum, Health Research Manager at Fonterra Brands, talk to Bryan Gibson about the product they've spent almost a decade developing.

Anlene is a fortified milk targeted at bone health. It is produced by Fonterra and the science behind it was developed in partnership with researchers at the Institute of Food, Nutrition and Human Health.

New Zealand Milk (a forerunner of Fonterra Brands) and Massey University set up a collaboration about 15 years ago to form the Milk and Health Research Centre with bone research as one of its specific research aims. Even though there have been several reorganisations and renamings for both partners, the relationship has continued, and Massey's Bone Research Group is still active in helping to develop and innovate Anlene.

For almost a decade, Professor Marlena Kruger from the Institute and Dr Linda Schollum, health research manager at Fonterra Brands, have worked together to support the product's development.

Schollum says there was a clear need for such a product in the Asian market. "The Asian diet is very low in calcium, and so it was a good opportunity to use milk to deliver a nutrient that almost all of the Asian continent needs."

The group started by testing milk itself to find out which properties, apart from the obvious calcium, were helpful to bone health, Kruger says. "Then we started testing what we could add to milk to further improve bone quality. The research on Vitamin K was part of that, and we're looking at other components as well, which may enhance calcium absorption, or benefit bone in other ways."

Anlene has been on the market in Asia for more than 15years and was released in New Zealand three years ago, but work continues to improve it.

Schollum says the relationship Fonterra has with the University has been a key to the product's success.

"Anlene is a success because the science behind it is sound. We have clinical evidence that it helps bone health; the science isn't just based on reading a paper somewhere and then adding something to milk, we've actually done the research, which is very important."

The group is active in publishing all its findings, both positive and those that haven't shown strong benefits.

"Publication builds our credibility," Schollum says. "We publish even when we aren't going to commercialise a specific ingredient."

Fonterra is also looking at doing more research in the Asian market, with Massey again as a partner.

"As new things come to commercialisation because the science base is important, we want to involve people like Marlena as an investigator to work with local researchers in Asia to conduct testing," Schollum says. "Many regulators now require research that is done in their own country before allowing product claims to be made."

Massey's Professor Marlena Kruger and Fonterra's Dr Linda Schollum check results from the DEXA scanner, a machine that uses x-rays to measure bone mineral density.

She says having an independent research centre helps give credibility to the claims the product makes. "There is a sense that if research is industry-funded then it's tainted, so it's important to have Marlena on board to make sure it is robust, and is openly so. We do not want to be accused of publishing biased work."

The pair says the emergence of Anlene in Asia has been heart warming, both from a professional and personal point of view.

"Part of our education is that you can take all the calcium you want, but if you don't keep active you're not going to be able to do the best for your bones," Schollum says. "So we've got a lot of activities around mobility and exercise. Last World Osteoporosis Day, in Indonesia alone, we had 78,000 people walking down the streets. It's goose bump stuff, really. It's a very powerful message."

Economics lecturer Sam Richardson recently received the Vice-Chancellor's Award for Excellence in Teaching First-Year Students, and tells Melanie McKay he is just doing his job.

The key to teaching success

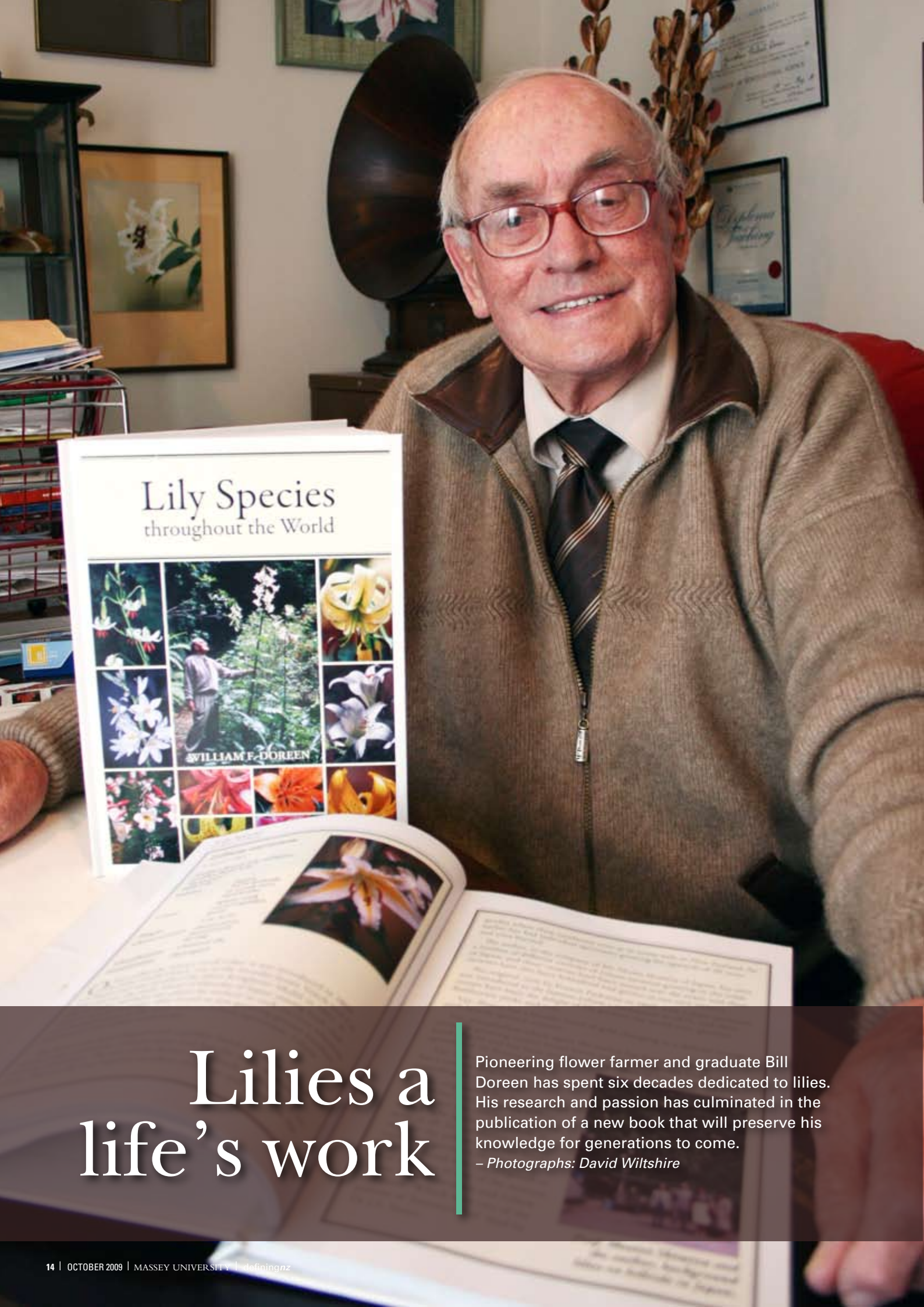
According to Sam Richardson, it is a common misconception that economics is just about money. He says it is about people, their behaviour and what influences them.

It is this way of translating concepts and information into easily understood language that contributed to Richardson recently being given a top teaching award. The Economics lecturer at the Manawatu campus received a Vice-Chancellor's Award for Excellence in Teaching First-Year Students. It was a humbling experience for Richardson, who says he was just doing his job. He puts his teaching success down to the fact that he is always willing to help. "I make myself available and make it clear that I'm more than happy to help so students can ask anything at any time. Generally if they are asking for help they really want it and really appreciate of the time you spend. I enjoy helping people to succeed and to see the understanding dawning on their faces," he says.

Richardson decided to study economics after enjoying it at school, even though it was not his best subject. He studied at the University's Manawatu campus, gaining a Bachelor of Applied Economics in 1994, then a Masters of Applied Economics, before taking a graduate assistant's position in 1998. Coming from a Taranaki farming family, his choice of career was considered unusual, although his aunt is former Finance Minister Ruth Richardson. Pursuing something you enjoy and that has piqued your interest is not only advice that Richardson has followed himself, but a key piece of advice he gives his students. "I think first-year teaching is about giving students a taste of what they might like to pursue. As a student, I think it's critical that you do something that you enjoy, that you are interested in and that makes some kind of sense to you."

To make topics relevant in his lectures, Richardson likes to use real-life examples. He uses Trademe in his information economics lectures to show how the discipline is about people and their behaviour, as much as money. "Everyone knows that you might get a lemon if you buy something on Trademe, because the transaction is heavily dependent on the information the seller provides. The seller's incentive is to talk up the product in order to get the best price, and the consumer's to get a bargain. Each knows what the other wants. It is those conflicting roles and desires that are fascinating and warrant looking closer at."

As well as teaching, 34-year-old Richardson is also completing his PhD on the economics of public spending on sports events and stadiums in New Zealand. In keeping with his approach to student learning, he has picked a topic that is of interest to him. "I'm very much a sports follower and am interested in whether investment by Government in such facilities is the best use of public money. As financial investments they are not viable for the most part, but we need to ask whether they generate other economic benefits such as economic growth or job creation, things they should do to make them economically sensible projects." Richardson plans to finish his PhD at the end of next year, not long before the Rugby World Cup 2011 is played at stadiums around New Zealand.



Lilies a life's work

Pioneering flower farmer and graduate Bill Doreen has spent six decades dedicated to lilies. His research and passion has culminated in the publication of a new book that will preserve his knowledge for generations to come.

– Photographs: David Wiltshire

Pioneering flower farmer Bill Doreen has preserved his life's work, publishing *Lily Species Throughout the World* to capture his six decades of knowledge.

One of Massey's early horticultural students, graduating from the then Massey Agricultural College with a Diploma of Horticulture in 1951, Doreen learned his craft under Dr John Yeates.

'We would work for him even in the vacations, or for other people in the city. I always worked, so by the time I graduated, I had an idea of what I wanted to do in horticulture."

That was to grow lilies.

"When we finished, I bought some lily bulbs from Dr Yeates and we started to grow our own. I thought there was a market. No one else was growing them commercially in New Zealand, and the only ones on the market were Christmas lilies, the regale lily, and at Easter, formasanum lilies.

Doreen and his wife, Carol, bought land on Levin's Fairfield Rd soon after marrying, starting with just 4ha, but expanding over 40 years to become New Zealand's largest flower wholesaler and exporter of lilies, sandersonia, zantedeschia and freesias. The company supplied almost every flower market and garden centres in New Zealand with flowers and bulbs.

"Before going to Massey I had a years apprenticeship at the Wellington Botanical Gardens, and completed the apprenticeship after obtaining the Diploma of Horticulture in 1951," he says.

Horowhenua's geography and the fertility of the soil was a deciding factor for the farm's location.

"Like in the Mediterranean, the cloud formations get right against the mountains [Tararua Range] and you get the light reflected down onto the ground."

Hard work saw the business expand to neighbouring land, and the American grower Jan de Graaf invited Doreen to join him for three months at his Oregon bulb farm, taking the Doreens' production further by giving him access to commercial knowledge.

At that time growing was seasonal, but to be commercial and competitive he knew he needed year-round production.

"I used to tell people that this was not just about growing flowers, but an industry, the same as in any factory."

Also known for his hybrids, Doreen's most famous is Casa Blanca, now the best know of all lilies throughout the world.

"The greatest excitement of being a hybridiser is looking at next seasons crop of flowers. Every one is different. We were looking for new varieties of upward facing flowers and new colours. It is an absolutely magical time watching the new flowers open."

Carol and the couple's four children also worked in the business. She recalls the days out in the fields by 8am, then evenings spent doing the accounts.

"But is wasn't work – it was fun and it was a challenge."

Son Murray, also a Massey graduate, joined the business and followed in his father's footsteps, utilising the best of overseas technology. An on-site tissue culture laboratory and giant freezers and coolstores alongside more traditional glasshouses complemented a highly sophisticated packhouse.

"We had children and grandchildren of earlier employees, and our grandchildren, coming to join the team," Bill Doreen says.

"We would work right up to Christmas Eve, getting flowers out to get Sandersonia on the flight to Japan for their market. We were known throughout the world, with visitors from Israel, the States, Canada, Europe, and their families coming to work and stay with us, and it was reciprocal, with our family having overseas experiences."

He and Carol retired afer an accident in 2002.

"I had long thought about writing a book on lily species, as it had not been done before. Because I knew a lot of people, I asked each of them to give me a list of species and the pictures. People sent them and we collated them, then I researched, going back over 100 years for species. I went right back to the 1850s.

"I had long thought about writing a book on lily species, as it had not been done before. Because I knew a lot of people, I asked each of them to give me a list of species and the pictures. People sent them and we collated them, then I researched, going back over 100 years for species."
– Bill Doreen

"When I was at Massey there were about 75 or 80 known species, but now there are 135."

Lily Species throughout the World was launched in Christchurch in September.

"We just thought after 60 years of gathering knowledge, we did not want to have that knowledge lost. It is not about making money, we did it because we enjoyed it."

The Massey University Library has been gifted the book.

Reading rituals and religion

Historian Peter Lineham talks to Jennifer Little about faith, rituals and the Kiwi DIY attitude to religon.

– Photograph: Geoff Dale

Historian Associate Professor Peter Lineham grew up to question the tenets of the Exclusive Brethren religion he was raised by. A committed Christian, albeit not of the Brethren variety any longer, his 30-year career as a scholar of religious history has yielded a wealth of articles, essays and books on matters religious and spiritual that have long fascinated him. His interest has also led to *That's the Spirit* – his weekly slot on Auckland's bFM student radio talking on aspects of religion, and a mammoth book collection, the weight of which almost caused his Ponsonby house to collapse.

When Lineham came to Massey 30 years ago as a junior history lecturer, the study of New Zealand's religious history was still very new apart from limited work being done in theological colleges. Lineham had just returned from a several years in England where he'd won a Commonwealth Scholarship to do his PhD on an obscure religious sect, the Swedenborgians, at the University of Sussex.

Encouraged by the-then head of the history department, Professor Bill Oliver, Lineham took a lead in teaching the religious history of New Zealand religious studies department in the mid-1980s. "Since then I've had a huge number of students, especially postgraduate. There was so much to do – it was uncharted territory academically."

Lineham, renowned for his highly entertaining, colourful lecturing style which means he is frequently called upon to speak at many university functions, has himself researched, lectured and written on everything from New Zealand's late 19th century Temperance Movement, the fighting between Catholics and Protestants and emergence of Māori Christian religious movements to name a few.

"I tend to get absorbed by an interesting issue and I throw myself into that. Because of my background, I think the heart of the history of religion is not the institutional story – that's why I use the term religious history, not church history, because its about what people do and believe and act on," says Lineham, who heads the School of Social and Cultural Studies at the Albany campus.

Although an authority on 18th and 19th century English religious history, he has written extensively on New Zealand's religious and spiritual developments, including *Transplanted Christianity, Weaving the Unfinished Mats: Wesley's Legacy: Conflict, Confusion and Challenge in the South Pacific and New Zealand Religious History: A Bibliography as well as his first book There We Found Brethren: A History of Brethren Assemblies in New Zealand.*

One of five boys, Lineham grew up in the remote Buller settlement of Karamea at the top of the South Island, where his father drove a milk truck. Both parents were keen readers and valued education. Their interpretation of the Bible was not as strict as some Exclusive Brethren, he says.

His world opened up – academically and spiritually – when the family moved to Christchurch so their sons could attend Burnside High School, which was at the time New Zealand's largest secondary school, he says. At Canterbury University, where all five Lineham boys studied, he threw himself into the interdominational Christian Union on campus. "It had a huge influence on me. It enabled me to explore questions without being frightened of answers."

His personal spiritual journey has invariably intersected with his academic explorations, in such a way that has enhanced and deepened his scholarly work without detracting from its critical strengths, he feels. He currently attends three different churches – the Anglican church, the Ponsonby Baptist Church and the Auckland community church at St Matthew's-in-the-city.

"I've been totally involved in living the story as well as writing the story. All these stories involve complex issues of interpretation and end up in discussions about how you make sense of these [religious ideas and practices]. When you turn a very careful historical spotlight into any tradition, there are bits that make your blood curdle. Some of the things that were said and done in the name of religion were not very nice."

An example from his own experiences with the Exclusive Brethren is "the extraordinarily harsh treatment of people they regard as sinners". He also wrote a paper on Brethren childhoods, examining "the grim way they brought up children".

> "I had to get two trucks rather than the usual one, not because of I had many things but because I had 300 cartons of books. They weighed about 7½ tonnes – I couldn't ever move house again."
> – Peter Lineham

While New Age spirituality is no longer so new, Lineham has a keen interest in non-institutionalised religion of the kind that flourishes readily in New Zealand, where our spiritual landscape is bereft of ancient churches, cathedrals and the traditional power and influence they wield. Witness the commercial manifestation, with the steady trade in crystals, trinkets and alternative spiritual writings traded on the internet, he observes.

"New Zealand is not a very ritually rich country, and yet people hanker for rituals that mark significance – birth, death and other milestones. We are a do-it-yourself society and I've always thought New Zealanders have an extraordinary level of DIY attitude to religion, with all these strange sectarian groups and odd little churches."

It could be that Lineham's true religion is book-collecting – he has been at it since he was a boy. As a teenager he'd make a beeline for the annual Whitcombe & Tombs book sale in Christchurch or a favourite secondhand bookstore every Friday. By then he had built up a little library with its own card index file.

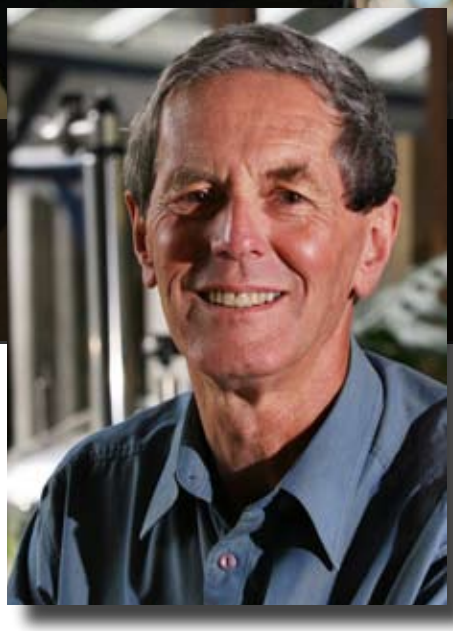
"When I went to England I began to focus my collection on English 18th and 19th century history, particularly rare books and writings of historians." He had 15 cartons of books to ship home by the end of his time there.

When he moved from Palmerston North to Auckland in 1998, "I had to get two trucks rather than the usual one, not because of I had many things but because I had 300 cartons of books. They weighed about 7½ tonnes – I couldn't ever move house again."

He had to have the foundations of his house strengthened to prevent the house from splitting under the weight of the books, which are kept in every room – even the laundry.

About 12,000 books – half the collection – are recorded electronically as well as listed by author and title in his cell phone so he can check whether he's already got a copy of a book when perusing bookshops.

It is most reassuring to hear he "limits" himself to buying one book a day – 365 a year – but makes an exception when friends go overseas with offers to bring back fresh bounty.



Commitment to the long term

What is research and why do we do it? The simple answer, of course, is that research involves gaining new knowledge through experimentation and theoretical analyses, and we do it because it is the nature of the human race to desire a greater understanding of everything and everyone in the world in which we live.

As humans we have this urge to push the boundaries and gain greater insights into every aspect of our lives. This is often a challenging and demanding occupation and progress rarely comes easily, but when "the breakthrough" comes there are surely few moments more satisfying in an academic's career.

Why do we, in New Zealand's defining university, invest our limited resources in research? Again, the answers are straightforward. A university, as distinct from a polytechnic, is defined as an institution dedicated to creating new knowledge and acting as the conscience of society. If we don't contribute to research then we are not worthy to be considered university academics. Furthermore, without a research emphasis at our university we would fail to attract the very best staff to teach and inspire the next generation of researchers. We owe our students the best available. We can also achieve much by collaborating with researchers round the world and bringing into the team those with expertise that we lack. It's fun. It's rewarding and together so much more will be achieved than could otherwise be possible.

> "If we don't contribute to research then we are not worthy to be considered university academics. Furthermore, without a research emphasis at our university we would fail to attract the very best staff to teach and inspire the next generation of researchers. We owe our students the best available."
> – Distinguished Professor David Parry

Why don't we just use research work generated overseas? It would be cheaper. There are many reasons, of course, for rejecting such a concept outright. Firstly, economic progress means that we must have an edge over our competitors. Secondly, New Zealand's plants, animals and social environment area are unique. Research generated elsewhere will never be totally relevant here. Thirdly, if New Zealand is to be accepted as a partner in the international research community it must give as good as it gets. If we didn't contribute to the pool of knowledge we would have little access to that generated elsewhere and zero credibility.

Should all areas of research be encouraged, even those with no immediate economic benefit? Absolutely! Rarely can we predict with any certainty where research might lead us. Did those involved in the development of computers, lasers, antibiotics, microelectronics, the world-wide web, DNA fingerprinting, understanding of evolution at the molecular level, the use of number theory in cryptography and e-commerce, genetic engineering, semi-conductors, superconductivity, black holes, plate tectonics, space travel, organ transplantation and novel surgical techniques, conducting polymers and solar technology (to name but a few) have an end purpose in mind. Perhaps in some cases yes, but in most cases no. All scientific research ultimately leads via technology and engineering to commercial enterprises. It might take five years, it might take 50 years but it will happen, it does happen. We must commit ourselves to the long-term and not expect $10 of product to emerge from $1 of investment within a few years. History tells us that it takes considerable time between the generation of a good idea and a commercial product. We must be patient. This is not easy when political pressures demand a quick return.

To succeed at the highest international level in research those involved need to be dedicated, determined and excellent. Never settle for being second-best.

David Parry
Distinguished Professor of Biophysics

EVENTS

NOV

NOVEMBER 6 - 21

BLOW09 Creative Arts Festival

BLOW09 Creative Arts Festival is a rare opportunity for the public to interact with students of creativity, academics, researchers and international specialists in creative fields.
The festival is held over two weeks looking at the future of design, art and visual and performing arts through exhibitions, public lectures, performances and workshops.
Events include performances from Toi Whakaari, New Zealand Drama School, the New Zealand School of Dance and the New Zealand School of Music
Creative thinkers and design talents from the United States, Belgium, Australia, the Netherlands and Britain will come to share exhibitions, discuss design-led business ideas and hear about the creative hub behind New Zealand's cultural capital - Massey University
The Festival includes the Exposure exhibition in Wellington and the Design Exposure exhibition in Auckland.

For more information including event venues and times, visit the website: www.blowfestival.co.nz

NOVEMBER 27

November Graduation Ceremonies – Palmerston North

Graduation is a celebration of achievement for new graduates who join the Universities extensive network of accomplished alumni.
November Graduation ceremonies are held at the Manawatu campus for all colleges across each campus

http://graduation.massey.ac.nz

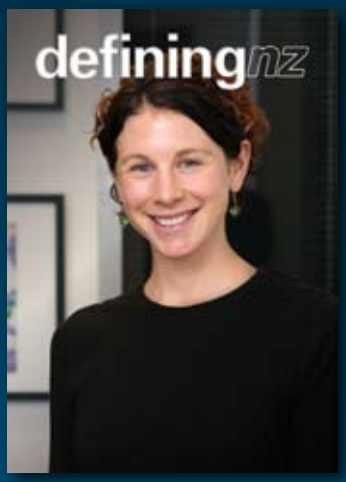
DEC

DECEMBER 8-10

2009 New Zealand Mathematics Colloquim

The Institute of Information and Mathematical Sciences at the Albany Campus will host the 2009 New Zealand Mathematics Colloquium at the Albany Campus in December.
The Colloquium runs for three days and will cover all aspects of mathematics and its applications. Over the years it has provided a great opportunity for New Zealand and overseas mathematicians to meet together.

For more information visit the website: http://nzmc2009.massey.ac.nz



definingnz

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

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

Published by Massey University External Relations

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

Director – Projects
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:

Jennifer Little
Email: j.little@massey.ac.nz

Melanie McKay
Email: m.mckay1@massey.ac.nz

Manawatu:

Kereama Beal
Email: k.beal@massey.ac.nz

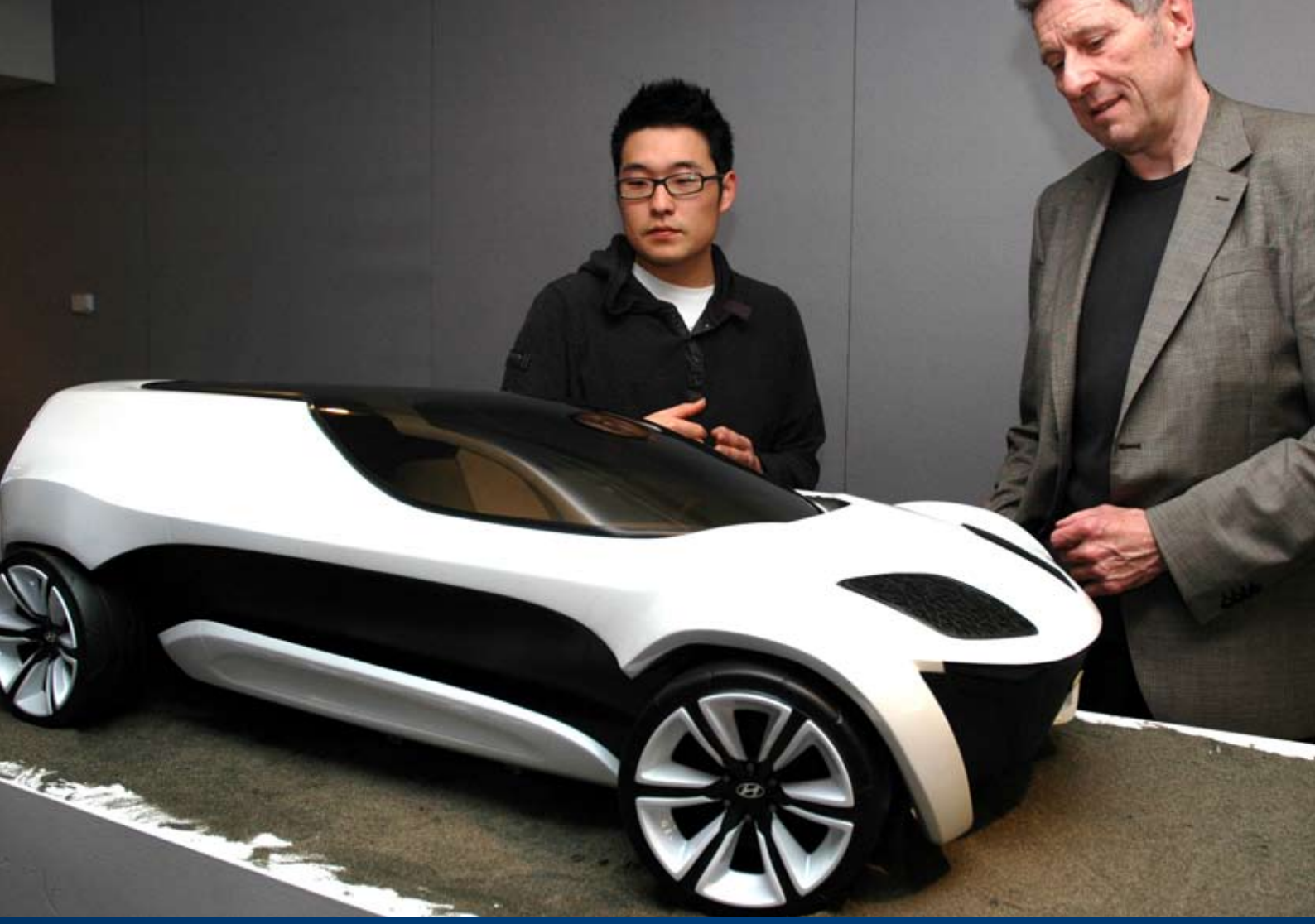
Bryan Gibson
Email: b.r.gibson@massey.ac.nz

Wellington:

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

MASSEY UNIVERSITY

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



Surf car for the future…

Dune buggy meets station wagon in this futuristic surf car by transport design student Jae Hoon Lee. Complete with internal surfboard racks, compartment for wetsuits, built-in changing area and rubber seating on the bonnet, it is currently being considered by auto manufacturer Hyundai.

Lee is the first student to complete a transport design Master's degree at Massey's Auckland School of Design. Korean-born Lee, who has lived in New Zealand for most of his life, pitched the concept of the electrically-powered, four-wheel drive surf car, called Exodus, to Hyundai earlier this year and the company agreed to sponsor him to develop the design.

He is pictured explaining design features of the surf car to British designer Tony Catignani, programme leader of transport design at the Umea Institute of Design in Sweden.

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

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

MASSEY UNIVERSITY