Leadership in Graduate Research Program

Making Industry Links Work in the PhD

ACGR
AUSTRALIAN COUNCIL OF GRADUATE RESEARCH

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Australian Universities Accord

26. That to improve Australia's research quality, the Australian Government strengthen the fundamentals of the Australian research system by:

a. enhancing the ARC's capacity to support fundamental research by additional investment in its programs with the allocation of the new funding to be advised on by the board of the Australian Research Council

b. setting a minimum percentage of national competitive grants that run for 5 years or longer

c. substantially increasing investment in the Research Training Program and improving the attractiveness of the program by raising minimum stipends and making part-time scholarships tax free

d. providing dedicated PhD scholarships and postdoctoral fellowships for First Nations researchers to support, broaden and grow the pipeline of First Nations researchers at Australian universities

e. ensuring that training in entrepreneurial, business, teaching and leadership skills is offered through additional qualifications in parallel with research training in preparation for careers beyond academia

f. requiring the Australian Tertiary Education Commission, with advice from the ARC and industry peak bodies, to develop a National Research Workforce Development Strategy by the end of 2026. This strategy should capture research career pathways, including higher degree by research (HDR) graduate employment pathways. It also should support national research workforce planning and facilitate pathways for HDR students into and out of universities

g. providing stable and predictable ongoing funding for the National Collaborative Research Infrastructure Strategy (NCRIS).

Australian Government commissioned the Australian Council of Learned Academies (ACOLA) to undertake a Review of Australia's Research Training System (the Review) – Nov 2016

1. Pathways to HDR training
2. Industry-university collaboration, including placements
3. Equity, including Indigenous participation
4. Quality of the HDR training system
5. Data and evidence to better monitor HDR system performance.
   TCSI, Transforming Collective Student Information
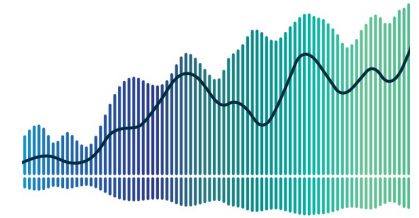   LJA, Learning Journey Analysis

Benefits

- Graduate employability
- Collaboration
- Engaged research
  - Community and industry
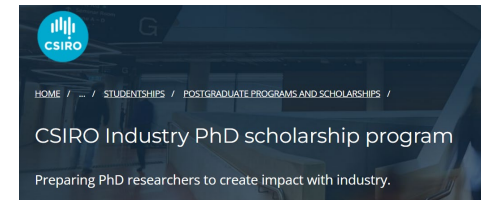- Research with impact
- Commercialisation
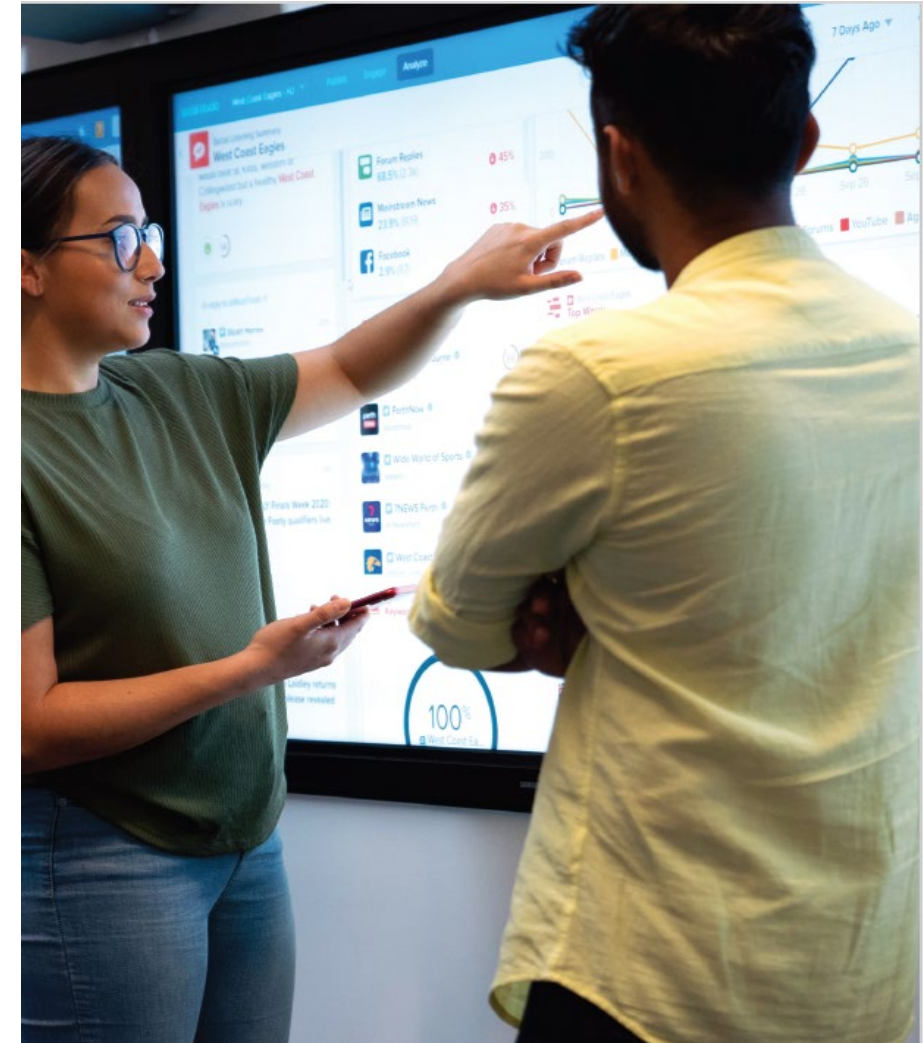
Engagement Activities

- Collaborative partnerships
  - Research co-design
  - Consultancy and contract research
- Industry HDR scholarships
  - National PhD program (1800 scholarships)
    - Scheme 1 and 2
  - CSIRO Industry PhD Scholarship Program
- Work-integrated learning placements
- HDR internships – 3 mth placement
- Co-supervision or mentorship
- Entrepreneurship
- Accelerators and incubators
  - Accelerators & incubators – gemaker

Making Industry Links Work in the PhD

Element 593: HDR end-user reporting

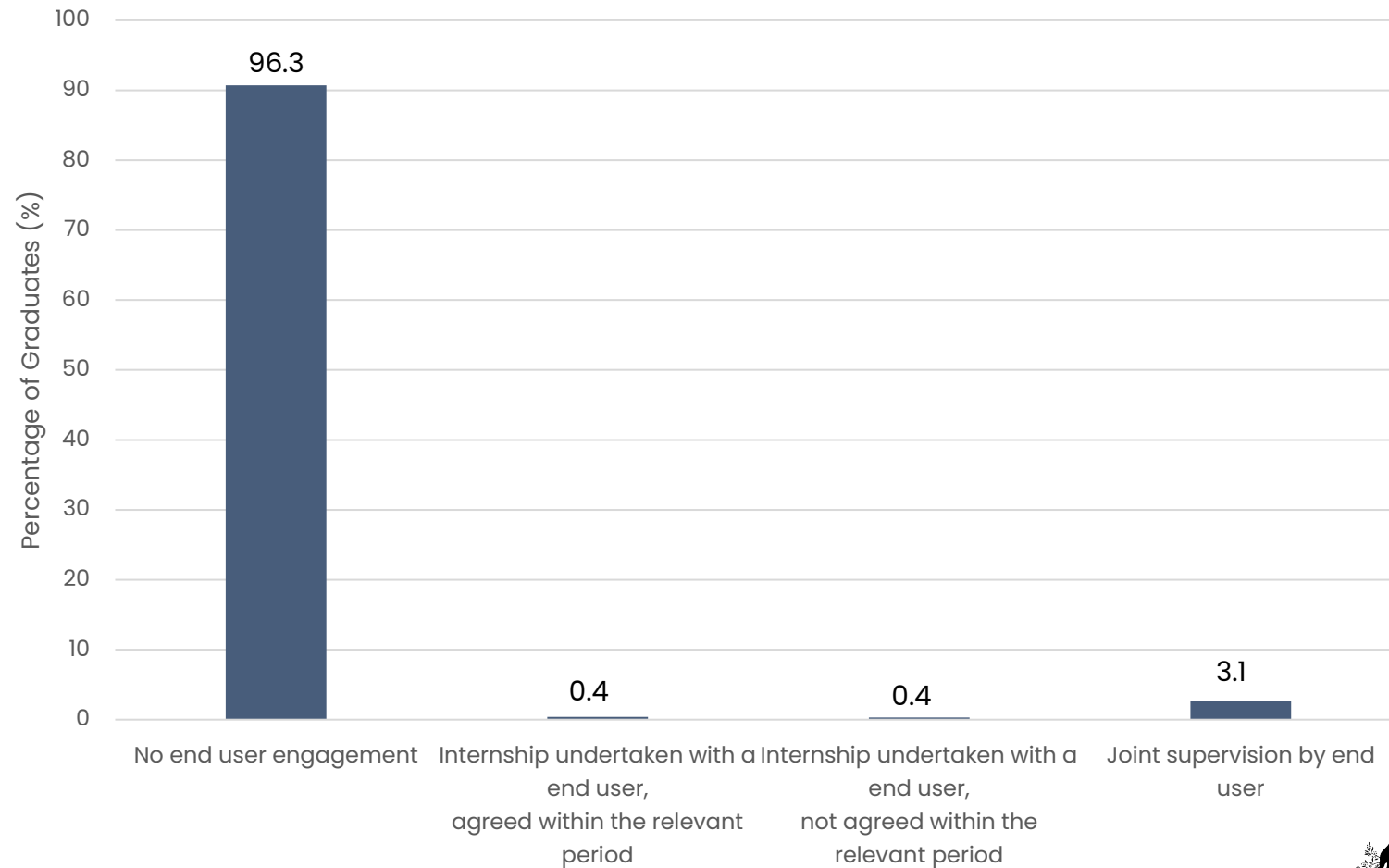| Code	Definition
01	**No engagement to report**
02	**Research internship** A temporary position with a research end-user where a student has undertaken research and development (R&D) related to their higher degree by research (HDR). A research internship must be for a period of at least 30 days, can be either paid or unpaid, and can form part of the enrolment or be undertaken during an HDR period of suspension.
03	**Jointly supervised by a research end-user** defined as an HDR student that has at least two HDR supervisors, with at least one supervisor from a research end-user organisation. The supervision arrangements must be endorsed by the HDR student's HEP and the research end-user supervisor must be actively engaged in the student's HDR.
04	**Jointly or fully funded by a research end-user** where a research end-user contributes financially to the cost of an HDR student's course of study or to other costs borne by the student during their study (such as a stipend for general living costs). The arrangement must be awarded specifically in relation to an HDR student rather than a general HEP research project that a student may be involved with.
05	**Formal training on end-user engagement** Any formal training recognised by the HEP that focusses on preparing a student for work with a research end-user. This includes intellectual property, management/leadership, collaboration, entrepreneurship, and research commercialisation. Training can be administered by a research end-user organisation or by the HEP.
06	**Other commercialisation and engagement activities** An arrangement with a research end-user that enables experiential learning related to the student's HDR. This includes practicums or performances, R&D consultancy work, R&D commercialisation work, entrepreneurship, community engagement/outreach, and research extension work either with or for a research end-user

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Element 593: HDR end-user reporting

Code	Definition
03	Jointly supervised by a research end-user
07	Research internship undertaken with a research end-user that was agreed within the relevant period
08	Research internship undertaken with a research end-user that was not agreed within the relevant period

Australian Government | TCSI TERTIARY COLLECTION OF STUDENT INFORMATION

Australian Government
Department of Education, Skills and Employment

Growing industry internships for research PhD students through the Research Training Program

Implementation paper

July 2021

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TSCI End User Reporting 2022

Graduate Outcome Survey

	Total employed
Science and mathematics	86.0
Computing and Information Systems	77.6
Engineering	85.9
Architecture and built environment	81.5
Agriculture and environmental studies	82.6
Health services and support	80.1
Medicine	80.3
Nursing	82.6
Pharmacy	92.0
Rehabilitation	80.8
Teacher education	76.1
Business and management	78.0
Humanities, culture and social sciences	74.2
Psychology	88.5
Law and paralegal studies	71.4
Creative arts	69.6
Communications	56.0
All	**80.4**

Postgraduate research graduates reporting course prepared them well or very well for current job, by study area, 2023 (%)

- Undergrad: 67.2%

- Post grad coursework 74.9%

Beyond scholarships and internships
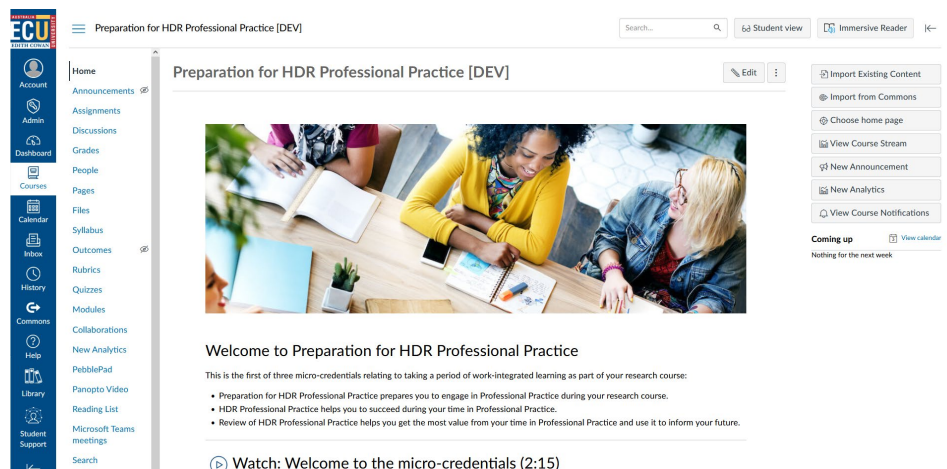
Industry Doctorate Program

The UTS Industry Doctorate Program helps organisations and professionals cultivate the expertise and deep innovative capabilities to become industry leaders.

The IDP model

Timeframe: The IDP is a 3–4 year PhD program, with agreed project deliverables back to the organisation.

Deliverables: An IDP isn't limited to a traditional thesis: it could include a variety of tangible deliverables like a patent, algorithm, policy proposal, or business model.
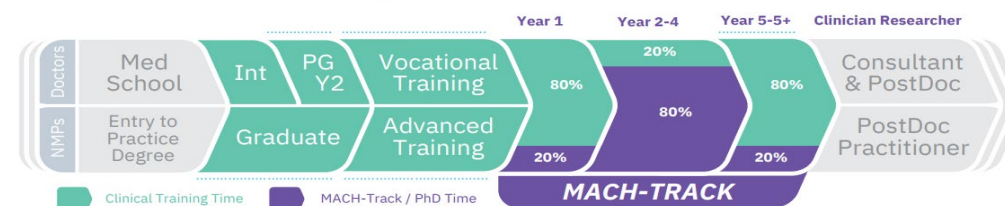
PhD Course Structure

MACH
Melbourne Academic Centre for Health

PROGRAM STRUCTURE — Five year program for doctors, nurses, midwives and physiotherapists (NMP) from February 2025

Introduction to Research
- 10 months
- 0.2FTE quarantined research time
- Flexible learning options
- Take part in research projects
- Supervision

PhD
- 3 years
- 0.8FTE quarantined research time
- 0.2FTE guaranteed clinical time
- Major research project
- UWA learning resources
- Supervision

Bridging Year
- 1 year
- 0.2FTE quarantined research time
- Support with grant and award applications
- Support publishing work
- Supervision

CAHS-PCHF-UWA-TKI Clinician Researcher PhD Pathway

Western Australian Future Health Research & Innovation Fund
GOVERNMENT OF WESTERN AUSTRALIA

Clinician Researcher Training Program 2022-23

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| Contribution (scholarship)	Pre-consultant (medical) Masters	Pre-consultant (medical) PhD	Allied Health/Nursing and Midwifery Masters	Allied Health/Nursing and Midwifery PhD
Host university (in-kind student fee offset)	$30,000 per annum full-time equivalent	$30,000 per annum full-time equivalent	$30,000 per annum full-time equivalent	$30,000 per annum full-time equivalent
Host university (stipend)	$60,000 total over 2 to 4 years	$150,000 total over 3 to 6 years	$60,000 total over 2 to 4 years	$90,000 total over 3 to 6 years
FHRI Fund CRT (stipend)	$190,000 total over 2 to 4 years, inclusive of $40,000 project costs	$225,000 total over 3 to 6 years, inclusive of $60,000 project costs	$150,000 total over 2 to 4 years, inclusive of $40,000 project costs	$225,000 total over 3 to 6 years, inclusive of $60,000 project costs
Total stipend	$250,000 total over 2 to 4 years	$375,000 total over 3 to 6 years	$210,000 total over 2 to 4 years	$315,000 total over 3 to 6 years

Graduate Attributes

Skills

Graduates at this level will have expert, specialised cognitive, technical and research skills in a discipline area to independently and systematically:

- engage in critical reflection, synthesis and evaluation
- develop, adapt and implement research methodologies to extend and redefine existing knowledge or professional practice
- disseminate and promote new insights to peers and the community
- generate original knowledge and understanding to make a substantial contribution to a discipline or area of professional practice

Recommendation: Producing new knowledge and using research capability

ensuring that training in entrepreneurial, business, teaching and leadership skills is offered through additional qualifications in parallel with research training in preparation for careers beyond academia

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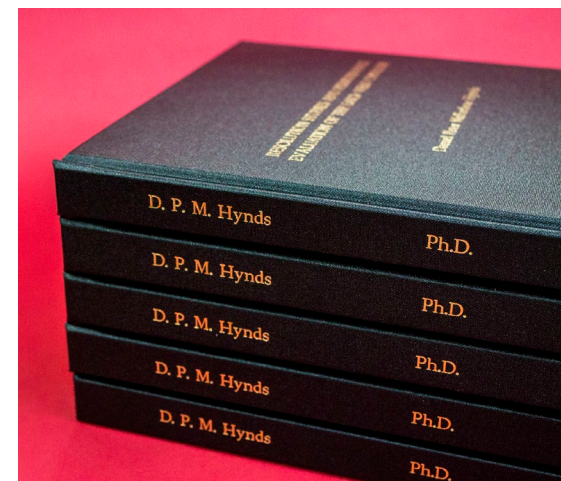
Case Study 6

A candidate has contacted you to ask for your advice on a potential 3-month paid internship during their PhD. The candidate has completed Confirmation of Candidature and commenced their course 15 months ago. The internship activity is broadly related to the candidates' area of research but will not directly result work contributing to the thesis or exegesis. The HDR candidate is an international student receiving a HDR scholarship but very keen on undertaking the activity to supplement their income.

There is currently no written agreement in place with the industry partner, but the supervisor states the industry partner are very keen. The supervisor has stated that in discussions with the industry partner they have indicated that they are currently significantly understaffed and keen on the candidate working on new project they have underway. The industry partner has indicated that if the candidate worked with them they would be willing to pay the candidate the equivalent of what they would receive for a HDR scholarship during the 3-month placement.

Discussion Questions
- What are some of the key risks for this internship?
- Who or what processes existing within your institution for managing these risks?
- What feedback may you provide to the candidate and supervisor?
- If supporting the internship, what steps could you take ensure the internship is in the best interest of the candidate and others involved?

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Case Study 7

A supervisor has contacted you regarding a PhD candidate they supervise that is currently undertaking a paid internship. The candidate is completing the internship part-time (2.5 days per week) while also enrolled in their PhD part time. The internship activity is broadly related to the candidates' area of research but will not directly result work contributing to the thesis or exegesis. The supervisor has indicated that since commencing the internship the candidate's progression on their research has drastically slowed.

In discussions with the supervisor, you have determined that the candidates HDR thesis is aligned with a larger externally funded project which has key deliverables the supervisor needs to achieve. Given this, the supervisor wishes for the student to cease the internship and focus on their PhD project. While the supervisor approved the initial internship, they have indicated that they are no longer willing to support the candidate in completing the internship and has asked if you can intervene to bring an end to the internship early.

Discussion Questions
- What could have been done differently to prevent this situation?
- What steps would you take to address this?
- Under what circumstances would you intervene to end an internship early?
- Are such conditions considered within relevant rules, policies or agreements?

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Case Study 8

You have been forwarded an email from the Principal Supervisor indicating that an industry partner has concerns regarding the progress of a research project and intend on ceasing payment. The industry funding relates to a project being led by the Principal Supervisor that, in part, support a scholarship for a PhD candidate.

In discussions with the candidate and supervisor, you discover that the candidate was aware that the scholarship was co-funded by the industry organisation. However, the candidate insists that they do not have any awareness of deliverables or expectations of the industry. Instead, they indicate that all discussions with the industry have been through the supervisor team. The HDR candidates' PhD course progression is satisfactory, but the project has deviated from the original proposed research agreed with the industry.

Discussion Questions
- What went wrong and what could have been done differently to prevent this situation?
- What steps would you take to address this situation?
- How would you address the candidates course progression and scholarship funding?
- Who or what processes existing within your institution for managing disagreements with external parties?