

Plant Agriculture: MSc, PhD

Plants provide food, raw materials, and a healthy environment, and are the cornerstone for life on earth. Plant Science is key to understanding and enhancing plant life. Research in the Department of Plant Agriculture is divided into four areas: Plant Biochemistry and Physiology, Plant Breeding and Genetics, Crop Production Systems, and Bioproducts.

uoguelph.ca/PlantAgMScPhD

Program

Plant Agriculture is strongly rooted in crop science and horticultural science but we now encompass applied bioinformatics; molecular genetics; genomics; field, horticultural and greenhouse crops; plant breeding; turf and grassland studies; environmental sustainability; weed science/ecology; and the use of plant materials for health, fibres and industrial products. Furthermore, we recognize that society's expectations of agriculture are changing to include a wide range of health and environmental services such as producing food with nutraceuticals, protecting biodiversity, mitigating climate change and providing alternative energy sources.

Admission Requirements

As a part of the application package, applicants are required to secure a faculty advisor to supervise their program.

- The MSc requires a Baccalaureate degree in an honours plant science/ biology program, or equivalent, from a recognized university or college with at least a B average over the last two years of full-time study (or equivalent).
- The PhD requires a MSc degree by thesis in a field appropriate to the proposed area of specialization with a minimum B average.



We offer an interdisciplinary research environment in modern, well-equipped laboratories and research stations to provide excellence in graduate education and training.

Research Fields

- Plant Biochemistry & Physiology
- Plant Breeding & Genetics
- Crop Production Systems
- Bioproducts

Our Faculty

Faculty have modern labs with state-of-the-art equipment and access to controlled environment growth facilities and numerous field sites distributed over Ontario. Faculty are located on four campuses affording a variety of opportunities and experiences for our students. Our faculty are internationally recognized as leaders in their scholarly activities. Support for research is obtained from a variety of sources including federal, provincial, international, industrial and grower sponsors.

Application Deadline:

Ongoing
Entry: Fall, Winter, Spring

ARE YOU INTERESTED IN:

- Increasing plant production efficiency
- Developing new varieties
- Understanding plant growth and development
- Weed control
- Plant-environment interactions
- Discovering new environmentally friendly industrial materials

CAREER OPPORTUNITIES:

- Crop Consultant
- Breeder/Geneticist
- Plant Physiologist
- R&D Bio-Based Plastics

CONTACT INFORMATION

Graduate Program Coordinator:

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Departmental Graduate Faculty with Research Areas**Gale G. Bozzo**

E.C. Bovey Building
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Postharvest physiology & secondary metabolism

John A. Cline

Simcoe and Vineland Campus
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Fruit tree physiology & management

Adrian A. Correndo

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Agronomy, soil fertility & crop nutrition, data science

Hugh J. Earle

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Oilseed physiology & agronomy

Mehrzad (Milad) Eskandari

Ridgetown Campus
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Soybean breeding & genetics

Chris L. Gillard

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Dry bean agronomy & pest management

Bernard Grodzinski

E.C. Bovey Building
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Photosynthesis, carbon partitioning and productivity, manned space program

David C. Hooker

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Field crop agronomy

A. Max P. Jones

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Plant propagation and in vitro conservation

Katerina S. Jordan

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Turfgrass science; nematology

Melanie Kalischuk

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Genomics, pathology, specialty crop improvement

Elizabeth A. Lee

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Corn breeding & genetics

Lewis N. Lukens

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Bioinformatics, genetics of stress tolerance

Eric M. Lyons

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Stress physiology; root biology of turfgrass species

Mary Ruth McDonald

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Diseases & integrated crop management of vegetables

Barry J. Micallef

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Physiology & genetics of vegetable crops

Manjusri Misra

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Bio-based new materials & green nanotechnology

Amar Mohanty

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Bioeconomy related to biobased materials, biofuels & biorefinery

Joshua Nasielski

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Field crop agronomy and crop physiology, eastern and northern Ontario

Manish N. Raizada

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Novel proteomics, genome & protein engineering technologies

Istvan Rajcan

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Soybean breeding & genetics; seed composition, bioproducts, yield stability, G x E, exotic germplasm

Darren E. Robinson

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Weed management & horticultural crops

Praveen K. Saxena

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Plant morphogenesis; conservation; medicinal plant biology

Kimberley Schneider

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Forage and service crops, nutrient cycling, sustainable agriculture

Gursahib Singh

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Field crop pathology

Jayasankar Subramanian

Vineland Campus
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Tree fruit genetics, breeding & biotechnology & biotechnology

John Sulik

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Precision Agriculture, cropping systems, remote sensing & geographic information systems

Francois Tardif

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Physiology, ecology & molecular biology of herbicide resistance

Cheryl Trueman

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Vegetable disease management

Rene C. Van Acker

Johnston Hall
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Weed biology & ecology; biosafety & novel trait confinement; agronomy

Mohsen Yoosefzadeh Najafabadi

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Dry bean breeding, computational biology, quantitative genetics, bioinformatics & multi-omics-based breeding