introduction

New Building for the Faculty of Architecture, Building and Planning

Our Architectural team comprises three design based practices who approach every project as though it has the potential of being the most innovative and memorable. The team will make every effort to satisfy client requirements of style, quality sustainability, time and cost, while remaining abreast of current architectural thinking, with the aim of producing architecture which exceeds the client's expectations at all levels. We have selected a team who we believe has the experience and capability to work with the Faculty and University on the development of the new Faculty of Architecture, Building and Planning building at The University of Melbourne. Each member has previously worked as part of consortia of architects to deliver complex designs which include a range of educational, residential, mixed-use, commercial and urban projects. The Architectural team's cumulative experience in a wide range of building types brings the opportunity to look beyond the known, to look outside the field of education for ideas during the design process. We can draw on this wide range of experience as a resource to provide the client with the highest level of service in design, documentation and delivery of the project.

Our nominated team will be supported by personnel from all practices to meet the project objectives and timelines and to ensure that as a combined team we are able to develop the best possible facilities for the Faculty of Architecture, Building and Planning.

The management of the design process, within our team, the end uses and with the consultant design team will be the key to the delivery of good quality, well co-ordinated information to meet the programme. Establishing strong working relationship with the consultant team built on mutual respect and trust is of paramount importance and will pay dividends long term. We recognise the importance of this and will allocate appropriate resources to the management of the design process.

> "An experienced team which is committed to creating inspirationa

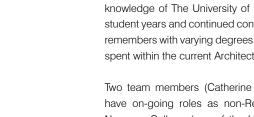
architecture of enduring quality."

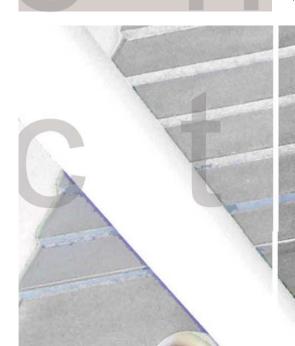
Local Knowledge

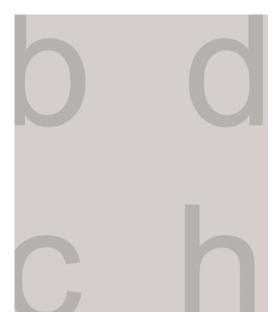
Locally based architecural practice ClarkeHopkinsClarke is based on the edge of the Melbourne CBD, in the inner city suburb of Collingwood. Until recently the Practice worked from a Studio in Fitzroy but has recently relocated to a new studio with a work environment which is better suited to the practice.

The team has a love of Melbourne - the built environment, the climate and the culture. Many of the staff have an intimate knowledge of The University of Melbourne precinct through their student years and continued contact in the years afterwards. Each remembers with varying degrees of fondness the days (and nights) spent within the current Architecture building.

Two team members (Catherine Muhlebach and Toby Lauchlan) have on-going roles as non-Resident Tutors in Architecture at Newman College (one of the University's Residential Colleges). Other members of the Practice have been involved in the Faculty through tutoring, student mentoring and as guest critics of design studios in recent years.









that serve their purpose in a

cost effective

What sets this team apart?

- > International experience in educational design.
- > International experience in award winning design. > Experience in working to complex briefs.
- > Experience in working inclusively with stakeholders to generate innovative design solutions.
- > Experience in the design and delivery of environmentally sustainable developments.
- > Interest in involving the Faculty and architecture students in the design process.
- > Experience in the design and delivery of large scale projects
- > Experience in designing projects which meet high quality specifications.
- > Ability to achieve completion within budget constraints
- > Ability to achieve completion on time.
- > Urban Design experience working within an existing campus context.
- Local Knowledge and Melbourne Based Practice
- Team members are previous students and tutors of The University of Melbourne





built pedagogy

The design process for the new Faculty building should begin with the identification of the key educational principles and values which are to underpin the design

Effective learning environments:

- Enhance the teaching/learning process and accommodate the needs of all learners. >
- >Possess a sense of focus for the community.
- >Involve a multi perspective design team from the beginning.
- >Result from a planned design process involving all stakeholders.
- >Make effective use of resources.
- >Allow for flexibility and adaptability to changing needs.
- >Possess clearly defined pathways for movement and passive interaction.
- >Have a positive, friendly and welcoming atmosphere.
- >Maintain a positive link with the outdoors.
- >Are socially and environmentally responsible.
- >Allow effective control of temperature and lighting.
- >Provide adequate space for learning.
- >Provide good access to technology including a robust infrastructure for the future.
- >Maximise collaboration in planning.
- >Result from looking beyond the known for design ideas.
- >Are healthy environments.
- >Encourage student interaction through the application of subjects that focus, explore and discuss elements of the project e.g Technology and Science can design key details through sections and model studies.
- > Encourage workshop interaction through the engagement of selected students to work across the three architectural studios for each stage of the design, documentation and delivery process.

All Practices are familiar with the challenges and developments that have influenced the directions for facilities design in educational, commercial and community sectors. ClarkeHopkinsClarke is recognised as a leader in the design of educational facilities that support and enable the current pedagogical approaches that are shaping education in Victoria.

Throughout the process of the project our team will maintain constant contact with the client group to ensure that we are able to communicate the progress and development of the design. We believe that the client and stakeholder groups bring insight and valuable information to a project. Often this information is only heard as the project progresses or as the brief develops. We firmly believe that it is essential to constantly review the design as it develops and to be responsive to the requirements for change. We are accustomed to delivering projects that have complex programs, servicing and technological requirements to enable them to meet the operational requirements of the end users.

ClarkeHopkinsClarke continue to work with Educational Providers, Government Departments and Private Clients on the development of complex projects in Victoria that bring together diverse interests, groups and facility requirements. Key among these is their ongoing involvement in the masterplanning and design of facilities for the Departments of Education and Early Childhood Development, Sustainability and Environment, Human Services and Primary Industries.

"The teaching environments we create today will enrich and enliven the people who use them tomorrow"

Design is paramount to everything that we do. We belive that truly creative designs go far beyond the look and feel, and are based on a complex set of criteria. Well designed spaces inspire, relax and invigorate without being overly fashionable. Environments that we create reflect present and future times - peoples imaginations, priorities, needs, culture and taste.

"Our aim is for people to sense that their built surroundings reflect their aspirations and stimulate the right emotions."











THE UNIVERSITY OF MELBOURNE new building for the faculty of architecture, building and plan





"An experienced team which is committed to creating inspirational architecture of enduring quality

architectural design competition bda architecture + clarkehopkinsclarke + chapman tavlor

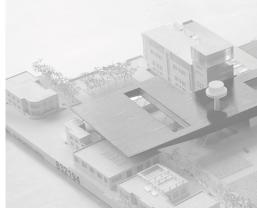
academic heritage

Our team has been involved in the creation of many educational and tertiary facilities that represent the environment/ state of the art and set new standards in design. There is a broad understanding of the development and design studio/ changes in education, being kept abreast with day to day nuances of Student/Staff relationships from our continuing involvement in the education sector. Our key staff have been involved in many primary, secondary and tertiary projects for Government, Catholic and Independent Education providers as well as projects at Victorian Universities.

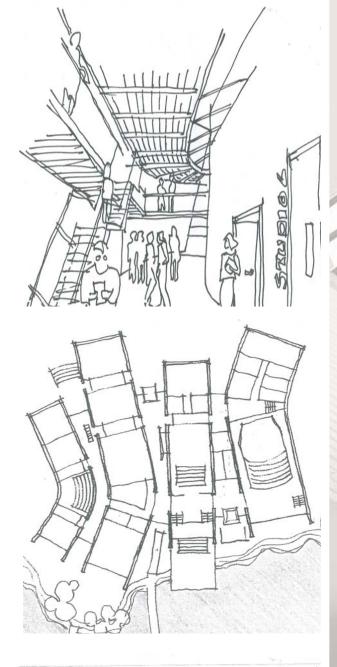
> Tertiary Education University of Auckland, NZ, Student Union Refurbishment, Tamaki Teaching buildings, Information Commons, Business School competition entry with Denton Corker Marshall, School of Creative and Performing Arts, Maidment Theatre Refurbishment < University of Waikato, NZ, Academy of Performing Arts < Manukau Institute of Technology, NZ, Faculty of Business design, Childhood Education Centre < La Trobe University, Bendigo Campus < The University of Melbourne - Parkville and Mt Eliza. Melbourne Business School Victorian Department of Education and Early Childhood Development (DEECD) Pakenham Springs Primary School and Children's Centre < Berwick Chase Primary School < Eltham Primary School < Mount Evelyn Primary School < Timbarra P-9 School < Seymour Regeneration Project (Primary, Secondary and Special Schools) < St Helena Secondary College < Doncaster Secondary College < Lilydale High School < Hurstbridge Primary School < Sandringham Primary School Secondary Schools Alfriston College, NZ New Secondary School < Mount Waverley Secondary School Catholic Schools Xavier College, Kew < Loyola College, Watsonia < St Ignatius College, Drysdale < Penola Catholic College, Glenroy and Broadmeadows < St Bede's Parish School, Balwyn < Trinity Catholic School, Richmond Independent Schools King David School < Brighton Grammar < ELTHAM College of Education < ICA Colleges, Melton and Casey Government Campuses Grains Innovation Park < Horsham (Dept Primary Industries) < DSE Bairnsdale (Dept of Sustainability and Environment) < Centre for Older Persons Health, Shepparton (Dept Human Services and Goulburn Valley Health) Development Better Schools Today Program - redevelopment projects at 14+ Primary Schools around Victoria < Building Education Revolution Program - new facilities at Victorian Primary and Secondary Schools

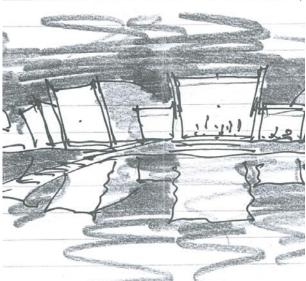
Understanding of The University of Melbourne

The Parkville campus of The University of Melbourne is a dynamic, lively and evolving place layered with history. The buildings and grounds tell the story of the University charting architectural styles as well as the social, cultural and educational developments over more than 150 years. The Faculty of Architecture Building and Planning occupies facilities at the heart of the campus that have been designed over an extended period. These facilities include a number of architecturally recognised and well loved features such as the former Bank of New South Wales facade to the Old Commerce Building, the Japanese room and garden, the Prince Philip Theatre (which was voted the best theatre for sleeping in at the Parkville Campus in the late 1990s) as well as architectural features and artefacts from around the world. The current building has gone through years of adaptation, renewal and change to enable it to accommodate the activities and needs of the students, academics and the programs of the Faculty. Often these works have been staged as smaller projects to enable the Faculty to continue to operate around them. The recent works have given the building a new lease of life in many instances but they have also highlighted the deficiencies. There is an air of perpetual change and unsettledness, there are few spaces for small and large groups but lots of spaces for medium sized groups. The Faculty lacks access to large communal gathering and display areas and the potential to customise and adapt spaces to meet specific challenges and requirements. The opportunity to play with and customise teaching and learning spaces would be beneficial to students, enabling them to adapt their learning environments to suit the challenges of a specific project or area of study. There are few spaces within the building that provide students and staff with opportunities to take a break from their studies or pursue informal activities which has continued to highlight the value of the Japanese Garden on the northern side. As identified in the brief there is the potential for the Faculty to open up to the University Community and it's surrounds through the inclusion of a café or other facilities in the new building









University of Waikato – Academy of Performing Arts, Hamilton, New Zealand

Steve McCracken was responsible for the design of the Academy of Performing Arts while he was a Design Director with Warren and Mahoney in Auckland. The design method involved an inclusive process of working closely with City, the University and Maori stakeholders.

The Academy of Performing Arts is designed to serve both the University and the wider Hamilton community. It provides a unique venue for the teaching, rehearsal and performance of the four performing arts disciplines of Music, Drama, Dance and Kapa Haka. The building form comprises four linear elements of varying lengths placed adjacent to each other, almost touching at their mid points, curving away at their ends. Low level circulation spaces interconnect thefour elements establishing dynamic relationships between the various teaching, rehearsal and performance spaces within, promoting interaction between the four disciplines. Each of the linear elements is fully glazed at its northern end and opens onto a unique lakeside setting through the foyer spaces.

This design concept reflects the parallel development of each discipline, while promoting interaction between disciplines as well as between the audience and student performers. The building is designed with multiple entries, from the campus to the south for students or from the city to the north for the public. The northern public entry is via a bridge across the lake. This commission was won in a design competition and received architectural awards in 2001 and 2002.

Alfriston College - Auckland, New Zealand

Steve McCracken was responsible for the concept design of Alfriston College from 2003 while he was a Design Director with Warren and Mahoney. This project was the first of two new public secondary schools to be developed in New Zealand in 25 years and involved an extended, highly consultative research, briefing and concept design period which included a wide range of stakeholders in both education and culture. It's design embraces the concept of a 'Schools within a School' by implementing flexible learning spaces with a high level of information communication technology. Central to the school is a whare (meeting house) developed in partnership with local Maori, around which are family clusters of teaching buildings each catering for 250 – 300 students with teaching spaces able to be easily reconfigured to cater from 5 to 100 students depending on teaching needs. This project received architectural awards in 2007 and 2008.

The maintenance and renewal of the physical fabric of historic places involves a broad range of skills. From strategic planning and detailed technical advice to the sensitive design of new buildings and the repair, alteration and extension of existing buildings, our architects aim to realise the most beneficial use for a building without compromising its character. We have a clear understanding of what constitutes the essence of a building and apply ingenuity in its regeneration. Our team comprises of architects who have designed a number of significant heritage listed projects which include the Empire and Mutual Store Apartments, Melbourne, Sebel of Melbourne in the former Bank of Australasia building, cnr of Collins and Queens St in the CBD, Melbourne, Parliament Buildings, Wellington, NZ, Supreme Court, Wellington, NZ and Princesshay, Exeter, UK. A developed individual strategy was taken to respect the character and integrity of the heritage buildings which was determined by the condition of the buildings, their heritage value and recognition, community expectations and the need to address any issues that affect the future of the building.

In some cases the community expectations for the protection and retention of heritage buildings and features are stronger than the official heritage registers or status as the community places a strong value on buildings and elements that are part of the collective memory. We believe that the design of the new Faculty of Architecture, Building and Planning at The University of Melbourne will need to be equally considerate of the heritage listed facade from the former Bank of New South Wales as it is of elements such as the Japanese Garden. We believe that it will be important to undertake a thorough investigation of the existing buildings and facilities and to consult widely with the faculty and bodies such as Heritage Victoria to identify the key heritage priorities. Once identified it will be possible to commence the development of a strategy for protecting, incorporating and renewing the heritage elements. The development of the design should consider how to respect the integrity of the historic elements without compromising the new facilities. The development of the new Faculty should look to continue the story of The University of Melbourne, particularly the Architecture Faculty, so that the vision and goals of today's Faculty can be read in conjunction with the story of those who have come before.

living building It is important to take a holistic sustainable approach that links the ecology of the building and the poetic dimensions of architecture, that considers the location and function of a building; its flexibility and life-span; its orientation, its form and structure; its heating and ventilation systems, and the materials used. Each impacts on the amount of energy used to build, run and maintain the building, and to travel to and from it.

Our approach would be to harness natural energy, minimise fossil fuels, improve indoor environment quality, and minimise water use and waste. This approach will result in an alternative building genre, which integrates seamlessly with the environment through stabilising the built environment as a living and functioning ecosystem. This ecological approach needs to be integrated with climatic design principles. Climate responsive design incorporates principles of designing for local climatic conditions, shelter and outdoor spaces, natural light, heat and warmth, cooling and ventilation, seeking all year round comfort. It is important to systematically integrate all these components to ensure a change that addresses these environmental problems.

"Architecture is the first manifestation of man creating his own universe, creating it in the image of nature, submitting to the laws of nature, the laws which govern our own nature, our universe. The laws of gravity, of statistics and of dynamics, impose themselves by a reduction and absurdum: everything must hold together or it will collapse." Le Corbusier

The team members have all been involved in developing innovative, practical and sustainable designs to achieve varying levels of Green Star Accreditation in their design work. An internal management group will audit each phase of the project, ensuring compliance, while pushing the boundaries of technology.

As society becomes increasingly aware of environmental and social problems associated with existing buildings, we have a responsibility to educate the public in how to address these problems to cohere with a new vision for sustainable life. We believe through the faculty and the students working with the consultant team this building can be visionary.









THE UNIVERSITY OF MELBOURNE



"Natural light and provisions for external views are of particular importance because they reduce suppressed feelings of panic, anxiety, disorientation, and melancholy. Natural light, its variations and its spectral composition are of a great importance for well-being and mental health."



new building for the faculty of

capability + process

Who is the team?

>BDA Architecture >Chapman Taylor >ClarkeHopkinsClarke Broadbeach, Qld, Australia London, UK, England Melbourne, Vic, Australia

www.bdaarch.com.au www.chapmantaylor.com www.chc.com.au

By bringing together three experienced architectural practices from across Australia and the UK, the resulting team ensures that international best practice for tertiary education design is coupled with innovative design ability, good local knowledge and cultural understanding as well as comprehensive knowledge of current regulations and standards.

Within the team, each practice's principal activity is the design and delivery of architecture through all phases of design, documentation and contract administration. The team possesses an extensive resource of over 500 highly skilled people, state of the art equipment and expertise appropriate for this purpose.

The team proposes a simple and effective management system for the efficient delivery of all of its services based on a clear quality assurance system. Our aim in working together with the University and its advisors is to ensure that only quality outcomes are achieved, delivering the project within the budget and on programme, using value management techniques in a co-operative and focussed team environment including all stakeholders in the process.

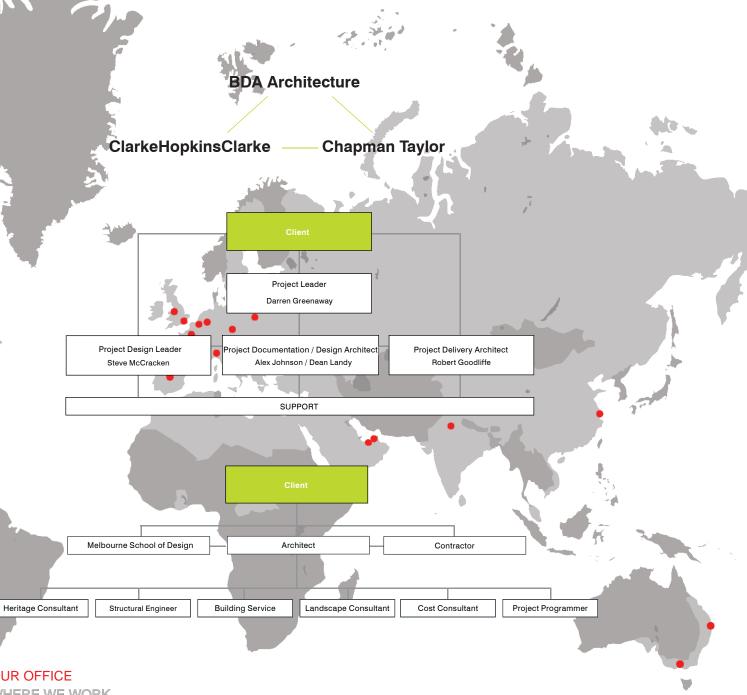
The Architectural team's accumulative experience in a wide range of building types brings the opportunity to look beyond the known and to look outside the field of education for ideas during the design process. The teams responsibility and role is:

Darren Greenaway	Project Leader (bda) – overall responsibility for project and liaison with client
Steve McCracken	Project Design Leader (bda) – responsibility for design leadership
Dean Landy	Project Design Architect (chc) – responsibility for design collaboration
Alex Johnson	Project Documentation Architect (ct) – responsibility for design collaboration
	and documentation of project
Robert Goodliffe	Project Delivery Architect (chc) – responsibility for delivery of project

Members of the team have worked in collaboration with a number of leading architectural practices on various schemes as either lead architects or as part of a multi-architectural design team.

>Hopkins Architects (UK) < FOA (Foreign Office Architects) (UK) < Stanton Williams (UK) < Wilkinson Eyre (UK) < Panter Hudspith (UK) < Richard Rogers Partnership (UK) < Sir Colin Stansfield Smith (UK) < Van Heyningen & Haward (UK) < Suters Architects (Aust) < Cox Architects (Aust) < McBride Charles Ryan (Aust) < Kerstin Thompson Architects (Aust) < Hotson Bakker Boniface Haden(Canada)

> References: Accommodation at La Trobe University Davis Langdon Australia, Mr Bob Hunt Director, Southern Region Board Chairman, Level 20, 350 Queens Street, Melbourne, Victoria 3000 Ph: 03 9933 8800 < Media City UK Bovis Lend Lease (BLL), Martin Gregory Project Director, 111 Broadway, Salford, Manchester, UK, M50 2EQ Ph: 0161 869 1400 < The Links Mirvac, Tony Adams Project Co-ordinator, Level 2, 164 Grey Street Southbank , Qld, 4101 Ph: 07 3859 5888



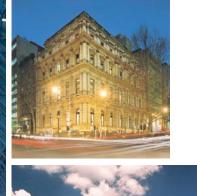
OUR OFFICE WHERE WE WORK









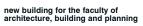




THE UNIVERSITY OF MELBOURNE







2009 The Queens Award for Enterprise - International Trade: Chapman Taylor, UK < Best Design-Led Project: MediaCityUK, UK < Best Structural Innovation: Cabot Circus, UK < Best Commercial Project: Cabot Circus. UK < Regional Commendation: Ocean Pacific. Gold Coast < Regional Commendation: Main Beach House, Gold Coast 2008 Best Shopping Centre Development: Baneasa Shopping City. Romania < Most Innovative Concept of the Year Award: St Pancras International. UK < Best Shopping Centre: Cabot Circus, UK < Established Centre: The Trafford Centre, UK < In-Town Retail Scheme (300,000 sq ft or less); St Pancras International, UK < In-Town Retail Scheme (300,000 sq ft or more): Cabot Circus, UK < Regeneration Awards: St Pancras International, UK < BCSC Supreme Gold award: Cabot Circus, UK < Best New Shopping Centre or Refurbishment: Princesshav, UK < In-Town Retail Scheme (300,000 sg ft or more): Highcross, UK< Outstanding Development of the Year: St. Pancras International, UK < Supreme Award: St Pancras International, UK < Camden Design Award: St. Pancras International, UK < Building in an Historic Context: St Pancras International, UK < Shopping Centre Awards, New Developments: Princesshay, UK < Architect of the Year: Chapman Taylor < Office Development of the Year Award: Baneasa Business and Technology Park, Romania < Best Commercial Leisure Scheme of the Year: St. Pancras International, UK < Commendation, City and Metropolitan Areas: Hull City Centre, UK < Regional Commendation: City Pacific Lifestyle Mixed Use Development, Gold Coast < Commendation - New School/Major Facility Construction: Pakenham Springs Primary School, Victoria < Best Primary School: Pakenham Springs Primary School and Children's Centre, Victoria < Best School Project Below \$3M;Eltham Primary School, Victoria < Commendation- Best Refurbishment: Eltham Primary School, Victoria < Best Innovative Project:Pakenham Springs Primary School, Victoria < Best New Commercial Building:91-99 Railway Road , Victoria 2007 European Shopping Centre Awards, ReStore Award Refurbishments / Extensions: Manchester Arndale, UK < European Shopping Centre Awards, ReStore Award New Centuries: L'esplenade, Belgium < Best Shopping Centre New or Refurbishment: Drake Circus, UK < Gold and Supreme Gold Awards: Princesshay, UK < Retail Development of the Year Awards: Pasaz Grunwaldzki, Poland < Best Heritage Development (Commercial): 95-99 Railway Road, Victoria 2006 Best Shopping Centre: Etten-Leur Centrum Plan, Netherlands < Large Shopping Centre Award: Whitefriars, UK < Refurbishment and Extension Award: Waasland Shopping Centre, Belgium < International Practice of the Year: Chapman Taylor < Shopping Centre of the Year: Inorbit Shopping Centre, India < Retail Regeneration Award: Cabot Circus, UK 2005 Major Project of the Year: Bullring, UK < Supreme Gold Award: Whitefriars, UK < Office Development of the Year: Bucharest, Romania < New Shopping Center or Refurbishment Award: Whitefriars, UK 2004 ICSC European Awards - Specialist Centres: El Muelle de Santa Catalina, Spain < ICSC European Awards - Specialist Innovation Award: Madrid Xanadu, Spain < Commendation Refurbishment and Extension: La vaguada, Spain < Commendation for Urban Design and Connectivity: Cabot Circus, UK < Best Shopping Centre Refurbishment: Waasland Shopping Centre, Belgium < Best Regeneration Scheme: Bullring, UK < Best Shopping Centre: The Liberty, UK < Commendation for Best Shopping Centre: N1, UK < Commendation for Best Large Centre: Madrid Xanadu, Spain < Best Refurbishment and Extension: La Vaguada, Spain < Best Themed Shopping Centre: Plaza Mayor, Spain < Certificate of Merit for Large Scheme: Madrid Xanadu, Spain < Commendation for Design: Plaza Mayor, Spain < International Awards - Overall Winner for Design: El Muelle de Santa Catalina < Gold Award and Supreme Gold Award: Bullring, UK < Winner Regeneration Category: Bullring, UK 2003 Specialised Award: Plaza Mayor, Spain < Winner International Projects Category: Val d'Europe, France < Certificate of Merit International Projects Category: Courier, France < New Centre Award - Commendation: The Liberty, UK < Best Continental European Leisure Project: Madrid Xanadú, Spain < Design Commendation Certificate: Sandown Park Racecourse, UK < Urban Design Awards Commendation: The Cove, Gold Coast 2002 MIPIM Award - Nomination Shopping Centres Category: Courier, France < Winner Best Large Shopping Centre Scheme Category: Val D'Europe, France < Commendation Middle Sized Shopping Centres Category: Courier, France < Winner, Best Shopping Centre Award: Parque Principado, Spain 2001 Regional Winner Corporate Workplace Category: Bristol & West HQ, UK < ICSC Award - Commendation: Clemens Galerien, Germany 2000 Award for Architecture: Burns Residence, Gold Coast 1999 Winner Established Centre Category: The Harlequin, UK < Award for Architecture: Geraghty Residence, Gold Coast 1996 UDIA Award for Excellence - Medium Density Housing: Diamond Beach Resort, Gold Coast 1995 Building of the Year: Diamond Beach Resort, Gold Coast < Commendation: Diamond Beach Resort, Gold Coast **1994** Regional Commendation: Royal Pines Residential Village 2, Gold Coast < Regional Commendation: Surfers Paradise Boardwalk and Public Space Connections, Gold Coast 1993 Regional Commendation: Surfers Paradise Bus Station, Gold Coast < Regional Commendation: Billabong Clothing Factory, Gold Coast 1992 Award Finalist: Australian Institute of Sport Canoeing Facility, Queensland Chapter 1991 Civic Design Award: Alison Street Streetscape, Gold Coast < Award in Architecture: Pennington Residence, Gold Coast < Award in Architecture: Alison Street Streetscape, Gold Coast 1989 Award in Architecture: Marine Village, Gold Coast 1988 Civic Design Award - Commendation: Marine Village, Gold Coast 1987 Award in Architecture: Waterfront Villas, Sanctuary Cove, Gold Coast 1986 Award in Architecture: DID Laboratory. Gold Coast 1985 Award in Architecture: Offices and Machine Shop for Currumbin Engineering, Gold Coast < Award in Architecture: Paradise Display Homes, Gold Coast 1984 ICSC European Award: The Ridings, UK1982 RICS and The Times Conservation Awards - Commendation: Forbes House, UK 1981 The Stone Federation Design Award for Natural Stone: Caxton House, UK < The Stone Federation Design Award for Natural Stone: Castell Gyrn, UK 1980 City Heritage Award - Commendation: 5 Burgon Street, UK < RICS and The Times Conservation Awards - Commendation: Kinnerton, UK < RICS and The Times Conservation Awards - Commendation: 25-27 Farringdon Road, UK < Civic Trust Awards - Commendation: Castell Gyrn, UK 1978 Tylers & Bricklayers Co - Brickwork Award: 100 Rochester Row, UK 1977 RIBA Architecture Awards - Commendation: 1 Eldon Square, UK < City Heritage Award - Commendation: 23 Great Winchester Street and 3 Throgmorton Avenue. UK

merit



THE UNIVERSITY OF MELBOURNE