

## Presentation Details

| No | Presenter                    | Title of Proposal  | Biographical Information  | Abstract  |
|----|------------------------------|--|---|---|
| 1  | Dr Rick Ede & Daniel Fuemana | Welcome to the Building Today: Saving Tomorrow Conference                                | <p>Rick Ede has been the Chief Executive of Unitec Institute of Technology since 2008 and is also the Director of The Mind Lab by Unitec, a specialist education lab dedicated to enhancing digital literacy capability and the implementation of contemporary practice in the teaching profession</p> <p>Daniel Fuemana is the Head of the Department of Building Technology at Unitec Institute of Technology. He joined the Unitec team in mid-1996 as a lecturer in building construction and has 20 years' experience teaching adult learners. Prior to joining Unitec, Daniel spent more than a decade in the building and construction industry as a contractor and project manager. He has extensive knowledge and experience in both education and industry. He has been involved as a technical advisor and supporter of the Building Officials Institute New Zealand, the Certified Builders' Association, Site Safe New Zealand, Industry Apprenticeship Training, Industry Training Organisations and Government agencies. Daniel was instrumental in the implementation of the Maori and Pacific Carpentry Scholarship initiative, which has been a success within the last decade.</p> | N/A - Welcome to conference delegates   |
| 2  | John Cumberpatch             | TBC  | <p>John Cumberpatch is the General Manager Operations Implementation for the Canterbury Earthquake Recovery Authority. John has been working on the Christchurch earthquake response and recovery in the operations space since the beginning. He is responsible for scoping, delivering, monitoring and reporting on appropriate strategies and programmes of work relevant, but not limited to, the delivery of full or partial demolitions of property, both commercial and residential within Christchurch as well as Selwyn and Waimakariri Districts. Programmes of work include the following key streams:</p> <ul style="list-style-type: none"> <li>- Horizontal Infrastructure</li> <li>- Residential red zone clearance</li> <li>- Significant buildings and security</li> <li>- Relocations and security</li> <li>- Debris and waste management</li> <li>- Engineering and quantity surveyor activities</li> </ul>  | Johns' presentation will cover topics including the scale of damage to buildings; building construction and behaviour; reasons for demolition; methods of demolition; safety in demolition (especially in a seismically active environment); management of demolition process; assessment and disposal of hazardous material; cartage and disposal of demolition material; recycling of demolition material; storage of sensitive site buildings; care of sensitive sites; lessons from demolitions; repairing damaged buildings; construction of new buildings – how has demolition/ deconstruction been considered?; what should other cities consider?   |
| 3  | Terri-Ann Berry              | Asbestos remediation in the Cook Islands – a long-term solution for making schools safer | Terri-Ann Berry is a Lecturer in Civil Engineering at Unitec Institute of Technology.   | Asbestos contamination in the South Pacific originates mainly from construction products containing asbestos (SPREP, 2011). In Rarotonga, asbestos contamination in the soil surrounding two schools examined (Nikao Maori and Avatea) is believed to have originated from the super six roofing product that previously covered all existing classrooms on the site. The roofing has only recently been replaced with corrugated iron. Super six roofing becomes brittle and susceptible to increased weathering as the product ages. The weathering process from the sun, wind and rain releases the asbestos fibres into the environment (Bowler, 2014). The aim of this research was to identify remedial solutions for the removal and disposal of contaminated soil around the schools and for the future earthworks in Rarotonga. Three potential solutions were identified including: i) capping the contaminated soil on-site, ii) removal and disposal of the contaminated soil off-site and iii) a combination of both i. and ii. Solutions considered the feasibility of each option (both in the short and long-term), minimising impact on the residents and the workers exposed, reducing environmental impact and quantifying the financial implications for each option. |
| 4  | Alex Cutler                  | TBC  | Alex Cutler is the Chief Executive of the New Zealand Green Building Council. Alex's career has been focused on influencing business and government to understand and adopt the strategic opportunities that sustainability represents. As CEO of NZGBC, this is focused on the building and construction sector. Previously Alex built the sustainability practice at PwC NZ, was a consultant at PwC UK and Sustain Ability Ltd. The early part of her career was working with socially responsible business pioneers such as Anita Roddick of The Body Shop, through Social Venture Network Europe, and her first role was the creation of a new venture - the New Academy of Business, a management education organisation for developing new ways of doing business.   | TBC   |

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| 5  | Associate Professor Nalanie Mithraratne | Measures to minimise construction waste (Singapore)         | Nalanie Mithraratne is an Associate Professor at the National University of Singapore. Her research interests include Transportation Infrastructure Systems, Green Infrastructure, Renewable Energy, Sustainable Architecture, Sustainable Building Design, Architecture, Carbon Footprint, Life Cycle Costing, Rain Water Harvesting, Distributed Generation and Microgrid, Residential Construction, History and Education. Nalanie received her PhD in Architecture from the University of Auckland and has previously worked as a Senior Researcher in Urban Systems at Landcare Research. | Construction and demolition waste represents a significant wastage of natural resources and energy while also contributing to air pollution. Measures to reduce construction waste include flexibility in design of new buildings and recovery of materials from existing buildings. Although prolonging the building life through designing for adaptation can reduce the rate of demolition, the low rate of renewal of buildings means that material recovery and reuse are equally important for sustainability. While quality of recovered material/component depends on the original design and recovery process, there is a lack of measures to promote the use of recovered materials. Changes in decision making on how buildings are designed, demolished and reused can therefore significantly improve the resilience of building stock and reduce the adverse impacts. While theoretical underpinnings of designing for deconstruction are well established, its practice depends more on location, policy issues and incentives. The paper discusses the preliminary findings from a research project which aims to develop a set of guidelines on designing for flexibility based on life-time environmental and financial performance of alternative strategies and generate data on relative environmental performance of recovered construction materials/components compared with their virgin alternatives used in Singapore.  |
| 6  | Michael O'Sullivan                      | TBC   | Michael O'Sullivan is an Architect at BOS. Since 2012, BOS has been working with Fletcher EQR and other Earthquake-related insurance companies in response to the two major earthquakes in Christchurch that happened in 2009 and 2010. Participating in over 130+ repairs, including chimney rebuilds, firewall rebuilds, re-clad, foundation repairs as well as new homes, BOS is one of the top architectural firms to provide services for the Canterbury Home Repair Programme (CHRP).  | TBC  |
| 7  | Associate Professor Michelle Rosano     | TBC   | Michelle Rosano is an Associate Professor in the School of Civil and Mechanical Engineering and the Director of Sustainable Engineering at Curtin University, Australia.   | TBC  |
| 8  | Andy Pivac                              | Practical Education for Future Builders in Waste Management | Andy is a Lecturer in Building Technology at Unitec Institute of Technology.   | Students undertaking the Unitec Certificate of Applied Technology (carpentry) programme, build houses on-site at Unitec Institute of Technology. With an intake of around 120 students completing this course each year there is a valuable opportunity to introduce recovery and recycling systems as part of course delivery and to ensure that graduates entering the construction industry are able to carry out and encourage best practices in waste minimization on construction sites. Unitec received funding from the Auckland Council Waste Management and Minimisation Project Plan, which is aiming for a goal of Zero Waste by helping people to minimise their waste and create economic opportunities in doing so. The funding has helped set up model areas on the house building site for waste sorting and recycling, through improved bin layouts, signage, and a sorting area for each house construction area within the compounds at the Mt Albert campus. Unitec will work with our current waste and recycling service providers to introduce collections for resource recovery of plaster board, different types of timber, nails, packaging and any other key materials identified. We have also starting measuring the quantities of all site waste materials. This presentation will tell our story of the journey so far; how we have approached the challenge, the incentives being used, the findings of the measured waste, student and staff attitudes, and will outline the benefits of such a project. |

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| 9  | David Brown                | TBC   | David Brown is on the Board of Directors of, Beacon Pathway Inc. Beacon’s objective is to transform New Zealand’s homes and neighbourhoods to be high performing, adaptable, resilient and affordable through facilitating and undertaking demonstration projects which show the benefits of higher performing new and existing homes; facilitating and providing robust research which builds a fact-based platform for sustainable, affordable, buildable and comfortable homes; enabling members to lead the transformation of the built environment in New Zealand; collaborating with and bringing together other stakeholders in New Zealand’s residential built environment to create greater change. David is also the Chairman of the Board for Certified Builders Association of New Zealand. Certified Builders represents a nationwide network of trade qualified builders who meet the highest industry standards for workmanship and business practice. They have 3,500 members who undertake over \$2 billion of construction (20% of NZ total) and operate mostly in the residential and light commercial sector. | TBC   |
| 10 | Dr David Turner            | Whole building recycling as a waste reduction practice. | David Turner has taught and practised architecture in the UK and New Zealand. Originally from the uncomplicated city of Dunedin, he qualified as an architect and lecturer at Manchester University, then worked with Darbourne & Darke and BDP before setting up a practice in Bath from which he developed experience in urban housing design, and a deep interest in conservation practice there and in other historic British cities. He returned to New Zealand in 1993 to join the staff of the new School of Architecture at Unitec. David is Director of the Unitec Housing Research Group which produced the Best Practice study on Medium Density Housing Design for Housing New Zealand in 2004.   | This paper considers strategies for whole building recycling in New Zealand. Assumptions about waste and recycling potential that are made most frequently in the process of refining and improving construction systems seek to develop methods that may be generally characterised as reductive. These are often effective, and make significant contributions to the overall efficiency of the industry. However, the tradition of uplifting, removing, relocating and restoring – and in this process, recycling – a whole building is well established as a practical and economic alternative to demolition, in which process only a small proportion of all the original material is likely to be salvaged. The “relocatable”, in which space as well as material is recycled, can be seen as a highly sustainable practice in social terms, and as a valuable contribution to the reduction of waste and resource depletion. The argument for expanding the practice is developed in this paper through case study examples with a focus on three elements: material recovery, irreducible waste by-products from the usual process, and social advantages, through which, it is argued, waste is minimised by direct personal commitment commonly encountered throughout the period of the building’s recovery. Case studies are supported by research that has had access to the files of some of Auckland’s leading house removal companies. |
| 11 | James Griffith             | TBC   | James Griffin is works with the Sustainable Business Network Team to ensure that SBN delivers relevant and valuable activity that helps members achieve sustainable success. He has extensive commercial experience having worked in large corporates and owned his own business. His business sustainability journey started many years ago via the coffee industry where he was involved in Fair Trade. James will be speaking about the Circular Economy Model Office (CEMO). The aim of CEMO is to minimise waste created by the refurbishment and build of offices by using the principles of a ‘circular economy’: a system that operates in a closed loop with no waste, where the lifecycle of materials is maximised, usage optimised and at the end of life all materials are re-used.  | TBC   |
| 12 | Simon Gaines, & Adam Benli | TBC   | TBC   | TBC   |

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| 13 | Bryan Poulin | The Efficient House Innovation: Addressing healthful, efficient housing in Northern and Southern Climates                 | TBC                      | This paper tracks the 2000 to 2015 emergence of Efficient House Innovation (EHI). The idea for the innovation is based on the need for more healthful, more energy efficient, longer lasting housing. It does this by extending previous work on breathing walls that was begun in the 1970s and by revisiting fresh air and heat loss and gain in buildings and houses: convection (somewhat handled by most building codes with building envelope insulation); radiation (not addressed by most codes); and conduction (not well enough addressed by most codes). Commercialization is similarly a multi-faceted collaboration. Results of the Efficient House Innovation include two demonstration projects, the first for which the researcher-authors received their university's Innovation Award in 2009; and later a Canadian patent in 2014. It concludes with implications on the innovation process and EHI as one approach to healthy, long-lasting, efficient, sustainable housing.  |
| 14 | Robyn Hardy  | Barriers to Building and Construction Waste Reduction, Reuse and Recycling: A Case Study of the Australian Capital Region | TBC                      | Building and construction waste materials continue to be a major problem that causes significant environmental impact worldwide. The broad aim of this university-industry collaborative research is to identify the barriers, opportunities and strategies for reducing, reusing and recycling building and construction waste materials. To achieve this aim, several workshops and phone interviews were undertaken in the Australian Capital Region, with different stakeholders as well as examination of case studies undertaken elsewhere. This paper presents and discusses the results in relation to the barriers. The workshop participants and interviewees were first provided a list of 12 barriers obtained from review of relevant literature. They were then asked to think 'out of the box' to identify any more barriers that were not captured in the list. Seven new barriers were identified, given a total of 19 barriers. This paper discusses each of these barriers in detail. Strategies to potentially overcome these barriers were also discussed in the workshops and the results are presented in this paper. This research contributes to the field by identifying new barriers and providing relevant strategies, which were developed together with frontline practitioners and managers. The outcomes of this research have led to the development of the second stage of this collaborative research project. |