



SWINBURNE

SWINBURNE
UNIVERSITY OF
TECHNOLOGY



RESEARCH DEGREES
AT SWINBURNE

[SWINBURNE.EDU.AU/RESEARCH/RESEARCH-DEGREES/](https://swinburne.edu.au/research/research-degrees/)





A FUTURE-FOCUSED UNIVERSITY

Research at Swinburne

Research is about having big ideas and finding solutions to the problems that face our society. At Swinburne we attract world-class minds. We offer our research students, research staff and collaborators the opportunity to participate in projects that change the world. We are keen to invest in these projects and provide excellent research facilities to support these activities.

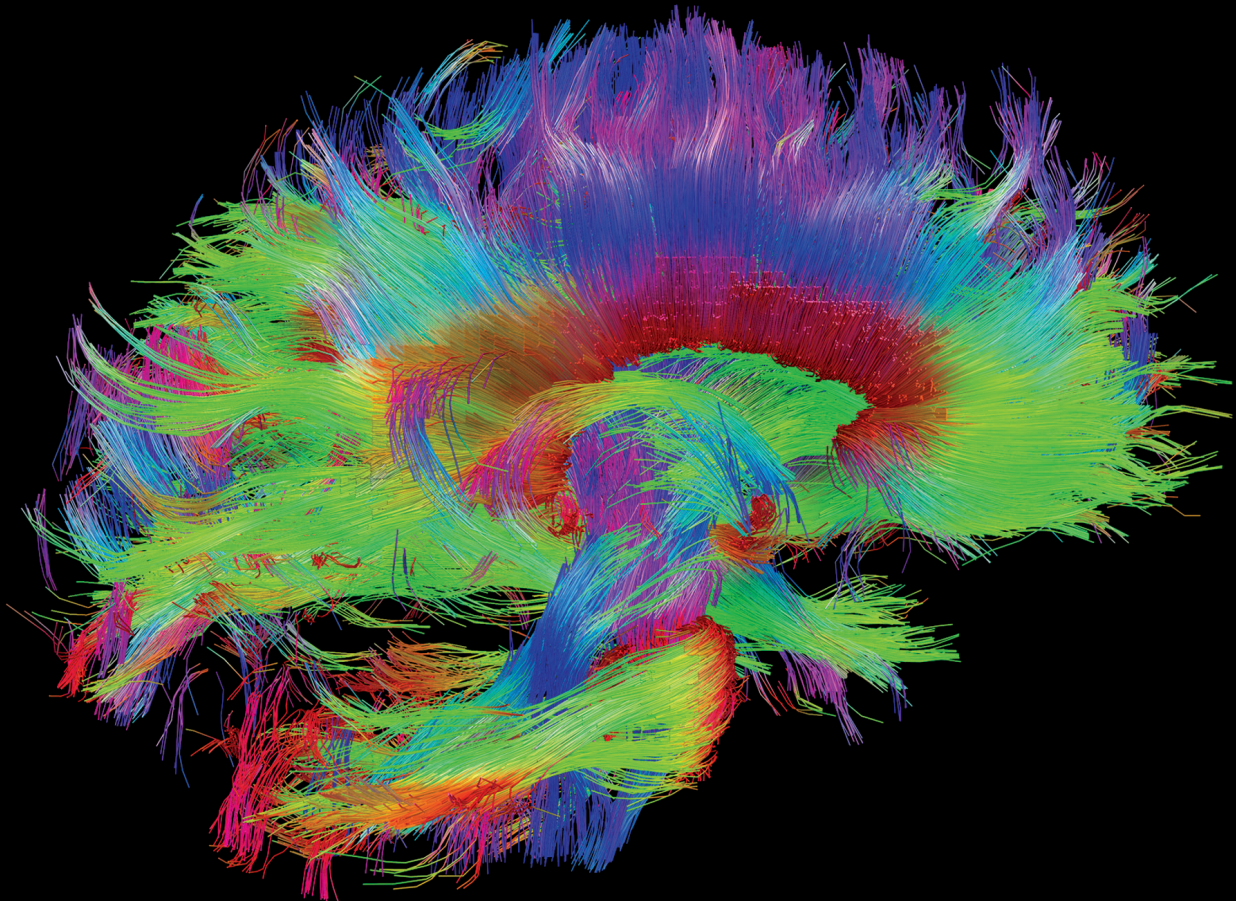
RESEARCH WITH IMPACT

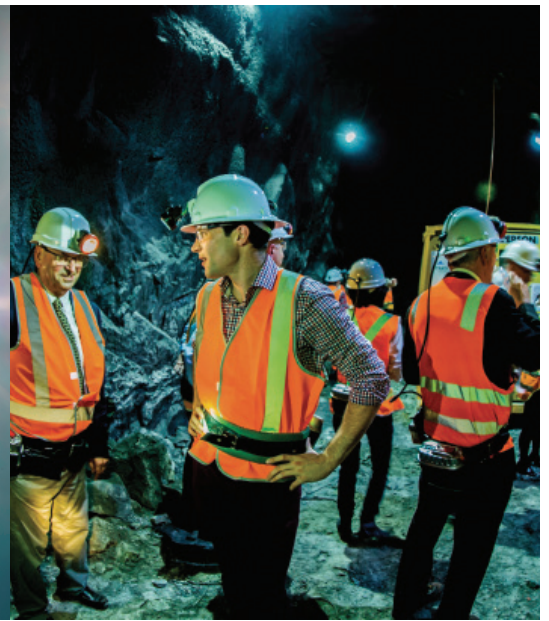
We keep our research focused so we can deliver big results. We operate in niche and developing markets, and have a reputation for innovation and excellence in applied research.

Swinburne prides itself on its collaboration with local and international industry, and how our research innovation, collaboration and excellence often results in the commercialisation of new ideas and products. At Swinburne we're committed to a sustainable future. We strive to make our activities ecologically sound, socially just and economically viable, and to ensure that they will continue to be so for future generations.

RESEARCH DEGREES

Swinburne realises that research students are a key component in driving research quality and output. We offer our research students the opportunity to participate in world-changing projects and we back our students with the right levels of funding. Many of our graduates leave Swinburne to go on to successful international careers in academia and industry. Swinburne offers research students supportive, secure and peaceful learning and research environments. We also provide state-of-the-art facilities and buildings, 24-hour late-labs, well-equipped computer labs, Wi-Fi connectivity, and careers and employment services. Research candidates are also offered extensive induction and training courses to assist them in their journey.





RESEARCH EXCELLENCE AND IMPACT

Swinburne University of Technology is an internationally recognised research-intensive university that is focused on delivering research that creates economic and social impact. Our researchers are producing innovative research solutions to real-world problems across a range of disciplines and sectors.

In 2019, Swinburne was listed in the world's top 400 of higher education institutions by the prestigious Academic Ranking of World Universities (ARWU) and we were also named one of the world's top 450 by the Times Higher Education University World Rankings and top 400 by the QS World University Rankings. We are committed to delivering world-leading research outcomes and innovations in select areas of science, engineering and technology.

Swinburne has launched a number of exciting initiatives that will drive our future research achievements. Our 'Innovation Precinct' in Hawthorn, Melbourne, is a hub of world-class research-led innovation activity, and our Research Institutes focus on big challenges facing our industries and society.

Below are our ratings in the Australian Government's Excellence in Research for Australia 2018 report.

RESEARCH STRENGTHS

Swinburne was rated 'well above world standard' for:

- Applied Mathematics
- Astronomical and Space Sciences
- Atomic, Molecular, Nuclear, Particle and Plasma Physics
- Optical Physics
- Physical Chemistry (Incl. Structural)
- Electrical and Electronic Engineering
- Neurosciences
- Nursing
- Medical Physiology
- Public Health and Health Services
- Psychology

Swinburne was also rated 'above world standard' for:

- Quantum Physics
- Analytical Chemistry
- Macromolecular and Materials Chemistry
- Theoretical and Computational Chemistry
- Microbiology
- Biomedical Engineering
- Information and Computing Sciences
- Artificial Intelligence and Image Processing
- Computer Software
- Distributed Computing
- Civil Engineering
- Materials Engineering
- Mechanical Engineering
- Technology
- Nanotechnology
- Communication Technologies
- Medical and Health Sciences
- Urban and Regional Planning
- Film, Television and Digital Media
- Communication and Media Studies

Swinburne was also rated 'at world standard' for:

- Distributed Computing
- Clinical Sciences
- Applied Economics
- Business and Management
- Marketing
- Sociology
- Biological Sciences
- Information Systems
- Built Environment and Design
- Design Practice and Management
- Specialist Studies in Education
- Economics
- Commerce, Management, Tourism and Services

- Studies in Human Society
- Law and Legal Studies
- Law
- Studies in Creative Arts and Writing
- Performing Arts and Creative Writing
- Language, Communication and Culture
- Education

RESEARCH OBJECTIVES

Swinburne's Research and Innovation Strategy outlines the following objectives, which underpin our research effort:

- Increase our capacity for sustained excellence and world-leading research in science and technology
- Drive economic and social impact through translational research and innovation
- Develop globally competitive higher degree research graduates for rewarding careers within and beyond academia
- Extend the reach, scale and reputation of our research through deep international partnerships

RESEARCH FOCUS

Swinburne's Research and Innovation Strategy outlines the following high impact outcome areas as our core areas of focus:

- Inspirational Science and Technology
- Future Manufacturing
- Sustainable Futures
- Digital Innovation
- Personal and Social Wellbeing

Above, from left to right: The Molonglo radio telescope. Professor Baohua Jia uses the smallest materials to harvest the Sun's power. Swinburne researchers Professor Jeremy Mould (left) and Associate Professor Alan Duffy inside the Stawell Underground Physics Laboratory

WORLD-CLASS FACILITIES



Centre for Quantum and Optical Science

Swinburne has access to world-class spectroscopy equipment and focuses on four research areas: Quantum Gases, Ultrafast Science, Applied Optics and Theoretical Sciences.



Neuroimaging Facility

Swinburne has state-of-the-art brain analysis equipment including Magnetic Resonance Imaging (MRI), Magnetoencephalography (MEG) (pictured) and Electroencephalography (EEG). Swinburne's MEG is the only one of its kind in the Southern Hemisphere.



Centre for Micro-Photonics

Swinburne's widely renowned Centre for Micro-Photonics is where highly skilled scientists work with industry to find solutions for big global problems. The centre's capabilities include optical data storage and an industry partnered solar program.

Swinburne Factory of the Future

For a full list of our world-class facilities please visit: www.swinburne.edu.au/research/strengths-achievements/specialist-facilities



RESEARCH DEGREES

Swinburne currently offers a wide range of research degrees.

Doctor of Philosophy (PhD)

PHD BY THESIS

The PhD by Thesis is the most popular of the doctoral programs at Swinburne, with the majority of our PhD candidates undertaking this type of PhD. Candidates complete a written research thesis equivalent to 70,000 to 100,000 words.

PHD BY ARTEFACT AND EXEGESIS

Within a PhD by Artefact and Exegesis, candidates complete an artefact – which may be a creative work, such as a novel, film, body of artistic work, a commissioned report, an invention, or another type of product. The artefact may be presented through performance, exhibition, or a written document. In addition, candidates also complete an accompanying exegesis of 20,000 to 40,000 words.

PHD BY PUBLICATION

Candidates completing a PhD by Publication incorporate a number of high-quality papers within the main body of the thesis. The term 'papers' refers to reports of research subjected to academic peer review. The thesis submitted will be equivalent to 70,000 to 100,000 words.

PHD BY PRIOR PUBLICATION

Candidates undertaking a PhD by Prior Publication, come to the program with a large body of published work. A PhD by Prior Publication will typically take two years and the examinable outcome will normally be equivalent to 70,000 to 100,000 words.

As part of the above Doctor of Philosophy programs, students will also undertake research training in the form of the Graduate Certificate of Research and Innovation Management described on page 9 of this brochure.

PHD BY PRACTICE BASED RESEARCH

The PhD by Practice Based Research is designed to support the research development of senior practitioners mainly in the fields of management and education. The PhD by Practice Based Research is currently offered in the Faculty of Business and Law, and from 2019 will be available in other discipline areas. The program is currently available to local candidates on a part-time basis only.

PHD IN CLINICAL PSYCHOLOGY

The PhD in Clinical Psychology allows candidates to undertake a series of assessed, compulsory coursework and supervised placement subjects, which are identical to those offered in the Masters of Clinical Psychology program. In addition, candidates submit a research thesis equivalent to 70,000 to 100,000 words.

PHD IN TECHNOLOGY INNOVATION

The PhD in Technology Innovation enables candidates to acquire a range of entrepreneurial skills, research expertise and innovation strategies. Candidates grouped in cohorts participate in a sequential series of classes, workshops and team-based activities. Candidates are expected to spend at least one-third of their time in an industry environment.

Professional Doctorate

A Professional Doctorate makes a significant and original contribution to professional practice and comprises up to one-third of advanced coursework. We offer a Professional Doctorate in Psychology specialising in clinical and forensic psychology. Candidates must complete a combination of assessed coursework, supervised placements and a research thesis of 40,000 to 60,000 words.

Master by Research

The Master by Research degree provides training in analysing the literature and debates in the substantive area of the thesis topic at an advanced level. Candidates will complete a research thesis of 50,000 to 60,000 words.



This course provides all-around training in clinical psychology. Experts in various fields are invited to speak at lectures, which provides an understanding from different perspectives, and the environment is conducive to learning and networking with others. Swinburne has ample facilities to meet students' study needs, as well as a vibrant student community and the convenience of shops nearby.

JIAYING

DOCTOR OF PHILOSOPHY (CLINICAL PSYCHOLOGY)



INTEGRATED PhD PROGRAM

Swinburne offers an Integrated PhD (iPhD) program in selected discipline areas. The program is a combined four-year coursework / thesis program designed for students who want to complete a higher degree by research but do not meet the usual minimum research experience requirements of entry.

In the first two years of this program you will complete units in research design, research methodology, and research planning, alongside a supervised research project in the discipline of your choice.

During the final two years of the program, you undertake further supervised research, with the aim of completing a PhD thesis. Students must submit a written research thesis consisting of 70,000 to 100,000 words. On completion of the iPhD, candidates receive two degrees: a Bachelor of Research (Honours) and a Doctor of Philosophy.

For more information about Integrated PhD programs, please visit: www.swinburne.edu.au/research/research-degrees/degrees-programs/integrated-phd



OFFSHORE PhD PROGRAMS

Swinburne's offshore PhD programs allow students who are based predominantly offshore (outside of Australia) to enrol in a Swinburne PhD. You will have access to the same supervisory support and research training as an onshore student, and will spend time in Australia as part of your program.

For more information about offshore PhD programs, including our industry embedded offshore PhD program, visit: www.swinburne.edu.au/research/research-degrees/degrees-programs/partnered-and-offshore-phd-programs/offshore/

PARTNERED PhD PROGRAM

Our Partnered PhD program allows you to complete your research degree jointly at Swinburne and at an international or Australian partner university. You will be supervised jointly by academics from Swinburne and academics from the partner university to undertake a single joint doctoral degree.

For more information about partnered PhD programs, including a list of Swinburne's current partners, visit: www.swinburne.edu.au/research/research-degrees/degrees-programs/partnered-and-offshore-phd-programs/partnered/

OUR PARTNERED PhD PROGRAMS ALLOWS YOU TO:

- Enhance your research by collaborating with national and international experts while building professional networks
- Gain valuable national and international exposure and experience in the management of global research projects
- Broaden your future employment opportunities
- Learn how to navigate different research and educational systems
- Access facilities and skills training from two research-intensive universities



RESEARCH TRAINING AND SUPPORT

Swinburne offers both formal and informal research training including a Graduate Certificate of Research and Innovation Management, seminars, workshops, training sessions, clubs and events to provide you with opportunities to develop research and writing skills and network with peers.

Opportunities include:

TRAINING

Student induction, ethics and integrity, presenting your research, thesis writing, statistics

STUDENT CLUBS

PhD Club, Swinburne Mathematics, Statistics and Informatics Society

STUDENT EVENTS

Research Conference, Three-Minute Thesis Competition

For more information visit: www.swinburne.edu.au/research/research-degrees/why-choose-swinburne/research-training-and-support

GRADUATE CERTIFICATE OF RESEARCH AND INNOVATION MANAGEMENT

Students enrolled in the PhD by Thesis will also undertake a Graduate Certificate of Research and Innovation Management (GC-RESIM). The course has been designed to enhance your experience, career prospects and employability as a PhD student through research coursework and workshops. The program also supports you to successfully complete your PhD degree, and enhances your capacity to make a significant contribution to knowledge in your chosen discipline.

There are two core units which will help you develop skills in research project management, creativity, and innovation. You will also choose two elective units from topics such as research methods, entrepreneurship, statistics, data analysis, survey sampling, research design, professional communication and industry placements. Throughout the program you will also gain exposure to industry practices in your field through coursework, mentoring and networking.

PROJECT MANAGEMENT FOR RESEARCH

INNOVATION & IMPACT IN RESEARCH

Two core units are designed to assist students in gaining confirmation of candidature.

CONFIRMATION OF CANDIDATURE

ELECTIVES

Work Integrated Learning
Teaching Pedagogies

ELECTIVES

Disiplinary Knowledge
Research Methodology

Electives will build skills in methodology, research design, communication and work placements.

SCHOLARSHIPS

Swinburne offers research scholarships each year – so if you are highly qualified and thinking about a research degree, we encourage you to apply.

There are also a number of external scholarships available to research students.

To find out more visit: www.swinburne.edu.au/research/funding-grants/scholarships



HOW TO APPLY

Follow these steps to apply for a research degree at Swinburne.

1 Decide on the research topic

Before you apply for a research degree, you will need to decide on the research area you are interested in and the project you would like to conduct. Your topic should align with one of our research outcome areas, or areas of research focus.

2 Check the entry requirements

For a complete guide to the minimum entry requirements for PhD, Master by Research and Professional Doctorates visit: www.swinburne.edu.au/research/research-degrees/degrees-programs/

International applicants are also required to meet the English language requirements as outlined below:

Minimum IELTS overall band of 6.5 (Academic Module) with no individual band below 6.0 or a TOEFL iBT (internet-based) minimum score of 79 (with a reading band no less than 18 and writing band no less than 20); or Pearson (PTE) 58 (no communicative skills less than 50) no longer than 24 months before submitting your application; or satisfactory completion of Swinburne's English for Academic Purposes (EAP) Advanced level certificate at the postgraduate level (EAP 5: PG-70%); or successful completion of a total of 24 months (full time equivalent) of formal study where the language of instruction and assessment was English at AQF level 7 or above (or equivalent) at an approved university no longer than 60 months before submitting your application; or successful completion of a degree where the language of instruction and assessment was English at AQF level 8 or above (or equivalent) at an approved university no more than 60 months prior to submitting their application for candidature.

3 Check scholarship opportunities

We offer a variety of scholarships for students of exceptional research potential. These can cover your tuition fees, provide an annual payment or allow you to study overseas on a placement. For information on our range of scholarships and external scholarship opportunities visit: www.swinburne.edu.au/research/funding-grants/scholarships

4 Find a supervisor

When you have determined your research area of interest and confirmed you have met the entry requirements we recommend you locate a supervisor for your research project.

Swinburne is more likely to provide supervision for students who are completing research in areas aligned with the university's research strengths. Your first supervisor must come from the faculty you intend to study within (there is a minimum of two academic supervisors).

To locate a suitable Swinburne supervisor use our 'Find a Researcher or Supervisor' system, available at: www.swinburne.edu.au/research/research-degrees/find-a-supervisor/

5 Submit your application

Complete and submit the relevant application form.

For more information on how to apply visit: www.swinburne.edu.au/research/research-degrees/application-process/



Swinburne research by numbers

\$229 MILLION	IN TOTAL RESEARCH INCOME 2010 – 2018	2167	SCOPUS INDEXED PUBLICATIONS in 2018 by Swinburne academics
\$39 MILLION	EXTERNAL RESEARCH INCOME IN 2018	12	DISCIPLINE AREAS RANKED AT A 5 (well above world standard) <small>2018 ERA (Excellence in Research Australia) is Australia's national research evaluation framework)</small>

Student research by numbers

1376	RESEARCH DEGREE STUDENTS ENROLLED in 2018	82	STUDENT CLUBS Available in 2018
176	RESEARCH DEGREE COMPLETIONS in 2018	\$8.8 MILLION	IN HDR STIPEND SCHOLARSHIPS IN 2018
772	ACCREDITED SWINBURNE PHD SUPERVISORS in 2018	36 TRAINING SESSIONS	FOR HDR STUDENTS in 2018

All above statistics as of August 2019

CAMPUSES

Hawthorn campus

John Street, Hawthorn

Croydon campus

12–50 Norton Road, Croydon

Wantirna campus

369 Stud Road, Wantirna

Sarawak campus

Kuching, Sarawak, Malaysia

FURTHER INFORMATION

1800 794 673 (within Australia)
+61 3 9214 5412 (worldwide)
study@swinburne.edu.au
swinburne.edu.au/researchdegrees

Graduate Studies

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