

the

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Curtin University Engineering Pavilion

Taylor Robinson



Photo: A. Blowfield

Project Credits

Project Director:

Leigh Robinson FRAIA

Project Designer:

Miranda Danusugondo

Project Architects:

Laurence Lim, Johnsen Lim

Interior Designer: Karina Miller

Documentation: Cameron Kennedy,
Kukame McKenzie

Project Summary

The Engineering Pavilion is a multipurpose facility unifying a disparate collection of 1970s buildings, becoming the symbolic gateway and heart to the engineering community. Featuring a three-level volume exhibition space and interactive learning environments, the facility showcases the faculty's various engineering disciplines and generates an interest in the expression of structural form.

Making use of an under utilised space, the Pavilion is built around an existing footbridge, which now 'penetrates' the glazed structure, linking it with adjacent buildings. Externally, the transparency of the building becomes solid to the east with concrete panels referencing the surrounding buildings in a contemporary interpretation of the monolithic structures.

This is the University's first building designed to best practice energy efficiency benchmarked to the Green Star Rating tool, targeting a five-star 'as designed' rating. A steel diagrid system forming the majority of the facade, frames the exhibition space and the western external 'portico'. It simplifies the building of 'structural clutter', resulting in a reduction of structural masonry and steel. Glulam timber bow string trusses and an increased glazing specification with sunshading screens, further promote ESD and engineering principles, with a building management system monitoring energy usage offset by rooftop solar panels and rainwater harvesting.

Review by Romesh Goonewardene

Witness the (largely anecdotal) histories of competitions and commissions for University architectural work, which traditionally favour the established firms, and the established architectures: we know the architectural 'types' in Australian universities: the 'old' sandstone neoclassical and Beaux-Arts universities (UWA, Sydney, Melbourne etc), the 1960's and 70's 'Marx-in-the-gumtrees' universities with their concrete frames and blockwork (Murdoch, LaTrobe, MacQuarie etc), the Public-works-brutalist Polytechnical Universities (Curtin, RMIT, SAIT, QUT), and the 'anything goes' brandscaping of the teacher's college Universities in the 1990's and beyond.

The Curtin to which Taylor Robinson delivered this project is clearly of the PWD brutalist family, but has much in common architecturally with the teacher's college universities, where a visually and programmatically disparate collection of buildings seek brand unity in every externally-visible commission.

Taylor Robinson were selected to design this building for Curtin University following a string of small university commissions, notably the 'i-zone' at Curtin's library. They have a long resumé of School's work, but the broader public domain of university work has historically belonged to genres of architecture with a certain perceived gravitas that has often prejudiced against 'younger' firms of architects, and I am guessing that it is partly through the emergence of new problems in the university sector as a whole, that this younger firm has been thrown the ball. It is 'younger', not so much because the partners are particularly young- they aren't – at least one of them was known to be a regular customer at Fever's Hair Disco in the 1980's – but because they have been developing an office culture of recruiting, nurturing and trusting younger architects for most of their 15 years of existence. Of course, this is not an uncommon strategy in the style-conscious world of contemporary architecture, but in the case of Taylor Robinson, the strategy is self-conscious, and the crediting of younger staff members generous and open. In the case of the engineering pavilion, the design architect was Miranda Danusugondo and the project architects Johnson Lim and Lawrence Lim (no relation). Already Miranda has been credited as the design architect for i-zone and some of the firm's recent secondary school projects.

The 'new problems' in the university sector are those of projecting the relevance of universities as educational and research/knowledge centres in the face of competing government, industrial and social agenda. The 'old' problems, those which occupied the university strategy think tanks for the last 30 years, have



Photo: J. Rogers



Photo: A. Blowfield

been of competitiveness between growing numbers of universities, and were ostensibly configured by a shrinking government subsidy, and an apparent victory of 'economic rationalism' in the shaping of the public expectation of universities. This resulted in a period of university buildings which were focussed on establishing and building independent university 'brands'. However, there is also a significant paradigm-shift at work in university cultures worldwide, one which seeks not just to promote brand competitiveness, but also to explore and promote new models of knowledge and learning, largely for the engagement of new young minds. This change seeks to engage, rather than relativise the behaviour and preferences of the i-generation, and in so doing to refresh the appeal of flagging academic disciplines. Engineering, for example, despite the boom in the engineering economy worldwide, has suffered a puzzling decline in popularity as an academic and career choice. The idea for this building was part of a strategy to provide a new interface for students of the discipline, and both by the nature of this programme, and because it seeks to project an image for this new generation, it is one in which a more ephemeral architecture, by a less graven group of architects, seems appropriate.

The campus context of the building is also energised by the programme and the building. Traditionally, university campuses have been seen as axially ordered processions of baroque ritual, with the library and chanceries as centres, around which the colleges and faculties have been distributed. This project acknowledges and

participates in a different acknowledgement of the campus – the campus as a network with fluctuating hierarchies of intensity. The implications of electronic, and wireless information-access systems creates new possibilities for urban space, new pattern-languages, which are not generated only from formal arrangements. Instead, centres can occur in virtually organic ways, not visibly reliant on linear feeds. Ultimately, the 'cells' of content are the same – rooms full of people and equipment conducting specialised forms of enquiry – but the spaces in-between are peopled and trafficked in different ways. The building attaches itself and grows from an existing first floor bridge between two existing engineering buildings, and maintains the openness of that circulation whilst being also frontalised to the landscape to the west. The 'courtyard' (the term seems archaic) is now alive, not simply because of this building, but the building participates in the network, where there are no less than three visible coffee shops, in a landscape now physically ordered by this new urban dalek, which addresses three directions. The three sides are formally freed-up by full glazing made possible by an external diagonal structural grid (a 'diagrid'), which despite its ubiquity in architectural publications, is rare in Perth, and no doubt was strongly facilitated by Simon Jewell at BGE Engineers, a well-known diagrid disciple. The expression of the structure is well thought-out and handled – diagrids are generally used over much larger expanses on larger buildings, so this diagrid has the appearance of a demonstration fragment consistent with the annunciative purpose of the building. The use of a bowstring trussing to augment the roof beams, adds another exhibition touch to the effect of the interior. The clean lightness of the front three sides of the building is grounded at the back across the three floors with sturdy concrete that is both sympathetic to the surrounding brutal buildings, and expressive of a more refined concrete technique.

The building type is a puzzle – it doesn't have enough content or function to be a standalone building, it is not freestanding and has too many functions and links to be a pavilion and yet it is not a link building or a foyer. It could be called a 'hub', in the same way as the 'i-zone' is a hub, and in the same way as 'hub' buildings are springing up in university-facilities jargon worldwide. Perhaps the use of the more historically loaded title 'pavilion' also indicates the open utility of the building programme. A hub can exist in baroque space – it has a mechanical derivation – but this hub has more of an informational derivation, it is a centre of student traffic, bodily, informatically and socially.

Actually the building does have some functions – there are small classrooms and postgraduate study rooms, as well as students services and printing facilities, which are stacked. University buildings are a series of flexible content-modules serviced by circulation elements at regular intervals. However, the main visible purpose of this space is as a traffic intersection, where all manner of activities can occur. Large classes of engineering students gather here for testing of their little engineering inventions: solar powered vehicles, robots – I don't know what else. Apparently, the original bridge which still passes through the building was used for the same purpose.

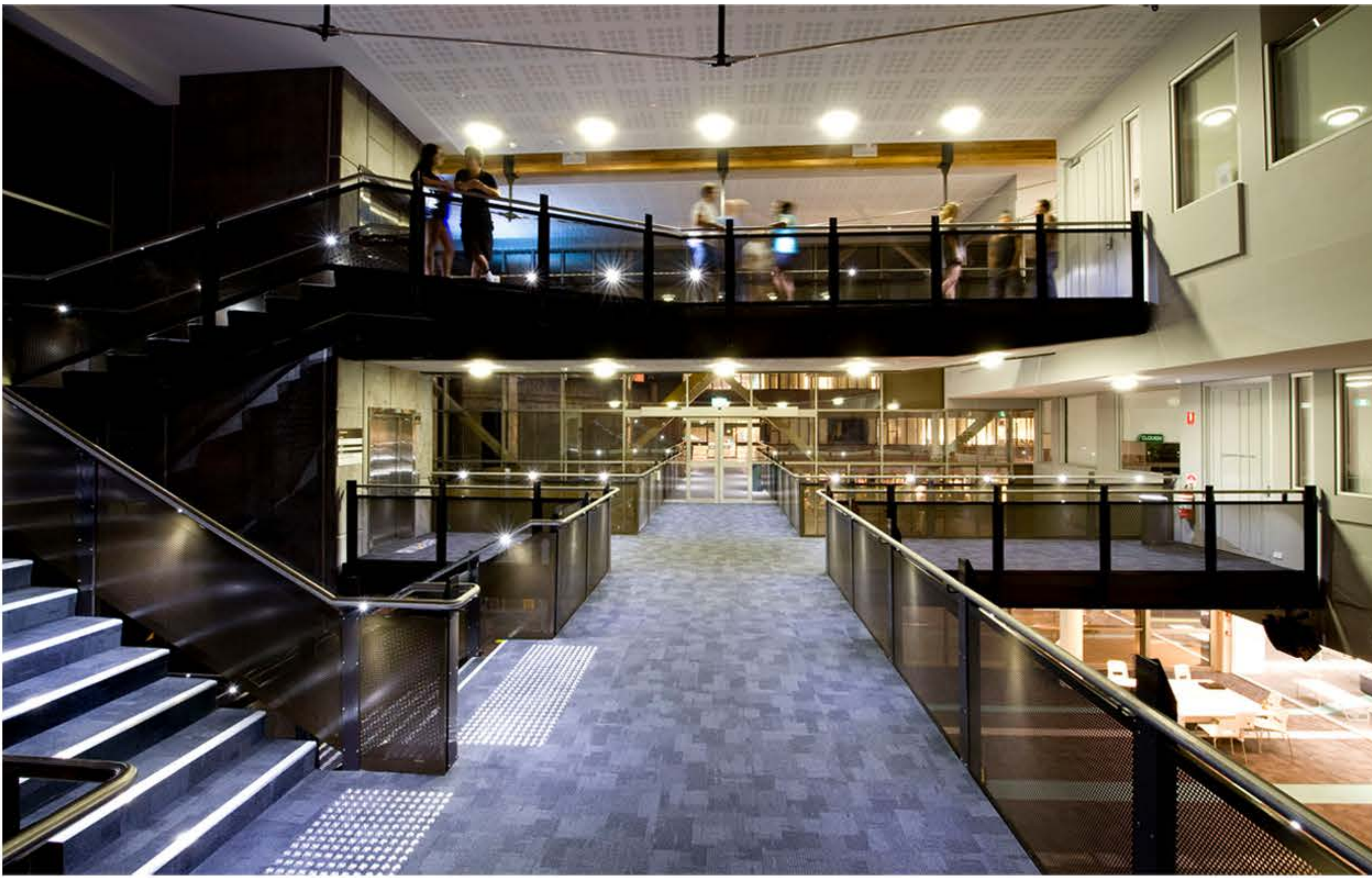


Photo: A. Blowfield

The building is the first of two which Taylor Robinson will be involved in placing in this courtyard. The next will be an administration building and foyer with connections back to this building, and completing the unification of the engineering buildings group. If they bring the same open-source sensibility and approach demonstrated in this building to that project it will be worth waiting for.

Romesh Goonewardene

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Photo: A. Lambert