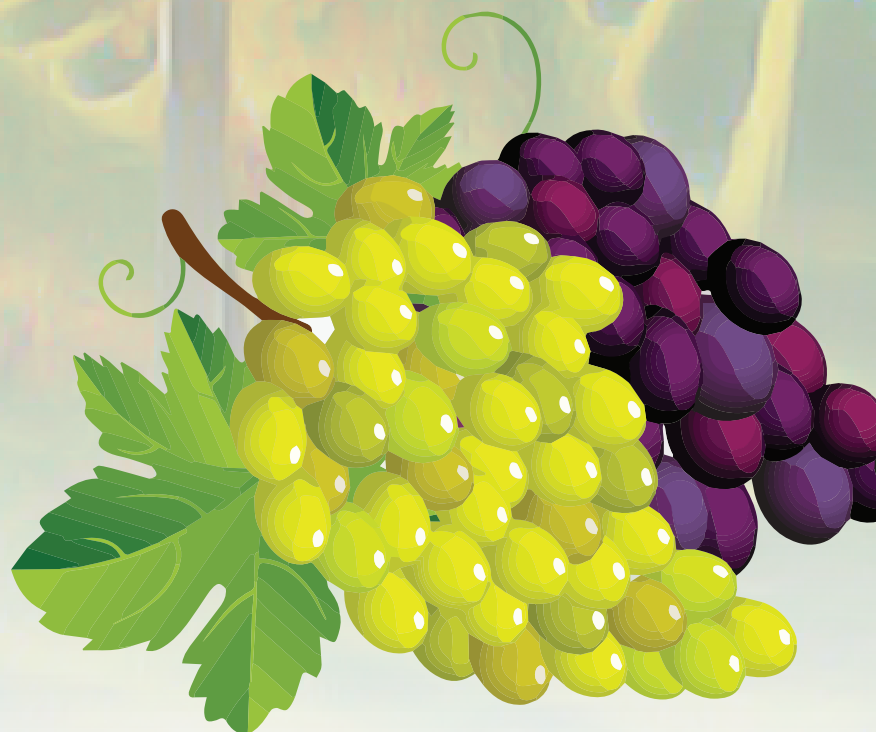


# *Pacific Branch*

## *Entomological Society of America*



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**ENTOMOLOGICAL  
SOCIETY OF AMERICA**  
PACIFIC BRANCH

## Sponsors of the 2022 PBESA Meeting

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The Officers, Committee Chairs, and Members of the Pacific Branch of the Entomological Society of America wish to thank our sponsors, without whom our annual meeting would not be possible.

### Platinum Level



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### Gold Level



### Silver Level

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AMERICA<sup>®</sup>



### Bronze Level



### Special Thanks

**CERTIS** USA

# Meeting Information

## Basics & Logistics

### Location

Hyatt Regency Sonoma Wine Country  
170 Railroad St.  
Santa Rosa, CA 95401  
+1 (707) 284-1234  
[Hotel Website](#)

### Code of Conduct

By attending the 2022 Pacific Branch Meeting, you agree voluntarily to abide by our ethics policy. The full policy may be found online at [entsoc.org/conduct](https://entsoc.org/conduct). If you need to file a complaint, please contact Stacie East, ESA's Director of Diversity, Equity, and Inclusion at +1 (301) 731-4535 x3030 or [seast@entsoc.org](mailto:seast@entsoc.org).

### Registration

All participants must register for the meeting. Registration badges are required for admission to all conference functions. The meeting registration desk is located in the Alexander Valley Foyer.

Registration will be open for check-in (pre-registered attendees) and for on-site registration at the following times:

Sunday . . . . . 2:00 PM – 6:00 PM  
Monday . . . . . 7:00 AM – 4:30 PM  
Tuesday . . . . . 7:00 AM – 4:30 PM  
Wednesday . . . . . 7:30 AM – 10:00 AM

Meeting registration includes access to on-demand presentations and posters, which can be accessed via the [PBESA 2022 Conference website](#).

### Schedule

Schedule changes and other information of general interest will be posted at the PBESA registration desk. Refer to the on-line program at the [PBESA 2022 Conference website](#) for the current schedule.

### Employment Opportunity Center

Employers are invited to post job announcements and job seekers are encouraged to post their CVs on the designated board in the Alexander Valley Foyer. Please bring enough copies of your documents for distribution (no photocopy service will be provided).

### Recording, Photography, & Social Media Policy

PBESA requests that attendees not take videos during sessions because they are disruptive to the presenters. If the presenter has granted permission by adding the “Photograph OK” logo, you are welcome to take photos, otherwise, please refrain from taking photos during talks. If you wish to take photographs of a poster, please check for the “Photograph OK” logo on the poster or contact the poster presenter for permission. If the presenter has granted permission to share information about their presentation/poster on social media by adding the “Social Media OK” logo, you are welcome to share the allowed content on social media.

#### Photography OK



#### Social Media OK



#### NO Photography



#### NO Social Media



PBESA reserves the right to use photographs and videos taken during the meeting for informational and promotional purposes. Thank you for your cooperation.

### Lost & Found

Lost and found items may be turned in and retrieved at the Registration Desk in the Alexander Valley Foyer.

# Presenter & Moderator Instructions

## Guidelines for Speakers & Moderators

Speakers and moderators will follow standard procedures and practices for ESA meetings. Moderators are responsible for maintaining the schedule, by not starting any presentation prior to its scheduled time, and by not allowing a speaker to exceed the allotted time. If a presentation is canceled, the moderator must wait to begin the next presentation until its scheduled time. If there are problems with the computer/projector, or other equipment, please come to the Registration Desk.

## Poster Presentations

Poster Size: Posters must be contained within the 48 x 48 inch space provided. The poster must NOT exceed the size limit. Posters should be hung in their assigned space according to the poster number assigned. Bring your own Velcro strips or tacks to secure your display to the poster boards. All posters will be displayed in the Alexander Valley Foyer from 1:00 PM – 6:00 PM on the day assigned.

### Setup and Removal:

#### *Students*

Setup: Monday, April 11<sup>th</sup> 11:00 AM – 1:00 PM  
Removal: Monday, April 11<sup>th</sup> 6:00 PM – 8:00 PM  
Students should be prepared to discuss their poster with judges from 4:30 PM – 5:30 PM while judging is underway.

#### *General*

Setup: Tuesday, April 12<sup>th</sup> 11:00 AM – 1:00 PM  
Removal: Tuesday, April 12<sup>th</sup> 6:00 PM – 8:00 PM

ALL Poster presenters are encouraged to be present at their posters on Monday (Students) or Tuesday (General) from 4:30 PM to 6:00 PM during the Social Hour with Poster Presenters.

## Powerpoint Presentations

Speakers who present submitted papers (Student Competition or General Session) must bring their PowerPoint files on a USB drive to the Registration Desk (Alexander Valley Foyer) preferably the day before their scheduled session. Student Competition and General TMP speakers must have their talks uploaded by 10:00 AM on the day of their talk. Mac users, please make sure your presentation file will be compatible with PC computers. Student volunteers will upload the file, and you will be provided a chance to look over the presentation and ensure that it has transferred correctly.

Speakers who are presenting in symposium sessions can upload their talks using two methods: (1) upload to google drive using the link provided by your session organizers; or (2) bring their PowerPoint files on a USB drive to the Registration Desk at least 2 hours before the start of the session.

Questions about audiovisual needs can be directed to Casey Butler at [cbutler@sipcamagro.com](mailto:cbutler@sipcamagro.com) prior to the conference, or by visiting the registration desk during the conference. In particular, speakers with presentations that link to audio or video files are requested to provide advance notice to the session organizers/moderators.

## Training for Session Moderators & Student Competition Judges

Symposia session organizers, volunteer moderators, and judges for the student poster and paper competitions should attend an organizational meeting on Sunday, April 10<sup>th</sup> at 6:00-6:30 PM in Alexander Valley Ballroom I-II. All judges should meet in the Operations Room (Green Valley Boardroom) at 5:30 PM on Monday April 11<sup>th</sup> to finalize the student competition evaluations. Contact Heather Andrews at [heather.andrews@oregonstate.edu](mailto:heather.andrews@oregonstate.edu) with any questions.

## Special Meetings & Events

### Plenary Session

We are pleased to present a Plenary Session by James Hagler titled “My mark on entomology: methods for monitoring insect dispersal and feeding patterns” on Sunday, April 10<sup>th</sup> from 4:00 PM – 5:00 PM in Alexander Valley Ballroom I-II.

### PBESA Executive Committee Meeting

The Executive Committee will meet Sunday, April 10<sup>th</sup> 6:00 PM – 9:00 PM in the Green Valley Boardroom.

### Entomology Games

*Preliminary Round:* April 10<sup>th</sup>, 5:00 PM – 6:00 PM in Alexander Valley Ballroom I-II. We will hold a pub-trivia style preliminary round (3 rounds with 10 questions each) where both student competitors and anyone interested in participating can partake in the fun.

*Traditional Buzzer-Style Finale:* April 11<sup>th</sup>, 8:00 PM – 10:00 PM in the Alexander Valley Ballroom I-II.

The top two teams will receive \$2,000 to represent the Pacific Branch at the Joint Annual Meeting in Vancouver, BC this fall.

### Opening Session & Preliminary Business Meeting

The combination opening session/preliminary business meeting will be held from 8:00 AM – 12:00 PM on Monday, April 11<sup>th</sup> in Alexander Valley Ballroom I-II.

### Social Hour with Poster Presenters

Join us for a social hour with student poster presenters on Monday (April 11<sup>th</sup>) and general poster presenters Tuesday (April 12<sup>th</sup>) from 4:30 PM – 6:30 PM. Posters will be displayed in the Alexander Valley Foyer.

### Photo Salon

The Photo Salon will be held Monday, April 11<sup>th</sup> 4:30 PM – 6:00 PM. The submitted photos will be on rotation on the monitor in the Alexander Valley Foyer. This event is organized by Joshua Milnes ([jmilnes@agr.wa.gov](mailto:jmilnes@agr.wa.gov)). The Photo Salon features cash prizes and printed photos. This is a great opportunity to see important or interesting insects, invasive species, native pollinators, natural enemies, and the artistic talents of PBESA entomologists.

### ESA Town Hall

Join ESA President Jessica Ware for the ESA town hall from 5:00 PM – 6:00 PM in the Alexander Valley Ballroom I-II

### PBESA Mixer

PBESA President Rodney Cooper will host a reception for all registered PBESA 2022 attendees on Monday, April 11<sup>th</sup> 6:00 PM – 8:00 PM in the Knights Valley Garden.

### Awards Luncheon

The PBESA 2022 Awards Luncheon will be held on Tuesday, April 12<sup>th</sup> 12:00 PM – 1:30 PM in Alexander Valley Ballroom I-II. Your full conference registration includes admission to the luncheon.



## Elevator Talks

The annual 'Elevator Talks' will happen on Tuesday, April 12 from 2:00 to 2:45 p.m. in Dry Creek Ballroom II.

- How would you react if you suddenly found yourself on an elevator with the ESA President or other prominent person?
- Could you explain your research in the time it takes to reach your floor?

You will be given 3 minutes to describe your project/research to a prominent person. There will be no slides, but a substitute for a 'cocktail napkin' will be provided for drawing, if necessary.

Please contact Aldo Hanel ([aldo.hanel@wsu.edu](mailto:aldo.hanel@wsu.edu)), Cesar Reyes Corral ([cesar.reyescorral@wsu.edu](mailto:cesar.reyescorral@wsu.edu)), or Downen Jocson ([downen.jocson@wsu.edu](mailto:downen.jocson@wsu.edu)) for questions.

## Texting Competition

The annual texting competition will be held Tuesday, April 12<sup>th</sup> 3:00 PM – 3:45 PM in Dry Creek Ballroom II.

Test your entomological knowledge and texting skills in this fast and fun competition.

Participants earn points for accurately and quickly texting correct answers to insect trivia questions. There will be 3 rounds increasing in difficulty and in point value. Participants must supply their own mobile phones and are responsible for texting costs.

To register your mobile phone or other texting device, text your name to 509-426-7403 (Google Voice number).

Please contact Cesar Reyes Corral, Downen Jocson, or Aldo Hanel for questions (emails listed above).

## Entomolympics

The first annual Entomolympics will be held on Tuesday, April 12<sup>th</sup> 4:00 PM – 5:00 PM in Dry Creek Ballroom II.

This event is a series of games that tests your skills as an entomologist/ecologist and is open to anyone from students to faculty. These games include:

- Who can punch out the most point mounts?
- Who can assemble the bug dorms the fastest?

You can compete individually or as a team!

Please contact Downen Jocson ([downen.jocson@wsu.edu](mailto:downen.jocson@wsu.edu)) for questions.

## Student & Early Career Professional Employment Fair

The Pacific Branch will host a Student and Early Career Professional Employment Fair in a panel format on Tuesday, April 12<sup>th</sup> 5:30 PM – 7:00 PM in Dry Creek Ballroom II.

Representatives from industry, academia, and government sectors will be there to answer your questions, provide advice, and highlight some current openings in entomology.

A networking social will follow after the panel in the same room. Please bring your questions, CV, and business cards.

Please contact Downen Jocson, Cesar Reyes Corral, or Aldo Hanel for questions (emails listed above).

## Final Business Meeting

The final business meeting will be Wednesday, April 13<sup>th</sup> 7:00 AM – 8:00 AM in Russian River Valley Ballroom I-II.

## Continuing Education Credits

Continuing Education Credits (CEC) have been applied for in CA, OR, and WA.

CA credits approved: 1 for What's New in Industry, 2 for the Western Cropping Symposium and 2 for the Western Vineyard symposium

Look for updates of which sections will count towards continuing education credits at the registration desk. Contact Allison Walston for more information ([Allison.Walston@valent.com](mailto:Allison.Walston@valent.com)).

## Hotel & Local Information

### Refreshments

Coffee and tea will be available during the breaks Monday-Wednesday. Light snacks will be served at the Welcome Reception. The Awards Luncheon on Tuesday is included with registration for all participants.

### Hotel Amenities

*Food and Beverage:* Sonoma Café is located in the main lobby and is open for breakfast, lunch and dinner Wednesday - Sunday. Breakfast hours are from 7:00 AM–10:00 AM, all day menu is available 10:00 AM–9:00 PM.

Railroad Stop Bar and Kitchen: Daily Breakfast, Happy Hour and Dinner

Join us nightly 3-7pm in our lobby to sample wines from local Sonoma wineries served. (Complimentary to all guests age 21 years and older).

*Internet:* There is complimentary Wi-Fi available in public spaces to meeting participants. Please be courteous when using the internet during your stay. Refrain from streaming large files, such as video, so that everyone will have access to the internet. To access the Wi-Fi, please use the following information:

Network: Hyatt\_Meeting\_Wi-Fi  
Password: PBESA22

Meeting participants staying at the hotel will have a separate passcode for their sleeping rooms (provided at check-in).

*Parking:* Parking is available at the hotel for \$12/night with in-and-out privileges for guests.

*Transportation:* Airport Express Shuttle Services available along with Lyft, Uber and Taxi

*Hotel Guest Inclusions:* Bottled water upon arrival, Courtyard games, nightly s'mores, pool toys & cabana use, wine bikes for borrow & bike storage, complimentary tastings at partner wineries/breweries, and daily passes to YogaOne & Soul Yoga.

### Activities & Attractions

- Charles M. Schulz Museum
- Visit 425+ wineries
- Russian River Brewery
- Epicenter Sports & Entertainment
- Safari West
- McEvoy Ranch
- Bodega Bay
- Armstrong Redwoods State Natural Reserve

A suggested list of additional activities and attractions can be found by accessing this link: [Visit Sonoma List](#)

Please visit the following websites for additional tourist information:

<https://visitsantarosa.com>  
<https://www.sonomavalley.com/guide/>  
<https://www.sonomacounty.com>



## 2022 PBESA Meeting Organizers



**Dr. Rodney Cooper**  
President



**Dr. Jackie Serrano & Dr. Erin Wilson Rankin**  
Program Co-Chairs



**Dr. Amanda Koppel**  
Secretary/Treasurer



**Dr. Cindy Kron**  
Local Arrangements



**Dr. Casey Butler**  
Operations



**Cindy Myers**  
ESA Staff  
Senior Manager of Meetings & Exhibits



**Becky Anthony**  
ESA Staff  
Senior Manager of Meetings

## **PBESA Leadership and Committee Information**

### **Executive Committee Members**

*President:* W. Rodney Cooper

*Incoming President:* Alix Whitener

*President Elect:* David Haviland

*Past President:* Mark Wright

*Secretary/Treasurer:* Amanda Koppel

*Members At Large:*

2019-2022: Peter McGhee, Jhalendra Rijal

2020-2023: Navneet Kaur, Emily Symmes

2021-2024: Josh Milnes, Rebecca Schmidt-Jeffris

2022-2025: Colin Brent, Stephen Onayemi

### **PBESA Representatives**

*Governing Board:* Todd Murray

*ECP:* Louis Nottingham

*Awards & Honors:* Kent Daane

*Science Policy:* Dave Epstein

*Diversity & Inclusion:* Adekunle Adesanya

*Education & Outreach:* Christopher Adams

*Entomology Games:* Tolulope Morawo

*Student Affairs:* Mason Russo

*P-IE:* Rebecca Schmidt-Jeffris

*SysEB:* Becky Simmons/Chris Hamilton

### **Planning Committees**

*Program Chairs:* Jackie Serrano, Erin Rankin

*Local Arrangements:* Cindy Kron

*Operations:* Casey Butler

*Site Selection:* Rodney Cooper, Alix Whitener

*Auditing:* Tad Gantenbein

*Awards Canvassing:* Mary Sorensen, Dara Stockton

*Awards Selection:* Ayman Mostafa, Sean Prager

*Continuing Education Credits:* Allison Walston

*Entomology Games:* Dane Elmquist, Alix Whitener

*Photo Salon:* Josh Milnes, Mike Bush, Warren Wong, Jillian Foutz

*Student-Organized Activities:* Cesar Reyes Corral, Dowen Jocson, Aldo Hanel, Berenice Romero, Emily Lemke, Kendal Singleton

*Student Competition:* Heather Andrews

*Student Travel Awards:* Amber Vinchesi-Wahl

*Nominations:* Peter McGhee, Tobin Northfield

## **Special Acknowledgments**

A special thanks to the following:

- ESA Central Staff: Becky Anthony, Cindy Myers, and Javhana Johnson.
- Confex Staff, especially Amy Coli for program assistance.
- All of our moderators, Student Competition judges, and student volunteers
- All of our meeting sponsors

## 2022 Awards

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### **C.W. Woodworth Award**

**Dr. Mark Hoddle**

**Extension Specialist, UC Riverside**



Mark Hoddle received his BSc. (1989), MSc. (1991) and DSc. (2018) from the University of Auckland, New Zealand. In 1997 he was awarded his Ph.D. in Entomology from the University of Massachusetts, Amherst. Hoddle is an UC ANR Extension Specialist in Biological Control at the University of California Riverside, a position he has been in since 1997. Hoddle's research focuses primarily on the classical or introduction biological control of invasive arthropod pests affecting agricultural, wilderness, and urban areas in California. Due to the non-native status of target pests Hoddle's projects on avocado, citrus, grape, and dates has involved extensive foreign exploration efforts in numerous overseas countries including Pakistan, Saudi Arabia,

Indonesia, Mexico, Guatemala, and Peru. Current projects are examining biological control options for spotted lantern fly, Asian citrus psyllid, avocado lace bug, South American palm weevil, and the use of prescribed burns for suppression of gold spotted oak borer in native California oaks forests.

### **John Henry Comstock Graduate Student Award**

**Dr. James (Jim) Hepler**

**Washington State University (Current affiliation: USDA-ARS)**



Dr. James (Jim) Hepler received his Ph.D. in May 2021 from Washington State University under the advisorship of Dr. Elizabeth Beers. His doctoral research focused on the ecology and management of the brown marmorated stink bug (BMSB) in the Pacific Northwest and included laboratory assessments of insect behavior, the development of trap designs for the management of BMSB in commercial tree fruit orchards, and the evaluation of potential non-target effects of an introduced parasitoid on native pentatomids. He also received a NIFA-EWD Predoctoral Fellowship to develop a novel approach to assessing the host range of BMSB using high-throughput sequencing of plant DNA

recovered from insect digestive tracts. Jim was awarded the ARCS Foundation Fellowship and several departmental awards for travel and research, and he was recognized by the WSU Department of Entomology as the 2021 Outstanding Ph.D. Student of the Year. During his time as a student member of ESA, he competed successfully in the Student TMP Competitions at PBESA and ESA and served on the WSU Student Debates and Entomology Games teams. Jim is now a postdoctoral researcher in the lab of Dr. Tracy Leskey at the USDA-ARS Appalachian Fruit Research Station in Kearneysville, West Virginia, where he is applying gut content analysis techniques to another invasive insect pest, the spotted lanternfly.

## Pacific Branch Recognition Awards in Entomology

The Pacific Branch of the Entomological Society of America is pleased to announce the winners of its 2022 awards!

Pacific Branch President Rodney Cooper reported that the Branch received 28 nomination packets for 12 different awards. Nominees represented 8 different institutions across 7 U.S. states and one other country. Winners were selected by a diverse group of 24 anonymous judges from the Branch. The awards will be presented at Awards Luncheon on Tuesday April 12<sup>th</sup>.

### Student Awards

<b><i>Award</i></b>	<b><i>Winner</i></b>	<b><i>Institution</i></b>
Pacific Branch John Henry Comstock Award	<b>James Hepler</b>	Washington State University (Currently: USDA-ARS)
Pacific Branch Student Leadership Award	<b>Erin Taylor Kelly</b>	University of California, Davis
Pacific Branch Dr. Stephen Garczynski Undergraduate Research Scholarship	<b>Gwen Erdosh</b>	University of California, Davis

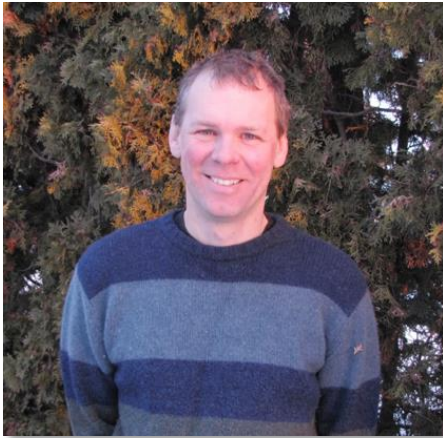
### Professional Awards

<b><i>Award</i></b>	<b><i>Winner</i></b>	<b><i>Institution</i></b>
Pacific Branch Award for Excellence in Integrated Pest Management	<b>Jana Lee</b>	USDA-ARS (HCRL Corvallis, OR)
Pacific Branch C. W. Woodworth Award	<b>Mark Hoddle</b>	University of California, Riverside
Pacific Branch Distinction in Student Mentoring Award	<b>Jessica Purcell</b>	University of California, Riverside
Pacific Branch Distinguished Achievement in Teaching Award	<b>Erin Rankin</b>	University of California, Riverside
Pacific Branch Plant-Insect Ecosystems Award	<b>Kerry Mauck</b>	University of California, Riverside
Pacific Branch Medical, Urban, and Veterinary Entomology Award	<b>Geoffrey Attardo</b>	University of California, Davis
Pacific Branch Physiology, Biochemistry, and Toxicology Award	<b>Scott Geib</b>	USDA-ARS (PBARC Hilo, HI)
Pacific Branch Excellence in Early Career Award	<b>Adekunle Adesanya</b>	Corteva Agriscience
Award for Excellence in Extension	<b>Dong-Hwan Choe</b>	University of California, Riverside
Pacific Branch Systematics, Evolution, and Biodiversity Award	<b>No Submissions</b>	
Entomology Teamwork Award		

# President Bios

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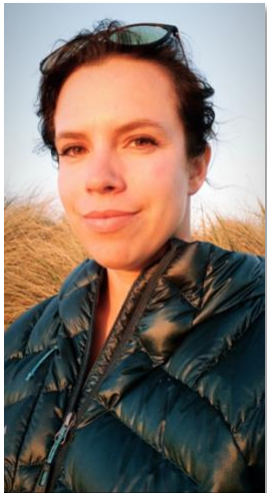
## President, Dr. W. Rodney Cooper (2021-2022)



W. Rodney Cooper is a Research Entomologist at the USDA Agricultural Research Service in Wapato, WA. He received a B.S. degree in Biology from Shepherd College (2000) in Shepherdstown, WV and his M.S. degree in Entomology from the University of Arkansas (2004). Rodney earned his Ph.D. in Entomology from the University of Kentucky in 2007 where he worked on the community ecology of a gall wasp pest of chestnut. From 2009 to 2012, he worked extensively on the biology and management of western tarnished plant bug in the San Joaquin Valley of California. Since 2012, his research has focused on the ecology, host plant associations, and vector biology of psyllids and other phloem-feeding insects. Rodney has

remained active with Entomological Society of America since 2003, and served as program co-chair for the 2015 Pacific Branch meeting in Coeur d'Alene and the 2016 meeting in Honolulu, HI, and served as a PBESA member-at-large from 2017 to 2019.

## Incoming President, Dr. Alix Whitener (2022-2023)



Alix Whitener earned her PhD at Washington State University and currently is a technical services manager for FMC Corporation covering the highly diverse cropping regions in Washington and Oregon. Her research interests include integrated pest management, invasive species management, and the mitigation of insecticide resistance. She has served ESA in multiple capacities, both at the branch and national levels, as a graduate student and as an early career professional. In her previous experience, Alix has served in roles including Career Fair Chair, Program Chair, Fun Run organizer, Entomology Gamesmaster, and co-creator of the Elevator Opportunity for the Pacific Branch, Student Affairs Committee Chair and Student Debates Chair for ESA, and serves on multiple committees both inside and outside our society. During her presidency, Alix is dedicated to addressing barriers that prevent students and early career professionals from participating in meeting activities, encouraging members who are interested in leadership opportunities to get

involved, and helping drive an increase in participation of our membership at the branch level by encouraging creative and relevant symposia topics and formats. Alix and her partner Cy live in Malaga, WA, where they welcomed baby Wyatt in winter 2020.



## President-Elect, David Haviland (2023-2024)



David Haviland currently serves as the University of California Cooperative Extension entomology advisor for the southern San Joaquin Valley. His primary responsibilities are to conduct research and extension programs that lead to the adoption of integrated pest management practices by farmers that produce more than \$17 billion in agricultural commodities annually in the region. He has been employed in this position for approximately 20 years since earning his M.S. Degree in Plant Protection and Pest Management from UC Davis. In addition to his primary role as a county-based advisor, David is also formally associated with the UC Statewide Integrated Pest Management Program. Advisor Haviland's primary responsibilities are to conduct research and extension programs that lead to the adoption of integrated pest management practices. The focus of his research has been on invasive pests such as glassy-winged sharpshooter, vine

mealybug, spotted wing drosophila, and Gill's mealybug, with the remainder focused on native or established pests such as navel orangeworm, spider mites, and thrips. He has produced more than 400 publications, including 29 peer-reviewed journal articles and another 44 peer-reviewed publications through the University of California. These publications span a wide range of topics that include pest phenology, monitoring, cultural controls, biological control, and various forms of chemical control, such as traditional pesticides, biopesticides, entomopathogens, and mating disruption. David is an accomplished extension entomologist that has given more than 800 invited presentations to primarily farmer and pest control advisor audiences. Included within this number are 61 presentations to scientific audiences through professional societies such as the ESA. David has given keynote addresses on topics related to his research and extension experiences at conferences in Oregon, Michigan, California, New Jersey, Switzerland, Brazil, Peru, Chile, Australia, and Italy. The successes within David's career have led to a significant level of recognition through individual awards as well as for his role within team efforts. David has received research, extension, or teamwork awards from the PBESA, national ESA, California Department of Pesticide Regulation, UC Division of Agriculture and Natural Resources, the Western Extension Director's Association, Association of Applied IPM Ecologists, and International Integrated Pest Management Symposium.



# Plenary Speaker

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## Dr. James Hagler

**My mark on entomology: methods for monitoring insect dispersal and feeding patterns**



James Hagler, a Research Entomologist with the USDA-ARS, Arid-Land Agricultural Research Center since 1991, pioneered development of the protein immunomarking technique. Dr. Hagler earned a B.S. and M.S. in Pest Management from New Mexico State University and a Ph.D. in Entomology from The University of Arizona. His protein immunomarking procedures have revolutionized mark-release-recapture (central point release research), mark-capture

(area-wide dispersal), and gut analysis research. Dr. Hagler's global collaborations have supported management of pests that impact human health, crop production, and urban environments.

Please join us for Dr. Hagler's presentation on Sunday, April 10<sup>th</sup> from  
4:00 PM – 5:00 PM in Alexander Valley Ballroom I-II

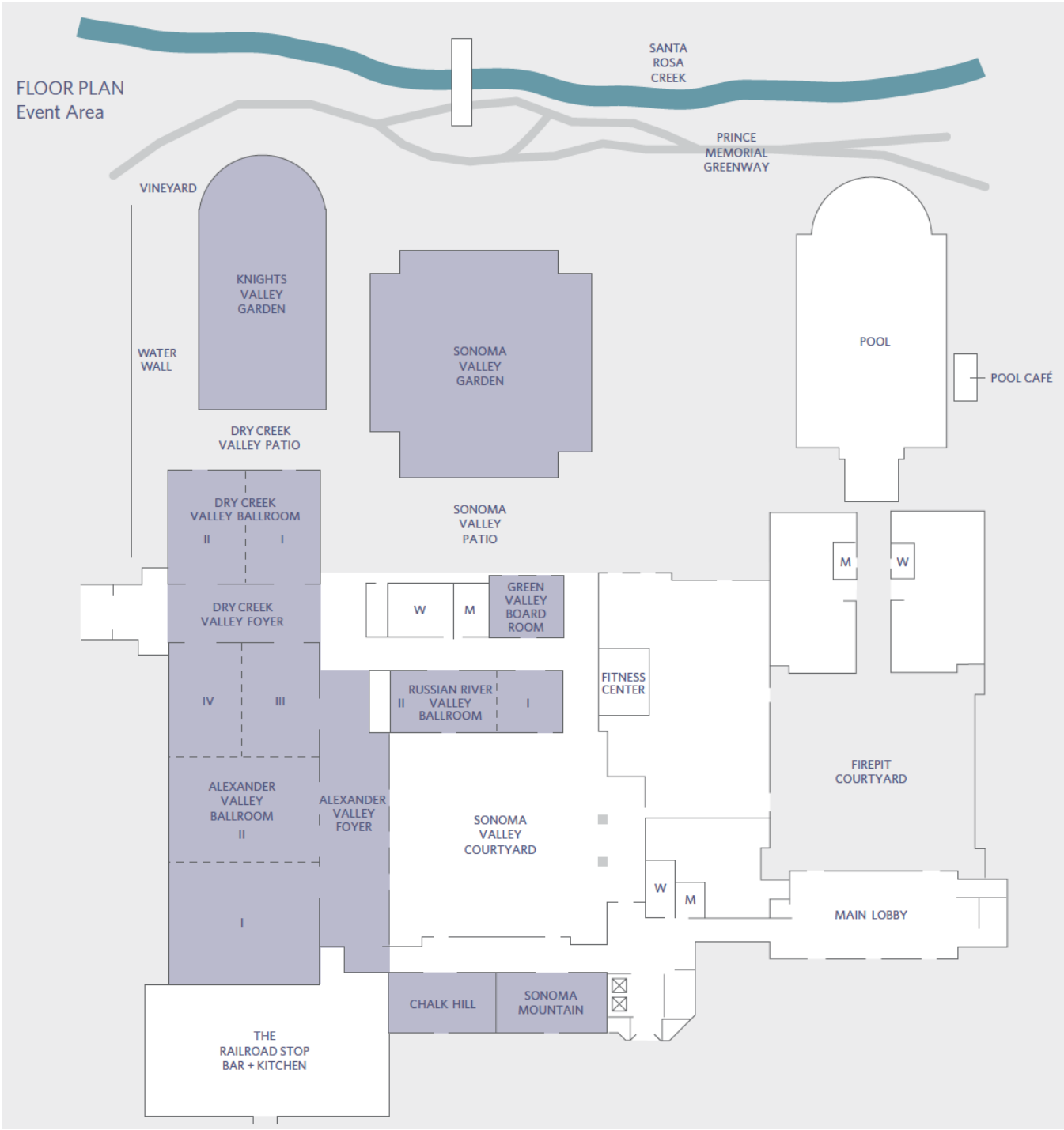
# General Program Schedule

SUNDAY, APRIL 10, 2022		
Program	Time	Location
Operations	8:00 AM - 5:00 PM	Green Valley Boardroom
Registration and Presentation Uploads	2:00 PM - 6:00 PM	Alexander Valley Foyer
Opening Plenary	4:00 PM - 5:00 PM	Alexander Valley Ballroom I-II
Entomology Games Preliminary Round	5:00 PM - 6:00 PM	Alexander Valley Ballroom I-II
Executive Committee Meeting	6:00 PM - 9:00 PM	Green Valley Boardroom
Moderator/Judge Training	6:00 PM - 6:30 PM	Alexander Valley Ballroom I-II
MONDAY, APRIL 11, 2022		
Program	Time	Location
Registration and Presentation Uploads	7:00 AM - 4:30 PM	Alexander Valley Foyer
Operations	8:00 AM - 5:00 PM	Green Valley Boardroom
Opening Session & Business Meeting	8:00 AM - 12:00 PM	Alexander Valley Ballroom I-II
Morning Break	10:00 AM - 10:30 AM	Alexander Valley Foyer
Student Poster Setup	11:00 AM - 1:00 PM	Alexander Valley Foyer
PhD Student Posters	1:00 PM - 6:00 PM	Alexander Valley Foyer
Undergraduate Student Posters	1:00 PM - 6:00 PM	Alexander Valley Foyer
PhD Student Ten-Minute Papers Session 1	1:30 PM - 3:35 PM	Alexander Valley Ballroom III
PhD Student Ten-Minute Papers Session 2	1:30 PM - 3:50 PM	Alexander Valley Ballroom IV
Arthropod Pest Management in <i>Cannabis sativa</i> : More Acres, More Pests, More Problems	1:30 PM - 4:30 PM	Alexander Valley Ballroom I-II
General Ten-Minute Papers Session 1	1:30 PM - 3:40 PM	Dry Creek Ballroom II
Afternoon Break	3:30 PM - 4:00 PM	Alexander Valley Foyer
Masters Student Ten-Minute Papers Session	3:50 PM - 5:05 PM	Alexander Valley Ballroom III
Undergraduate Student Ten-Minute Papers Session	4:05 PM - 4:55 PM	Alexander Valley Ballroom IV
Photo Salon	4:30 PM - 6:00 PM	Alexander Valley Foyer

Social Hour and Q&A with Student Poster Presenters	4:30 PM - 6:00 PM	Alexander Valley Foyer
What's New in Industry	5:00 PM - 6:00 PM	Dry Creek Ballroom II
ESA Town Hall	5:00 PM - 6:00 PM	Alexander Valley Ballroom I-II
PBESA Mixer	6:00 PM - 8:00 PM	Knights Valley Garden
Student Poster Removal	6:00 PM - 8:00 PM	Alexander Valley Foyer
Entomology Games Final Round	8:00 PM - 10:00 PM	Alexander Valley Ballroom I-II
<b>TUESDAY, APRIL 12, 2022</b>		
<b>Program</b>	<b>Time</b>	<b>Location</b>
Registration and Presentation Uploads	7:00 AM - 4:30 PM	Alexander Valley Foyer
Operations	8:00 AM - 5:00 PM	Green Valley Boardroom
Biological Control in Pest Management Systems of Plants: Symposium of the Western Region Multistate Research Project, W4185	8:00 AM - 12:00 PM	Alexander Valley Ballroom III
Insecticide Resistance in Western Cropping Systems: The Patterns, Problems, and Solutions	8:00 AM - 12:00 PM	Alexander Valley Ballroom IV
Molecular Ecology of Insects: Interconnections, Interactions, and Interdependencies	8:00 AM - 12:00 PM	Dry Creek Ballroom I
One Crop, Diverse Pests, and Emerging Issues: The Overhauling of Western Alfalfa IPM Systems	8:00 AM - 11:00 AM	Dry Creek Ballroom II
Causes and Consequences of Behavior in Social Hymenopteran Systems	9:00 AM - 11:30 AM	Russian River Valley Ballroom I-II
Morning Break	10:00 AM - 10:30 AM	Alexander Valley Foyer
General Poster Setup	11:00 AM - 1:00 PM	Alexander Valley Foyer
Awards Luncheon	12:15 PM - 1:45 PM	Alexander Valley Ballroom I-II
General Poster Session	1:00 PM - 6:00 PM	Alexander Valley Foyer
Biology, Monitoring, and Management of Disease Vectors in West Coast Vineyards	2:00 PM - 6:30 PM	Alexander Valley Ballroom IV
Fresh Faces of Biological Control: Graduating Students and ECPs in the Western U.S.	2:00 PM - 5:00 PM	Alexander Valley Ballroom III

Population Processes in Applied Entomology: Models & Data	2:00 PM - 5:00 PM	Dry Creek Ballroom I
General Ten-Minute Papers Session 2	2:00 PM - 5:00 PM	Russian River Valley Ballroom I-II
Elevator Talks	2:00 PM - 2:45 PM	Dry Creek Ballroom II
Texting Competition	3:00 PM - 3:45 PM	Dry Creek Ballroom II
Afternoon Break	3:30 PM - 4:00 PM	Alexander Valley Foyer
Entomolympics	4:00 PM - 5:00 PM	Dry Creek Ballroom II
Social Hour and Q&A with General Poster Presenters	4:30 PM - 6:00 PM	Alexander Valley Foyer
Student and Early Career Professional Employment Fair	5:30 PM - 7:00 PM	Dry Creek Ballroom II
General Poster Removal	6:00 PM - 8:00 PM	Alexander Valley Foyer
<b>WEDNESDAY, APRIL 13, 2022</b>		
<b>Program</b>	<b>Time</b>	<b>Location</b>
Registration and Presentation Uploads	7:00 AM - 10:00 AM	Alexander Valley Foyer
Final Business Meeting	7:00 AM - 8:00 AM	Russian River Valley Ballroom I-II
Operations	8:00 AM - 5:00 PM	
Plant-Pollinator Interactions in a Changing World	8:00 AM - 10:00 AM	Dry Creek Ballroom I
Sustainable Perennial Crops	8:00 AM - 12:00 PM	Alexander Valley Ballroom IV
Branching Out: Systematics, Biodiversity, and Evolution	8:20 AM - 12:00 PM	Russian River Valley Ballroom I-II
Behavioral Manipulation	8:30 AM - 12:00 PM	Dry Creek Ballroom II
Morning Break	10:00 AM - 10:30 AM	Alexander Valley Foyer

# Hotel Map



# 2022 Joint Annual Meeting

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[www.entsoc.org/annual-meeting](http://www.entsoc.org/annual-meeting)

2022 ESA, ESC, and ESBC Joint Annual Meeting  
Entomology as Inspiration: Insects through art,  
science, and culture  
Vancouver, British Columbia, Canada  
November 13-16

Réunion annuelle conjointe ESA, SEC, et SECB 2022  
L'entomologie comme source d'inspiration :  
Les insectes à travers l'art, la science et la culture  
Vancouver, Colombie-Britannique, Canada  
13-16 novembre

The Entomological Society of America (ESA), Entomological Society of Canada (ESC), and the Entomological Society of British Columbia (ESBC) are excited to be hosting the 2022 Joint Annual Meeting November 13-16 in Vancouver, British Columbia. The theme for the 2022 ESA, ESC, and ESBC Joint Annual Meeting is Entomology as Inspiration: Insects through art, science, and culture.

*The 2022 JAM will be offering opportunities to present and attend both in person in Vancouver as well as online virtual content only.*

Submissions are now open for the 2022 ESA, ESC, and ESBC Joint Annual Meeting!

## Important Dates & Deadlines

**June 1** – Registration & Housing Open

**June 3** – Deadline for 10-minute presentations, posters, infographics, and student competitions abstracts

**August 15** – Presenters will be notified via email of submissions status



# 2023 PBESA Meeting

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SAVE THE DATE



107<sup>th</sup> Annual Meeting of PBESA  
April 2 – 5, 2023

Motif Seattle  
Seattle, WA

Learn more about Seattle at: <https://www.visitseattle.org> (credit image to Motif Seattle)