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**29 November 2021**

## **Building 4.0 CRC PhD Scholarship Opportunity at:**

### **The University of Melbourne**

We're excited to announce that the second round of Building 4.0 CRC (B40CRC) PhD Scholarships is now open!

Our PhD Scholarships are a unique opportunity to work within a leading initiative set to transform the building and construction industry. Successful candidates will work closely with industry partners on interdisciplinary research, engaging with the CRC's vision to lead – and place Australia at the forefront of – the global building industry.

A total of 22 Scholarships (Full and Top-ups) are available, distributed across our three University Partners: The University of Melbourne, QUT, and within the Faculties of Art, Design and Architecture, Engineering, Information Technology, Business and Economics, and Law at Monash University.

The following information relates to the **University of Melbourne**, for which we are welcoming applications as part of this Scholarship round.

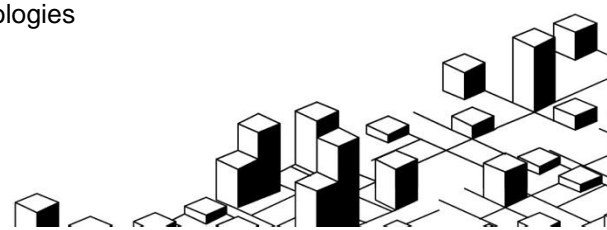
This call is offering 4 x B40CRC PhD Full Scholarship and 4 x B40CRC Top-up Scholarships for students who are pursuing higher degree research in line with the CRC's projects.

- The Full Scholarship will provide funding of up to \$40,000 per annum. Term of stipend is three years, with the option of a 6-month extension (on application and subject to university approval).
- The Top-up Scholarships will provide funding of \$10,000 per annum to holders of existing scholarships, such as Research Training Program (RTP) or University Research Scholarships.
- The scholarship recipient will also have the opportunity to apply for discretionary funds of \$5-10k per annum, for travel, conferences, materials, equipment, software, hardware, courses, thesis printing (2 copies), and other related expenditure (on application and subject to CRC approval).
- Successful candidates will be required to participate in B40CRC research projects with a minimum FTE of 0.6 for full scholarship recipients and a minimum FTE of 0.15 for top-up scholarship recipients.
- The student's PhD research proposal must align with CRC objectives, focusing on the following key research subject areas:
  - High-Performance Materials and Building Systems
  - Generative/Computational Design and Building Information Modelling
  - Digital Twins/Digital Engineering
  - AI-based optimisation of the performance of digital builds
  - Data-Driven and Physics-Based Simulations for improving Safety, Resilience and Sustainability
  - Waste reduction and Decarbonisation Techniques for Building Industry
  - Net Zero Buildings
  - Circular Economy and Life Cycle Analysis Methodologies



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The application process requires the following to occur:

- **Step 1:** Applicants will need to contact the potential supervisor(s) from the University of Melbourne, according to their expertise/research interest/key subject area. With the supervisor's support, applicants should develop a research proposal that is aligned with B40CRC research activities, partner requirements, and key subject areas as listed above.
- **Step 2:** If the applicant is not enrolled at the University of Melbourne, then, together with their supervisor, they will need to coordinate an application for candidature within the Faculty. Proof of a successful EOI/invitation to apply from each Faculty will be required for applicants in order to submit their B40CRC PhD Scholarship application.
- **Step 3:** Applicants will need to provide evidence of support from their potential supervisor/s. If the applicant has been enrolled or has a successful EOI, they will then be able to apply for a B40CRC PhD Scholarship. **Closing date for applications is Monday, 28 February 2022.**

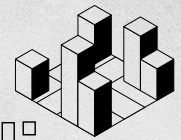
Candidates who are interested in applying for a B40CRC PhD Scholarship must meet the eligibility criteria detailed in the CRC's [PhD Scholarship Information Kit](#) (attached below, or accessible via the link), which also provides further information on how to apply. Note that the completed application form must be included with the applicant's submission.

**Applications are now open.** Please refer to the CRC's [PhD Scholarship Information Kit](#) (attached below, or accessible via the link) for more details on how to apply.

**Closing date for applications:** Monday, 28 February 2022.



# PHD SCHOLARSHIPS INFORMATION KIT



building  
4.0 crc

A unique opportunity to apply for PhD scholarships in a leading initiative set to transform the building and construction industry.

## ABOUT US

Building 4.0 CRC is an industry-led research initiative co-funded by the Australian Government. The CRC aims to develop an internationally competitive, dynamic and thriving Australian advanced manufacturing sector, delivering better buildings at lower cost and the human capacity to lead the future industry.

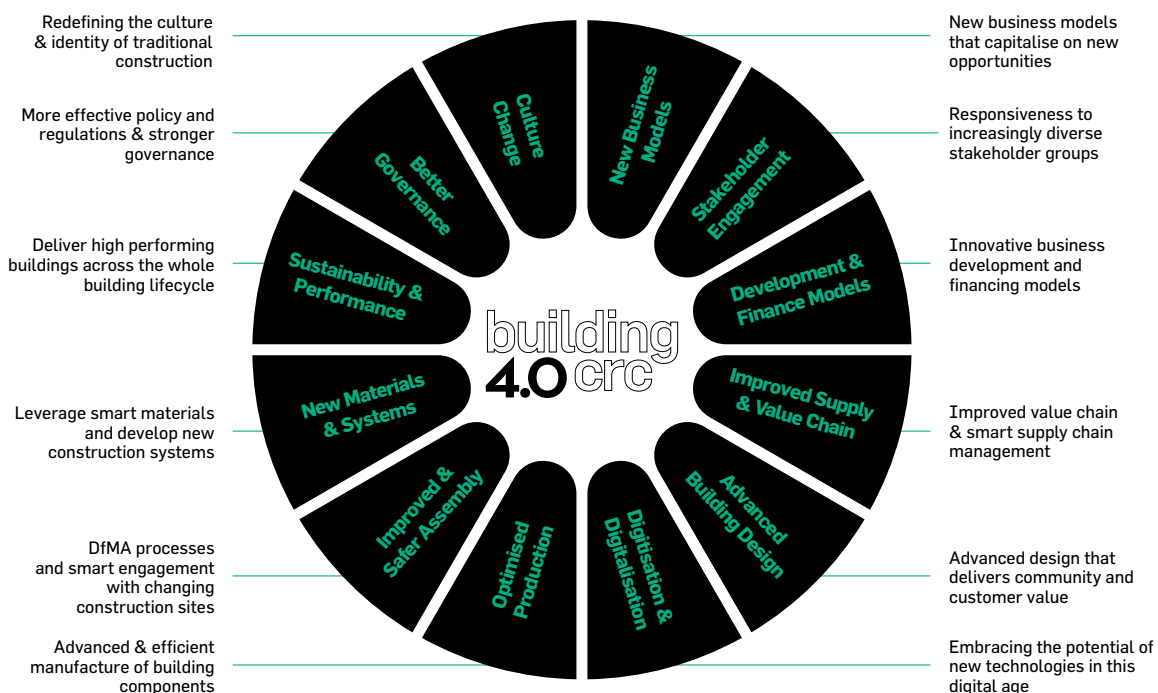
Building 4.0 CRC was established as part of the Australian Government's Cooperative Research Centre program in 2020. Through deep collaboration and new technologies of the 4th industrial age, Building 4.0 CRC will catapult the industry into an efficient, connected and customer-centric future. The CRC aims to capture new opportunities across the whole value chain in cooperation with government, research and industry organisations.

Our three integrated research programs will help to ensure that we deliver on: new industry-wide culture,

practices and standard protocols that will enable the transformation of the entire sector; new building processes and techniques, leveraging the latest technologies, data science and AI; and improvements to building "hardware" and processes and their interaction with our digital and sectoral programs to ultimately improve all aspects of the key building phases (development, design, production, assembly, operation, maintenance and end-of-life).

We are also creating pathways for future employees to develop new, tech-focused skills through a deep understanding of the industry's needs and culture.

Furthermore, Building 4.0 CRC's research projects will place Australia at the forefront of global developments in the advanced manufacture of buildings.



**Enabling a customer-centric and connected transformation of the building industry**

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## TARGETS

Building 4.0 CRC is taking a 'whole-of-system' approach to create an innovation ecosystem and transform the entire building industry.

Our specific targets include:

### BETTER BUILDINGS

- **Energy:** 40% reduction in lifecycle costs through high-performing, efficient buildings
- **Sustainability:** Up to 50% reduction in CO2 emissions for more sustainable buildings
- **Regulation:** Improved policy & regulatory frameworks
- **Quality and Safety:** Fewer defects & improved quality, customer satisfaction, safety & certainty

### NEW EFFICIENCIES & MARKETS

- **Cost:** Up to 30% reduction in project costs through digital technology & off-site manufacturing
- **Time:** 40% reduction in project delays through integrated, live scheduling
- **Waste:** 80% reduction in construction waste & re-work for higher productivity
- **Exports:** Up to 25% increase in the export of building products & construction services
- **Communication:** A connected industry with common protocols & interfaces, and shared data

### HUMAN CAPACITY

- **Education:** Train 36 PhDs and 1,000 Masters Students
- **Jobs and Training:** Create new high-skill jobs, training 7,000 apprentices in the new technologies of the 4th industrial revolution
- **Culture:** Create an open, collaborative, innovative, inclusive, and gender diverse industry

## OUR SCHOLARSHIP PROGRAM

Building 4.0 CRC PhD Scholarships are available for students pursuing research higher degrees in line with Building 4.0 CRC projects. Both Full and Top-Up Scholarships and project support funding are available for eligible students. Current funding amounts are:

- Full Scholarships of up to \$40,000 per annum. Term of stipend is 3 years with the option of a 6-month extension (on application and subject to University approval).

- Top-Up Scholarships of \$10,000 per annum to holders of existing scholarships, such as Research Training Program (RTP) or University Research Scholarships. This is funded yearly with renewal upon application.
- Both Full and Top-Up Scholarship holders can apply for discretionary spend of \$5-10k per annum (on application) for travel, conferences, materials, equipment, software, hardware, courses, thesis printing (2 copies), and other related expenditure.

This document contains important information for applicants about Building 4.0 CRC Scholarships. Note that the completed application form must be included with your submission.

### ELIGIBILITY CRITERIA

To be eligible for a Building 4.0 CRC Scholarship:

1. Applicants must be eligible for enrolment in their chosen course and university. It is recommended that students obtain relevant PhD information and contact their potential supervisors from their university before pursuing a scholarship inquiry;
2. Top-up PhD applicants must be enrolled at one of the three Building 4.0 CRC University partners;
3. International students can apply for a Building 4.0 CRC Scholarship providing they are qualified to be enrolled at one of the three University partners of Building 4.0 CRC and have a supervisor who has agreed to supervise. Support for the university tuition fees needs to be provided separately either by the university or by the student, as Building 4.0 CRC Scholarships are not provided to cover these expenses;
4. Applicants must be studying full-time (under exceptional circumstances part-time student applications will be considered); and
5. Applicants must have developed a project proposal that align with Building 4.0 CRC research activities and CRC partner requirements.

### PARTICIPATING UNIVERSITIES

Scholarships are available for study at the Building 4.0 CRC's three University partners:

- Monash University.
- The University of Melbourne.
- Queensland University of Technology.

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## EXPECTATION OF PHD STUDENTS FUNDED BY CRC

- Students will be invited to attend and present posters at the annual conference.
- Students may be asked to assist in the running of the annual conference and other research and outreach initiatives.
- Student engagement in part-time work will need to be agreed with supervisors and the CRC.
- Students will be a member of a PhD Cohort with the opportunity for peer learning from other disciplines.
- Students may be assigned to one or more projects.
- A student's PhD topic must align with CRC objectives.
- Students are to acknowledge the CRC (and the CRC Program support) in their thesis, publications and any presentation of their work.
- Students will request CRC approval prior to any publication or presentation.

Building 4.0 CRC research is heavily driven by the needs of the CRC partners, comprising building, construction and manufacturing companies and government agencies within the building industry. Support from Building 4.0 CRC industry partner objectives and ideas is critical to the PhD application and assessment process.

The process is designed to ensure that the project aligns with CRC partner needs, and must be addressed at the start of project development stage. As well as providing support for the application, Building 4.0 CRC partners may be able to provide in-kind support for research project activities – such as access to personnel, provision of materials and equipment, and data/software support. Further to this, CRC-supported students are encouraged to maintain contact with industry partners over the life of the project.

## OPPORTUNITIES

- Students will have international and domestic travel opportunities.
- Students will be provided with value-add workshops in the areas of thesis writing, scientific writing, project management IP, careers, finances/budgets, media training, and networking where practical.
- Students will have the opportunity to attend seminars and symposiums.
- Students will be provided with industry mentors where practical.

## INTELLECTUAL PROPERTY (IP) AND CONFIDENTIALITY

The award of Building 4.0 CRC Scholarships is dependent on appropriate agreements relating to IP and confidentiality being implemented. On receiving a scholarship, students are required (in consultation with their university and supervisor) to sign an agreement that covers student IP, participation in CRC activities and research, and expectations of both the CRC and students.

In applying for a scholarship, students must acknowledge that they have read and are aware of the conditions below and be willing to enter into a more formal agreement with their university or Building 4.0 CRC on receipt of a scholarship. Students are encouraged to seek independent advice to clarify any questions in relation to intellectual property before entering into such an agreement.

The key requirements of this agreement are that:

- The student will need to adhere to CRC policies in regard to IP, Confidentiality and Conflict of Interest at all times.
- The CRC and/or relevant Project partners may request an “embargo” of a student's thesis to protect confidential information, in accordance with University Policy.
- Restrictions on publishing a student's thesis will only be those reasonably necessary to protect confidential information and project IP.
- An IP/scholarship agreement will be required between Building 4.0 CRC and the relevant University or the student directly.
- The ownership of the IP generated by the student in undertaking the CRC Scholarship, other than copyright in the student's thesis (Thesis IP), will need to comply with the Building 4.0 CRC Intellectual Property arrangements. In particular, for work on CRC Projects, the IP will generally be owned by Building 4.0 CRC and/or other Project partners.

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## HOW TO APPLY

Applicants must use the application form included in this information kit to work through the application process. If eligible to apply, applicants must then:

- Identify the relevant link to Building 4.0 CRC research activities (information available on the Building 4.0 CRC website) relevant to the research or field of interest;
- For new students, you will need to identify a supervisor from a university that is part of the Building 4.0 CRC. Make contact and discuss with the supervisor the topic and your proposed research;
- For students who are already enrolled, discuss with your supervisors;
- Submit the PhD Application Pack to [PhdResearch@building40crc.org](mailto:PhdResearch@building40crc.org) consisting of the following:
  - A cover letter (1-2 pages) outlining your motivation and a short summary of the proposed research;
  - PhD Scholarship Application Form (see the form at the back of this document);
  - Your CV including information about yourself and your industry/research background;
  - Evidence (email/letter) of a supervisor who has agreed to support the application;
  - Undergraduate/Postgraduate results.

## ASSESSMENT PROCESS

- Once the application pack has been received by Building 4.0 CRC, it will be assessed by the Research Management Team. The Research Management Team meet frequently to discuss the progress of scholarship applications. If further information is required to assess the application then the applicant will be contacted accordingly.
- Once an assessment has been completed, the applicant is advised on the outcome – either they have been shortlisted and can progress to the next stage (to submit a formal application), or they have been unsuccessful. An interview will be arranged for shortlisted candidates.
- If successful, students will be provided with a Letter of Offer from the Building 4.0 CRC Research Director, together with a copy of the Building 4.0 CRC Intellectual Property Agreement, to sign and return.

## FURTHER INFORMATION AND TO APPLY

For information about Building 4.0 CRC Scholarships and to apply contact:

Research Director, Building 4.0 CRC  
Email: [PhdResearch@building40crc.org](mailto:PhdResearch@building40crc.org)

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## PHD SCHOLARSHIP APPLICATION FORM

### 1. APPLICANT INFORMATION

NAME	
EMAIL ADDRESS	
MAILING ADDRESS	
CONTACT NUMBER	

### 2. AUSTRALIAN OR NEW ZEALAND PERMANENT RESIDENT?

Are you an Australian or New Zealand citizen or permanent resident?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
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### 3. BUILDING 4.0 CRC INTELLECTUAL PROPERTY AGREEMENT

Building 4.0 CRC Scholarships are subject to a number of conditions covering intellectual property, annual reporting and participation in Building 4.0 CRC research projects, conferences and events. If you are offered a Building 4.0 CRC Scholarship you will be asked to accept the conditions outlined in the document in consultation with the university at which you are enrolled.		
<b>Have you read and do you accept the Building 4.0 CRC Intellectual Property &amp; Confidentiality conditions in this application kit?</b>	<input type="checkbox"/> YES	<input type="checkbox"/> NO

### 4. UNIVERSITY AFFILIATION

Have you been enrolled or accepted for enrolment into a PhD program at one of the three universities of Building 4.0 CRC?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
University where enrolled (or to be enrolled)		
University	Faculty/Department/School	

### 5. OTHER SOURCES FOR FUNDING

What current (or future) scholarship/support will you receive for this course of study?		
Award	Amount	
<input type="checkbox"/> Research Training Program (RTP) Scholarship		
<input type="checkbox"/> University Research Scholarship		

### 6. BUILDING 4.0 CRC SCHOLARSHIP

The Building 4.0 CRC Scholarship and/or support that you are applying for
<input type="checkbox"/> Full Scholarship
<input type="checkbox"/> Top-Up Scholarship

### 7. BUILDING 4.0 CRC PROJECT INFORMATION

Which Building 4.0 CRC Research Activities is your proposed PhD project linked to and why?	

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## 8. STUDENT PROJECT INFORMATION

### Research project title:

Please note this will be used as the description throughout the life of the project and should accurately reflect your area of research.

### Brief project description:

Brief outline of the project (100 words maximum)

### Research questions:

Brief outline of the central research questions of your project (100 words maximum)

### Detailed project description:

Please attach a detailed project proposal including references (2 pages maximum) and send with this application.

☐ Attached

### Student CV:

Please attach a copy of your CV listing publications, Masters/ Honours results and other research experience/projects.

☐ Attached

## 9. SUPERVISORS

### Supervisors:

Please note – a Building 4.0 CRC researcher must be a member of the supervisory panel.

Supervisor	Phone	Email
Supervisor 1 (main)		
Supervisor 2 (if available)		
Supervisor 3 (if available)		

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## 10. PROJECT OUTCOMES

Building 4.0 CRC has a strong focus on industry-focused research – research that meets the needs of industry partners in the Building 4.0 CRC.

What will be some of the key outcomes of your research? (100 words maximum)

How will this make a difference to the building industry? (100 words maximum)

## Other Supporting Comments

## Checklist

I am an Australian or New Zealand Citizen or Permanent resident

☐ YES

I have read the Building 4.0 CRC Scholarship conditions, IP and Confidentiality requirements in this document

☐ YES

I have outlined where this project links to the CRC's research program

☐ YES

I have outlined the outcomes from this proposed research and the value to Building 4.0 CRC End Users

☐ YES

I have attached a detailed project description

☐ YES

I have attached a CV and Undergraduate/ Postgraduate results

☐ YES

I have attached the evidence that a supervisor has agreed to support my application

☐ YES

## Thank you for your application.

Please forward your application and enquiries to Building 4.0 CRC via email: [PhdResearch@building40crc.org](mailto:PhdResearch@building40crc.org)

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