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 **$37,000** p.a. (2025 rate) (tax-free) scholarship up to three and a half years.
- International travel opportunities up to **$6000**.
- Assistance with relocation costs up to **$2000**.
- Access to state-of-the-art technologies.
- Professional development programs.

Based at Ellinbank SmartFarm and AgriBio, the Centre for AgriBiosciences, Melbourne

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.

PhD Dairy Feedbase research program:

Investigating the ability of commercial on-cow sensors to predict feeding behaviours of grazing dairy cows.

To compare the data collected with commercial on-cow sensors with data collected from devices that can detect individual jaw movements. This project will also investigate parameters that could be used as inputs for models that aim to estimate individual cow dry matter intake.

Body condition score and liveweight change as an indicator of cow resilience

This PhD will investigate if variation in body condition score and liveweight of dairy cows during lactation can provide an indication of overall resilience. Whether the pattern of body condition score and liveweight change is consistent for individual cows from year to year and how this relates to resilience would also be examined. The project may also explore if automated recording of body condition score has potential as a proxy measure for genomic breeding values

Improving the selection of phenotyping sensors used for dairy forage trait prediction

To develop novel analysis strategies for spectral data that will enable current and future dairy forage research to test the suitability of new sensors to identify important traits in forages with a reduced calibration burden, improve research outcomes and transferability, and achieve this more efficiently.

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Animal behaviour and stress response of first lactation cows

This PhD will compare stress and behavioural responses of first lactation cows under different strategies aimed at minimizing hierarchical social stress and reducing competition with mature cows, while also helping to decrease competition for high-quality pasture. Indicators such as activity, rumination time, restlessness within the dairy, body condition score, body weight, health events, stress markers could also be investigated in this project with the ultimate aim of increasing the proportion of cows that reach their second lactation.

Exploring the use of nutrition models or decision support tools to develop feeding strategies for grazing dairy cows that optimise individual nutrient intake

Pasture is the largest component of the diet of dairy cows in south-east Australia, but its availability and nutrient concentrations vary across the year and within grazing events. This PhD will investigate the use of nutrition models or decision support tools to enhance nutrient intake in such grazing systems using information collected from multiple sensors that measure pasture and animal parameters.

Monitoring methane emissions from dairy cows using sensors

This project aims to uncover new methods to model and monitor methane emissions over time, using measures of methane concentration in cow's breath. In-depth exploration of sensor-based data will be used to develop a deeper understanding of change in methane emissions over time, due to factors such as stage of lactation, diet composition or genetics.

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