

STANDARD TEACHING AND RESEARCH POSITION DESCRIPTION



Position	Principal Research Fellow
Level/ Classification	ACAPD
Reports to	Director, Centre for Crop and Food Innovation, and Director, WA State Agricultural Biotechnology Centre
Division	Centre for Crop and Food Innovation / State Agricultural Biotechnology Centre
College	Food Futures Institute

Position Purpose

The purpose of this position is to provide strategic scientific leadership in genomics, functional genomics, molecular breeding and AI-enabled crop improvement across wheat, pulse and horticultural crop research programs within the Centre for Crop and Food Innovation (CCFI) and the State Agricultural Biotechnology Centre (SABC). The appointee will develop and lead internationally recognised research programs that integrate advanced genomics, phenomics, bioinformatics and artificial intelligence to accelerate crop improvement and enhance agricultural productivity, sustainability and climate resilience.

The position will establish and lead multidisciplinary research initiatives spanning laboratory, glasshouse, controlled-environment and multi-location field research, while fostering strategic partnerships with industry, government and international collaborators. The successful candidate will drive the development of innovative genomic resources, digital breeding platforms and translational research outcomes that support Australian agriculture and global food security.

The appointee will provide academic leadership through the supervision and mentoring of Higher Degree by Research (HDR) students, postdoctoral researchers and academic staff, secure major competitive research funding, publish internationally recognised research outputs, and play a key role in the strategic growth and international reputation of CCFI and Murdoch University.

About Murdoch University

Murdoch University is a young and dynamic university with a foundational commitment to the environment, social justice and inclusion, and making education accessible to more people. Founded as Western Australia's second university in 1974, today, Murdoch has more than 21,000 students and 1,700 staff across campuses in Perth, Singapore and Dubai. With more than 90,000 Alumni, Murdoch graduates can be found all over the world, making a positive difference.

Our Strategy – Ngala Kwop Bididi. Building a brighter future, together – guides the University's direction and reaffirms our shared purpose to change lives and society for the better through accessible education and research.

The Strategy is focused on three key themes:

- Sustainability: Be a leading university in education, teaching and translational research in sustainability.
- Equity, Diversity, and Inclusion: Build a welcoming, diverse and inclusive community.
- First Nations: Become the University of first choice for First Nations peoples.

Murdoch is also committed to building engagement with our local community, State, nation, and global society with a track-record in creating strong partnerships with business, government and industry.

About the Work Area

The Food Futures Institute is one of Murdoch University's research institutes, working to provide solutions on the sustainable use of limited land and water resources to economically and ethically improve food, forestry and fibre production. The incumbent of this position will be located in the Centre for Crop and Food Innovation, and State Agricultural Biotechnology Centre within the Food Futures Institute.

The Centre for Crop and Food Innovation represents a collaboration of academic research staff working with industry partners to provide both strength and depth in research on major broadacre and horticultural crops to improve yield, quality and enhance tolerance and protection from biological and environmental stresses. Centre for Crop and Food Innovation comprises a team of academic and research staff and over 50 current HDR students and is ideally placed to capitalise on new technologies and investments in crop agriculture.

The State Agricultural Biotechnology is the collaborative university Centre for R&D in agricultural and veterinary biotechnology in Western Australia. It provides platform technologies and world class equipment and facilities for R&D in agricultural biotechnology to researchers from universities, state government and industry. At any time 15-20 research groups and companies rent space and use the State Agricultural Biotechnology facilities. The State Agricultural Biotechnology is well resourced with research and teaching facilities, and hosts a number of research groups and centres across the disciplines of:

- Agricultural Sciences,
- Environmental and Conservation Sciences,
- Molecular and Biomedical Sciences and
- Murdoch University College of Veterinary Medicine.

Reporting Relationships



Key Responsibilities / Duties

1. Provide strategic leadership in the development and implementation of internationally recognised research programs in plant genomics, functional genomics, molecular breeding, artificial intelligence and digital agriculture across wheat, pulse and horticultural crop systems.
2. Establish, lead and manage multidisciplinary research teams to deliver innovative research outcomes that address national and global challenges in crop improvement, sustainable agriculture and food security.
3. Develop long-term research strategies aligned with the University's priorities and national agricultural research agendas.
4. Lead the design and implementation of complex laboratory, glasshouse, controlled-environment and multi-location field experiments integrating genomics, phenomics, breeding and digital technologies.
5. Lead the development and application of advanced sequencing technologies, pangenomics, functional genomics, quantitative genetics, bioinformatics and AI-enabled analytical approaches to accelerate genetic gain and crop improvement.

6. Translate research discoveries into breeding applications through strong -- with breeding companies, government agencies and industry stakeholders.
7. Lead the development of major national and international competitive research funding applications and industry partnerships.
8. Build and maintain strategic collaborations with universities, government agencies, industry, CGIAR centres and international research organisations.
9. Contribute to the strategic growth, sustainability and international reputation of CCFI and SABC through research leadership and stakeholder engagement.
10. Produce internationally recognised research outputs through publication in leading peer-reviewed journals, invited keynote presentations, patents, industry reports and knowledge translation activities.
11. Promote the adoption of research outcomes by industry and government through engagement, outreach and commercialisation activities where appropriate.
12. Provide academic leadership and mentorship to academic staff, research fellows, postdoctoral researchers, technical staff and Higher Degree by Research (HDR) students.
13. Foster an inclusive, collaborative and high-performing research culture that supports innovation, career development and research excellence.
14. Provide leadership in Centre and University committees and contribute to national and international professional organisations.
15. Undertake other duties consistent with the classification of an Associate Professor (Level D).

Selection Criteria

Essential

1. A PhD in Plant Science, Plant Genetics, Plant Breeding, Genomics, Agricultural Biotechnology or a closely related discipline.
2. An established national and international reputation in plant genomics, functional genomics, molecular breeding, quantitative genetics, or related disciplines, demonstrated through an outstanding publication record and recognised research impact.
3. Demonstrated ability to develop, lead and deliver internationally competitive research programs that have generated significant scientific, industry and societal impact.
4. A strong track record of successfully securing and leading major competitive research funding from government, industry and international funding agencies.
5. Demonstrated expertise in Plant genomics, Functional genomics, Molecular breeding, Quantitative genetics, High-throughput sequencing technologies Artificial intelligence and digital technologies for crop improvement, Translational breeding and pre-breeding

6. Demonstrated experience leading multidisciplinary and multi-institutional research teams across national and international collaborations.
7. Demonstrated success in supervising Higher Degree by Research students, postdoctoral researchers, early-career academics and research staff, with evidence of successful career development outcomes.
8. Demonstrated ability to provide strategic academic leadership and contribute to institutional planning, governance and research capacity building.
9. Demonstrated ability to establish productive collaborations with universities, industry, government agencies and international organisations that have resulted in significant research outcomes.
10. Outstanding written and verbal communication skills, including an internationally recognised publication record, invited presentations, grant writing and stakeholder engagement.
11. Demonstrated commitment to equity, diversity, inclusion, research integrity and the highest standards of academic leadership.

Desirable

- Experience leading large-scale genomics and crop improvement programs across cereal, pulses and horticultural crops.
- Experience with digital agriculture, AI-assisted breeding, genomic selection, speed breeding and precision phenotyping.
- Experience establishing or leading national research infrastructure and collaborative research networks.
- Evidence of leadership in national or international scientific societies, advisory committees or editorial boards.

Work Requirements

1. Ability to work outside of normal office hours when required.
2. Australian residency or possession of a valid visa with work entitlement in Australia.

Probationary Review

This position may be subject to a probationary period, during which time the academic staff member is required to meet set probationary objectives and pass a probationary review. Probationary objectives are set following appointment to the position and confirmed at the first Academic Contribution Development Review (ACDR).

General Obligations

While at work, an employee must:

- take reasonable care for their own health and safety and ensure that their acts or omissions do not adversely affect the health and safety of other persons;
- report incidents, injuries and hazards;
- comply with any reasonable instruction that is given by Murdoch University; and

- comply with Murdoch University policies and procedures.

Academic Career Framework

Murdoch University's Academic Career Framework provides a transparent, equitable and consistent approach to probation and promotion as well as outcome and workload expectations. Please refer to the Murdoch University Academic Career Framework for performance criteria and expectations for all academic positions.

Guiding Principles and Values / Code of Ethics and Code of Conduct

Our Values

- Authenticity
- Integrity
- Respect
- Inclusivity
- Openness

Our Principles

- Act with justice, respect and responsible care.
- Be collegiate and respectful of other points of view.
- Protect academic freedom.
- Be agile, flexible and resilient.
- Make decisions at the most appropriate level.
- Be transparent in decision-making and with information.
- Adopt common approaches to common tasks.
- Be careful stewards of our resources.

All staff will comply with the University's Code of Ethics and Code of Conduct and demonstrate a commitment to its Equity, Diversity and Safety principles and the general capabilities of personal effectiveness, working collaboratively and demonstrating a focus on results.

All Staff complete a Development Review Annually. A Commencing Development Review should be completed within 3 months of commencement.

We acknowledge that Murdoch University is situated on the lands of the Whadjuk and Binjareb Noongar people. We pay our respects to their enduring and dynamic culture and the leadership of Noongar elders past and present. The boodjar (country) on which Murdoch University is located has, for thousands of years, been a place of learning. We at Murdoch University are proud to continue this long tradition.