2026 Hive Minds: Bridging the Gap Between Science and Beekeeping

PROGRAM BOOKLET

January through April, 2026

Every Wednesday
7:30 pm EST

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ONTARIO BEEKEEPERS' ASSOCIATION
Since 1881

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TOPICS OF THE PROPOSAL

About the TTP

For more than two decades, the Technology Transfer Program (TTP) has been at the heart of Ontario's beekeeping community. As part of the Ontario Beekeepers' Association (OBA), the TTP works hand-in-hand with beekeepers, researchers, and industry partners to support healthy, sustainable beekeeping across the province

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Our mission is simple: to provide Ontario beekeepers with the knowledge, tools, and innovations they need to thrive. We bridge the gap between science and practice—testing new products and management strategies in real-world apiaries and sharing those results directly with beekeepers through training, workshops, and outreach.

Each season, our team of field specialists travels across Ontario, working alongside beekeepers of all sizes to monitor honey bee health, evaluate management techniques, and promote best practices for pest and disease control. Through our research trials and extension services, we help ensure that Ontario's beekeeping industry remains strong, resilient, and adaptable in a changing world.

Beyond research, the TTP is about connection and community. We believe that collaboration drives progress, and we take pride in fostering relationships between beekeepers, farmers, scientists, and industry leaders. Programs, such as Hive Minds, allows us to continue our work—educating beekeepers, sustaining local agriculture, and strengthening the communities that depend on them. Together, we can ensure that bees—and the people who care for them—continue to thrive for generations to come.

Meet Our Team

Britteny Kyle
Lead Specialist

Charliese Wand
Technician

Meg Doran
Technician

Meet the dedicated team behind the Ontario Beekeepers' Association's Technology Transfer Program! We are a group of passionate individuals focused on research, education, and outreach to elevate Ontario's beekeeping industry.

Our team is led by Dr. Britteny Kyle, an expert in bee health with a background in veterinary medicine. Meg Doran uses her biology background to advance bee research and share new insights with the community. Charliese Wand brings over a decade of beekeeping experience and enjoys connecting with fellow beekeepers to build healthy, thriving colonies.

We are not just the A team... we are also the Bee team!

About The Event

16 week webinar series

- One webinar per week
- Runs every Wednesday from January 7 to April 22 at 7:30 pm
- 45-50 minute presentation followed by 20-30 min Q&A
- Q&A hosted by TTP Lead + one invited guest/OBA board member to apply what has been presented to the context of Ontario beekeeping
- Webinars will cover a range of topics to appeal to different sectors within our diverse industry
- Sessions will be livestreamed and recorded for on-demand viewing

Event Highlight

Education for beekeepers about current research and pressing topics.

Application of research findings to the context of Ontario beekeeping

Fosters a feeling of community

Supports Local Beekeepers' Associations with an on-demand viewing library of curated talks.

Event Schedule

Jan 7
Samuel Ramsey
TBD

Jan 14
Jamie Ellis
Recognizing and Mitigating Queen Events

Jan 21
Rogan Toakch
The Infamous Tropilaelaps Mite

Jan 28
Ian Steppler
Getting Ahead of the Game: Preparing for the Upcoming Season

Feb 4
Priyadarshini Chakrabarti Basu
Current Understanding of Honey Bee Nutrition

Feb 11
Current Research Highlights
Short Research Talks

Feb 18
Lewis Bartlett
Marching North: How to Prepare for Yellow-legged Hornets

Feb 25
Christine McDonald
Failing Forward: Beekeeping Lessons Learned

Event Schedule

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Garett Slater

Bee Breeding in the Age of Genomics

Mar 11

Meghan Milbrath

What to do with European foulbrood?!

Mar 18

Kim Skyrm

Partnering for Healthy Bees: the Value of Apiary Inspection Programs

Mar 25

Vera Strogolova

Probiotics and the Potential for Pesticide Risk Mitigation

Apr 1

David Peck

Varroa destructor: History, Biology, and Year-Round Monitoring and Management

Apr 8

Current Research Highlights

Short Research Talks

Apr 15

Reed Johnson

TBD

Apr 22

TBD

The Perfect Winter Storm: Varroa, Viruses, and Amitraz Resistance

Featured Webinars

Recognizing and Mitigating Queen Events

Jamie Ellis

Beekeepers regularly report that queen quality and management are responsible for a significant portion of their colony losses. In this lecture, Dr. Ellis will convey the most important queen-related stressors and discuss how to address these issues by effective stock selection and requeening.

The Infamous Tropilaelaps Mite

Rogan Tokach

Tropilaelaps mercedesae is a parasitic mite on western honey bees causing increased concern as it continues its global expansion being discovered in new geographic areas. This talk goes into detail about the mite's biology and life cycle, how it causes harm to honey bee colonies, and mite dispersal. Current monitoring efforts being undertaken to determine rapid detection and government response is also addressed. Lastly, the talk finishes up describing the different management practices that can be utilized to assist in control of this parasitic mite threat.

Bee Breeding in the Age of Genomics

Garett Slater

Across North America, beekeepers lose up to 45% of their colonies each year. One promising solution lies in selective breeding—and genomics can play a key role. By identifying genetic traits linked to strong, productive, and resilient colonies, beekeepers can raise queens better suited to today's challenges. Unfortunately, these genomic tools have not been develooped for beekeepers. Garett Slater is working to change that. In this session, he will share updates on his efforts to develop practical, easy-to-use genomic tools that help beekeepers select and breed queens with desirable traits. He will also explain how these tools can help commercial and sideline operations make more informed breeding decisions.

Failing Forward: Beekeeping Lessons Learned

Christine McDonald

Christine will share some of her more memorable mistakes made and lessons learned as she built up from a two-hive hobbyist to a 200-hive full-timer.

What to do with European foulbrood?!

Meghan Milbrath

European foulbrood is a frustrating disease of honey bees that seems to be on the rise. In this talk we will cover some basics of EFB, and will teach you what to do if you suspect EFB in your hives. We will cover diagnosis, confirmation, treatment options, and prevention of this bacterial brood disease.

Partnering for Healthy Bees: the Value of Apiary Inspection Programs

Kim Skyrm

Apiary inspection programs play a vital role in supporting honey bee health, preventing the spread of pests and diseases, and strengthening the sustainability of beekeeping. This presentation will explore how these programs operate, the science and services behind them, and the many ways they benefit both individual beekeepers and the broader industry. By highlighting real-world examples and practical strategies for collaboration, attendees will gain a clearer understanding of how partnering with inspectors can build trust, improve colony management, and promote a healthier, more resilient beekeeping community.

Varroa destructor: History, Biology, and Year-Round Monitoring and Management

David Peck

In this lecture, we'll explore the most important aspects of varroa mite biology, getting to know this devastating parasite of honey bees. Then, once we understand our enemy, we'll learn what tools and techniques we have to manage and kill them in our hives. We will emphasize the importance of a Varroa Management Plan with a year-round scope, instead of occasional panicked attempts to knock the mite population down once or twice a year

Probiotics and the potential of pesticide risk mitigation

Vera Strogolova

Honey bees are agriculturally important pollinators that are often exposed to crop protection pesticides. Despite the pesticide risk assessments and label recommended application directions, honey bee colonies are exposed to systemic insecticides, pesticides drifting to adjacent floral resources, and mixing of multiple pesticides and synergistic chemicals. How can we protect bees from pesticides? Gut microbiota plays a role in the resiliency of some pest insects to pesticides. Laboratory and field studies (Peghaire et al. 2020, Leska et al. 2022, Motta and Moran 2024) indicate that the microorganisms in honey bee gut and in honey bee environment play a role in binding and detoxifying a wide range pesticides. Oral administration of probiotic lactic acid bacteria can decrease pesticide-induced adverse effects in honey bees. This talk will review modes of action and field trial results.

90,000 hours of listening: foraging patterns of bees on two dozen flowers

Luke Hearon - Current Research Highlights (February 11th)

Our lab has developed a free and open source tool called "buzzdetect" that enables monitoring of pollinator activity using microphones. Over the last few years, we have collected thousands of hours of audio from a wide variety of flowers. The data reveal that the timing of foraging varies strongly from flower to flower, with some plants (e.g., partridge pea, chicory) showing peak activity early in the morning, while in other plants (e.g., beebalm, milkweed) foraging continues right up until sunset. This talk will present an exploration of bee behavior revealed by these data as well as implications for pesticide exposure and the timing of pesticide applications in agricultural systems

Feeding bees in soybean fields with clover

Lillian Johnson - *Current Research Highlights (April 8th)*

The corn-soybean crop rotation system is widespread in the Midwest agricultural landscape. In this system, honey bees and soybeans have a mutually beneficial relationship where nectar is provided in exchange for pollination that can improve yield. However, honey bees living in this system do not have access to a variety of food sources, leaving them nutritionally limited. At the same time, growers frequently manage low-yielding field areas that cost more to farm than they return. Planting clover patches in low-yielding areas of fields represent a potential “win-win solution” for bees and growers. The implementation of clover could provide bees with a supplemental food source. At the same time, clovers planted in the field remove low-yielding areas from production, benefiting growers. This experiment investigates the potential for clover within soybean fields to increase bee activity and soybean yield. To assess this, honey bee activity was measured at various distances from clover patches using audio recordings processed through a machine learning model trained to detect bee buzzing. Soybean yield was measured through hand-harvesting. Together, these data will test the viability of in-field clover patches as a strategy to enhance bee forage while reducing production costs and potentially increasing yields for soybean growers.

Amitraz resistance assays for Varroa destructor and applications to field work

Devan Rawn - Current Research Highlights (February 11th)

A walk through of our current research identifying mites that are resistant to amitraz and other synthetic acaricides. We have been conducting research relating mites that show resistant genotypes and phenotypes in small lab assays to field-relevant control in hives. The results do not always align the way we expect them to and that leads to recommendations for both researchers and beekeepers.

Evaluation of the Efficacy of Promising Compounds for the Control of Varroa destructor and Their Toxicity to Honey Bees (*Apis mellifera*)

Louise Petit - Current Research Highlights (April 8th)

To control Varroa destructor, beekeepers currently rely on synthetic acaricides, natural acaricides, and management practices. In the United States, only three modes of action are available among synthetic chemicals, and resistance has been detected for all of them, underscoring the continued need to develop new acaricides that are both effective and safe for honey bee colonies. In this study, we evaluated four promising compounds (pyridaben, fenpyroximate, fenazaquin, and carbamate 421) for their laboratory efficacy against mites and their safety for honey bees. Honey bee toxicity tests included topical toxicity on adults, acute oral toxicity on larvae, chronic oral toxicity on adults, and assessments of potential synergistic or antagonistic effects with amitraz.

Investigating the Effects of Temperature on Oxalic Acid Vaporization Efficacy for the Control of Varroa destructor

Marie Yanchak - Current Research Highlights (April 8th)

Oxalic acid (OA) vaporization is an increasingly popular treatment against Varroa destructor in managed honey bee (Apis mellifera) colonies. However, many widely used and readily available vaporizers have a default temperature setting that is much higher than the known decomposition point of OA. The effects, if any, that vaporization temperature have on OA vapor efficacy are not well understood. Our work aimed to investigate the impacts of vaporization temperature on OA vapor efficacy in field conditions, and to quantify OA purity after vaporization at different temperatures. The results of this work may lead to improved efficacy of OA vaporization and help inform best practices in OA vapor application for beekeepers.

About Our Speakers

Lewis Bartlett

Dr Lewis Bartlett is a faculty assistant research scientist at the University of Georgia between the departments of Entomology and Ecology. He works on infectious disease and parasite control alongside honey bee biology and health. He has worked with and kept bees for over ten years across the UK, California, and Georgia. Some of his recent research includes the effect of pesticide exposure on bee health, new parasite controls, crowding of honey bees, and the mechanisms bees use to keep themselves clean.

Priyadarshini Chakrabarti Basu

Dr. Priya Chakrabarti Basu is an Assistant Professor at the Department of Entomology, Washington State University. Priya is also a courtesy faculty at Oregon State University. She was previously an Assistant Professor at Mississippi State University. Priya studies the interactive impacts of multiple stressors on bees, for example poor nutrition, pesticides, climate change and diseases. She uses a wide array of multidisciplinary techniques across fields such as physiology, toxicology, functional biology, multiomics-based approaches and neuroethology to address her research questions. She is currently the Secretary/Treasurer of the American Association of Professional Apiculturists, the Vice-President Elect of the PBT Section of the Entomological Society of America and the North American Chair of the nutrition taskforce for COLOSS, the international bee organization. She was also the past Chair of the Early Careers Professionals Committee of the Entomological Society of America and the Vice-President of Mississippi Entomological Association. In addition to the research community, Priya enjoys teaching and working with stakeholders, policymakers and the general community in protecting bee pollinators and raising pollinator awareness. Priya is also a children's book author to help spread pollinator awareness among young readers. More information about her lab's research can be found at: www.priyadarshinichakrabarti.com.

Jamie Ellis

Dr. Jamie Ellis is the Gahan Endowed Professor of Entomology in the Entomology and Nematology Department at the University of Florida. He has a BS degree in Biology from the University of Georgia (USA) and a PhD in Entomology from Rhodes University in South Africa. At the University of Florida, Jamie has responsibilities in extension, instruction, and research. Regarding his extension work, Jamie works with assorted clientele through diverse programming such as the UF/IFAS Bee College and the UF/IFAS Master Beekeeper Program. As an instructor, Jamie supervises PhD and masters students. Currently, Jamie and his team have over 30 active research projects in the fields of honey bee husbandry, conservation, and ecology.

Luke Hearon

Luke Hearon is a PhD student at the Honey Bee Lab at The Ohio State University. His research focuses on developing and applying methods of pollinator monitoring using microphones. Luke got started in beekeeping as an undergraduate through the traditional route of overconfidence, but he got connected with the Bee Lab after a couple of failed overwinterings and decided to inflict his skills upon OSU's bees instead. After a master's degree studying a zooplankton predator in lakes at the University of Illinois Urbana-Champaign, Luke returned to OSU's Honey Bee lab to begin a doctorate. Most of his research is conducted outside of the hive, examining pollination activity in agricultural ecosystems, with a particular focus on the patterns of foraging across time.

Lillian Johnson

Lillian Johnson is a PhD student at the Ohio State University where she is advised by Dr. Reed Johnson. Her research is generally focused on changing soybean agricultural management practices to be more honey bee friendly, and documenting the effects of these changes. More specifically, she has led projects that focus on shifting the timing of pesticide applications to times when bees are not active in soybean, and replacing unproductive land in soybean fields with clover to improve the nutritional profile of the landscape.

Christine McDonald

Christine and her husband, Tavis, run Rushing River Apiaries in Northern BC. They sell nucs, teach and mentor others, and produce honey, beeswax candles, and a wide range of other hive products for local markets. Christine loves helping beekeepers build confidence and is an open book when it comes to the knowledge and experience she has acquired over the years.

Meghan Milbrath

Meghan Milbrath currently works as a research scientist and Extension specialist in the department of Entomology at Michigan State University and teaches honey bee Medicine at Michigan State University College of Veterinary Medicine. Her background is in public health; she earned a PhD in Environmental Health Sciences at the University of Michigan School of Public Health, and an MPH from Tulane University School of public health and tropical medicine, and that perspective drives her work on honey bee health. She switched to studying bees after a postdoctoral research appointment with Dr. Zachary Huang, studying nosema disease. However, Meghan has been a beekeeper her whole life, starting with keeping bees as a kid with her dad in Northern Wisconsin as a hobby, and now running a honey bee farm in Southern Michigan - The Sand Hill Bees. She is passionate about supporting the health of honey bees, and loves working with beekeepers.

David Peck

Dr. Peck is the Director of Research and Education at Betterbee in Greenwich, NY, where he assists in product development and research, and also teaches classes and develops scientifically-sound educational materials. His doctoral work in Cornell University's Department of Neurobiology and Behavior was supervised by Professor Tom Seeley. His dissertation research focused on the transmission of mites between bee colonies, as well as the mite-resistance traits of the untreated honey bees living in Cornell's Arnot Forest. After earning his degree, he has continued to research varroa/bee interactions, including fieldwork in Newfoundland, Canada (where varroa still have not arrived) and Anosy Madagascar (where varroa arrived only in 2010 or 2011). He has served as a teaching postdoctoral fellow in Cornell's Department of Entomology, and is still affiliated with Cornell through the Honey Bee Health program in the College of Veterinary Medicine. Dr. Peck has kept bees for more than a decade, though his home apiary is often full of mite-riddled research colonies so he doesn't usually produce much honey.

Louise Petit

Louise Petit is a Ph.D. student at the University of Florida Honey Bee Research and Extension Laboratory. She first joined the lab as a visiting scholar during her master's degree in bioengineering in France. Her research interests include honey bee toxicology. She has worked on different projects, including studies on the effects of pesticide residues in beeswax on adult honey bees in vitro, molecular epidemiology of Paenibacillus larvae, the causative agent of American foulbrood, and investigations into how biotic and abiotic stressors affect the honey bee proteome. Her Ph.D. research, supervised by Dr. Cameron Jack, focuses on controlling Varroa destructor.

Samuel Ramsey

Dr. Ramsey received his B.S. in entomology from Cornell University and his Ph.D. in entomology from the University of Maryland College Park. He completed his post-doctoral training with Dr. Jay Evans, Steve Cook, and Daniel Sonenshine at USDA-ARS Bee Research Laboratory and now serves as Endowed Professor of Entomology at CU Boulder's BioFrontiers Institute and the Ecology and Evolutionary Biology Department. He has been featured on Hulu's Docuseries—as well as in the Washington Post, New York Times, on NPR, CNN, Wired, CBS's This Morning, Khan Academy, Seeker, The Today Show, and several local news segments, Dr. Sammy is celebrated as an engaging science communicator, and he uses this talent to make science more accessible to a broad audience. His nonprofit, The Ramsey Research Foundation, works to develop novel pathways for scientific funding by removing paywalls that keep the public from engaging with published scientific work.

Devan Rawn

Devan Rawn is a lab and field technician working with Dr. Cameron Jack at the University of Florida's Honey Bee Research and Extension Lab since 2022. Previously a member of the OBA's Tech Transfer program beginning in 2010, Devan has kept bees and been involved with research in Canada and the US. Current research in Florida is focused on Varroa reproduction, acaricide resistance, as well as small hive beetle management and honey bee breeding.

Kim Skyrm

Dr. Kim Skyrm is the Chief Apiary Inspector for the Massachusetts Department of Agricultural Resources and East Director for the Apiary Inspectors of America. He holds a Ph.D. in Entomology from Oregon State University and has over 18 years of experience in pollinator research, management, and regulation. Dr. Skyrm leads statewide efforts in honey bee health surveillance, pest and disease diagnostics, beekeeper outreach, and apiary compliance. Drawing on a background in bumble bee ecology, research and commercial pollinator management, he applies a science-based, collaborative approach to inspection and education. His work focuses on strengthening partnerships between beekeepers and regulatory programs to promote sustainable beekeeping practices and long-term pollinator health.

Garett Slater

Garett Slater is the Apiculture Extension Specialist and an Assistant Professor at Texas A&M University, where he leads statewide efforts to support and educate beekeepers. He coordinates the Texas Master Beekeeping Program, develops extension resources, and provides training to help beekeepers improve colony health, management practices, and sustainable breeding efforts. His research focuses on helping beekeepers select and breed better bees across Texas.

Ian Steppler

Ian Steppler's family farm in Manitoba Canada is a third generation farm started by Ian's grandfather and carried forward by his parents. The farm is a collaborative undertaking to produce grain, beef, and honey. Ian bought his first 4 hives 19 years ago, but with dedication and passion is now managing 1200 to 1500 hives in his apiaries. Ian credits the current standing to those on whom he has leaned on over the years to help guide him though many management, logistical and husbandry issues. Ian is a big believer in paying it forward which motivates him to share his successes and failures with others in the beekeeping community.

Vera Strogolova

Vera Strogolova is a scientist, co-founder and CTO of Strong Microbials. Vera earned her M.S. in biology from the University of Wisconsin Milwaukee, where she studied how organisms respond to sugar, and her Ph.D. in biology from Marquette University, where she studied new aspects of how cells breathe. Vera is currently serving on the ABF Research Committee and COLOSS Nutrition Task Force. “I am a scientist fascinated by microbes. Before starting beekeeping, my background was in animal health and nutrition: I worked on industry research projects evaluating and optimizing probiotics for poultry, swine, and cows (direct-fed microbials). My interests are host-microbiome interaction, nutrition, and health in honeybees.”

Rogan Tokach

Rogan Tokach is a new assistant professor working on applied honey bee research at North Dakota State University. Rogan graduated with his PhD in 2025 from Auburn University where he studied under Dr. Geoff Williams. His research at Auburn focused on developing sustainable parasitic mite management strategies for beekeepers for both Varroa and Tropilaelaps mites. Rogan completed his MS degree at University of Nebraska-Lincoln under Dr. Autumn Smart and Dr. Judy Wu-Smart in 2022. Overall, he has 16 years of beekeeping experience at the hobbyist, research, and commercial levels.

Marie Yanchak

Marie Yanchak is a master's student at the University of Florida Honey Bee Research and Extension Lab. Marie has a background in commercial beekeeping and joined HBREL in 2024 after completing a B.S. in both Entomology and Agricultural Leadership & Development at Texas A&M University. Marie’s graduate research with Dr. Cameron Jack focuses on optimizing current methods of oxalic acid application for the control of Varroa destructor.

How to Register

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