ARC Training Centre for
ARCHAEOLOGY IN THE RESOURCES SECTOR

ARCHAEOLOGY
CULTURAL HERITAGE
RESPONSIBLE MINING

About the ARC Training Centre for Archaeology in the Resources Sector

The Australian Research Council (ARC) Training Centre for Archaeology in the Resources Sector is a 5-year, $18m investment to transform cultural heritage management in the resources industry.

Our Purpose is to:

Train a new generation of archaeologists to carry out research that will create innovative cultural heritage management strategies and improve approaches to Indigenous engagement in the resources sector.

Use cutting-edge research to develop better survey methodologies and tools to deliver more accurate and cost-effective archaeological assessments.

Collaborate to create best-practice cultural heritage management frameworks relevant to all phases of a mine's life.

Pioneer new ways of communicating the significance of archaeology and cultural heritage to operational and executive-level decision makers in the resources sector.

Develop innovative and accredited cultural heritage management career pathways for Traditional Owners and professional development courses for the mining industry.

This PhD opportunity is offered as part of the ARC's Industrial Transformation Training Centre Program which brings together researchers and industry partners in a highly collaborative, cohort-based environment. A core aim of the Program is to support the development of a connected community of researchers and industry professionals through shared training, mentoring and engagement activities.

To enable this experience, candidates are expected to be physically based at the enrolling university for the duration of their candidature. This requirement reflects the Program's emphasis on in-person engagement, cohort development, and active participation in shared training, research activities, and industry collaboration.

Remote-only or hybrid arrangements are not available for this role.

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What we offer

- Unparalleled networking opportunities and research training within and across diverse organisations.
- Deep disciplinary expertise in archaeology enabling interaction in cultural knowledge exchange.
- Opportunities to contribute to the evolution of archaeology in the resources sector and Traditional Owners, and the broader field of social performance in mining.
- Holistic training for the next generation of archaeologists and social scientists strongly desired by employers worldwide.
- Placement with a partner organisation: A 12-month placement with a partner organisation provides practical insights and professional development.
- **Stipend $41,555** per year indexed annually for 3.5 years, tuition fees paid and assistance with project expenses.

All PhD projects are full-time. No positions are 'remote-only', candidates must be physically based at a University to ensure a 'cohort' is developed.

International applicants should be aware that unfortunately the cost of mandatory Overseas Student Health Cover is not provided by this scholarship.

How to apply

PhD applications are for a specific project must include the following:

- Cover letter addressing selection criteria
- CV
- Transcripts
- Two academic reference contact details, one of these from most recent supervisor

To apply, email PhD applications to: archaeologyittc@flinders.edu.au

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PhD projects starting in 2026

Research Program #1 – Technological adaptation and implementation

Flinders University in Adelaide

Automated Detection of Archaeological Features Using Drone Imaging (ICHDR#1 (PhD) Year 1)

This PhD project will develop and test innovative methods for automatically detecting archaeological features using drone-based photography and artificial intelligence. Focusing on the vast desert landscapes of Australia, and collaborating with our industry partners, the research will explore how high-resolution aerial imagery can be analysed using computer vision and machine learning to identify archaeological features across large survey areas.

A primary target will be the detection of stone artefact scatters, one of the most widespread and informative forms of archaeological evidence in arid Australia. The project will also investigate the automatic identification of other archaeological landscape features visible in aerial imagery.

Australia's desert regions contain extensive archaeological records but are challenging to survey using traditional ground-based methods. By developing automated detection approaches, this project aims to significantly increase the scale and efficiency of archaeological survey.

The research has the potential to transform how archaeological landscapes are identified and monitored, support improved cultural heritage management, assisting Indigenous communities in protecting cultural sites, and enabling a more effective archaeological assessment framework for industry and land disturbance activities.

Through testing multiple automated detection approaches, including advanced computer vision and machine learning techniques, the project will help establish new digital methods for large-scale archaeological survey in arid environments.

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Research Program #1 – Technological adaptation and implementation

Southern Cross University (Lismore campus)

Geochemical Provenancing of Material Culture in Arid Landscapes (SCU HDR #1 (PhD) Year 1)

This project investigates the mobility of material culture across arid zone landscapes using advanced, minimally destructive analytical techniques. Focusing on materials such as silcrete, the research will apply pXRF and LA-MC-ICPMS to characterise trace element and isotopic signatures of both geological sources and archaeological artefacts. In collaboration with Traditional Owner groups, the project will develop appropriate analytical protocols and interpretative frameworks to reconstruct patterns of material movement, exchange, and landscape use. The outcomes will provide new insights into human behaviour and connectivity, while establishing scientifically robust and culturally appropriate methods for provenance analysis in heritage contexts.

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Research Program #3 – Organisational Dynamics

The University of Queensland in Brisbane

Indigenous Rights (ICHDR#2 (PhD) Year 1)

Australia ratified the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2009. Up to this point, the *Racial Discrimination Act* (1975), the *Native Title Act* (1993), and state and federal cultural heritage legislation were the baseline legal frameworks driving compliance for industry in relation to Indigenous rights and interests, including those relating to cultural heritage.

UNDRIP considerably widens the responsibility of parties that have ratified it and Australia continues to fall short.

Of serious concern throughout Australia, and central to this PhD project, is the question of consent (FPIC) as it relates to displacement, the handling of cultural properties, damage to and pollution of lands, and the approval of projects affecting lands and resources "*particularly in connection with the development, utilization or exploitation of mineral, water or other resources"* (cf. Articles 10, 11, 28, 29, 32).

This PhD research project, based at the University of Queensland, will explore how Indigenous peoples rights feature in archaeology, social performance and cultural heritage management (CHM) policy and practice in the resources sector, and what needs to change. The researcher will undertake in-depth research with one or more of the Training Centre's industry Partner Organisations to explore how Indigenous rights and interests are understood and enacted. You will analyse what factors influence engagement with the discourse of rights at a local level and how this translates to the mobilisation of rights within industry standards and policies, and in practice.

This research has the potential to enable the mining industry to improve their performance in cultural heritage protection, respect for Indigenous peoples' rights and interests, and socially responsible mining. By addressing internal dynamics within mining companies, and power inequalities across stakeholder groups, this project will improve the take up of cultural heritage findings by operational and executive-level decision makers. This aligns with mining industry partner organisation commitments to align with UNDRIP, in turn enhancing the performance and the reputation of the Australian resources sector.

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Research Program #3 – Organisational Dynamics

The University of Queensland in Brisbane

Cultural Heritage's Presence in Decision Making (ICHDR #4 (PhD) Year 1)

In most mining companies, archaeology and other cultural heritage management (CHM) practitioners are siloed and buried within broader portfolios, leading to a lack of influence in internal decision-making.

The Juukan Gorge parliamentary inquiry revealed convergent failures. In the first place, Western Australia's *Aboriginal Heritage Act* (1972) provided for archaeological investigation only as site clearance and prevented the legal reappraisal of the status of a culturally rich site once the archaeology brought this to light. In the second, Rio Tinto's organisational structure was such that a disconnect arose between the level of management commissioning the archaeological work – and who publicly showcased the highly significant findings as soon as they were made – and the executives making decisions about mining some six years later.

This meant critical archaeological knowledge had no direct influence on the final decision to destroy the site. It is also the case that Rio Tinto's decision-makers were not sensitised to knowledge of CHM and/or had failed to properly embed this in their operating procedures. Across the industry, mining companies have made important commitments to Indigenous peoples' rights, but many mining professionals are not well positioned to understand the significance of Indigenous cultural heritage and positively influence its protection. Inequitable power dynamics between the social and physical sciences (e.g. archaeology and engineering) exacerbate this problem.

A core question this PhD research project will explore is how archaeological and cultural heritage knowledge influences capital investment decisions in the resources sector. Based at the University of Queensland you will undertake in-depth research with the Training Centre's industry Partner Organisations to explore how the organisational ecosystem within which CHM is practiced influences decisions. This will also include the organisational and political ecosystem of Indigenous organisations, and the constraints and challenges that they are operating within.

The research has the potential to reform the organisational ecosystem within which CHM is practiced in the Australian resources sector and ensure that CHM is integral to the mining industries 'core business' and to establish a more equitable operating environment.

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Research Program #4 – Knowledge Systems and Two-way Learning

Southern Cross University (Lismore campus)

Co-Designing Indigenous-Led Training Models in Cultural Heritage Science and Practice (ICHDR #3 (PhD) Year 1)

This project develops and evaluates new models for Indigenous-led training in archaeology and cultural heritage science, with a focus on building pathways into analytical and industry-relevant practice. Moving beyond descriptive review, the research will combine national-level data analysis with targeted case studies to co-design training approaches with Indigenous communities. It will examine how pedagogical structures, recognition of prior learning, and culturally appropriate assessment can be integrated with scientific skill development, including exposure to analytical techniques and field-based data collection. The project will produce a validated training framework that supports increased participation of Indigenous students and strengthens the integration of cultural knowledge and scientific approaches within heritage practice.