



# Tāmaki Update

March 2011  
A newsletter for  
Tāmaki Innovation  
Campus

## Leading edge library for Tāmaki

Leading edge, innovative library and IT facilities are now the order of the day at Tāmaki, with the opening of the new Tāmaki Library & Information Commons.

The first stage of the rebranding and redevelopment of the Tāmaki Innovation Campus was recently completed, with the opening of the facility by Vice-Chancellor, Professor Stuart McCutcheon.

The new location in Building 730 enhances Library services by providing closer proximity to students and staff, an attractive contemporary environment, an innovative teaching and information commons facility, individual and group study work areas, computers and borrowable laptops.

“This is an excellent opportunity to provide Tāmaki with a world class and innovative Library and Information Commons facility, creating a vibrant hub of activity and service for students and staff,” says the Head of Campus, Professor Michael Davies.

“The new facility represents a highly important, first milestone in the implementation of the Tāmaki academic and precinct plan, which sees the campus developing around innovation themes and being rebranded as the Tāmaki Innovation Campus.”

The new Library and Information Commons is well placed on Level 2 of Building 730’s curved north-western aspect, off the main atrium area and next to the café, courtyard, seminar and breakout rooms.

Work on the new facility took place over the summer break and the new Library was



Professor Michael Davies addresses attendees at the opening with the new Tāmaki Library & Information Commons in the background.

up and running by the start of Semester One. This project was a joint exercise involving Tāmaki staff and teams from Property Services and the University Library, who have been looking forward to a Library move for some years.

The original Library building, a remnant of the 1990 Commonwealth Games Village where it served as the medical centre, was unsustainable without extensive renovation and will be removed as the campus develops.



## Message from the Head of Tāmaki Innovation Campus

Dear Colleagues

I am delighted to see the new Tāmaki Library & Information Commons is being used and enjoyed by students and staff alike. The natural hub the new facility creates has brought vitality and life to the campus and this has been reinforced by the many positive comments I have received. This is a very important milestone in the implementation of the campus academic and precinct plan.

The support of my fellow Deans and the Director of Property Services has been invaluable in achieving this aspect of the campus development. The Library has of course been a crucial partner and has long advocated for library services that lead the way in innovation and service.

I would like to especially thank the campus staff who have had to work through the renovations over the past months while undertaking their regular responsibilities. Your support and flexibility has been very much appreciated, and I'm sure you will agree that the facility is a wonderful asset to the Tāmaki Innovation Campus.

Of course change does bring many challenges and has caused concern to some students and staff. My team and I, with assistance from the Deans, will be monitoring areas where concern has been expressed. We will ensure that services at Tāmaki are comparable to those at the other campuses and meet University of Auckland standards.

On the topic of achievement, Tāmaki Innovation Campus academics have been recognised by the University for excellence. Congratulations to our four new professors: Winston Byblow (Sport & Exercise Science), Suzanne Purdy (Speech Science), John Read (Psychology), and Robert Scragg (Population Health). This represents one third of all professorial promotions at the University in the recent round, which is an outstanding academic achievement, and highlights the impressive standard of research and activities taking place on the campus.

Our teaching is also being recognised at an exceptional level. Congratulations are in order for recipients of the 2010 Teaching Excellence Awards: Associate Professor Toni Ashton (Population Health), for her award in Sustained Excellence in Teaching; and Dr Nicholas Gant (Sport & Exercise Science), for his Early Career Excellence in Teaching award.

As you are aware, there are more exciting developments still to come as the campus looks to consolidate the academic activities in the "I" buildings and bring more groups to Tamaki. We will soon be welcoming Anaesthesiology, a significant development which will further strengthen the health innovation theme on the campus. Other planned arrivals include groups from UniServices and the Faculty of Engineering and we look forward to a busy and active year ahead.

Best wishes

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



## Group's potential validated

The Global Health Group (GHG), at the School of Population Health, is neatly positioned in the geographical hub of the Asia-Pacific region, and specialises in world class research, training and supervision particularly in Asia-Pacific.

So, GHG leader, Dr Judith McCool, was 'surprised and delighted' that the Group was a recent recipient of a Vice-Chancellor's International Research Team Development Award.

The award was a welcome validation of the Group's potential and, according to Dr McCool a timely confidence booster. It carries a \$20,000 pa grant over three years and a dedicated research developer who will assist the team to scope out new partnerships for future international funding collaborations. The team plans to nurture and build upon existing partnerships within the Asia Pacific region, and extend their scope towards global health institutions within the US.



Dr Judith McCool

Dr McCool says the past year has been exciting; plenty of budding initiatives and new collaborations emerging. The focus for 2011 is to consolidate attention on

continued on page three



## Striking back at stroke

**“I was in a meeting when out of nowhere I just keeled over. It turned out I’d had a massive bleed in my brain, and the whole of the left side of my body was affected. The next morning all I could move on my left side was my big toe,” says Mike Brown, a 57 year old stroke survivor.**

Mike Brown is not alone - there are an estimated 45,000 stroke survivors in New Zealand. Like Mike, one quarter of those people are under retirement age and many are left with a disability, needing significant daily support.

The Centre for Brain Research is launching a new Brain Recovery Clinic (BRC) at the Tāmaki Innovation Campus in April to help improve the lives of stroke survivors such as Mike.

Forming part of The University of Auckland Clinics, the aim of the BRC is to provide assessments for people with stroke, to ensure that everything is being done to reduce the risk of having another stroke.

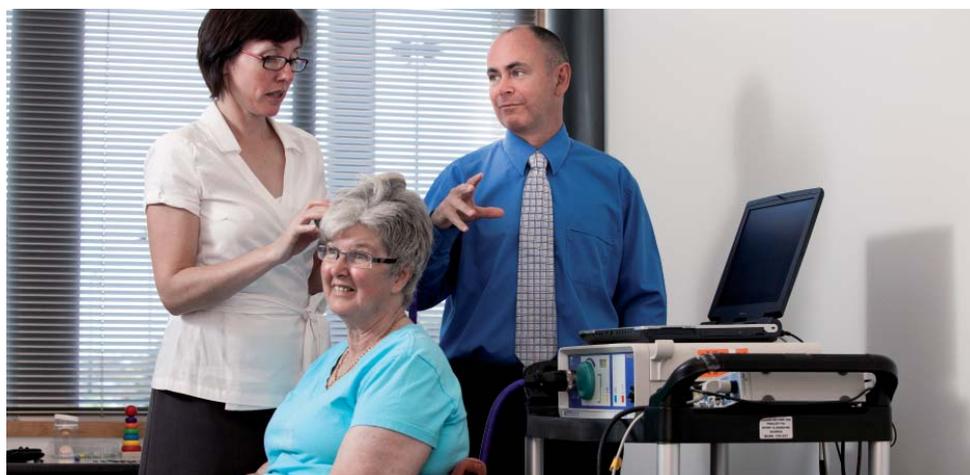
Research into recovery will form a critical part of the service as Professor Alan Barber, Brain Recovery Clinic director, explains. “The ‘stroke check-up’ appointments mean that patients can be referred on for further rehabilitation. People needing ongoing speech language or exercise therapy will be referred to our other clinics, which sit alongside the BRC. Collaborations with other medical services mean that patients can be referred back to their GPs or District Health Boards for a complete care service.”

“But the BRC is not all about assessment and rehabilitation,” says Professor Barber. “Those people who are eligible will be offered the opportunity to enrol in trials of cutting-edge stroke rehabilitation therapies that the scientists attached to the BRC are developing.”

Dr Cathy Stinear, deputy director, says the Brain Recovery Clinic is great for patients as it brings together so many experts under one roof. “At the same time, it’s great for clinical researchers as it allows us to collaborate and share ideas. Ultimately that means better care for people with brain disease.”



Mike Brown with physiotherapist Suzanne Ackerley



Dr Cathy Stinear and Professor Alan Barber are running research trials for new stroke recovery methods

continued from page two

### Group’s potential validated

their key areas of expertise. A lot of effort goes into identifying and communicating with key individuals from organisations based in the Pacific, such as the WHO, national Ministries of Health, and NGO’s to prepare for initiatives, funding proposals and the like.

“Working with like-minded organisations helps reach mutual goals, whilst retaining our own mission of robust and rigorous scientific research and teaching,” she says. “However, the globalisation of health determinants and health risks demands a global response. Health professionals require new knowledge, skills and ideas to tackle these challenges effectively and that’s our driver.”

Dr McCool says work covers climate change adaptation, chronic non-communicable disorders, mental health, injury prevention and tobacco control. She is excited at the inclusion of new areas like maternal and child health, and infectious disease prevention and control. This means significant improvements can be made throughout the Pacific Islands.

She also cites major chronic diseases as a particular focus and an area where the Global Health Group can make a difference. “We are working with different countries to strengthen their capacity to manage across tobacco control, alcohol and diabetes management.”

Interestingly, she says, the influence of trade and economic policies is having a significant impact on the region and “we need to develop a better understanding of these policies and their impact on health”.

The focus of the Group is broad but at the heart of their work, improving the health of people living in low and middle income countries in the Asia and Pacific region remains paramount. “We know that improvements come about through partnerships, gathering new knowledge, and building capacity and skills where it is needed most.”



## Summer activities

Over the summer break a **fruit and vegetable garden** has been created in the Just Kidz Educare early childhood centre. The brainchild of Bianca Gordon from Psychology, the initiative is part of a course she is taking in self-expression and leadership.

Staff and student volunteers from across the campus pitched in on the day with time, tools, plants and ideas. The University donated ponga logs and compost, and in one busy day 25 people came to help put the garden together.

“It was great to have the skills and knowledge of Landcare staff and others, as well as the smiling faces and curiosity of the children,” says Bianca.

“The staff and children at the centre have enjoyed caring for the garden (especially watering it!), and are keen to continue the project, planting winter veggies and flowers.”

Bianca would like to thank Peter Fehl, Director of Property Services, Professor Michael Davies, Head of Campus, and the



Tāmaki Heads of Discipline team for their support of this initiative.

Along with the gardening, the **Inaugural Tāmaki Innovation Campus Cricket Challenge** also took place at Colin Maiden Park, with players and supporters taking a welcome break from everyday activities.

The challenge came from the School of Population Health, with the rest of the campus taking up the gauntlet. The competition was close and after a hard fought match the Population Health team won by four runs, over the Tāmaki Innovation Campus team.

Michael Davies presented the Cricket Challenge trophy to Professor Alistair Woodward, Head of Population Health, who took part in the challenge and helped lead his team to victory.

Thanks to James Clark, who organised the Challenge and the Population Health team, and to Tom Allen for rallying together the Tāmaki Innovation Campus team.



## Yeasts give up their secrets to aid wine

**The secrets of microbes have revealed a strain of yeast that could revolutionise the way wine is made, and could also contribute significantly to the very uniqueness of New Zealand’s wines. It’s the brainchild of Dr Mat Goddard, from the School of Biological Sciences, and senior lecturer at the Wine Science programme delivered at Tamaki.**

His wine team has worked in conjunction with Danish bioscience company Chr. Hansen for more than two years, to develop a new frozen, direct inoculation yeast *Pichia kluyver*. This new yeast strain is found naturally in grape juice but has not previously been used in commercial winemaking.

To be launched this year, the new yeast should increase the microbial diversity of ferments in a natural, reliable and consistent way, yet cut out the need to rehydrate yeast cells to retain the fermentation process from grape sugars to alcohol.

When used alongside traditional yeast (needed because the new strain cannot ferment to the alcohol content needed for wine), wild ferment flavours are released, adding a complex mouth-feel while increasing intensity.

Dr Goddard admits the breakthrough is a joyous match of his own enjoyment of wine as well as his long-time research focus of the ecology of natural yeasts. He admits, too, a fascination with the large amount of understanding about how cells are constructed and work when elucidated using yeast, yet is amazed by the relatively small knowledge of the everyday ecological forces which subtly shape the yeast genome.

continued on page six



## Growing up study identifies early challenges



Dr Susan Morton and her "research" charges

The first results are through in the Tamaki Innovation Campus-led Growing Up in New Zealand longitudinal study, which will follow more than 7,000 children for the next 21 years.

The ante-natal findings show immediate challenges for policy-makers.

According to Growing Up Director, Dr Susan Morton, the findings highlight deprivation, family mobility and evolving family structures.

"Our initial data provides a glimpse of the children's lives before birth with unplanned pregnancies accounting for 40% of births and 90% of all mothers-to-be changing their diet with the news that they were pregnant."

Other findings demonstrate the current prevalence of smoking and drinking during pregnancy, with more than one in 10 mothers continuing to smoke during pregnancy, with Maori over-represented.

Dr Morton says the research shows this new generation of New Zealander is entering a social environment which is ethnically diverse and multi-lingual. Multiple languages are spoken by parents, with one in three children being born into families where parents speak more than one language competently.

One in five children will grow up in homes where English is not the main language (although 97% of mothers and partners can converse in everyday English). The most common languages spoken in the home, after English, are Samoan, Hindi, Tongan and Mandarin. Maori as the main language is

spoken in less than 1% of homes.

And, importantly for policy-makers, it also highlights a lack of awareness about Working for Families tax credits amongst mothers in poorer areas, suggesting policies targeting inequality are not reaching those most in need.

"The information collected to date clearly paints a picture of a changing New Zealand and poses challenges for the country's decision-makers - this is the real value of Growing Up in New Zealand," she says.

The study will continue to identify factors that pose risks to children's development leading to poor outcomes in later life as well as factors that boost development and increase resilience leading to healthy adjustment in adulthood.

This evidence is required to better understand the developmental environment for an increasingly diverse population.

Dr Morton says understanding this evolving environment will deliver high returns on investment, by helping to reduce the incidence of such problems as school failure, poor mental health, substance abuse and crime.

The study has been five years in the development, planning, recruitment, interviews and analysis. To date the study, championed by the Ministry for Social Development, has cost \$20 million with an average cost of \$5 million per year. The next results will be released in late 2011.

## Academic hub launched

An academic hub for multi-disciplinary and translational longitudinal, life course research has recently been established and is headed by Dr Susan Morton.

The Centre for Longitudinal Research - He Ara ki Mua - is a new University centre, based at the School of Population Health within its host faculty, Medical & Health Sciences. As a cross faculty centre, it operates in collaboration with the Faculties of Education, Science and the Business School.

Current projects which have their academic home in the Centre include Growing Up in New Zealand, the International Healthy Start to Life Project (a major project of the National Research Centre for Growth and Development), and studies related to Vitamin D status at birth and early childhood infection.

One of the Centre's main goals is to foster an academic environment for developing and supporting multi-disciplinary and life course epidemiological research excellence.

The Centre will be officially launched on 4 April by the Vice-Chancellor, Professor Stuart McCutcheon at an academic symposium.

### Specifically the Centre goals include:

- Supporting multi-disciplinary research excellence and cross-faculty collaboration
- Supporting a life course epidemiological research perspective
- Developing expertise in translation of research evidence
- Contributing to New Zealand specific population relevant evidence
- Capacity development of academic staff and students



continued from page four

### Wine 'good science'

"It's neither magical nor industrial, but good biological science," he says, outlining the wine-maker's process. About half of the 'volatiles' in wine (the compounds that give a wine its flavour and aroma) derive from yeasts during fermentation.

His research has characterised the yeasts naturally associated with winemaking and their interactions. Goddard



Dr Mat Goddard, above in the lab (left) with PhD student Jeremy Gray, and below out on the field.



has found that New Zealand harbours a distinct population of yeast. Currently most wine is made using overseas commercial strains, but the use of local yeasts to make New Zealand wine may provide opportunities to create different wine styles that recreate the French sense of *terroir* in the local environment.

The work with yeasts has been fine-tuned through Dr Goddard's PhD and post-doctoral study at London's Imperial College where he used yeasts to test big ideas in evolution. Yeasts, he says, can be used as a model system to test ecological concepts and therefore it's a small step to how it contributes to wine fermentation characteristics.

"One of the massive advantages of working with yeast is that a huge amount is known about the molecular biology of the yeast cell. The whole genome has been sequenced, we know the function of over one third of its genes, and we are beginning to understand how the 6,000 plus genes interact. These facts, to my mind, make yeast an excellent model organism for population genetic studies," he says.

## Neuro rehabilitation researcher returns

Dr James Stinear has re-joined The University of Auckland, in Sport and Exercise Science where he conducted his PhD studies nearly a decade ago.

He takes up the role of Academic Director of Postgraduate Programmes in Exercise and Neuro rehabilitation. Although an exercise rehabilitation programme has been offered by the department for several years, the new programme in Neuro rehabilitation is an important addition, says Dr Stinear.

It will complement the research conducted by (his former supervisor) Professor Winston Byblow and his group in the Human Movement Neuroscience Laboratory, and the research conducted by Professor Alan Barber and Dr Cathy Stinear (James' daughter) of the Neurology Research Group at the Centre for Brain Research.

Prior to taking up this appointment at Tamaki, Dr Stinear was Director of the Neuralplasticity Laboratory at the Rehabilitation Institute of Chicago, and Research Assistant Professor at the Feinberg Medical School, Northwestern University, where he led a team of six, made up of postgraduate students, post-doctoral fellows and research physiotherapists.

"Over the last seven years we have studied how the motor cortex recovers following stroke, and modified three non-invasive brain stimulation protocols for application to the lower limb motor cortex during walking."

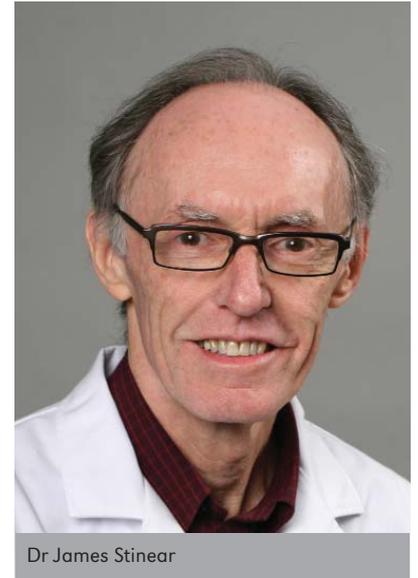
"We have also developed new non-invasive brain stimulation methods that allow us to answer questions that could not previously be examined due to technical limitations."

Dr Stinear has published papers of seminal studies which provide new insights into how arms and legs are limited in their ability to recover after stroke.

Recent research publications indicate that the sciences of exercise and neuro rehabilitation are converging and Dr Stinear plans to pursue this by exploring the effects of physical activity on recovery from neurological disorders such as stroke and traumatic brain injury.

He says the Exercise and Neuro rehabilitation programmes will appeal to science and therapist graduates, and provide many new and exciting research opportunities.

"Potential career pathways for science students include physical activity trainers for the neurologically disabled," he says. "And, for therapists, the programmes will help enhance their understanding of the science behind conventional therapies and the latest novel science-based approaches to therapy."



Dr James Stinear