

TEMC 2021 ONLINE CONFERENCE



Abstract Book

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IGEMC 2021

Concurrent Presentations

This Abstract Book includes all Concurrent Session and OnDemand Presentation Abstracts.

See the Index at the end of this document to see the presenters' names with their associated Abstract Numbers. Abstract Numbers are included throughout this document, at the top of each of the individual Abstracts.

Indigenous Principles: Incorporation to design of new built environment and day-to-day facilities management in universities.

[Miss Piper King](#), [Mr Abdon Dantas](#), Ms Piper King
The University Of Queensland, St Lucia, Australia

Indigenous Principles: Incorporation to design of new built environment and day-to-day facilities management in universities., October 11, 2021, 12:10 PM - 1:15 PM

Biography:

Abdon Dantas is the Space Manager of the University of Queensland, where he has been working for the past 7 years. Having tertiary qualifications in Architecture, Engineering, and Interior Design, he is an active member of the Go8 Performance Reporting Group. Piper King is currently studying her Masters of Architecture with the University of Queensland and has a passion for Aboriginal Architecture. Her previous experience involved working on major sports and entertainment projects, including stadiums, theatres, and civic precincts.

At its most fundamental, one aspect of Aboriginal and Reconciliation Architecture is agreed upon; in order to decolonise our built environments, sovereignty and agency must be prioritised. Given the role that universities play as large-scale institutions that operate within and have significant impacts on the fabric of our cities, they ought to play a leading role in the incorporation of Indigenous principles on both, new benchmark projects and day-to-day facilities management. By doing so, they not only provide appropriate built environments for Indigenous people, but also contribute to forging an original style that incorporates the culture of First Nations groups and current occupants, to continue the decolonisation of environments and active reconciliation. This paper draws upon the current strategies and protocols implemented by Australian Universities regarding Indigenous principles to demonstrate a shift away from the past, when typical solutions to design or planning projects through stereotypical or tokenistic representations of Indigeneity were applied, such as locating them closer to a green area or providing them with a traditional fire pit without consultation or genuine request for these elements. Based on that assertion, the study proposes a framework to assist in the continuing improvement of strategies used in the implementation of Indigenous principles in the planning and management of tertiary institution facilities. The framework is based on collaborative approaches which value the sharing of cultural knowledge and information by First Nations groups and prioritise their agency in how cultural and intellectual property is utilised.

Maurie Pawsey Scholarship - Indigenous Place Making

Mr Yemurraki Egan¹

¹University Of Melbourne, Melbourne, Australia

Maurie Pawsey Scholarship - Indigenous Place Making, October 11, 2021, 12:10 PM - 1:15 PM

Biography:

Yemurraki is a proud Yorta Yorta, Wemba Wemba and Gunditjmara man who grew up in Melbourne. He is a graduate of the Melbourne Indigenous Professional Employment Program and is currently working as part of the Corporate Finance and Property team in the Property Division of the University of Melbourne. In this role, Yemurraki contributes to the development of Indigenous cultural themes in placemaking and is an ambassador for programs that provide mentoring and work integrated learning opportunities for Indigenous peoples. Yemurraki has worked with a quantity surveying firm to develop their first Reconciliation Action Plan and with the Melbourne School of Engineering and a global engineering firm to increase Indigenous representation in the engineering sector. Yemurraki has returned to his former high school to provide advice and engage with current Indigenous students on strategies to improve their educational outcomes and pathway to employment and a rewarding career.

Yemurraki Egan is a proud Yorta Yorta, Wemba Wemba and Gunditjmara man who grew up in Melbourne and is currently enrolled in an Associate Degree of Engineering at Swinburne.

Yemurraki was awarded the 2020 Maurie Pawsey Scholarship which he is using to undertake extensive research into Indigenous placemaking and engagement in order to educate the broader tertiary education sector. In 2021, Indigenous placemaking is no longer a 'nice to have', it is an essential component of best practice facilities management and an opportunity to transform our institutions into spaces that provide refuge and support for Indigenous Australians.

Yemurraki has been involved in several major projects at the University of Melbourne that involve engagement with Indigenous Australians including the Atlantic Fellows for Social Equity and the Munurra Centre for Regional Excellence. As part of his research, Yemurraki has interviewed a number of key Indigenous academics, staff and students to capture a raw, accurate representation of the relationship Indigenous people with the University of Melbourne. This presentation will share Yemurraki's research so far into the current relationship Indigenous people have with universities and what measures and actions are currently in place in improving this engagement.

What's your problem? And who cares?

[Ms Carol Harding](#)

What's your problem? And who cares?, October 11, 2021, 12:10 PM - 1:15 PM

Biography:

Carol Harding has a wealth of knowledge in the tertiary education sector having held a range of roles over the past 22 years including her current appointment as an Honorary Associate with the University of Tasmania. Carol has deep experience in innovation after a decade as Deputy Director of the Australian Innovation Research Centre and in the four years since as principal of her own practice.

Carol is a strategic/service design expert, specialising in design thinking, creative problem-solving and innovation. She is a Design Lead, a speaker, trainer, and mentor.

She is obsessed with helping people learn how to fearlessly develop highly innovative solutions to their problems and opportunities. When she's not up to her eyeballs in other people's problems (and she wouldn't have it any other way) she's on her soapbox encouraging people to embrace problems as exciting opportunities for growth.

What's the biggest problem you currently have? Is it the one you're losing sleep over? The one you're considering sweeping under the carpet? Or the one you're starting to feel has no solution? Whichever way, if you don't know what 'type' of problem you have then your troubles are bigger than you may think. Because without knowing what type of problem you have, you can't know the type of thinking you need to apply to it. Which means you're more likely to come up with a dud solution.

There's an added layer of difficulty if your problem involves other people. In our sector, the majority of problems that arise involve multiple stakeholders who may care deeply about how you're addressing the issue. But may not agree on the nature of the problem let alone your solution.

In this presentation we'll be looking at different types of problems and the different thinking used for addressing them. We'll also take a look at a creative problem-solving process that is optimised for dealing with messy problems where multiple stakeholders are involved.

Doing more with less - a discussion on strategies to engender camaraderie and purpose in lean times

[Mr Tom Evershed¹](#), [Ms Kay Ritchie¹](#)

¹Swinburne University Of Technology, Hawthorn, Australia

Doing more with less - a discussion on strategies to engender camaraderie and purpose in lean times, October 11, 2021, 12:10 PM - 1:15 PM

Biography:

Kay Ritchie and Tom Evershed are Managers' Academic Operations at Swinburne University of Technology. They support their respective Associate Deans' Education with the operational management and assurance of quality learning and teaching. They are passionate about providing an engaging student learning experience and have it at the heart of all they do.

In the current difficult COVID climate universities have been particularly affected, with substantial job losses across most of the sector. Our conundrum is how do we provide excellence and continue to rise to greater heights with less. Less staff and less resources can lead to climates of low morale and staff feeling overwhelmed and stressed, which in turn can lead to insular thinking and self-protection strategies. We want our staff to want to go the extra mile, to support their fellow workers and aim to provide excellence, but this doesn't happen in a vacuum – it needs to be nurtured and modelled by senior staff, and teams brought together to work toward and support each other to attain their shared goals; not because they have to but because they want to. A lot of strategies that can help to do this are not expensive, or resource intensive. They are often as simple as providing staff with validation and acknowledgement. For instance, acknowledging that with less resources there are things we'll need staff to do that aren't within their role remit but need to be done. To expect staff to pick up the slack with no appreciation or acknowledgement for their doing so, is what can be so alienating. In this session we will discuss our thoughts on strategies we can easily adopt to engender a greater sense of camaraderie and purpose and a more fulfilling work environment.

The Post 2020 Campus: 2020 has redefined the future workplace, or has it?

[Mr. Dinesh Acharya¹](#), [Mr David Bruce¹](#), Mr David Bruce¹

¹JLL, Melbourne, Australia

The Post 2020 Campus: 2020 has redefined the future workplace, or has it?, October 11, 2021, 12:10 PM - 1:15 PM

Biography:

David is a senior planning and development manager within Buildings and Property at Monash University.

With 25 years of diverse university and government experience he has delivered detailed planning, feasibility, business case, detailed briefing and development of over \$500M of building infrastructure to enable critical university strategic business aspirations across teaching, research and enterprise activities.

Dinesh Acharya leads JLL's Workplace Strategy business in Australia and New Zealand. He is tasked with meeting the growing demand from clients for workplace solutions to better support their corporate objectives. Dinesh's expertise is in undertaking consulting engagements with clients to establish new workplace strategy programs or enhance existing programs in order to: reduce occupancy costs; attract/ retain employees; enhance employee productivity and engagement; provide change management and culture transformation support; and enable business results.

2020 has redefined the workplace of the future, or has it?

In 2019 Monash, in partnership with JLL and Bates Smart, embarked upon a project to better understand and design for the future of work in a university setting. As facility managers undertaking this process, we adopted a fundamentally different approach: designing solutions with users rather than for them.

Our co-design process facilitated collective learning, deeper understanding and experimentation and allowed our team to work with Faculty champions as true partners, rather than being seen as an 'adversary'.

Our process not only allowed us to get better design outcomes, but was also an integral part of the change management process by allowing champions to have much greater input, understanding and ownership of the change and thereby reducing any conflict.

Why - Our higher education workplace is changing, 2020 has just accelerated what many of us were already exploring. The need for change is not based on academic research and teaching becoming less relevant, rather because it is more important than ever in solving the world's increasingly complex problems.

This session will let us explore and develop a view on what our future workplace will look like and how it will support our staff to achieve the highest level of excellence in their roles.

Poll to Define:

Work – Operating model post covid (Options: How is work performed and where and when does it happen?)

Workforce – Academic, professional and HDR (Preferences: Back to pre 2019, Hybrid, Agile....)

Workplace – Location, size, right mix for our portfolio (Options: Cellular, open plan, collaborative)

How can we partner with our workforce to break down barriers and preconceived notions?

- Partnership – leveraging capabilities within FM, Faculties and the University. How far is too far?
- Procurement - challenging the market to partner and avoiding pre-conceived solutions
- Process – ethnographic research, immersive learning, occupancy studies
- Principles – establishing project priorities and design principles to guide the workplace model
- Prototyping – playing with different options to understand what works and what doesn't
- Proposition – Agreed method of how we want to work
- Post Project – Planning an operational model for how we will use the redefined workplace

Monash and JLL will expand on how we have undertaken this process.

From individual (office) bubbles to connected (home)bubbles: what's next for academic workplaces?

Ms Sarah Backhouse, [A/Prof Christhina Candido](#)¹, Ms Iva Durakovic, Dr Samin Marzban, Ms Aparecida Ghosh

¹The University Of Melbourne, , Australia

From individual (office) bubbles to connected (home)bubbles: what's next for academic workplaces?, October 11, 2021, 12:10 PM - 1:15 PM

Biography:

A/Prof Candido is an architect with a PhD in Civil Engineering from the Federal University of Santa Catarina (Brazil) and in Environmental Science from Macquarie University (Australia). Her research interest and expertise relate to design, experience and performance of spaces. A/Prof Candido directs the SHE – Sustainable and Healthy Environments – Lab. The SHE Lab develops a program of applied research aimed at understanding how the built environment can improve sustainability and health. A/Prof Candido works closely with the Green Building Council of Australia (GBCA), the National Australian Built Environment Rating System (NABERS) and International WELL Building Institute. She is a WELL Faculty member and IWBI Research Advisor.

There is no doubt that academic workplaces were on the verge of a transformation before the pandemic. Over the last decade, many universities had started to move away from classic individual office bubbles towards semi or open plan configurations to harness collaborative and innovative opportunities. Academic workplaces were changing in purpose, size and composition, making way for reduced individual office footprints and diverse, interconnected, purposively designed spaces. Some institutions went as far as fully embracing open-plan offices with or without desk ownership, resulting in a backlash from the academic workforce. As pandemic-imposed restrictions ease, many academic offices remain empty as they have done for most of the last 12 months. A significant portion of academics continues to work from home, challenging the notion of 'snapping back' to old work patterns. Consistent with other knowledge sectors, there is an appetite for increased control over where, when, and how people work post-2020. The exodus of the academic workforce from university offices has had an immediate impact on the overall vibrancy of campuses. Still, the mid to long-term effect on work patterns of a multigenerational group is yet to be understood. Further, is it is unclear how universities will repurpose, reclaim or redesign workplaces given the many uncertainties the sector faces. Whatever shape the future academic workplace takes in a post-COVID era, it is important to look back to understand the positives and negatives aspects of the transformation underway in Australia. This presentation will discuss some of these aspects, showcasing research findings relevant to the design, performance, and experience of academic workers pre, during and post-2020: the negative and positive aspects of working from individual, open-pan and activity-based work environments, and how well each of these typologies supports basic psychological needs will be presented, alongside recent experiences during and post-COVID lockdowns. Finally, this presentation aims to discuss some of the academic workplace unknowns in the post-2020 era.

Retail update for the post-2020 campus. 5 keys to recalibrate retail numbers and mix for changing campus demographics

Ms Suzee Brain¹

¹Brain & Poulter, Bowral, Australia

Retail update for the post-2020 campus. 5 keys to recalibrate retail numbers and mix for changing campus demographics, October 11, 2021, 2:20 PM - 3:25 PM

Biography:

Suzee Brain has been a thought leader in retail planning for more than 20 years. Her company has transformed the campus retail retail experience for staff and students at more than 35 University campuses across AU/NZ. Constantly evolving retail strategies to create stickier campuses, Suzee and her team created multiple CoVID-19 retail resources to assist with rent negotiations and tenant profitability throughout 2020. In 2021, the team is turning their attention to connecting retail to country, building in social value and continued innovation in improving sustainability outcomes from campus retail design and operations.

Campus Retail is taking an absolute battering as Universities adopt online learning to keep staff and students safe from CoVID-19. Universities responded quickly and generously with retail rent abatements in 2020, with many continuing to offer rental assistance through 2021.

Even as the vaccine roll-out gathers momentum and the likelihood of international borders opening in 2022-2023 raises hopes that students will return, there are some long-term impacts for campus retail. Most significant is the adoption of blended learning, merging online and in-person teaching and learning. This generates less attendance on campus, which significantly impacts campus retail trade. Simply "sharing a smaller retail pie" across existing retailers results in lower product quality and customer service levels as retailers cut costs. Secondly, political struggles may also affect the countries dominating the international student profiles and their campus F&B needs. B&P has developed and implemented dynamic new solutions to these challenges.

In this presentation, Brain&Poulter will address the following critical questions to assist University leaders as they plan retail for the next 1 – 5 years;

1. Do retail numbers on campus need to be re-calibrated if blended learning is adopted permanently?
2. What are the highest and best retail uses to meet the needs of a post-pandemic demographic
3. What retail activations can be used as a lever to encourage students back to campus?
4. What technology will become essential as part of the retail experience
5. How to connect with country, sustainability and social value through retail

Brain&Poulter are Australia's leading Campus Retail masterplanners. Working both on and off campus to predict and plan Australia and New Zealand's retail/F&B landscape they will present the latest research and case studies on meeting the retail needs of future students and staff.

5 Key Takeaways

Delegates will return to their workplace with strengthened knowledge and understanding in;

1. The revised planning ratios for calculating sustainable retail numbers
2. The hottest retail uses to attract as a campus provider
3. The most effective activation campaigns that increased students return to campus
4. The cost and benefits of various technology investments to improve retail performance
5. How to connect retail with country, social value and reduce the retail carbon footprint

Culture clash: embedding Indigenous engagement in infrastructure project delivery

[Mr Damian Burke](#)¹, [Dr Heather Kember](#)¹, [Mr David Newham](#)², Mr David Newham²

¹University of Newcastle, , Australia, ²Indyamarra Cultural Education, , Australia

Culture clash: embedding Indigenous engagement in infrastructure project delivery,
October 11, 2021, 2:20 PM - 3:25 PM

Biography:

Heather Kember is a project administrator in the Major Projects team at the University of Newcastle. In her role, she most recently supported delivery of Q building, which provides facilities for the Innovation hub and school of creative industries and led the design competition for Alumni House.

Her background is in psychology, studying this at the University of Sydney at both undergraduate and postgraduate levels. After completing research positions in the USA and back in Sydney, she made the decision to transition into University administration roles and found her way to Newcastle. In addition to her core duties, she has been a champion for developing cultural capability in the Infrastructure and facilities team at the University of Newcastle and improving Indigenous engagement in project delivery.

David Newham

David is a proud Aboriginal man born and raised in the Newcastle area. He is a proud Wiradjuri descendant and ceremonially a Ngemba man, both of NSW.

David is undertaking a Masters in Philosophy focusing on the work he does as an Aboriginal Cultural Educator in schools and a model of delivery he has developed. This model has been based off traditional Aboriginal ways of knowledge sharing. He is also working as the Manager, Reconciliation and Cultural Education for Nutrition Plus, a Newcastle based children's nutrition, health and wellbeing charity. This work is heavily focused on 'Indigenous' children and was established to advance Reconciliation.

David has a long association and connection to the University of Newcastle, spanning twenty- seven years. Along with being a double graduate (1998, 2007), David has been a winner of the prestigious University of Newcastle Vice Chancellor's Leadership Award (2007), worked at The Wollotuka Institute as a Project Officer and Associate Lecturer (1999-2004, 2008) and seven years on the UoN Alumni Advisory Committee (2008-2014). More recently David took on the role as the Aboriginal cultural adviser for The University of Newcastle's Alumni House Design Competition with the Infrastructure and Facilities Services (IFS) team.

David believes it is his obligation and responsibility to pass on traditional cultural knowledge, shared with him by his Elders, and the professional skills and experiences he has acquired over time. In particular, he feels that Aboriginal young people are an essential focus of this sharing of knowledge

Damian Burke

Damian Burke is the Major Projects Director at the University of Newcastle. Damian has been with the University of Newcastle delivering strategic projects for over a decade. He has overseen many of the Universities major developments, including the city campus projects, NUspace and the Q Building. Damian's experience in maximising the strategic benefit from major project investment has resulted in the delivery of quality spaces and sustainable solutions for students, staff and community.

There is growing recognition within the design industry and property industry more broadly, that for the built environment to truly be inclusive and a good fit with its surrounds, it must be connected to country. This requires genuine and respectful relationships with Aboriginal and Torres Strait Islander knowledge holders and an ongoing commitment to developing cultural capability by project team members.

At the University of Newcastle, attempts have been made previously to engage genuinely in design processes for major projects. While the intent was genuine, it was not always perceived that way by community. The Major Projects Director will speak to key lessons learned from delivered projects, including NUspace and the recently opened Q building, both part of the Newcastle city campus. He will also talk about the University's 2020-2025 Looking Ahead Strategic Plan, and why Indigenous engagement is so important as part of the University's commitment to reconciliation.

We will then talk about our approach to consultation and engagement on the University's Alumni House project. This project presented an opportunity to embed Indigenous engagement from early in the initiation stage and learn from previous projects. We will share some insights both from the project team and cultural consultant perspective on our early learnings from this project, particularly in response to challenges incorporating indigenous engagement through a design competition. Key elements that were successful included:

- Ensuring there was senior Indigenous leadership in the project governance to oversee delivery and provide advice where required.
- Incorporating Indigenous design standards and evaluation criteria as part of the Principal Design Consultant Procurement process
- Facilitating workshops to share knowledge of the area to include in design competition submissions
- Setting requirements for consultants to develop their cultural capability via committing to a reconciliation action plan

The most important aspect of our approach was establishing a strong and respectful relationship between the project team and our cultural consultant prior to the project commencing. With this foundation in the Alumni House initiation phase, it sets us up for a design that is connected to country and delivery of a more culturally safe place for our Aboriginal and Torres Strait Islander alumni to visit once completed.

Leading change and transformation in a changing environment: How resilient and adaptable is your organisation?

[Dr Janet Buchan](#)¹

¹Queensland Tertiary Admissions Centre, Brisbane, Australia

Leading change and transformation in a changing environment: How resilient and adaptable is your organisation?, October 11, 2021, 2:20 PM - 3:25 PM

Biography:

Janet is the Technical Adviser – Higher Education, Policy with the Queensland Tertiary Admissions Centre (QTAC). For over 25 years she has worked in tertiary and secondary education as a teacher, learning designer, senior lecturer, manager and director - delivering excellence and innovation in learning and teaching or related areas. Her leadership experience includes providing advice and guidance on complex areas of higher education policy, curriculum and assessment.

She is a Learning Environments specialist, passionate about research into learning space design and management, distributed learning environments, educational technology, learning design and blended learning.

How resilient is your organisation, your unit or your team and how well have you absorbed the pandemic-induced changes to our working environments? Did your organisation simply adapt, or did it transform?

This presentation introduces the Adaptive Cycle Framework which is a 'systems' approach to understanding the transformability and adaptability of any organisation. It can be used for planning and evaluating at macro- and micro-levels. The framework describes the features or aspects of the different phases an organisational system needs to plan for in order to adapt and move towards transformation.

A case study is described that looks at how a tertiary admissions centre used the experience of moving to remote working in 2020 as an opportunity to transform and make long-term improvements to its operations and how and where staff work. The Adaptive Cycle Framework is applied to the case study to evaluate the transformation and adaptability of the organisation.

During the first Queensland COVID-19 lockdown in 2020, the Queensland Tertiary Admissions Centre (QTAC) pivoted quickly to mobilise its workforce and to get the entire company, including significant customer-services roles, working from home (WFH). Over half of the staff in the traditionally office-based company had never experienced 'remote' working prior to the COVID-19 experience.

During the first WFH period in May 2020 QTAC undertook a research project to understand more about effective practice in the new work environment. The project drew on research, knowledge and practice from the higher education sector, in particular multi-campus, regional universities. Principles of good practice in teaching, online and blended learning, and working in distributed learning environments were modified and applied to the new 'hybrid' (remote and on-site) work environment. The five Dimensions Model of the Learning Environment (Buchan, 2014) were adapted into 6 Dimensions of the Distributed Working Environment that formed the foundation of the key outcome of the research which was the new Hybrid Model for Distributed Working and Engagement.

The research and models presented are simple but practical. They are of interest to practitioners, managers and leaders interested in strategic thinking, transformation and managing change or to anyone planning for long term adaptability and resilience at individual, team or organisational levels.

Connecting students to campus: A case study in student centred design and activation

[Ms Ada Chung](#)¹, [Mr David Gulland](#)²

¹UWA, Crawley, Australia, ²Hassell, Perth, Australia

Connecting students to campus: A case study in student centred design and activation,
October 11, 2021, 2:20 PM - 3:25 PM

Biography:

Ada Chung is the Manager Placemaking and Activation at UWA. She has over 15 years' experience working in arts, events, media and place making. Thanks to the opportunity to work and live overseas, Adahas built a passion for city building. Ada is excited about the current focus on the citizen-lead placemaking and cultural development of Perth and campus spaces in particular and is passionate about promoting the vibrancy of Perth's cultural life to locals and visitors alike.

David Gulland is an Architect and Principal at HASSELL. He is the Principal in Charge of the recently opened AUD\$80m EZONE UWA project for the University of Western Australia.

The most cost-effective, sustainable and powerful way for Universities to activate places is to allow it to happen rather than making it happen themselves.

The presentation will case study UWA's new student hub, EZONE, and examines how student centred design, placemaking and activation has increased time spent on campus, facilitated group study and influenced the student experience. We look at how the combination of good design and good governance helps us to achieve an active, engaged and connected campus.

A thriving campus is one that attracts people of all ages, races, identities, abilities, and backgrounds. Places thrive for a number of different reasons, but a successful campus fosters healthy social settings, provides a feeling of safety and security, supports teaching and learning outcomes and encourages students to socialise and connect. Universities are often the stage on which these dynamic results can be best realised and where design and university staff can play a significant role. Campuses become authentic anchors, offering a unique sense of place and memorable experiences for students. We discuss this in the context of:

- Formal learning settings and what happens when you step outside of them
- What it means to have student-led activations
- The role of design and the physical environment
- Jumping over hurdles and cutting red tape
- The real vs the virtual learning environment

Successfully implementing a creative placemaking program is a multi-faceted effort. While the fun part is the final result, success means carefully addressing key issues such as space

design, allowed usage, systems, process, operations, maintenance and funding. This is important because, as budgets are tightened and incentives limited, campus activation represents a cost-effective way to improve the student-experience for those that study, work, visit and play in campus precincts.

Told you so! People Counting Gold

[Mr Corrie Cook](#)¹, [Mr Blair Daly](#)¹

¹Auckland University Of Technology, Auckland, New Zealand

Told you so! People Counting Gold, October 11, 2021, 2:20 PM - 3:25 PM

Biography:

Corrie Cook and Blair Daly have worked in the Space Planning and Timetabling team at Auckland University of Technology for over 10 years. As ex teachers, they both have a passion for education and seeing students succeed. They also recognise the need for efficient use of space to meet sustainability, financial and academic goals of the university. Over the last several years, they have worked, with their Estates colleagues, towards developing a 'fit for purpose' estate which provides for the needs of staff and students but is also efficient.

As a young university, and one with a large inner-city campus, AUT has always had to use space efficiently. Corrie Cook (Director of Space Planning and Timetabling) and Blair Daly (Associate Director of Space Planning and Timetabling) have used a variety of approaches to improve space efficiency at AUT. People Counting technology is the most recent.

Managing the space expectations of schools in Higher Education is always difficult, but in the current financial climate the pressure to conserve space makes it even tougher. This presentation outlines the approach AUT took to implement people counting and looks at a couple of case studies where the technology helped the university manage "space creep" and negotiate a more efficient allocation. The presentation will cover the process AUT went through in deciding on which people counting technology to use, how it was implemented and will provide a couple of specific examples of how they have used the results to inform good Space Planning.

If you are considering the use of People Counting technology, or currently have it and are looking for ways to utilise its power, this will be of interest to you. With evidence-based approaches to managing space usage and more efficient timetabling Corrie and Blair will talk through how they approached the challenge and what plans they have for how people counting can be used in the future. In short, if you have thought about the usefulness of this new and emerging technology, this practical explanation of the way AUT approached the implementation will be of interest to you.

Bridging the gap: Understanding the needs of young Victorians with mental ill-health as they transition to further education and training.

[Dr Jennifer Nicholas](#)^{1,2}, [Dr Caroline Gao](#)^{1,2}, [Ms Gina Chinnery](#)², [Mr Caleb Koppe](#)³, [Professor Eóin Killackey](#)^{1,2}

¹Orygen, Parkville, Australia, ²Centre for Youth Mental Health, Parkville, Australia, ³Victorian Tertiary Admissions Centre, South Mebourne, Australia

Bridging the gap: Understanding the needs of young Victorians with mental ill-health as they transition to further education and training., October 11, 2021, 2:20 PM - 3:25 PM

Biography:

Dr Jennifer Nicholas is a Research Fellow in digital mental health and functional recovery at Orygen, Centre for Youth Mental Health at University of Melbourne. Her research focuses on increasing the availability and reach of mental health support by integrating digital mental health interventions in service settings, with an emphasis on both symptom and functional improvement. She is passionate about ensuring that all young people with mental ill-health can follow their goals, particularly within education and employment settings.

Background: The successful transition from secondary to further education and training is a critical moment in the career trajectory of young people; a trajectory that can have lasting impacts across the lifespan. Impacting one in four young people, mental health difficulties are the leading cause of death and disability for young Australians. Unfortunately, the onset of most mental illness occurs between 14-24, coinciding with formative educational and vocational years. As a result, young people with mental health difficulties are less likely to go on to post-secondary education and training than their mentally healthy peers. While this is a significant challenge, our current understanding of the impact of mental health difficulties on this transition period is minimal. To ensure all young Australians can pursue the future they want, we must better understand the impact of mental health on this transition point.

Objective: Addressing the theme of inclusion and respect, this presentation aims to increase awareness and understanding about the impact of mental health challenges on young people's transition from secondary to tertiary education and/or training.

Methods: This project represents a significant and innovative use of Victorian admissions data to gain unique insight into the impact of mental ill-health on navigating the transition from secondary education to further education and training. In partnership with VTAC, non-identifiable application information including special considerations data, university preferences, and offers will be used to understand the impact of mental ill-health on course selection, and entrance success. As a first step, descriptive analysis will be used to explore the proportion and distribution of young Victorians facing mental health challenges as they complete their final year of secondary education.

Results: Data analysis will be complete for the October conference date. Descriptive analysis as outlined above will be presented.

Conclusion: Through advancing knowledge on this transition point, we can more deeply understand the pattern and nature of mental health challenges at this critical time. With this understanding, we can guide the development of meaningful, evidence-based, effective educational support interventions and place them where they are most needed. Importantly, a more accurate picture of the mental health support needs of Victorian students accepted into university or higher education settings will allow us to better inform the University and VET sector about how to best support incoming students.

The University of Queensland Andrew N. Liveris Building – Engineering design to support innovation and industry engagement

Mr Nigel Burdon¹, [Mr Stephen Coombs²](#), [Ms Shu-Hsin Soong¹](#), Mr Stephen Coombs², Mr Will Gibbs¹

¹Aecom, Melbourne, Australia, ²University of Queensland, St Lucia, Brisbane, Australia

The University of Queensland Andrew N. Liveris Building – Engineering design to support innovation and industry engagement, October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Steve Coombs has been the School Manager for the school of Chemical Engineering at UQ since 2009.

His previous roles at UQ have been varied and include Chief Operation Officer for the ARC Centre for Functional Nanomaterials, Research Officer on various projects on biodegradable plastics, water quality modelling and, environmental engineering.

Steve was heavily involved in producing the original user brief for the Andrew N. Liveris Building in 2014 and has served as the user representative for the project control group since the launch of the project.

At 11 storeys high, the Andrew N. Liveris Building will stand as the tallest building on the University of Queensland's St Lucia campus. As the new home for the School of Chemical Engineering it will act as a vibrant hub for industry and interdisciplinary collaboration to address global challenges in areas such as energy, water and sustainable manufacturing.

With a total floor area of 22,300m² the building looks to the future; both in innovative and interdisciplinary teaching, as well as solutions focussed chemical engineering research. A significant proportion of this building will consist of wet research laboratories and centrally allocated teaching spaces on the lower floors. The wet laboratories include planning for future PC2 adaptability and the building has several multi-storey Pilot Hall spaces which are adaptable for rigs to be constructed as part of process engineering research initiatives. Back of house spaces include dangerous goods and chemical stores.

So how does the development's service infrastructure and structural design support the ambitious vision for the project in creating flexibility, functionality and resilience whilst catering to the needs of the diverse stakeholder groups?

Our presentation, together with Stephen Coombs, Manager of the UQ School of Chemical Engineering will explore the innovative building systems and how these combine to support successful operation of the facility.

Discussion includes;

- Design of technical spaces which have specific equipment, functional, operational and safety requirements
- Working to Dangerous goods and hazardous area requirements for a facility which has a high degree of reticulated laboratory gasses and chemical storage
- Large research laboratories that have services infrastructure and a structural grid that enables future adaptability to convert to smaller modules as research needs change
- Energy efficient solutions to lower the ongoing operational energy use of what would be energy intense facility. A key focus is directed at the fume cupboard exhaust design, looking for alternative solutions via manifold systems coupled with sash management
- Application of Computational Fluid Dynamics for assessment of fume cupboard flue discharge and modelling of chemical spill scenarios
- Structural building design which offers structural efficiency, enhanced vibration performance and flexibility for the heavy service requirements of the laboratories and a buildable structure known to the local market.
- Cantilevered CLT curved floors providing a novel, buildable and sustainable solution to a difficult technical problem.

An agile virtual team during restructure!

[Mr John Hegarty](#)¹, [Ms Nicola Howard](#)¹, Mr John Hegarty¹

¹*Swinburne University Of Technology, Hawthorn, Australia*

An agile virtual team during restructure!, October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Both John Hegarty and Nicola Howard started their professional staff journeys in faculties before moving into central roles. This knowledge and experience built over many years has enabled them both to build on and improve relationships across the University.

John leads the Service Delivery team one of the seven centres of excellence in the Student Administration and Library Services portfolio. John is creating new ways of working including automation to allow teams more time to add value and remove busy work.

“More with Less”

Nicola's focus within the Service Delivery team is to deliver business improvements whilst building staff capabilities to embed a culture of continuous improvement.

Nicola uses her creative skills to interpret complex issues and ideas and translate them into images. The teams focus is operational excellence and the student experience.

By leading business improvement and development activities, they have gained strong skills in collaboration and networking.

AN AGILE VIRTUAL TEAM DURING RESTRUCTURE!

Our team was created from a restructure, during a lockdown where we were working remotely and converting to agile ways of working. Any of those is enough but all of them at once that requires patience and good humor.

Stopping to refocus and ensure you are meeting the core purpose and goals as a team and as an individual is something you put off and get caught up with business as usual activity. By doing so we came away with a strong sense of self and team understanding where our work fits into the University and impacts the student and staff experience. We have created a sustainable way of working that allows autonomy, job satisfaction and accountability.

During this presentation we will share our team's reflections after redefining our Why, What and How. We will demonstrate some of the tools and templates we developed to help us to get there.

Melbourne Connect Series: Navigating change in unprecedented times - The enduring relevance of academic workplace strategy

[Ms Evodia Alaterou²](#), [Prof Andrew Western²](#)

¹University Of Melbourne, Melbourne, Australia, ²Hassell, Melbourne, Australia

Melbourne Connect Series: Navigating change in unprecedented times - The enduring relevance of academic workplace strategy, October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Professor Andrew Western is the Head of Department of Infrastructure Engineering. Formerly the Director of Infrastructure for the Melbourne School of Engineering where he was the academic lead on the major research, industry and education facilities that the school is developing. He is also an active academic with over 20 years of research, education and consulting experience in Hydrology and Water Resources.

Evodia Alaterou is a principal at Hassell and leader of the Design Strategy team – a group dedicated to helping designers deeply understand the organisations and people at the heart of their projects, and using design to shape and enhance the working environment. Evodia has been working with FEIT for over six years through workplace strategy and design on a number of projects towards realising their vision for 2025.

This session will demonstrate how a solid workplace strategy, tested and refined through experimentation and learning, is seeing The Faculty of Engineering and IT (formerly Melbourne School of Engineering) at the University of Melbourne, breeze through both anticipated and unprecedented change and disruption.

The academic workplace has been changing alongside a growing imperative for academics to improve the quality of collaboration with industry. At the University of Melbourne, The Faculty of Engineering and IT (FEIT) has an ambitious 10-year strategy to transform its teaching and research through engagement with industry. Six years into the strategy, the University has delivered one of the major enablers of this strategy: an innovation precinct at Melbourne Connect in which FEIT, as an anchor tenant and major partner, occupies 15,000sqm of academic workspace.

Following on from a full house attendance at TEMC 2019, in which we shared key learnings from the Space Lab in implementing new ways of working in line with the Faculty's 10-year vision, this session will focus on the more practical side of workplace strategy, planning and design. We'll be specifically focusing on the, often overused, notion of 'flexibility'.

We are all familiar with buzz words such as 'flexible and adaptable', 'future-proof', 'change-ready' etc, but what does it actually mean to create a process and outcome that are truly able to adapt to the changing needs of a dynamic university faculty?

Using real examples from the delivery of FEIT's new workspace at Melbourne Connect, we will share applicable lessons that relate to:

- How workplace strategy may guide a direction without prescribing a fixed outcome

- Staying on track, even over multiple years, changes in leadership and unforeseen global pandemics
- Evidence-based design, fail fast, learn fast and do things differently
- Remembering who this is for – people are the most valuable asset.

We will conclude with a look towards a bright future, and why FEIT's workspace is truly 'future-ready'!

The Pandemic and Learning Spaces of the Future: Lessons from a Corporate Workplace

[Prof Oluremi Ayoko](#)¹, [Mr Jared Lillywhite](#), Mr Jared Lillywhite¹

¹University of Queensland, Brisbane, Australia

The Pandemic and Learning Spaces of the Future: Lessons from a Corporate Workplace,
October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Oluremi (Remi) is an Associate Professor of Management and Management Discipline Leader in the UQ Business School at the University of Queensland, Australia. She is also a Senior Fellow of the Higher Education Academy (SFHEA). Remi's principal research interests include employee physical work environment / territoriality, conflict management, emotions, leadership, diversity and teamwork. Remi is an award-winning researcher and has published in reputable journals such as *Journal of Organizational Behavior (JOB)*, *Organization Studies (OS)*, *International Journal of Human Resource Management (IJHRM)*, *Applied Psychology: An International Review (APIR)*, *International Journal of Conflict Management (IJCM)*, and *Journal of Business Ethics (JBE)*. She has also written many book chapters and co-edited a *Handbook of Conflict Management Research* published by Edward Edgar Publishers and *Organizational Behavior and the Physical Environment* published by Routledge. Remi is the Editor-in-Chief of the *Journal of Management and Organization (JMO)* and on the Editorial Boards of multiple quality journals.

COVID-19 has significantly impacted the education sector, especially how we learn. In this respect, many educational institutions adopted learning and teaching approaches that enable their students to learn from home or in a 'blended learning' environment, incorporating both remote and 'face-to-face' engagement for those able and willing to attend campus. Yet, it is challenging to navigate the virtual/blended learning spaces and entice students back to campus.

Similarly, the global pandemic changed employees' orientation to the traditional work environment, promoting flexible, remote/virtual working (e.g. working from home/WFH) and the proliferation of virtual teams. Corporate organizations, like educational institutions, are still struggling to entice employees back to the office.

To minimise this challenge, we argue that the design of workspaces/learning spaces must respond to the new way of working: be flexible, and a 'magnet', capable of luring students/employees back to the workplace precinct/campus.

In this research, we contribute to the discussion on the "Post 2020 Campus" and argue that to draw students back to the campus, learning spaces that 'create an experience' for students will be critical. In this regard, we contend that the education sector has lessons to learn from corporates. We report a case study of a corporate (Aurecon, Brisbane) and how they have created a workspace experience that is enticing their employees/clients back to the workplace and precinct.

This research is motivated by the need for organizations to know how their assets/leases (i.e. workspaces) will be used post-pandemic and what this might look like for employees. We conducted two studies and the third is planned to explore how COVID-19 has impacted WFH, the future of workplace and its impact on 'workplace ecosystem'.

We found that employees:

- Missed social interaction with colleagues and that WFH impacted their mental/physical health negatively
- Wanted the flexibility to work from home 1-3 days a week but attend the office for community and collaboration - offices moving from 'mandate' to 'magnet'
- Have increased appetite for multi-modal offices/hybrid offices where technology is crucial
- Require leaders as champions of change for workplace transformation
- Wanted connectivity across modes and location-critical for workspace ecological design that is part of an 'ecosystem of spaces' that are adaptable, smart, flexible, sustainable, safe and enables collaboration and networking with colleagues and clients.

Implications of these findings are discussed for educational institutions intending to lure students back to their learning spaces and campus.

Selection bias and benchmarking - a masterclass on better practice

[Ms Mhairi Donohoe](#)¹, [Mr Matt Pirrie](#)², [Ms Yolanda Wosny](#)¹, Ms Yolanda Wosny¹

¹Swinburne University of Technology, Hawthorn, Australia, ²NH Architecture, Melbourne, Australia

Selection bias and benchmarking - a masterclass on better practice, October 12, 2021,
12:45 PM - 2:25 PM

Biography:

Yolanda Wosny, Associate Director, Property and Space Management
Yolanda is responsible for the management of Swinburne's Property portfolio, including space management, leasing and property related income and expenditure. In her short time at Swinburne Yolanda has contributed to the development of an Urban Design Strategy and Space Management Strategy for the Hawthorn Campus, which look to the best use and planning of assets into the future. Prior to joining Swinburne Yolanda worked as a Senior Development Manager and Project Lead for the University of Melbourne's Major Projects, in which time she contributed to the development of some of the University's landmark STEMM projects, including WEBS and the Biomedical Infrastructure Program.

Patterns of work at universities continue to evolve and hybridise. The impact of COVID requires a considerable rethink of current planning assumptions. Compared with pre-2020 levels, Education and Training has experienced the biggest jump in the proportion of employees working from home of all Australian industry sectors¹. Universities are also re-energising the face-to-face student experience².

In this masterclass we will discuss the pitfalls and perils of benchmarking and selection bias as it applies to the campus built environment. Swinburne will be used as one case study where we consider enabling, rather than prescriptive, urban design and space management frameworks that respond to both macro policy directions as well as changes within the surrounding urban fabric.

1. Hopkins & Bardoel, 2020. Key working from home trends emerging from COVID-19. A Report to the Fair Work Commission. Swinburne University of Technology, 11.

2. Zhou, N. 2021. 'Australian universities plan to ramp-up in person learning in early 2021'. The Guardian online, 20 Jan 2021.

Thawing Frozen Assets: How to Best Utilise a Post-Pandemic Campus

[Mr Graeme Spencer¹](#)

¹HDR, Sydney, Australia

Thawing Frozen Assets: How to Best Utilise a Post-Pandemic Campus, October 12, 2021,
12:45 PM - 2:25 PM

Biography:

Graeme is the National Director of Education, Science & Advanced Technologies at HDR. With 25 years of experience with world-renowned design firms, his architectural portfolio is filled with award-winning projects demonstrating his expertise in delivering highly complex, large-scale projects with design innovation and technical excellence. Highly knowledgeable in education design, his work spans a variety of architectural settings throughout the United Kingdom, the Middle East and Australasia.

University asset management teams could not have foreseen the changing landscape of a post-pandemic world and the impacts on teaching, studying and workspace demands. Students are favouring hybrid learning more than ever, and campuses across Australia have seen a significant decline in occupancy rates. So, what does that mean for all the lecture theatres, classrooms, offices, computer rooms, labs, libraries etc. on your campus? How do you determine how to utilise them, what should be refurbished, what needs to be built, and how to be flexible moving forward?

Using Griffith University as a case study, this presentation explores the findings from a recent asset management study to demonstrate how the pandemic has changed the university community and the impact on building assets.

The presentation touches on everything from data analytics to timetabling, flexible design to standardised technology, and offers suggestions about industry engagement, centralised asset management, post-occupancy evaluations, and more. In addition, it provides insights into utilising existing assets and prioritising refurbishment programs to better serve post-COVID student and academic needs. This presentation will be useful to anyone who manages university assets and is required to maximise constrained capital budgets.

Grassroots strategic leadership – the impact and agency of Academy Fellows in universities.

[DR Susan Blackley](#)¹, Prof Khoa Do¹, [Dr Rachel Sheffield](#)¹, DR Rachel Sheffield¹

¹Curtin University, Perth, Australia

Grassroots strategic leadership – the impact and agency of Academy Fellows in universities., October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Susan Blackley an active member of Australia's Science, Technology, Engineering and Mathematics (STEM) community, with leadership roles including: inaugural Convenor of the AARE STEM Education Special Interest Group, and inaugural Chair of the HERDSA STEM Education Special Interest Group. Her professional development has resulted in the award of a Curtin Academy Fellowship in 2019, a Senior HEA Fellowship in 2018 and the award of a HERDSA Fellowship in 2015. In 2019, she was also awarded a Citation for Outstanding Contributions to Student Learning (Australian Awards for University Teaching). In 2021, Susan was appointed to the Curtin Academy Executive. As a Teaching/Research academic in the School of Education, Susan advocates for improved teaching as a key strategy for enhancing the student experience and engagement. She does this both at Curtin and nationally by mentoring and assessing HEA and HERDSA Fellowship applicants and their portfolios.

In this presentation, we conduct a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis on the construct of higher education institutions' Academies – informal leadership and innovative practices separate to traditionally established leadership positions such as Directors, Deans and Pro-vice Chancellors. This relates to the sub-theme of Rising to Greater Heights – Leading change and innovation. Using the SWOT framework, we evaluate a case study situated in Curtin University, Western Australia. The Curtin Academy has evolved over the past five years, and the Fellows have morphed into credible, actual leaders in a university climate that is consistently being tempered by performance indicators, position descriptions, and reporting hierarchies that do little to support widespread excellence and innovation in learning and teaching. We posit that the very nature of a hierarchical leadership model hinders rather than promotes generative leadership in favour of compliant management, driven by budgets and university strategic plans that are primarily focused upon revenue-raising and cost-reduction.

The Academy Fellows are selected by a rigorous process and are recognised for their proven leadership in learning and teaching. They are a highly-committed community of teaching experts, from all faculties of the university, who voluntarily seek to mentor and support colleagues at all stages in their academic careers to significantly improve the quality of pedagogical practices. So, unlike the established traditional leadership roles that are associated with promotions and framed by KPIs, the Academy has the autonomy to respond with immediacy, agility, and conviction to rapidly changing times.

As we determine the internal strengths and weaknesses and the external opportunities and threats of the Academy, what we describe may resonate with academics and professional staff in other institutions. In so doing, they may feel empowered to challenge the establishment of their own institution's Academy or lobby to establish a new community of teaching excellence and leadership that will genuinely transform teaching in higher education.

Exploration Through Design: Using Industry Partnerships and Human-Centred Design to Create Novel Learning Opportunities

[Associate Professor Tim Kastle](#)¹, [Ms Veronica Nolan](#)², Veronica Nolan²

¹University Of Queensland Business School, St Lucia, Australia, ²Aurecon, Bowen Hills, Australia

Exploration Through Design: Using Industry Partnerships and Human-Centred Design to Create Novel Learning Opportunities, October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Tim's research, teaching and engagement work are all based on his study of innovation management. He graduated from Princeton University with a degree in economics and his MBA and PhD were completed at the University of Queensland. He has worked in a variety of industries and these experiences inform his research and teaching. Tim has published widely in the leading innovation journals. He is deeply committed to translating research into practice. To this end he writes a well-regarded blog for managers (<http://timkastle.org/blog/>) and he has worked extensively with a wide range of organisations. He currently the Director of Entrepreneurship and Innovation for the UQ Business School.

Rather than inventing completely new things, innovation is often a process of recombination. While many think of changes in 21st century higher education pedagogies as being primarily technology-driven, our experiences show that there are many interesting educational opportunities available through simpler methods. In this talk, we report on an ongoing partnership between the University of Queensland Business School and Aurecon that demonstrates these opportunities.

We have collaboratively run several student-based projects since 2020. The general approach is for Aurecon to identify an industry focused Design Challenge , and UQ to assign student teams to address the challenge over the course of a semester. Together we use a number of human-centred design methodologies to support the process, with the teams reporting their recommendations back to the Aurecon project sponsor and members of its leadership group.

This might sound relatively pedestrian, but the projects are, in reality, an important example of how higher education pedagogy is evolving. Students have been doing internships with industry partners for years; experiential learning has been in increasingly widespread use in higher education (and in fact this approach goes back centuries to the time of guilds and apprenticeships); and human-centred design approaches, while newer, have still been in use for at least thirty years. However, it is the combination of the three that opens up new possibilities.

This work is an extension of the project-based learning that has been a core part of UQ's MBA program for over ten years. However, it is the first time that the human-centred design principles have been explicitly used as the primary learning methodology.

There are several key things that we have learned through this collaboration, including:

- This approach works best for exploration. It is much more effective to address open problems that do not have one correct answer, but would rather benefit from an exploration of the range of available options.
- All participants change through this process. An unexpected outcome of this approach is that it creates a co-evolutionary process, where all participants are transformed.
- Very old technologies are still very powerful today. The core tool of human-centred design is the conversation, one of the oldest technologies in existence. It's an easy tool to overlook, but still powerful.

This presentation will provide key insights into the benefits of using this approach as a core element of post-2020 pedagogy.

The Digital Bricks: Architectural Lighting as a Campus Activation Mechanism

[Mr Tim Hunt](#)², [Mr Terry Ryan](#)², [Dr Niels Wouters](#)¹, Mr Tim Hunt²

¹University Of Melbourne, Melbourne, Australia, ²Arup, Melbourne, Australia

The Digital Bricks: Architectural Lighting as a Campus Activation Mechanism, October 12, 2021, 12:45 PM - 2:25 PM

Biography:

Niels Wouters is an architect and researcher. As Head of Research for Science Gallery Melbourne and Research Fellow in the School of Computing and Information Systems at the University of Melbourne he works at the intersection of art-science, urban computing, and the social study of technology.

Niels is a frequent commentator on technology ethics and digital placemaking. The creativity and thought-provoking nature of his work are recognized in national and international media, including The Sydney Morning Herald, ABC, BBC, The Washington Times, World Economic Forum, and CNN. His collaborative work with Lucy McRae has been exhibited at global galleries and museums including Science Gallery Dublin, National Gallery of Victoria, Design Museum Den Bosch and Nxt Museum Amsterdam.

Niels acquired a PhD in Architectural Engineering and holds degrees in Architectural Design, Computer Science and Human-Computer Interaction.

As buildings become increasingly animated and interactive through lights and screens, they are able to reflect the nature of humanity in dynamic and engaging ways. The design team for the new Melbourne Connect innovation precinct at the University of Melbourne sought to express 'innovation' visibly and tangibly on the exterior of the building. This has resulted in The Digital Bricks.

The Digital Bricks at Science Gallery Melbourne is a world-first, permanent, and award-winning light installation of 226 individual high-definition displays set behind glass bricks in the façade. Collectively, they create the world's highest resolution interactive display. The inaugural content piece, The Digital Birthing Tree, features images and photographs that connect Australia's First Peoples' knowledge and the local area's colonial history.

Future programs will actively involve students and staff in content creation. Data visualisation masterclasses, breadth subjects and hackathons are currently being designed to leverage the infrastructure's ability for public participation.

As a bespoke form of media architecture, The Digital Bricks contributes to Campus Activation, Connection to Country, Campus Experience, and Campus Presentation in an unprecedented way. It is designed and curated to appeal to 15-25-year-old 'digital natives' and act as a gateway to the university by showcasing the intrinsic creativity of innovation and research.

Niels Wouters (University of Melbourne, Lead Author), Tim Hunt (Arup) and Terry Ryan (Arup) contributed to the collaboration that designed, developed, prototyped, and implemented the Digital Bricks.

Additional project information:

- Media Architecture Biennale nomination announcement:

<https://mab20.mediaarchitecture.org/events/mab-awards/>

- University of Melbourne: If these walls could talk: <https://pursuit.unimelb.edu.au/articles/if-these-walls-could-talk>

- Science Gallery Melbourne's project page:

<https://melbourne.sciencegallery.com/digital-bricks>

Green Impact as a sustainable project platform for campus communities

[Mrs Rhiannon Boyd¹](#)

¹ACTS, , Australia

Green Impact as a sustainable project platform for campus communities, October 13, 2021, 11:50 AM - 12:55 PM

Biography:

Rhiannon Boyd has over a decade of experience as a dedicated sustainability practitioner, and has been a key player of Australasian Campuses Towards Sustainability (ACTS) since 2009. As a volunteer, she first held the position of ACTS Regional Director for South-East Queensland whilst working at the Griffith University EcoCentre to implement environmental education and community engagement projects. She then became one of the first ever employees of the growing organisation, initially as Engagement and Communications Manager, and then later taking the operational helm as ACTS General Manager. Rhiannon is currently leading on the implementation of Green Impact - an international award-winning environmental behaviour change program - in the Australasian region. She holds a Master's degree in Environmental Protection from Griffith University and a Bachelor of Science in Ecology and Conservation from the University of Southern Queensland.

Rethinking a sustainable society requires not only technological innovations but also a change in human behaviour. Education institutions are the academic frontrunners of this transition, but often lack a more structured approach to mobilise their community of students, staff and researchers as a whole. This is where Green Impact makes a difference, by taking the institutions sustainability strategies and creating tangible actions staff can take to enact this.

Green Impact is a behavioural change and engagement program that encourages communities to take simple actions on socio-economic and environmental issues at school, work and at home. The program was developed in 2008 in the UK and has since spread to Belgium, The Netherlands and France, and in partnership with ACTS is now accessible in Australia and New Zealand.

This session will showcase the experiences with behaviour change-focused work and highlight some of the outcomes of Green Impact in different organisational higher education settings, as well as discuss further development of Green impact as a platform for sustainable projects. Case studies will be drawn from Green Impact programs at Monash University, University of Melbourne, University of Tasmania, UNSW Sydney and Victoria University of Wellington.

The Missing Middle: in-industry alternative (micro) credentialing in the new normal

[Prof Khoa Do](#)¹, [Dr Emil Jonescu](#)¹, Mr Caillin Howard¹

¹Hames Sharley, Perth, Australia

The Missing Middle: in-industry alternative (micro) credentialing in the new normal, October 13, 2021, 11:50 AM - 12:55 PM

Biography:

Khoa Do is the Adjunct Principal of Research, Education & Practice at Hames Sharley, Associate Professor of Architecture and an Executive Fellow/Deputy Chair of the Curtin Academy. As a trained Australian Architect with more than two decades of combined experience in the university HE sector and architectural practice, Khoa's research focuses on designing and developing interdisciplinary Scholarship. Khoa actively champions research in embedded learning in practice and develops educational models that capitalise on the practice environment as a place of authentic learning through project-based learning, inquiry-based learning, and experiential-based learning that promote collaborative inquiry and discovery.

Emil E Jonescu is a registered practicing architect with Royal Australian Institute of Architects (RAIA) and was trained at Curtin University, Perth Western Australia. Emil is the Principal of Research & Development at Hames Sharley. His role creates a nexus between academic research, private sector thinking, and Hames Sharley practice—connecting academics and researchers on both a national and international scale creating opportunities for practice-led research that optimises the organisation's people and processes. His role develops opportunities for partnerships through applied practice and educational research, engagements, design innovation, and championing advancements for the community through the built environment.

The value of a university degree is a fiercely contested topic that is ongoing and evolving more rapidly than ever. It is apparent that the higher education landscape is being disrupted across a number of simultaneous fronts. The alternative (micro) credentials [A(m)C] from an industry perspective recognised as certifications, and digital badges have gained a considerable uptake in popularity amongst students, industry and governments as an economically viable option in response to much-needed up-skilling, re-skilling and cross-skilling with these compact, competency-based skills certifications.

The changing landscape of post-secondary education with the identification of the missing middle (MM). This research attests that the MM exists at the pre-industry phase whereby graduates, it is suggested, follow a third—supplementary pathway as follows: 1) undertake a further post-graduate degree, 2) transition into the workforce/profession on graduation, or 3) attain pre-industry experience through A(m)C.

The notion that alternative (micro) credentials [A(m)C] are, in fact, an alternative instead of, in some way suggesting the replacement of the traditional higher education

qualification; but rather they serve to complement prior education, experience and training—stackable and to build upon. In mirroring, the word, alternative, means one of the same, to imply somewhat of an equivalency which these are not intended to be. However, the degree and pace at which A(m)C take form, evolving and maturing, will potentially see credentials down the track be a true contender as an equivalent substitute. Currently, there is an exploration in developing some substitutions for some of the postgraduate courses, for instance, the MicroMasters credentials. The attraction of A(m)C is its direct benefits of providing students with essential skills and knowledge for a rapidly changing workplace.

In the future, the continuing short-fall in the missing middle will continue to see successful industries and commercial organisations fill this critically essential skills and knowledge gap. In-industry A(m)C will be a viable equivalent alternative crediting.

Is Crisis Management a Megatrend?

Ms Fiona Bygraves¹

¹Monash University, Clayton, Australia

Is Crisis Management a Megatrend?, October 13, 2021, 11:50 AM - 12:55 PM

Biography:

Fiona has over 20 years experience in the Tertiary Education sector, primarily as a Faculty General Manager and leader of diverse teams supporting teaching, research and campus operations. In her downtime, Fiona is also the Chair of the ATEM Bass Region, an ATEM Board member and a passionate advocate for professionals in the sector.

Crisis Management is mostly a framework, a tick box, but over the last eighteen months, I have realised our plans and put them into action as I led our faculty through a number of crisis scenarios. As tertiary education professionals we are required to wear many hats and managing crisis in the workplace hasn't been a focus of this scale where every element of our operations required review at such short notice. It is important that we learn from this and hone our skills to be able to respond more effectively and efficiently moving forward.

This presentation will appeal to professionals who lead teams in any area of the University that are responsible for responding in a crisis. The same questions and learnings may also be useful for professionals who lead small teams that are not required to necessarily take the lead in a crisis, but must down tools and respond to directions from elsewhere in response to a crisis.

I will share my learnings and provide you with tangible tools to use in crisis management scenarios.

I will explore my management of two crisis scenarios that occurred in short succession in January to March 2020. I will explore the concept of crisis management as a megatrend and how to create an inclusive environment that welcomes alternative views and how to bring these all together.

I will propose that having a framework for crisis management is one thing, what leaders really need is a framework that is adaptable to every scenario. I will discuss the value of bringing divergent views to the table, how to inform problem solving skills on the spot and how to value broad discussion and bringing things to a resolution.

You will take away new skills for managing your own crisis scenarios.

Embracing the Digital Campus

[Ms Meaghan Dwyer](#)¹, Professor Dominic Geraghty², [Prof Dominic Geraghty](#)²

¹John Wardle Architects, Collingwood, Australia, ²University of Tasmania, Hobart, Australia

Embracing the Digital Campus, October 13, 2021, 11:50 AM - 12:55 PM

Biography:

Meaghan is a Partner at John Wardle Architects. She has partnered with several universities to design and deliver projects across several states of Australia. Her experience spans a wide range of project types - libraries and learning centres, art galleries, schools of art and architecture, scientific research buildings and buildings for the visual and performing arts. In each case she and the team at JWA have created contemporary learning settings that are deeply connected to place, and fondly adopted as a part of everyday university life.

Professor Dom Geraghty is the University's Pro Vice-Chancellor (Launceston), driving delivery of the Northern Transformation's vision and strategic objectives for our city and region.

Originally from Ireland, where he obtained a BSc (Honours) from the National University of Ireland, he completed a PhD at Deakin University in 1988. Dom moved to the University of Tasmania in 1991 and has become deeply connected with the University and the Launceston region, researching and teaching here for three decades. The first in his family to attend university, Dom is passionate about growing the University's presence and profile, improving access and increasing educational attainment.

Dom has held a number of senior academic roles at the University, including Acting Head of the Schools of Human Life Sciences (2012), Health Sciences (2016) and Creative Arts and Media (2018-19), Deputy Dean of Graduate Research (2012-17) and Chair of the Academic Senate (2017-18).

As a pharmacologist and enthusiastic science communicator, Dom has presented public lectures on health/drugs of abuse awareness and a frequent 'guest scientist' on radio. He has co-authored over 250 research papers, reviews, book chapters and conference presentations.

UTAS operates across the state of Tasmania with campuses and facilities dispersed across multiple regional communities. By necessity, the university has been an early adopter of digital platforms for communication between campuses and online learning. The Northern Transformation Program has presented a unique opportunity for UTAS to reimagine their campus in Launceston as a place for informal engagement, plus access to technology and specialist learning spaces.

Many students already combine study and work. The University expects increased demand for flexible study programs, micro credentialing, and lifelong learning. Relocating the campus from the periphery of the city to a site just minutes from the city centre will support

a fluid relationship between work and study, plus opportunities to connect and collaborate with business and industry. The site at Inveresk also places the university in the hearts and minds of the local community.

Today students engage with their studies across a combination of virtual and physical settings. Their reasons for attending campus are different than they may have been even 5 years ago. The University sees benefits in the delivery of didactic learning across digital platforms and understands that students will come to campus to engage in problem solving with their peers and seek guidance from their teachers. The new Inveresk campus spaces provide an opportunity for students to develop digital literacy, to work with a stable internet connection and access technology. It places priority on peer-to-peer and self-directed learning - indeed, the entire redevelopment of 20,737m² includes only 10 general teaching spaces.

Students will also come to campus to access specialist teaching spaces that are not possible to recreate at home. Nor is it possible to engage in simulated learning or clinical exercises at home. The range of specialist teaching spaces planned for the new campus include specialised allied health clinics, nursing simulation suites, and specialist wet/dry teaching laboratories.

The COVID-19 pandemic necessitated a sudden and more complete shift to online learning for many universities. The benefits of this are now being appreciated, however for many universities this shift is misaligned with the physical setting of the campus. Although initiated in 2019 before the pandemic, the new Inveresk Campus holds many lessons for the Campus of the Future.

Finding success in student support during COVID: The Student Engagement and Transition Support (SEATS) Program

[Mr Atticus Gray¹](#), [Ms Abigail Sia¹](#)

¹Deakin University, Burwood, Australia

Finding success in student support during COVID: The Student Engagement and Transition Support (SEATS) Program, October 13, 2021, 11:50 AM - 12:55 PM

Biography:

Atticus Gray is currently completing his PhD while teaching undergraduate psychology units in the School of Psychology at Deakin University. During his undergraduate psychology degree, he was actively involved in various Students Helping Students programs. He took on several student mentor roles such as faculty peer mentor, writing mentor and Peer Assisted Study Support (PASS) mentor. He loves gaming and is also now involved in developing a program to engage low SES students through gaming. He is keen to support student learning and improve the student experience through student engagement, participation and introspection.

The COVID-19 pandemic exposed the challenges that our international students faced in accessing and remaining engaged in their learning journey. Given the large numbers of international students unable to be on campus due to travel restrictions, the Faculty of Health, Deakin University, looked for ways to innovate student support services. SEATS was developed in 2019 in response to feedback gleaned from international student support meetings. These meetings identified academic writing, mental health, motivation, study skills and time management as key challenges to the international student experience. The meetings also underscored that students were actively looking for opportunities to stay connected to community, build resilience, foster independence and enhance their learning outcomes.

SEATS was initially developed as part of international student support outreach efforts however it was promptly expanded to all cohorts including domestic students and is now delivered online across the Faculty of Health. SEATS has played a role in nurturing the connection with our students, which has been significant to our operations along with shaping our students' wellbeing, particularly in the context of COVID-19.

SEATS is a workshop series designed to support students to thrive in their Deakin studies. Content for the program has been informed by identified international student needs and established psychological theory. The program consists of 5 sessions delivered as 2-hour interactive seminars covering topics such as Time Management and Achieving Goals, Learning and Motivation, Resilience and Wellbeing, Building Confidence through Communication Skills, and Managing Stress and Anxiety. Feedback mechanisms are integrated into the delivery so that a continuous improvement imperative and agility are embedded in the program.

To date, the program has engaged a total of 438 participants. It has enabled students to build a sense of belonging, support the development of learning strategies, deepened a desire for learning, encouraged self-awareness along with increasing engagement in university activities and events. Additionally, the program has facilitated stronger University networks in student engagement and transition support. SEATS was developed as a way to reinforce existing student support mechanisms and the program has evolved to interact with the digital context of student engagement during COVID-19. The insights gained from the delivery of this program can help to build more equitable higher education student support strategies to enhance learning outcomes. Further, the program is interdisciplinary and has wider applicability to enable Faculties to prioritise quality student support and equitable access, particularly in times of upheaval and uncertainty.

Credit where credit is due; RPL for transitioning ADF veterans

Mr Nik Linnell¹

¹Australian Catholic University, Brisbane, Australia

Credit where credit is due; RPL for transitioning ADF veterans, October 13, 2021, 11:50 AM - 12:55 PM

Biography:

Nik Linnell has worked within the tertiary education sector for more than a decade. First at the University of Queensland and now at the Australian Catholic University, Nik has held a number of roles primarily working in student facing organisations. Currently employed as a Service as a Product Project Manager Nik has successfully implemented several University wide service improvements. Holding a bachelors degree in education plus postgraduate qualifications in business and project management Nik aims to continue delivering impactful projects which delivery on the strategic goals of the University.

Australian Catholic University is assisting Australian Defence Force (ADF) Veterans to transition into tertiary education by mapping their prior service and training against a Recognition of Prior Learning (RPL) framework.

The transition from the Australian Defence Forces into civilian life is widely recognised as a difficult one, with unemployment and under-employment rates up to 5 times the national average (DVA, 2018). ADF Veterans have a rate of mental health issues nearly twice the general population, with impacts on their immediate family which can be measured intergenerationally (Kaushal N, 2018).

Funded by the Department of Veteran Affairs, ACU and the Australian Student Veterans Association (ASVA) have collaborated to obtain course materials for more than 70 ADF Initial Employment Training (IET) and Promotion courses and conducted a detailed RPL assessment to identify where these may be credited against ACU units. . The outcome of this assessment is a package of RPL available to all transitioning veterans who receive a place at ACU. RPL can be used to reduce the duration and cost of a degree at ACU, and transitioning Veterans no longer need to pay a third-party organisation to assess their training.

Depending on the IET undertaken and ADF rank achieved together with ACU course rules, Student Veterans are eligible for up to 120 credit points of RPL. More than 170 Student Veterans at ACU had their course enrolment assessed for RPL. On average those Student Veterans who were eligible for RPL under this scheme saw a reduction in their completion times by a full semester, which in turn sees them job ready 6 months earlier.

ACU has also mapped in detail the assessment process undertaken, to serve as a model for other universities who wish to introduce a similar scheme.

In this paper I will outline the background to ACU being awarded the grant and walk through how we successfully engaged with the ADF to obtain previously classified course information I will describe how ACU engaged academics and professional staff to assess the content of the ADF courses and mapped these to RPL outcomes. I will cover the student focused outcomes, present some case studies, and the planned future actions to continue expanding the RPL assessment and its potential impact on Veterans Australia-wide.

Hear how your university can fast track the assessment process using the work ACU has undertaken to support the transition of Veterans into your institution.

Construction Management showcase: The active role of team-based assignment in enriching the experience of post-2020 learners

Dr M Shokry Abdelaal¹

¹University of South Australia, City West Campus, Adelaide, Australia

Construction Management showcase: The active role of team-based assignment in enriching the experience of post-2020 learners, October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Over 20 years experience in Academic Teaching / Architectural Design, with exposure to Architecture / Urban Planning and four years of project management experience. Academic appointments include teaching and research in Architecture and Design in three continents. Currently, I work as an Online Course Facilitator at the Construction Management program, owned by the STEM unit at the University of South Australia. Also, I conducted extensive industry-based research in the area of sustainable architecture and environmental psychology. Recently, I approached the vast world of life-long online education. I enjoyed the experience of developing and delivering interactive and digitally enriched and architecture-related courses in the program of construction management at UniSA Online.

Online learning went through ages of evolution and theoretical frameworks during the past two decades. Online students' engagement and 'presence' in their virtual classroom remade as a momentum topic for controversial discourse as interpersonal communication remains an area of the constant need for development in online learning, especially after the Covid-19 crisis for the post-2020 learner.

Team project or group work was introduced to the Online learning environment by Palloff and Pratt (2010). They suggested that online learning should be enriched with students' interactivity to leverage their critical thinking skills, socialised intelligence and reflection of a better learning experience. Also, it helps in constructive engagement with other online classmates and boosts self-motivation and esteem while being isolated within the boundaries of a self-learning experience (Morrison, 2014).

Meanwhile, group work assignment or projects was an area of friction between students and teachers as it forces the high-achieving students to compensate for those less willing to put in the effort. (Lieberman, 2018). Groupwork in online learning appears challenging and full of logistical roadblocks (McNeal, 2016), such as the geographical and time zone barriers, lifestyle and commitments between participants. Most importantly, it is challenging for the teaching team to keep monitoring collaborative learning (CL) within the team and minimise the chances of teammates' frustrations due to being obliged to work in teams with students they cannot contact in person.

In the Construction Management program at UniSA Online, around 44% of online learners are aged above 30 with full-time work and family commitments. More importantly, 70% of them are based on other states out of SA. Our experience fostering CL online for the second-year course of construction 2 was progressively successful with the given context.

As a result, the student's level of satisfaction and the course evaluation score 'my course experience' positively increased after offering the course. Based on the students' feedback, teamwork assessment was highly acknowledged. It helped the students become more engaged and enhanced their understanding of the topic, thanks to the peer-review of their teammates and private team discussion forums. Most importantly, some students praised the value of learning from relationships, which is a missing premise in online learning.

This paper will present some innovative strategies used in developing the contents, assessments and delivery method of this course. Despite being tailored to match the construction management profession's needs, many learned lessons can be extracted from this experience for other disciplines.

Workplace Discrimination at Universities

[Ms Gabrielle O'Brien¹, Ms Margaret Ridley¹](#)

¹*QUT, Brisbane, Australia*

Workplace Discrimination at Universities, October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Margaret Ridley has worked in the tertiary education sector for over thirty years. Most recently, she has worked in various roles in Equity Services at QUT including presenting cultural competence training and as a discrimination adviser. She gives advice to staff and students about discrimination related complaints.

Her qualifications are in Law and Cultural Heritage. Her publications and conference papers are focused on racism.

Workplace Discrimination at Universities

Universities employ over 130,000 staff across Australia and over 1.4 million students. Like any organisation universities experience the benefits and challenges of a diverse workforce. Universities can and should be model employers and champions of diversity and inclusion. Promoting diversity and inclusion requires safe workplaces with a whole-of-institution response to addressing discrimination.

Discrimination is defined by state and federal legislation and occurs when a person with a particular characteristic (such as race, age, sex or sexuality) is treated less favourably than a person without the characteristic. It includes sexual assault and sexual harassment. It can cause significant individual and organisational harm. It can cause emotional and psychological distress which can lead to absenteeism and staff turnover. Reputational damage and the cost of managing complaints can be significant for organisations. This paper will examine why responding to discrimination in a university context can be more complex than other workplaces. It will use case studies to describe the types of discrimination that have arisen in this context. Drawing on the experiences of QUT's Discrimination Advisers, it will provide advice about how universities can be safe and respectful environments

Navigating the 8 core issues in Higher Education - a Lean approach to solving problems

[Mrs Helen Ryan¹](#), [Ms Dianne van Eck²](#)

¹Federation University, Ballarat, Australia, ²DVE Business Solutions, Adelaide, Australia

Navigating the 8 core issues in Higher Education - a Lean approach to solving problems,
October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Helen Ryan is the Senior Manager (Academic Programs) at Federation University. Helen has worked in the Higher Education sector for 13 years, mainly in Faculty Business Manager roles. She previously worked in the finance sector for 20+ years. She is passionate about efficient processes with a good understanding of Lean methodology. She is also trained in design thinking and is using this practice regularly with her team. Helen was the recipient of the 2018 DVE Business Solutions Award for Excellence in Faculty Management at the ATEM Best Practice awards.

Dianne van Eck commenced working in the Higher Education sector in 1997 when she joined the University of South Australia (UniSA). In 2008, Dianne and her daughter, Jo Schneider, established DVE Business Solutions (DVE).

DVE has completed successful projects in over 40 Higher Education institutions in Australia and New Zealand, to bring about change and improvements from the ground up.

Finding efficiencies in work is a common desire, but often difficult to achieve. Many people feel the pain of cumbersome and complex processes, lack of role clarity, bottlenecks and workarounds. They often do not know how to make improvements, nor have the control to change bad processes.

During 2019 DVE Solutions (DVE) presented their 'Navigating the 8 Wastes in Higher Education' training workshops to over 400 people working in Australian universities.

The DVE 8 Wastes training, based on Lean Thinking theory, takes trainees through each of the eight wastes, helps them develop an Action Plan which enables them to prepare a list of at least eight actions which they can undertake the following day to start to address their problems. Trainees discuss issues and find solutions within their workshops and are then able to share these further with their teams post training. The Action Plans could be compiled and used as a larger plan for implementing further changes across the organisation.

This presentation will introduce you to the DVE 8 Wastes methodology and show you how real change is possible as well as introduce an exemplar University who took the training to a practical level with real outcomes.

Federation University's Academic Services and Support Directorate organised the DVE 8 Wastes training for 70 of their staff during 2019. These staff developed their Action Plans and at the conclusion a series of Communities of Practice were set up to enable further work within small teams to bring about change in a cross section of processes.

There were four workstreams established focusing on the pain points identified by staff. The four project teams undertook an intensive assessment of the processes over a 3-month period and presented findings for implementation to the leadership team.

Whilst all projects were successful the work undertaken on mapping the work integrated learning (WIL) processes has been particularly valuable as the University explored more opportunities for Federation students to gain real world experiences whilst studying.

A short story of interns, reality capture and space management at Swinburne University

[Mr Amir Anoushiravani](#)¹, [Mr Will Joske](#)¹

¹Swinburne university, Melbourne, Australia

A short story of interns, reality capture and space management at Swinburne University,
October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Will Joske

At Swinburne University, Will is Principle Advisor for BIM and is involved in the creation of new BIM education designed for people working in the industry. Will's background includes BIM consulting, building design, tertiary lectureship, business owner and visualisation expert. Over the last several years, Will has gained valuable experience being involved in the significant challenges faced by organisations facing change and technology disruption, and has been a key contributor a number of projects supporting BIM adoption in both industry and tertiary education.

Amir Anoushiravani

Amir's current role is Senior Space Planning Analyst at Swinburne University. He received his bachelor of chemical engineering in mineral processing from University of Science of Technology in Iran (IUST) and received master degree in Business Administration from Federation University of Australia (FUA) in financial management .

(there is one more paragraph to submit to complete this biography)

What does reality capture have to do with work integrated learning? The answer is that they were both involved in a proof of concept project undertaken by Swinburne's Space Management team in 2021.

Photogrammetry is a reality capture solution by which virtual 3D models can be created from analysing multiple images of the same object or space. These models can then be shared on the cloud and those given access can experience, explore and enquire internal spaces from any connected device.

Work Integrated Learning (WIL) at Swinburne creates placements for students in internships or industry linked projects. WIL is a great opportunity for both students and employer to learn and grow together in shaping our future industry.

At the centre of these two things is Swinburne's Space Management team. When considering how to include images of rooms in their management database, Space Central, their opportunity was to be future focussed as part of the University's vision of innovative enterprise. Implementing reality capture instead of photography was a cost-

effective choice, supported by tools and knowledge already in place in Swinburne's Advanced Construction Technology (VET) department. Reality capture itself is one part of a larger eco-system of tools and processes that form part of digital information management and Building Information Modelling (BIM).

This presentation explores the challenges and opportunities offered by reality capture and photogrammetry used specifically with Space Central's software, Archibus and sisFM. You will hear the experiences of the WIL students and their role in learning and scanning the trial building, and how they have benefited from the experience working with the Space Management team.

One of the guiding principles of the project was to assess the investment in technology against actual business objectives and use cases. We will discuss how the project outcomes measure up, where challenges still lie, and what possible alternatives exist. To assist with this, the project will also be placed into the broader context of how technology and digital information management is transforming space and asset management in the operations of the university.

VR for a Post-2020 Pedagogy – Harvard University, GSD Innovation Task Force

[Miss Sarah Fayad](#)^{1,2}, [Mr Jason Stapleton](#), [Mr Heinrich Wolff](#), Mr Heinrich Wolff¹, Mr Jason Stapleton¹

¹Harvard University, Cambridge, United States of America, ²AECOM, Sydney, Australia

VR for a Post-2020 Pedagogy – Harvard University, GSD Innovation Task Force, October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Heinrich Wolff is a visiting professor in practice at Harvard GSD based in Cape Town, South Africa. His practice with Ilze Wolff focuses on developing architecture of consequence through the mediums of design, advocacy, research, documentation and art.

Heinrich's work has been exhibited internationally, most notably the Museum of Modern Art (2010), the Venice Biennale (2006 & 2010), the Sao Paulo Architecture Biennale (2005, 2007 & 2019), and the Chicago Architecture Biennial (2015 & 2019).

Sarah Fayad is an Innovation Fellow and Master of Urban Design graduate from Harvard University. Her work focuses on working at the intersection of digital technology, and urban design. During her Fellowship, she worked with the Innovation Task Force to develop virtual pedagogical methods to enhance virtual learning and collaboration within the school's wider community. Sarah is currently based in Sydney - Australia, working at AECOM as the Smart Cities and Urban Transformation Lead.

Jason Stapleton lives in Cape Town South Africa where he works at the intersection of several technologies namely 3d animation, game engines, Virtual reality/Augmented Reality, Lidar scanning and Photogrammetry. He has worked as a computer draftsman, VFX artist, architectural visualisation specialist for stills, animations and real time, game developer and lidar scanning/photogrammetry service provider. Jason has collectively over 15 years experience in these various fields. He currently specializes in building virtual worlds to service the growing VR market for both business and social events.

Harvard University, Harvard Innovation Task Force
Presenters: Heinrich Wolff, Jason Stapleton, Sarah Fayad

With the rise of COVID-19 and the concurrent rapid adoption of new technologies, questions on the pedagogical impacts of the digital expansion have become of foremost concern. The surge in the development of virtual tools to address the new challenges faced by design educators across the globe has created a need for research examining the effects on key pedagogical elements like collaboration and site visits. Prior to the pandemic, collaboration transpired through various forms and scales primarily made possible by co-existing in the same physical space. However, as we shift to digital, pedagogical challenges surface to pave the way for new forms of practicing.

This paper will share the strategies and experiences of a world-first design studio conducted through Virtual Reality (VR) at the Harvard Graduate School of Design. In this studio based in South Africa, VR was strategically significant as a teaching and learning tool to bring the university's collaborative spaces to the students from all over the world while unlocking a new geography to be explored. In addition, the tool facilitated a studio experience at a time when it was thought of as impossible to achieve. Similarly, it allowed the students to experience a distant place at a time when travelling was restricted. At a more profound level, the sensorial experience of VR achieved significant educational outcomes. By re-establishing studio culture and joint reviews, informal learning, which is so fundamental to the socialised learning environment of a studio, could take place again. The future potential of informal learning with people "outside" a physical studio opens a new space to engage with others in learning. VR allowed a pedestrian experience of urban spaces; we thereby replicated the point of view of the most vulnerable citizens in our society. The ability to design and discuss simultaneously, facilitated role playing games where students are placed in the shoes of various urban actors to develop empathy for squatters, administrators, designers, etc. Students had real fun in VR; a pleasurable engagement with a subject matter enhances the openness of students to learning and it stimulates them to work hard and to remember what they learnt.

The Journal of Higher Education Policy and Management: Helping to raise you to greater heights!

[Dr Carroll Graham¹](#)

¹ATEM, Sydney, Australia

The Journal of Higher Education Policy and Management: Helping to raise you to greater heights!, October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Dr Carroll Graham is a third space professional with more than two decades' management experience in the Tertiary Education sector. Following completion of her doctorate in 2013, in which she researched the contributions of professional staff to student outcomes, Carroll now consults across the sector in leadership and management, both in Australia and overseas. Carroll is the Associate Editor for the Journal of Higher Education Policy and Management — ATEM's own journal.

The Journal of Higher Education Policy and Management, which is jointly owned by ATEM and the LH Martin Institute, is ATEM's own scholarly journal. It provides a means to raise you to greater heights in tertiary education policy and management. Choose to read the latest articles or — even better! — consider writing a manuscript for submission. This session will provide information and answer questions about the opportunities for ATEM and TEFMA members to publish an article. Requirements for writing and publishing in a peer-reviewed journal will be explained and questions will be taken in this interactive session. Turn your innovative practice into a journal article, which will raise you and others to greater heights!

Updating the TEFMA Space Planning Guidelines

[Dr Jo Dane](#), [Mr Albert Fraval](#)¹, [Mr Trevor Humphreys](#)²

¹Era-co, Melbourne, Australia, ²TEFMA, , Australia / New Zealand

Updating the TEFMA Space Planning Guidelines, October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Albert is an education strategist with a wealth of experience working in the education sector. Albert has worked closely with University and TAFE clients on a range of different projects including return briefs, stakeholder engagement and asset planning activities.

Trained and registered as an architect, Albert has a firm understanding of the spatial implications that affect learning environments and is passionate about helping to create spaces that enrich the user experience whilst on campus. This spatial understanding underpins the way that Albert approaches his strategic planning when working with education clients.

A successful project often relies on meaningful engagement with a broad range of stakeholders. Albert thrives when collaborating with stakeholder groups and seeks to understand their vision and work with them to create a clear strategic plan to realise these aspirations.

The Space Planning Guidelines Ed. 3 (2009) has, over the years, been a vital source for universities around Australia and New Zealand, providing useful data to inform planning of new assets, benchmarking and measuring existing assets. However, in recent years, the value of the 2009 publication has waned and no longer reflects the vast changes that have occurred on university campuses over the last ten years. In light of the pandemic and the disruption this has caused, an updated Space Planning Guideline will be a critical tool for universities to understand their existing assets and make informed, strategic decisions on how to plan for the future.

In order to update the Space Planning Guidelines, a Special Interest Group was formed from interested TEFMA members. The remit of this group was to ensure that the revised document captured the changes that have occurred across the sector in the past 10 years as well as providing a future focused perspective, to ensure that the revised guidelines remain relevant going forward.

The engagement with the Special Interest Group has allowed us to develop a holistic view of how different universities use the existing Space Planning Guidelines and helped to identify where improvements could be made. The diversity of the institutions that were represented by the Special Interest Group ensured that the updated Guidelines reflected the needs of all TEFMA members.

At the time of writing this abstract, the project is still ongoing and the final findings are yet to be developed. By the time TEMC is scheduled to occur, we will have finished the revised guideline and will be able to present the findings to TEFMA members. The Space Planning Guideline is used by many different people for different reasons, from university space planners to architects or consultants and this presentation will appeal to this broad audience.

Integrate the student voice into campus planning and space management – what students tell us about their campus experience.

[Dr Samantha Hall¹](#)

¹*Campus Intuition, , Australia*

Integrate the student voice into campus planning and space management – what students tell us about their campus experience., October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Dr Samantha Hall is a built environment expert focused on how space influences human behaviour and experience. She began the journey into this field with an MSc in Environmental Science and a PhD in sustainable cities and buildings. She went on to complete a post doctorate on evidence-based decision-making for building design.

Samantha's early research used post-occupancies, but she still saw a lack of feedback from building completion to future design. She modernised the traditional post-occupancy, winning an innovation award from Curtin University for this work.

In 2017 she started developing tools to be used across higher education campuses allowing property teams to engage more easily with building users. She has since launched Campus Intuition with global partners, a specialist agency for higher education institutions to transform campus experience.

Every day universities have thousands of visitors interacting with the campus environment. Staff, students and visitors access classrooms, accommodation, offices, studios, laboratories, libraries, galleries and cafes. How well do these physical spaces support their experience?

Measuring a student's response to the campus environment is complex. Historically, student experience has focused on digital, course, teaching and enrolment. Yet the built environment plays a significant role in the micro-experiences that make up a student's day, from arrival to departure.

The question on physical space becomes even more important as universities explore the balance between online and face to face teaching. Even if courses transition online, it doesn't mean the end of the university campus. However, the transition will change how people use and perceive space and understanding these changes help shape an appropriate response.

The campus experience is a missing layer of evidence in assessing the need for new space or buildings. It gives a property team the ability to understand what is working, or not, for students across the whole campus. This knowledge enables a much more precise focus in

project development. Campus experience issues may not need to be solved with a multi-million dollar build, but with some low cost tweaks across the existing estate.

This talk will discuss new ways to integrate student voice into planning based on how universities have used results from the Campus Experience Index (CEI). The CEI is an evaluation tool where students give feedback across campus environments. It has been used by Australian and UK universities to measure campus experience. Attendees will leave understanding some easy, low cost ways to improve student experience and how to integrate a robust and authentic student voice into planning.

2020 UWA Crawley Campus Masterplan

Ms Ingrid Harse¹, [Mr Trevor Humphreys](#)

¹The University Of Western Australia, Crawley, Australia

2020 UWA Crawley Campus Masterplan, October 13, 2021, 2:00 PM - 3:40 PM

Biography:

Trevor Humphreys - Director, Campus Management

Ingrid Harse - Architecture Specialist

The general intention of the presentation will be to discuss how the Masterplan documented the information collected and developed the Masterplan on these strengthened values.

Recently completed UWA 2020 Masterplan, a data base allowing us to act efficiently and effectively when opportunities arise.

Two very differentiating features evolved in this Masterplan, possibly because of the particular time we find ourselves. We believe they contributed to the success of this Masterplan:

1. Extensive process (slightly organic) and broad consultation.
2. A focus not about on identifying future development sites.

The presentation will be a summary of the various stages of work and the interconnected processes that led us to a point of conjecture. (For example, the Estate Strategy and community and University stakeholder consultation.) This point allowed us to reflect, take stock, ask key questions, before the next stages of work could begin. One critical question was what defines the University of Western Australia and makes us stand out?

Through this process we gained a better understanding our core values, and ultimately the direction we want to take on the physical campus? We have acknowledged that we have sufficient space and the focus is needed on maintenance and repurposing for better efficiency and contemporary utilization. Key campus wide values:

1. An outward approach to be a part of the Crawley Precinct with QE11MC, the CoP activity centre, the adjacent residential community, and the river foreshore.
2. Particularly appealing is the landscape/river context. More than previous Masterplans, the Landscape has received a lot of attention - how our buildings respond to it, how we can activate it, how could it be more sustainable.
3. We are on land that has history and significance to the local Wadjuk Noongar aboriginals. A significant part of the Masterplan evolution has been the cultural mapping and developing ways of increasing the biodiversity, natural settings, and aboriginal recognition on campus. We have learnt more about how to work with cultural heritage and beginning to understand how we can add this powerful layer of meaning to the legibility and experience of the campus.
4. The connections we have to our environmental surroundings and enhancing these relationships. The benefits for students, staff, and the general public to have a university precinct on the river and nature setting of trees and wildlife has been embraced. We hope to ensure that the campus addresses the river (rather than turn away from it) by less

introverted buildings and a public boulevard on campus with physical, visual, and environmental connection to the river to East and South.

IGEMC 2021

OnDemand Presentations

This Abstract Book includes all Concurrent Session and OnDemand Presentation Abstracts.

See the Index at the end of this document to see the presenters' names with their associated Abstract Numbers. Abstract Numbers are included throughout this document, at the top of each of the individual Abstracts.

Re-purposing – with purpose.

[Mr Paul Angus](#)^{1,2}, [Mr Anthony Furniss](#)^{2,3}, [Jamie Graham](#)⁴, [Carole Mandicourt-Jones](#)²

¹AECOM, Sydney, Australia, ²University of Newcastle, Newcastle, Australia, ³EJE Architects, Newcastle, Australia, ⁴Monteath & Powys Pty Ltd , ,

OnDemand Presentations

Biography:

Paul Angus is a Chartered Building Services Engineer who is passionate about assisting in changing and shaping the future of the Australian education system. He is committed to ensure the team delivers our vision in building our education system - the best learning environments for young people. he is a technical expert on detailed design, functionality and quality.

Anthony Furniss Anthony has been with EJE Architecture since 1997 after graduating from University in 1996. Anthony has continued his involvement in the Tertiary Education Sector designing a wide range of teaching and research projects involving approximately 35,000 sqm of new and refurbished space. Projects have earned recognition including an Australian Learning and Teaching Council award for the Auchmuty Info Common and numerous Australian University Quality Agency commendations.

Anthony brings with him an understanding of building life cycle through his experience in facilities management, as well as design and client management.

Adaptive reuse of existing buildings is a trend in the higher education sector that provides many benefits to institutions in enhancing campus activation. Re-purposing - with a purpose - also comes with its own challenges, and the decision to build from scratch or re-purpose an existing education asset is a question many universities are asking in light of potential longer-term changes to the way students learn. Regardless, campus buildings are vital to attracting new students and continually need to adapt and evolve to deliver next generation learning opportunities for students and staff.

The enduring presence of COVID-19 is preventing overseas students studying in Australia. This is resulting in reduced income for tertiary institutions and thus substantially reduced budgets to fund planned capital investments. As a result universities are seeking to better understand their existing assets, including the teaching space they need as lectures shift to an advanced digital learning evolution. This allows us to review how we improve space utilization, re-purpose, and monetize underused space, and further understand planned and preventive maintenance of buildings as a means of saving money.

This paper will discuss the approach of 're-purposing - with purpose', at the University of Newcastle to demonstrate how re-purposing, restoring, replenishing, and re-using existing academic buildings can be more cost effective than building new assets. Using a live case study, currently in construction, we will discuss two existing assets, where the immediate relocation and re-purposing of an entire university department was a necessity following a feasibility study that determined the building had to be decanted. We will discuss the cost,

benefits and challenges of adaptive reuse, and consider factors including the campus environment and broader community, stakeholder engagement and the ultimate sustainability and environmental impact of the asset.

The case study will demonstrate how an existing asset can be transformed into a vibrant part of the university campus that students and staff will enjoy for generations to come.

2) Melbourne Connect Series: Industry Engagement in Innovation Precincts

[Mr Nick Bamford](#), Ms Sarah Nickas

¹University Of Melbourne, Parkville, Australia

OnDemand Presentations

Biography:

Nick is an Associate Director and Victorian Education Sector Lead at AECOM. Nick has supported the University of Melbourne and FEIT in development of the engineering brief for Melbourne Connect and ongoing technical advisory during delivery including design services for the FEIT fit out. Nick has brought his experience from a range of technically and architecturally challenging projects across the built environment sector.

Note: This abstract is one of a number of complementary abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's New Innovation Precinct Melbourne Connect from different perspectives.

The Melbourne Connect Precinct, adjacent to the University of Melbourne's Parkville campus is a unique development instigated by the University to bring together academia, industry and government into a purpose built precinct. Its vision is to cultivate an environment of collaboration where thinkers from across academia, industry and government would work together in innovation ecosystem to solve some of society's biggest challenges.

This precinct will have five connected buildings, 74,000m² of built area and a central publicly accessible open space. The University of Melbourne's Faculty of Engineering and Information Technology (FEIT) occupies 8 levels of the 9 levels in commercial tower development and the Telstra Creator Space occupies the ground and basement levels. FEIT's anchor presence in this precinct is part of faculty's 2025 ten year strategy which has a focus on strengthening industry engagement. The school sees the Melbourne Connect precinct as "unprecedented opportunity for collaboration and knowledge pooling amongst some of the world's brightest engineering minds".

So how do these spaces work together in support of the Universities vision to promote industry engagement? What are the modern space pedagogies and their extension into engagement with industry that are important for the success of this precinct?

With co-presentation by the University of Melbourne, Hassell and AECOM we will explore the vision and purpose of Melbourne Connect and how the built form and infrastructure comes together in support of this vision. Our presentation will address;

- Presentation of FEIT's integrated fit-out, vertically connected across the 8 levels, that accommodates 1100 academic and professional staff.
- Review of the unique academic UX and IX laboratories that support academic research and industry engagement.
- Integration of a 'Superfloor' that provides a global benchmark for innovation community curation and partner amenity.

- Establishment of a Telstra Creator Space where technology and creativity combine to create innovative solutions.
- Co-location with the Melbourne Entrepreneurial Centre and commercial tenancies.
- Customising the engineering design for a fit-out which uniquely integrates academic work spaces and specialist laboratories into a commercial office development, enabling academic and industry environments to collide

The Imaginary University

[Ms Claudia Barriga-Larriviere¹](#), [Dr Alicen Coddington¹](#), Mrs Emily Deans¹

¹Era-co, Sydney, Australia, ²University of Technology Sydney, TD School, Ultimo, Australia

OnDemand Presentations

Biography:

Claudia joined ERA-co as Director for Workplace Equity & Belonging to work on paving an equal path for the future of work, including the reimagining the post-pandemic workplace.

In her own words: "The biggest surprise of my academic journey was the realisation of how many lives are touched by what goes on within the walls of a campus. Students walk in with minds and hearts full of possibility, waiting to be moulded and expanded on what they'll learn. Academics want to expand fields of knowledge. The business community looks to universities as seeds for future talent. University staff make a living being the operational backbone of the campus.

But individual journeys are not the purpose of higher education; we must think and design for the collective impact these tracks make in the world. We must build a path to join all those journeys into a collaborative, inclusive and modern experience."

Recent discoveries have unearthed the vital need to embed belonging into our workplaces, our universities being an integral part of the workplace and industry pipeline. Therefore, rethinking a university as a future workplace, for jobs that may not exist yet and disruptive ideas from people who may not have been born yet, is a unique design challenge.

Universities have a huge opportunity to drive change, belonging, and equity across their campuses' physical, digital, and virtual manifestations. Spaces make these principles visible and allow the world, learners, and the broader community to see that this is a priority.

Universities are complex landscapes of practice that broker boundaries between learners, academics, researchers, professional staff, industry and community partners; with an economic, social, and cultural history that influences the construction and occupation of the environments. In short, universities are places of complex and diverse experiences and expectations. Unfortunately, some of these lived experiences fall through the cracks of design decisions.

ERA-co is putting forward a new approach to campus design, an equation that:

*Addresses the relationship between environmental, virtual and digital triggers

*Acknowledges that practice is both individual and collective

*Belonging and identity are entwined with a place, and discrete elements developed through individuals' multiple landscapes of practice.

This equation will determine the success factors for a campus as a future workplace designed for growth, resilience and creativity.

Additionally, ERA-co has developed a companion tool: the Hierarchy of Place & Experience based on Maslow's Hierarchy of Needs, to help guide design decision making according to specific user experiences. Used together, the Equation and the Hierarchy of Place & Experience will remodel the way we think about our journeys through our campuses by expanding the experience pipeline and pinpointing design blindspots.

We will present our Future Placemaking Equation and Hierarchy of Place & Experience with the University of Technology Sydney TD School who are currently undergoing their workplace change experience utilising these tools. The UTS TD School delivers transdisciplinary educational experiences, bringing together learners, academics, researchers, industry and community.

Providing such a program requires the university to be presented as a workplace of the future that breaks down the silos between disciplines and opens up collaboration. Ultimately, the aim is to build an environment where any and every university professional can walk into and think to themselves, "this place was designed with me in mind;" this is where true belonging and opportunity begin.

4) Melbourne Connect Series: Delivering sustainability and wellbeing for a post pandemic world at Melbourne Connect

[Ms Jessica Bennett](#), [Dr Gerard Healy](#), Dr Gerard Healy, Ms Jessica Bennet

¹University Of Melbourne, Parkville, Australia

OnDemand Presentations

Biography:

Jessica specialises in Sustainability and has experience in the integration of sustainability and occupant wellbeing in the built environment. Her expertise is in working with the project team to establish the wellbeing and sustainability vision and with delivering building certifications on large scale projects – notably WELL & Green Star.

Jessica is a Green Star Accredited Professional, a WELL Accredited Professional and a WELL Faculty member.

Her work in the industry has led to successful implementation of several initiatives that positively impact on people's well-being and sustainability of projects, such as the University of Melbourne's Ian Potter Southbank Centre (MCM) and New Student Precinct projects, as well as the award winning One Malop Street Geelong and Sunshine Coast University Hospital projects.

Note: This abstract is one of a number of complementary abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's New Innovation Precinct Melbourne Connect from different perspectives.

In the post pandemic world facing Australian Universities there is a heightened interest from University Academics, Staff and Students in the safety, health and wellbeing of their workplaces.

In this presentation Gerard Healy and Jessica Bennett will talk about how sustainability and wellbeing was integrated into the Faculty of Engineering and Information Technology (FEIT) Fitout at the new Melbourne Connect Innovation Precinct, and how the use of third party verification is a key tool in keeping staff and students healthy and safe in a post-COVID-19 world.

In March 2021, FEIT moved into the newly completed Melbourne Connect. The new precinct boasts world leading sustainability targets such as 6 Star Green Star, WELL Platinum and 5.5 Star NABERS Energy. The move to Melbourne Connect is the culmination of the FEIT's long sustainability & wellbeing journey.

The University of Melbourne has made a clear commitment to embedding sustainability into all facets of University work through commitments such as carbon neutrality before 2030.

The FEIT Fitout sustainability and wellbeing strategy plays a direct role in contributing to the UoM's Sustainability Charter, implementing the MSE 2025 Strategy and delivering on the Aspirational Brief and Design Principles into the FEIT Fitout at Melbourne Connect.

This presentation will FEIT's sustainability and wellbeing story including:

- The Sustainability Journey of the University of Melbourne and FEIT and why the WELL tool was selected to complement UoM's established use of Green Star

- The lessons learned from being the first Australian university to implement a WELL rating
- The use of rating tools not as design tools but as a means of quality assurance – verifying that the strategy was achieved by an independent third party
- How engagement with users through the continual process of design, feedback, consultation, testing, responding etc, led to 6 Star Green Star and WELL Platinum.
- How the built environment is being used to springboard into wellbeing
- How sustainability and wellbeing is being considered beyond design & construction and into operationalised programs
- The unanticipated benefits that focussing on wellbeing has had on developing pandemic resilience and facilitating bring staff back to the workplace following long lockdowns and uncertainty / hesitancy of staff post-COVID-19.

Campuses as living labs – Case studies from the Green Gown Awards Australasia

[Mrs Rhiannon Boyd¹](#)

¹ACTS, , Australia

OnDemand Presentations

Biography:

Rhiannon Boyd has over a decade of experience as a dedicated sustainability practitioner, and has been a key player of Australasian Campuses Towards Sustainability (ACTS) since 2009. As a volunteer, she first held the position of ACTS Regional Director for South-East Queensland whilst working at the Griffith University EcoCentre to implement environmental education and community engagement projects. She then became one of the first ever employees of the growing organisation, initially as Engagement and Communications Manager, and then later taking the operational helm as ACTS General Manager. Rhiannon is currently leading on the implementation of Green Impact - an international award-winning environmental behaviour change program - in the Australasian region. She holds a Master's degree in Environmental Protection from Griffith University and a Bachelor of Science in Ecology and Conservation from the University of Southern Queensland.

For more than a decade, the Green Gown Awards Australasia have recognised and rewarded institutions, large and small, for their sustainability innovations and initiatives. They continue to provide the sector with benchmarks for excellence and are respected by senior management, academics and students.

Whilst the awards celebrate a diverse range of initiatives, institutions that utilise their campuses as living labs are highly regarded and particularly successful within the scheme, recognising that institutions have a unique opportunity to advance sustainability action on campus through formal and informal learning environments.

This session will showcase Green Gown Awards winning institutions that are using their campuses as living labs to advance sustainability outcomes. A range of case studies will be presented by the Australasian Awards manager, with time for Q&A by winning institutional partners.

How universities are reinventing themselves as international student numbers plummet and education moves online

[Mr. David Brown¹](#)

¹JLL, Melbourne, Australia

OnDemand Presentations

Biography:

David leads JLL's Strategic Consulting service and is very well credentialed with an excellent track record of success across various consulting roles and a strong network of client and industry relationship.

Through his government experience, David has a detailed understanding of what is required (processes, approvals, and planning in often sensitive public areas) when redeveloping a public asset. This experience has led to David leading the JLL team in advising several Australian Universities on the approach to attract investment and renew their campuses - La Trobe University in Victoria being the most prominent currently.

Abstract:

Lockdowns and travel restrictions have largely expelled the study-abroad concept, at least for now. And the slump in international students is set to leave a A\$16 billion hole in university finances over the next three years, according to Universities Australia.

Campus real estate, one of the biggest expenses for universities, is increasingly seen as a major source of untapped capital, with universities repurposing, selling, and leasing back buildings, and forming partnerships with other businesses.

The crisis is reinforcing long-held visions of transforming staid old education campuses into vibrant mixed-use urban centres with the goal of attracting students, enhancing learning, and monetising otherwise inefficient real estate.

This session will be relevant to campus real estate and facilities managers, governance bodies responsible for the strategic future of universities, senior property management specialists who work in the higher education sector, real estate investors and developers already working in partnership with universities, and prospective commercial and community partners.

Learning Objectives:

Participants will:

1. get insight into how universities are working with their assets to attract investment and build better campuses;
2. hear examples of how this process can be run to align with university policy and mandate - which is to focus on the students and the learning;
3. be taken through a live case of how a university is currently doing this.

Session Outline:

The intention is to:

1. ask participants where they are from and the issues, they are facing with their campus real estate;
2. present issues facing several universities, then step through the LaTrobe University case study, and relating this back to issues discussed with participants;
3. David will then ask questions and share problem-solving ideas so participants can move forward with the challenges they are facing.

The Importance of Risk-Based Seismic Assessments of Existing Building Infrastructure

[Mr Nigel Burdon¹](#)

¹Aecom, Melbourne, Australia

OnDemand Presentations

Biography:

Nigel is a Technical Director with AECOM in Melbourne and has over 20 years of international structural engineering experience, specializing in complex, design-focussed projects. He has recently led the structural packages for two major tertiary education facilities; the UQ Andrew N. Liveris Building and the Deakin Law School project.

His background working with seismic design in NZ provides a more nuanced understanding of risk-based approaches to assessing existing buildings. Having completed recent seismic assessment work in New Zealand, he brings these learnings the Australian context, where requirements for seismic assessments have increased over the past couple of years, but where client guidance is scant.

He brings a pragmatic and easily understood approach to highly technical issues that have significant safety implications for building owners.

The reuse and adaptation of existing buildings is a key part of the functioning of any major academic institution, with major expenditure put into the maintenance, masterplanning and repurposing of old building stock. This is also an important part of our responsibility to achieve sustainability goals, with the ability to reuse building fabric saving massive quantities of carbon from being released into the atmosphere.

However, despite significant sums of money being invested to gut and repurpose existing buildings, are we adequately assessing their overall ability to perform as safe and economic facilities for the medium to long term? The reality is that the processes and checks typically done fall well short of current best practice, with investment in buildings that may in ten years' time require expensive strengthening works that could have been undertaken at the time of the refurbishment.

An important component of this is earthquake performance. In the last couple of years this has come to the fore in the Australian Building Standards, with onerous new requirements for particularly concrete structures to improve the level of performance in earthquakes. Seismic design and assessments have typically been poorly done in Australia because of a perceived lack of seismic risk, and because of limited codified and statutory guidance.

These new changes are not currently reflected in the assessment of existing buildings, leaving institutions in many instances to unwittingly develop state-of-the-art facilities that fall well short of their own minimum risk and safety thresholds. Simply satisfying the building

surveyor does not mitigate risk that the occupants of a building face, and few engineering briefs in the market adequately address this.

Requirements frequently set out by Building Surveyors are subject to the NCC and a withdrawn standard (AS 3828:1998), which provides prescriptive requirements to ensure an existing building can resist 33% of current code level earthquake. We note that this is a low threshold, and means that the building represents a risk to occupants of 5-10 times that of a new building. Further to this, no change in occupancy and little structural work, may mean no seismic assessment is carried out at all.

This presentation will highlight the risks and issues associated with understanding the seismic performance of Academic Institutions' buildings, and provide suggestions for practical steps that asset managers can take to plan for and address deficiencies in their building stock.

Learning to be a better leader in times of crisis

Ms Fiona Bygraves¹

¹Monash University, Clayton, Australia

OnDemand Presentations

Biography:

Fiona has over 20 years experience in the Tertiary Education sector, primarily as a Faculty General Manager and leader of diverse teams supporting teaching, research and campus operations. In her downtime, Fiona is also the Chair of the ATEM Bass Region, an ATEM Board member and a passionate advocate for professionals in the sector.

Join with me in learning in learning from my mistakes and triumphs as I explore what worked and what didn't in leading remote teams, caring for a diverse and dispersed workforce during the numerous lockdowns Victorians faced in 2020 and 2021. Leaders throughout this time had no rulebook and very initiative was approached with a degree of experimentation.

I will describe what worked and what didn't and why and how I learned so much more from my team than from any textbook. I will examine how an existing framework supported collective ideas of support and how this continues to manifest as a positive engagement strategy.

Any leader who had to pivot (gulp) their leadership will benefit from my learnings and experience and appreciate that sometimes the best leaderships ideas can be made from your own mistakes. I hope that my sharing my experience others can see its OK to make mistakes and that sharing enables us to collectively grow.

I will explore a range of strategies I employed as part of my leadership toolkit during the pandemic response, these will be aligned to a number of leadership theories.

Leadership is a lonely journey, and this case study will enable you to learn from my experience and how I have continued to employ these learnings as part of my ongoing practice.

3) Melbourne Connect Series: A New Way to do Business

Mr Phil Callaghan, Mr Heath Evans

¹University Of Melbourne, Parkville, Australia

OnDemand Presentations

Biography:

Phil Callaghan comes to the University of Melbourne as Director (Operations) leading the Melbourne Connect Liaison office team. Previously held a position at Swinburne University of Technology as Director of Operations Faculty Science Engineering and Technology and University of Auckland as Service Improvement Manager. Before moving into Operations within the tertiary education sector, Phil held Senior Operations Performance and Customer Service positions with Air New Zealand for two decades.

Note: This abstract is one of a number of complementary abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's New Innovation Precinct Melbourne Connect from different perspectives.

The University of Melbourne, in partnership with a consortium led by Lendlease, launched a new innovation precinct in March 2021 which is bringing together world-class researchers, government, entrepreneurial start-ups, SME's, higher-degree students, artists and be home to the Telstra Creator Space a fabrication/maker space, Science Gallery Melbourne and adjacent to the University's Parkville campus and Biomedical Precinct.

This presentation will explore the challenges of attracting tenants whilst commencing operations in a unique, large, complex development to meet its objectives of establishing Melbourne Connect as a digital and data powerhouse and the 'go-to' centre for technological innovation driving solutions for societal impact.

We will explore the specific functions required to run and operate a brand-new innovation precinct. How to bring together and activate a deliberately curated diverse community – through Marketing and Communications, Sponsorship, Activation and event formation.

The facilities management function of a project, where physical space is shared between the University and a consortium consisting of a tier 1 developer, FM team and investors.

This is complex and requires a holistic system of governance and management, including managing interfaces with key building functions including security, maintenance, AV/IT, Building Management Systems.

The project includes a Superfloor, a unique space designed to generate and facilitate collaboration across the precinct. This provides a revenue stream through event and activation management and delivery supported by the precinct food and beverage offer. In addition the precinct includes establishing and operating a 275 desk/seat co-working centre.

There are a range of challenges for the University to operate Melbourne Connect with the added twist of co-locating University tenants with a mix of external commercial tenancies and a 42-year relationship with the consortium.

NOT JUST ANOTHER PODCAST!

[Ms Ashley Carden](#)¹, [Ms Nicola Howard](#)¹, Ms Kristy Horne¹

¹*Swinburne University Of Technology, Hawthorn, Australia*

OnDemand Presentations

Biography:

Ashley Carden brings passion for high quality client service, along with experience in managing, planning and delivering administrative services to ensure operational alignment with strategic business objectives.

Kristy Horne brings a diverse background of industry experience which includes, market research, project management and international event management sales and road cycling clothing design!

Nicola Howard is the current chair of the Swinburne Professional Staff Network, dedicated to providing development opportunities and connection for professional staff in an active and responsive network for professional staff to connect, inspire and innovate. Nicola is the Deputy Chair Connecting People and Groups for ATEM Bass Region.

NOT JUST ANOTHER PODCAST!

Sometimes things happen!

Sometimes it's by chance or coincidence where things happen and then can take on a life of their/its own. And sometimes this can be an excellent opportunity.

You know the feeling, when you have an idea, and once the ball starts to roll and momentum begins, it might be slowly at first then it starts gaining speed, faster and faster, and before you know it you're knee-deep and wonder "OMG how did this happen".

The Swinburne University internal network late in 2020 put the call out asking for assistance in contributing to the Swinburne Professional Staff Network (SPSN) with their newsletter, or help with writing content, or suggesting great ideas. There was a shift in staff, so the call was put out to see who else might be interested in contributing.

Fast forward.

After the first meeting with the excellent SPSN team, we walked away with a brand new idea and a new opportunity to learn, and the opportunity to work with some really bright smart, and clever colleagues. The Podcast Professionals with Kristy and Ash was created, and this was not just another podcast, this was to be a podcast with purpose. To Connect and Re-Connect with Staff.

The process was simple:

Step One: Google how to create a podcast.

Step Two: Learn how to use Adobe Audition.

Step Three: Who do we interview?

The podcast theme connection and re-connection of staff is important to all Swinburne staff, as we have seen over the past 18 months of WFH and Lockdowns there is a bit of a disconnect. The professional network at Swinburne or any organisation is important and plays a vital role in keeping the wheels turning. We want to connect and re-connect with the amazing staff at Swinburne and share some light on our awesome staff. It's also open for anyone to listen to and in future be part of.

By attending this presentation you will hear what happened next. How a bright spark developed into a bright future that we previously could have only imagined.

Macquarie University 1CC - Transforming the heart of the campus into the future of connected learning

[Mark Broomfield](#)¹, [Ms Marina Carroll](#)¹, Kirsten Quach²

¹Architectus, Sydney, Australia, ²Macquarie University, Sydney, Australia

OnDemand Presentations

Biography:

Mark Broomfield, Director of Property at Macquarie University has over 40 years of real estate background, starting from the ground up and covering the spheres of agency, marketing, property funds and asset management, acquisition, research, and development.

Kirsten Quach, is a recent graduate of Macquarie University currently working at Ernst & Young. Whilst studying Kirsten was employed on the project user group team.

Marina Carroll, Principal at Architectus is at the forefront of designing for learning and led the user group process for 1CC.

As they respond to rapid-fire social and digital shifts, universities are reconsidering their role in education, research and culture. How do they rise to meet the needs of contemporary students? How do these students learn? And what is their place in modern industry and culture?

Architectus had the rare opportunity to work in close collaboration with a university exploring these questions after designing the competition-winning concept for Macquarie University's transformative Central Courtyard Precinct in 2016. In the years since, the education design team has been immersed in the process of finding inventive solutions that reflect the identity and requirements of Macquarie University in the realisation of the One Central Courtyard Project.

We'll step you through the project from gestation to occupation, via three different lenses. Kirsten Quach, Macquarie University Student, will describe life on campus and her involvement in the user group process, Marina Carroll, Architectus Principal, will describe the tools for translation of vision into reality and Mark Broomfield, Macquarie University Director of Property, will share what the building has done for the University, campus and what we're learning from the users.

In this session we'll cover:

- The new student and life on campus
- The nature of learning in the Information Age
- Co-creation for design of New Generation Learning Spaces
- Critical ingredients to the 24 hour campus
- Stepping stones to Industry
- Bringing student life together – social, learning, teaching and celebration

- The rejuvenation of the campus heart for the future of learning

How Buying Power Can Influence Sustainable Outcomes

[Mr Sam Clegg¹](#)

¹*John Wardle Architects, Melbourne, Australia*

OnDemand Presentations

Biography:

Sam is an inquisitive architect with a passion for natural and built environments. His ability to collect, solve, and innovate is strong whether in the garden, the office, or engaged in a creative pursuit. His strengths lie in his clear and concise communication style, coupled with a keen sense of humour and boundless enthusiasm.

Always a problem-solver, Sam thrives at collecting, evaluating and prioritising vast arrays of information in order to navigate complex project frameworks. He couples an impressive knowledge of engineering, materiality, detailing and technology with a desire to drive innovation and balance competing project objectives

Over the past year and a half, JWA have been exploring the opportunity to leverage the ability of large institutional projects to influence sustainable outcomes with the University of Tasmania's ambitious Northern Transformation projects.

"The Northern Transformation is a \$300 million project that will see new campuses built at West Park in Burnie and Inveresk in Launceston in a partnership between the University and local, state and Australian governments."

Tasmania's 100% renewable energy supply served as a catalyst to explore minimising the carbon footprint of the initial construction of the new buildings. The operational carbon emissions of an education building in Tasmania are currently 60% lower than a comparable building on the mainland. This inverts the paradigm of carbon footprint from initial construction (10-20% on the mainland), to operational footprint through operation (80-90% on the mainland).

An ambitious Vice-Chancellor (Professor Rufus Black) set the challenge for the JWA consultant team to significantly reduce the initial carbon footprint of the new University buildings in Burnie and Launceston.

JWA and Integral Group recommended undertaking a Life-Cycle Assessment – but with a twist! Rather than establishing a benchmark building, then assessing the comparative carbon reduction in an early design phase, JWA developed an iterative methodology that assessed and verified carbon reduction initiatives through all phases of design.

This modified Life-Cycle Assessment allowed the design team to progressively review the impact of each material and system at an elemental level and seek contractor verification through Early Contractor Involvement. It also allowed JWA and UTAS to assess each

carbon reduction initiative through the lens of an established metric; cost-premium/tonnes of carbon (equivalent) reduction.

As construction of the latest two buildings commences, we are currently positioned to reduce the initial carbon footprint of the River's Edge and Willis St buildings in Launceston by between 30 and 35%. We would like to share our process and these latest case studies to allow others to build upon our findings.

Monash Woodside Building For Technology and Design:- A transformational building for Tertiary Education and a Low Carbon Future, Presentation 1

[Mr Andrew Cortese](#)¹, [Ms Alberto Sangiorgio](#)¹, Ms Veronica Halupka²

¹Grimshaw Architects, Sydney, Australia, ²Monash University, Melbourne, Australia

OnDemand Presentations

Biography:

Andrew is a Managing Partner of Grimshaw. In 2009 Andrew established the Sydney studio and he jointly leads the Australia/SE Asia and New Zealand practice region. His responsibilities include the design leadership of the Australian practice across all project sectors, including establishing multi-discipline collaborative teams in significant public projects. His achievements in education include the Monash Woodside Building for Technology and Design, amongst the largest passivhaus buildings in the world, the 17-storey Arthur Phillip High School and Parramatta Public School and the UNSW Hilmer and Science and Engineering Buildings. His principal focus concerns urban planning at scales from precincts to cities, the architecture and urban design of complex state significant projects with respect to infrastructure, tall buildings, science and learning, culture, sports and housing, and the industrial design of urban componentry. His most significant realised projects are recipient of national and international awards, and citations for design excellence.

“Monash Woodside Building for Technology and Design by Grimshaw in collaboration with Monash University is recognised for the highest level of design excellence and thinking. In the context of a global climate and environmental crisis, the Woodside building demonstrates an elegant and optimistic response delivering a complex program for an environmentally sustainable future while simultaneously proposing a transformational vision of what tertiary education can be”. Victorian Architecture Medal - Jury Citation – Rosemary Byrne

The process and production of the design will be represented across the following attributes.

- The development of the learning, research and workplace brief – destratification of hierarchies, and the corresponding curation of relationships, amenity and experience.
- The campus agenda – establishing places, activities and connection that engage, activate and display.
- The spatial programme – a volumetric approach to programme and plan configured about interaction and immersion, environmental layering and embrace climate variance, foregrounding landscape and views, illumination in sunlight.
- Design performance – the codification of relationships of diversity in performance and amenity to achieve holistic performance

- Ordering complexity and achieving economy through systems of geometry, modularity and repetition.
- The design of an envelope – orientation, variety, craftsmanship, materiality and passivhaus performance
- Architecture, Engineering, Experience and Identity – designing a human centred building that embodies and inspires an embrace of engineering, technological progress, sustainable values and sociability.

Transforming Learning on Campus using the Effective Teaching and Learning Spatial Framework

[Dr Jo Dane¹](#)

¹Era-co, , Australia

OnDemand Presentations

Biography:

Jo is a Principal, designer, educator and researcher with a passion for educational transformation enabled through research-based design practice. As a leader of Woods Bagot and new consulting firm ERA-co, she promotes future thinking of teaching, learning and work places to guide the transition of institutions into the 21st Century. Jo recently completed her PhD at Monash University with her thesis titled 'New Generation Learning Environments in Higher Education'. A key output of the PhD research is the Effective Teaching and Learning Spatial Framework, which can be used as a guide to designing great classrooms on campus.

The Effective Teaching and Learning Spatial Framework is a theoretical construct for designing and procuring formal learning spaces. It is the culmination of almost 20 years of research, design practice and production of a PhD thesis. Genesis of the research topic occurred in the early 2000s while teaching interior architecture at Monash University, where I undertook a Graduate Certificate of Learning & Teaching for Higher Education. I was curious as to why the education literature endorsed learning as a series of active, interactive and collaborative experiences, whereas the physical infrastructure appeared to impede this vision altogether (such as dense lecture theatres, confined tutorial rooms and soul-destroying computer labs).

Around the same time, a small number of academics in Australia began raising questions as to how their student-centred teaching practices could be better supported by the available classrooms. Some universities invested in pilot spaces to explore alternative space typologies. It was a unique initiative for academics to become involved in the design of new types of classrooms and consequently published papers reporting their experiences of positive educational observations.

An in-depth analysis of educational literature revealed a common reference to 'effective teaching and learning'. Further dissection enabled categorisation of six characteristics that united the 'effective teaching and learning' discourse. This theoretical framework was then examined against a series of four case study examples of 'new generation learning environments'. Observations, behaviour mapping and teacher interviews were conducted, exploring teacher awareness of their environment and ways of using the classroom features to advance their student-centred teaching practice.

This ethnographic research led to the Effective Teaching and Learning Spatial Framework, which unites the theory of effective teaching and learning with the human behaviours associated with effective teaching and learning, and the spatial characteristics that support those behaviours. The intention is that the Framework can be used as a guide to designing classroom environments that will support student-centred teaching and learning.

Imagine if every classroom on campus was designed to enable best-practice teaching and learning?

This presentation seeks to achieve three specific outcomes:

1. Briefly explain the Effective Teaching and Learning Spatial Framework;
2. Demonstrate how the Framework can be used as a design tool; and
3. Pose the benefits of such environments for students, teachers and facility managers – especially in a post-covid world

Smarter City Solutions: Propelling parking into an integrated, innovative future which matches a university's creativity and forward thinking

Mr Michael Doherty¹

¹Smarter City Solutions, Lane Cove West, Australia

OnDemand Presentations

Biography:

Michael Doherty has been at the forefront of parking technology for close to a decade, having worked with many of the businesses behind Australia's leading parking and payment apps and cloud-based permit and compliance technologies. As Head of Business Development for Smarter City Solutions, he oversees the sales and marketing of unique integrated parking solutions for local councils, universities and corporate clients all over Australia.

Michael was the first employee at Smarter City Solutions when it launched as CelloPark in 2013. He returned to the company in 2020 after several years at parking availability app UbiPark, as well as SenSen Networks, one of the world's leading AI solutions providers for smart cities and enterprises.

Multi-disciplined with a solid, 25-year strong track record in information technology, Michael embraces disruptive technology and looks forward to a future where parking permit stickers and coin-fed meters are a thing of the past.

Smarter City Solutions is the leading parking technology supplier to universities across Australia and have rolled out innovative solutions for Curtin University, Macquarie University, Deakin University, Flinders University, and La Trobe University.

From their years in the sector Smarter City Solutions have tailored their suite of products to meet the individual needs of each university and their students & staff. As University students become more tech savvy and continue to have high expectations of the technology they are using, the need to keep up with innovations and look at other ways to better the user experience becomes more stressed.

Case Study: Monash University

Monash University lies in the outer south-eastern suburbs of Melbourne. It has over 86,700 students enrolled at multiple campuses in the region, with over 47,000 studying at the largest campus at Clayton. The University has over 18,000 staff members and is the largest campus in Australia.

Because of its location, a large proportion of Monash's staff and students drive to campus. The Clayton campus in particular is difficult to reach by public transport, so parking spaces

are in high demand. A lack of available parking often meant that students were late for class, with many leaving lectures early in order to beat the traffic congestion and at peak times some students who couldn't find a car space would give up and go back home. Monash wanted to combat this issue by reducing the number of single-occupancy vehicles arriving on campus, in keeping with their overall sustainability goals.

Smarter City Solutions utilised its full suite of parking products to create a new parking system that would integrate and streamline the University's parking management and create more user-friendly experience for motorists on each of its campuses.

The full integration of Monash's parking management system has dramatically reduced the amount of work involved in administering parking permits.

Speaking of the project Reeta Lad, Transport Manager for Monash University said: "Prior to CelloPark and vPermit, we needed a better parking management solution which fit the requirements of our staff, students, visitors and contractors alike. The previous parking infrastructure and pay-and-display system was not inline with our innovative and progressive reputation, and with Smarter City Solutions we now provide students and staff with a modern, technological solution."

"The Smarter City Solutions team understood our unique situation and the vision we had, and were proactive in developing an integrated solution tailored to us."

Campuses that create compelling experiences in a digital and tech-rich world

[Nick Bourns](#)², [Ms Mhairi Donohoe](#)¹, [Emily vonMoger](#)², [Ms Yolonda Wosny](#)¹, Ms Yolanda Wosny¹

¹Swinburne University of Technology, Hawthorn, Australia, ²NH Architecture, Melbourne, Australia

[OnDemand Presentations](#)

Biography:

Mhairi Donohoe is the Director, Facilities and Services Group at Swinburne University of Technology.

Originally from Scotland Mhairi graduated from the University of St Andrews after studying biochemistry for four years. She spent eight years working as a researcher in Berkeley, California and Cambridge, U.K. for the United States Department of Energy and the U.K. Medical Research Council.

In 2016 she moved to Sydney and successfully transitioned out of the lab into a project management role as the Victor Chang Cardiac Research Institute was constructing a new state-of-the-art research facility on the St Vincent's precinct in Darlinghurst. Mhairi now lives in Melbourne and graduated from the Melbourne Business School in 2016 with an MBA. She currently leads the management and operation of Swinburne's facilities including student residences, property, space management, assets and infrastructure.

Swinburne University of Technology is a dual-sector institution, defined and inspired by technology and innovation, and renowned for strong industry and community engagement.

Swinburne's vision is to bring people and technology together to build a better world, and we are driven by a shared sense of purpose to create tomorrow's technology and the human talent required for a digital, tech-rich future.

In 2021, Swinburne is repositioning its infrastructure strategies to facilitate our desire to create a compelling campus experience. Spaces that create a deep sense of belonging where people congregate together to network, partner and learn from one another.

Charles Darwin University Campuses of the Future

[Mr James Edwards](#)², Ms Meredith Parry¹, Mr Allan Tranter³

¹Charles Darwin University, Darwin, Australia, ²Hames Sharley, Darwin, Australia, ³Creating Communities, Perth, Australia

OnDemand Presentations

Biography:

Hames Sharley was established in Adelaide in 1976, and is now a top 100 global design practice with studios throughout Australia.

James Edwards is a director and leads the firm's national Education, Science and Research Portfolio. He has more than thirty years' experience working with universities and research institutions throughout Australia and overseas.

Creating Communities is a consultancy dedicated to using the power of community to drive positive economic, environmental and social outcomes.

Allan Tranter is the Founding Director of Creating Communities Australia, the company he formed in 1992. His vast expertise in social planning and his flair for the marketing of ideas have contributed to bottom-line improvements for some of Australia's leading businesses. Allan's down-to-earth, hands-on approach to strategy, leadership and solutions is effective and renowned.

One of the largest assets a university has is the land upon which its campus resides. With improvements in the delivery of teaching and learning, an increasing connection of universities with industry partners and the impact of Covid- 19 universities are examining how to reposition their campuses for the future.

Hames Sharley recently completed master planning for Charles Darwin University in the Northern Territory with community engagement by Creating Communities Australia, and landscape design by UDLA. This presentation considers both the drivers for future planning of campuses, and also how the team completed a process that included extensive consultation in a COVID-impacted environment.

Charles Darwin University (CDU) is a dual sector university, the Northern Territory's largest tertiary institution and Australia's most northerly university. An ambitious Strategic Plan 2015–2025 targeted a 100% growth in students and a new campus is currently under construction in the Darwin CBD.

The impact of COVID and the construction of the new CBD campus have presented both opportunities and challenges for CDU and brought a strong focus to the future of their existing Greater Darwin campuses. The main campus is located in Casuarina 13kms from the Darwin CBD. As CDU delivers a large amount of content remotely the Casuarina campus has a much higher proportion of staff to students.

A particular challenge for this campus has been to consider what realistic opportunities there might be for campus activation in the absence of a large student population.

An Activation Plan was developed recognising that the individual segments are too small by themselves to create a critical mass that would enliven each campus. The approach to the activation of CDU's Greater Darwin campuses is built around partnerships resulting in a deliberate, holistic method of creating a critical mass of activity.

Our presentation will walk through the master planning methodology and consider the initiatives identified in planning for the future of the campuses presented in an online lecture style format.

Importance of Indigenous Pathways into the building Industry

Mr Yemurraki Egan¹

¹University Of Melbourne, Melbourne, Australia

OnDemand Presentations

Biography:

Yemurraki is a proud Yorta Yorta, Wemba Wemba and Gunditjmara man who grew up in Melbourne. He is a graduate of the Melbourne Indigenous Professional Employment Program and is currently working as part of the Corporate Finance and Property team in the Property Division of the University of Melbourne. In this role, Yemurraki contributes to the development of Indigenous cultural themes in placemaking and is an ambassador for programs that provide mentoring and work integrated learning opportunities for Indigenous peoples. Yemurraki has worked with a quantity surveying firm to develop their first Reconciliation Action Plan and with the Melbourne School of Engineering and a global engineering firm to increase Indigenous representation in the engineering sector. Yemurraki has returned to his former high school to provide advice and engage with current Indigenous students on strategies to improve their educational outcomes and pathway to employment and a rewarding career.

Yemurraki Egan is a proud Yorta Yorta, Wemba Wemba and Gunditjmara man who grew up in Melbourne and is currently enrolled in an Associate Degree of Engineering at Swinburne. Yemurraki graduated from high school in 2017 and joined the University of Melbourne through the Melbourne Indigenous Professional Employment Program which was introduced to the University when they implemented their Reconciliation Action Plan. While working at the University of Melbourne he has studied Leadership and Management and Facilities Management while undertaking industry experience in a number of different firms across different practicing sectors including engineering, project management and architecture.

Yemurraki has contributed to numerous programs and strategies in improving Indigenous affairs in the building industry, most recently as: a member of Slattery's Reconciliation Action Board; an executive of the Koori Youth Council; and a recipient of the 2020 Maurie Pawsey Scholarship where he will research Indigenous Placemaking.

Join his presentation as he discusses his unique perspective and experience in the building industry and how this can influence a young Indigenous professional's career pathway. He will talk about the importance of giving Indigenous people a platform to succeed, and how he is now using this platform to increase and improve the Indigenous influence in the building industry.

5) Melbourne Connect Series: Telstra Creator Space - delivering an innovative student experience.

[Mr Jeremy Elia](#), [Ms Michelle Mackay](#), [Mr Matthew McCoy](#)

¹University Of Melbourne, Parkville, Australia

OnDemand Presentations

Biography:

Jeremy is the Head of Infrastructure for the Faculty of Engineering and Information Technology – an executive with experience in leading and delivering varied and complex national programs of work, major projects, accommodation strategies and operational planning for large property portfolios.

The Faculty of Engineering and Information Technology is transforming engineering and IT research and teaching, guided by FEIT2025, our ten-year strategic plan. With an expected investment of \$1 billion in people and infrastructure, we are creating the entrepreneurial leaders and technology of the future.

Michelle is the Facilities Manager for the Faculty with over 25 years experience in leading and managing technical and infrastructure support across varied Engineering disciplines. Michelle began the journey to uplift the hands-on build experience of students with introduction of basic tools training in the Engineering Workshop in 2010, through to the opening of dedicated student centric build spaces cumulating in the Telstra Creator Space.

Note: This abstract is one of a number of complementary abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's New Innovation Precinct Melbourne Connect from different perspectives.

Telstra Creator Space is an accessible fabrication lab located at the University of Melbourne's innovation precinct, Melbourne Connect. Where technology and creativity combine to create innovative solutions. The space is accessible to Melbourne University Faculty of Engineering and Information Technology (FEIT) students, academics or Melbourne Connect tenants.

Telstra Creator Space is over 1200m² of space that spans two floors and features an extensive range of industry grade equipment and tools. Each floor has distinct areas dedicated to making and prototyping activities, from wood lathes and metal bandsaws to signal generators, 3D scanners, and much more.

Telstra Creator Space will enable the University of Melbourne's FEIT and our partners to prepare outstanding graduates and achieve global impact through teaching and research. Born out of the need for new solutions, Telstra Creator Space is a maker space for students to enter the future of creating. It's a unique opportunity to learn and play. Students will learn to use industry grade equipment through online and face-to-face training, supported by an onsite team of industry professionals.

There are over 16 different equipment courses available for students to book in to learn something new or extend skill set.

A dedicated team of creatives and technical experts from QinetiQ have been recruited to help students learn and make the most of the resources available at the Telstra Creator Space. Everyone has a range of different skills, from woodwork to electronic fabrication and technical engineering.

At the presentation, we will outline the journey of establishing the Telstra Creator Space which commenced in 2017, where the Faculty went out to the market to seek professional and technical expertise to manage the facility. From 2019, the Faculty has been working closely with QinetiQ to operationalise the facility. Extensive Service Design was completed and resulted in a sophisticated booking integration system that enhances students experience in using the space by seamlessly allowing students to register, train, book and attend the Telstra Creator Space. The presentation will also outline the partnership with Telstra and how the Facility will work with Telstra to create innovative solutions that enhance students visitor experience.

9. Melbourne Connect Series. Innovation, Collaboration and Object-Based Learning at Melbourne Connect

[Dr Richard Gillespie](#)¹, Dr Richard Gillespie¹
¹University Of Melbourne, Melbourne, Australia

OnDemand Presentations

Biography:

Dr Richard Gillespie is curator in the Faculty of Engineering and Information Technology and principal honorary fellow in the School of Historical and Philosophical Studies at the University of Melbourne. He previously led curatorial and collections teams at Museums Victoria, which encompasses Melbourne Museum, Immigration Museum, Scienceworks and the Royal Exhibition Building, a World Heritage site. He has published widely on the history of science, technology and its social contexts and on the history of museum collections.

This abstract is one of several abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's New Innovation Precinct Melbourne Connect from different perspectives.

Moving the Faculty of Engineering and Information Technology at the University of Melbourne into its new home at Melbourne Connect was both an exciting prospect and a challenge. How could we bring the faculty's rich history into these new spaces? The key driver for Melbourne Connect is to link the faculty's researchers and students with industry and community collaborators -- to create an innovation precinct that drives new research and teaching. How could we reflect this through the eight levels of the faculty's workspaces?

With architects and designers Hassell and experience designers Freestate an engaging approach to highlight the faculty's historic and contemporary collections throughout the building was developed. These displays celebrate the faculty's history over 160 years, showcase significant achievements, and highlight current research projects and collaborations. The displays animate Melbourne Connect, working as a symbolic place of collaborations, as signposts and memories as people move through the circulation spaces and as an expression of our collective aspirations.

The objects and stories are diverse. An eel basket commissioned from Gunditjmara artist Sandra Aitken introduces millenia of Indigenous engineering at the world-heritage listed Budj Bim in southwestern Victoria, where the University is collaborating with traditional owners to interpret and preserve the cultural landscape. Two showcases celebrate the University's rich tradition in biomedical engineering, from the Bionic Ear to current collaborations on epilepsy monitoring and 3-D printed personalised prostheses. Several displays record the development of computation, from the first computer at an Australian university in 1956, to applications in turbulence, urban infrastructure ecosystems. A display exploring the development of human-computer interaction provides context to students working in the innovative User Experience (UX) and Interactive Technologies (IxT) labs.

Networked tablets in the showcases enable a rich contextualisation of the research and explore the impact of innovations and collaborations. Staff and students are encouraged to propose new ideas for changeover and updating of displays. The presentation will outline the development process for the integration of collections in Melbourne Connect, so that the work of staff, students and collaborators is located within a strategic vision of collaboration and innovation. It will explore how this approach sits within a university-wide strategy to maximise the value of its cultural collections for object-based learning.

How can global Third Place Thinking be applied to our high-performance sports and culture, to better reconnect our tertiary community?

[Mr Dion Gosling^{1,2}](#)

¹106 Architects, Melbourne, Australia, ²Third Place Thinking™, Melbourne, Australia

OnDemand Presentations

Biography:

Dion Gosling - a leading architect and thought-leader for sports, community and recreation facilities across Australia and NZ - is Group Sector Leader + Global Design Director for dwp | design worldwide partnership.

As a former NZ Hockey Black Stick, Olympic Athlete and Commonwealth Games silver medallist. Dion has innate knowledge of sports and community projects shaped by years of personally interacting with local and international facilities over the past 25 years.

Since retiring from international hockey in 2005, Dion has successfully combined his two foremost passions: sports and architecture, specialising in masterplanning, design and delivery.

Connecting our community sport with our high performance environments in a new Third Place, is central to Dion's thinking.

Designers are rapidly reimagining our built and social environments. From speculative structures to breakthrough approaches, this theme explores new wave design-thinking and innovation.

How do we do this? We shape culture through community social, cultural, environmental, and economic values. Just as the high-performance athlete seeks change and improvement on a daily basis, we establish benchmarks for baseline performance upon which to make gradual and subtle improvements.

In this context, how does Tertiary Education address high-performance sport in culture and environment, and how do tertiary institutions successfully integrate community users of university infrastructure?

Over the last year, the way in which we connect our education communities, students, families and friends has never been more important.

We have seen just how vital our environmental and cultural conditions have been particularly through the lens of design in raising our tertiary sector to greater heights.

As we address the physical, mental, social, environment and economic benefits which lay ahead, the environments in which we learn from and share knowledge in, become more important and relevant to our wellbeing.

A critical role of design is to imagine and create alternative worlds that respond to current issues and improve the quality of life for everyone.

Where we seek better social outcomes on a more intimate level, how has our approach to design changed as a result of the events of the past two years?

Case studies from Australia and NZ provide insight into how the expectations of high-performance sport within tertiary environments is changing, and open the question as to "how are tertiary institutions responding?"

One area of insight and learning is at the intersection of the high-performance sport and community grass-root level cultures. It is at this place – the Third Place – where values are transformed.

What are the connections we need to be making, and the conversations we need to be having right now?

This presentation will explore the themes of high-performance culture and the subtle change that lies ahead. A learning outcome will be to enable our facilities managers to take an old concept (Third Place), and reimagine it in a new context and application that could reconnect our communities.

We will challenge strategic thinkers and planners of our tertiary environments to consider the greater opportunity for our sport and community facilities to enhance our social connections, and community well-being.

The Policy Makeover: How Engagement Campaigns and Customer-Focused Improvements are transforming policy development from Glum to Glam at USQ

[Mrs Kelly Hamlet¹](#)

¹University Of Southern Queensland, Toowoomba, Australia

OnDemand Presentations

Biography:

Kelly offers high-level advice for service improvement, with a focus on policy/procedure development and assistance navigating the policy process. Kelly's 15+ years in corporate marketing, communication and sales helps her engage with the University community by translating complex topics into documents that anyone can understand. Kelly has a Bachelor of Commerce (Honours, Queen's University, 2002) and a Graduate Diploma – Business Research from the University of Southern Queensland (2019).

Policy is rarely sexy. And very few people think of it as fun. Policy development has long been considered a 'necessary evil' – something you do when you have to, because you have to. But in a high-performance culture, where collaboration and innovation are key, how do we make it better?

USQ took this challenge on by taking a hard look at how we navigated policy development. Our team collaborated on a new and innovative approach that borrowed best practices from a variety of disciplines. We've incorporated an exciting blend of technology enhancements, customer-focused service improvement techniques and 'click-bait' style marketing efforts to re-engage with our stakeholders. We've reassessed the language we use, the tools we offer, the process we follow and how we communicate and train people to work on policy at USQ.

The outcome has been better engagement, an easier process and better quality documents. In this concurrent session, we'll share the approach we've taken towards a better future, shining a light on our approach to achieving excellence while acknowledging the bumps along the way. That will include a review of our tools, implementation techniques, case studies and our results, allowing attendees to walk away with tips and techniques they can apply to their own institutions.

Efficiencies by pivoting Professional services to specialisation based support

[Mr Paul Brown¹](#), [Ms Tania Hogg¹](#)

¹RMIT University, Melbourne, Australia

OnDemand Presentations

Biography:

Tania Hogg

Associate Director Strategy and Innovation (Project manager of Stem College implementation)

A Professional Leader in the Tertiary sector with over 20 years' experience, Tania adds value to complex organisations and drives business improvements. A talented leader and business-development facilitator who determines strategic and operational initiatives and drive their implementation.

She is a passionate, focused, and energetic professional who enjoys working both collaboratively and independently. Her positive and celebratory attitude contributes to a productive work environment for her team and stakeholders. Her skill-set includes leadership, strategic planning, project, and operational management.

Paul Brown

Director Planning and Resources, STEM College

A senior Leader in the University Sector with over 35 years of experience. Paul has lead, driven and designed multiple strategic changes within the sector.

Conference Theme: Rising to Greater Heights, High performance culture; Leading change & innovation.

Title: Efficiencies by pivoting Professional services to specialisation based support

Join us to find out how the STEM College Professional services team (400 staff) of RMIT positioned the College for the future and reshaped the organisational structure during Covid 19. As with all Universities the need to resize the workforce to respond to the reduced International demand impacted the professional services team the most.

By shifting from School based professional services teams to centralised specialist based teams, the project not only met the reduction targets but also provided an opportunity to achieve consistency in approach, efficiencies in use of resources and approach, and a reduction in duplication.

The professional services team originally consisted of a College Office team including centralised Technical services, geographically based Academic services and Governance

support. In addition each of the 4 schools included an embedded professional services support team.

The new model includes a centralised model of streamlined Technical services, a functionally aligned Student life cycle, Program lifecycle Governance, Planning and Operations and Will and Engagement

Join us to learn about the design considerations, change process, highlights, hard lessons and details of how efficiencies were achieved, and duplications removed during the tough years of 2020 and 2021 that will set the college to better respond to any further future shocks.

Learnings:

- 1) Key learning takeaways from a large restructure project re design, change, team, data and people.
- 2) How to achieve efficiencies and remove duplications through centralisation of teams.

Campus Master Plan - Lessons on procuring and delivering a successful outcome

[Ms Zoe Lewis¹](#), [Ms Elliot Spring](#)

¹University of Canberra - BRUCE, ACT, Canberra, Australia

OnDemand Presentations

Biography:

Zoe Lewis is the Senior Design Manager and Campus Planning Team Lead at the University of Canberra. Zoe's education is in architecture, with her career has progressed into the project management and client side design management realm where she utilises her creativity to manage and solve complex issues in the built environment. Zoe has been at the University of Canberra for 3 years, with a predominate focus on the delivery of a new Campus Master Plan which was launched earlier this year.

Elliot Spring has over 15 years' experience as an architect and urban designer in New York, Norway and Melbourne. Her work includes a broad range of projects around the world, from community libraries and cultural centres to large scale masterplans. Elliot has led MGS Architects' responses to UNSW's Masterplan Framework, Trinity College's Development Framework, Swinburne's TC Building redevelopment and now the University of Canberra Master Plan.

In late 2017, 5 years after the previous Campus Master Plan, the University of Canberra identified a need to rejuvenate its campus strategy. After a lengthy period of project planning and procurement, MGS Architects were engaged in 2019 and the new Master Plan was completed in 2020, launching earlier this year.

This discussion will explore governance, project management, procurement and communication themes that lead to the success of the Master Plan.

Zoe will explore process of defining the budget, business case and project management plan which lead to a 2 stage procurement methodology and heavy involvement from executive and Council members.

Elliet will follow, outlining the process of developing the master plan including successful stakeholder communication and client relationships.

Why an uncertain time is the best time to plan for the future: Advantage of time and strategic campus frameworks

[Ms Caitlin Murray¹](#)

¹ERA-co, Melbourne, Australia

OnDemand Presentations

Biography:

Caitlin is an Education Strategist and Victorian registered architect. She has gained significant experience in the education and science sectors, including writing functional briefs, stakeholder engagement and asset planning. Caitlin is passionate about the future of university campuses and innovation precincts, carefully considering the impact of built form in creating positive learning & research outcomes. She has worked closely with Universities and TAFEs across Australia and New Zealand to develop bespoke education strategies. A key strength of Caitlin's is the development of Strategic Asset Masterplans; balancing projected growth with infrastructure development and new space typologies to enable best practice teaching, working and researching.

There is no denying 2020 and 2021 have been challenging years for the Australian tertiary education sector. Whilst this may lead many large infrastructure projects to go on hold as universities reassess their financial position, this does not mean however, that all strategic campus planning should be neglected.

Campus infrastructure planning is a long game. With the development of a business case and brief for a significant infrastructure project taking up to a year before the building can even be passed over to a design team, and a further 2 years in design and 2 years in construction, chances are a building to be completed in 2025 needed to be thought about yesterday. Similarly, the decisions of tomorrow can have a 50 plus year impact.

A strategic campus framework assesses existing campus assets to align with the institution's strategic vision, best practice learning, teaching, researching, and working and growth modelling. In doing so, it provides a development roadmap for the campus over the next 10, 15, 20+ years; helping institutions make decisions about the future of assets and strategy for any new builds or major refurbishments.

As strategic campus frameworks aim at setting up campuses properly for the future, here are 5 ways universities can use time to their advantage to develop a framework to ensure they are maximising their physical campus assets:

1. Act Strategically not reactionary

How do we ensure solutions to immediate issues do not impact our long-term goals?

2. Identify Critical timelines

When do key decisions need to be made? When are our older assets reaching end of life?

3. Time to engage

How can we re-align strategic learning, researching, and working priorities to the physical campus?

4. Get your house in order

What digital data needs updating? How can we better understand the existing conditions of our physical assets?

5. Foster new relationships

Who can we collaborate with? Can we pool resources into shared infrastructure with others?

The students of tomorrow will have far different expectations of the physical campus than the students of today. Tertiary institutions cannot afford to wait until the time is right to start thinking about the campus of the future. The time to think, to plan and to strategise is now. The implementation of the plan is what can wait.

How Can Innovation Precincts Support a New Breed of Learners?

[Ms Caitlin Murray¹](#)

¹ERA-co, Melbourne, Australia

OnDemand Presentations

Biography:

Caitlin is an Education Strategist and Victorian registered architect. She has gained significant experience in the education and science sectors, including writing functional briefs, stakeholder engagement and asset planning. Caitlin is passionate about the future of university campuses and innovation precincts, carefully considering the impact of built form in creating positive learning & research outcomes. She has worked closely with Universities and TAFEs across Australia and New Zealand to develop bespoke education strategies. A key strength of Caitlin's is the development of Strategic Asset Masterplans; balancing projected growth with infrastructure development and new space typologies to enable best practice teaching, working and researching.

A new breed of learners is emerging. The traditional campus dichotomy of student and academic is being replaced by a spectrum of learners – from undergraduate, post graduate students and PhDs, to accelerators, start-ups, researchers, and industry partners. All on a path innovation, underpinned by knowledge and discovery.

We know that collaboration between all these players is key, but in an era that allows us to do that effectively in the digital realm, what do we need from university campuses in order to drive innovation in the post COVID-19 world? The answer is simple – the facilitation of meaningful connections within a knowledge sharing ecosystem. One that fosters a sense of belonging, an entrepreneurial mindset and is grounded in local context. Innovation precincts are the perfect platform for this to occur.

To be successful, future innovation precincts should work on three levels: programmatic, digital and as a stage. The programmatic level choreographs the space with a strong consideration for what types of spaces should be provided. This includes a magnet facility to define a common purpose and shared facilities acting as the heart. The digital level enables the creation of networks beyond those that physically occupy the space and a way to manage the occupants. The stage or the physical infrastructure then brings all the required people and activities into formation and responds specially to the local surroundings. The digital and physical experience are not in competition with each other. They are both crucial elements in connecting the entire community.

Innovation precincts offer a way to catalyse learning, invention, and economic opportunity in a post-COVID-19 world. They facilitate collaboration and foster symbiotic relationships between all players. Innovation precincts drive a new breed of learners, who require spaces far beyond the traditional ideology of a classroom or office. Innovation precincts provide a spectrum of learning environments to suit a spectrum of learners.

30,000 students in ten years: lessons learned from a decade of coordinating one of Australia's largest face-to-face university courses

[Dr Gregory Nash¹](#)

¹University Of The Sunshine Coast, Sippy Downs, Australia

OnDemand Presentations

Biography:

Dr Greg Nash is a Senior Lecturer in Education and coordinated one of Australia's largest university courses, COR109 Communication and thought, for ten years until 2020. He has authored journal articles and presented at conferences focusing on student experience in first year in higher education and he has also written two text books on approaches to university assessment. His current research projects are informed and guided by the data collected through a decade of large course coordination and reflections on student outcomes, staff development and leadership throughout this journey. In his spare time Greg is an avid surfer and active social justice advocate in the Sunshine Coast community.

In June 2020 it was announced that COR109 Communication and thought, the mandatory, whole-of-institution first year course at the University of the Sunshine Coast (USC) would be discontinued at the conclusion of semester two 2020. This paper brings about a conclusion to the Tertiary Education Management Conference papers Rise of massive on-campus course (MOCC) (2014) and Managing a MOCC: Key considerations from a massive on-campus course (2015) and consolidates the lessons learned by the course coordinator who oversaw the course through ten years of growth and 30,000 student enrolments. Primarily, a focus will be given to the logistical requirements and challenges of coordinating a course that was taught across eight campuses over three semesters per year from Monday to Saturday 8am until 8pm. This analysis considers the scheduling of up to 140 face-to-face tutorials and 22 lectures each week at the different campuses and also takes into account the increased presence of online and blended learning materials from 2017 to 2019. This gradual expansion of online learning materials contributed to the successful conversion of the course to fully online (with 3,300 students enrolled) during a single pause week with the advent of COVID-19 lock-downs in April 2020. Secondary, a brief overview of how the multidisciplinary approach of COR109 provided generic skills/strategies to all of USC first year students to help them successfully navigate their university studies. This will be demonstrated through a chronological evolution of the assessment and support services in the course as well as the positive and negative student feedback that promoted constant innovation and teaching reflection to improve the course. Finally, the contributing factors to the course being discontinued will briefly be presented.

6. Melbourne Connect Series: Delivering Transformational Programs

[Prof Joe Klewicki](#)¹, [Ms Sarah Nickas](#)¹, [Ms Ruth Wilson](#)², Professor Joe Klewicki¹

¹University Of Melbourne, Melbourne, Australia, ²Architectus, Melbourne, Australia

OnDemand Presentations

Biography:

Sarah is the Project Director, supporting the Faculty of Engineering and Information Technology at The University of Melbourne to deliver the integrated fit out at Melbourne Connect and a range of projects on the Parkville campus as part of the FEIT 2025 Strategy.

Ruth Wilson is a Principal, Board Member and the Melbourne Studio Leader of top-tier national architecture and design studio, Architectus. With 30 years of experience in Australia and Europe, Ruth has worked with the University of Melbourne's Faculty of Engineering and Information Technology since 2016 and led Architectus in the role of the University's advisor in the development of Australia's largest innovation precinct Melbourne Connect.

Professor Joe Klewicki is Head of the School of Electrical, Mechanical and Infrastructure (EMI) Engineering in the Melbourne School of Engineering at The University of Melbourne. Joe is also currently the Director of Infrastructure for the FEIT 2025 Strategy.

Note: This abstract is one of a number of complementary abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's New Innovation Precinct Melbourne Connect from different perspectives

In 2015, the Faculty of Engineering and Information Technology (FEIT) began its ten-year strategy to transform IT and engineering at the University of Melbourne, FEIT 2025. At the midway point, FEIT has made significant progress on the delivery of the infrastructure program that enables FEIT to achieve its vision.

Melbourne Connect, completed in March 2021 by the University brings together academia, industry, and government into a purpose-built precinct. FEIT occupies 15,000m² of in the commercial tower and over 1,200m² for the Telstra Creator Space fabrication lab anchoring the University presence in the precinct. Fishermans Bend, a new campus for the University is in the early design phase. A new wet laboratory building is planned as a University-wide asset to support chemical and biomedical research. Refurbishments on Parkville have been completed, with more planned for the existing suite of FEIT buildings. These developments are part of a large-scale infrastructure program enabling a cultural transformation that lies at the heart of FEIT 2025 to enable teaching, research, and engagement; continuing to recruit outstanding people from around the world, and attract high-quality students from across the globe who are at the heart of engineering.

In a world that continues to change, demand has never been greater for new engineering and technology solutions and a workforce that can solve society's major challenges. At the same time, the role of universities is changing as the needs of our students and partners

evolve. In 2020, this has been brought into even sharper focus with the impact of the COVID-19 global pandemic posing a significant challenge to the achievement of FEIT's ambitions.

To implement the FEIT 2025 Strategy a supporting Accommodation Strategy was developed to define the required infrastructure program to achieve the vision. We will share lessons that relate to:

- How the FEIT 2025 Accommodation Strategy was developed
- Key learnings from the journey so far
- How Melbourne Connect can be leveraged to support FEIT
- What does the future look like for FEIT navigating to reach its goals?

Now more than ever, an enduring strategy will help to achieve the vision and fulfil its purpose.

Supporting brighter futures – How ACTS is engaging, empowering and exemplifying campuses to lead the transformation to a sustainable future

[Mrs Rhiannon Boyd¹](#), [Mr Corey Peterson^{1,2}](#)

¹University of Tasmania, Hobart, Australia , ²ACTS, Melbourne, Australia

[OnDemand Presentations](#)

Biography:

Corey Peterson has worked at the University of Tasmania since 2010 managing the Sustainability team and is charged with advancing a holistic organisational sustainability agenda. He served on the University of Tasmania governing Council from 2012-2020 and is the current President of Australasian Campuses Towards Sustainability (ACTS). He has also served on the Board of several community organisations, including Sustainable Living Tasmania for ten years (five as President), is a graduate of the Tasmanian Leaders Program and has joint Masters Degrees in Environmental Science and Public Administration. He also spent 16 years supporting science in Antarctica before immigrating to Tasmania.

For more than two decades ACTS has represented a network of passionate people working to tackle complex social, economic and environmental challenges and support meaningful change holistically within institutions.

From humble beginnings as an informal email group of university Facilities Managers in the 1990s, today ACTS has earned its reputation as Australasia's most well-respected member-led organisation with a mission to engage, empower and exemplify campuses to lead on the transformation towards a sustainable future.

This session will highlight the work of ACTS to build cross-sector partnerships, collaborate with stakeholders and bring together practitioners, educators, students and change-makers to create a community for positive engagement, capacity building and impact.

Monash Woodside Building For Technology and Design:- A Transformational Building for Tertiary Education and a Low Carbon Future

[Dr Rob Brimblecombe](#)¹, [Mr Andrew Cortese](#)², [Mr Jeffrey Robinson](#)³, Mr Ben Brown⁴

¹Monash University, Clayton, Australia, ²Grimshaw Architects, Melbourne, Australia, ³Aurecon Consulting Engineers, Melbourne, Australia, ⁴Lend Lease Contractors, Melbourne, Australia

[OnDemand Presentations](#)

Biography:

Jeff has worked as a consulting engineer for over 34 years working in London, Ireland and Melbourne

He has been involved in the design of a wide variety of leading edge Sustainable University buildings including the University of Melbourne's Melbourne School of Design and Conservatorium of Music and Monash University's Woodside Building for Technology & Design. He has worked on projects in Australia, New Zealand, South Africa, the Middle East, Europe and America.

He is a passionate advocate for great Architecture and Urban Design and the design of Sustainable and Healthy buildings.

Jeff is an experienced Green Star Accredited Professional, LEED AP, and Infrastructure Sustainability Professional and a member of the WELL Building Faculty

He is a Technical Specialist on the Office of the Victorian Governments Design Review Panel, a Member of the Heritage Council of Victoria and a Member of the Property Council of Australia's Victorian Sustainable Development Committee.

The Woodside Building for Technology and Design is a transformational learning and teaching building for Monash University's Faculties of Engineering and Information Technology. It initiates new models of learning alongside academic research with industry-related enterprise, whilst by delivering the Largest Passive House Certified Education Building in the World it demonstrates that Ultra Low Energy Net Zero Ready Gas- Free Buildings can be delivered for conventional construction budgets. The lessons learnt from this building if applied to new education, commercial and institutional buildings could rapidly transform the Australian construction industry to the low carbon future it is imperative we adopt.

Though a series of 3 linked presentations Monash University and its Design and Construction Partners, Architects Grimshaw, Engineers Aurecon and Contractor Lend Lease will tell the story of Monash Woodside from different and complementary perspectives.

Presentation 1 The Woodside Building for Technology and Design a transformational learning and teaching building

Monash University Alexis Koutes and Grimshaw Architects Andrew Cortese and Alberto Sangiorgio

- The need for a building which enables Engineering and IT Students and researchers to collaborate together with industry using contemporary teaching and learning pedagogies
- Project Principles – designing for Form, Function and Performance
- Design Intentions – New Ecosystems, Blurring environments ,Open and Permeable, Anchor not Object
- Design Brief – Education and High Performance
- Façade Design Principles and Designing for Passive House
- Lessons learnt

Presentation 2 How to design Net Zero Ready, Passive House Certified Gas-free Buildings for Conventional Construction budgets

Monash University Dr Rob Brimblecombe and Aurecon Engineers Jeff Robinson and Walter Van Der Linde

- The process of collaboration between Engineers and Architects to design an ultra low energy, high comfort building
- How passive house certification helps drive a well insulated airtight building with smaller more energy efficient gas free services
- Designing for excellent indoor air quality and energy efficiency
- Lessons learnt in designing all electric services powered by renewables
- The Building as a living laboratory

Presentation 3 How to construct the largest certified Passive House Building in the Southern Hemisphere: The Builders story

Monash University Alexis Koutes and Lend Lease Contractors Ben Brown and James Wewer

- Construction innovations: Airtightness strategy, off-site testing ,prototype investigations, and commissioning
- The Building and documentation process to achieve PH certification
- Cost implications when opting for PH certification
- Validation of performance within cost parameters
- Challenges and Lessons learnt

How to design Net Zero Ready, Passive House Certified Gas-free Buildings for Conventional Construction budgets

[Dr Rob Brimblecombe²](#), [Mr Jeffrey Robinson¹](#), [Mr Walter Van Der Linde¹](#)

¹Aurecon, Melbourne, Australia, ²Monash University, Clayton, Australia

OnDemand Presentations

Biography:

Jeff is a Principal in Aurecon's Melbourne office. He has worked as a consulting engineer for over 34 years in London, Ireland, Melbourne, New Zealand, South Africa, the Middle East, Europe and America.

He has been involved in the design of a wide variety of leading edge sustainable university buildings including the University of Melbourne's Melbourne School of Design and Conservatorium of Music and Monash University's Woodside Building for Technology & Design and Chancellery Building

He is a passionate advocate for great Architecture and Urban Design and the design of net zero sustainable and healthy buildings.

Jeff is an experienced Green Star Accredited Professional, LEED AP, Infrastructure Sustainability Professional and member of the WELL Building Faculty

He is a Member of the Victorian Government's Design Review Panel, a Member of the Heritage Council of Victoria and a member of the Property Council of Australia's Victorian Sustainable Development Committee.

Note: This abstract is one of a number of complementary abstracts prepared by Monash University and its consultants to tell the story of the Monash Woodside Building for Technology and Design from different perspectives. Each has important learnings for the future of Technological Education and Research and the design of low carbon, healthy buildings in Australia

The Woodside Building for Technology and Design is a landmark building at Monash University's Clayton campus, representing the latest thinking in tertiary education and world-leading energy efficient building design.

Reflecting Monash University's commitment to achieving Net Zero Emissions by 2030, the Woodside Building for Technology and Design has achieved the rigorous Passive House (PH) certification, making it one of the most efficient and innovative teaching buildings in Australia and the largest Passive House project in the Southern Hemisphere and the largest Passive House Certified Education Building in the World

Passive House is the world's leading standard in energy efficient construction. Its rigorous design and construction methodology provide designers and contractors with a clear pathway to address some of the major barriers to low carbon buildings in Australian

namely the challenge of delivering well insulated airtight buildings which are comfortable and energy efficient. The as-constructed building envelope performance of Monash Woodside was independently verified through calculations, modelling, photographs and whole building airtightness testing.

The PH rating house makes it easy to get off gas in Melbourne's temperate climate. In this presentation Rob, Jeff and Walter will share the following insights from this award winning project and Monash's New Chancellery Building

- What is Passive House and why did Monash require PH Certification to verify energy and comfort performance, and why Net Zero Carbon Buildings Start with PH
- The integrated Architectural and Engineering Design Process and Parametric Modelling Tools used to optimise the Building Envelope and Building Services Design Simultaneously
- How PH façade performance enables Gas-Free smaller, cheaper and more energy efficient services
- Designing for insulation integrity and airtightness
- Key lessons in designing All Electric Services Powered by Renewables
- The use of Heat Recovery Ventilation systems to improve indoor air quality and energy efficiency
- Engineering on Display - the building as a Living Laboratory for future ready engineering and IT
- Partnering with contractors to deliver PH performance
- Lessons from Monash's Woodside & Chancellery Buildings - How Net Zero Ready Buildings can be delivered for conventional construction budgets

8. Melbourne Connect Series. Designing for wellness

[Lachlan Carter](#), Mr Jeremy Elia¹, [Mr Simone Rogora](#)², Mr Simone Rogora²

¹University Of Melbourne, Melbourne, Australia, ²Hassell, Melbourne, Australia

OnDemand Presentations

Biography:

Jeremy is the Head of Infrastructure for the Faculty of Engineering and Information Technology – an executive with experience in leading and delivering varied and complex national programs of work, major projects, accommodation strategies and operational planning for large property portfolios.

Simone, graduated in Architecture in Italy, has extensive experience both in the Australian and Italian context. In 2016 joined the Hassell Melbourne studio. He is a multidisciplinary designer having collaborated on a variety of projects through the different phases: from the concept design to documentation coordination. Simone has been involved in The Faculty of Engineering and IT (formerly Melbourne School of Engineering) University of Melbourne journey since the very beginning designing and delivering projects from the Spacelab to the most recent Melbourne Connect Workspace.

This session will demonstrate how wellness in all its dimensions (Physical, mental, social, environmental) has been the core principle of The Faculty of Engineering and IT (formerly Melbourne School of Engineering) at the University of Melbourne, project since its onset. When the University decided to create a new academic workplace for the FEIT they were aware that the transition would have posed multiple challenges, as the change meant a substantial shift to an innovative way of teaching and conducting research.

In order to guarantee a successful shift in culture and an optimal outcome for the faculty's long term programmes and initiatives, the school decided to focus on its people's wellbeing as the main driver of space zoning and planning.

The Spacelab experience (presented at TEMC 2019) set the principles for a new way of working with a strong focus on wellness initiatives with the intention to design spaces that enable a better lifestyle. At Melbourne Connect those principles have been implemented and applied to a larger scale with extreme confidence.

Analysing the new FEIT's workspace at Melbourne Connect through the wellness lens we will share lessons that relate to:

- How the design encourages a healthy lifestyle?
- How the project provides comfort for the occupants?
- How the project creates a sense of community?
- How the project connects people with local context and nature?

We will conclude with a reflection on post-pandemic world and how wellness and good design are core to the future ready FEIT's workplace.

Collaboration across borders - A case study of a staff led initiative with organisational wide impact.

Ms Rebekah Bailey¹, Mrs Sharyn Crawford¹, Mrs Helen Ryan¹, Mrs Melinda Stewart¹

¹Federation University, Ballarat, Australia

OnDemand Presentations

Biography:

The four presenters from Federation University work in a variety of role from different departments across the organisation. Helen Ryan has 13 years experience in the HE sector and is currently the Senior Manager (Academic Programs). Sharyn Crawford has worked in a variety of roles past decade in HE and TAFE sectors and is currently Manager (Work Integrated Learning) supporting all HE programs. Rebekah Bailey has been employed by Federation University for 14 years with the last seven as the Team Leader (Higher Degrees by Research). Melinda Stewart is an IT professional and has been working with Federation University for the past 10 years as a technical officer. The team has a diverse range of skills and experience along with significant organisational knowledge and established relationships which has contributed to the success of this project. Experienced in design thinking processes and a passion for innovation and continuous improvement.

The establishment of a staff suggestion scheme across the organisation known as IDEAS was implemented in a unique way through the voluntary formation of a project group of interested staff with the sponsorship of the Chief Operating Officer. The goal was to promote innovation across the organisation. The project was developed and implemented in a 6 week timeframe during COVID whilst working remotely. The project is staff led and sits outside the organisational structure but has received the support and endorsement from the Senior Leadership team and is having a University wide impact. The focus of the presentation will be the dynamic nature of the project team and the success to date. It will also provide information on the use of design thinking techniques to implement a project with a minimal viable product and have the ability to adapt and evolve the project during the implementation phase. The unique nature of this project includes the lack of formal approval, budget, resources and scope however demonstrates an alternate method for successful project implementation. The lack of formal processes and documentation and the use of existing technology has allowed the project team to be very dynamic and agile in their approach. The project has been implemented with a small team of 5 people using discretionary time and effort whilst undertaking their existing roles.

The outcomes of the project has seen approximately 50 submissions to the IDEAS portal and has promoted staff engagement and empowerment whilst promoting innovation across the organisation. There has also been another 20 staff who have volunteered to be involved in the administration of the project to ensure the sustainability going forward. The project now has the support of the Vice Chancellor and the senior leadership team with the COO and Heads of Campuses as sponsors.

Together apart: in-Faculty communication in 2020 (and beyond...)

[Mr Ashley Keleher¹](#), [Ms Emily Sloan¹](#)

¹Monash University, Monash University, Australia, ²Monash University, Monash University, Australia

OnDemand Presentations

Biography:

Emily Sloan is a Senior Project Officer in the Faculty of Engineering at Monash University. She has worked in Higher Education for the last 8 years. Prior to that, she worked in government (federal and local), and the banking and finance industry. Her interests include change management, internal communications and diversity and inclusion.

Ashley Keleher is the Faculty General Manager in the Faculty of Engineering at Monash University. The Faculty has almost 9000 students and over 600 staff, with operations in Australia and Malaysia. Prior to this, he led a strategic program at Monash University that delivered an integrated planning framework which managed everything from the student recruitment pipeline through to space planning. With a background in production management, logistics, customer service and leading organisational transformation projects, Ashley is a “big picture” person, and brings customer-centricity to everything he does.

This presentation explains how the Faculty of Engineering at Monash University managed faculty communications in response to the 2020-21 public health restrictions. At time of writing, Victoria has been through five lockdowns, the longest of which was 112 days. Even when not in lockdown, there have been restrictions on non-essential works, whereby only 25% or 50% or 75% of the workforce is permitted to be at work at a time. Not everyone in Higher Education has been impacted in the same way: some academics and professional staff have been identified as essential workers and given access to on-campus work during the lockdowns, and some workers haven't been subject to the workforce caps during the other restrictions. The last 18 months have been unpredictable and - at times - chaotic.

In this presentation, I will outline the intra-communication channels that Monash Engineering developed, changed and maintained from March 2020. Through these communications, we have been able to maintain our high performance culture and further staff engagement, despite the myriad of external challenges. These are low cost 'do-it-yourself' solutions that work. I am submitting this abstract in July 2021, and while I hope that by October snap lockdowns and restrictions will be a thing of the past, I'm cynical enough to suggest that there will still be a need for universities to better manage staff during periods of public health restrictions.

There are three categories to this presentation:

1) New initiatives - Coffee with the Dean, MERLS

A regular online events, optional and not recorded, highly structured, highly participatory. Designed to replace the 'watercooler' conversations, allow staff to see and chat to each other, and keep everyone in the loop with the type of news that would normally pass through ad hoc interactions.

2) Modifications to existing initiatives - Email Schedule & Practice

Early on in the pandemic, we realised that our staff were not managing the pandemic email traffic. We implemented a new approach to emailing with protocols and schedules for every 'global mail' within the faculty.

3) Maintained existing initiatives (online)

Our regular in-person events and campaigns have transitioned to online and now hybrid events, including quarterly celebration events, symposiums, awards events, world cafes, etc.

This presentation will prompt you to consider how your own intra-faculty communications can be optimised to support staff through the challenges of pandemic.

The Rise of Vertical Campuses: WSU Bankstown City Campus Case Study

[Mr Graeme Spencer¹](#)

¹HDR, Sydney, Australia

OnDemand Presentations

Biography:

Graeme is the National Director of Education, Science & Advanced Technologies at HDR. With 25 years of experience with world-renowned design firms, his architectural portfolio is filled with award-winning projects demonstrating his expertise in delivering highly complex, large-scale projects with design innovation and technical excellence. Highly knowledgeable in education design, his work spans a variety of architectural settings throughout the United Kingdom, the Middle East and Australasia.

Tertiary mixed-use vertical campuses are gaining popularity in Australia as a developer-led campus model strengthens the notion of education as an asset class. They are a leap away from the sprawling campuses of the past as cities become denser and horizontal campuses become increasingly difficult to develop.

Currently under construction, Western Sydney University's Bankstown City Campus (WSU BCC) is a highly flexible, technology-rich vertical campus set to provide an inclusive learning and research environment with strong connections to the community. With a firmly engrained respect and celebration of the cultural heritage of the diverse student population, both past and present, its unique design marries diversity and inclusion with efficiency and flexibility.

Using WSU BCC as a case study, this presentation explores five key design principles to deliver a successful vertical campus: identity and culture; external spaces and public realm; campus experience; vertical circulation; space conceptualisation; and climatic response.

Key Lessons for the Post-COVID Campus

Mr Rob McGauran¹, [Mr Tahj Rosmarin¹](#), [Ms Elliot Spring¹](#), [Toby Woolley¹](#)

¹MGS Architects, Melbourne, Australia

OnDemand Presentations

Biography:

Rob McGauran:

Rob is a founding director of MGS Architects. He has led major campus and urban renewal projects including masterplans for UNSW, Monash, La Trobe, Victoria and Federation University, University of Wollongong and led award winning urban renewal, affordable housing, education and community projects.

Elliet Spring:

Elliet is a Director at MGS Architects, and is a registered architect with over 15 years' experience. She has previously worked for acclaimed international practices Helen and Hard and Snohetta.

Tahj Rosmarin:

Tahj is a registered architect and urban designer currently working for MGS Architects. He has worked on a range of university and school campus master plans, most recently the University of Canberra Master Plan.

Toby Woolley:

Toby is an Urban Designer currently working for MGS Architects who has worked on a range of university campus master plans in Melbourne, Hobart and Canberra. He recently completed the UNSW Canberra City Masterplan.

MGS Architect's recent work builds on more than two decades of practice-based research, partnering with universities on areas of shared interest for positive transformational impact to address the wicked challenges facing our times and our city.

In 2020, MGS Architects' ran a Master of Architecture and Master of Urban Design thesis studio at the University of Melbourne, titled the 'Post-COVID Campus'. Topics included investigating improved student accommodation models, the future of the campus library and methods of creating more interactive campus interfaces. Broader issues explored how physical distancing might affect the spaces individuals inhabit on campus, how online learning is changing the classroom, how the campus can better support health and wellbeing to accommodate a post COVID-19 future.

This discussion will build upon our work and research into the Post-COVID Campus. We will discuss our observations from our studio and reference recent work in the sector, which has helped Universities define their role within the City as knowledge and innovation centers that provide high quality learning, living and collaborative workplaces.

Our discussion will be framed around key research outcomes tested during this studio, alongside the undertaking of significant university master plans during the course of the pandemic. Key observations include:

- The physical campus enables student identity and fosters community
- Contemporary learning requires diversity
- The built environment should provide flexibility in typology and program
- Inviting the community onto the campus helps blur the boundaries
- Connecting to outdoor spaces and natural environment is vital
- Campuses can help improve mental wellbeing and physical health
- Campuses provide a tangible connection to Country

Relinquishing the Timetable - Applying tertiary models in a new senior school vertical campus

[Mr Paul Thatcher](#)¹, [Mr Chris Millard](#)

¹GHDWoodhead, Melbourne, Australia, ²Fitzroy gasworks Senior Campus, Fitzroy, Australia

OnDemand Presentations

Biography:

Chris Millard, Campus Principal

Chris started his teaching career with Fitzroy High School in 2004. His first year as a teacher corresponded with re-opening of the school after its closure in 1992. Chris is a passionate physical education and maths teacher who believes strongly in developing student agency as a way of enhancing independence, motivation and ultimately leading to student's becoming enthusiastic life long learners. Chris became a substantive leading teacher in 2012, working with Year 9 - 12. He was appointed to the jointly shared school role between Collingwood College and Fitzroy High of Senior Programs Leader (Year 11 and 12) in 2015 - 2020. In late 2020, Chris was appointed to be Campus Principal of the Fitzroy Gasworks Senior Campus.

This new vertical, city edge school designed by GHDWoodhead and Grimshaw supports Collingwood College and Fitzroy High School in delivering an innovative Program Partnership for the senior years.

The design of the 6 level campus, due for completion late 2021 required a "whole of school" solution for the two existing schools and the new campus and detailed working with the school community to facilitate in the design the integration of the different school histories and cultures.

The building was designed around learning strategies aligned with tertiary models that emphasise individual learners – particularly in the context of post pandemic, distributed and technology-enabled learning. The design provides a holistic and responsive setting organised around a variety of integrated yet differentiated spaces which mediate and actuate the learning process and afford students the opportunity to explore, negotiate, and share and master concepts.

The design therefore required individualised spaces connected physically with sliding and folding doors extend learning settings beyond the boundaries of instructional spaces as do clearly differentiated instructional and advisory spaces with defined activity and complementary settings including individual and group workspaces, nooks, booths and support focus points. These settings equip teachers and learners with areas where they can focus on the tasks at hand. Complementing these are larger multidisciplinary, adaptable spaces intended for long term project-based learning and exhibition. Video conferencing locations across the specialist areas enables groups at different campuses and at home settings to connect.

The school is helping students develop personal learning plans based on specific interests that focus on interdisciplinary work and include individual projects. To provide for this, the

timetable will offer flexibility and allow students the opportunity to have more input into time arrangements. New strategies to be introduced include advisories, block schedules, year-long classes, looping and multi- year curriculum, tutoring outside timetabled hours and placement of learners with the same teacher for more than one class. Instructional practice will include active inquiry, project-based learning activities, performance assessment, differentiation, internships, community-based learning, cooperative learning, portfolios, student mentors and journaling.

While access to resources throughout the school also enable an interdisciplinary approach, “hands-on” “learning through making” is enabled in dedicated technology and fabrication spaces which allow individuals and small groups access to more advanced resources. Also adopted from the tertiary models are several flexible areas divisible into multiple configurations that allow 360 degree learning, large workshops and examinations.

How to construct the largest certified Passive House Building in the Southern Hemisphere: The Builder's Story

[Mr Walter Van Der Linde](#), Mr Alexis Kouts¹, Mr Ben Brown²

¹Monash University, Melbourne, Australia, ²Lendlease, Melbourne, Australia

OnDemand Presentations

Biography:

Ben Brown Biography:

In his role of head of design and project management, Ben is primarily responsible and accountable for ensuring Lendlease provides clients with design and project management excellence; a journey and end-product that adds value to our client's business, which is safe, buildable and rewards our business in terms of reputation. Fundamentally Ben's role is about delivering a great product through the combination of strong leadership, engaging innovative, creative and talented people and ensuring diligent execution.

This Presentation is one of a series of linked presentations which tell the story of the Monash Woodside Building for Technology and Design from the different perspectives. Each has important learnings for the future of Technological Education and Research and the design of low carbon, healthy buildings in Australia

The project is the largest certified Passive House building in the southern hemisphere to date, it clearly indicates that the construction industry can implement high performing building designs and meet the stringent Passive House requirements on a large scale.

The implementation of the Passive House standard is relatively new to the local market with respect to large commercial and educational buildings both in Australia and New Zealand. As this is the case the construction team involved could not draw on previous experience on implementing projects of this nature and scale.

Many uncertainties such as the availability of mechanical and hydraulic plant that would meet the passive house energy consumption requirements and the availability of building materials that meet the stringent thermal and air-tightness performance requirements needed to be confirmed and implemented during the construction phase.

Combined with an extremely challenging project completion timeline the construction team needed to develop and implement a thorough, efficient, and cost-effective construction process to meet quality standards, timelines and cost restraints. To add further complexity other hurdles that needed to be overcome where the testing of the building overall airtightness and various individual building components which are uncommon in the construction industry.

The project posed many challenges and subsequently the construction team adapted and provided many innovative solutions to adapt the Passive House construction requirements to the Australian industry

In this presentation we will share the story of the building of Monash Woodside from Tender to project handover and highlight our learnings in the following areas

- Construction Innovations
- The Building documentation process
- Validation of performance
- Delivering a Net Zero Carbon Building for a conventional construction budget
- Challenges and lessons learnt
- How the lessons learnt from this project can be applied to future Net Zero Carbon Educational and Commercial buildings

Cyber security of operational technologies

[Mr Arthur Vergopoulos](#), Mr Cameron Exley¹

¹Grosvenor Engineering Group, Sydney, Australia

OnDemand Presentations

Biography:

Cameron has diverse history in OT & Network Systems security having previously held the position of Manager Network Security at Rackspace Technology. Cameron is a seasoned network engineer, previously specialising in network security and industrial control systems roles, managing extensive support organisations across Australia, America, Hong Kong and mainland China.

Cameron now manages Grosvenor's Cyber security & OT network business units.

Who should attend:

Senior Management, IT Operations, Staff Working Across Hard Technical Services (HVAC, Fire, Lifts & Electrical), Access Control, Facilities and Campus Services, Contract Management, Maintenance, Operations, Asset Management.

What the delegate will get from the presentation:

Tertiary Education are prime targets for cyber attacks by criminal groups and nation states due to their huge digital footprint, the sheer number and variety of people accessing their systems and the value of personal and intellectual property information they hold.

Recent incidents at an Australian University resulted in widespread disruption to emails and other services followed attacks at another University where a malicious link in an email, introduced malware At a third University a data breach revealed personal information of staff and students on the internet.

With threat ever present, The Tertiary Sector will seek to fortify its systems, in particular Operational Technologies such as BMS, Fire, Access Control and other connected systems, not only as a matter of due diligence, but also of compliance with the forthcoming Critical Infrastructure Bill listing Higher Education & Research as one of the top ten sectors likely for targeted attacks.

The primary objective for any Operational Technology (OT) systems operator/manager would be to establish an inventory of assets to be secured through auditing and controls around external and internal access to their systems.

In this presentation, we will discuss how to begin the journey by targeting 'low-hanging fruit' which, can significantly improve the cyber security of OT systems. Topics will include common system weaknesses and control measures to significantly reduce the "blast radius" of an attack.

KEY LEARNINGS (Supplementary Information)

- Common cyber security weaknesses in OT environments
 - Lack of ownership & no oversight
 - Basic controls not implemented
 - Remote access implemented for 'ease-of-use' – no cyber security at all
 - Outdated equipment
- Controls Measures
 - Cloaking your equipment
 - Reduce the blast radius of any potential attack
- Cyber Security policy
 - Third-party vendor management

The role of design in creating Healthy Flexible Learning Environments

A/Prof Christhina Candido¹, [Mrs Diksha Vijapur¹](#)

¹University Of Melbourne, , Australia

OnDemand Presentations

Biography:

Ms. Vijapur is an architect by training and holds a Masters in Sustainable Design Science. She has been a Sustainability Consultant, in a multi-disciplinary building services consultancy for over 10 years and has been involved in a wide range of high-profile award-winning projects within and outside of Australia. Currently, she is a PhD candidate at the University of Melbourne, and her work is focused on evaluating the role of contemporary Learning Environments' design on students' health and satisfaction. Diksha also possesses extensive knowledge on sustainability frameworks, including Green Star, NABERS and LEED, and is an accredited professional for these rating schemes.

Flexible Learning Environments (FLEs) have become a topic of great importance in recent times, due to their pivotal role in supporting post-2020 pedagogy. FLEs arose as enablers of student-centric model, and their characteristics are associated with modified pedagogical practices, spatial design and configuration of classrooms, as well as technological affordances. Traditional classrooms have been long known to have a rigid layout of desks and chairs, where students remain predominantly seated, facing the blackboard. In comparison, FLEs are of open-plan typology, capable of simultaneously supporting a diverse range of learning activities, ranging from collaboration and discussion to independent learning, and offer learners choice in terms of what, where, when, why, and how they learn. In terms of design, FLEs do not specify a particular spatial typology, but rather refer to spaces with permeable boundaries, that are of sufficient size and flexibility to support different teaching and learning activities. Indoor Environmental Quality (IEQ) conditions within an open-plan FLE configuration are far more challenging than traditional classrooms because students, rather than being seated still, are mobile and active as they move between various learning activities and zones, although further evidence is required to establish the frequency of student movement.

IEQ refers to thermal, lighting, acoustics, and indoor air quality conditions observed indoors. IEQ performance in traditional classrooms has been heavily investigated and continues to draw significant interest since many years. However, a review of current literature has revealed several gaps and shortcomings. Taking a closer look at the current design practice, globally as well as in the state of NSW, it has been identified that there is a lack of empirical evidence on IEQ and student satisfaction, within these FLEs. This suggests a lack of available design guidance, in moving forward to a FLE typology.

This project will contribute towards bridging these research gaps, by conducting additional research related to FLEs, by identifying, analysing and quantifying the positive and negative impacts of the key design attributes of FLEs on students' satisfaction with their indoor environment, and on their incidental physical activity levels, and identify design solutions that actually perform well. By conducting field studies in primary school FLEs,

involving IEQ monitoring, the project will contribute towards establishing a robust empirical database in order to inform design guidelines for future FLE developments, specifically, in terms of enabling flexibility and adaptability to suit the changing nature of pedagogy, while maintaining adequate IEQ conditions.

Flexibility is Freeing: Academic Workplace Design Post-Pandemic

[Mrs Alex Wessling¹](#)

¹HDR, Sydney, Australia

OnDemand Presentations

Biography:

Alex is a Director at HDR whose strength lies in the use of lateral thinking to turn concepts into cohesive architectural designs using her experience across various building typologies. With current trends blurring the lines between tertiary education and other sectors, her experience enables her to draw together influences and shape stronger concepts that recognise the different models of operations and drivers. Having worked as an architect, an interior designer and a product designer, Alex thrives in adopting creative and inclusive approaches that yield anything but conventional, cookie-cutter solutions.

Academics represent unique workplace design needs not often seen in the corporate world. The nature of their work requires an ideal balance between open-plan spaces and individual offices, face-to-face interactions and virtual lectures. Placing academics and their HDR students into cellularised offices is equally as impractical as placing them into open plan offices – the flexibility and balance between the two are what makes a successful research and teaching environment.

The post-pandemic world adds an extra layer of flexibility needs to academic workplaces. Campuses across Australia have seen a significant decline in occupancy rates, as academics and students favour working from home, shifting to a hybrid approach where more interaction is online. This changes the academic workplace needs on campus to focus more on the functional spaces that cannot be replicated online – high-quality lecture recording studios, meeting rooms, presentation spaces, and social spaces.

Where operational management needs to be about practicality, the design approach is much more “homely”. Designing a feeling of home in the workplace creates an environment that academics want to be in and are familiar with – the kitchen table and the sofa together with the workspace.

With university campuses typically being between 30-40% office space and many factors affecting its design, this presentation explores what the future academic space looks like post-pandemic. What are administrators, academics and students seeking? Relocation vs refurbishment – how do we achieve equitability in space offering? Permanent vs flexible – what's the balance?

1) Melbourne Connect Series: Delivering innovation precincts

Mr Alex Young

¹University Of Melbourne, Parkville, Australia

OnDemand Presentations

Biography:

Alex is the Director, Infrastructure Program (Melbourne Connect) at The University of Melbourne. Alex has had oversight of precinct design and delivery, commercial and legal, communications and marketing, commercial leasing, service arrangements and operational mobilisation. Prior to joining the University, Alex has over 10 years' experience working across the public and private sectors on complex, mixed-use urban regeneration projects.

Note: This abstract is one of a number of complementary abstracts prepared by the University of Melbourne and its consultants to tell the story of the University of Melbourne's new innovation precinct Melbourne Connect from different perspectives .

Melbourne Connect is a purpose-built innovation precinct powered by the University of Melbourne in partnership with a consortium led by Lendlease. A digital and data powerhouse built on the former site of the Royal Women's Hospital, it brings together world-class researchers, industry, startups, higher-degree students and artists, connecting brilliant minds to tackle the most pressing problems facing our society.

Designed by internationally acclaimed architectural firms Woods Bagot and Hayball, the 75,800sqm precinct boasts smart and sustainable design with a 6-star green star rating, a 4.5-star NABERS water rating, a 5-star NABERS energy rating and employs on-site rainwater harvesting as well as solar and geothermal energy.

Melbourne Connect has been a partnership between the University of Melbourne, and a consortium led by Lendlease. In seeking a development and investment partner, the University was clear in its vision for that partnership to extend beyond the completion on construction, and for all parties to invest fully into the vision for the project. This innovative project structure has set the precinct up for success, drawing on the strengths of each of the parties involved to deliver a unique place-based value proposition for the University and its partners alike.

Melbourne Connect 's unique design seeks to bring together a critical mass of innovative activity, complemented by ancillary services to deliver a holistic user experience that positively contributes to broader campus activation. The Pandemic has demonstrated that the physical estate must work harder to achieve enduring outcomes. The project partners hope that the legacy of this innovative project will be the validation of the proposition that a combination of place, people and program can create the conditions needed for a community of collaborators to achieve enduring outcomes.

This will be a co-presentation by The University of Melbourne and Lendlease, and will explore:

- The project vision and brief
- The project structure and how the parties worked together to deliver the project
- The precinct design and how it seeks to deliver the project vision
- How sustainability and wellness have been embedded in the precinct
- The mix of uses and partners ultimately co-located with the University

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