2023
PhD research opportunities

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

Apply today

The successful candidates will receive:

- A $35,000 p.a (tax-free) scholarship up to three and a half years
- Training in Australia's first integrated agricultural systems biology research centre, AgriBio
- Professional development programs
- International travel opportunities

The research project 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

Maximise the value of new surveillance approaches for industry, through improving quantification of pests and interpretability of data to end-users

Understanding the distribution and abundance of insect pests and their associated pathogens is of critical importance for on-farm and area wide management of pest and disease outbreaks. Recent breakthroughs in high-throughput sequencing (HTS) based metabarcoding and metagenomics approaches have provided powerful tools for species-level identification of pests and pathogens, enabling rapid detection and response to new threats.

This GRDC supported PhD project will develop new laboratory and data analysis approaches that leverage cutting-edge advancements in HTS, genomics, image analysis, and machine learning. The scope of this project may include:

- Identifying and optimizing suitable molecular markers (barcodes) for pest insects.
- Developing statistical correction factors to account for quantitative biases.
- Exploring the integration of data from complementary approaches.
- Integrating the metabarcoding/ metagenomics data with other environmental data (e.g., weather, landscape factors).
- Developing innovative bioinformatic approaches to analyse, interpret, and communicate the complex datasets generated by HTS surveillance.

This project will shape the future of pest surveillance in the grains industry. Through collaboration with a diverse team of researchers, applied entomologists, and industry end-users the student will receive comprehensive training, access to cutting-edge techniques and skills that are in high demand within academia and industry.