

CANN₂ONET
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THE N FACTOR

FEBRUARY 2026

FALL FORUM RECAP

Last fall, CanN₂ONet members gathered in Guelph for our second annual in-person All-Hands Meeting, bringing together more than 70 participants from academia, government, and industry. The meeting provided a valuable opportunity to connect and reflect on the progress being made across the network. Researchers delivered presentations highlighting key accomplishments, emerging findings, and ongoing initiatives. Industry and government partners including Agriculture and Agri-Food Canada, Fertilizer Canada, and Nutrien Ag Solutions also provided insight into ongoing activities.



Breakout discussions focused on identifying shared challenges within and across working groups, with an emphasis on fostering integration. Participants explored how teams can better align efforts, contribute complementary expertise, and ensure their work fits into the broader vision of CanN₂ONet. Thank you to everyone who participated and contributed. We look forward to building on this momentum in the months ahead.

GET TO KNOW CANN₂ONET

An inside look at the people who are driving the project forward!

Nicolás Novoa, MSc

PhD Student

University of Saskatchewan

Nicolás Novoa is a PhD student in the Department of Soil Science at the University of Saskatchewan, working under the supervision of Professor Bobbi Helgason. His research focuses on uncovering the microbial pathways and drivers of N₂O emissions in Canadian agricultural soils under different traditional and enhanced fertilization regimens. By integrating molecular tools with soil incubation experiments, his work aims to better understand the role of microbial communities in greenhouse gas dynamics and contribute to the development of more sustainable nitrogen management strategies.

Nicolás was born in Bogotá, Colombia. He earned his bachelor's degree in biology from La Salle University, Colombia and master's degree from the National University of Colombia, investigating and characterizing the potential of synthetic microbial communities to enhance rice straw degradation in the field.



Mario Tenuta, PhD

Senior Industrial Research Chair in 4R

Nutrient Management & Professor

University of Manitoba



Dr. Mario Tenuta (Ph.D., P.Ag.) is the NSERC/Western Grains Research Foundation/Fertilizer Canada Senior Industrial Research Chair in 4R Nutrient Stewardship, Professor of Applied Soil Ecology at the University of Manitoba, and co-principal investigator of CanN₂O Net. His background spans botany, soil fertility, plant pathology, and nematology.

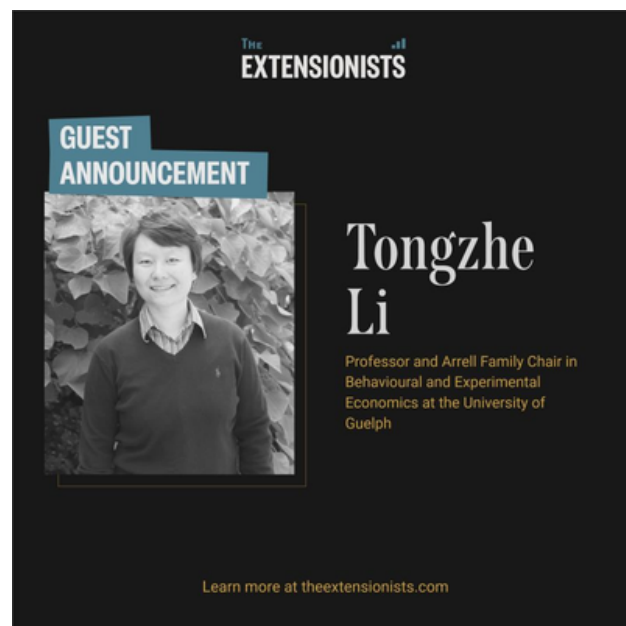
His Chair program advances 4R nitrogen management to reduce N₂O emissions while improving soil health and crop productivity, with a strong emphasis on farm-based research and outreach to farmers, industry, and policy-makers.

Recognizing a gap in year-round measurements of N₂O and CO₂ from Prairie cropping systems, Dr. Tenuta established Trace Gas Manitoba (TGAS-MAN) in 2005 to measure whole-field emissions. The site is now a CanN₂O Net benchmark location. In 2022, he and his team launched a second benchmark site, Trace Gas Harvest Moon (TGAS-HM).

RESEARCH IN THE SPOTLIGHT

In January, CanN₂O Net researcher Dr. Tongzhe Li sat down with Jay Whetter and Toban Dyck of the Extensionists podcast to discuss how her research aims to better amplify farmer voices and inform improved on-farm decision-making. You can listen to the episode [here](#).

Dr. Mario Tenuta was recently featured in Canola Digest touring the CanN₂O Net field tower site in Clearwater, Manitoba and the economics of emission reduction. Check out the article [here](#).



Hot Off the Press!

- *Agricultural nitrous oxide emissions across twenty years of micrometeorological observations show trends associated with soil freezing and fertilizer application by Brown et al. (2026).*
- *Net ecosystem carbon balance and greenhouse gas budget of a canola-wheat cropping system in the northern prairies by Ferland et al. (2026).*

CANN₂ONET OPPORTUNITIES



We are hiring for positions across Canada to work on exciting components of CanN₂O Net. Students and recent graduates that are interested in atmospheric science, agricultural micrometeorology, and modelling agricultural management practices should check out the full postings on our website.

Do you have an opportunity, article, or media you'd like to share? Send the information to edaly02@uoguelph.ca