



Tāmaki Update

November 2011
A newsletter for
Tāmaki Innovation
Campus

UniServices corporate office opens on campus



Kerry Price, Business Manager medical and health sciences, and Zoe McKechnie, Contracts Manager

The success of UniServices' programmes and activities within the School of Population Health has seen a number of groups moving to Building 734 recently.

Building redevelopment also sees UniServices set up a corporate office at Tāmaki, providing more effective support as the campus expands.

The new space arises from the partnerships between both Population Health researchers and UniServices needing room to grow. Additionally, as part of the strategic plan for Tāmaki Innovation Campus, the research and development commercialisation arm of the University will now have a physical presence on

campus. The move brings together several UniServices' health groups, including Whakawhetu (formally Māori SIDS), Youth 12 and the Family Violence Clearing House, all now settled in their new space. Stage two sees IMAC (Immunisation Advisory Centre) and the Werry Workforce Centre moving in just prior to Christmas, which means the new grouping will be up and running in the New Year.

UniServices Business Manager for medical and health sciences, Kerry Price says, "This is a significant move for the services involved as it brings together a cluster of similar services and will enable us to increase our focus on child health in a more co-ordinated

way. We also envisage that savings in both time and money will be possible and will allow us to reinvest in further child health focused research."

For UniServices itself, it is also a significant milestone with the office opening the first major physical footprint for UniServices outside the city centre offices. Peter Lee, UniServices CEO, is pleased to see the opening of the office.

"This shows our confidence in the growth potential and innovation that comes from this campus. As Tāmaki develops, we are excited about partnering with the many researchers across a broad range of sciences that call the campus home," he says.

"For UniServices internal clients, the outcome is likely to be a more responsive and accessible service, not only in Medical and Health Sciences, but also in Materials Innovation, Engineering and Science plus other groups based on the campus and should expand our ability to link industry with innovators and researchers more effectively."

High-tech UniServices spin-out companies will also have the opportunity to cluster in the Building 734 space, bringing benefits of commercialisation to the University and access to research for the companies. To date, there have been over 30 spin out companies, including HaloIPT, featured in the last issue of the Tāmaki Update and on page two of this edition. They will be joining the UniServices cluster soon.



Message from the Head of Tāmaki Innovation Campus

Dear Colleagues

Tāmaki Innovation Campus is a campus specialising in postgraduate and research activity, and an important aspect of that activity is partnerships with synergistic industries, businesses and government agencies. I am therefore extremely pleased that UniServices, the commercial arm of The University of Auckland, has established a corporate office at Tāmaki. There is huge potential for growth within the Health and Materials Innovation themes at the campus, and UniServices' presence can only assist in harnessing this potential. It also gives the large number of UniServices research groups already at Tāmaki easy access to support from their UniServices representatives.



Some of you will be involved in the "I" building consolidation which is currently taking place on campus. This has seen the UniServices health groups settled into their new environment with more to arrive prior to Christmas. Computer Science has moved to Building 723 and their brand new upgraded laboratories, making way for Sport and Exercise Science who moved offices to Building 731 (with laboratories to follow). I am very conscious of the inconvenience to those involved during this exercise and wish to thank the staff and students for their goodwill. In addition to collocating groups in accordance with the strategy for the Tāmaki Innovation Campus, the gain for both the campus and departments is custom designed laboratory spaces and refreshed facilities which I am sure will influence the growth of research output in coming years.

You will see in this issue of the Tāmaki Update that biodiversity and biosecurity is strong and well at Tāmaki thanks to the Centre for Biodiversity and Biosecurity, and Landcare Research. It pleases me to see collaborative achievements such as the Joint Graduate School in Biodiversity and Biosecurity, and groups on campus including the School of Population Health working together on the experimental garden and having fun while they do it. I would also like to congratulate Landcare Research on the impressive success of their commercial venture EcoGene.

I am very pleased to announce that a new Tāmaki Innovation Campus website will be launched in early December branding Tāmaki as the University's "innovation" campus and a portal to The University of Auckland. I encourage you to visit the website once it is launched and to direct students, colleagues and research partners towards it for valuable information about Tāmaki's strategic plan, teaching, research and services.

Finally, I would like to thank you for all your hard work and achievements over the past year, as this only helps to strengthen the aspirations and vision for Tāmaki Innovation Campus. I wish you all the best for a relaxing and happy summer break and look forward to working with you in 2012.

Best wishes

Professor Michael C.R. Davies
Head of Tāmaki Innovation Campus

BREAKING NEWS

The University of Auckland at the forefront of global electric vehicle technology

In by far the most significant technology transfer deal ever achieved by a New Zealand university, car travel worldwide is set to be transformed by revolutionary technology developed by The University of Auckland.

In a multi-million dollar deal, Qualcomm, a major US research and development company specialising in wireless communications, has acquired exclusive rights in and to certain wireless electric vehicle charging technology developed by The University of Auckland. Electric vehicles are predicted to begin an accelerated penetration into the automotive market traditionally dominated by internal combustion engines, by 2015.

Inductive Power Technology (IPT) was pioneered by Professor John Boys and Associate Professors Grant Covic and Udaya Madawala from the University's Power Electronics Group. They have led the world in developing systems to transmit electric power efficiently across air gaps without using wires.

Qualcomm also acquired the assets and technology of spinout company HalolIPT. The company was set up in a partnership with international engineering firm Arup, the TransTasman Commercialisation Fund and the New Zealand Venture Investment Fund's SCIF program to develop IPT technology commercially for cars by building prototypes, establishing standards and making the technology reliable. HalolIPT's staff has joined Qualcomm.

For the full story, visit The University of Auckland website www.auckland.ac.nz.



From left: Postdoctoral research fellow, Jamie MacKay, and PhD students, Cheryl Krull and Aracelli Samaniego

Tāmaki Innovation Garden sprouts

The idyllic dream of picking a sun-warmed tomato fresh from the vine, or adding fragrant chives to a summer lunchtime sandwich, is turning into reality. This is thanks to an experimental garden created with funding from Tāmaki Innovation Campus Management, the Centre for Biodiversity and Biosecurity, and the Schools of Population Health and Biological Sciences.

Nestled near the student bus area to the east of Café Zesty, the garden was constructed during the winter and the first planting carried out in the organic vegetable garden at the start of spring, in September.

Dr Jacqueline Beggs, Director of the Joint Graduate School in Biodiversity and Biosecurity and a key figure in making the project a reality, said the garden represents a number of opportunities for both staff and students.

“It creates an environment for the campus community to gather, meet others, eat outdoors, and even do a little weeding if they feel inclined.”

The garden is organic, with no pesticides or synthetic fertiliser and will eventually be watered by rainwater from a nearby tank. “We’d like the garden to be as sustainable as possible; recycling biodegradable waste from campus tearooms and reducing the rainwater run-off footprint of the University”.

Produce will be available to all staff and students, to take as they wish. Dr Beggs said she expected normal courtesy to prevail, with people returning the favour by helping with weeding or planting replacement seedlings.

As well as encouraging staff and students to exercise their green fingers – and eat more healthily – the Innovation Garden has an academic focus. Eventually it will generate research ideas which can be developed into funding applications, and provide a teaching resource for some Biological Sciences and Population Health courses.

PhD student Christine Sheppard has planted an experimental plot behind the garden, investigating the effect of climate change on the growth of a weed that is unique to northern parts of the country.

‘Wildlife CSI’ at Landcare

A team of super-sleuths, whose modus operandi could be termed “wildlife CSI”, are at work in EcoGene®, an internal business unit of Landcare Research and based at the Tāmaki Innovation Campus.

As Australasia’s leading provider of DNA-based diagnostic services for biodiversity and biosecurity, EcoGene’s list of services ranges from species identification to genotyping and mammal pest monitoring.

But it is their ability to apply human forensic methodology to wildlife that normally hits the headlines, as New Zealand’s only commercial wildlife forensics laboratory looking at high profile, high interest cases.

EcoGene® Director, Dianne Gleeson explains that one of the more interesting cases currently on the go is investigating dog

predation on kiwis in Northland.

“We’ve had four dead adult kiwis, which is significant from a single location. So far we’ve narrowed down the likely suspect through saliva residue recovered from these birds, and we are now stepping up, alongside the Department of Conservation, to look at trapping dog hair so we can identify the exact killer.”

EcoGene® is also checking out the origins of bone artefacts from Tonga and fur rugs being marketed as “New Zealand fox”, both being sold to tourists. And when the kiwifruit crisis hit last year, EcoGene® was there, responding immediately by sequencing the whole genome of that disease agent.

The CSI-style diagnostics are also regularly employed by the Wildlife Enforcement Group (comprising Customs, Conservation and MAF) to assist in identifying species within ‘traditional Asian medicines’ brought into New Zealand.

EcoGene® testing has identified the presence of the endangered and protected Himalayan bear and Asian cobra within these

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products. These have led to court cases and successful prosecutions under the Trade in Endangered Species Act 1989.

The unit was launched in 2008, to cope with increasing demand for these services, which was difficult to manage alongside the fundamental research within Landcare. Previously, many of the wildlife forensic cases were sent to Australia, at considerable cost. The new company has not only created a niche but also created jobs.

Now, EcoGene® provides DNA services and support to the Centre for Conservation Medicine at Auckland Zoo, the Department of Conservation's centralised species recovery programmes, the Wildlife Enforcement Group, Ministry of Agriculture and Forestry (MAF), universities, and regional councils. In addition, EcoGene® supports clients in Australia and the Pacific.

About Dianne Gleeson

Dianne Gleeson has an undergraduate degree in Zoology from The University of Auckland, and a PhD from the Australian National University in Evolution. She has worked at Landcare Research since 1996, and currently holds a 0.2 position at The University of Auckland as Associate Professor within the Joint Graduate School for Biodiversity and Biosecurity. She is the winner of the 2011 Inaugural Women in Science Entrepreneurship Award for the development and success of EcoGene®. In her spare time, she competes in dog sports with two Belgian shepherd dogs.

Simulation Centre officially launched



From left: Kate Saunders, a registered nurse from the postoperative care unit at Auckland Hospital, the Hon Tony Ryall, and Professor Alan Merry

Blinking, breathing, heart-beating mannequins are only part of New Zealand's most advanced facility for simulation training in health at The University of Auckland.

The new centre will help prepare health workers for their future careers, enable qualified professionals to keep up to date while practising resuscitation and operating theatre teamwork, and will significantly aid research into improving patient care.

The Minister of Health, the Hon Tony Ryall officially opened the Simulation Centre for Patient Safety at the Tāmaki Innovation Campus recently.

Visitors can be excused for mistaking the Simulation Centre, with its well-equipped operating room and ward areas and

trainees in scrubs and holding surgical equipment, for a genuine hospital theatre. The purpose-built centre is the brainchild of Professor Alan Merry, Head of the School of Medicine and recognised globally for his research into quality and safety in healthcare.

The centre will help meet the growing demand for teaching using simulation techniques with a strong focus on teamwork, including scenario training in debriefing, role play using actors, and employing skills trainers for procedures such as inserting intravenous drips. The world-class facility has been designed by a Department of Anaesthesiology team experienced in integrating simulation into adult education.

"Drivers for the centre include meeting the public's expectations that healthcare providers acquire basic competencies before trying out their skills on patients – generally patients don't expect to be practised on any more," says Dr Jane Torrie, practising anaesthetist and the Director of Simulation-Based Education at the centre.

"The vision has been to create an inclusive facility which promotes teamwork, a critical safety element of modern health-care, and to create an environment in which we can translate research directly into safer and more efficient patient care.

"It is an outstanding resource and will strengthen a safety culture in New Zealand's current and future healthcare systems."



From left: Murray Ross, senior anaesthesia technician; Assoc Prof Simon Mitchell, Head of Anaesthesiology; and Nicola Smith, charge anaesthesia technician



Joint Graduate School on target



From left: PhD students, Cheryl Krull and Helen Nathan, working on climate change experimental garden project lead by Christine Sheppard

The Joint Graduate School in Biodiversity and Biosecurity is performing beyond the expectations set out at its inception just ten months ago.

It's the result of collaboration between The University of Auckland and Landcare Research, who initially combined their expertise in environmental science and ecology research under the auspices of the Centre for Biodiversity and Biosecurity in 2005. The resulting Joint Graduate School is one of the first of a select set of schools, linking universities with crown research institutes where there is common interest and complementary capacity.

Its aims are to increase the number of top quality University of Auckland postgraduates in biodiversity and biosciences. To date, progress is heartening, with 37 postgraduates including 15 PhDs, and most based at Tāmaki Innovation Campus. Joint Graduate School director, Dr Jacqueline Beggs said it is great to see the diversity of high calibre students the school has attracted.

The establishment of the Joint Graduate School has involved the co-appointment to

the University of five Landcare Research staff, with three based at Tāmaki. These staff can act as main supervisors to postgraduate students, increasing the numbers enrolled in the growing fields of biodiversity, biosecurity, invasion technology and conservation.

The Joint Graduate School offers postgraduate students the opportunity to undertake masters or PhD research to help maintain New Zealand's terrestrial ecosystems and to enable our natural flora, fauna and fungi to flourish.

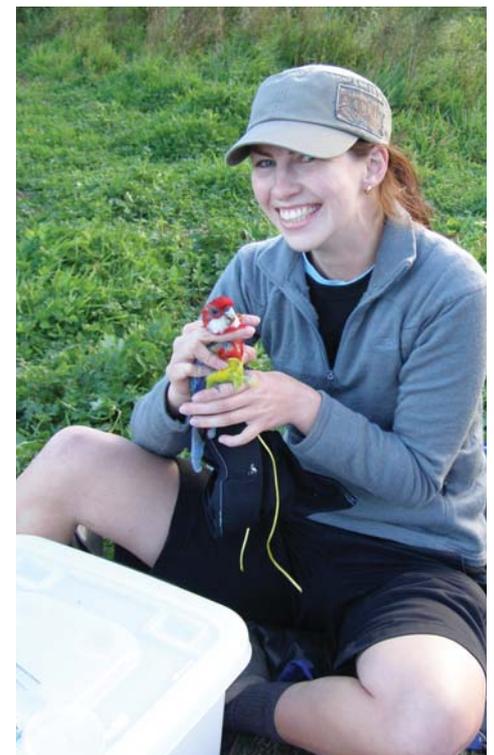
Amongst these is a stoat study funded through Auckland Council, looking at pest migration in the Hauraki Gulf islands. The two year project will be used by the Council to help plan eradication and surveillance programmes, by identifying stoats origination. PhD student Christine Sheppard is looking at climate change and its effect on the spread of exotic weeds. Other projects include anything from understanding how kauri modify their environment causing changes in surrounding vegetation, to working out what our endemic dung beetles feed on.

Dr Beggs said the challenges facing the Joint Graduate School are no different from any other research focus, especially obtaining scholarship funding for postgraduates in the current environment.

A student seminar day was held in September, where students presented their current research and networked with the New Zealand biodiversity and biosecurity research community. A highlight of the day was guest speaker Dr Daryl Jones from Griffith University (Australia) who is a behavioural ecologist working in the fields of urban ecology and wildlife management.

He discussed the increasing problem that roads cause as a barrier to wildlife and the amazing technological improvements undertaken in Europe to rejoin fragmented habitat. This type of work is in its infancy in New Zealand, so it has given staff and students alike, something to think about and how it could be applied here.

Dr Jones is co-supervising Josie Galbraith's PhD research on urban bird feeding, providing a valuable link to international research in this field.



Joint Graduate School PhD student, Josie Galbraith