

## 2021 INTEGRATED PEST MANAGEMENT WORKSHOP

WEDNESDAY, MARCH 10, 2021

Thank you for joining us at our 2021 Integrated Pest Management (IPM) Workshop.

We're pleased to present a diverse range of talented speakers who will provide you with the latest research and best management practices to help you keep your bees healthy.

We appreciate your understanding with moving this event to a 100% online format and understand that it is disappointing that we can't yet gather safely in person. However, we have incorporated a number of engaging features to ensure your workshop experience includes a valuable mix of education, networking, and fun.

### AGENDA

Wednesday, March 10, 2021  
9:00am - 4:30pm

**Moderator:** Dr. Renata Borba  
TTP Lead, Alberta Beekeepers Commission

- 9:00 9:10 Welcome & Opening Remarks**  
*Jeremy Olthof, ABC President*
- 9:10 9:35 Varroacide Resistance, and Search for Novel Varroacides**  
*Dr. Steven Cook, Honey Bee Health and Management, USDA-ARS*
- 9:35 10:00 A new Acaricidal Compound Against Varroa**  
*Dr. Stephen F. Pernal, Research Scientist, AAFC*
- 10:00 10:25 Provincial Apiculturist Update**  
*Samantha Muirhead, Alberta Provincial Apiculturist*
- 10:25 10:55 BREAK**
- 10:55 11:20 Developing a Vaccination Approach for Honeybees**  
*Prof. Dalia Freitak, Karl-Franzen University of Graz, Austria*
- 11:20 11:45 Nosema 101**  
*Dr. Shelley Hoover, Researcher, UofL*
- 11:50 12:15 Cautious Spring Feeding**  
*Ron Miksha, Commercial Beekeeper*

- 12:15 13:15 LUNCH BREAK**
- 13:15 13:40 The Honey Bee Colony Microbiota**  
*Dr. Kirk Anderson*
- 13:40 14:05 Honey Bee Viruses and Queens**  
*Dr. Olav Rueppell Professor, Faculty of Science - Biological Sciences, UofA*
- 14:05 14:30 TTP Colony Monitoring Update and 2021 Programs**  
*Dr. Renata Borba, TTP Lead, ABC*
- 14:30 15:00 BREAK**
- 15:00 15:25 Queen Failure: Two Years of Surveying BC Queens and Potential Causal Factors**  
*Dr. Alison McAfee, Postdoctoral Fellow, Michael Smith Laboratories*
- 15:25 15:50 The AB(ee)Cs of the IPM Pyramid**  
*Dr. Elizabeth Walsh, Postdoctoral Fellow, Beaverlodge Research Farm*
- BEES & BEERS**
- 15:50 16:10 Blindman Brewing - Hans Doef**
- 16:10 16:30 Networking**



## DR. STEVEN COOK

Dr. Cook is a USDA Research Entomologist stationed at the Beltsville Agricultural Research Center in Beltsville, MD. Dr. Cook also holds an adjunct professorship at the University of Maryland, College Park. Dr. Cook performs basic and applied research and extension activities focused on improving the health of honey bees through understanding and ameliorating the negative effects of stress from exposure to key honey bee pests and pathogens. For the past several years, Dr. Cook has spearheaded a FFAR grant that focused on identifying and testing novel chemistries as potential varroacides.



## DR. STEVE PERNAL

Dr. Pernal received his M.Sc. and Ph.D. in Entomology from the University of Manitoba and was a postdoctoral fellow at Simon Fraser University. Since 2001, he has been employed by Agriculture and Agri-Food Canada as a Research Scientist in Beaverlodge, Alberta where he leads Canada's federal apiculture research program and also serves as Officer-in-Charge. His work has been diverse, and has included the detection, control and management strategies for AFB, chalkbrood, Nosema ceranae, as well as emerging parasites of honey bees. Steve has also been an integral member of four successive Genome Canada projects evaluating markers for resistance to bee diseases and Varroa destructor.



## SAMANTHA MUIRHEAD

Samantha Muirhead is the Provincial Apiculturist for the province of Alberta. Samantha has been an Apiculture Research Technician and Apiculture Inspector for the Government of Alberta for the last 14 years. Samantha graduated in 2004 with a Bachelor of Science and has run her own bee colonies in Alberta for the last 11 years.



## DR. DALIAL FREITAK

My research interests are focused on the mechanisms behind the host-parasite interactions. I believe that one of the most important and exciting questions is how do organisms adapt to the changes in the environment. Insects have emerged as powerful models to study the different facets of phenotypic adaptations. Of special interest are changes concerning disease and parasite resistance and how these are transferred to future generations.





## DR. SHELLEY HOOVER

Dr. Shelley Hoover is an Apiculture and Pollination Scientist in the Department of Biological Sciences at the University of Lethbridge. Her research focuses on honey bee health and management, queen production and breeding, and nutrition, as well as canola pollination. Previously, Shelley was the head of the Apiculture Program for the Province of Alberta and has held Research Associate positions at the Universities of Canterbury (Christchurch, NZ) and British Columbia (Vancouver and Beaverlodge, Canada). She completed her PhD on honey bee worker ovary development, nutrition, and behaviour at Simon Fraser University. Shelley is also the current President of the Canadian Association of Professional Apiculturists.



## RON MIKSHKA

Ron Miksha studies bee ecology at the University of Calgary. He spent 25 years as a commercial beekeeper and is a frequent contributor to beekeeping magazines.



## DR. KIRK ANDERSON

Dr. Kirk E. Anderson has conducted research in the ecology and evolution of social insects for 20+ years and is recognized nationally and internationally as an authority on honey bee microbial ecology, host-microbe interactions, social insect molecular ecology, trophic and systems ecology. Dr. Anderson designed and built modern molecular and microbiology labs at the Carl Hayden Bee Research Center in Tucson AZ, and attracted and trained a competent research team composed of highly-motivated personnel including undergraduate and graduate students, and post-doctoral scholars from the University of Arizona. His research achievements are celebrated by industry in the American Beekeeping Journal, Bee Culture, high-tier scientific journals, top-tier research universities, and various media sources.



## DR. OLAV RUEPPELL

Dr. Olav Rueppell received his PhD in 2000 from the University of Wuerzburg in Germany working on ants and joined the lab of Dr. Robert Page for 2.5 years to start working on honeybees before taking a permanent position at University of North Carolina Greensboro (UNCG) in 2003. His work at UNCG and the Rueppell Research Group is dedicated to understanding various aspects of honey bee biology and health, with special emphasis on behavior, aging, genomics, Varroa, viruses, and other stress. His work has been by numerous grants from private foundations and state and federal agencies, and he has authored over 80 peer reviewed articles. Dr. Rueppell recently joined the UofA as Professor, Faculty of Science - Biological Sciences, and is pleased to continue the study honey bee biology and health and related topics.





## DR. RENATA BORBA

Dr. Renata Borba joined the Alberta Beekeepers Commission (ABC) as the Alberta Tech Transfer Team lead in 2019. Before joining the ABC team, Renata was a postdoctoral research fellow in Dr. Steve Pernal's apiculture research lab at Beaverlodge Research Farm, Agriculture Agri-food Canada, studying the intercorrelation of several important pathogens and phenotypes, so as to better understand drivers of colony health and productivity. Renata received her Ph.D. in Entomology in 2015 from the University of Minnesota studying under Dr. Mara Spivak. Previously, she received her B.Sc. in Animal Science from the Universidade Federal of Ceara, Brazil.



## DR. ALISON MCAFEE

Dr. McAfee studies honey bee reproductive health, focusing on factors affecting sperm viability. Honey bee queens mate several times early in life, then maintain the sperm for years in a specialized storage organ until they die. Colony health directly depends on the queen's ability to keep these sperm alive so that she can lay an abundance of fertilized eggs and keep the colony strong. However, environmental factors like heat-shock, cold-shock, and pesticide exposure can dramatically reduce sperm viability. With extreme weather patterns on the rise and persistent pesticide residues in the environment, these are major threats to honey bee colony health.



## DR. ELIZABETH WALSH

Dr. Liz Walsh is originally from Wisconsin, where she began beekeeping in high school and working part-time for a nation-wide beekeeping supply store. Liz went to Ripon College, where she earned her Bachelor's in Biology and English in 2014. She finished her Ph.D in 2019 at Texas A&M University after working in Dr. Juliana Rangel's laboratory, where her Ph.D studies centered around the effects of miticide exposure on honey bee queen health. Liz is currently a postdoctoral research fellow at the Beaverlodge Research Farm, part of Agriculture and Agri-Food Canada, where she works on honey bee health and disease ecology in Steve Pernal's laboratory in the Peace Region of Alberta.

