



Rakahau-ā- mahi hou:

New Applied Research

Special Issue: Student Research
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Introduction

Dr Robin Day

Welcome to Otago Polytechnic's Rakahau-ā-mahi hou: New Applied Research Special Issue, Student Research, Issue 6.



Here at Otago Polytechnic we prepare learners to be active enquirers and to this end we incorporate research and development at both under-graduate and graduate levels. In this issue of Update: New Applied Research we focus on some examples of the research undertaken by students as part of their final year of the Bachelor of Design and as requirements for the completion of masters' degrees in Fine Arts, Product Design Enterprise and Midwifery. We are proud to produce students with the creativity and analytical skills to solve problems and we are confident their respective professions will benefit from the contribution of these graduates.

For more information on the degrees available at Otago Polytechnic please see our website for programme details. www.otagopolytechnic.ac.nz



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Winter Greens

Ross McCarthy

The foyer of Ross McCarthy's office and factory is planted out in lettuce. It's a quirky frontage for the home of such a practical product.



So practical in fact, that Mitre 10 (spiritual home of the DIY enthusiast), will soon carry McCarthy's line of 'Grow Tu' greenhouses across the country.

The Grow Tu Greenhouse, developed as part of McCarthy's Master of Design Enterprise, enables people to grow vegetables all year round. Its transparent plastic sheeting allows plenty of sunlight in, but does not magnify it in a way that might burn plants, while its super-insulating properties retains heat better than glass, and measures on average five degrees above outdoor temperatures.

"This greenhouse is a lot stronger and a much better insulator than other products on the market," explains McCarthy.

"The plastic can bend to re-cover tunnel houses and we can custom-make a unit to suit any garden."

Growing up in Central Otago, McCarthy had always been interested in agricultural products. Following the completion of his Bachelor of Design (Product) at Otago Polytechnic in

2007 and a year designing portables houses in Timaru, he returned home to his family's Hawea farm, where he began working on his own designs. When the Master's programme was introduced, he jumped at the chance to develop his design work and commercial skills.

"The first summer after designing the greenhouse I spent time going around A&P shows selling the product and receiving feedback," recalls McCarthy. He was also accepted into the innovation section of the National Agricultural Field Day at Mystery Creek – the largest trade show of its kind in the Southern Hemisphere. As a result he modified his design to include features such as an internal irrigation system and different pod sizes.

"We're now using the concept to create an even better tile - one that is doubly insulated. Our goal is to create a greenhouse that will work at minus 10 degrees."

Welcome to Harajuku, Dunedin

Liz Ung

Whatever the “new black” happens to be this season, fashion designer Liz Ung probably has little desire to incorporate it into her upcoming designs.

For one thing, the recent Otago Polytechnic School of Fashion graduate is a passionate proponent of “slow fashion”, which she describes as “fashion-wear that is not intended to be thrown out at the end of the season, but rather worn and loved until it is worn out.”

Black is also one of the few colours that you will not see much of in Ung’s exuberant, vibrantly colourful clothing designs. The major inspiration for her work is the street fashion of Harajuku, an area in Tokyo where young people have created a unique, cut and paste aesthetic in which day-glo colours abound, more is more and personal expression rules supreme.

Ung’s Harajuku-inspired collection Hello Super Happy Double Rainbow was one of the highlights of the Otago Polytechnic Graduates section in last year’s Dunedin iD Fashion Week.

“A lot of people told me they loved the work,” Ung says. “Some were probably taken back by all the bright colours, but I think it stood out amongst the black and muted colours that are more typical of Dunedin fashion design.”

One of the ways Ung ensures that her designs remain unique is by exclusively using pre-loved and vintage fabrics, often sourced from local op shops.

“I especially love finding clothing that is damaged in some way, but contains interesting patterns or beautiful embroidery, and bringing those elements back to life,” she says.

Ung is currently working at the Dunedin Fashion Incubator, preparing a second collection. She also worked in the costume department on a feature-length zombie film shot in Dunedin, a direction she is hoping to explore further in the near future.

“The most important thing for me is to continue to have an open-minded, carefree attitude towards fashion,” she says.

“My philosophy is to just throw it in the pot and give it a big stir.”

Collection photos by Chris Sullivan, Seen in Dunedin.
Models Gussie Buchanan and Charlotte B @ Ali McD Model Agency.





Animal Emotion

Marie Strauss

It's no surprise that an oil painting of a figure hanging from a noose in a bare room would conjure up feelings of dread for gallery goers. But why does that fact that the hanging figure is a bear, rather than a flesh-and-blood human being, make it so much more poignant?

This is one of the paradoxes that animates the work of painter, photographer, fashion designer and former Otago Polytechnic Dunedin School of Art lecturer Marie Strauss, who has created a four part series of artworks for her masters' project that take a novel approach to exploring the theme of violence.

"In a way, animals are more interesting than people," Strauss explains. "Paintings of suffering human figures have become so sentimental and over-dramatised. It's about finding new ways of looking at terrible events that people have grown weary of seeing depicted."

Strauss's masters' thesis, entitled *Play and Horror*, also examined the relationship between play, theatre and violence, and she says that while writing it she spent a lot of time looking at the work of contemporary artists who were dealing with seemingly inapproachable real-world tragedies such as the holocaust and finding new ways of representing them.

Her art works from this series included ceramic figures, photographs of wax monkeys in alienating human environments and oil paintings of animals engaged in various acts of violent play and theatrical performance. Add to this mix her current role as fashion designer and owner of the Dada Manifesto Ltd fashion boutique, and it seems that Strauss has a rather unique amount of versatility as an artist. She shrugs this notion off.

"I don't feel that any medium is really very different from any other. You are looking through your own particular eyes, whatever it is that you are making, so you will inevitably make work that describes the world in a unique way."

"I don't feel that any medium is really very different from any other."

Bridging the Pacific Divide

Bridget Inder

In Samoa, tapa cloths are used to wrap things that are considered special, from precious artifacts to newborn babies.

They are a recurring motif in the work of Bridget Inder, who arranges her large monotype prints in galleries in a way that aims to recreate the function of the tapa cloth, wrapping and creating a home for her audience.

The idea of home is a central concern for the part-time Otago Polytechnic Design lecturer, who recently completed a master's thesis and series of prints that focused on the question of how to find a place in New Zealand as a person of mixed Pakeha and Samoan heritage – and the particular difficulties that this can present for art students.

“My mother comes from a traditional Samoan background, whereas my father's family have been farming in the Maniototo for several generations,” Inder explains. “Being of mixed heritage in New Zealand, you're constantly trying to adjust and justify your position, existing between two worlds.”

The landscapes of Central Otago are a clear visual touchstone for Inder's earth-hued prints. Their large scale and the complexity of their surface texture evoke something that is primordial, ancient and powerful. The images are interlaced with tapa cloth designs, whose intricacy stands in contrast with the sparseness of the landscapes.

“These prints directly address the sources of my own culture and identity,” Inder says. “My artwork aims to emphasise the close relationship between these disparate backgrounds. It relates to the conclusions of my thesis, which emphasised the importance of valuing and respecting cultures equally.”

In addition to creating art and lecturing at Otago Polytechnic, Inder manages Studio2, a studio and gallery for people with intellectual and physical disabilities. She says that helping others to express themselves artistically provides a nice complement to creating her own, highly personal work.

“Some of our clients have a way of working that is very intuitive and refreshing.”

“It's wonderful to be able to step outside of myself and be a part of someone else's unique process.”

Photography courtesy of Max Ottell.



Life Decisions

Julie Richards and Elaine Gray

Decisions made by midwives can be life changing. When to clamp the umbilical cord can determine how much blood is available to a newborn baby at birth.

And how she cares for a woman's perineum can have long-lasting consequences for a mother's life-long comfort and health.

These are the issues examined in two recent Otago Polytechnic School of Midwifery masters' projects, with graduates' findings aimed at helping educate midwives make evidence-based decisions in these most critical of moments.

Julie Richards, Lecturer at the CPIT School of Midwifery, investigated umbilical cord-clamping practices, finding that clamping immediately following birth can mean up to half of a baby's blood volume is lost. The implications are particularly significant for newborns requiring resuscitation, given that Richards' survey found 80 per cent of New Zealand midwives clamp the cord very soon after birth if immediate resuscitation is required.

Midwives have generally been taught to clamp and cut the cord, Richards explains. But this was done without a complete understanding of the newborn's transitional physiology: babies need their full complement of blood to fully inflate alveoli, the tiny air sacs in the lungs.

When resuscitation is required, the baby is often transferred quickly to a resuscitation unit, with premature clamping occurring to facilitate this.

"With immediate clamping, a newborn misses out on around one third of their blood volume, which remains in the placenta at birth." Healthy babies manage, she says, "but lose significant amounts of blood. For a preterm baby, the level of blood lost rises to half."

Indeed, international research has found a link to infant anaemia, with premature cord clamping significantly reducing newborns' iron stores for their first six months.

"I found that cord clamping practices varied depending on the midwives' perspective of safety and their work environment. At home, midwives were more likely to leave the cord intact, even with babies requiring resuscitation, as all equipment had to be portable; whereas in a tertiary facility, they were more likely to clamp quickly because often resuscitation equipment was at a distance."

While Richards' research focused on a critical moment in the lives of babies, her colleague Elaine Gray, Continuing Education Midwifery Advisor at the New Zealand College of Midwives, focused on their mothers. Her Master of Midwifery dissertation explored the factors influencing midwives' decisions around whether to suture spontaneous perineal tears following birth.

Elaine Gray



Julie Richards



“Midwives see this as a very important decision that can have long-term impacts for women, and evidence is highly important for midwives,” says Gray. Yet she notes there has been minimal research on the midwifery decision-making involved.

Indeed, she comments, “In New Zealand there is no national information collected on perineal outcomes for women – only episiotomy rates. Midwives collect individual statistics but it is unknown how many women nationally in Aotearoa have perineal injury following birth.”

Gray adds that since the 1990s, international practice of whether or not to suture had shifted a number of times. Her survey – the first in New Zealand to examine this subject from midwives’ perspectives – established many influences around midwives in their decision-making.

“The partnership between midwives and women in New Zealand is quite unique.”

“As well as clinical characteristics and practice experience, key factors were found to be the effect of confidence in identification of the tear, and the effect of confidence in their ability to undertake the perineal repair.”

Gray’s thesis highlighted further research areas around perineal care, some of which have already been taken up by other researchers. And for both women, the importance of evidence-based education being available to midwives – both during their education, and throughout their careers – was highlighted. It’s a matter they are each taking into their own hands.

As a Midwifery Advisor, NZCOM, Gray is developing a two-day workshop on perineal care, while Richards is currently working on articles for midwives, and literature for parents, to enable informed decision-making about the timing of cord clamping.

“The partnership between midwives and women in New Zealand is quite unique,” says Gray. Midwives need evidence on which to base and back-up their advice, guidance and practice. It can only be a good thing, they agree, that midwifery postgraduate studies are now eligible for Health Workforce New Zealand Funding.



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