

SHARE:

[Join Our Email List](#)

May 2020



A collaboration between OMAFRA and the University of Guelph

Alliance Innovations

Stories of the Alliance people, places and programs generating impact in the agri-food sector in Ontario and around the world.

[Subscribe here >](#)

In this issue:

- Alliance-funded projects presented at the 2021 Rural Symposium
- Meet three HQP scholars and learn about their dairy, food science and engineering projects
- Explore the Ontario Aquaculture Research Centre in Alma
- News, media/publications and more

What's New?



Funded projects list available on Alliance website

Research funded by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) through the Ontario Agri-Food



Explore research at Ontario's agricultural research centres

Did you miss a webinar in the recent series exploring the impact of research at the Ontario Crops Research Centres in Simcoe or Elora,



Update on the Ontario Swine Research Centre

The University of Guelph, in partnership with the Government of Ontario and the Ontario swine industry, is overseeing the construction of a new swine

Innovation Alliance solves real-world challenges and yields meaningful innovations that contribute to the success of the province's agri-food sector and promote rural economic development throughout Ontario. See the list of projects that were approved in 2020 for Alliance programs.

[Read more >](#)

the Ontario Beef Research Centre or the Ontario Aquaculture Research Centre? Learn more about the research centres that power the productivity of Ontario's multi-billion-dollar agri-food sector.

[Read more >](#)

research centre at the Elora Research Station. The new centre will enhance existing capacity for research, innovation and development of new technology. The tender has been issued and construction expected to begin this year.

[Read more >](#)

View presentations from the 2021 Rural Symposium

Selected presentations from the Feb. 11 Rural Symposium, hosted by U of G's School of Environmental Design and Rural Development, OMAFRA and the Ontario Agri-Food Innovation Alliance, are available in the journal [*Rural Review: Ontario Rural Planning, Development and Policy*](#). Contact presenters if you have questions or would like further information.

Presentations are linked below; those funded by the Alliance are marked with an asterisk(*).

[**Aggregate and Agriculture: Cultivating Neighbourly Relations, Stories from Across Ontario***](#)

Jeff Reichheld, Emily Hehl, Regan Zink

[**Assessing Land Use Planning Tools to Mitigate Odour and Lighting Nuisance Related to Cannabis Production***](#)

Alessia Pugliese, Jordan Scholten, Samantha Yeung

[**Disruptive Technologies in the Agri-Food Sector: A Knowledge Synthesis**](#)

Joelena Leader, Ben Shantz

[**Municipal Capacity: A Greenbelt Focus**](#)

Elise Geschiere, Regan Zink, Emily Sousa

[**The Impacts of On-Farm Diversification to the Family Farm and the Intersection of Land Preservation through Public Planning in Ontario***](#)

Pamela Duesling

[**The Transformation of Soil Advisory Services in Ontario***](#) (Alliance KTT Program)

Ezekiel Martin

[**Understanding Local Water Collaboration for the Potential to Enhance Community Source Water Protection at Chippewas of the Thames First Nation**](#)

Natalya Garrod



Highly Qualified Personnel program scholarship recipients

The Ontario Agri-Food Innovation Alliance's Highly Qualified Personnel (HQP) scholarship program, jointly funded by [Food from Thought](#) and the [Alliance](#), supports the development of highly skilled graduates to become future researchers, policy-makers, business leaders and innovators who can meet the changing demands of the agri-food industry.

The program includes an Innovation and Entrepreneurship course, in which students become partners with external organizations to solve real-world challenges. HQP scholarship recipients also conduct graduate research projects that address Ontario Ministry of Agriculture, Food and Rural Affairs priorities and support the mission and vision of the Food from Thought program.

Meet the scholars

Each month we will introduce several forward-thinking HQP scholarship recipients and their research projects. Each link will take you to a biography where you can learn more about scholars' research and collaborations, their motivations and the potential impacts of their research.



Nicholas Werry, Department of Biomedical Science

"I chose to study with Dr. LaMarre as his research program allows me to apply my education in molecular genetics to interesting and relevant problems in the dairy industry, as my work is focused on identifying molecular biomarkers in bovine semen to predict fertility. I intend to apply my knowledge of genetics to the livestock production industry in the future, so the connections developed through the HQP program will be invaluable."

[Learn more about Nicholas's research >](#)



April Xu, Department of Food Science

"My research closely aligns with the Food for Health topic as we are trying to determine whether food processing (and almost all of our food is processed in some way) affects the way food is digested. We hope that we can eventually figure out a way to process foods that is the most beneficial for our health! Through the HQP program, I hope to meet like-minded individuals and hope to make a difference in the future of the food industry."

[Learn more about April's research >](#)



Anna Welboren, Department of Animal Biosciences

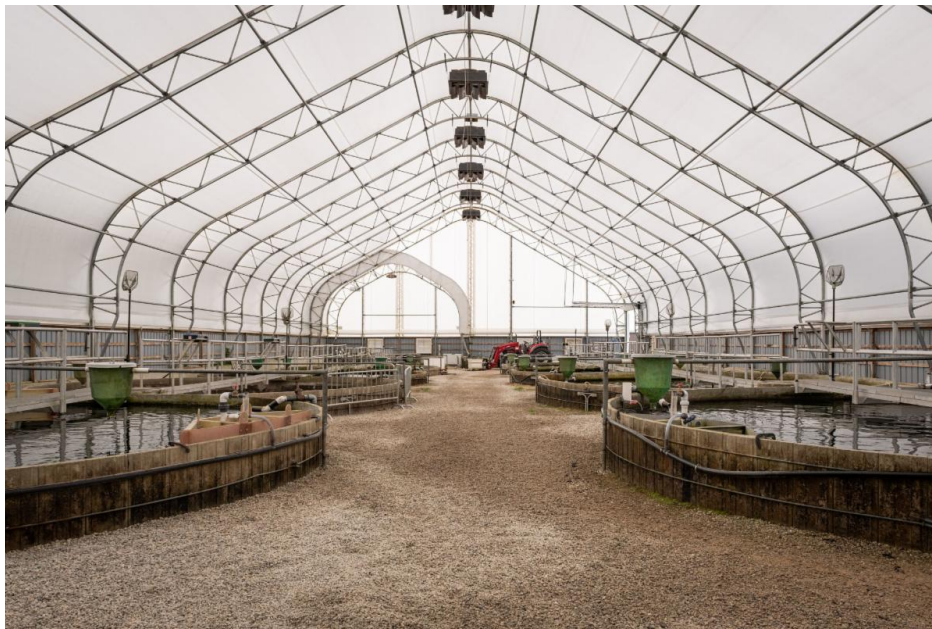
Anna's project focuses on effects of macronutrient composition of milk replacer on intestinal health in



neonatal dairy calves. Her research will provide insight into how the quantity and quality of macronutrients, such as fat and lactose, influence gut barrier function and overall gut development. The project could result in the development of new milk replacer formulations to improve calf performance and optimize milk production on dairy farms. [Learn more about Anna's research >](#)

Focus ON: Ontario Agricultural Research Centres

Ontario Aquaculture Research Centre



The Ontario Aquaculture Research Centre was established in 1993 by OMAFRA and the University of Guelph to assist the commercial fish farming industry in Ontario. It was previously known as the Alma Aquaculture Research Station. The research centre supports teaching, training, collaboration, research, resilience and sustainability for the aquaculture industry.

Research at the centre has always focused on rainbow trout because this species represents about 92 per cent of the total volume of seafood products from the aquaculture industry in Ontario. However, the centre houses several types of fish.

Arctic char

- Population maintained since U of G introduced it to Ontario in the mid-1990s

Lake whitefish

- Being investigated as an alternative aquaculture species in Ontario
- The research centre is trying to create a captive breeding population for this species using wild-caught fish from Georgian Bay that are reared at the facility.
- Because the fish are typically 4 to 5 years of age when they reach maturity, egg collection has been unsuccessful so far.

Lake sturgeon

- Brought in from wild collections in northern Ontario for research projects

Coho salmon and yellow perch

- The first batches of eggs for both these species were received in 2021.
- Both species are being investigated as alternatives for culture in Ontario.
- Not much is known about rearing coho salmon or yellow perch, so centre staff are learning as much as possible to help Ontario growers adopt these species.



Primary areas of research include:

- Breeding and genetics
- Culture methodology
- Fish health
- Welfare and behaviour
- Nutrition
- Growth and reproductive physiology
- Waste management



About the facility



The centre has 2,600 square metres of floor space with more than 350 fish-rearing units that allow for fish production and research from egg to broodstock. On-site facilities include:

- Administration building
- Five wet labs
- Quarantine facility
- Incubation facility
- Hatchery

One of the wet labs is a quarantine facility with a recirculating aquaculture system; the centre offers quarantine facilities for the controlled importation of exotic species or strains

of fish. To date, the quarantine unit has been used to successfully import and study Atlantic salmon, Nile tilapia, lake whitefish, lake sturgeon, coho salmon and yellow perch. The research centre has also developed a breeding population of Arctic char and new strains of spring-spawning rainbow trout for Ontario farmers.

Research at the Ontario Aquaculture Research Centre



Research supports the agriculture sector by providing a space for researchers to generate discoveries and fuel innovation that increases productivity and sustainability and leads to greater job creation and trade.

You can see a list of [current research projects](#) at the facility on the Alliance website.

Relevance to the aquaculture industry

The Ontario Aquaculture Research Centre provides necessary expertise and capacity for Ontario's small- and mid-sized fish farming businesses and supports market development for a fast-changing sector.

Centre staff and partners (including OMAFRA staff and staff from Fisheries and Oceans Canada) offer a [workshop](#) on the requirements needed to initiate and operate an aquaculture or aquaponics farm in Ontario. The workshop is intended for novices interested in entering the industry.

The centre also provides continuing education opportunities for Ontario fish farmers by hosting groups and training on topics such as recirculating aquaculture systems and biosecurity, in addition to demonstrating new technologies such as equipment for humane slaughter.

The centre also supports farmers by facilitating the sharing of knowledge and protocols. The development of alternative aquaculture species is a risky activity. Centre staff can test various rearing and feeding methods to develop standard operating procedures intended to help private sector farms in adding new species.

Besides working with academic researchers, research centre staff work directly with the aquaculture industry to answer applied research questions. For example, staff are testing a natural product designed to reduce fungus growth during egg incubation, which would improve egg production and reduce the use of chemical products.

Take a deep dive into aquaculture research

Dr. David Huyben, professor in the Department of Animal Biosciences at the University of Guelph and industry partner R.J. Taylor talked about research and collaborations enabled by the Ontario Aquaculture Research Centre in this webinar (filmed on April 9): [Exploring the Impact of the Ontario Aquaculture Research Centre.](#)



Media

A selection of Alliance people, places and programs cited in popular and trade media

[Over 2,000 trees along Victoria Road being removed as part of U of G research project](#) (*Guelph Today*, March 25)

Lead researcher Dr. Naresh Thevathasan spoke with Guelph Today about the agroforestry research project being completed at the Guelph Research Station.

[Why profitable farms can produce less carbon](#) (*Farmtario*, April 15)

Dr. Claudia Wagner-Riddle and Dr. Susantha Jayasundara were also contributing editors to a white paper titled “Livestock and Greenhouse Gases” written by Mike McMorris, CEO of the Livestock Research Innovation Corp., and Chloe Neudorf. Read more about key practices of farms producing a low level of carbon emissions in this 2020 Agri-Food Yearbook article: [It pays to be environmentally friendly: Carbon footprint-friendly dairy farming leads to a healthy planet...and a healthy bottom line.](#)

[What is the right way to deal with livestock mortality?](#) (U of G One Health, April 5)

Dr. Brandon Gilroyed and his team, funded by the Ontario Agri-Food Innovation Alliance and the Egg Farmers of Canada, developed a process called ambient alkaline hydrolysis.

[OVC Expert Contributes to Global Paper on Equine Asthma](#) (Ontario Veterinary College, April 8)

Dr. Dorothee Bienzle’s review is based on equine research funded in part by an Alliance-funded project.

[A Holistic Study to Conserve Our Great Lakes](#) (College of Engineering and Physical Sciences, April 22)

Engineering professors [Dr. Jana Levison](#) and [Dr. Andrew Binns](#), along with engineering PhD student Ceilidh Mackie and [Dr. Ivan O'Halloran](#), School of Environmental Sciences, have conducted a field study in the Great Lakes Basin. Funded partly by the Ontario Agri-Food Innovation Alliance, this study seeks to understand nutrient dynamics and the relationship between water quality and land management practices.

OVC Bulletin profiles Alliance-funded projects for Nutrition Month (March 31)

- [OVC researchers explore metabolic disease in dairy cattle](#) (Dr. Todd Duffield)
- [Researchers at OVC discover need for further iron supplementation in pigs](#) (Dr. Robert Friendship)
- [OVC researchers developing probiotics for poultry](#) (Dr. Shayan Sharif)

Events

Pathways to Commercialization

Spotlighting Successes from the Gryphon's LAAIR Program



Reminder: Pathways to Commercialization is tomorrow!

Tomorrow morning, Tues. May 4 from 9 to 11 a.m., join the Alliance and OMAFRA for a virtual event profiling innovative technology and commercialization activities funded through the Gryphon's LAAIR (Leading to the Accelerated Adoption of Innovative Research) program.

[Learn more >](#)





Register to attend the 2021 Gryphon's LAAIR pitch competition finale

See the real-world impact of U of G innovators on the Ontario economy in this free online event. From May 15 to 19, you can vote for your favourite for the People's Choice Award. On May 19, a team of judges will announce which competitor will win \$10,000.

[Register now >](#)

Make an Alliance Connection



Twitter
[@AgInnovationOn](#)



LinkedIn
[@ontario-agri-food-innovation-alliance](#)



Website
[uoguelph.ca/alliance](#)

Comments? Feedback? Events or content to include? Email kttadmin@uoguelph.ca.



IMPROVE LIFE.

