Past and present BRANZ scholars

Funding innovative early-career researchers

Each year, we make funding available for outstanding postgraduate scholars in New Zealand tertiary institutions. The scholarship programme brings diversity to the BRANZ portfolio of investments, supports future research and strengthens our relationships with tertiary education providers.

CURRENT BRANZ SCHOLARS

NB: BRANZ research portfolio outlines areas of importance to New Zealanders and the building sector. Research by our scholars has been listed according to headings which represent the main challenges for New Zealand's built environment.

The adjacent graphic sets out key areas in which BRANZ undertakes research and its relative strengths (red shading), the depth of research effort across New Zealand (grey shading) and areas where research has opportunity for increased effort.

■ BRANZ research and its relative strengths
■ Depth of research effort across New Zealand

THRIVING CITIES, REGIONS AND COMMUNITIES

Julia Thompson

Natural ventilation of spaces for large audiences | Victoria University, PhD

Julia's research looks at how to design fresh air systems for spaces that cater for large audiences. The Opera House in Wellington has been selected as a case study for this research due to its impending seismic renovation, as well as its original naturally ventilated design. This includes a sliding ceiling and sliding roof system. This case study project aims to understand the principles used in the design of the original natural ventilation, and their performance in practice. As well as recovering lost knowledge, research in this area has the potential to create solutions to improve building performance during seismic retrofit of unreinforced masonry buildings, with the opportunity to also restore their functional heritage.

RESILIENCE OF THE BUILT ENVIRONMENT

Gordon Chen

Steel beam-column connections in fire | University of Canterbury, PhD

Steel-frame connections are designed to reliably transfer loads between structural members to prevent building collapse. During a fire, thermal expansion and contraction of steel framing occurs, resulting in forces on the connections holding the frame together. To prevent failure during a fire, connections must have sufficient capacity and ductility to retain strength and integrity at elevated fire temperatures.

New Zealand steel-frame connections are designed with ductility in mind to minimise the likelihood of brittle failure under seismic conditions. Gordon's PhD research will explore whether steel frames also have enough ductility under fire conditions. He will evaluate standardised connection ductility and develop a method that models components as a spring network to estimate overall connection ductility. This method has the ability to contribute to best-practice performance-based structural fire engineering connection design.

Making these design procedures accessible can improve predictions about the structural behaviour of steel in a fire, providing reassurance to the steel design industry and encouraging structural fire engineering design.

Kirill Panov

Metallic materials in geothermal environments | University of Auckland, PhD

There are more than 55,000 dwellings occupied by approximately 120,000 people in the Taupō Volcanic Zone, a region that contains many high-temperature geothermal systems. The durability, integrity and safety of buildings and their associated service-providing infrastructural assets within this zone has huge economic and societal implications for New Zealand.

Kirill's PhD research looks at the long-term performance of typical building materials and coatings in severe geothermal environments. He will use advanced material characterisation techniques to study the formation, growth and evolution of atmospheric corrosion products on mild steel, copper and zinc. By using machine learning and data science, he will attempt to create a universal model to identify all the changing environmental factors that contribute to predict corrosion behaviour.

The technical outputs from his research are intended to assist in decisions for specifying the right materials, practices and maintenance schemes for geothermal environments.

Mohamed Mostafa

Failure analysis of precast prestressed hollow-core floors | University of Auckland, PhD

The widespread use of precast floors in regions of New Zealand with high seismicity makes it necessary to understand the performance of these floors. It is not understood how precast hollow-core units that were produced in New Zealand behave when experiencing torsion. Thus, design and assessment for torsion and shear-torsion interaction of hollow-core floors are currently done with simplified analytical or empirical design methods.

Mohamed's doctoral thesis builds on his master's research and investigates the system-level performance and torsional behaviour of precast prestressed hollow-core floors. Mohamed will test single-unit subassemblies to investigate the unit's performance when subjected to torsion. He will analyse damage data collected from a case study building that was instrumented during a strong earthquake to understand the torsional behaviour of hollow-core units produced in New Zealand.

His findings will strengthen the torsion assessment calculations and inform guidance for the newly revised Seismic Assessment of Existing Buildings (Yellow Book) for pre-earthquake assessment of existing buildings. Retrofit solutions will also be developed and tested to validate the proposed solution and help provide guidance on retrofit solutions.

Nicole Allen

Multi-volcanic hazard impact assessment for residential buildings in the Auckland volcanic field | University of Canterbury, PhD

Nicole's doctoral thesis explores how multiple volcanic hazards can impact residential buildings. The research focuses on potential future eruptions from the Auckland Volcanic Field (AVF). These eruptions can create a range of hazards, including ashfalls, lava flows and volcanic ballistic projectiles. Nicole aims to develop a framework to cumulate the impacts of multiple hazards, modelling potential loss from an AVF eruption. She is also producing a tephra dispersal system and a methodology for designing equipment to test the impacts of volcanic hazards. The results of this research show how volcanic impact and risk assessments could consider cumulative and compounding multi-volcanic hazard impacts to buildings. The findings will have direct application for emergency management and the insurance sector.

Read more:
ir.canterbury.ac.nz/handle/10092/17164

QUALITY AND PERFORMANCE OF HOMES/BUILDINGS
Dan Court-Patience

Predicted performance of connections in diagonal Buckling Restrained Braced (BRB) frames designed in New Zealand | University of Canterbury, PhD

Buckling restrained braces (BRBs) are the latest addition to steel bracing used in buildings and bridges. They are widely used throughout seismic areas in the world with many countries developing their own tools and documents to guide designers. However, as BRBs are a relatively new product to New Zealand, there is not yet any documented guidance or specific instructions in regulatory standards.

Building on his master's research, Dan's research provides predictive evidence, via tested computer simulations and reliable, replicable models to act as guidance for the design of connections in buckling-restrained-braced frames. especially for ground storey installations where risk of failure is highest. Dan's research looks at the current design philosophy and process followed in New Zealand, what we do and don't know about these systems and what practitioners should consider when using them.

Elaine Ting Yen Khor

Pre-contamination of wallboard with fungi | University of Auckland, Masters

The widespread problem of mould contamination in New Zealand homes impacts on the health of its occupants. A 2016 Danish study found that new gypsum wallboard was often pre-contaminated with moulds and only required water damage to be activated.

This research will investigate whether there is pre- contamination of new gypsum wallboard with Stachybotrys and other potentially harmful fungi in New Zealand. The findings will be integral to understanding whether fungal spores are present in new building materials.

The research will help determine preventive measures to minimise the contamination of gypsum board by potentially harmful and deteriogenic fungi.

Griffin Cherrill

Internal moisture from thermal bridges | Victoria University of Wellington, PhD

Condensation and mould growth on internal surfaces can damage building elements. Current tools to assess the risk of internal moisture from thermal bridges accurately require large amounts of time and experience while simpler tools contain simplifications that can negatively impact results.

Griffin's PhD research aims to identify how detailed a tool needs to be to reliably assess the risk of internal moisture from timber-framed thermal bridges. A simplified but reliable tool could reduce the risk of unintended consequences when adopting new construction methods.

His research will identify a suitable whole-building simulation tool and develop a workflow to reliably assess the risk of internal moisture for industry participants with suitable skill levels.

Jono MacIntyre

Defining equivalent fire severity for structural applications | University of Canterbury, PhD

Jono's research is establishing a robust method to determine fire severity effects on structural elements aside from, and alternative to, current time equivalence methods. This will lead to a means for fire engineers to better determine the structural severity of a particular fire and will also help develop construction methods to make buildings more resilient to fire hazards. These improved methods will contribute towards developing probabilistic structural fire design techniques, allowing for better calculations of design requirements for the determined level of fire resistance and levels of safety achieved by as-built systems and, by removing unknowns, allow the cost of constructing buildings to higher levels of fire performance to be reduced.

Phoebe Taptiklis

Assessing the relative impact of poor home maintenance on interior dampness | Massey University, PhD

Phoebe's project contributes to the on-going investigation into the contribution that small improvements to the housing stock make to reducing dampness and mould in New Zealand houses. This project builds on the work of the BRANZ House Condition Surveys and the research of the Household Injury Prevention Study. These respectively showed the poor condition of claddings and the contribution this has to dampness and poor health. This project aims to identify ways to reduce mould and dampness and hence improve the health of occupants and durability of the housing stock.

VIBRANT INDUSTRY
Andy Walmsley

Investigating help-seeking behaviour among men within the construction industry | Massey University, PhD

Current research shows that construction industry workers have elevated levels of depression and anxiety, which have known associations with (to name a few) decreased job satisfaction, memory difficulties, lack of concentration, fatigue and decreased productivity. These are among key risk factors for suicide. Inability to concentrate can also affect ability to follow instructions and make decisions and increase the likelihood of workplace injuries and/or accidents. The 'macho' culture amongst some groups of men (manifested as a strong sense of pride, an exaggerated masculinity not depending on others, displaying little weakness or emotions other than anger, not cooperating with authorities, demanding respect at all times, and suffering pain in silence) means that the danger to health and safety from psychological stress is often ignored. Andrew's research will explore health and safety processes responsive to men's specific needs and develop understanding about factors which could facilitate help-seeking among men within the construction industry: particularly, what type of information men need or want, where they prefer to seek help, and the best ways for managers to encourage employees, and workers to encourage their fellows to seek help for psychological distress.

Armano Papageorge

Semi-autonomous off-site construction: Mass-customisable and structurally optimised building elements with freeform 3D printing | Victoria University of Wellington, PhD

Armano's previous research recognised the value of mass customisation, using advances in software technology to produce different types of items with different specifications within similar timeframes, cost margins and resources expenditure. His PhD project takes advantage of these new technologies to redefine automation and industrialisation in New Zealand's building sector, specifically evolving methodologies into a system which could be applied to full scale residential homes. The work will be done in conjunction with Callaghan Innovation, whereby Callaghan will provide access to the 5-axis gantry robot and material extruder, and Armano will develop mass customisation and structural optimisation software. Armano expects to use this innovative 3D concrete construction printer to demonstrate means of producing higher quality buildings and building components for lesser time and cost, whilst also addressing matters of waste mitigation and climate responsiveness.

Armano also won an NZIOB Charitable Trust 2019 Scholarship Award – congratulations!

MEETING NEW ZEALAND'S POPULATION NEEDS

Beth Noble

Designing artificial lighting systems that meet the needs of people on the autism spectrum: an evaluation of the effects and investigation of design solutions | Victoria University of Wellington, PhD

The New Zealand Building Code outlines the importance of a built environment that is accessible to people of all abilities and function. Lighting contributes a major sensory input to indoor environments and can affect aspects of everyone's health. Colour, hue, brightness, glare, directionality, sub-visual flicker and type can all produce physical effects on wellbeing and comfort. A significant proportion of survey respondents in Beth's earlier Master's studies identified being subjected to artificial lighting as a major issue for people on the autism spectrum. Lighting was cited as creating discomfort and distress, likely to set off avoidance behaviours, negatively affect cognitive abilities and task performance, and possibly act as an employment barrier for people on the autism spectrum. Her PhD looks at the mechanisms behind why artificial lighting causes people on the autism spectrum greater discomfort and distress. Her research aims to provide recommendations that can be implemented by the construction industry that can improve the experience of all users by designing for those who are most affected, both today and also in future changing technologies.

Karin Henshaw

Public housing transitions | University of Otago, Masters

Karin's research looks at longitudinal outcomes for tenants who repeatedly enter and exit HNZC tenancies with a view to understanding the drivers, associated outcomes and longer-term health, employment and social functioning effects of repeated residential transitions within public housing. The work picks up findings from the 2016 Industry Needs Survey which cited inadequate knowledge around meeting housing needs and the requirement for strategies to build better cities and communities. Karin will examine how the operations of NZ's public housing system can affect long-term adult tenant health and employment and long-term child tenant social functioning. The work is also connected to other He Kainga Oranga work on the impact of buildings on society, where public housing is part of a wider policy agenda covering housing provision, security of tenures, and mixed-tenure communities.

LOW CARBON TRANSITION

Gerard (Ged) Finch

Prefabricated architecture for a circular materials economy | Victoria University of Wellington, PhD

Ged's PhD research is developing innovative construction methods to eliminate waste. The building industry is the biggest contributor to landfill: for every five dwellings, the equivalent of one more is sent to landfill as overruns, offcuts and damaged materials. Gerard's research aims to 'design waste out' at the outset of building work, addressing which materials are specified, and how these are cut, shaped, formed, assembled and fixed. From that point he is investigating economic constraints affecting proposed alternative construction methods, which include eliminating composite materials, developing re-usable structural components, and making best use of prefabrication and off-site manufacturing.

Ged also won an NZIOB Charitable Trust 2017 Scholarship Award and was part of 2019 TEDxWellington, watch his presentation on youtube – congratulations and well done!

Emily Newmarch

Prefabricated architecture for a circular materials economy | Victoria University of Wellington, PhD

Significant amounts of carbon are embodied in materials or emitted during a building's life cycle. For architects and designers, the most effective way to achieve this goal is to ensure that buildings are designed and specified with low-negative embodied carbon in the building materials.

This research explores how considering a zero-carbon future can be combined with the aesthetic ambitions of the New Zealand home. The study analyses existing case studies, coupled with interviews and workshops with the architects who designed them. It seeks to understand how choices on main materials, construction systems and energy impact the environmental performance of the building. It explores the strengths and weaknesses of existing carbon measurement tools in their application to a New Zealand home.

The findings will be shared to educate architects and designers on how to use an aesthetic-driven design process to lower the amount of embodied carbon in their buildings.

Rosa Gonzalez

The carbon case for resilient design | University of Auckland, PhD

The demolition of large parts of central Christchurch after the 2011 earthquake made a strong socio-economic case for rebuilding with resilient buildings designed above the acceptable seismic standard. There are significant environmental costs in demolishing structures before the end of their design life associated with demolition waste as well as extensive carbon costs associated with reconstruction.

Rosa's PhD research compares the life cycle environmental impacts of baseline buildings designed to current standards with above-code buildings that are designed for a higher seismic performance. She will consider seismic risk on buildings that are designed lean. These may sustain more damage in large seismic events, which has significant environmental impacts. The results will be compared to resilient buildings where the higher upfront carbon costs may be offset by limited damage following large seismic events.

Rosa's research will provide valuable insight into the carbon cost of designing seismically resilient buildings. It can provide policy makers and stakeholders with evidence-based environmental incentives for designing structures in New Zealand for higher seismic performance..

Recent Alumni (completed in 2020)

Audsley Jones

Design and densitivity of buckling restrained braces | University of Canterbury, PhD

Audsley's research looked at the behaviour of buckling restrained braces (BRBs). A BRB is a structural brace in a building designed to allow the building to withstand cyclical lateral loadings, typically from earthquakes. Although used within New Zealand, the inner workings and sensitivity of the braces are largely unknown to engineers. International best practice is currently relying on experimental verification to qualify the design and fabrication batch. Audsley evaluated BRBs based on freely available information with respect to design, qualification and implementation and through experimental testing.

Read the thesis:
ir.canterbury.ac.nz/handle/10092/101673

Jack Steele

Architectural models as a base for reliable early-stage energy simulation | Victoria University of Wellington, Masters

Jack's research asked how architects can explore building thermal performance simply and reliably without spending many hours in model translation. The study focused on CAD models as the basis for reliable building energy modelling. It examined a range of representative processes for exchanging information between architectural modelling and building (energy) performance simulation programs. His work will help inform the basis of future improvements in the way architects' and consultants' models work together.

Read the thesis:
researcharchive.vuw.ac.nz/xmlui/handle/10063/9184

Louise Bullen

Life cycle-based environmental impacts of future New Zealand electricity supply | Massey University, Masters

Louise investigated the life cycle-based environmental impacts of future New Zealand electricity supply. She developed an inventory of all the inputs and emissions associated with electricity generation and supply in New Zealand. This included the construction of new electricity generation infrastructure, the supply of fuels, operation and maintenance activities of power suppliers and distribution of electricity to the final consumer. She then used a life cycle assessment model to quantify the impacts resulting from these activities in terms of a range of environmental impact indicators including emissions of greenhouse gases.

Read the thesis:
mro.massey.ac.nz/handle/10179/16210

Peter Marriott

Limits of applicability of commonly used fire models in fire safety design | University of Canterbury, Masters

Peter is investigating the limits of applicability of commonly used fire models in fire safety design. Through finding these limits the research aims to develop design guidelines for fire models of large rooms with relatively small fire growth. These design guidelines will combine with the already extensive design guidelines to create robust and reliable modelling of fire in buildings in New Zealand. This will help Fire Engineers to undertake better, more efficient design which in turn will lead to improved public safety.

Rochelle Ade

Actual performance of Homestar rated homes | University of Auckland, PhD

Rochelle's doctoral research investigated whether there were any differences in indoor environment quality performance of Homestar-rated houses compared with code-compliant or older vintage houses. She undertook a case study of 29 dwellings in Glen Innes, Auckland, measuring the temperature and humidity in the living rooms of these homes to determine their relative performance against international healthiness thresholds. The research found that both Building Code and 6-Homestar homes were not able to fully remediate cold and damp in the case-study dwellings. All building types also exceeded the World Health Organization's healthy temperature in summer.

Read more:
www.sciencedirect.com/science/article/abs/pii/S036013231930678X

Sarah Buet

The disparity between reality and theoretical models when predicting moisture and mould growth within New Zealand residential houses

Sarah's master's thesis looked at the disparity between theoretical models and the reality of predicting moisture and mould growth in New Zealand homes. She aimed to understand whether tools such as ASHRAE Standard 160 can be reliably used in New Zealand to predict mould growth. She compared and analysed indoor conditions and conditions outlined by ASHRAE Standard 160 and discovered a number of discrepancies. She then went on to investigate areas in which further research could improve the suitability of ASHRAE Standard 160 in New Zealand.

Read more:
anzasca.net/wp-content/uploads/2021/03/43-Disparity-between-reality-and-theoretical-models-predicting-moisture-and-mould-growth-in-houses..pdf

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Zubin Karami

Durability performance of polyurethane-bonded wood joints for the New Zealand industry | University of Auckland, PhD

High quality adhesive bonding in timber engineering is of pivotal importance. It is an essential requirement that the bond line integrity is not compromised, with degradation resulting from moisture stress and temperature effects being of greatest concern in wood-bonded joints.

Zubin's research examined issues concerning life expectancy performance in relation to the wood polyurethane adhesive interface for laminated timber products produced in New Zealand. This was used to generate knowledge for input into the NZ Building Code. His research conducted extensive experimental test programmes, comparing the bonded performance of wood-wood bonded specimens using one-part polyurethane laminating adhesives with resorcinol formaldehyde adhesives which will act as a benchmark control.

Alumni – BRANZ scholars (2012 – 2019)

Scholars	Year complete	Level, tertiary institution	Topic
Agneta Ghose	2017	PhD, Massey University	Life cycle assessment (LCA) as a tool to evaluate strategies for reducing environmental impacts arising from refurbishment of New Zealand offices
Amber Garnett [nee Mellor]	2017	Master, Massey University	Assessing water footprint and associated water scarcity indicators at different spatial scales: case study of concrete manufacture in NZ
Amber Haddock	2018	Masters, Victoria University of Wellington	Building information modelling for asset & facilities management
Anne Ryan	2013	PhD, University of Auckland	Targeting productivity: Enabling the successful adoption of Building Information Modelling in the New Zealand construction industry by maintaining the relevance of procurement systems and contract forms
Brian Berg	2015	Masters, Victoria University of Wellington	Using BIM to calculate accurate building material quantities for early design phase life cycle assessment
Brian Guo	2015	PhD, University of Auckland	Developing leading safety indicators for the construction industry – a systems thinking approach
Cara Askew	2018	Masters, Victoria University of Wellington	Enabling continuous commissioning through building management systems
Elzine Braasch	2016	Masters, Victoria University of Wellington	The feasibility of building performance sketching within the building design process
Emily Newmarch	2019	Masters, Victoria University of Wellington	Inspire better buildings through performance of Thermal Envelopes in NZ extreme climates: exploring approaches and benefits of integrating energy, thermal and life cycle performance evaluation into architectural design
Ethan Duff	2016	Masters, Victoria University of Wellington	Parametric modelling of energy conservation measures and associated internal environmental quality metrics on small commercial Buildings in New Zealand
Funmi Rotimi	2013	PhD, Auckland University of Technology	An evaluative framework for defects in new residential buildings: A case for New Zealand
Garry Miller	2016	PhD, University of Auckland	Information flow matters: improving productivity performance in engineering and construction
Glen Stricot-Tarboton	2019	Masters, Victoria University of Wellington	Robotic arm prefab panels: A Proof of Concept: using a robotic arm to design and assemble unique building panels
Gye Simkin	2018	PhD, University of Auckland	The installation and instrumentation of sensors to monitor performance of buildings in Christchurch
Harriet Peel	2016	Masters, University of Canterbury	Engineering basis for reaction to fire properties of internal surface linings
Jade Kake	2015	Masters, Unitec	Pehiāweri marae papakāinga: A model for community regeneration in Te Tai Tokerau
Jarred Butler	2019	Masters, Victoria University of Wellington	Exploring the Use of Mould Estimation Software in New Zealand Houses: testing whether data from the Housing Condition Survey (HCS) could be used in simulation software to could predict mould growth in bathrooms
Johannes Dimyadi	2015	PhD, University of Auckland	Automated compliance audit processes for Building Information Models with an application to performance-based fire engineering design methods
Kara Rosemeier	2013	PhD, University of Auckland	Healthy and affordable housing in New Zealand: the role of ventilation
Karn Henning-Hansen	2018	PhD, Victoria University of Wellington	Delivering better, more varied types of housing for an aging population, focusing on sustainable models, and simultaneously addressing the need for increased urban density and infrastructural repurposing
Kimberley Russell	2019	Masters, Victoria University of Wellington	Fragmented procurement for BIM: comparing the impact of different procurement methods in a projects' abilities to meet the three aspects of the time, cost, and quality triple constraint
Lee Bint	2012	PhD, Victoria University of Wellington	Water performance benchmarks for New Zealand: Understanding water consumption in commercial office buildings
Mariana Esteves	2013	Masters, Lincoln University	Assessment of building products attributes – A comparative study between eco-labelled and non-eco-labelled products available in the New Zealand Market
Mark Hinton	2014	PhD, University of Canterbury	Convenient immorality: a substantive theory of competitive procurement in the New Zealand construction industry

Michael Anderson	2013	Masters, Victoria University of Wellington	Investigation into Green Star building user guides and how consumers can access building information in terms of readability and usability
Mikayla Heesterman	2019	Masters, Victoria University of Wellington	The robotic craftsman: robotic fabrication of complex timber connections: using robotic arms to develop customisable interlocking timber joints for mass construction
Mike Bedford	2019	PhD, University of Otago	Cold and crowded: The Early Childhood Education Environments Study [ECEE]: investigating temperatures, air quality and infectious disease incidence in childcare facilities - improving occupant wellbeing and heating alternatives
Olivia Whyte	2019	Masters, University of Otago	Sustainable urbanism and cohousing in Aotearoa New Zealand: Caould co-housing form an alternative to conventional detached homes and thus provide some relief to housing supply?
Penny McGowan	2016	Masters, Massey University	A thermal model for a solar ventilation system used in NZ schools
Philip Penn	2017	Masters, Victoria University of Wellington	Adequate BIM level of detail for life cycle analysis [LCA] energy simulation
Priyanka Raina	2015	PhD, Auckland University of Technology	An examination of the retention practice in the New Zealand construction industry
Sally Coughlan	2017	Masters, Massey University	New Zealand small to medium sized enterprises [SMEs] in the construction sector: Barriers to engagement with environmental profiling and development of potential solutions
Samia Ali Tariq	2016	PhD, University of Canterbury	High volume utilization of glass wastes in the composition of concrete including self-compacting concrete
Sandi Sirikhanchai	2019	Masters, Victoria University of Wellington	Energy flexible commercial buildings and the electricity grid: addressing the issue of the time series demand/supply relationship between building energy generation, building energy demand and peak demand in the electricity grid
Sanjeev Ganda	2019	Masters, Victoria University of Wellington	A Life Cycle Assessment of Medium Density Houses in New Zealand: Using Life Cycle Assessment [LCA] to assess whether residential buildings that use low energy are truly environmentally friendly in the long term
Sara Wareing	2015	Masters, Victoria University of Wellington	The evaluation of a range of existing NZ housing warrant of fitness tools to determine if their estimations of thermal performance are reliable and accurate measures of actual thermal performance
Tavis Cresswell-Wells	2015	Masters, Victoria University of Wellington	Urban form and passive design for high performance buildings in the Christchurch rebuild
Tayler Hubber-Davis	2019	Masters, Victoria University of Wellington	A holographic future: Comparing an AR headset to traditional construction methods: integrating building information modelling [BIM] with augmented reality [AR] deliver on-site building information benefits
Van Tran	2017	PhD, University of Auckland	The economic value of a zero-waste policy for construction materials in New Zealand
Vicky Southworth	2019	Masters, University of Canterbury	Increasing the uptake of building-scale water sensitive urban design stormwater management options in Christchurch, New Zealand: investigating water sensitive urban design [WSUD] uptake in urban areas by local authorities and private owners
Victoria Threadwell [nee Toner]	2015	Masters, Victoria University of Wellington	A predictive outdoor tool for thermal comfort
Wajiha Shahzad	2015	PhD, Massey University	Comparative analysis of the productivity levels achieved through the use of prefab systems with those of the traditional construction methods: case studies of some projects in Auckland
Yasmin Merwood	2013	Masters, Victoria University of Wellington	Ranking Sound Insulation Regulations: Giving New Zealand an International Context
Yusef Patel	2018	PhD, University of Auckland	Increasing value in the building industry by the use of digital fabrication