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2023 PhD research opportunities

Seeking the brightest graduates to advance your career in industry supported world-class bioscience research

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The successful candidates will receive:

- A \$35,000 p.a (tax-free) scholarship up to three and a half years
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The research projects is based at AgriBio, the Centre for AgriBiosciences, Melbourne Australia

Successful applicants must meet the La Trobe University entry requirements for a Doctor of Philosophy degree.

Check your eligibility here:

https://www.latrobe.edu.au/study/apply/ research/doctor

For enquiries and to apply, please forward a covering letter, your curriculum vitae (please include evidence of research writing) and academic transcripts to:

Kendra Whiteman Higher Education Manager

Agriculture Victoria Research kendra.whiteman@agriculture.vic.gov.au

Closing date for applications:

until filled



GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION



Current Projects:

Plant pathogen diagnostics and surveillance using High Throughput Sequencing (HTS) and metagenomics approaches for endemic and exotic pathogens of grain crops.

Understanding the population genomics of pathogens, both outside Australia (exotic) and within Australia (endemic) has become increasingly important in controlling disease outbreaks. Through Agriculture Victoria, the Grains Research and Development Council (GRDC) is funding a PhD project to understand the genomics of **Botrytis spp.** with reference to *Botrytis cinerea* that infects pulse grains industry. This project will involve developing and applying genomics resources, to enable diagnostics and biosurveillance capabilities for these fungal pathogens.

PhD Project Aims -

- Generate and analyse genomic resources of endemic isolates (e.g. genome sequences, transcriptome sequences)
- Determining the pathogen diversity through in silico genome analysis using the self-generated sequences and publicly available pathogen genomic sequences
- Explore the relationship of endemic isolates to the exotic isolates to enable diagnostic development
- Identify and validate bar code(s) sequence(s) to support accurate and robust detection of target fungal pathogens
- Explore the use of these barcodes in fungal spore traps for disease surveillance

The PhD student will characterise isolates of key pathogen species at the morphological and genomic level, build a reference database of trusted genome sequences of pathogen species, trial optimal trapping methods for pathogens and demonstrate metabarcoding as a surveillance tool for these pathogens.

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