October, 2024

Post-Doctoral Fellow (PDF) Position (Available Immediately)

The **Centre for Nutrition Modelling (CNM)** within the Animal Biosciences Department at the University of Guelph (Guelph, ON), in partnership with the **Animal Nutrition and Environment Modeling Laboratory (ANEMAL)** lab at UC Davis, seeks PDF applicants for the project entitled:

'*Modelling the impact of feeding strategies and genetics using a life cycle assessment approach*'.

Project Summary:

This project is part of a larger project entitled '*Leveraging Genomics to Achieve Dairy net Zero*' funded by Genome Canada. Previous research has outlined potential genetic, nutritional and management strategies for GHG mitigation, but no studies have quantified the impact of their combination using Life Cycle Analysis (LCA) and gene flow modelling. The overall objective of this project is to develop scientific protocols that quantify the impact and uncertainty surrounding GHG mitigation strategies (genetics, nutrition and management). The specific objectives include: (1) estimation of individual animal and herd level GHG emissions; (2) quantification of individual animal and herd level benefits and reductions in GHG emissions possible through genetic selection; (3) quantification of individual animal and herd level benefits and reductions in GHG emissions through implementation of nutrition and management strategies; (4) analysis of the total reduction achieved by combining genetic, nutrition and management mitigation strategies, including their combination and interactions. This project will employ Life Cycle Assessment (LCA) analysis to quantify GHG, economic and other outcomes of the mitigation strategies examined in other work packages, and the analysis will include a breakdown of the total cost of each mitigation method, as well as the combined methods, towards the dairy industry's stated goal of climate neutrality.

Main Duties and Responsibilities:

- Data collection of impact of feeding strategies and genetics on GHG emissions from the literature,
- Life cycle analysis of dairy production systems under varying genetic and management (nutrition) scenarios,
- Work with the rest of the project team and help integrate results into other activities,
- Dissemination of results through peer-reviewed publications, project reports and conference presentations,
- Other duties as defined by the principal investigator.

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Skills/Qualifications:

A PhD degree with Quantitative (systems) modeling experience, IT Skills, Statistics/Mathematics training, Life cycle assessment experience, Ruminant nutrition (desirable), Capable of conducting unsupervised work, and demonstrating initiative.

The University of Guelph is committed to equity in its policies, practices, and programs, supports diversity in its teaching, learning and work environments, and ensures that applications for members of underrepresented groups are seriously considered under its employment equity policy. All qualified individuals who would contribute to the further diversification of our University community are encouraged to apply (People are also encouraged to self-identify as a member of one of these groups).

Position Details:

3-year position, salary starting at $74,000/year (CAD) + 2% raise/year + benefits.

Qualified candidates should send their **CV, transcript and two references** to:

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