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Columbia County Oregon Beekeepers
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Tualatin Valley Beekeepers
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debbygarman@gmail.com

Willamette Valley Beekeepers
President: Richard Farrier
541.327.2673; rfarrierfarms@gmail.com
On behalf of the Oregon State Beekeepers Association, I would like to welcome you all to our 2020 Fall Conference. This will be an excellent opportunity to learn about the latest honey bee research and innovative beekeeping techniques. We look forward to connecting in new ways and continuing our efforts to support honey bee research.

This year we have another great lineup of speakers, panels, and events, including demonstrations and our online auction to support honey bee outreach and research. GloryBee has again graciously offered to match funds we raise up to $10,000. This is an amazing opportunity to carry on a great tradition and support the OSU Honey Bee Lab and other research. We hope this lineup will help us all become more informed and better beekeepers. Check out our website for program updates and details.

We look forward to “virtually” seeing all of you here. Together we can face these unusual times and make a difference for honey bees and beekeepers. Thank you all so much for your participation. We could not do it without you!

John Jacob, OSBA President

Welcome to the OSBA 2020 Fall Conference!

CONTENTS
OSBA Executive Committee 2
President’s Welcome 3
Contents 3
2020 Advertisers 3
Overview 4
Meeting on Zoom 4
Conference Moderators 4
Sessions and Exhibitors 4
Special Events 5
Conference Presenters 7
Conference Agenda 17
Program and Abstracts 19
October 24 19
October 25 21
October 28 23
November 4 25
November 11 26
November 14 27
Thank You, Everyone! 27

2020 ADVERTISERS
Almond Board of California 6
Apricot Apiaries 28
Beeline Apiaries & Wooden Ware 28
Dadant & Sons Inc 18
GloryBee 10
Heitkam’s Honey Bees 18
Hive and Garden 20
Honey Bee Genetics 16
Honey-B-Healthy 24
Old Sol 24
Oregon Bee Project 18
Rice’s Honey 8
Shastina Millwork 22
Shonnard’s Nursery 28
Sticker You 12
Western Bee Supplies Inc 14
Wifi Hive Scale 24
Wooten Queens & Bees 16
Meeting on Zoom

For meeting by way of the Zoom video conferencing platform during the 2020 Fall Conference, attendees will receive an email prior to the start of the conference with a link. Simply click on the link to be transported to an online “room” where the conference takes place.

Additional instructions are at: orsba.org/zoom-101, and more can be found on the Zoom website (www.zoom.us), which contains specific information and guides. We have two practice sessions scheduled. Attend one or both!

Wednesday, October 14, 7 PM—Conference Practice Session
Saturday, October 17, NOON—Conference Practice Session

The October 14 and October 17 events are test runs to introduce how things work. For any trouble connecting or questions as we proceed, please call or text Jen Holt (541.829.8424).

Conference Moderators

Our moderators for the 2020 Fall Conference are set to weave this year’s research presentations, panel discussions, and demonstrations into a fine tapestry for learning. We thank them, as we also thank our presenters, panel participants and moderators, and exhibitors and advertisers! They are Carolyn Breece, Paul Stromberg, and Cheryl Wright.

Sessions and Exhibitors

Our presenters, both from the US and Canada, bring us research and updates from a rich backdrop of experience and perspective to add to both our practice and our appreciation of the of the complexities of the life of the honey bee and the pollinator landscape.

In addition, we will have opportunities to hone our skills in such areas as candle making, preparation for honey shows, and working with propolis as well as through Question & Answer sessions with participants in the Oregon Master Beekeeper Program.

October 26—Deadline to submit questions for October 28 Q&A Session
November 2—Deadline to submit questions for November 4 Q&A Session
November 9—Deadline to submit questions for November 11 Q&A Session
The event is rounded out with the offerings of our conference program advertisers, as viewed in these pages, and by visits with exhibitors throughout our time together.

### 2020 EXHIBITORS

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### Special Events

Although we miss meeting together in person, we have ways in which to participate as we look forward to better times. In addition to the presentations throughout the six days of the event, we have the opportunity to join in several traditional conference activities that provide a means for shared experience by:

- Entering this year’s Honey Show of our best honey, wax, and photography with three titles this year.
- Donating and bidding on items and services in the Online Silent Auction: www.biddingforgood.com/orbeekeepersasssoc (by computer) | bforg.com/orbeekeepersasssoc (by mobile device).
- Sending samples for analysis to the OSU Honey Bee Lab.

Details for each of these activities may be found at orsba.org. Relevant deadlines are:

- **October 2**—Postmark for Honey Show entries
- **October 9**—Delivery of Honey Show entries to Salem address
- **October 21, NOON**—Silent Auction donations end
- **November 11, 9 PM**—Silent Auction bidding ends

Further, our annual General Membership Meeting takes place on Saturday, October 24, 2020, at 1 PM, when we will be reviewing the past year and holding elections for 2021.

We hope you enjoy participation in the conference proceedings as well as being involved in special events. We look forward to seeing you there!

- **October 17**—Postmark for Registration by Mail
- Online Registration remains open throughout, yet needs to be completed within 24 hours prior to a given session to ensure Attendance.

**Reminder:** Recorded conference proceedings are available to participants for 30 days following the event.

For additional information and updates, visit: orsba.org.
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1.
Confirm key points in your contract/agreement with almond growers.

2.

3.
Communicate with almond growers to verify details, including how you will mark your colonies and who will provide potable water for bees.

Visit Almonds.com/Pollination for more pollination resources, including the Almond Board of California’s Honey Bee Best Management Practices.
**Emily Carlson** is a graduate research assistant and PhD student at Oregon State University in the Honey Bee and Pollinator Health Labs. For her current work on the ecology of pesticide exposure in beneficial insects, she has been awarded the National Science Foundation Fellowship for Graduate Research and the USDA Future Leaders Award. Emily holds a BS in Biology from Gonzaga University, and her previous experience includes riparian restoration, natural resource education with adult landowners, and grant writing. Emily has a passion for working with diverse stakeholders towards the common goal of pollinator conservation. Outside of the lab and the field, Emily enjoys outreach opportunities sharing her love of all six-legged creatures.

**Todd Balsiger** is a sideline beekeeper with around 165 hives. He literally got into beekeeping because his grandparents—past honorary OSBA members Lu and Anita Alexander. Todd’s primary vocation is in forestry, and he is a small woodland owner. He enjoys skiing, fishing, watching trees and bees grow, and seeing the Portland Trailblazers win. His son Kenneth is a fifth senior at OSU majoring in civil engineering, and his wife Heide is a pharmacist at OHSU. Their dog rounds out the family.

**Anna Ashby** is a relative newcomer to the beekeeping world. In 2013, she accepted a job as the manager of the Chef’s Garden at The Allison Inn and Spa in Newberg. An unexpected part of the job was caring for honey bee colonies, something about which she knew nothing. Thus began her mad dash to learn about honey bees from the best source around, the Oregon Master Beekeeper Program. After six grueling years of no free time, totally immersed in bee learning, she passed the OMB Master-level exam. She is currently a mentor in the program and secretary of the Willamette Valley Beekeepers Association. Anna organizes and helps teach the WVBA annual bee school. She also is involved in organizing a new bee association in the Newberg area. When she has free time, she and her husband enjoy backpacking.

**Matt Allen** and **Liz Lovelock** have been keeping bees since they got their first two packages in 2010. In 2013, they launched their company Apricot Apiaries in Kimberly, Oregon, on the North Fork of the John Day River. Since then, they have grown to 500 colonies. The pair provides pollination services as well as nucs, packages, queens, honey, and education. They have been making and selling beeswax candles since 2013. Liz and Matt have two young beekeepers, Teddy and Leo, who keep them busy in the field and at home. You can follow their story on Facebook and Instagram @apricotapiaries or on their website: www.apricotapiaries.com.
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**Matt Hansen** is a second-generation commercial beekeeper and co-owner of Foothills Honey Company in Colton, Oregon, along with his brother Joe and parents, George and Sue. He lives in Mulino, Oregon, with his wife Meagan and sons William and Tommy.

After a short career as a public-school teacher, **George Hansen** transformed a hobby beekeeping operation into a commercial endeavor. The company now runs 7,000 colonies in three states. Although the name Foothills Honey Company LLC never changed, the focus of the beekeeping is now primarily pollination service. Concentrating on a succession of pollinations throughout the year requires targeted management strategies to keep the hives in good pollinating condition from January to October. George and his wife Susan are currently transitioning their business to their sons Matt and Joe. George is an active member of the beekeeping community promoting the industry’s interests through work with numerous organizations, including ABF and Apis m. Both George and Susan have painting studios.

**Ellie Chapkin** graduated from the University of California, Davis, in 2017 with a BS in Environmental Science and Management. She began as a graduate research assistant in April 2019 at Oregon State University, where she is working toward her PhD. Ellie is doing research in Dr. Ramesh Sagili’s Honey Bee Lab after discovering her interest in bees and pollinator health while working in the honey bee lab at Texas A&M University in her home town of College Station, Texas. Her current project involves the altruistic self-removal and drifting behaviors of honey bees.

**Priya Chakrabarti** earned her PhD in Zoology from the University of Calcutta in India, where she studied the effects of pesticides on wild Indian honey bees. Priya is an entomologist working on apiculture, pollination biology, insect physiology, insect nutrition, molecular ecology, insect neuroethology, and ecotoxicology. Currently a postdoctoral researcher at the Oregon State University Sagili Honey Bee Lab—focusing on improving bee nutrition, bee health, and pollination services—she is also the president of the OSU Postdoctoral Association. A gold medalist in her Master’s, Priya has been the recipient of numerous prestigious awards. She has published several peer-reviewed scientific manuscripts, book chapters, and extension articles, and is an active participant in sharing research across Oregon and North America.

**OSBA Life Member Marjie Ehry** and her late husband Alan joined the state bee association shortly after they started their commercial beekeeping business Happy Bee Apiaries in 1962. They were submerged in every function of the OSBA, from the spring meetings to the summer picnics, the fall conventions and local Portland and Tualatin Valley meetings, and even the American Beekeeping Federation letter-writing campaigns. In the mid-1960s, Marjie started helping set up the OSBA honey exhibit at the Oregon State Fair. Fifty years later, our display is the largest educational attraction at the state fair. She “learned the ropes” of judging honey, was the Oregon Honey Queen program coordinator and chaperone 1969–1990, and has remained dedicated to educating others of all ages about honey bees and beekeeping.

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Andony Melathopoulos is an assistant professor in Pollinator Health Extension in the Department of Horticulture at Oregon State University, which was the first such position in the US. He also sits on the Steering Committee of the Oregon Bee Project, which coordinates pollinator health work across state agencies; leads the Oregon Bee Atlas; and hosts a weekly podcast called PolliNation. In 2018, Andony was recognized with the national Pollinator Advocate award by the North American Pollinator Protection Campaign.

Jan Lohman has been a beekeeper for 30 years with partner Vincent Vazza at Vazza Farms Inc in Eastern Oregon. Together they managed 2,300 honey bee colonies until late 2017. Now in retirement, they still would be considered commercial with 350 colonies; they continue to enjoy relationships with fellow beekeepers and remain addicted to their beloved honey bees. Jan is also on the Oregon Master Beekeeper Program Planning Committee as well as a mentor and instructor for that program, which is a great passion as well. Helping new beekeepers become comfortable in a bee hive is such a joy!

Max Kuhn has 15 years beekeeping experience, is a hobbyist, and is certified as Journeymen Beekeeper in Washington and Journey in Oregon. Currently enrolled in the Oregon Master Beekeeper Program studying at the Master level, Max manages 15–20 hives and mentors beginning beekeepers in the Florence, Oregon, area.

Shelley Hoover is an apiculture and pollination scientist in the Department of Research and Innovation at the University of Lethbridge in Lethbridge, Alberta, Canada. 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, New Zealand) 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.

Jen Holt is the program coordinator for the Oregon Master Beekeeper Program at Oregon State University. She also works in conjunction with Dr. Andony Melathopoulos as the program coordinator for the Oregon Bee Atlas, and 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 (13) and Cale (11) are content to observe bees from a distance.

Andony Melathopoulos is an assistant professor in Pollinator Health Extension in the Department of Horticulture at Oregon State University, which was the first such position in the US. He also sits on the Steering Committee of the Oregon Bee Project, which coordinates pollinator health work across state agencies; leads the Oregon Bee Atlas; and hosts a weekly podcast called PolliNation. In 2018, Andony was recognized with the national Pollinator Advocate award by the North American Pollinator Protection Campaign.
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**Mary Reisinger** is the 20-year-old daughter of Peter and Stephanie Reisinger of Parker, Texas. She is a senior at the University of Texas at Dallas studying speech-language pathology. Mary is an active volunteer in the Collin County Beekeepers Association and currently tends to six hives. As the 2020 American Honey Queen, Mary serves as a national spokesperson on behalf of the American Beekeeping Federation, a trade organization representing beekeepers and honey producers throughout the United States.

---

**Naomi Price** has always embraced the study of insects: 4-H Entomology and educator with science emphasis. Family vacations offered her new environments for the next six-legged discovery—always safely pinned to the family car's cloth ceiling. The all-important insect net, pins, mounting board, and identification books were never left behind with moves from Palo Alto, California, to a variety of locations in Oregon. She and her husband Larry built an off-grid home on a mountain site in Central Oregon christened Valhalla, a place of rescue, respite, and nod to her Norwegian heritage. Drafter of the Valhalla long hive, Naomi is a Journey, mentor, and instructor with the Oregon Master Beekeeper Program. Her apiaries have grown, and Valhalla’s isolation makes it a prime location to rear her queen replacements.

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**Morris Ostrofsky**, a retired biology instructor, says he learns something new every day about bees and beekeeping. Since 2010, Morris has participated in the development and implementation of the Oregon Master Beekeeper Program. He is both a mentor and an instructor for the program. Morris is also an active member and past president of the Lane County Beekeepers Association. In October 2013, Morris was awarded the Washington State Master Beekeeper certification, the first Oregonian to receive this certification. Morris is an occasional contributor to *Bee Culture* magazine. His presentation technique is to both educate and entertain. An interest in genetics and queen rearing has led to a quest to breed locally adapted queens using graft-free methods.

---

**Elina L. Niño** is an extension specialist for apiculture with UC ANR UCCE located in the Department of Entomology and Nematology at UC Davis. Through her extension activities, she works to support beekeepers and the beekeeping industry. Elina serves as the research liaison on the CSBA Board and as a member of the Pollinator Workgroup for the Almond Board of California. Her lab also offers a variety of beekeeping courses and educational opportunities for beekeepers through the general public. Most recently, her lab has implemented the first California Master Beekeeper Program. Her research interests encompass basic and applied approaches to understanding and improving honey bee health and particularly honey bee queen health. To learn more, visit: elninobeelab.ucdavis.edu.

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**Nick Naeger** is an entomologist and geneticist who has been researching honey bees for over half his life. Before joining the Washington State University bee team, his doctoral work focused on the genetics of behavior where he documented how networks of genes in the honey bee brain turn on and off foraging or mating behavior. His current research seeks to find innovative ways to improve honey bee health. This includes using fungi to create better bee feed additives and using pathogenic fungi to kill Varroa mites. In the laboratory, he uses genetic techniques to measure bee pathogen levels and to test the effect of treatments on the honey bee immune system.
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Ellen Topitzhofer became interested in honey bees while studying plant genetics and breeding at the University of Minnesota. She then studied honey bee nutrition as part of her MS at Oregon State University. After graduating, she hit the road and worked with commercial beekeepers all over the Northwest as part of the Bee Informed Partnership’s Tech Transfer Team mastering on-the-ground testing, secret-keeping, and applicable research. She currently works as a faculty research assistant in the OSU Honey Bee Lab with a research focus on self-sufficient queen supply techniques.

As honey bee health field specialist for the Pacific Northwest, Ben Sallman works with migratory beekeepers from around the region and helps monitor diseases, pest loads, and colony health. Most of his experience with commercial beekeeping comes from his time working with Bee Informed Partnership in Northern California (2013–2017), where he helped queen breeders select stock and test for hygienic behavior. His interest in bees began much earlier while working on his family’s apiary/organic vegetable farm in Wisconsin. When not in the bees, Ben spends his time playing the tuba and trombone in a variety of musical genres and propagating rare plants.

Judy Scher has been an urban beekeeper in Eugene, Oregon, for 19 years. She is a past president of Lane County Beekeepers Association and worked on the Oregon Master Beekeeper Program Planning Committee. She completed the Journey level in both Washington and Oregon states, and has been a mentor and instructor for both Lane County Beekeepers and Oregon Master Beekeeper Apprentices. She is especially fascinated by the biology of honey bees and says she will never be an expert because, “the longer you keep and study bees, the less you know.” As well as being an avid beekeeper, Judy has been making lotions and soaps since the mid-1990s.

Ian Steppler, married to Sandy, father of five, farms with his family near Miami, Manitoba, Canada. His family farm is a third-generation farm started by Ian's grandfather and carried forward by his parents.

Ramesh Sagili 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 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; hence, the majority of his research projects are collaborative efforts involving stakeholders (beekeepers and growers). He has authored important research and extension publications and has received several awards, including from the Entomological Society of America, EAS, and OSU.

Ellen Topitzhofer became interested in honey bees while studying plant genetics and breeding at the University of Minnesota. She then studied honey bee nutrition as part of her MS at Oregon State University. After graduating, she hit the road and worked with commercial beekeepers all over the Northwest as part of the Bee Informed Partnership’s Tech Transfer Team mastering on-the-ground testing, secret-keeping, and applicable research. She currently works as a faculty research assistant in the OSU Honey Bee Lab with a research focus on self-sufficient queen supply techniques.
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A Tough Nut To Crack: Pollination Requirements of Self-Fertile Almond Varieties
*Elina L. Niño*, University of California, Davis

Sugar Water Is Not Honey: Making a Better Bee Feed
*Nick Naeger*, Washington State University

Demonstration: Encaustic Painting
*George Hansen*, Foothills Honey Company

Break

OSBA General Membership Meeting

Pollen Trapping: What You Should Be Thinking About Before You Start
*Shelley Hoover*, University of Lethbridge, Alberta

Life of a Canadian Beekeeper
*Ian Stepper*, Stepper Farms Ltd

Updates on Bee Nutrition Research from the OSU Honey Bee Lab
*Priyadarshini Chakrabarti*, Oregon State University

Break

Demonstration: Candle Making
*Matt Allen & Liz Lovelock*, Apricot Apiaries

Questions for Beginners, Oregon Master Beekeeper Program | *Jen Holt*, Moderator
*Anna Ashby, Max Kuhn, Naomi Price, & Judy Scher*

Are Honey Bees Like Chickens and Bumble Bees Like Polar Bears?
*Andony Melathopoulos*, Oregon State University

Report on Current Research Funded by Project Apis m.
*George Hansen*, Foothills Honey Company

Exploration: Fun Facts About Bees
*Morris Ostrofsky*, Washington Master Beekeeper

Panel: Questions for Beginners, Oregon Master Beekeeper Program | *Jen Holt*, Moderator
*Anna Ashby, Max Kuhn, Naomi Price, & Judy Scher*

Raising Quality Queens in Pollination
*Shelley Hoover*, University of Lethbridge, Alberta, Canada

Pesticide Exposure in Context
*Emily Carlson*, Oregon State University

Evaluating Altruistic Behaviors in Honey Bees (*Apis mellifera* L.) Infected with Gut Microsporidian *Nosema ceranae|
*Ellie Chapkin*, Oregon State University

Demonstration: Under-Appreciated Products of the Hive with an Emphasis on Propolis
*Judy Scher*, Urban Beekeeper

Varroa and Pesticides Research Update from OSU Honey Bee Lab
*Ramesh Sagili*, Oregon State University

Using Fungal Spores To Kill Varroa
*Nick Naeger*, Washington State University

Current & Future Outlook on Varroa Mite Control | *Ellen Topitzhofer*, Oregon State University
*Todd Balsiger*, Hood To Coast Honey
*Matt Hansen*, Foothills Honey Company
*Jan Lohman*, Vazza Farms Inc
*Ramesh Sagili*, Oregon State University

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**Program and Abstracts**

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**Saturday, October 24 (8:45 AM–2:00 PM)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:45 AM</td>
<td>Opening Announcements</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Silent Auction Begins</td>
</tr>
</tbody>
</table>
| 9:00 AM | **A Tough Nut To Crack: Pollination Requirements of Self-Fertile Almond Varieties**  
*Elina L. Niño*, University of California, Davis  
Almond production is highly dependent on successful pollination by honey bees. However, honey bee colonies have been in decline for the past decade (Kulhanek et al. 2017) with beekeepers reporting up to 80 percent colony losses in the winter of 2018–2019. This has led to continued concern over the sufficient bee supply to fulfill almond pollination needs. A standard recommendation stocking rate for a mature, nut-bearing orchard is 2–2.5 hives with average 8 frames per hive for one acre orchard. In hopes of reducing reliance on bee pollination, growers are planting increasing acreage of new self-fertile varieties such as Independence and Shasta despite lack of research data supporting this assumption, although there have been suggestions of providing 0.5–1 colony/acre. Prior data indicate that Independence trees in absence of bees had a 63 percent lower nut set and 51 percent lower nut yield. We continue to address the question of bee pollination needs for self-fertile varieties and expand to address specific pollination parameters such as number of bee visits, number of bee flight hours, and determination of optimal stocking rates. Understanding clear pollination requirements of both self-fertile and self-sterile varieties has the potential to alleviate challenges for both growers and beekeepers.|
| 9:55 AM | Exhibitor | Announcements |
| 10:00 AM | **Sugar Water Is Not Honey: Making a Better Bee Feed**  
*Nick Naeger*, Washington State University  
Most honey bee colonies in the United States are fed sugar syrup during times of low nectar availability to help the hives survive and grow. Research labs around the country are uncovering the many ways that sugar syrup is deficient compared to bees’ natural diet: pollen, bee bread, nectar, and honey. For the last several years, the Washington State University bee team has been collaborating with Fungi Perfecti to investigate ways that fungi could be used to improve honey bee health. In this presentation, Nick will discuss current findings about honey bee nutrition and how WSU is working to help create a fungal-based bee feed additive to supplement sugar syrup feeding.|
| 10:55 AM | Exhibitor | Announcements |
| 11:00 AM | **Demonstration: Encaustic Painting**  
*George Hansen*, Foothills Honey Company  
Encaustic painting is a mixed media technique that involves using heated beeswax to which colored pigments have been added. The liquid/paste is then applied to a surface—usually prepared wood, although canvas and other materials are often used.|
<p>| NOON | Exhibitor | Announcements |
| 12:10 PM | Break |
| 1:00 PM | OSBA General Membership Meeting |</p>
<table>
<thead>
<tr>
<th><strong>Vivaldi Boards™</strong></th>
<th><strong>Screened Bottom Board</strong></th>
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<td><img src="image1" alt="Images of Vivaldi Boards™" /></td>
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<td>• Moisture Management</td>
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<td>• Insulation Space</td>
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<td>• Multiple Feeding Opportunities</td>
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<tr>
<th><strong>Curved Telescoping Cover</strong></th>
<th><strong>Full Line of Supplies</strong></th>
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<td><img src="image3" alt="Images of Curved Telescoping Cover" /></td>
<td><img src="image4" alt="Images of Full Line of Supplies" /></td>
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<td>• Polymetal Moisture Repellent Lid</td>
<td>• Hive Tools, Smokers, Clothing</td>
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<td>• Screened Ventilation</td>
<td>• Pollen Patties, Driver, Treatments</td>
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<td>• Internal Ridge Creates Additional Feeding Space</td>
<td>• Feeders, Metalware, Classes, Books</td>
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<tr>
<td>• Perfect for PNW Climate</td>
<td>• Beeswax, Honey, Craft Supplies</td>
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Sunday, October 25 (9:00 AM–2:00 PM)

9:00 AM  **Pollen Trapping: What You Should Be Thinking About Before You Start**
*Shelley Hoover*, University of Lethbridge, Alberta, Canada
Pollen can be a valuable hive product, an important supplemental feed, and a great way to diversify your beekeeping operation. But what do you need to know before you get started pollen trapping? Shelley will talk about:
- Why you might want to trap pollen
- Colony health and the bees’ needs
- How to target your trapping
- Economic considerations
- Consequences on honey production and pollination
- Fitting it into your management
- A few thoughts on trap design

9:55 AM  **Exhibitor | Announcements**

10:00 AM  **Life of a Canadian Beekeeper**
*Ian Steppler*, Steppler Farms Ltd
Nearly 10 years ago, Ian’s three brothers and parents restructured their farm into a company and have since expanded into a large grain, cattle, and beekeeping operation. They crop 3,500 acres of land, calve 500–600 head of pure bred Charolais cattle, and manage a 1,200–1,500 hive apiary. Since Ian bought his first four hives 19 years ago, he has dedicated his life passion towards beekeeping. Ian credits the current standing of his apiary to others on whom he has leaned over the years to help guide him through many management, logistical, and husbandry issues. Ian is a big believer in paying it forward, which motivates him to share his successes and failures with others.

11:00 AM  **Exhibitor | Announcements**

11:05 AM  **Updates on Bee Nutrition Research from the OSU Honey Bee Lab**
*Priyadarshini Chakrabarti*, Oregon State University
Bee nutrition is an important area of investigation to help improve not only individual bee health but also the overall colony performance. The Sagili Lab at Oregon State University has been steadily working towards understanding how bee nutrition can be an important factor for bee health and sustenance. This presentation will cover recent advances in bee nutrition research from the OSU Honey Bee Lab. Topics to be discussed will include forage nutritional quality and bee visitation preferences, impacts of fungicides on plant pollen nutritional quality, and preliminary findings on probiotic research.

noon  **Exhibitor | Announcements**

12:10 PM  **Break**

1:00 PM  **Demonstration: Candle Making**
*Matt Allen* and *Liz Lovelock*, Apricot Apiaries
Beeswax has been an important source of light for centuries. Beeswax burns clean and bright. Even in our modern world of electricity and LED, beeswax casts a warm glow, bringing cheerful light to cold, dark winter nights. In this class, we will discuss and demonstrate the process of rendering and filtering of beeswax from cappings into blocks. Then we will transform these blocks, using several techniques, into beautiful candles for personal use, for gifts, and for market.
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Wednesday, October 28 (6:30 PM–9:30 PM)

6:30 PM  Panel: Questions for Beginners, Oregon Master Beekeeper Program
Jen Holt, Moderator, Anna Ashby, Max Kuhn, Naomi Price, and Judy Scher

The beekeeping journey is a never-ending process of learning and refining one’s skills, and a person new to the practice is faced with daunting amounts of information and things to learn. This session will provide a forum to address specific questions posed by beginning beekeepers—answered by experienced members of the Oregon Master Beekeeper Program.

Note: Please submit questions to jen.holt@oregonstate.edu at least two days prior, i.e., by October 26.

7:00 PM  Exhibitor | Announcements

7:05 PM  Update from UC Davis E. L. Niño Bee Lab
Elina L. Niño, University of California, Davis

Elina L. Niño will present research findings from her UC Davis lab. She’ll discuss forage and probiotic supplementation, several aspects of Varroa mite control, and regulation of queen reproduction. Elina will describe some of her recently started research projects, including determining the role of probiotics and phytochemical use for improving bees’ immune response. She will conclude with a few remarks about her extension program, including the thriving California Master Beekeeper Program, established in 2016, as well as the newly developed beekeeping course for veterinarians.

8:00 PM  Exhibitor | Announcements

8:05 PM  Promoting a Sweet Industry Through the American Honey Queen Program and ABF
Mary Reisinger, 2020 American Honey Queen

2020 American Honey Queen Mary Reisinger of Texas has promoted the honey and beekeeping industry this year in many new ways. She will touch on the American Honey Queen Program, how association members can participate in and utilize it, what her year thus has entailed, and the ABF and benefits of membership from the backyard or rooftop beekeeper to the commercial beekeeper. In addition, she will share details on how to effectively reach the public to promote the honey and beekeeping industry through the American Honey Queen Program.

8:30 PM  Exhibitor | Announcements

8:35 PM  Demonstration: Honey, Like a Fine Wine!
Marjie Ehry, Happy Bee Apiaries

This presentation will include: History of Oregon honey shows, varieties of Oregon honeys and changes in honey plants, and the difference in judging by variety and by the Welch Method. Marjie also will discuss choosing your glass and preparing the entries for show. Honey is judged on showmanship, so you need to know what the judge is looking for. She will try to give you a hint!

9:00 PM  Exhibitor | Announcements

9:05 PM  The Bee Informed Partnership (BIP): Programs & Colony Health Trends
Ben Sallman, Bee Informed Partnership

The Bee Informed Partnership offers a variety of programs, from the Tech Transfer Team with the commercial beekeepers to the Sentinel Apiary Program with the backyard and sideline beekeepers. Combined with the yearly National Colony Losses and Management Survey, BIP has collected copious amounts of data in the past decade. In this presentation, Ben will discuss a few of the BIP programs and identify honey bee health trends and associated management practices.
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Wednesday, November 4 (6:30 PM–9:30 PM)

6:30 PM  **Panel: Questions for Beginners, Oregon Master Beekeeper Program**

*Jen Holt*, Moderator, *Anna Ashby, Max Kuhn, Naomi Price*, and *Judy Scher*

The beekeeping journey is a never-ending process of learning and refining one’s skills, and a person new to the practice is faced with daunting amounts of information and things to learn. This session will provide a forum to address specific questions posed by beginning beekeepers—answered by experienced members of the Oregon Master Beekeeper Program.

**Note:** Please submit questions to jen.holt@oregonstate.edu at least two days prior, i.e., by November 2.

7:00 PM  **Exhibitor | Announcements**

7:05 PM  **Are Honey Bees Like Chickens and Bumble Bees Like Polar Bears?**

*Andony Melathopoulos*, Oregon State University

Concerns have emerged around honey bees competing for floral resources that native bees need. Moreover, there are concerns around honey bee viruses moving to native bee populations. These concerns are spilling over not only to broad policy proposals to exclude honey bees from certain areas but also into mass culture, where honey bees are portrayed as mass-produced livestock unworthy of protection. Yet, beyond the bluster and rhetoric, what do we know about the overlapping needs of native bees and honey bees in Oregon? What might a sensible approach to keeping honey bees and our native bee populations healthy look like?

7:55 PM  **Exhibitor | Announcements**

8:05 PM  **Report on Current Research Funded by Project Apis m.**

*George Hansen*, Foothills Honey Company

Project Apis m. (PAm) is the go-to organization at the interface of honey bees and pollinated crops. Project Apis m.’s mission is to fund and direct research to enhance the health and vitality of honey bee colonies while improving crop production. The name comes from *Apis mellifera*, the scientific name for the honey bee. PAm has infused over $8.5 million into bee research and $2.9 million in forage programs since inception in 2006 to provide growers with healthier bees, thus resulting in better pollination and increased crop yields. With personal relationships with the nation’s commercial beekeepers and with the top bee scientists in the country, PAm funds research studies, purchases equipment for bee research labs at universities, supports graduate students, and provides scholarships to develop bee scientists and encourage their pursuit of science-based solutions to the honey bee challenges we face today—and for the future.

8:55 PM  **Exhibitor | Announcements**

9:00 PM  **Exploration: Fun Facts About Bees**

*Morris Ostrofsky*, Washington Master Beekeeper

This session provides an entertaining and educational look at honey bee related information. Some facts Morris will cover include:

- Why do winter bees live longer than summer bees?
- Which ancient civilization is known for sustainable beekeeping?
- Why are Africanized honey bees more dangerous than European honey bees?
- How much honey does a single bee produce in her lifetime?
- How have bees been used by Homeland Security?
Wednesday, November 11  (6:30 PM–9:30 PM)

6:30 PM  **Panel: Questions for Beginners, Oregon Master Beekeeper Program**  
Jen Holt, Moderator, Anna Ashby, Max Kuhn, Naomi Price, and Judy Scher  
The beekeeping journey is a never-ending process of learning and refining one’s skills, and a person new to the practice is faced with daunting amounts of information and things to learn. This session will provide a forum to address specific questions posed by beginning beekeepers—answered by experienced members of the Oregon Master Beekeeper Program.

Note: Please submit questions to jen.holt@oregonstate.edu at least two days prior, i.e., by November 9.

7:00 PM  **Raising Quality Queens in Pollination**  
Shelley Hoover, University of Lethbridge, Alberta, Canada  
Having well cared for, healthy, and suitable queens is one of the most important steps we can take to ensure we have healthy honey bee colonies. Shelley will talk about the reasons why beekeepers should consider rearing their own queens, how to assess queen quality (and how not to), domestic versus imported queens in Canada, and how beekeepers can make queens and splits while providing pollination services—using canola as an example.

7:55 PM  Exhibitor | Announcements

8:00 PM  **Pesticide Exposure in Context**  
Emily Carlson, Oregon State University  
Estimations of pesticide exposure are critical for beekeepers and land managers working together to minimize the impact of plant-protecting products on bees. However, current ways of understanding pesticide risk often miss the field-relevant factors which can influence the outcome of exposure. To understand pesticide stress in a field context, we must also consider the interactions among foraging effort of bees, pollen nutrition, and pollen diversity. This project examines how landscape-scale factors influence pesticide exposure in honey bees and compares this with native bee exposure in the same landscape. This summer, pesticide residues were monitored in cherry, meadowfoam, clover, and carrot pollination systems. These profiles are compared with bee foraging patterns and native bee activity. In future work, we will feed pollen to bees in the lab and assess how bee health changes under field-realistic pesticide profiles.

8:25 PM  Exhibitor | Announcements

8:35 PM  **Evaluating Altruistic Behaviors in Honey Bees (Apis mellifera L.) Infected with Gut Microsporidian Nosema ceranae**  
Ellie Chapkin, Oregon State University  
*Nosema ceranae*, a widely prevalent microsporidian gut parasite, causes behavioral and physiological changes in worker honey bees. Honey bees exposed to biotic stressors may remove themselves from the hive as a form of altruistic suicide. Altruistic behaviors, such as nonreproductive workers feeding the queen and larvae, guarding the hive, and sacrificing their lives when stinging intruders, are naturally displayed by honey bees. Several studies have examined the altruistic behavior of self-removal, where diseased or parasitized individuals remove themselves from the colony to mitigate further transmission. However, little information is available regarding proximate mechanisms of self-removal, such as how bees determine if they should remove themselves from the hive and which bees are more likely to remove themselves. In this study, we recorded four observation hives containing infected and control honey bees and analyzed 17 different bee behaviors to determine whether infected bees displayed specific altruistic behaviors in the hive. The duration and frequencies of these behaviors among treatment groups were compared, and the number of bees involved in each interaction was analyzed. Data analysis of bee behaviors is currently in progress.
Saturday, November 14 (9:00 AM–12:30 PM)

9:00 AM Varroa and Pesticides Research Update from OSU Honey Bee Lab
Ramesh Sagili, Oregon State University
This presentation will predominantly focus on current research at the Oregon State University Honey Bee Lab pertaining to Varroa mite control and pesticide impacts on honey bees. Further, a few ongoing miscellaneous honey bee research projects will also be discussed briefly.

9:55 AM Exhibitor | Announcements

10:05 AM Using Fungal Spores To Kill Varroa
Nick Naeger, Washington State University
Varroa mites have consistently evolved resistance to chemical miticides, and chemical miticides are frequently not entirely healthy for honey bee colonies. The Washington State University bee team is developing a strain of fungus that can infect and kill Varroa mites without harming honey bees. This strain grows quickly in the laboratory and survives well in bee hive temperatures. We are currently exploring optimal growth conditions for larger-scale production and possible delivery methods for the easy treatment of hives.

11:00 AM Panel: Current & Future Outlook on Varroa Mite Control
Ellen Topitzhofer, Oregon State University, Moderator
Todd Balsiger, Hood to Coast Honey
Matt Hansen, Foothills Honey Company
Jan Lohman, Vazza Farms Inc
Ramesh Sagili, Oregon State University
The parasitic mite, Varroa destructor, has held the title as the #1 contributor to honey bee health decline for years. Beekeepers struggle to manage Varroa mite levels in their colonies; some must apply treatment applications four times yearly to maintain healthy colonies. Elevated honey bee mortality rates drive the beekeeping industry and scientific community to find sustainable solutions to control Varroa mites. Here we present a panel discussion on the current and future outlook of Varroa mite control. Topics include control strategies, amitraz resistance, Varroa-resistant bee stock, and up-and-coming miticide treatments.

12:05 PM Donations To OSU Honey Bee Lab, Announcements, and Closing

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