Macquarie’s biological sciences research is world leading. In the Excellence in Research for Australia (ERA) 2012 evaluation our biological sciences research received a rating of ‘performance above world standard’.

Macquarie is also the number 1 university in Australia in environmental sciences and ecology research. This places the University alongside Princeton University, Stanford University, NASA and the Smithsonian Institute in terms of the international impact of our environmental and ecological research.

Our research strengths are concentrated in the areas of ecology, evolutionary biology, genetics, microbiology, plant biology and zoology, and a significant theme is international networking that builds world-scale research collaborations.

We are home to Australian Laureate Fellows, Future fellows, QE2 Fellows, Super science fellows, NHMRC Fellows, and International Research Fellows, as well as Young tall poppy science award winners, a NSW scientist of the year award winner, and Eureka prize winners.

As an HDR candidate you will be part of a large and vibrant community of research students and will have the opportunity to conduct research alongside some of the world’s best scholars whose research continually pushes the boundaries of knowledge.
Highlights

- In the Excellence in Research for Australia (ERA) 2012 evaluation the sub-discipline of evolutionary biology received a rating of ‘performance well above world standard’, and the sub-disciplines of ecology, microbiology, and plant biology received a rating of ‘performance above world standard’.

- Our researchers enjoy high visibility in prominent journals such as Science, Nature and Proceedings of the National Academy of Sciences (USA). Additionally, research into lungfish, social lizards, orchid pollination by pseudocopulation, sexual cannibalism, spider web design, tool use by fish, early animal evolution, and polymorphic Gouldian finches enjoys wide media coverage.

Support

HDR candidates are provided with strong academic and administrative support. This includes:

- Annual HDR conference at which candidates present research results and receive detailed feedback from staff and peers. Progress is monitored via formal interviews from a panel of academics
- Commencement and completion programs
- Conference travel schemes
- Discipline-specific research training units, including workshops in research communication, presentation skills, academic writing skills, thesis planning, and poster preparation
- Genes to Geoscience Research Enrichment Program
- Office space and library access
- Progress and direction are closely monitored by experienced supervisors and a postgraduate committee
- Research budget for project costs
- Top-up scholarships from industry

Research leaders

Macquarie is home to many internationally renowned researchers, including:

Professor Mark Westoby was one of 15 researchers nationwide to receive a coveted Australian Laureate Fellowship in 2010. His research interests lie in the fields of ecology and evolution, mainly of plants. He has published over 250 scientific papers, is a Fellow of the Australian Academy of Science, and leads the cross-disciplinary Genes to Geoscience Research Centre. More than forty students or postdocs from his lab have won continuing positions in universities or in CSIRO or similar research agencies.

Professor Lesley Hughes works on the potential impacts of climate change on species and ecosystems. She is a lead author on the Intergovernmental Panel on Climate Change (IPCC), the Australian Representative on the United Nations Convention on Biological Diversity, an appointment member of the Australian Federal Climate Commission, and the co-director of Macquarie’s Climate Futures Research Centre.

Associate Professor Culum Brown’s research expertise is primarily in fish biology and behaviour, with a focus on learning and memory. His research investigates the evolution of cerebral lateralisation, social learning life-skills training in hatchery fish, and the use of tools by fish. He holds a Young Researcher Award from the Australian Academy of Science and a NSW Young Tall Poppy Science Award.