



PhD Opportunities in Smart & Digital Agriculture

Position Description Dr. Jiating Li's research group at the [Department of Biosystems Engineering, University of Manitoba](#) is seeking **1-2** highly motivated **PhD** students. Successful candidates will receive **full stipend support** and work in an interdisciplinary team to advance smart and digital agriculture. Research opportunities are available in one or more of the following areas:

- Sensing system: Develop integrated ground-aerial platforms (e.g., drones, robots, IoTs) for high-throughput and scalable crop monitoring
- Data modeling: Advance knowledge-guided machine learning by integrating AI with physics-based models for robust crop prediction
- Decision support: Develop intelligent decision-making platforms for precision crop management (e.g., fertilization, irrigation, harvesting).

Minimum Qualifications

- Master's degree in Agricultural and Biological Engineering, Biosystems Engineering, Computers and Electrical Engineering, Computer Science, Mechanical Engineering, or other related fields.
- Meet the [minimum admission and English language requirements of the Faculty of Graduate Studies](#).

Preferred Qualifications

- Knowledge of agricultural/crop production systems.
- Programming skills in Python, R, Matlab, C++, etc.
- Machine learning and deep learning.
- Physics/Process-based models (e.g., radiative transfer model, crop growth model, climate model).
- Multi-modal sensing (e.g., optical, thermal, environmental, 2D/3D data).
- Mechatronics and robotics (e.g., mechanical design, ROS).
- Records of previous scientific publications.

About the University The University of Manitoba is a member of the U15 Group of Canadian Research Universities and one of Canada's leading research-intensive institutions. With over 145 years of history, it has established strengths in agriculture, engineering, health, and many other fields. The Faculty of Agriculture and Food Sciences is internationally recognized and ranked 2nd in Canada in the 2024 Shanghai Global Ranking of Academic Subjects. Learn more at <https://umanitoba.ca/about-um/facts-figures>

Application Process

- Best Consideration Date: **May 20, 2026** (Online interviews for shortlisted candidates will be around the first week of June)
- Start date: January 2027
- Open Until Filled: Yes

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learn more about my lab:



Interested applicants should send the following to Dr. Li (jiating.li@umanitoba.ca): (1) Curriculum Vitae, (2) Brief statement of intent (2-page maximum), (3) Copies of all post-secondary transcripts, and (4) A sample of publication (if available). Please understand that only shortlisted candidates will be contacted due to the large volume of applications.