



Call for PhD Candidates

PhD position on passive acoustic monitoring (PAM) to monitor freshwater restoration.

Project Description

This PhD will contribute to the development and application of next-generation biodiversity monitoring systems using passive acoustic monitoring (PAM) and artificial intelligence. The project may involve the deployment of acoustic sensors across freshwater ecosystems, including wetlands, rivers, lakes, reservoirs, wastewater lagoons, aquaculture ponds, and farm dams.

Potential research topics include:

Biodiversity Monitoring

- Designing and implementing acoustic monitoring programs to assess biodiversity across freshwater ecosystems.
- Investigating ecological responses to restoration, management interventions, or environmental change.
- Monitoring temporal and spatial patterns in frogs, birds, bats, and other vocalising fauna.

Artificial Intelligence & Bioacoustics

- Developing, training, and validating AI models for automated species detection and classification.
- Improving the performance of existing acoustic classifiers through data augmentation, transfer learning, and model optimisation.
- Evaluating uncertainty, bias, and detection accuracy in automated biodiversity assessments.

Ecological Applications

- Using acoustic datasets to address ecological questions related to biodiversity conservation, ecosystem restoration, species distributions, habitat quality, and climate resilience.
- Exploring relationships between acoustic indicators, environmental conditions, and ecosystem health.
- Developing novel biodiversity metrics derived from soundscape data.

Data Science & Environmental Analytics

- Managing and analysing large-scale acoustic datasets using R, Python, and cloud-based workflows.
- Integrating acoustic monitoring with complementary approaches such as remote sensing, environmental DNA (eDNA), and environmental sensors.
- Developing decision-support tools and monitoring frameworks for environmental management and policy.

RMIT's Centre for Nature Positive Solutions

RMIT's Centre for Nature Positive Solutions (CNPS) is a multi-disciplinary team with a proven track record of conducting impactful research that addresses the world's most pressing environmental challenges, including climate change, pollution, and biodiversity loss. Grounded in cutting-edge science, CNPS focuses on innovative research that transforms the conservation, restoration, and management of ecosystems, ensuring a sustainable future where both people and nature can thrive. CNPS develops solutions that mitigate climate change, protect aquatic biodiversity, foster economic growth, and promote capacity building and community wellbeing.

With a dynamic team of 18 researchers at RMIT University, we collaborate globally to provide actionable guidance and solutions that empower communities, industries, and governments. Our core team has over 50 years of collective research experience, with expertise in ecology, biogeochemistry, microbiology, environmental economics, remote sensing, social science, mapping, and modelling. CNPS includes internationally recognised researchers with more than 300 peer-reviewed publications.

Supervisor

Dr Martino Malerba is a Senior Lecturer and ARC DECRA Fellow at RMIT, where he leads research on nature-based solutions to improve the sustainability of freshwater systems. His work focuses on enhancing farm dams, wetlands, and other freshwater systems to boost biodiversity, reduce greenhouse gas emissions, and improve water quality and security, helping rural landscapes adapt to a changing climate.

Location

RMIT University is based in Melbourne, Australia, with campuses located both in the City or Bundoora.

RMIT Scholarship information

Scholarships are required to complete a PhD in Australia. **Competitive RMIT Scholarship** rounds open annually in June and are available for domestic and international applicants. Successful candidates may receive a stipend (approx. AUD \$36,000 per year), tuition fee support for up to 3.5 years, and Overseas Student Health Cover (subject to eligibility).

Candidate Skillset

We encourage applications from individuals with strong communication skills, demonstrated capacity for independent research, and a genuine interest in making a real-world impact through applied research.

A strong CV for this competitive scholarship scheme may include:

- A Master's or Honours degree in a similar field.
- First-authored publication in a peer-reviewed scientific journal.
- Good communication skills.
- Demonstrated ability to work independently

How to apply?

Interested applicants are invited to email **Dr Martino Malerba** (martino.malerba@rmit.edu.au), if they meet the following [PhD eligibility criteria](#).

Please include:

- A short cover letter (max 1-page) outlining your research interests and experience
- A detailed CV and contact details for two academic referees
- Academic transcript(s)

Application Deadline

Applications will be reviewed on a rolling basis until **31 July 2026 for International Students** and **31 August 2026 for Domestic Students**.

International Students	Domestic Students
EOI Deadline: August 30, 2026 Full Application: September 30, 2026	EOI Deadline: September 30, 2026 Full Application: October 30, 2026