

American Bee Research Conference Organized by American Association of Professional Apiculturists Day 1 (Thursday, January 10, 2013), Magnolia A-D, Hershey Lodge Registration fee (\$125) will be collected at the door Jan 9 (Wednesday) 5 - 8 pm & Jan 10 (Thursday) 6:30 am - 8:30 am	
8:30–8:40 am	Welcome Remarks, AAPA President
8:40–9:30 am	<u>Plenary Lecture: Pheromones and Social Regulation.</u> Yves LeConte , <i>Department of Bees & Environment, INRA, France.</i>
9:30–9:45 am Session Chair: Z. Huang	Does the removal of <i>Varroa</i> -infested brood facilitate grooming? Lilia I. de Guzman ¹ , Thomas E. Rinderer ¹ , Amanda M. Frake ¹ and Maria J. Kirrane ² . <i>1) USDA-ARS, Honey Bee Breeding, Genetics and Physiology Laboratory, 1157 Ben Hur Road, Baton Rouge, Louisiana, USA, 2) School of Biological, Earth and Environmental Sciences (BEES), University College Cork, Cork, Ireland.</i>
9:45–10:00 am	Cellular immune response to varroa mite infestation in European and Africanized honey bees. Ernesto Guzman-Novoa ¹ , Gun Koleoglu ¹ , Mariana Reyes-Quintana ² , Paul Goodwin ¹ , and Mollah M. Hamiduzzaman ¹ . <i>1) School of Environmental Sciences, University of Guelph, 50 Stone Road East, Guelph, Ontario, Canada. 2) Departamento de Medicina y Zootecnia en Abejas, FMVZ, UNAM, Cd. Univ., Mexico DF, Mexico.</i>
10:00–10:15 am	Using RNAi technology to reduce varroa survival and reproduction. Xianbing Xie ^{1,2} , Zachary Y. Huang ² , Guowei Bian ² , Zhiyong Xi ² . <i>1) Laboratory Animal Science Department, Nanchang University, China, 2) Department of Entomology, Michigan State University, E. Lansing, MI</i>
10:15–10:30 am	Early development of <i>Nosema ceranae</i> in honey bee midgut tissue. Thomas C. Webster and Martin A. Matisoff. <i>College of Agriculture, Food Science and Sustainable Systems, Kentucky State University, Frankfort, KY.</i>
10:30–10:45 am	High mortality of <i>Nosema ceranae</i> infected bees in Spain is not due to carbon dioxide anesthesia. Meghan O. Milbrath ¹ , X.B. Xie ^{1,2} and Z. Y. Huang ¹ . <i>1) Department of Entomology, 243 Natural Science, Michigan State University, E. Lansing, MI, 2) Laboratory Animal Science Department, Nanchang University, Nanchang, Jiangxi, China.</i>
10:45–11:00 am	Break Student competition begins at 11:15 am, ends at 1:15 pm

11:00–11:15 am Session Chair: J. Trusuda	Non-specific dsRNA mediated innate response in honey bee. Michelle L. Flenniken ^{1,2} and Raul Andino ² 1). <i>Microbiology and Immunology Department, University of California San Francisco, San Francisco, CA.</i> 2). <i>Department of Plant Sciences and Plant Pathology, Montana State University, Bozeman, MT.</i>
11:15–11:30 am	Urbanization, agricultural intensity, and urban-rural interface as predictors of hive productivity. Douglas B. Sponsler and Reed M. Johnson. <i>Department of Entomology, The Ohio State University, Wooster, OH.</i>
11:30–11:45 am	Honey bee caste-specific acetylcholinesterase inhibition: Insights into coumaphos tolerance. Lizette Dahlgren , Ethan Siegfried, Reed Johnson, Blair Siegfried and Marion Ellis. <i>Department of Entomology, University of Nebraska- Lincoln, NE.</i>
11:45–12:00 pm	Division of labor shifts in response to age of brood in <i>Apis mellifera</i> . K.S. Traynor ¹ , Y. Le Conte ² and R.E. Page ¹ , 1). <i>School of Life Sciences, Arizona State University, AZ,</i> 2). <i>Department of Bees & Environment, INRA, Avignon, France.</i>
12:00–1:00 pm	Lunch Break Foundation Scholarship Awardee Presentations 1:00-2:30
1:00–1:15 pm Session Chair:	Behavioral and molecular studies to enhance hygienic behavior of honeybees (<i>Apis mellifera</i>) as a sustainable alternative to miticidal <i>Varroa</i> control. Kaira Wagoner , <i>University of North Carolina at Greensboro, 706 Northridge Street, Greensboro, NC.</i>
1:15–1:30 pm	Toxic and repellent effects following a sublethal exposure to pyrethroids used in orchards on the honey bee, <i>Apis mellifera</i> (Hymenoptera: Apidae). Erin Ingram , <i>University of Nebraska, 3115 “E” Street, Lincoln, NE 68510</i>
1:30–1:45 pm	Molecular, physiological and behavioral responses of honey bees (<i>Apis mellifera</i>) to <i>Nosema</i> infection. Holly L. Holt . <i>Pennsylvania State University, Department of Entomology, University Park, PA.</i>
1:45–2:00 pm	Synergistic effects of pesticides, poor/rich pollen nutrition, diseases and temperature on honey bees. Simone Tosi , <i>University of Bologna, via Zaniboni 15, Bologna, Italy.</i>
2:00–2:15 pm	Cell culture as a tool to improve our understanding of bee biology and diseases. Mike Goblirsch , <i>Dept. of Entomology, University of Minnesota, St. Paul, MN.</i>

2:15–2:30 pm	Effects of IAPV on foraging behavior of honeybee (<i>Apis mellifera</i>). Zhiguo Li , <i>Bee Research Laboratory, College of Animal Sciences, Zhejiang University, Hangzhou, China</i> .
2:30-2:45 pm	Break Resumption of Regular Presentations
2:45-3:00 pm Session Chair:	Audible cues to stress in honey bee colonies. Robert A. Seccomb, Colin B. Henderson , Jerry J. Bromenshenk. <i>Bee Alert Technology Inc; Missoula, MT</i> .
3 :00–3:15 pm	Effect of fungicides on development and behavior of honey bees. Louisa A. Hooven , <i>Department of Horticulture, Oregon State University, Corvallis, OR</i>
3:15–3:30 pm	Honey bee declines in Virginia: an assessment of pesticide exposures and colony health. Troy D. Anderson , Alison M. Reeves, Brenna E. Traver, Carlyle C. Brewster and Richard D. Fell. <i>Department of Entomology, Virginia Tech, Blacksburg, VA</i> .
3:30–3:45 pm	Colony health implications of pollen and pesticide diversity in colonies rented for crop pollination. Elinor M. Lichtenberg ¹ , Jeffery S. Pettis ² , Michael Andree ³ , Jennie Stitzinger ⁴ , Robyn Rose ⁴ and Dennis vanEngelsdorp ¹ . 1) <i>University of Maryland, College Park, Department of Entomology, 3136 Plant Sciences Building, College Park, MD</i> , 2) <i>USDA-ARS Bee Research Laboratory, Bldg. 476 BARC-E, Beltsville, MD</i> 3) <i>University of California, Cooperative Extension Butte County, 2279-B Del Oro Ave., Oroville, CA</i> , 4) <i>USDA-APHIS, 4700 River Rd., Riverdale, MD</i>
3:45–4:00 pm	Testing gene expression levels of <i>Neurexin I</i> in bees exhibiting high and low grooming behavior, J.M. Tsuruda ¹ , S. Subramanyam ¹ , M.E. Arechavaleta-Velasco ² , K.I. Alcala-Escamilla ² , C. Robles-Rios ² , C.E. Williams ¹ , G.J. Hunt ¹ . 1). <i>Purdue University, 901 West State St., West Lafayette, IN</i> , 2). <i>Instituto Nacional de Investigaciones Forestales, Agricolas y Pecuarias (INIFAP), Ajuchitlan, Qro. Mexico</i> .
4:00–4:15 pm	The formulation makes the bee poison. C.A. Mullin , J. Chen, W. Zhu, M.T. Frazier and J.L. Frazier. <i>Department of Entomology, Center for Pollinator Research, The Pennsylvania State University, University Park, PA</i> .
4:15-5:30	4:15 PM – 7:00 PM: AAPA/AIA Meeting
7:00-9:30 pm	NC1173 and CAP joint meeting.

ABRC Day 2, Friday, Jan 11, 2013 Magnolia A-D, Hershey Lodge	
8:50 am	Welcome Remarks
9:00–9:15 am Session Chair: B. Eitzer	Clothianidin exposure levels from bee-collected pollen and nectar in seed-treated corn and canola plantings. <i>Colin B. Henderson¹, Jerry J. Bromenshenk¹ and David L. Fischer². 1) Bee Alert Technology, Inc; Missoula, MT, 2) Bayer Crop Science, Research Triangle Park, NC.</i>
9:15–9:30 am	The effects of the fungicide Pristine on queen rearing. Reed Johnson¹ and Eric Percel ² . <i>1). The Ohio State University, Department of Entomology, Wooster, OH, 2). The Ohio State University, Department of Food, Agricultural and Biological Engineering, Columbus, OH.</i>
9:30–9:45 am	Colony losses in stationary apiaries related to pesticide contamination of pollen. F. A. Drummond¹ , K. Aronstein ² , Y.P. Chen ³ , B. Eitzer ⁴ , J. Ellis ⁵ , J.D. Evans ³ , N. Ostiguy ⁶ , W.S. Sheppard ⁷ , M. Spivak ⁸ , and P.K. Visscher ⁹ . <i>1) School of Biology, University of Maine, Orono, ME, 2) Honey Bee Research Unit, USDA-ARS-SARC, Weslaco, TX, 3) USDA Agricultural Research Service, Bee Research Lab, Beltsville, MD, 4) Department of Analytical Chemistry, The Connecticut Agricultural Experiment Station, New Haven, CT, 5) Department of Entomology & Nematology, Honey Bee Research and Extension Laboratory, University of Florida, Gainesville, FL, 6) Department of Entomology, Pennsylvania State University, University Park, PA, 7) Department of Entomology, Washington State University, Pullman, WA, 8) Department of Entomology, University of Minnesota, Saint Paul MN, 9) Department of Entomology, College of Natural and Agricultural Sciences, University of California, Riverside, CA.</i>
9:45–10:00 am	Fine mapping VSH behavior with SNPs: a defined genetic interval and the causative genes. Beth Holloway¹ , Jeffrey Harris ² , Jose Villa and Robert Danko ¹ . <i>1) ARS-USDA, Honey Bee Breeding, Genetics & Physiology Laboratory, 2) Mississippi State University, Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology.</i>
10:00–10:15 am	Proteomic marker-assisted selection in honey bees: Year 2 update from the Bee IPM Project. Stephen F. Pernal¹ , Abdullah Ibrahim ¹ , Shelley E. Hoover ² , Robert W. Currie ³ , Heather A. Higo ⁴ , Elizabeth Huxter ⁵ , M. Marta Guarna ⁶ and Leonard J. Foster ⁶ . <i>1) Agriculture & Agri-Food Canada, Beaverlodge Research Farm, P.O. Box 29, Beaverlodge, AB, Canada, 2) Alberta Food and Rural Development, Lethbridge Agriculture Centre, 100-5401 - 1 Ave South, Lethbridge, AB, Canada, 3) Department of Entomology, University of Manitoba, Winnipeg, MB, Canada, 4) 1077237A St. Langley, BC, Canada, 5) Kettle Valley Queens, Grand Forks, BC, Canada, 6) University of British Columbia, Department of Biochemistry & Molecular Biology and Centre of High-Throughput Biology, 2125 East Mall, Vancouver, BC, Canada.</i>
10:15–10:30 am	Break

10:30-10:45 am Session Chair:	Behavioral correlates and markers of oxidative stress in honey bees. Michael Simone-Finstrom , David Tarpy and Olav Rueppell. <i>Department of Entomology, NC State University, Campus Box 7613, Raleigh, NC.</i>
10:45-11:00 am	Quebec honey bee breeding program for increasing disease resistance and productivity. Pierre Giovenazzo and Georges Martin. <i>Centre de recherche en sciences animales de Deschambault, 120A chemin du Roy, Deschambault, Qué, Canada.</i>
11:00-11:15 am	Preliminary results on the evaluation of different honey bees stocks for their susceptibility to Deformed Wing Virus. Kitiphong Khongphinitbunjong ¹ , Lilia I. de Guzman ² , Matthew R. Tarver ² , Thomas E. Rinderer ² , Yan Ping Chen ³ and Panuwan Chantawannakul ^{1,4} . <i>1) Bee Protection Center, Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand, 2) USDA-ARS, Honey Bee Breeding, Genetics and Physiology Laboratory, LA, 3) USDA-ARS, Bee Research Laboratory, Beltsville, MD, USA, 4) Materials Science Research Center, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand.</i>
11:15-11:30 am	Examining the causes of differential responses to the queen by drones and workers. G. Villar , T. Baker, H. Patch and C.M. Grozinger. <i>Department of Entomology, Pennsylvania State University, University Park, PA.</i>
11:30-11:45 am	Parent-of-origin effects on gene expression in larval and adult honey bees. Hunt, G. J. ¹ , S.D. Kocher ² , J.M. Tsuruda ¹ , C. Emore ¹ , M.E. Arechavaleta-Velasco ³ , C. Robles-Rios ³ , C. Grozinger ⁴ , D.C. Queller ⁵ and J. Strassman ⁵ <i>1). Purdue University, 901 West State St., West Lafayette IN, 2). Harvard University, 26 Oxford St., Cambridge MA, 3). Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias (INIFAP), Ajuchitlan, Qro. Mexico, 4). Pennsylvania State University, 501 ASI Building, University Park PA, 5). Washington University, One Brookings Drive, St. Louis MO.</i>
11:45-12:00 pm	The Rocky Mountain Survivor Queenbee Rearing Cooperative: High elevation chemical-free breeding paradigm and production protocol. Melanie M. Kirby ¹ , Marygael Meister ² , Janet Fink ³ , Kate Whealen ⁴ , Meg McGee ⁵ , Resa Sawyer ⁶ , Angela Lewis ⁷ , Moira O’Hanlon ⁸ . <i>1) Zia Queenbee Co., www.ziaqueenbees.com, www.RMSQBCoop.org, P.O. Box 317 Truchas, NM. 2) DenverBee.Org, RMSQB Coop Secretary. 3) Spanish Peaks Bee Club Founder-Walsenburg, CO. 4) Sangre de Cristo Bee Club Founder-Santa Fe, NM. 5) Mora Valley Apiaries, RMSQB Co-Founder. 6) The Middle Aged Spread- Buena Vista, NM, RMSQB Co-Founder. 7) Arroyo Hondo- Taos, NM. 8) Arroyo Seco- Taos, NM, Taos Bee Club</i>

12:00–1:00 pm	Lunch break
1:00–1:15 pm Session Chair:	Small hive beetle (<i>Aethina tumida</i>) larval development in Hawaiian fruits and development of an SIT protocol. Danielle Downey ¹ , Stacey Chun ² , and Peter Follett ³ . 1) <i>Hawaii Department of Agriculture/UH Pacific Cooperative Studies Unit 16 E. Lanikaula St. Hilo, HI</i> , 2) <i>Hawaii Department of Agriculture, 16 E. Lanikaula St., Hilo, HI</i> , 3) <i>USDA-ARS, U.S. Pacific Basin Agricultural Research Center, 64 Nowelo Street, Hilo, HI</i> .
1:15–1:30 pm	Bacteria community structure in the midguts of <i>A. dorsata</i> workers in Thailand. Prakaimuk Saraithong ¹ , Yihong Li ² and Panuwan Chantawannakul ^{1,3} . 1) <i>Department of Biology, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand</i> , 2) <i>Department of Basic Science and Craniofacial Biology, New York University, NY</i> , 3) <i>Materials Science Research Center, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand</i> .
1:30–1:45 pm	Effects of optimizing hive solar absorption on honey bee health and productivity. Michael P. Steinkampf , John C. Hurst and James E. Tew. 1) <i>Sandhurst Bee Company, Mountain Brook, AL</i> , 2) <i>Rockhurst Farm, Birmingham, AL</i> , 3) <i>Auburn University, Auburn, AL</i> .
1:45–2:00 pm	Survey of Pollination Economics, 2012, Dewey M. Caron ¹ and Ramesh Sagili ² , 1). <i>Affiliate Faculty, Department of Horticulture, Oregon State University</i> , 2). <i>Department of Horticulture, Oregon State University, Corvallis, OR</i> .
2:00–2:15 pm	University of Minnesota Bee Squad, Jody Gerdts and Marla Spivak. <i>Dept. of Entomology, University of Minnesota, St. Paul, MN</i> .
2:15-2:30 pm	African honeybee bulldozers. Baldwyn Torto and Ayuka Fombong. <i>International Centre of Insect Physiology and Ecology, Nairobi, Kenya</i> .
2::30-5:00 pm	Poster Viewing
5:00-7:00 pm	AAPA Business Meeting
	See you next year... Ramesh and Zachary.

POSTERS

Dimensions: Posters should not be larger than 4x4 feet.

Set up time: 6:30 - 8:30 am on Jan 10th (Thursday)

Removal: anytime after 5 pm on Jan 11th (Friday).

Evaluation of honey bee microbiome sensitivity to fungicides. Ann Bernert and **Ramesh Sagili**. *Department of Horticulture, Oregon State University, Corvallis, OR.*

Effects of pesticide exposure on pathogens and immunity in honey bee colonies. **Brenna E. Traver**, Nels G. Johnson, Troy D. Anderson, and Richard D. Fell. *Department of Entomology, Virginia Tech, Blacksburg, VA.*

An inexpensive test for *Nosema* in honey bees. **Martin A. Matisoff** and Thomas C. Webster. *College of Agriculture, Food Science and Sustainable Systems, Kentucky State University, Frankfort KY.*

Decimeter resolution mapping of honey bee positions using Portable Light Detecting and Ranging (LIDAR). **Colin B. Henderson**¹, Robert A. Seccomb², Rachel Dickson³, Jerry Bromenshenk⁴ 1) *Missoula College, Missoula, MT*; 2) *Bee Alert Technology, Inc.*; 3) *Big Sky High School*; 4) *Division of Biological Sciences, The University of MT, Missoula, MT.*

Genetic diversity and structure of *Apis cerana cerana* in Hainan Island. Xin-jian Xu, **Shujing Zhou**, Xiangjie Zhu, Xinjian Xu and Bingfeng Zhou, *College of Bee Science, Fujian Agriculture and Forestry University, Fuzhou, China*

Why do the best colonies have a high ratio of sealed to open brood? **F.A. Eischen**, R. H. Graham and R. Rivera. *The Carl Hayden Bee Research Center, Tucson, AZ.*

Comparative sucrose sensitivity in *Apis mellifera* and *A. cerana* foragers. **Wenchao Yang**¹, Haiou Kuang², Jie Wang¹, Shanshan Wang¹, Zhenhong Wu¹, Xiaoqing Miao¹, Zachary Y. Huang³ 1). *College of Bee Science, Fujian Agriculture and Forestry University, Fujian, China*, 2). *Research Institute of Eastern Honeybee, Yunnan Agriculture University, Kunming, Yunnan, China*, 3). *Department of Entomology, Michigan State University, East Lansing, MI.*

Adding natural pollen volatiles to pollen substitute for improved feeding. **R. Rivera**, F.A. Eischen and R.H. Graham. *The Carl Hayden Bee Research Center, Tucson, AZ.*