



# The American Association of Professional Apiculturists'

## 2018 American Bee Research Conference

11 and 12 January 2018

Tahoe Room, Grand Ballroom, Grand Sierra Resort and Casino  
Reno, NV

### General Meeting Agenda


Time	Thursday, 11 January 2018
7:15 am – 8:00 am	Registration, upload presentations (bring flash drive w/talk)
8:00 am – 8:10 am	Welcome remarks
8:10 am – 9:00 am	<b>Keynote presentation:</b> <b>Marla Spivak, University of Minnesota—Twin Cities</b>
9:00 am – 10:15 am	Student paper competition, Session I
10:15 am – 10:30 am	<i>Morning break, refreshments</i>
10:30 am – 11:45 pm	Student paper competition, Session II
11:45 pm – 1:15 pm	Lunch break AAPA Business Meeting (lunch for AAPA members), Ruby Room—Mezzanine Level
1:15 pm – 2:00 pm	Scientific presentation, Session I
2:00 pm – 3:15 pm	Student paper competition, Session III
3:15 pm – 3:45 pm	<i>Afternoon break, refreshments sponsored at the ABF break</i>
3:45 pm – 5:00 pm	 Bee Nutrition Challenge Competition 
5:00 pm	Adjourn afternoon session, break on your own
5:00 pm – 6:30 pm	NC1173 Business Meeting, Located in Nevada 6
6:30 pm – 8:00 pm	<b>Poster session and Social sponsored by Veto-pharma®</b> <b>Located in the Tahoe Room (same room as the ABRC)</b>

\*See full schedule for presenters/titles

## Time

Friday, 12 January 2018

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8:00 am – 8:10 am	Announcements and AAPA student award presentations
8:10 am – 8:30 am	 Announcement of Bee Nutrition Challenge Winner
8:30 am – 10:15 am	Scientific presentations, Session II (Pesticides and Nutrition)
10:15 am – 10:30 am	<i>Morning break, refreshments</i>
10:30 am – 12:00 pm	Scientific presentations, Session III (Bee Management and Breeding)

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12:00 pm – 1:15 pm	Lunch break
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1:15 pm – 3:00 pm	Scientific presentations, Session IV (Parasites and Pathogens)
3:00 pm – 3:30 pm	<i>Afternoon break, refreshments sponsored at the ABF break</i>
3:30 pm – 5:30 pm	Scientific presentations, Session V (Physiology & Foraging)

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5:30 pm	ABRC adjourned. Safe travels everyone!
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**Agenda\* for the 2018 AAPA Business Meeting**  
**Thursday 11 January 2018, 11:45pm – 1:15pm**  
**Ruby Room, Mezzanine Level**

Lunch will be provide for AAPA members.

Please RSVP to: [Michael.simonefinstrom@ars.usda.gov](mailto:Michael.simonefinstrom@ars.usda.gov)

- 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.
- E. Unfinished business.
- F. New business.
- G. Communication and bills.
- H. Nomination and election of new officers, when necessary (Election of new VP).
- H. Resolutions formulated to be voted on by mail ballots.
- I. Adjournment.

\*Subject to change

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**Agenda\* for the Multi-State Project NC1173, "Sustainable Solutions to Problems Affecting  
Bee Health" Business Meeting. Marc Linit, Project Director**  
**Thursday, 11 January 2018, 5:00pm – 6:30pm**

- 1. Call to order
- 2. Roll call
- 3. Chair's report on current membership (Juliana Rangel)
- 4. Project Director's report (Marc)
- 5. Open discussion on progress report, challenges and plans for 2018 for all member institutions and their representatives
- 6. Location of 2019 NC1173 meeting
- 7. Other business
- 8. Concluding remarks
- 9. Adjourn



\*Subject to change

**ABRC Presentation/Activity Schedule, Thursday, 11 January 2018**  
**Tahoe Room, Grand Ballroom, Grand Sierra Resort and Casino**

\* Student paper competitor

**Changes are highlighted**


Time	Author(s)	Speaker Affiliation	Title
7:15 – 8:00am	<b>Conference Registration</b>		
8:00 – 8:10am	<b>Welcome Remarks, Dr. Elina Niño, President of AAPA., Dr. Mike Simone-Finstrom, Vice-President of AAPA and ABRC Program Organizer</b>		
8:10am–9:00am	<b>Dr. Marla Spivak</b> <b>Keynote Speaker</b>	Department of Entomology University of Minnesota, Twin Cities	"Flipping the perspective on honey bee health"
9:00am-9:12am	<b>Alexander McMEnamin*</b> , L. Brutscher, W. Glenny, I. Cavigli, K. Daughebaugh, S. Hoover, D. Baines, M.L. Flenniken	Plant Sciences and Plant Pathology Montana State University	"Honey bee host-pathogen interactions at the colony, individual and cellular levels"
9:12am–9:24am	<b>Shilpi Bhatia*</b> , Saman Baral, Olav Rueppell	Department of Biology University of North Carolina at Greensboro	"Comparative characterization of virus content and resistance in different breeds of US honey bees"
9:24am–9:36am	<b>Alexandria Payne*</b> , Juliana Rangel	Department of Entomology, Texas A&M University, College Station, TX	"Are honey bees feeling ants? A look at possible cross-species virus transmission between ants and honey bees"
9:36am–9:48am	<b>Samuel Ramsey *</b> , Gary Bauchan, Ronald Ochoa, Connor Gulbranson, Joseph Mowery	Department of Entomology University of Maryland, College Park	"Study of the anatomy of phoretic <i>Varroa destructor</i> (Acari: Varroidae) infection via confocal, low-temperature scanning and transmission electron microscopy"
9:48am–10:00am	<b>Taylor Reams*</b> , Olav Rueppell	Department of Biology University of North Carolina at Greensboro	"Examining the factors influencing <i>Varroa destructor</i> host selection of <i>Apis mellifera</i> larvae"
10:00am–10:12am	<b>Nathalie Steinhauer*</b> , Dennis vanEngelsdorp	Department of Entomology University of Maryland, College Park	"Ten years of Honey Bee Colony Loss Survey: trends and insights"
<b>10:15am–10:30am</b>	<b>Morning break, refreshments</b>		
10:30am–10:42am	<b>James Wolfin*</b> , Eric Watkins, Marla Spivak	Department of Entomology University of Minnesota, Twin Cities	"Evaluating the abundance and diversity of pollinator communities in enhanced and natural turfgrass habitats"
10:42am–10:54am	<b>Rodney T. Richardson*</b> , Hailey R. Curtis, Chia Hua-Lin, Reed M. Johnson	Department of Entomology The Ohio State University, Wooster, OH	"Investigating honey bee pollen foraging patterns using multi-locus metabarcoding"
10:54am–11:06am	<b>Morgan K. Carr-Markell*</b> , Cora Demler, Belle Kinder, Margaret Couvillon, Roger Schürch, Marla Spivak	Department of Entomology University of Minnesota, Twin Cities	"Do honey bees recruit to native flowers in restored prairies?"
11:06am–11:18am	<b>Pierre Lau*</b> , Spencer Behmer, Juliana Rangel	Department of Entomology Texas A&M University, College Station, TX	"Are bees out for the gains? Honey bee pollen preferences between nutritionally distinctive diets"
11:18am–11:30am	<b>Bridget Gross*</b> , Reed Johnson	Department of Entomology The Ohio State University, Wooster, OH	"Drone Brood Removal: A bee-utiful form of <i>Varroa</i> control and source of edible insect protein"
11:30am–11:42am	<b>Anthony Nearman*</b> , Dennis vanEngelsdorp	Department of Entomology University of Maryland, College Park	"New liquid diet decreases mortality"
<b>11:45am-1:15pm</b>	<b>Lunch break</b>		
	<b>AAPA Business Meeting / Lunch</b>	<b>Ruby Room, Mezzanine Level (AAPA only)</b>	

Time	Author(s)	Speaker Affiliation	Title
1:15pm–1:30pm	Melissa Willrich Siebert, Rayda K. Krell, <b>Judy Wu-Smart</b>	Entomological Society of America University of Nebraska, Lincoln	"Entomological Society of America's Plant-Insect Ecosystem Section (ESA-P-IE) Science Policy Field Tour: Bringing together diverse stakeholders to foster communication"
1:30pm–1:45pm	<b>Vanessa Corby-Harris</b> , Lucy Snyder, Charlotte Meador	USDA-Agricultural Research Service Tucson, AZ	"Fat body lipolysis connects poor nutrition to hypopharyngeal gland degradation in <i>Apis mellifera</i> "
1:45pm–2:00pm	<b>Steven F. Pernal</b> , A. Zayed, J.L. Martin, P. Wolf Veiga, C. Castillo	Agriculture Agri-Food Canada	"Progress on the Canadian honey bee health survey"
2:00pm–2:12pm	<b>Kelly Kulhanek*</b> , Dennis vanEngelsdorp	Department of Entomology University of Maryland, College Park	"Sentinel Apiary Program: Pollen pesticide results"
2:12pm–2:24pm	<b>Joseph P. Milone*</b> , David R. Tarpy	Department of Entomology North Carolina State University	"The impacts of developmental multi-pesticide pollen and wax exposure on queen honey bee ( <i>Apis mellifera</i> ) health, mating, and colony development"
2:24pm–2:36pm	<b>Selina Bruckner*</b> , Lars Straub, Laura Villamar-Bouza, Peter Neumann, Geoffrey R. Williams	Department of Entomology and Plant Pathology Auburn University	"Honey bee food glands can be affected by neonicotinoids"
2:36pm–2:48pm	<b>Priyadarshini Chakrabarti</b> , Ramesh Sagili	Department of Horticulture Oregon State University	"The importance of sterols in honey bee nutritional physiology"
2:48pm–3:00pm	<b>Jennifer R. Williams*</b> , Troy D. Anderson	Department of Entomology University of Nebraska, Lincoln	"Diamide modulation of muscle fatigue in honey bees"
3:00pm–3:12pm	<b>Elizabeth Walsh*</b> , Stephen Sweet, Juliana Rangel	Department of Entomology Texas A&M University, College Station, TX	"Honey bee ( <i>Apis mellifera</i> , L.) queen rearing environment affects behavior and physiology"
<b>3:15–3:45pm</b>	<b>Afternoon break, refreshments sponsored at the ABF break</b>		
	<b>Bee Nutrition Challenge Competition</b> Moderated by Matthew Mulica		
3:45pm–4:55pm	<b>Nick Naeger</b>	Fungi Perfecti LLC	"Fungal extracts for honey bee health"
3:55pm–4:05pm	<b>Steven Cook</b>	USDA-Agricultural Research Service Beltsville, MD	"Testing of optimal seasonal nutritional supplements for honey bees"
4:05pm–4:15pm	<b>Carmine DeStefano</b>	Posto Bello Apiaries	"Biodiversity mapping for bee nutrition"
4:15pm–4:25pm	<b>Patrick Heritier-Robbins</b>	Georgia Institute of Technology	"Bee ultra sound"
4:25pm–4:35pm	<b>Anthony Nearman</b>	University of Maryland	"Build a better bee"
4:35pm–4:45pm	<b>Waled Suliman</b> , Brandon Hopkins	Washington State University	"A novel feed additive for protecting bees and confronting Colony Collapse Disorder"
4:45pm–5:00pm	<b>Q &amp; A with Bee Nutrition Challenge Presenters</b>		

5:00pm	Adjourn afternoon session		
5:00pm-6:30pm	NC1173 Business Meeting (see "General Agenda" for details)	Located in NEVADA 6	
Dinner (on your own)			
6:30pm-8:00pm	Poster Session and Social Sponsored by Veto-pharma	*** <u>Located in the Tahoe Room, Grand Ballroom</u> ***	
<b>Posters</b>			
	<b>Renata S. Borba</b> , K. Baylis, M. Bixby, R. Currie, N. Derome, V. Fournier, P. Giovenazzo, M. Guarna, S. Hoover, S. Pernal, A. Zayed, L.J. Foster	University of British Columbia Agriculture Agri-Food Canada	"Using 'omics tools to breed better Canadian bees"
	<b>Joseph Cazier</b> , James Wilkes, Brandy Hadley, Alisha Sprinkle, Avery Dobbins	Appalachian State University	"Blocks for bees: Solving bee business problems with blockchain technology"
	<b>Adrian Fisher II</b> , Chet Coleman, Clint Hoffmann, Brad Fritz, Juliana Rangel	Arizona State University	"The effects of the insect growth regulators methoxyfenozide and pyriproxyfen and the acaricide bifenthrin on honey bee (Hymenoptera: Apidae) forager survival"
	<b>Marcus Hill</b>	Bee Health and Management Solutions Eurofins Agrosience Services, Inc.	"The vital role of hive management in honey bee tier II studies"
	<b>Vladimir Kulyukin</b> , Prakhar Amlathe	Department of Computer Science Utah State University	"Logistic regression, k-nearest neighbor, and support vector machines classify audio samples in audio beehive monitoring"
	<b>Zachary Lamas</b> , Michael Palmer	French Hill Apiaries University of Maryland	"Using overwintered nucs for early spring research"
	<b>Elina L. Niño</b> , Bernardo D. Niño	Department of Entomology University of California, Davis	"Longitudinal evaluation of honey bee colonies in almond orchards with access to different forage regimes"
	P. Phokasem, <b>Lilia I. de Guzman</b> , A.M. Frake, K. Khongphinitbunjong, P. Chantawannakul	Chiang Mai University USDA-Agricultural Research Service Baton Rouge, LA	"The <i>Tropilaelaps</i> Mites Threat: An examination of the injuries inflicted on <i>Apis mellifera</i> "
	<b>Francisco J. Posada-Flórez</b> , Samuel Abban, Jay Evans	USDA-Agricultural Research Service Beltsville, MD	"Neglected problems in beekeeping and beekeeping best management practices"
	<b>Lauren M. Rusert</b> , David R. Tarpy, Jeff S. Pettis	Department of Entomology & Plant Pathology North Carolina State University	"Impacts of the varroa mite on queen bee quality in the Hawaiian islands"
	<b>Jacob Vincent</b> , Thomas Webster, Katherine Kamminga, Martin Matisoff	Kentucky State University	"Gluconic acid inhibits <i>Nosema ceranae</i> infection in honey bees"
	<b>Yahzou Zhou</b> , Yanping Chen, Zhiguo Li, Wenjun Peng	USDA-Agricultural Research Service Beltsville, MD	"Effective protections and environmental factors have a strong impact on the composition and diversity of the gut bacterial community of Chinese Black Honeybees"

ABRC Presentation/Activity Schedule, Friday, 12 January 2018  
Tahoe Room, Grand Ballroom, Grand Sierra Resort and Casino

Changes are highlighted

Time	Author(s)	Speaker Affiliation	Title
8:00 – 8:10am	<b>Announcements and Student Award Winners</b>		
8:10 – 8:30am	 <b>Announcement of Bee Nutrition Challenge Winner</b>		
8:30am–8:45am	Reed M. Johnson, C.-H. Lin, D. B. Sponsler, R. T. Richardson, H. D. Watters, D.A. Glinski, W.M. Henderson, S.T. Purucker	Department of Entomology The Ohio State University	"Honey bees and neonicotinoid-treated corn seed: contamination, exposure, and effects"
8:45am-9:00am	Christina Mogren, Robert Danka, Kristen Healy	Department of Entomology Louisiana State University	"Larval dietary stress increases adult susceptibility to clothianidin in honey bees"
9:00am–9:15am	Chia-Hua Lin, Andrea Wade, Colin Kurkul, Reed Johnson	Department of Entomology The Ohio State University	"Effects of insecticide-fungicide combinations commonly applied to almonds during bloom on honey bee larval development"
9:15am–9:30am	L. Straub, K. Khongphinitbunjong, A. Schneeberger, G. Retschnig, P. Chantawannakul, V. Dietemann, P. Neumann, <b>Geoffrey Williams</b>	Institute of Bee Health University of Bern, Bern, Switzerland Department of Entomology & Plant Pathology Auburn University	"Synergistic time lag effects? <i>Varroa destructor</i> , neonicotinoids, and honey bees"
9:30am–9:45am	<b>Scott T. O'Neal</b> , Carlyle C. Brewster, Jeffrey R. Bloomquist, Troy D. Anderson	Department of Entomology University of Nebraska, Lincoln	"Amitraz exposure increases mortality associated with viral infection in honey bees"
9:45am–10:00am	<b>Daniel R. Schmehl</b> , Ana R. Cabrera, Hudson V.V. Tomé, John Porch	Bayer Crop Science	"Novel approaches for integrating a test item with poor solubility into honey bee diets for laboratory testing"
10:00am–10:15am	<b>Edmund Stark</b> , Patrick Smith, Meghan Milbrath, Caroline Szabo, Nicole Evans	St. Andrews STEM Center Michigan State University	"Controlled time-release of formic and oxalic acids for <i>Varroa</i> control"
<b>10:15am–10:30am</b>	<b>Morning break, refreshments</b>		
10:30am–10:45am	<b>Lelania Bourgeois</b> , Jeffrey W Harris, Robert G. Danka	USDA-Agricultural Research Service Baton Rouge, LA	"Differential expression of genes associated with <i>Varroa</i> -Sensitive Hygiene (VSH) in individual- and colony-phenotyped honey bees"
10:45am–11:00am	<b>Kaira Wagoner</b> , Olav Rueppell	Department of Biology University of North Carolina at Greensboro	"Chemical communication, hygienic behavior, and the development of improved selection tools for <i>Varroa</i> control in the honey bee <i>Apis mellifera</i> "
11:00am–11:15am	<b>Margarita López-Uribe</b> , Chauncy Hinshaw, Katy Evans, Cristina Rosa, Christina Grozinger	Department of Entomology The Pennsylvania State University	"Are immunocompetence and pathogen pressure different in feral and managed honey bee colonies?"
11:15am–11:30am	<b>Robyn Underwood</b> , Dennis vanEngelsdorp, Brenna Traver, Kristine Nichols	Department of Entomology University of Maryland, College Park	"A side-by-side comparison of honey bee management systems"
11:30am–11:45am	<b>Jospeh Cazier</b> , James Wilkes, Edgar Hassler	Center for Analytics Research & Education Appalachian State University	"Defining the path to the Genius Hive"
11:45am–12:00am	<b>William G. Meikle</b> , Milagra Weiss	USDA-Agricultural Research Service Tucson, AZ	"Exploring within-day hive weight data"
<b>12:00-1:15pm</b>	<b>Lunch break</b>		



Time	Author(s)	Speaker Affiliation	Title
1:15pm–1:30pm	Maxcy P. Nolan, Keith S. Delaplane	Department of Entomology University of Georgia, Athens	" <i>Varroa</i> dispersal risk tolerance is mediated by mite's reproductive value"
1:30pm–1:45pm	Lilia I. de Guzman, P. Phokasem, K. Khongphinitbunjong, A.M. Frake, P. Chantawannakul	USDA-Agricultural Research Service Baton Rouge, LA	"The <i>Tropilaelaps</i> mites threat: Observations of their reproductive success"
1:45pm–2:00pm	Thomas C. Webster, Katherine L. Kamminga, Martin Matisoff, Jacob Vincent	Department of Entomology Kentucky State University	"Early indicators of <i>Nosema ceranae</i> infection in honey bees"
2:00pm–2:15pm	Yujie Li, Zachary Y. Huang	Department of Entomology Michigan State University	"Parasite manipulating hosts? <i>Nosema ceranae</i> infected honey bee workers are more easily accepted by non-nestmates"
2:15pm–2:30pm	Michael Simone-Finstrom	USDA-Agricultural Research Service Baton Rouge, LA	"Differential responses to DWV infection in honey bees: A case of tolerance or resistance?"
2:30pm–2:45pm	Hongmei Li-Byarlay, H.F. Boncristiani, G. Howell, M. Strand, D.R. Tarpy, O. Rueppell	Department of Natural Sciences Central State University North Carolina State University	"Insights from methylomic and transcriptomic analyses of lethal IAPV infection in honey bee pupae"
2:45pm–3:00pm	Michael Goblirsch	Department of Entomology University of Minnesota, Twin Cities	"Testing the social fever hypothesis"
<b>3:00–3:30pm</b>	<b>Afternoon break, refreshments sponsored at the NABC break</b>		
3:30pm–3:45pm	Jennifer Tsuruda, S. Baral, P. Walker, E. Amiri, S. Bhatia, A. Kennedy, K. Le, A. Rueppell, O. Rueppell	Cooperative Extension Clemson University	"Risky business (during the eclipse)"
3:45pm–4:00pm	Vladimir Kulyukin, Astha Tiwari	Department of Computer Science Utah State University	"A convolutional neural network for recognizing bees in video analysis of forager traffic"
4:00pm–4:15pm	Rob Heyduke, Melanie Kirby, Todd Bates	Zia Queenbees Farm & Field Institute Alcalde Sustainable Agriculture Science Center New Mexico State University	"From bloom to boom: An investigation of <i>Monarda fistulosa</i> var. <i>menthifolia</i> (oregano de la sierra) for potential bee and human health"
4:15pm–4:30pm	Megan Taylor, Susan Cobey, Brandon Hopkins, Walter Sheppard	Department of Entomology Washington State University	"Impact of honey bee germplasm importation on U.S. queen producers"
4:30pm–4:45pm	Brad Metz, David R. Tarpy	Department of Entomology and Plant Pathology North Carolina State University	"Variation in the ontogeny of drone morphological and reproductive quality"
4:45pm–5:00pm	H.S. Arathi, E. Bernklau, A. Hogeboom, A. Carlisle, L. Bjostad	Department Of Soil And Crop Sciences Colorado State University	"Probing deeper into flowers: Phytochemicals and honeybee health"
5:00pm–5:15pm	Esmail Amiri, Carlos Vega Melandez, Kevin Le, Micheline K. Strand, David R. Tarpy, Olav Rueppell	Department of Biology University of North Carolina at Greensboro	"The egg as an indicator of the quality and stress of honey bee queens"
5:15pm–5:30pm	Juliana Rangel, Tonya Shepherd, Alejandra Gonzalez, Nancy Ing	Department of Entomology Texas A&M University, College Station, TX	"Regulation of mRNAs and microRNAs found post-mating in honey bee ( <i>Apis mellifera</i> ) queen spermathecae"
5:30pm	2018 American Bee Research Conference adjourned!		



