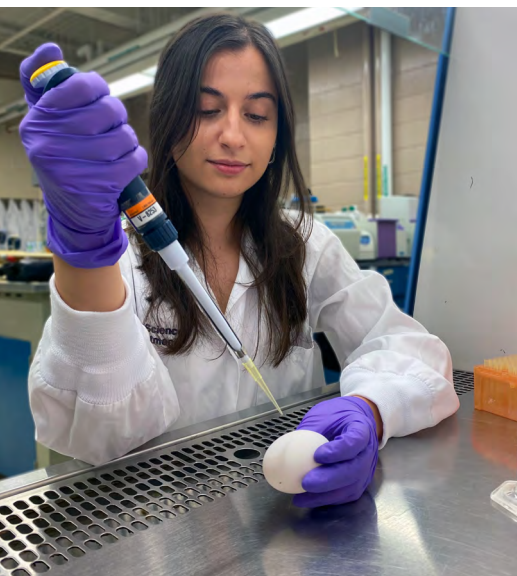




# Degrees With a Difference

Ontario Agricultural College  
Graduate Studies Viewbook 2024



IMPROVE LIFE.

The Ontario Agricultural College and University of Guelph campuses reside within the lands of the Dish with One Spoon Wampum (treaty). We recognize that the Anishinaabe, Hodinohso:ni, Lūnaapéewak and Wendat peoples have inhabited these lands for centuries and we respect their enduring relationships with the land.

The OAC community is a diverse group of settlers and Indigenous peoples dedicated to teaching, research and knowledge extension with strong connections to the natural world and the land that sustains us. We recognize that our history and our future is tied to the land and acknowledge our responsibility to build a future focused on understanding, respect, reciprocity, and a reconnection with the land and with one another.

Learn more about U of G's commitments to reconciliation, indigenization and decolonization in U of G's [Indigenous Initiatives Strategy: Bi-Naagwad | It Comes Into View](#)

Aerial view of the University of Guelph Arboretum

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## OAC Graduate Programs

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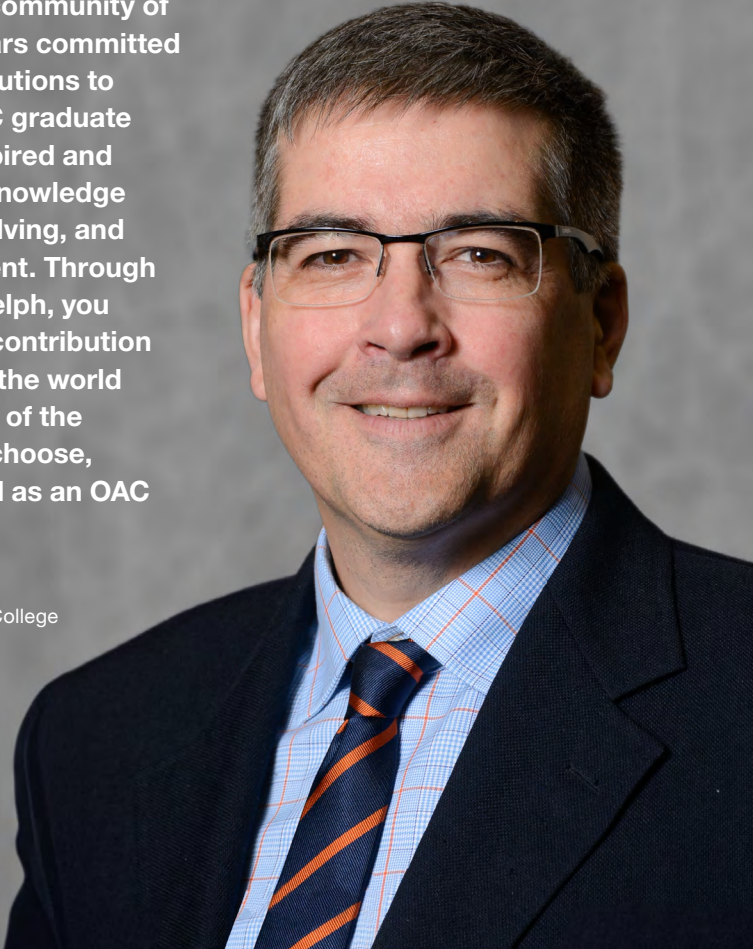
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# Welcome to OAC

The Ontario Agricultural College (OAC) of the University of Guelph is recognized globally for its research excellence, teaching and knowledge extension in the broad areas of food, agriculture, communities and the environment.

“Explore OAC’s diverse graduate programs and join our community of forward-thinking scholars committed to using sustainable solutions to Improve Life. As an OAC graduate student, you will be inspired and engaged in discovery, knowledge generation, problem-solving, and professional development. Through your experiences at Guelph, you can make a significant contribution to your community and the world around you. Regardless of the graduate program you choose, you’ll be in high demand as an OAC graduate.”

Dr. John Cranfield  
Acting Dean, Ontario Agricultural College



## A long history of innovation

Established in 1874, OAC is a founding college of the University of Guelph. It has two campuses in Guelph and Ridgetown, Ontario, and research activities are supported and strengthened by a [province-wide network of field stations and research facilities](#).

### OAC is comprised of six academic units:

- Animal Biosciences
- Environmental Design and Rural Development
- Environmental Sciences
- Food, Agricultural and Resource Economics
- Food Science
- Plant Agriculture

**Our community has a strong sense of shared purpose: To Improve Life by inspiring leaders, generating knowledge and creating innovative solutions for food, agriculture, communities and the environment.**

## A leader in academics, research, student support and professional development

OAC at the University of Guelph is well known for its warm and friendly campus atmosphere. U of G is frequently ranked as the best university in the province for its student support, learning and living environment. The university offers many opportunities for students to become involved in their community and gain leadership experience.

- > #1 in Canada and #12 in the World for Agricultural Science
- > #2 in Canada and #44 in the World for Plant & Animal Science
- > #5 in Canada and #99 in the World for the field of Environment/Ecology
- > Our international students ranked us #1 in Canada for overall learning, living and student support\*

\* International Student Barometer

“My experience as a graduate student in OAC was transformative, equipping me with valuable skills, fostering a passion for research and solution-driven approaches, and providing a supportive environment for personal and academic growth. I know that the knowledge and skills I have acquired can make a significant impact on the world, regardless of the capacity in which I apply them.”

Ogochukwu Udume  
MES, School of Environmental Sciences  
Alumni



# Research Excellence at OAC

U of G is one of Canada's most research-intensive universities and ranks as one of the country's top comprehensive research institutions. It is internationally regarded as a research leader.



MSc students **Josie Zou** (left) and **Manal Alghaysh** (right) in the Food Science lab.

## International in reputation, global in reach

OAC's research activities play a significant role in the University's research profile. OAC is recognized around the world for its research expertise in the areas of plant and animal production, sustainability and welfare, community and policy development and environmental studies and solutions.

OAC sits at the heart of an ever-growing agri-food industry that employs more than 800,000 people in the province. OAC delivers research, education and laboratory services in collaboration with many governmental partners such as the [Ontario Agri-Food Innovation Alliance](#) aiming to further the long-term global competitiveness and sustainability of Ontario's agriculture and food system.

**OAC is committed to developing global citizens that improve life globally and within their community. Our researchers and scholars provide expertise and insight to help solve some of the most pressing challenges facing our world.**

## Research for a sustainable future

- [Dr. Christine Baes](#) (Animal Biosciences) is working on breeding lower-burp cows using world-leading methods; the reduced CH<sub>4</sub> emissions will benefit food security, the environment, and potentially lower the contributions of animal agriculture to global warming and climate change.
- [Dr. Keith Warriner](#) (Food Science) and his team have played a key role in developing a global web-based food safety toolbox launched in June by the United Nations Food and Agriculture Organization.
- [Dr. Tongzhe Li](#) (Food, Agricultural, and Resource Economics) was named inaugural Arrell Family Chair in Behavioural and Experimental Economics. This ground-breaking work seeks to discover ways of facilitating the adoption of sustainability practices in Canada and around the world.
- [Dr. Max Jones and Dr. Gale Bozzo](#) (Plant Agriculture) have received a license from Health Canada to cultivate a sustainable supply of psilocybin-producing mushrooms. The University of Guelph is one of the first universities in Canada to obtain this license.
- [Dr. Silvia Sarapura](#) (School of Environmental Design and Rural Development) will receive \$1 million for the research project Braiding Food Systems in Northern Ontario for Food Sovereignty, Security and Climate Adaptation.
- [Dr. Claudia Wagner-Riddle](#) (School of Environmental Sciences) is completing research & receiving funding for attempting to decrease the carbon footprint and improve sustainability of dairy producers without jeopardizing their business.

**“As a student from India, I was looking for institutions all over the world to pursue my graduate studies. The OAC is one of the world's leading institutions for specialized agricultural research with research standards second to none and staggering real-world impacts.”**

**Ajwal Dsouza**  
PhD Environmental Sciences  
Current Student



# Leading Researchers and World-Class Facilities



OAC has 5 Canada Research Chairs, 17 research centers and institutes, and access to an extensive list of research stations across Ontario.

In addition to our [Canada Research Chairs](#), OAC is home to [NSERC Industrial Research Chairs](#) and many [Donor & Partner Supported Chairs and Professorships](#).

To support research being performed at OAC, our researchers have access to cutting-edge facilities, [research centres and institutes](#), such as:

- The Arrell Food Institute
- Aquaculture Centre
- Bioproducts Discovery and Development Centre
- Campbell Centre for the Study of Animal Welfare
- Canadian Research Institute for Food Safety
- Centre for Agricultural Renewable Energy and Sustainability
- Centre for Genetic Improvement of Livestock
- Centre for Land and Water Stewardship
- Centre for Nutrition Modelling
- Controlled Environment Systems Research Facility
- Dairy at Guelph
- Gosling Research Institute for Plant Preservation
- Guelph Centre for Urban Organic Farming
- Guelph Turfgrass Institute
- Honey Bee Research Centre
- Institute for the Advanced Study of Food and Agricultural Policy

Check out our faculty and the research they perform! [OAC Faculty List and Areas of Study](#)

**In June 2023, the University of Guelph broke ground on its new Honey Bee Research Centre (HBRC), which is set to finish construction by 2025. The \$16-million center will house facilities for bee breeding, pollinator gardens, laboratories and education spaces, both indoors and outdoors! Find out more here.**

**Advance your career with access to a network of world class research facilities.**

Research Centres and Institutes provide graduate students with hands-on experience and access to state-of-the-art equipment and facilities as they complete their PhD and Master's research. The research conducted at these centres promote agri-food discoveries, validate laboratory findings, stimulate further research and provide valuable information for the agri-food sector and beyond.



**Launching a sustainable future.**

[The Controlled Environment Systems Research Facility \(CESRF\)](#) is putting Canada at the forefront of innovation with its world-leading facilities for Controlled Environment Agriculture (CEA) research. This dynamic and rapidly evolving industry embraces time-tested agricultural practices and the cutting-edge technologies that the CESRF is globally recognized for.

With its interdisciplinary advanced horticultural production program, the centre is positioned to make major advances in areas as wide-ranging as plant-based medicine production to addressing food insecurity and advancing human space exploration. Students at the CESRF will be trained to become future industry leaders, applying their skills and knowledge of controlled environments to fields spanning urban agriculture all the way to space travel.

**“Working on this research and teaching journey with talented and hardworking graduate students has been a privilege. Every step we’ve taken together, facing challenges and celebrating successes, has left a deep and heartfelt impression on me. I’m confident that this will be a voyage we cherish and celebrate with pride when we look back.”**

**Dr. Julang Li**  
Professor, Department of Animal Biosciences  
Enhancing Fertility & Disease Resistance in Animal Production



# Types of Graduate Programs

OAC has 16 master's degrees — thesis and course-based options — and 6 PhD programs that focus on food, agriculture, communities and the environment, housed within six departments and schools.



Riley McConachie  
MSc Plant Agriculture

## Four ways to shape your future

### Thesis-Based Masters

- ~2 years of full-time study\*
- Research focused (minimal coursework)
- Submission of a thesis that contributes a novel tool or theory in a specific research area. Research conducted is an in-depth analysis of a scientific topic and could become a published paper.
- Finding a faculty advisor recommended prior to program application

### Course-Based Masters

- ~1 year of full-time study
- Coursework-focused to develop a reasonable mastery of a specific area of study
- Faculty advisor not required prior to application

### Course-Based Masters with Major Research Project

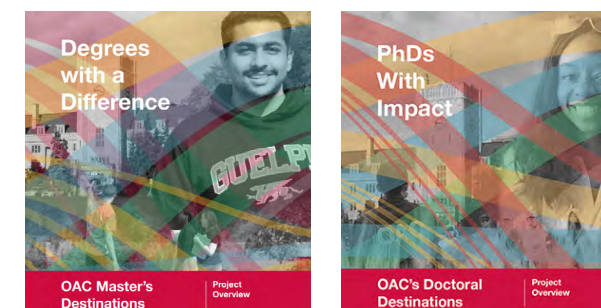
- 1–2 years of full-time study
- Combination of coursework and a major research project (MRP)
- A MRP is smaller in scope than a thesis project. The research does not need to be a novel contribution, but still thoroughly researched.
- Faculty advisor may be required prior to program acceptance

### Doctor of Philosophy (PhD)

- ~4 years of full-time study\*
- Research intensive
- Submission of a thesis that is a major contribution to the discipline. Research focus on a novel tool or theory in a specific research area.
- Finding a faculty advisor recommended prior to program application, required prior to acceptance
- Optional — Direct Entry — transfer from master's degree into a doctoral program

\*Some disciplines may take longer to complete, timelines provided are the average program duration.

## Pick your destination with a graduate degree



### The future is bright for OAC graduate students.





























There is an abundance of opportunities for OAC graduates. The OAC Destinations initiative documents graduates from OAC's 15 graduate programs from 1999 to 2019 and their career status as of 2019. By identifying the career pathways of our graduates, we are able to illustrate their broad aptitudes and the many ways in which they have applied their educational and research experience to a variety of careers.

[Explore the Destinations Initiative Reports here](#)







Yara Ibrahim  
Guelph Centre for Urban Organic Farming  
(GCUOF)

# OAC Graduate Programs Overview

Department/School	Master's Program	Program Type	Method of Delivery	Doctoral (All Thesis)	Method of Delivery
<b>Department of Animal Biosciences</b>	MSc Animal Biosciences   	Thesis Coursework	In Person	PhD Animal Biosciences   	In Person
<b>Department of Plant Agriculture</b>	MSc Plant Agriculture 	Thesis	In Person	PhD Plant Agriculture 	In Person
	Master of Plant Agriculture	Coursework	In Person		
<b>Department of Food Science</b>	MSc Food Safety & Quality Assurance  	Coursework	Hybrid Online	PhD Food Science  	In Person
	MSc Food Science  	Thesis	In Person		
<b>Department of Food, Agricultural &amp; Resource Economics</b>	Master of Food, Agricultural & Resource Economics (MFARE) 	Coursework	In Person	PhD Food, Agricultural & Resource Economics 	In Person
	MSc Food, Agricultural & Resource Economics 	Thesis	In Person		
<b>School of Environmental Design &amp; Rural Development</b>	MSc Capacity Development & Extension 	Thesis Coursework	In Person	PhD Rural Studies	In Person
	Master of Landscape Architecture (MLA)	Thesis	In Person		
	MSc Rural Planning & Development  	Thesis Coursework	In Person		
	Master of Rural Planning & Development (MPLAN)  	Coursework	In Person Hybrid Online		
<b>School of Environmental Sciences</b>	Master of Environmental Sciences (MES)  	Coursework	In Person	PhD Environmental Sciences  	In Person
	MSc Environmental Sciences  	Thesis	In Person		

 International Development Studies  Neuroscience  One Health  Toxicology

Collaborative Specializations (can be added to a participating degree program)	Description	Research Areas	Participating Degree Programs
 International Development Studies	This collaborative specialization provides a focal point for graduate teaching and research in the area of international development that combines training in a particular discipline with exposure to a broad range of social science perspectives.	Social & Economic Change Environment & Sustainability Social Justice & Human Rights Food Security & Health Gender & Identities	Capacity Development & Extension Environmental Sciences Food, Agricultural & Resource Economics Plant Agriculture Rural Planning & Development
 Neuroscience	A collaborative specialization that fosters strong collaborative efforts between faculty and students working across various levels of analysis, including molecular, cellular, systems, and behavioural research.	Behavioural Neuroscience Neuroanatomy Brain Disorders Neuropharmacology Neurophysiology	Animal Biosciences
 One Health	This collaborative specialization prepares future leaders for the complex challenges at the confluence of human, animal, and environmental health, working across disciplinary boundaries, conducting multidisciplinary research, mobilizing knowledge, and informing policy.	Climate Change & Environmental Degradation Emerging Infectious Diseases Antimicrobial Resistance Food Safety & Security Health Inequalities	Animal Biosciences Environmental Sciences Food Science Rural Planning & Development
 Toxicology	This collaborative specialization encompasses broad and diverse fields of study such as ecosystem health, including water, air and soil quality, plant health, microbes, and insects, sustainable agriculture and human and animal health.	Environmental Toxicology Molecular Toxicology Biomedical Toxicology	Animal Biosciences Environmental Sciences Food Safety & Quality Assurance

**Collaborative specializations are intra-university graduate fields of study that provide additional multidisciplinary experiences for students enrolled in and completing the degree requirements of an approved masters or doctoral program.**

# Animal Biosciences

## A career in animal science starts here.

Research and educational programs in the Department of Animal Biosciences revolve around the basic sciences relevant to animal development and well-being.

	MSc (Coursework)	MSc (Thesis)	PhD
<b>Duration</b>	1 year	2 years	3–5 years
<b>Advisor Required at Application</b>	✗	✓	✓
<b>Funding</b>	✗	✓	✓
<b>Degree Requirement</b>	Honours bachelor's degree in sciences (or equivalent)	Honours bachelor's degree in sciences (or equivalent)	An MSc degree
<b>Admission Requirement</b>	Minimum of 73% (B) during last two years of undergraduate study	Minimum of 73% (B) during last two years of undergraduate study	A minimum of 73% (B) average
<b>Application Deadline</b>	Ongoing* <a href="#">Click here for detailed information</a>	Ongoing	Ongoing
<b>Entry</b>	Fall	Fall, Winter, Summer	Fall, Winter, Summer

## Fields of Research

- Animal Breeding and Genetics
- Animal Nutrition
- Animal Physiology
- Animal Behaviour and Welfare

Students and faculty have access to high quality animal research facilities, a modern and federally inspected meats laboratory, and a range of laboratory facilities in genomics, nutrient analyses, physiology, and microbiology. The department also has unique on-campus large farm animal study rooms and surgical recovery facilities for animal research.

Students are very successful after they graduate. Within 6 months of graduating, over 90% of Animal Biosciences graduates go on to future training or careers related to their program.

[Find out more about our faculty here](#)

## MSc Animal Biosciences

There are two ways to complete your master's program within the Department of Animal Biosciences: MSc by course work or MSc by thesis.

The MSc coursework is a 1-year program for specialized training in different aspects of the animal sciences.

The MSc by thesis program is a 2-year program designed for students interested in advanced research.

The innovative research conducted ranges from the applied (designed to solve practical problems in animal agriculture) to discovery-focused, cutting-edge research aimed at testing fundamental hypotheses in animal biology.

[Find out more about our thesis program here](#)

[Find out more about our coursework program here](#)

## Interested in a PhD program? Find out more here:

[Find out more about our PhD program here](#)

Graduate programs offer “hands on” experiential learning opportunities for research with a large selection of livestock animals, equine, companion animals, wildlife, aquatic and more to complement a wide range of graduate courses.



**Brenda Christensen,**  
Current Student, PhD in Animal Biosciences

Graduate Program Assistant contact:  
Jacob Harwood | [harwood@uoguelph.ca](mailto:harwood@uoguelph.ca)



“My time in OAC has garnered me invaluable connections to the industry and endless opportunities for academic and professional growth. From the barn to the lab, everything is hands-on.”

**Clara Ziezold**  
Current Student, PhD in Animal Biosciences



“I believe a professor should be a role model and a mentor, enabling each student to reach their individual potential. If students learn something well, regardless of the discipline, they will be prepared to adapt to any circumstances and be productive members of society.”

**Dr. Flavio Schenkel**  
Professor, Animal Breeding, Genetics, and Genomics  
Director of the Center for Genetic Improvement of Livestock (CGIL)



# Environmental Design & Rural Development

## Designing a future of strong, sustainable communities.

The School of Environmental Design & Rural Development (SEDRD) reflects the imperatives in building authentic communities where planners, leaders, communicators, landscape architects, the citizens and politicians all play important interdependent roles in community strength.

	MLA	MSc CDE	MSc (Planning)	MPlan	PhD
<b>Duration</b>	3 years	1–2 years	2 years	1 year	3–5 years
<b>Advisor Required at Application</b>	✗	✓	✓	✓	✓
<b>Funding</b>	✗	✗	✗	✗	✓
<b>Degree Requirement</b>	An honours bachelor's degree				MSc degree
<b>Admission Requirement</b>	Minimum of 70% (B-) during last two years of study				
<b>Domestic Application Deadline</b>	January 31	May 30	May 31	May 30 (Fall) September 30 (Winter) January 30 (Summer)	Ongoing
<b>International Application Deadline</b>	November 30	March 1	May 31	January 15 (Fall) May 15 (Winter) September 15 (Summer)	Ongoing
<b>Entry</b>	Fall	Fall	Fall	Fall, Winter, Summer	Fall, Winter, Summer

## Programs of Study:

- Capacity Development and Extension
- Landscape Architecture
- Rural Planning and Development
- Rural Studies PhD

[Find out more about our faculty here](#)

### MSc Capacity Development and Extension (CDE)

This program is unique in Canada and focuses on processes of learning, advocacy, leadership, communication and capacity development for rural, remotes and small communities in Canada and around the world. Students develop core competencies for facilitating social and environmental change. In addition to coursework, students write either a thesis or major research paper. The thesis option requires the completion of 6 courses in addition to the thesis, while the major paper option requires the completion of eight courses and the major research paper.

[Find out more about CDE research here](#)

### Master of Landscape Architecture (MLA)

This program is for people seeking a graduate degree in an intensive, internationally-recognized design program. The MLA program is unique in being an accredited graduate degree in landscape architecture, and Canada's first professional degree program in landscape architecture.

The MLA curriculum has three integrated streams: design theory and practice, landscape analysis and planning, and research inquiry and application. The final year of the MLA program is focused on the completion of a master's thesis. Internships and summer employment opportunities provide students with paid professional experience in some of North America's most prestigious firms.

[Find out more about the MLA program here](#)



#### Graduate Program Assistant contacts

MLA  
Diana Foolen  
[dfoolen@uoguelph.ca](mailto:dfoolen@uoguelph.ca)

CDE, MPLAN, MSc Planning  
Lorena Barker  
[cde@uoguelph.ca](mailto:cde@uoguelph.ca)  
[rpd@uoguelph.ca](mailto:rpd@uoguelph.ca)



“The collaborative environment at OAC has been invaluable. I have been able to connect and collaborate with peers, faculty members, and professionals from diverse disciplines. This has provided me with valuable networking opportunities, fresh perspectives, and professional relationships that will benefit my future career.”

Seyedeh Sara Mokhberi  
Alumni, Master of Landscape Architecture  
Landscape Architecture Designer, The MBTW



“What is really special about OAC is that we have a solid reputation as leaders for agriculture and rural development in Ontario, Canada, and globally. I am proud to be a part of a group that really cares about international agriculture and contributes to research and development at a global level.”

Dr. Helen Hambly Odame  
Professor, Capacity Development & Extension,  
School of Environmental Design and Rural Development

## Rural Planning & Development

Within the Rural Planning & Development program there are two graduate degrees: a Master of Science in Rural Planning and Development (MSc) and Master of Planning (MPlan). Both programs provide the opportunity for graduate study, research and professional development in rural planning and development in either Canadian or international contexts.

### MSc Rural Planning and Development

This 2-year program is intended for students with a completed undergraduate degree interested in planning and development. Students focus their program of study in either the Canadian or International stream. The program can be completed with a thesis, major research paper, or as a course-based option. The MSc program is an accredited degree by the Professional Standards Board, facilitating membership in the Canadian Institute of Planners and provincial planning organizations.

[Find out more about Planning research here](#)

### Master of Planning (MPlan)

This 1-year program is intended for students with a completed undergraduate degree and 4–5 years of planning and development experience, who wish to upgrade their professional training to the Masters level without necessarily withdrawing from the work force. The MPlan program is offered in-class or via online learning, and offers students the opportunity to specialize in either the Canadian or International stream.

[Find out more about MPlan here](#)

Interested in a PhD program?

[Find out more about our PhD program here](#)

Graduate Program Assistant contact

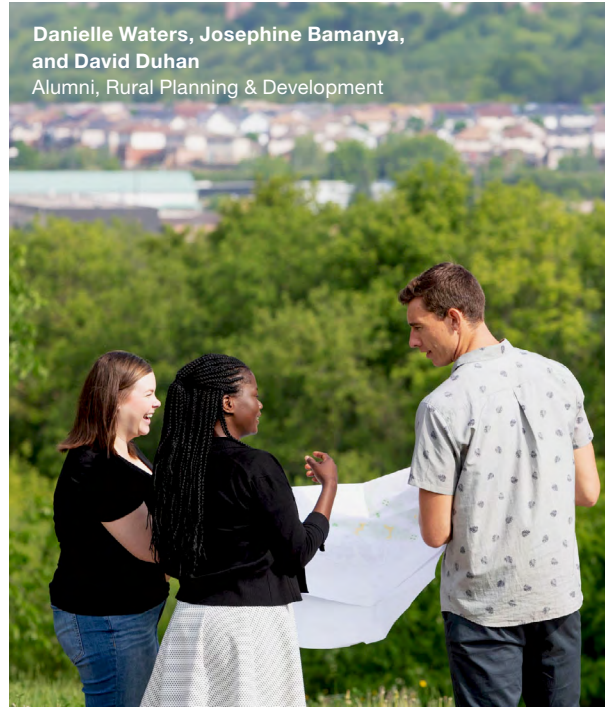
Lorena Barker | [rsphd@uoguelph.ca](mailto:rsphd@uoguelph.ca)

### Canadian Stream

The focus is on rural, Indigenous, and remote communities in Canada. Students gain critical knowledge and skills sets in planning theory, planning law, plan formation, implementation, project management, and evaluation. These skills are developed and demonstrated through community-based course projects, case studies, and student research.

### International Stream

Prepares students for practice and research in rural and regional development planning in the international context. It focuses on the rural regional dimension within a national or global context, in particular the policy, planning and management processes that are driving development interventions. It emphasizes applied research and practice based on a firm foundation of theory.



Danielle Waters, Josephine Bamanya,  
and David Duhan  
Alumni, Rural Planning & Development



Takudzwanashe Mundenga  
Current Student, MSc Capacity Development  
and Extension

Agriculture in developing countries is dynamic, and embeds social and cultural systems. There is a need for interdisciplinary teams to build on traditional, scientific, and technological sources of knowledge. I support students exploring these unknown dynamics and help them foster spaces for people in less represented communities to empower themselves.

Dr. Silvia Sarapura

Professor, Rural Planning and Development  
agri-food systems and rural planning, intersectionality  
in land use planning



# Environmental Sciences

**Excellence in environmental science: make a difference to the world.**

The School of Environmental Sciences (SES) uniquely integrates the physical and life sciences to address important environmental problems in agricultural, forest, and aquatic ecosystems.

	MES (Coursework*)	MSc (Thesis)	PhD
<b>Duration</b>	1 year	2 years	3–5 years
<b>Advisor Required at Application</b>	✘	✔	✔
<b>Funding</b>	✘	✔	✔
<b>Degree Requirement</b>	Honours bachelor's degree in sciences (or equivalent)	Honours bachelor's degree in sciences (or equivalent)	An MSc degree
<b>Admission Requirement</b>	Minimum of 70% (B-) during last two years of undergraduate study	Minimum of 70% (B-) during last two years of undergraduate study	A minimum of 85% (A-) average
<b>Application Deadline</b>	February 1 (International applicants) April 30 (Domestic applicants)	Ongoing	Ongoing
<b>Entry</b>	Fall	Fall, Winter, Summer	Fall, Winter, Summer

\* MES Options: Courses + Major Research Project (6 courses) or Courses only (8 courses).

## Fields of Research:

- Earth and Atmospheric Science
- Ecosystem Science and Biodiversity
- Plant and Environmental Health

Award winning faculty and research expertise spans several disciplines including apiculture, atmospheric and earth sciences, ecology, entomology and pest management, environmental microbiology, plant pathology and protection, soil science, and environmental toxicology.

[Find out more about our faculty here](#)

## Master of Environmental Sciences (MES)

This program focuses on the most recent theoretical and technical advances in environmental science, through interdisciplinary and multidisciplinary teaching and research, to provide students with both a depth and breadth of knowledge. Students will develop critical thinking and communication skills so that they can excel in a career with industry, government or in the not-for-profit sector.

[Find out more about MES here](#)

## MSc Environmental Sciences

The objective of this thesis-based program is to develop graduates with a high level of knowledge and expertise in specific aspects of environmental science, training in laboratory and field techniques, and excellence in written and oral communication. Graduates will possess a strong foundation on which they can be highly successful in science-related positions in government, industry, and consulting, or carry out high quality research at the PhD level.

[Find out more about our research here](#)

**Interested in a PhD program? Find out more here:**

[Find out more about our PhD program here](#)

**Graduate Program Assistant contact**  
[ses.gradsec@uoguelph.ca](mailto:ses.gradsec@uoguelph.ca)



**Abigail Wiesner**  
MSc Environmental Sciences  
Current Student



**“I chose the MES program because it was accelerated and could be completed in one year. I loved the versatility and the wide variety of course options so the degree could be tailored to my interests and goals. The MES program provided direct experience for a career in biology through field courses, interview experience, presentation experience, networking opportunities, and great friends and memories.”**

**Lindsay McKay**  
Alumni, Master of Environmental Sciences  
Terrestrial Biologist, MTE Consultants



**“I am very excited to work with and mentor students in exploring how Indigenous knowledge systems and western ways of knowing can address environmental problem-solving and how they can become good ancestors.”**

**Dr. Sue Chiblow**  
Assistant Professor  
Indigenous Environmental Stewardship

# Food, Agricultural & Resource Economics

## Training tomorrow's research and policy leaders.

Graduate students in the Department of Food, Agricultural & Resource Economics (FARE) study issues related to trade, policy, resources and new technologies. The scope of study incorporates all parts of the food system from farm to fork.

	<b>MFARE (Coursework)</b>	<b>MSc (Thesis-based)</b>	<b>PhD (Thesis-based)</b>
<b>Duration</b>	1 year	2 years	4 years
<b>Advisor required for application</b>	✗	✗	✗
<b>Funding</b>	✗*	✓	✓
<b>Degree Requirement</b>	Honours bachelor's degree in FARE/ economics	Honours bachelor's degree in FARE/ economics	A Master's degree equivalent to the MSc in FARE*
<b>Admission Requirement</b>	Minimum of 70% (B-) during last two years of undergraduate study	Minimum of 70% (B-) during last two years of undergraduate study	A minimum of 73% (B) average
<b>Application Deadline</b>	International: February 1 Domestic: April 30	International: February 1 Domestic: April 30	International: February 1 Domestic: April 30
<b>Entry</b>	Fall	Fall	Fall

\*MFARE students may be eligible for funding, but it is not guaranteed

## Fields of Research:

- Food and agricultural economics
- Natural resource and environmental economics

Students apply their rigorous training and research experience in a number of rewarding ways. Through their research, students gain an appreciation of the policy environment within which provincial, federal and private organizations exist, and are prepared for successful careers in the government, academia and private sectors upon graduation.

[Find out more about our faculty here](#)

## Updated for 2024 - Master of Food, Agricultural & Resource Economics (MFARE)

This course-based program provides graduate education related to the economics of food, agriculture, and natural resources, with an emphasis on skills acquisition and development of industry-specific expertise.

Students have the choice of completing a major research paper or engaging in a consultancy project for a real-world client. MFARE students are eligible for funding, but it is not guaranteed.

[Find out more about our MFARE program here](#)

## MSc Food, Agricultural & Resource Economics (MSc FARE)

The MSc develops fundamental understanding of economic principles and their application in identifying and solving relevant problems related to food, agriculture, and natural resources. The program develops appropriate analytical, methodological, and communication skills for students to analyze agriculture and resource problems effectively and explain their findings.

[Find out more about our research here](#)

## Interested in a PhD program? Find out more here

[Find out more about our PhD program here](#)

**FARE has strong links internationally. Graduate students in the department are drawn from North America, Europe, Latin America, Africa and Asia. The multicultural nature of the graduate student body enriches the experience of both students and faculty in the department.**



**Graduate Program Assistant contact**  
Jennifer LaPorte  
[faregrad@uoguelph.ca](mailto:faregrad@uoguelph.ca)



**“The program provides students with a strong base that we can apply to a variety of topics that fall under agricultural economics. Through coursework, I was engaged and challenged academically as I learned new concepts and methods. Through research, I have been supported and encouraged to follow my interests.”**

**Isabel Maddocks**  
MSc Food, Agricultural and Resource Economics  
Current Student



**“As a student in the MFARE program, you have the opportunity to explore interesting and complex topics related to food policy and the way food markets work, and the wider societal problems associated with food such as hunger, sustainability or public health. This program is ideal for students with a broad worldview who wish to address the world's most pressing issues related to food, economics and agriculture.”**

**Dr. Spencer Henson**  
Professor, Department of Food, Agricultural & Resource Economics and Guelph Institute of Development Studies

# Food Science

## Where leading food scientists get a nourishing start.

With a focus on developing sustainable, safe and innovative foods aimed at improving human health, the Department of Food Science conducts interdisciplinary research spanning the fields of chemistry, biology, microbiology, natural product chemistry, nanoscience, physics and nutritional science.

	MSc FSQA (Coursework)	MSc (Thesis)	PhD
<b>Duration</b>	1 year	2 years	3–5 years
<b>Advisor Required at Application</b>	✘	✔	✔
<b>Funding</b>	✘	✔	✔
<b>Degree Requirement</b>	Honours bachelor's degree in sciences (with courses in food science, nutrition, public health or other related fields)	Honours BSc degree in Food Science, Chemistry, Biology, Microbiology, Physics, or other related degree	An MSc degree
<b>Admission Requirement</b>	Minimum of 73% (B) during last two years of undergraduate study	Minimum of 73% (B) during last two years of undergraduate study	A minimum of 73% (B) average
<b>Application Deadline</b>	Hybrid: April 1 (Domestic applicants) November 1 (International applicants) Online: April 1	July 1 (Fall), November 1 (Winter), March 1 (Summer)	July 1 (Fall), November 1 (Winter), March 1 (Summer)
<b>Entry</b>	Fall	Fall, Winter, Summer	Fall, Winter, Summer

## Fields of Research

- Food Processing
- Food Microbiology
- Food Chemistry

The Food Science program at OAC is the only one of its kind in Ontario and has trained a large percentage of the food scientists currently employed in Ontario's food and beverage industry; the third largest in North America.

Facilities include individual laboratories, teaching laboratories, a core laboratory (focusing on analytical chromatography), a state-of-the-art dairy processing plant, an experimental kitchen, a newly renovated food processing facility and a level II biosafety facility.

[Meet our Food Science faculty here](#)

## MSc Food Safety and Quality Assurance (FSQA)

This course-based graduate program is designed to provide a balance of scientific and management principles underlying Food Safety and Quality Assurance. This program is intended for those currently employed as food scientists, food engineers, public health or food safety inspectors, as well as those who have recently graduated from programs with appropriate scientific backgrounds. Students may take this program in one of two formats: a combination of online and on campus courses with a faculty advisor-led research project; or fully online with an approved workplace project.

[Find out more about FSQA here](#)

## MSc Food Science

Graduates will gain general scientific knowledge as well as a more in-depth understanding of various aspects of food science. Extensive laboratory and technical training is obtained by conducting experiments under the supervision of world-renowned faculty.

[Find out more about our MSc Food Science here](#)

Whether fresh fruits, vegetables or meats, frozen foods, dairy products, cereals or beer and wine, food scientists have transformed these products from raw ingredients to consumer goods.

Interested in a PhD program?  
Find out more here

[Find out more about our PhD program here](#)



**Dr. Iris Joye**  
Associate Professor Cereal Science and Technology  
& Graduate Program Coordinator  
Food Science

### Graduate Program Assistant contacts

FSQA Program Assistant  
Robin Verrall  
[fsqa@uoguelph.ca](mailto:fsqa@uoguelph.ca)

MSc and PhD Program Assistant  
Jon Abram  
[fsgradsec@uoguelph.ca](mailto:fsgradsec@uoguelph.ca)



“The Department of Food Science at OAC allowed me to research and explore solutions to mediate food safety and quality risks, and I gained a sense of community and self-worth. For me, it feels rewarding knowing that I’m on the front-lines of cutting edge research, and that I’m able to make a difference in ensuring a healthy food system.”

**Maleeka Singh**  
PhD Candidate, Food Science  
Arrell Scholar  
Current Student



“As graduate students develop their expertise, creativity and independence, we as researchers continuously learn from them. We guide them and prepare them for success in both industry and academia with an innovative mindset. Witnessing their diversity and achievements is truly rewarding.”

**Dr. Alice Marciniak**  
Assistant Professor  
Food Science

# Plant Agriculture

## Dig deep into the science of agriculture.

Strongly rooted in crop science and horticultural science, graduate studies within the Department of Plant Agriculture encompasses 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, fibers and industrial products

	MSc (Thesis)	PhD
<b>Duration</b>	2 years	3–5 years
<b>Advisor Required at Application</b>	✓	✓
<b>Funding</b>	✓	✓
<b>Degree Requirement</b>	An honours bachelor's degree in a plant science or biology program (or equivalent)	MSc degree by thesis in a field appropriate to the proposed area of specialization
<b>Admission Requirement</b>	A minimum of 73% (B) average during last two years of undergraduate study	A minimum of 73% (B) average
<b>Application Deadline</b>	Ongoing	Ongoing
<b>Entry</b>	Fall, Winter, Summer	Fall, Winter, Summer

## Fields of Research

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

The Department of Plant Agriculture has modern labs with state-of-the-art equipment and access to controlled environment growth facilities and numerous field sites distributed over Ontario. Graduate students are provided hands-on learning opportunities from nationally and internationally recognized experts.

[Find out more about our faculty here](#)

## MSc Plant Agriculture

This two-year program requires students to complete a research-based thesis with a specialization in one of four broad fields within plant science. Students develop an understanding of plant growth and development, weed control, and plant-environment interactions. Research for one's thesis could focus on how to increase plant production efficiency, development of new crop varieties, or discovering new environmentally friendly industrial materials.

[Find out more about MSc Plant Agriculture here](#)

## Interested in a PhD program? Find out more here

[Find out more about our PhD program here](#)

**Canada's largest and most diverse applied plant biology department and the largest research department at the University of Guelph.**

**Graduate Program Assistant contact**  
Tara Israel  
[pgrad@uoguelph.ca](mailto:pgrad@uoguelph.ca)



Dr. Jay Subramanian presenting a new variety of peaches from the fields at the Vineland Research and Innovation Centre



**“My experience as a graduate student was, in one word, incredible. I was able to travel for conferences and workshops, challenge myself through presentations and development of knowledge transfer materials, meet people within the industry and research community, all while researching a project that I was passionate about. I could not have had a more positive experience than what I had at the OAC.”**

**Erika DeBrouwer**  
MSc Plant Agriculture  
Tree Fruit Specialist with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)



**“With the increased attention focused on soil health, forages, and livestock, it's a really exciting time to be working in this field. With grazing and fertility management, there is a lot of potential for perennial forages to help offset greenhouse gas emissions and carbon sequestration.”**

**Dr. Kim Schneider**  
Assistant Professor  
Agroecology, Forages and Service Crops

# Master of Plant Agriculture

## Cultivate your career in the plant and agriculture sector.

The Master of Plant Agriculture (MPAg) program, a new course based program launching in Fall 2024\*, aims to address the demands of employers in the private and public sectors who are looking for professionals with advanced expertise in plant breeding, crop production and plant science.

	Coursework
<b>Duration</b>	3 - 4 semesters
<b>Advisor Required at Application</b>	✘
<b>Funding</b>	✘
<b>Degree Requirement</b>	Honours bachelor's degree in sciences (or equivalent)
<b>Admission Requirement</b>	Minimum of 70% (B-) during last two years of undergraduate study
<b>Application Deadline</b>	TBD (Program still subject to formal approval)
<b>Entry</b>	Fall

## Master of Plant Agriculture

Plants and crops play a critical role in our ecosystem and are essential for a sustainable food system. The University of Guelph's Master of Plant Agriculture (MPAg) program provides students with career-focused knowledge and expertise in plant breeding, crop production and plant science so they can pursue leadership positions in the private and public sector. Students can cater their studies to match their unique interests and career-focuses - choose a program specialized in breeding and genetics; biochemistry and physiology; or crop production systems. This program is ideal for recent graduates or working professionals that wish to gain scientific, cross-discipline skills in a hands-on learning environment to advance your career.

The flexible program allows students to complete their degree on a full-time or part-time basis and select courses that match their career goals in breeding and genetics, biochemistry and physiology, or crop production systems for both agronomic and horticultural crops.

Graduates of the program will advance their careers and pursue leadership roles in a variety of sectors related to agri-food and plant production.

### Employers of graduates of the MPAg program may include:

- Syngenta
- Health Canada
- Canadian Food Inspection Agency (CFIA)
- Corteva Agrisciences
- Bayer Crop Science
- Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
- Agriculture and Agri-Food Canada (AAFC)

[Find out more about MPAg here](#)

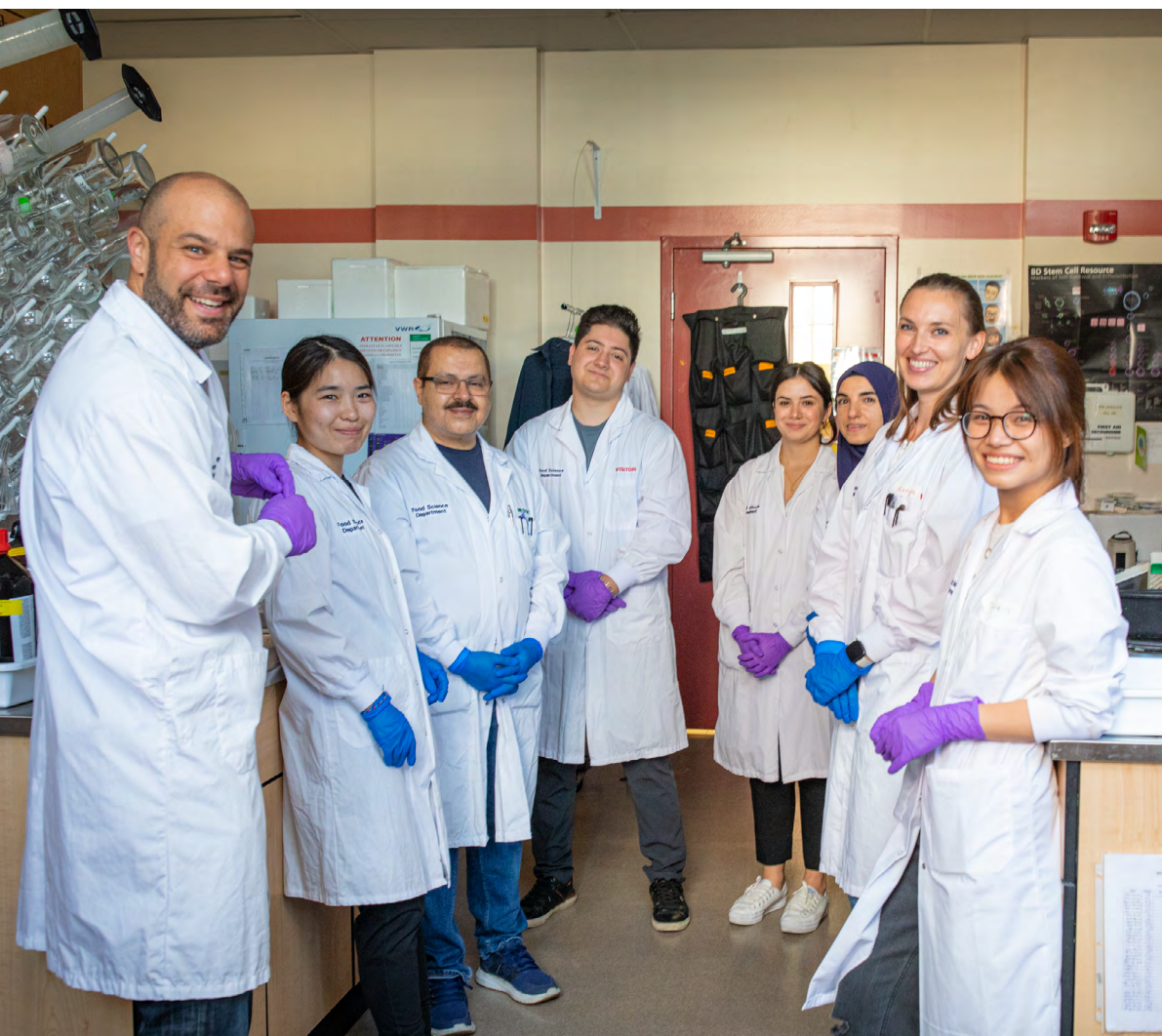
**\*Prospective students are advised that the program is still subject to formal approval.**

**Stay up-to-date on this new program**  
[Contact Admissions](#)



# Graduate Faculty Advisors

Faculty advisors guide, inspire, and support their students to reach their scholarly potential. The advisor promotes conditions conducive to a student's research and intellectual growth, providing appropriate guidance on the progress of the research and the standards expected.



## Real world research, guided by real world researchers.

Graduate programs with a thesis or major research paper (MRP) component require a faculty advisor. Thesis students should identify and confirm their faculty advisor prior to application, whereas major research paper students typically find an advisor after starting their program. When reviewing and researching potential advisors, here are a few things to keep in mind:

- Are you interested in their research?
- Does their research align with your learning and career goals?
- What is their advising style?
- Is there funding available?

### Finding a Faculty Advisor

1. Explore the OAC [faculty members page](#) and identify potential professors you would like to work with.
2. Reach out via email to request a meeting with potential advisors to discuss your research interests and future research project opportunities in their lab.
3. Important information to include in your initial contact:
  - Your academic and professional background (include your academic CV)
  - Your research experience and interests
  - Why you are interested in working with them
  - If you have received or applied for any scholarships

**Tip: Reach out to current graduate students who have worked with your potential advisor. This will give you the graduate student's perspective on the lab and research.**

**“My advice is to find a question that you really care about, and find a supportive mentor. Keep your motivation in finding the right solution to a critical problem, and seek these solutions across disciplines. The future belongs to you.”**

**Dr. Amar Mohanty**  
Professor, Plant Agriculture  
Distinguished Research Chair  
in Sustainable Biomaterials





# Funding & Financial Support

OAC is committed to improving access to education and encouraging student wellness by creating an environment that supports and nurtures the student as a whole.

[Find out more about cost of living and tuition](#)

**“My time at OAC prepared me for the ‘international stage’. As a PhD student, I presented my research and represented my department at international platforms by attending different conferences. I am grateful for the financial support by OAC that made these travels possible”**

**Navneet Navneet**  
Current PhD Candidate, Food Science  
CIFST Vice Chair, Student Committee



## Dedicated to student success

OAC prides itself in attracting and recruiting the best students by acknowledging and rewarding their accomplishments.

As a research-intensive institution, we place great importance on helping students finance their education. We seek to allow students to devote their full energy to the successful completion of their program and strive to ensure that stable funding is available.

To support these commitments, OAC’s programs offer a minimum stipend, a significant range of scholarships, bursaries, awards and travel grants, as well as other funding opportunities. Some funding is awarded upon admission to a program or is based on recommendations from the admitting program.

### Funding for Thesis-based Programs

Thesis-based graduate students receive a funding package made up of a number of components such as some or all of the following: Graduate Stipend, Graduate Teaching Assistantships (GTAs), Graduate Research Assistantships (GRAs), Graduate Service Assistantships (GSAs), plus scholarships/awards (internal or external).

### OAC Internal and External Graduate Student Awards

Students must apply directly for internal OAC Awards, and University Awards. A comprehensive listing of University of Guelph internal graduate awards is available on the [Graduate Award Search page](#).

OAC graduate students are also highly successful in receiving external scholarships. Graduate students in OAC are encouraged to review and apply to various external scholarship opportunities.

[Find out more about applying for Scholarships here](#)

**Awards Contact**  
[oacaward@uoguelph.ca](mailto:oacaward@uoguelph.ca)

## Highly Qualified Personnel Scholarship Program

Funded by the Alliance and [Food from Thought](#), the Highly Qualified Personnel (HQP) program was created to support the development of highly skilled graduates who can meet the changing demands of the agri-food and rural sector. The health of these sectors depends on a vibrant talent pool of skilled, forward-thinking learners.

Master’s and doctoral students complete research that meets OMAFRA’s research priorities and learn firsthand how forward-thinking research can be mobilized to have a positive impact on society.

## Arrell Graduate Scholarship

[Arrell Food Institute](#) provides graduate students the opportunity to engage in an experiential learning program that will prepare them to be leaders in the agri-food sector and address key agriculture and food challenges.

Several OAC graduate students have been awarded the prestigious Arrell Scholarship at the University of Guelph.

**OAC distributes approximately \$5 million in scholarship funding annually. Over half of OAC graduate students hold at least one award thanks to the generous support of our alumni and donors.**

**“My message for prospective graduate students is to put yourself out there when looking for scholarships and bursaries. Apply for every award you are interested in — even if you think there is a slim chance, you will likely be surprised! Don’t doubt or question your own abilities.”**

**Lydia Conrad**  
MSc Animal Biosciences  
Current Student



# Professional Skills Development, Social & Wellness Opportunities

OAC prioritizes opportunities for graduate student development, wellness and building a strong student community.

There are a multitude of opportunities for OAC graduate students to engage and develop their personal and professional networks, skills and knowledge, a few examples of which are outlined here.



**I have had the opportunity to participate in activities and programs that have been incredibly rewarding. The OAC provided an environment for me to pursue my goals and interests, beyond just my research. Don't hesitate to get involved to make the most out of your time here.**

Alyssa Francavilla, MSc  
PhD Food Science Current Student  
General Director, Food Science Department,  
Graduate Student Association



## Grad Pathways

Grad Pathways is the University of Guelph's resource hub specifically designed to support the academic, research, personal, and professional success of our graduate students and post-doctoral fellows.

[Find out more here](#)

## 3 Minute Thesis (3MT)

The 3 Minute Thesis competition assists students with building great communication skills by presenting their research and its wider impact in 3 minutes or less. It challenges students to present complex research in an engaging, accessible and compelling way. OAC graduate students have excelled with several winning not only the University-wide competition but both the provincial and national competitions as well.

## International Exchange and Travel

As a graduate student, you may broaden your horizons with the opportunity to visit or study at another institution in Canada or abroad. The Ecuador field school ([find out more about Field School here](#)) is just one of countless examples of the graduate student travel opportunities.

[Check out what is happening in our International Development office!](#)

## OAC Graduate Student Councils

OAC's graduate student community has strong connections and countless opportunities to build your network through engagement with your graduate student councils. Graduate Student Councils enhance student experience by hosting academic and social events throughout the year and promote an engaging and collaborative environment within departments.

[Find out more about OAC graduate clubs here](#)

**"Being part of the Food from Thought initiative allowed me to learn about other OAC students' research at conferences and symposiums. Opportunities like these helped me develop my communication skills and confidence."**

Nicole Berardi, PhD  
PhD Plant Agriculture  
Past President,  
Graduate Student Association



# Student Resources

Choosing a university for your post-graduate journey can be challenging. Within the Ontario Agricultural College at the University of Guelph, we are dedicated to ensuring that your academic journey aligns seamlessly with your passions. Whether your goal is to gain immersive Canadian industry experience, cultivate invaluable skills, or pursue an academic career, our university strives to provide you with the best graduate programs tailored to meet your goals.

“My transition to the University of Guelph as an International Student has been transformative, a catalyst for personal growth, expanding my cultural awareness, and creating lasting memories. With time and perseverance, I believe that International Students can embrace this new environment and build a strong support network through a comprehensive list of resources offered!”

Dharamdeo Singh, MSc  
PhD Food Science Current Student



## List of Resources

**Now that you have looked at our comprehensive list of programs, here is a list of resources that you can access to start on your Graduate Studies journey with OAC.**

### Admissions and Application Process

- [Application Documents](#)
- [Calculating Your Admission Average](#)
- [English Language Proficiency](#)
- [International Applicants](#)
- [International Credential Guidelines](#)

### Funding & Scholarship

- [Cost of Tuition/Living](#)
- [Funding Graduate Studies](#)
- [Graduate Award Search](#)

### Arriving and Living in Canada

- [International and Out of Province Students](#)
- [Living in Canada](#)
- [New International Students](#)
- [Graduate Student Housing](#)
- [Off-Campus Living](#)

### Student Experience Resources

- [Advising and Support](#)
- [Get Involved On Campus](#)
- [Graduate Students' Association](#)
- [Graduate Skills Development](#)
- [Student Volunteer Connections](#)
- [Guelph International](#)
- [International Student Experience](#)
- [Guelph International in the Student Experience Office](#)
- [Immigration and Study Permits](#)
- [International Student Advising](#)

# Immerse Yourself in Guelph

Welcome to one of Ontario's fastest growing, best run cities: **Guelph, Ontario**. With a population of over 135,000, you'll get the feeling of a major community and the welcome of a smaller town. The architecture is rich, the downtown core is vibrant, the legacy and cultural diversity is strong, and the community and campus are interconnected. To learn more about Life at Guelph visit [graduatestudies.uoguelph.ca/about/life-guelph](http://graduatestudies.uoguelph.ca/about/life-guelph)

**Ridgetown Campus** is located in southwestern Ontario (1 hour south-west of London, ON and 1 hour east of Windsor, ON). It is a safe, quiet, and friendly community of 3,500 people where you will get to see the bounty of local agriculture and small-town living.



## Things to do in Guelph

- [Life at Guelph](#)
- [External Volunteering Opportunities](#)
- [Discover Downtown](#)
- [Arts and Culture](#)
- [Parks and Trails](#)
- [Guelph Tourism](#)
- [Guelph Museums](#)
- [Arboretum](#)
- [Guelph Lake Conservation Area](#)
- [Art Gallery of Guelph](#)
- [Farmer's Market](#)
- [Guelph Storm OHL Team](#)

## Getting around


Make your journey to and from campus easier with Guelph Transit. The city buses connect you from our campus to anywhere within the City of Guelph. Find more information on [Guelph Transit](http://Guelph Transit).

GO Bus transit connects the University Centre to the Greater Toronto Area and Mississauga, throughout the day during weekdays. [gotransit.com](http://gotransit.com)

## Climate

### 4 distinct seasons

- 🍂 **Spring:** mid-March to May  
10° to 20° C (some rain)
- ☀️ **Summer:** June to August  
20° to 30° C (humid)
- 🍁 **Fall:** September to November  
7° to 20° C (some rain)
- ❄️ **Winter:** December to mid-March  
-15° to 2° C (snow, sunny)



The University of Guelph Arboretum, a living museum and outdoor laboratory. The Arboretum has been a space that has served our graduates for everything from a site for behavioral economics experiments, landscape architecture design, ecological studies, and plant collection ranging from botanical learning to bee research and studies of insect-vector tree pathogens. Established in 1970, The Arboretum's 400+ acres of trees, trails, gardens, natural areas, and wetlands promote conservation of biodiversity and connection to nature with 12.5 km of hiking trails that connect to the city and Ontario's popular Bruce Trail system.

[arboretum.uoguelph.ca](http://arboretum.uoguelph.ca)

**Contact or visit us!**

Research and Graduate Studies  
Ontario Agricultural College, Dean's Office  
Johnston Hall, University of Guelph,  
50 Stone Rd E, Guelph, ON N1G 2W1

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[gradinfo@uoguelph.ca](mailto:gradinfo@uoguelph.ca)