

Salem Convention Center | Salem, Oregon October 26-28, 2018



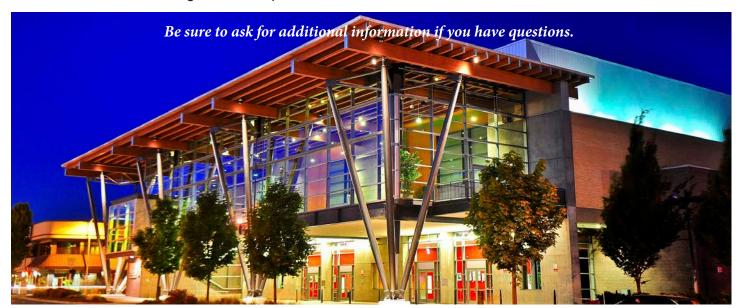
Conference Program

Welcome

Welcome to the OSBA 2018 Fall Conference, which takes place for the first time here at the Salem Convention Center. In addition to learning from conference presenters, their presentations, and one another, we'll have opportunities to:

- Visit during breaks as we check out exhibitor items and resource tables in the Willamette Foyer
- Donate as well as bid on items in the silent and benefit auctions
- Learn about pest and disease analyses in the mobile OSU Honey Bee Lab
- View entries and see how they (ours) rank in the Conference Honey Show
- Enjoy Luncheons on Saturday and Sunday, and the Banquet on Saturday evening
- Access Wi-Fi during breaks; no password needed

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Activities and Events

Our opening act is a complimentary Wine and Cheese Social Friday evening, October 26, in the

Willamette Ball Room. This year's reception includes Fresh Vegetables, Seasonal Fruit, Northwest Cheese and Crackers, Shrimp and Crab Seafood Display, Spinach Artichoke Dip with Crostini, and Pin Wheel Wraps. The food will have accompaniment as well: the three members of Caught Red Handed. The trio is well known for its strong three-part vocal harmonies, flashy solo instrumental breaks, and quirky on-stage conversation. We'll hear original tunes along with popular selections from the Americana songbook encompassing bluegrass, country, folk, and even a touch of oldtime rock 'n'roll.



Saturday through Sunday, we have opportunities to gain from Conference Presentations and engage with researchers and instructors, as described in the pages that follow.

We also will find information, goods, and services offered by **Exhibitors** and all who are staffing **Resource Tables** in the Willamette Foyer on Saturday and Sunday. Among these are the **Bee Informed Partnership**; the **Oregon Bee Project**, which among other things is currently involved in creating the Oregon Bee Atlas, a joint initiative of the Oregon Department of Agriculture and Oregon State University to identify the bee species in the state (www.oregonbeeproject.org); and the mobile **Oregon State University Honey Bee Lab** (honeybeelab.oregonstate.edu). In the lab, we will have an opportunity to see how the lab members Hannah Lucas and Carolyn Breece analyze honey bee samples for Nosema, do Varroa mite counts, and dissect bees for tracheal mites and hypopharyngeal glands. The OSU team can also tell us about current research projects and extension events. Honey bee samples may be dropped off for analysis to be completed within 1–2 weeks after the conference.

On Saturday as well, be sure turn in exhibits for the **Conference Honey Show** on time! Honey Steward Susan Rauchfuss be accepting them at the Honey Show table in the Willamette Foyer between 8:00 and 9:45 AM. Honey Judge Marjie Ehry will begin evaluating Comb Honey, Extracted Honey, Beeswax, Beekeeping Photos, and Gift Baskets at 10:00 AM. Come on by the Honey Show table in the Willamette Foyer later in the day to check out the winning entries. There we'll also find a display from this year's beekeeper booth at the Oregon State Fair.

We will have time throughout the day on Saturday to view items donated and participate in the **Silent Auction**, managed by Suzannah Kruse, in the Willamette Ball Room.

The Benefit Auction, managed by the OSU Honey Bee Lab, will follow the evening Banquet, also to be held in the Willamette Ball Room.

Luncheons at noontime both Saturday and Sunday in the Croisan Creek Room will provide additional food for thought. Menu items for the luncheons and banquet, listed below, are subject to change. Those with special dietary needs may request other options.

Saturday Luncheon Menu: Chicken Cordon Blue, Shrimp Scampi Fettuccine, Herbed Rice Pilaf, Herb Roasted Fingerlings, plus sides

Sunday Luncheon Menu: Thai Salad, Orange Chicken, Bamboo Beef with Soy Chili Marinade, Coconut Jasmine Rice, and Vegetables

Banquet Menu: Fruit, Berries, Salad both Green and Pasta, Seasonal Vegetables and Rice Pilaf, Garlic Herb Marinated Chicken Breast, Salmon with Lemon-Chive Beurre Blanc, Prime Rib Carved

Reminder: Tickets for the Banquet and the Luncheons are separate from conference registration.



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Brad Pankratz, 2015 President, California State Beekeepers Association

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For over 19 years, **Jennifer Berry** has been the Apicultural Research Professional and Lab Manager for the University of Georgia Honey Bee Program. Her research objectives have focused on queen breeding, improving honey bee health, the sublethal effects of pesticides on beneficial insects, and IPM techniques for Varroa and small hive beetle control. Jennifer also volunteers in Central and South America to teach women and young teens the art of beekeeping, has been instrumental in launching the Georgia Beekeeping Prison Program by certifying inmates through the University of Georgia Master Beekeeper Program, is dutifully educating the public about the importance of pollinators and other beneficial insects and how to encourage their populations, and on nights and weekends, operates Honey Pond Farm.



Priyadarshini Chakrabarti Basu, PhD, is a post-doctoral researcher in Dr. Ramesh Sagili's Honey Bee Lab at Oregon State University. Priya's chief focus lies in improving honey bee health by understanding honey bee nutrition and deciphering the effects of pesticides on pollinators. She is studying the key nutrients essential for improving honey bee health and employs various techniques of molecular ecology, neuroethology, insect physiology, ecotoxicology, and apicultural practices to address her research questions. She earned her PhD from the Department of Zoology and Centre for Pollination Studies at the University of Calcutta in India, where she studied the effects of pesticides on native wild Indian honey bees. Recipient of several prestigious awards, she also mentors students and teaches schoolchildren.



Anna Childers, PhD, is the Computational Biologist in the US Department of Agriculture, Agricultural Research Service's Bee Research Laboratory in Beltsville, MD. She received a BS in Animal Science at Purdue University, MS in Genetics at Iowa State University, and PhD in Biology at Georgetown University, where she focused on difficult-to-predict genes in the honey bee while also contributing to the Hymenoptera Genome Database. As a post-doc in Dr. George Yocum's lab, she studied gene regulation during diapause in alfalfa leafcutting bees and under stress conditions in honey bees. Anna collaborates on a variety of projects using genomics and transcriptomics to better understand honey bees and their multitude of pests and pathogens.



Danielle Downey is the Executive Director of Project Apis m., the largest nonprofit 501(c)(5) organization funding and directing honey bee research and projects aimed at practical solutions for healthier bees and crop production in the United States and Canada. More than 25 years ago, Danielle began working with honey bees and the parasites that plague them. Her background includes training and research from bee labs in Minnesota, Canada, and France; beekeeper education; work with commercial beekeepers and queen breeders; regulatory work as a State Apiarist in Utah and Hawaii; and wrangling bees for TV and film. She has worked closely with the Apiary Inspectors of America, Bee Informed Project, and the USDA, and holds a BSc from University of Minnesota and an MSc from Simon Fraser University.



Michelle Flenniken, PhD, is an Assistant Professor in the Plant Sciences Department at Montana State University. She is a microbiologist investigating honey bee host–pathogen interactions and Co-Director of the Pollinator Health Center at MSU. Michelle received a BS in Biology from the University of Iowa; she then volunteered in the Peace Corps in Ghana before obtaining her PhD in Microbiology from Montana State University. She did postdoctoral research at the University of California, San Francisco, prior to joining the faculty at MSU. For additional information, visit: http://plantsciences.montana.edu/facultyorstaff/faculty/Flenniken and http://www.montana.edu/pollinators.

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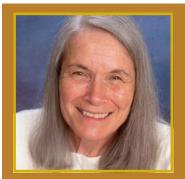
Krispn Given is Apiculture Specialist at Purdue University's Department of Entomology in West Lafayette, Indiana, where he maintains 120 research colonies, runs the Purdue honey bee breeding program, teaches an annual queen rearing short course, and manages the honey bee laboratory and extension activities. His research is focused on selecting for behavioral resistance to *Varroa destructor* by selecting bees with behavioral traits, grooming, mite-biting. Along with other research projects, Krispn was instrumental in developing the new "mite-biter" bee strain (with Dr. Greg Hunt). Given plans to breed bees that tolerate viruses in the future as well. He also recently developed innovative instrumental insemination devices and equipment along with his partner, Dale McMahan, and launched Apis Engineering.



After a six-year long career in public schools, **George Hansen** transformed a hobby beekeeping operation into a commercial endeavor. Starting from a few swarms and a collection of retrieved nuisance hives, the company now runs 7,000 colonies in three states. The focus of the beekeeping is now primarily pollination service, with honey and wax making up no more than 30 percent of gross revenues. Recently, sales of starter colonies have become an important part of the business as well. George and his wife Susan are currently transitioning their business to their sons Matt and Joe. George represents the ABF on the Honey Bee Health Coalition, participating on various work groups. He also serves on the boards of the Bee Informed Partnership and Project Apis m. as well as the steering committee for the Bee and Butterfly Habitat Fund.



Jen Holt wears several hats in her role at Oregon State University. She is the Program Coordinator for the Oregon Master Beekeeper Program and also works in conjunction with Dr. Andony Melathopoulos as the Program Coordinator for the OSU Pollinator Health Program, where she is developing exciting ways for the two programs to cross-pollinate. Jen was an Apprentice student in the inaugural year of the program, and continues as a Journey student and committee member. She met her husband Dan through the Oregon Master Beekeeper Program, and—while he is an avid beekeeper—her two children Finn (11) and Cale (9) are content to observe bees from a distance.



Author and publisher of *Honey-Maker: How the Honey Bee Worker Does What She Does*, **Rosanna Mattingly**, PhD, serves as editor of the OSBA newsletter and keeper of the website. She participated as a member of the Oregon Master Beekeeper Program planning committee at the program's inception, and recently assumed responsibility as editor of the journal of the Western Apicultural Society. Rosanna's formal education in the biological/ecological sciences and research on streams and rivers both inform and add perspective to her years of keeping bees. Organisms in a stream and inside a beehive effectively integrate what takes place in the surrounding landscape. In essence, they reflect the profound interconnectedness of the all that occurs on this good earth and have much to teach us of time, place, and life.



Andony Melathopoulos, PhD, is an Assistant Professor in Pollinator Health Extension in the Department of Horticulture at Oregon State University. OSU's work around pollinator health comes from mandates passed by the Oregon Legislature. Andony has four primary responsibilities: (1) training pesticide applicators on how to control pests while minimizing impacts to pollinators, (2) organizing a statewide native bee survey (the Oregon Bee Atlas), (3) guiding residential beekeepers on how to prevent their honey bees from becoming a nuisance, and (4) hosting a weekly podcast on pollinator health (PolliNation). He also sits on the Steering Committee of the Oregon Bee Project, which coordinates pollinator health work across state agencies.



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Steve Pernal, PhD, concentrated on honey bee nutrition and the influence of pollen quality on foraging strategies in his doctoral work. As a postdoc with Dr. Mark Winston at Simon Fraser, Steve worked on isolating naturally produced compounds which serve as attractants and repellents for *Varroa destructor*. Since 2001, he has been employed by Agriculture and Agri-Food Canada as a Research Scientist in Beaverlodge, Alberta, where he leads a national honey bee research program and also serves as Officer-in-Charge. His work has included the detection, control, and mitigation of residues associated with oxytetracycline-resistant American foulbrood disease and food-grade therapies for chalkbrood disease. He has been involved in devising therapies and management strategies for the control of *Nosema ceranae* as well as other emerging parasites.



Ramesh Sagili, PhD, is an Associate Professor in the Department of Horticulture at Oregon State University. He obtained his PhD in Entomology from Texas A&M University in 2007 specializing in honey bee research. His primary research focus at OSU is honey bee health, nutrition, and pollination. Ramesh initiated the creation of Oregon Master Beekeeper Program and chaired the Oregon Governor's Task Force on Pollinator Health. His research program addresses both basic and applied questions to improve honey bee health and nutrition, and hence the majority of his research projects are collaborative efforts involving both beekeepers and growers. He has authored important research and extension publications, including the popular extension publication and app titled *How to Reduce Bee Poisoning from Pesticides*.



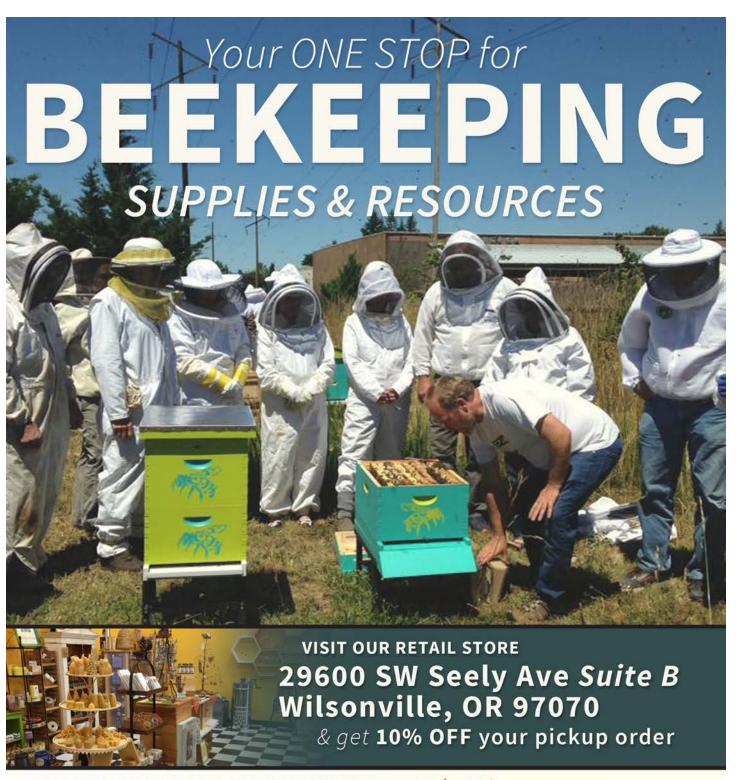
Since the mid-1990s, before becoming an avid urban beekeeper in 2002, **Judy Scher** has been making lotions and soaps. Judy is a past president of Lane County Beekeepers Association and a member of the Oregon Master Beekeeper Program planning committee. She is currently working on completing the Master level of the Oregon Master Beekeeper Program.



Andrew Schwab has been in beekeeping almost his whole life. His father was commercial beekeeper in the Plains States while he was growing up. It did not take long after moving away for school that Andrew had bees again. With this, he has garnered experience at every level: hobby, sideline, commercial.



James E. Tew, PhD, is the Beekeeping Specialist for the Alabama Cooperative Extension System, Auburn University, and Emeritus Professor, The Ohio State University. Jim has taught classes, provided extension services, and conducted applied research on honey bees and honey bee behavior—specifically, pollination behavior. He contributes monthly articles for national beekeeping publications and has written: Beekeeping Principles, Wisdom for Beekeepers, The Beekeeper's Problem Solver, and Backyard Beekeeping. He is a frequent speaker at state and national meetings, and has traveled extensively to observe beekeeping techniques.



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Alan Turanski leads vision, innovation, and improvements at GloryBee. He has also led development of strategic plans and transitioning of leadership within the company. With long-term relationships with customers, he has helped develop GloryBee's reputation as a quality, customer service-oriented supplier. Alan became GloryBee's president in 2015 and currently oversees the company's operations, procurement, technology, and finance areas, while working on business development and providing strategic direction. During his time, Alan has led efforts to rebrand GloryBee, increasing operational efficiencies by 18 percent, and has launched sustainability programs, including several large solar projects & fleet conversion to biodiesel. Alan was also a driving force in developing GloryBee's SAVE the BEE® initiative.



Honey Show Judge **Marjorie Ehry** is a long-time and Life member of the Oregon State Beekeepers Association. For over fifty years, she has bottled and sold honey in a self-service honey stand on their property with many return customers from all over the world. In the photo, Marjie is standing next to her self-service honey stand with mama bear. A total of four smiling bears greet customers and pose for pictures. Marjie and family have been involved in beekeeping since 1962. She also spends her time cutting wild blackberries and chasing the neighbor's goats!



Since 2009, **Carolyn Breece** has been a research assistant at the Oregon State University Honey Bee Lab (Go Beavs!). She studied mosquitos at UO (Go Ducks!) and bark beetles at Northern Arizona University. She is also a committee member, Journey student, and mentor for the Oregon Master Beekeeper Program. In addition to managing OSU's apiary of 60 colonies, she has 8 colonies of her own and sells her honey (Honey, I Love You!) to her sister's fitness club. When not in bees, you can find Carolyn and her 10-year-old son, Simon, hunting for mushrooms, clams, and mussels, fishing, hiking, or suffering through one of Simon's killer track workouts.



Hannah Lucas was a free-range child, locally raised on a farm right here in the Willamette Valley. She went north to Washington for most of her schooling, including an MS in Biology. Since then she has lived in a lot of places and studied several kinds of critters in many different ecosystems. Hannah's love for bees developed relatively late in life, but, once it did, she began to describe her ideal job as one that allowed her to use both her molecular biology education and field biology experience to investigate and ameliorate the problems faced by honey bees and their keepers these days. Naturally, she is very happy to be working in Dr. Ramesh Sagili's Honey Bee Lab at Oregon State University.

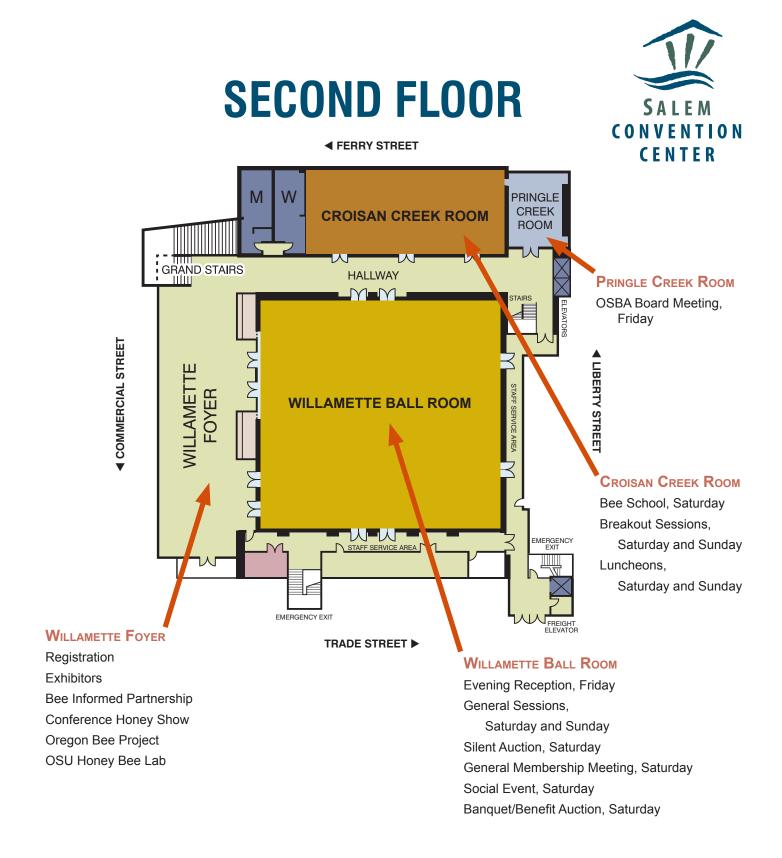
Exhibitors and Resource Tables

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Bowerman Insurance Agency
Brushy Mountain Bee Farm
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Conference Honey Show
GloryBee
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Session and Event Locations



Conference Agenda



Friday,	0	cto	ber	26
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	Triday, October 20		
4:00 РМ	OSBA Board Meeting (Pringle Creek Room)		Evening Events (Willamette Ball Room)
6:00 рм	Registration (Willamette Foyer)	6:00 рм	Social Hour
7:00 рм	Complimentary Wine and Cheese Social featuring	7:00 рм	Banquet (Preregistration required)
	Caught Red Handed (Willamette Ball Room)		My "Almost" 20 Years of Beekeeping Experiences
	Saturday, October 27		Jennifer Berry, University of Georgia
7:30 ам	Registration (Willamette Foyer)		Benefit Auction to Follow
8:00 ам	Silent Auction Begins (Willamette Ball Room)		
8:00-	Submit Honey Show Entries (Willamette Foyer)		Sunday, October 28
9:45 ам		7:30 ам	Registration (Willamette Foyer)
8:15 ам	Welcome (Willamette Ball Room) Harry Vanderpool, OSBA President	8:15 ам	Welcome (Willamette Ball Room) Harry Vanderpool, OSBA President
	General Session (Willamette Ball Room)		General Session (Willamette Ball Room)
8:30 am	Honey Bee Pathogens and Bee Health Michelle Flenniken, Montana State University	8:30 ам	American Foulbrood—Not Gone and Not Forgotten
8:30-	Bee School (Croisan Creek Room)		James Tew, Auburn University
10:00 ам	Andrew Schwab, Instructor	8:30-	Using Propolis and Beeswax in Making Lotions
9:15 ам	From the Laboratory to the Landscape: How Project Apis m. Is Helping the Beekeeping		and Other Products of the Hive (Croisan Ck Rm) Judy Scher, Lane County Beekeepers Association
	Industry Danielle Downey, Project Apis m.	9:15 ам	Research Updates from the OSU Honey Bee Lab Ramesh Sagili, Oregon State University
10:00 ам	Break	10:00 ам	Break
10:15 ам	Making Hard Decisions about Honey Bee Queens	10:15 ам	The Times, They a-Changin' George Hansen, Foothills Honey Company
	James Tew, Auburn University	11:00 ам	Bee Breeding Tools for the Future
10:15— 11:30 ам	Honey Bee Biology (Croisan Creek Room) Rosanna Mattingly , Beargrass Press	NOON	Steve Pernal, Beaverlodge Research Farm Luncheon (Croisan Creek Rm, Preregistration reqd)
11:00 ам	Research Updates from the USDA Bee Research Laboratory		Oregon Master Beekeeper Program Jennifer Holt, Oregon State University
	Anna Childers, USDA ARS, Beltsville		The Oregon Bee Project and Residential
NOON	Luncheon (Croisan Creek Rm, Preregistration reqd)		Beekeeping Guidelines—Updates Andony Melathopoulos, Oregon State University
	Understanding Some Fascinating Bee Behaviors Ramesh Sagili, Oregon State University	1:15 рм	Selecting for Behavioral Resistance to Varroa
1:15 рм	Fighting for Our Bees		Destructor
	Jennifer Berry, University of Georgia		Krispn Given, Purdue University
2:00 рм	SAVE the BEE® Alan Turanski, GloryBee	2:00 РМ	The Importance of Sterols in Honey Bee Nutritional Physiology
2:45 рм	Break		Priya Chakrabarti Basu, Oregon State University
3:00 рм	New Paradigms in AFB Management	2:45 PM	Break
	Steve Pernal, Beaverlodge Research Farm	3:00 рм	Breeding Varroa-Resistant Bees: A Promising Project You Haven't Heard About
3:45 рм	Queen and Drone Reproductive Biology Krispn Given, Purdue University	2:4E -::	Danielle Downey, Project Apis m.
4:00 рм	Silent Auction Ends	3:45 рм	Identifying and Monitoring Disease Threats Anna Childers, USDA ARS, Beltsville
4:30-	OSBA General Membership Meeting	4:30 рм	Final Comments & Adjourn (Willamette Ball Rm)
5:45 РМ	(Willamette Ball Room)		Harry Vanderpool, OSBA President







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Program Abstracts



Friday, October 26

OSBA Board Meeting (Pringle Creek Room)	4:00	PM
Registration (Willamette Foyer)	6:00	РМ
Kick-Off Wine and Cheese Social (Willamette Ball Room) featuring Caught Red Handed	7:00	PM

Saturday, October 27

buturuuy, Ottober 21	
Registration (Willamette Foyer)	7:30 AM
Silent Auction Begins (Willamette Ball Room)	8:00 AM
Submit Honey Show Entries (Willamette Foyer)	8:00-9:45 AM
Welcome & Announcements (Willamette Ball Room) Harry Vanderpool, OSBA President	8:15 AM

General Session (Willamette Ball Room)

Honey Bee Pathogens and Bee Health

8:30 AM

Michelle Flenniken, Montana State University

This presentation will explore the impact of pathogens on honey bee health at both the colony and individual bee levels.

Concurrent Session (Croisan Creek Room)

Bee School 8:30-10:00 AM

Andrew Schwab, Instructor

This beginning beekeeping class will review and explain the basic things to do during the first year of keeping bees. We will go over the different pieces of equipment needed, with a focus that leans more toward use of Langstroth-style hives. Those attending will be given the basics, information that is always needed no matter the level of keeping bees. We will cover identification of different bees in the hive, when to feed, what to feed, what to look for when doing hive inspections, getting bees ready for a successful winter, and, of course, installing the bees for the first time.

From the Laboratory to the Landscape: How Project Apis m. Is Helping the Beekeeping Industry

9:15 AM

Danielle Downey, Project Apis m.

Founded 12 years ago during the crisis of CCD, Project Apis m. has grown into the largest nonprofit whose mission is to fund and direct honey bee health research. Working closely with beekeepers, growers, and researchers, PAm has funded and directed over 150 projects, investing nearly \$7

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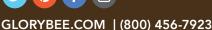












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million into research with applied value to ensure honey bee health and crop pollination. Learn more about PAm's practical approach to help the beekeeping industry and hear about some of our most-promising projects—from the Laboratory, with 44 active research projects, to the Landscape, planting acres of pollinator habitat alongside agriculture in 13 states.

Reminder: Deadline for Submitting Honey Show Entries (Willamette Foyer)

9:45 AM

Break 10:00 AM

Making Hard Decisions about Honey Bee Queens

10:15 AM

James Tew, Auburn University

Honey bee queens get most of the credit and much of the blame for all things within the colony. As beekeeper numbers have dramatically increased, so has the demand for queens. Indeed, there has been an approximate 5233% increase in the price of queens from 1971 to 2018. Even with that increase, queen replacements are not always readily available. Queen management and replacement have become more challenging and are requiring management programs to evolve to meet these changes. This discussion will review management schemes used decades ago and how these schemes are changing to meet the needs of modern beekeepers.

Concurrent Session (Croisan Creek Room)

Honey Bee Biology

10:15-11:30 AM

Rosanna Mattingly, Beargrass Press

Honey bees entering and leaving the beehive as they bring in "the goods" are mesmerizing. And yet, how do they find them, how do they collect them, and why? Although humans have long noticed that insects carry pollen as they move from one flower to another, it's been said that the drama of the ancient relationship between plants and pollinators remained a secret until Charles Darwin showed that more than buzzing was going on . . . During this session, we'll gain perspective on this intricate relationship as we focus on some of the finely tuned structures of the honey bee and explore how they enable the bee to navigate life both inside and outside the beehive. And we'll remind ourselves that, even as we consider the body parts that support the bee's awesome interaction with plants, the beehive, and one another, the honey bee is phenomenally more than the sum of the parts!

Note: Whether or not attending this session, be sure to visit the Honey Bee Lab in the Willamette Foyer during the conference, where you'll able to take a closer look at some of the parts. Come prepared for beauty.

Research Updates from the USDA Bee Research Laboratory Anna Childers, USDA ARS, Beltsville

11:00 AM

This presentation will provide an overview of research underway at the Bee Research Lab, including work on viruses, Nosema, Varroa, and nutrition.

Luncheon (**Croisan Creek Room**—Preregistration required)

NOON

Understanding Some Fascinating Bee Behaviors Ramesh Sagili, Oregon State University





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Fighting for Our Bees

Jennifer Berry, University of Georgia

As we all know, honey bees have been threatened for decades due to the widespread use of pesticides, modernization of farming practices, and habitat loss due to human expansion. However, the most-detrimental and hardest blow to *Apis mellifera* has been the new heavy weight challenger, *Varroa destructor*. We are now in round 13 and Varroa is winning. Unfortunately, mites are not going away, so let's give our bees the best coach, the best training, and the best knock punch to at least make it to the last round. This presentation will delve into recent research from the University of Georgia and investigate relationships between Varroa and our bees. We will also discuss plans to postpone the inevitable or, more optimistically, to finally win by knocking out our opponent. Time to float like a butterfly and sting like a bee!

SAVE the BEE® 2:00 PM

Alan Turanski, GloryBee

Started in 2012 by GloryBee, SAVE the BEE $^{\circ}$, a 501(c)(3) nonprofit, is on a mission to build awareness and raise money to support education and research, and to connect consumers and their decisions to the sustainability of the bees. We believe bees are critical to a healthy and abundant food supply, and that by creating partnerships we can increase collaboration from consumers to commercial industry to make positive changes. Come to hear and learn more about SAVE the BEE $^{\circ}$, what we have accomplished, who is receiving support, and what we plan to do next.

Break 2:45 PM

New Paradigms in AFB Management

3:00 PM

1:15 PM

Steve Pernal, Beaverlodge Research Farm

Current efforts at managing American foulbrood are through the use of prophylactic applications of antibiotics and how beekeepers' access to antimicrobials will be severely restricted in the new era veterinary prescriptions for drugs. Consequently, attitudes and techniques for managing AFB will need to change. Highlighted will be nonchemical therapies for AFB and the use of surveillance to predict AFB outbreaks.

Queen and Drone Reproductive Biology

3:45 PM

Krispn Given, Purdue University

Did you know that, after mating, the drone's endophallus emits ultraviolet light (UV), which attracts other drones to mate with her? This and many other mysteries of mating will be explained.

Silent Auction Ends 4:00 PM

OSBA General Membership Meeting (Willamette Ball Room)

4:30-5:45 PM

Social Hour (Willamette Ball Room)

6:00 PM

Banquet (Willamette Ball Room—Preregistration required)

7:00 PM

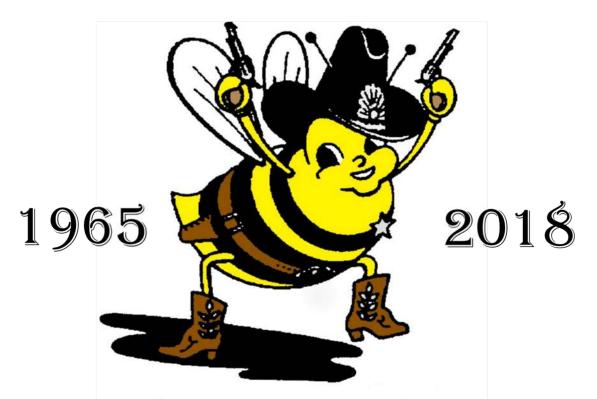
Presentation: My "Almost" 20 Years of Beekeeping Experiences

Jennifer Berry, University of Georgia

With so much vying for our attention these days, sometimes it's just fun to be entertained. Saturday evening, let's do just that. Forget about Varroa and viruses, global warming and pesticides, tweets and collusion. Let's just sit back for some down-to-earth stories about bees and beekeeping.

Benefit Auction to Follow

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Sunday, October 28

Registration (Willamette Foyer)
Welcome & Announcements (Willamette Ball Room)
Harry Vanderpool, OSBA President

7:30 AM 8:15 AM

General Session (Willamette Ball Room)

American Foulbrood—Not Gone and Not Forgotten

8:30 AM

James Tew, Auburn University

While no longer the primary cause of honey bee death in the United States, American Foulbrood (AFB) remains a major threat to *Apis mellifera* worldwide. This disease is highly contagious, lethal in nature, and is caused by a spore-forming bacterium. Contaminated equipment and combs are commonly destroyed. Unlike more-recent parasite infestations, AFB is well adapted to bee colonies. In decades past, this was the disease that caused beekeepers the most concern. This discussion will address the pathogen's epidemiology and offer practical considerations.

Concurrent Session (Croisan Creek Room)

Using Propolis and Beeswax in Making Lotions and Other Products of the Hive

8:30-10:00 AM

Judy Scher, Lane County Beekeepers Association

This will be a demonstration of making a cream lotion using propolis and beeswax, and oils. If time permits, there will also be a demo of making a finish for woodenware. There will also be a talk on preparing propolis extract from the hive to the bottle. Lotion recipes and techniques tend to be secretive. The technique of adding propolis to the recipe and keeping it in suspension was a mystery until I discovered a technique several years ago. Like methods in managing honey bees, I believe all knowledge should be shared.

Research Updates from the OSU Honey Bee Lab

9:15 AM

Ramesh Sagili, Oregon State University

This presentation will predominantly focus on current research at Oregon State University Honey Bee Lab pertaining to honey bee health (Varroa) and nutrition (role of nutrition in selection of larvae to rear queens). Further, a few ongoing miscellaneous honey bee research projects will also be discussed briefly.

Break 10:00 AM

The Times, They a-Changin'

10:15 AM

George Hansen, Foothills Honey Company

Over the last few decades the honey bee industry has been turned upside down and inside out because of events and trends in Agriculture and land use. This presentation provides a look at management decisions that have been prompted and incentivized by those changes, with an eye for future trends.

Bee Breeding Tools for the Future

11:00 AM

Steve Pernal, Beaverlodge Research Farm

This presentation will review our multi-year efforts to develop genomic and proteomic tools with which to more rapidly and effectively select colonies from which to breed. In particular, we have focused on traits which are difficult to measure, including Varroa and disease resistance, along with a host of other economically important traits.

Presentation: Oregon Master Beekeeper Program

Jen Holt, Oregon State University

The Oregon Master Beekeeper Program began in 2012. Since then, it has educated over 1,000 beekeepers. Our enrolled Journey Beekeeper students have the opportunity to share their knowledge through service activities, and they receive advanced beekeeping education in events such as the Oregon Master Beekeeper Institute, Lab Day at OSU, and a summer field day. This talk will cover the exciting ways that students are getting the word out about beekeeping across the state of Oregon. If you are interested in participating in the Oregon Master Beekeeper Program, please visit us at: www. oregonmasterbeekeeper.org.

Presentation: The Oregon Bee Project and Residential Beekeeping Guidelines—Updates

Andony Melathopoulos, Oregon State University

Oregon has two new initiatives: (1) a statewide pollinator health strategy (the Oregon Bee Project) and (2) a training program on residential beekeeping. Both intiatives are unique within the US. I will lay out key features of both initiatives.

Selecting for Behavioral Resistance to Varroa Destructor

1:15 PM

Krispn Given, Purdue University

For over two decades we have been selecting for colonies that grow fewer Varroa mites with the use of sticky boards and most recently (2006) started selecting for chewed or damaged mites. We have demonstrated that colonies with a higher proportion of mites on their sticky boards due to grooming behavior also express more chewed mites when viewed in the lab. This talk will be an overview of the successful breeding program we have been conducting the last 22 years at Purdue and the mite-biter honey bee strain created there.

The Importance of Sterols in Honey Bee Nutritional Physiology

2:00 PM

Priya Chakrabarti Basu, Oregon State University

In the United States, being one of the largest centers of commercial bee keepers, honey bees ensure sustenance of the billion-dollar industries of beekeeping and commercial crop production. Recent alarming honey bee colony losses due to multitude of factors such as pests and pathogens, poor nutrition, and pesticides have affected both beekeepers and growers, especially as both are interdependent for their economic sustainability. Pollen forage and protein supplements provided by beekeepers form the backbone of bee nutrition. In light of colony losses and reported adverse effects on bee health and pollination services, it is extremely crucial to understand the needs of optimum nutrition. Unlike others, insects are unable to synthesize sterols. Sterols form the key to honey bee growth and survival, as a number of bee life processes are dependent on the availability of optimum sterol concentrations in their diets. A lack of studies in understanding the needs for sterols in honey bee nutrition has called for an urgency in studying the critical roles sterols play in honey bee life cycle. An artificial diet was formulated and supplemented with different concentrations of 24-methylenecholesterol in order to evaluate preferences for sterol content by honey bees in laboratory cage experiments. Our study suggests that honey bees preferentially consume diets rich in sterols compared to control diets and diets containing low concentrations of sterols. Bees fed sterol diets survived significantly longer than those fed control diets. Additionally, the total head protein content in bees from the high sterol treatment groups was significantly higher than in bees exposed to low or no sterol diets (control). Labeling the sterol diet with isotope also helped us quantify the isotope and trace the diet through the adult honey bee tissues. The results pertaining to honey bee abdominal fat contents and specific honey bee head proteins will also be discussed.

Break 2:45 pm

Breeding Varroa-Resistant Bees: A Promising Project You Haven't Heard About

3:00 PM

Danielle Downey, Project Apis m.

We have known for decades that there are bees with naturally occurring behavioral traits to resist Varroa mites. So why are Varroa-resistant bees not flooding the markets? The answer is complicated, but one factor is that we haven't had mite-resistant bees that are as productive as currently available commercial bees. Recognizing that breeding bees is a challenging, long-term commitment, Project Apis m. is supporting a public/private partnership to select a stock of bees with both Varroa resistance and also the other traits beekeepers require, like gentleness, honey production, spring buildup, and overwintering ability. Great progress has been made, with the ultimate aims of both breeding the bees and then fostering scaled-up queen production to meet commercial needs.

Identifying and Monitoring Disease Threats

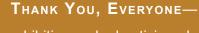
3:45 PM

Anna Childers, USDA ARS, Beltsville

Efforts through the Bee Research Lab's Bee Disease Diagnostic Service and other projects to identify and monitor disease threats throughout the US will be discussed.

Final Comments and Adjourn (Willamette Ball Room) Harry Vanderpool, OSBA President 4:30 PM

Please remember to turn in Evaluation Forms at Registration or Exit!



All attending, presenting, exhibiting and advertising, donating and participating in the silent and benefit auctions, working behind the tables and behind the scenes in planning, registering, sorting, tracking, figuring things out—and all not mentioned!

Safe Travels Home







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