

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.

Research Fields

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



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

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

Isabelle Aicklen

Ridgetown Campus
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Weed management,
field crops, herbicide
physiology & resistance

Helen Booker

Crop Science Building
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Wheat breeding & genetics

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. Earl

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Oilseed physiology & agronomy

Mehrzad (Milad) Eskandari

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Soybean breeding & genetics

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

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 &
biotechnoloy & 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*

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*