

# 2021 American Bee Research Conference

7-8 January 2021

Zoom Link: TBA (it will only be provided to people who pay registration)

## General Agenda (NOTE: All times are in EST time zone)

### General Meeting Agenda Thursday, 7 January 2021

11:00 am – 11:15 am	Introductory remarks
11:15 am – 12:15 pm	<b>Keynote: Tom Seeley, (Cornell University) “The lives of bees: The untold story of the honey bee in the wild”</b>
12:15 pm – 12:30 pm	Break
12:30 pm – 2:30 pm	Scientific Presentations Session I
2:30 pm – 2:45 pm	Break
2:45 pm – 5:00 pm	Scientific Presentations Session II
5:00 pm – 5:15 pm	Break
5:15 pm – 6:15 pm	<b>AAPA Business Meeting</b>

### General Meeting Agenda Friday, 8 January 2021

10:00 am – 11:00 am	<b>NC1173 Business Meeting</b>
11:00 am – 11:15 am	Break
11:15 am – 12:15 pm	<b>Keynote: Madeleine Beekman (University of Sydney, Australia) “Honey bees not as you know them - the weird and wonderful Cape honeybee”</b>
12:15 pm – 12:30 pm	Break
12:30 pm – 2:30 pm	Scientific Presentations Session III
2:30 pm – 2:45 pm	Break
2:45 pm – 3:00 pm	Lightning talks
3:00 pm – 5:00 pm	Scientific Presentations Session IV
5:00 pm – 5:15 pm	Concluding Remarks

## **2021 Meeting stuff**

### **Agenda\* for the 2021 AAPA Business Meeting**

**Thursday 7 January 2021, 5:15pm – 6:15pm**

- A. Call to order.
- B. Preview of agenda for additions, deletions, and/or modifications.
- C. Reports of Officers (including a financial report by the Secretary-Treasurer).
- D. Reports of Committees.
  - Call for 2021 AAPA Awards, ABRC student competition awards
- E. Old/Unfinished business.
  - Non-profit status, Awards/Grants, Conference Proceedings (Abstract edits-send out links, due date?)
- F. New business.
  - CAPA update, Location/Date for next conference (Dec 2021), virtual/in-person hybrid platform?, international members, Special Issues
- G. Communication and bills.
- H. Nomination and election of new officers, when necessary.
  - New committees? (Awards
- I. Resolutions formulated to be voted on by mail ballots.
- J. Adjournment.

### **Agenda\* for the Multi-State Project NC1173, “Sustainable Solutions to Problems Affecting Bee Health” Business Meeting. Christina Hamilton & Bill Barker, Administrative Advisors**

**Friday, 8 January 2021, 10:00am – 11:00am**

- 1. Call to order
- 2. Roll call
- 3. Chair’s report on current membership (Michelle Flenniken)
- 4. Project Director’s report (Hamilton/Barker)
- 5. Open discussion on progress report, challenges and future plans for all member institutions and their representatives
- 6. Location of next NC1173 meeting
- 7. Other business
- 8. Concluding remarks
- 9. Adjourn

*\*Subject to change*



## ABRC Presentation/Activity Schedule, Thursday, 7 January 2020

11:00 – 11:15am Welcome Remarks, Dr. Judy Wu-Smart, President of AAPA, Dr. Margarita López-Urbe, VP of AAPA & ABRC Program Organizer, Dr. Margaret Couvillon, Secretary/Treasurer of AAPA			
Time	Author(s)	Speaker Affiliation	Title
11:15 - 12:15 am	<b>Keynote Speaker: Tom Seeley</b>	Cornell University	The lives of bees: The untold story of the honey bee in the wild
<b>12:15 - 12:30 pm COFFEE/LUNCH BREAK</b>			
<b>Session I - Abiotic Stressors Moderator - Margaret Couvillon</b>			
12:30 - 12:45 pm	<b>Priyadarshini Chakrabarti,</b> Joseph P. Milone, Ramesh R. Sagili, David R. Tarpy	Oregon State University	Colony-level pesticide exposure affects honey bee ( <i>Apis mellifera</i> L.) royal jelly production and nutritional composition
12:45 - 1:00 pm	<b>*Dylan Ricke*</b>	Entomology, Ohio State University	Superorganism Toxicology: Modeling the Exposure and Effects of Metals in the Honey Bee Colony
1:00 - 1:15 pm	<b>Julia Fine</b>	USDA-ARS-ISPH, Department of Entomology and Nematology, University of California, Davis	The Sublethal Effects of IGRs on Queens, Workers, and Colony Reproduction
1:15 - 1:30 pm	<b>*Zachary S. Lamas*</b> , David J. Hawthorne, Dennis vanEngelsdorp, Kirsten S. Traynor	Entomology, University of Maryland	Small colonies elucidate abnormal queen cell production from 4 common pesticides
1:30 - 1:45 pm	<b>Victor H Gonzalez</b> , John M. Hranitz, Mercedes B. McGonigle, Rachel E. Manweiler, Deborah R. Smith, John F. Barthell	Department of Biology, University of Kansas	Acute exposure to sublethal doses of neonicotinoid insecticides increases heat tolerance in honey bees
1:45 - 2:00 pm	<b>*Emily Walker*</b> , Reed Johnson, Guy Brock	Environmental Sciences Graduate Program, The Ohio State University	Acute Toxic Effects of Insecticide-Fungicide-Adjuvant Combinations on Honey bees
2:00 - 2:15 pm	<b>Judy Wu-Smart</b> , Surabhi Vakil, Jennifer Wiesbrod	Entomology, University of Nebraska-Lincoln	Integrated pesticide management for beekeepers and why we need another approach

2:15 - 2:30 pm	<b>*Myra Dickey*</b> , Liz Walsh, Tonya Shepherd, Aaron Tarone, Raul Medina, Juliana Rangel	Department of Entomology, Texas A&M University	Transcriptomic analysis of the honey bee ( <i>Apis mellifera</i> ) queen brain in response to pesticide exposure during development
<b>2:30 - 2:45 pm COFFEE/LUNCH BREAK</b>			
<b>Session II - Pests and Pathogens Moderator - Judy Wu-Smart</b>			
2:45 - 3:00 pm	<b>K. Wagoner</b> , M. Spivak, J. Millar, C. Schal, O. Rueppell	University of North Carolina at Greensboro, Biology Department	Brood hygiene-eliciting signal as a tool for assaying honey bee colony pest and disease-resistance
3:00 - 3:15 pm	<b>*Amy Geffre*</b>	University of California San Diego	The Role of Feral Honey Bees in Pathogen Dynamics of Pollinator Communities.
3:15 - 3:30 pm	<b>Emily Watkins de Jong</b> , Gloria DeGrandi-Hoffman	USDA-ARS	The Role of Varroa Mite (Acari: Varroidae) Host Selection on Forager-Mediated Mite Migration
3:30 - 3:45 pm	<b>*Alex McMenamin*</b> , Fenali Parekh, Katie Daughenbaugh, Michelle Flenniken	Department of Microbiology and Immunology, Montana State University	The utility of cultured honey bee primary cells to investigate host-virus interactions
3:45 - 4:00 pm	<b>Esmael Amiri</b> , Bin Han, Micheline K. Strand, David R. Tarpy, Olav Rueppell	Department of Biology, University of North Carolina at Greensboro	Immune Response of Different Developmental Stages of Honey Bee Queens to Israeli Acute Bee Paralysis Virus Infection
4:00 - 4:15 pm	<b>*Taylor Reams*</b> , Juliana Rangel	Department of Entomology, Texas A&M University	<i>Varroa destructor</i> mite decision-making process regarding honey bee worker cell invasion and size implications for developing bee brood
4:15 - 4:30 pm	<b>Margarita M. López-Uribe</b> , Brooke Lawrence, Robyn M. Underwood	Department of Entomology, Penn State University	Longitudinal DWV and immune gene expression dynamics in colonies managed under conventional, organic, and treatment-free systems
4:30 - 4:45 pm	<b>*Farida Azzouz Olden*</b> , Joseph Palmer	Kentucky State University	Honey bee transcriptional response to different diet in presence of pesticides
4:45 - 5:00 pm	<b>Robyn M Underwood</b> , Timothy W Kelsey and Margarita M López-Uribe	Department of Entomology, Penn State University	Beekeeping Economics: A comparison of the profitability of conventional, organic and treatment-free management systems
<b>5:00 - 5:30pm AAPA Business Meeting (separate agenda)</b>			

**ABRC Presentation/Activity Schedule,  
Friday, 8 January 2020**

10:00 - 11:00 am NC1173 Business Meeting (separate agenda) - Led by Dr. Michelle Flenniken (MSU)			
Time	Author(s)	Speaker Affiliation	Title
11:15 - 12:15 am	<b>Keynote Speaker: Madeleine Beekman</b>	University of Sydney, Australia	Honey bees not as you know them - the weird and wonderful Cape honeybee
12:15 - 12:30 pm COFFEE/LUNCH BREAK			
Session III - Biotic and Abiotic Stressors Moderator - Margarita López-Urbe			
12:30 - 12:45 pm	<b>*Fenali Parekh*</b> , Katie F. Daughenbaugh, Priyadarshini Chakrabarti, Ramesh Sagili, and Michelle L. Flenniken	Department of Microbiology and Immunology, Montana State University	Investigating the impact of nutrition and organic compounds on honey bee virus infections
12:45 - 1:00 pm	<b>*Selina Bruckner*</b> , Lars Straub, Geoffrey R. Williams	Department of Entomology, Auburn University	Varroa mites and neonicotinoid insecticides: effects on drone survival and reproductive health
1:00 - 1:15 pm	<b>*Jordan Twombly Ellis*</b> , Juliana Rangel	Department of Entomology, Texas A&M University	Honey bee ( <i>Apis mellifera</i> ) workers prematurely remove themselves from the colony due to developmental stressors
1:15 - 1:30 pm	<b>*Bradley D. Ohlinger*</b> , Roger Schürch, Margaret J. Couvillon	Department of Entomology Virginia Tech	Dancing honey bees communicate seasonal fluctuations in forage availability and preference for hay meadows in a mixed-use landscape in Virginia
1:30 - 1:45 pm	<b>*Alex Payne*</b> , Pierre Lau, Cora Garcia, Jordan Gomez, and Dr. Juliana Rangel	Department of Entomology, Texas A&M University	Honey bee tolerance to Deformed wing virus infection when fed diets with varying macronutrient ratios
1:45 - 2:00 pm	<b>*Jenna Thebeau*</b> , Dana Liebe, Sarah Wood, Larhonda Sobchishin, Ivanna V. Kozii, Colby D. Klein, Igor Medici de Mattos, Michael W. Zabrodski, Melanie Roulin, Jessica E. DeBruyne, Igor Moshynskyy, Mohsen Sharafi, Meghan O. Milbrath, Robyn McCallum, M. Marta	Veterinary Pathology, Western College of Veterinary Medicine	In vitro effects of fungicides on the susceptibility of Honeybee ( <i>Apis mellifera</i> ) larvae to European foulbrood

	Guarna, Patricia Wolf Veiga, Eric M. Gerbrandt, Elemir Simko		
2:00 - 2:15 pm	Rassol Bahreini, <b>Medhat Nasr</b> , Cassandra Docherty, Olivia de Herdt, Samantha Muirhead, David Feindel	Plant and Bee Health Surveillance Section, Alberta Agriculture and Forestry	Evaluation of Active Ingredients for Potential Miticidal Activities Against Varroa destructor and Toxicity to Honey Bees
2:15 - 2:30 pm	<b>Ashley Welchert</b> , Vanessa Corby-Harris	Entomology, University of Arizona	A new look at honey bees foraging in the greenhouse: Does early experience matter?
<b>2:30 - 2:40 pm COFFEE/LUNCH BREAK</b>			
<b>Lightning Talks</b> <b>Moderator - Margaret Couvillon</b>			
2:40 - 2:45 pm	<b>*Sheldon Brummel*</b> , Judy Wu-Smart	Department of Entomology, University of Nebraska-Lincoln	Creating Practical Hygienic Testing for Beekeepers
2:45 - 2:50 pm	<b>*Tara Newman*</b> , Lance Lansing, Lan Tran, Amanda Gregoris, Rodrigo Ortega Polo, M. Marta Guarna	Agriculture and Agri-Food Canada & University of Victoria	Comparing sample types, and sequencing approaches for the characterization of the honey bee ( <i>Apis mellifera</i> ) gut microbiome.
2:50 - 2:55 pm	<b>Courtney Brummel</b> , Louise Lynch-O'Brien, Susan Weller, Judy Wu-Smart	Department of Entomology, University of Nebraska-Lincoln	Developing Integrated Pollination Conservation and Research Efforts at Kimmel Orchard
2:55 - 3:00 pm	<b>*Dan Aurell*</b> , Geoff Williams	Department of Entomology and Plant Pathology, Auburn University	Effects of amitraz and amitraz+thymol acaricide treatments on Varroa destructor in <i>Apis mellifera</i> honey bee colonies
3:00 - 3:05 pm	<b>*Rogan Tokach*</b> , Judy Wu-Smart	Department of Entomology, University of Nebraska-Lincoln	Reusing deadouts and the impact on queen rearing capacity
3:05 - 3:10 pm	<b>*Connor A. Auth*</b> , Brandon K. Hopkins	Department of Entomology, Washington State University	Plausibility of novel honey bee semen cryopreservation methods
3:10 - 3:15 pm	<b>Grace Kunkel</b> , Nathalie Steinhauer	Project Apis m.; Bee Informed Partnership	Introducing the Bee Health Collective
<b>Session IV - Behavior and Ecology</b> <b>Moderator - Robyn Underwood</b>			
3:15 - 3:30 pm	Jada Smith, Krispn Given, <b>Hongmei Li-Byarlay</b>	Central State University	The mite biting and grooming behavior of honeybees
3:30 - 3:45 pm	Bin Han, Qiaohong Wei, Fan Wu, Han Hu, Chuan Ma, Lifeng Meng, Xufeng Zhang, Mao Feng, Yu Fang, Jianke Li, <b>Olav Rueppell</b>	Department of Biological Sciences, University of Alberta	Tachykinin signaling modulates task-specific responsiveness of honey bee workers
3:45 - 4:00 pm	<b>*Taylor N. Steele*</b> , Roger Schürch, Margaret J. Couvillon	Virginia Tech Department of Entomology	Fluctuating Forage: Honey bee hives located in fruit orchard systems experience boom and bust periods across the foraging season
4:00 - 4:15 pm	<b>*Meghan Bennett*</b> , Ashley Welchert, Mark Carroll,	Carl Hayden Bee Research Center	Honey bee workers fed fatty acid diets exhibit differences in learning and discrimination of brood odors

	Sharoni Shafir, Brian Smith, Vanessa Corby-Harris		
4:15 - 4:30 pm	<b>*Mary Silliman*</b> , Roger Schürch, Sally Taylor, Margaret Couvillon	Department of Entomology, Virginia Tech	Row crops serve as a mid to late summer protein source for honey bees
4:30 - 4:45 pm	Reed M. Johnson, Harper McMinn-Sauder, Nicole Sammons and <b>Chia-Hua Lin</b>	Department of Entomology, The Ohio State University	Factors affecting attractiveness of soybeans to honey bees
4:45 - 5:00 pm	<b>*Harper McMinn-Sauder*</b> , Chia-Hua Lin, Reed Johnson	Department of Entomology, The Ohio State University	Using colony weight monitoring to identify flowers important for honey production in the Ohio agroecosystem
5:00 - 5:15 pm	<b>*Pierre Lau*</b> , Pierre Lesne, Alexandria Payne, Cora Garcia, Jordan Gomez, Spencer Behmer, Juliana Rangel	Department of Entomology, Texas A&M University	Honey bee nutritional preferences are shaped by macronutrients in their diet
<b>5:00 - 5:15pm</b>	<b>Concluding Remarks</b>		