

A watercolor illustration of a butterfly with orange and black wings perched on a green leaf in the foreground. In the background, a waterfall flows down a rocky, mossy cliff. The text is overlaid on the right side of the image.

Pacific Branch
Entomological
Society of America

108th Annual
Meeting

Waikoloa, HI

April 14-17, 2024



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Cover: The Kamehameha butterfly, *Vanessa tameamea*, sits in front of Rainbow Falls (Waiānuenue) in Hilo, HI. Watercolor. Jill Haviland, 2024

Sponsors of the 2024 PBESA Meeting

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



Gold Level



Bayer CropScience

Silver Level



Bronze Level



Special thanks to Corteva, Bayer, Syngenta, Gowan, Nichino, UPL, Trécé, Valent, and Vestaron for sponsoring the PB-ESA Meeting!

Many thanks as well to Corteva, Syngenta, and Bayer for sponsoring student activities!

Meeting Information

Basics & Logistics

Location

Waikoloa Beach Marriott Resort & Spa
69-275 Waikoloa Beach Drive
Waikoloa, HI 96738
(808) 886-6789
<https://www.marriott.com/en-us/hotels/koamc-waikoloa-beach-marriott-resort-and-spa/overview/>

Code of Conduct

By attending the 2024 Pacific Branch Meeting, you agree voluntarily to abide by our ethics policy. The full policy may be found online at <https://entsoc.org/conduct>. If you need to file a complaint, please contact Stacie East, Director of Grants and Equity at [+1 \(301\) 731-4535 x3030](tel:+13017314535x3030) or 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 in the Paniolo 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 7:30 AM – 4:00 PM
Tuesday 7:30 AM – 4:00 PM
Wednesday 7:30 AM – 9:00 AM

For more information, please visit the [PBESA 2024 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](#) 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 Paniolo 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 Paniolo 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 report 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 Naupaka Patio at the assigned days and times.

Setup and Removal:

Student Posters

Setup: Monday, April 15th 10:00 AM – 12:00 PM
Removal: Monday, April 15th 6:00 PM – 8:00 PM
Author Presence: All student competitors are required to stand next to their posters between 5:00 PM – 5:30 PM (odd numbers) and 5:30 PM – 6:00 PM (even numbers) on Monday, April 15.

General Posters

Setup: Tuesday, April 16th 7:00 AM – 8:00 AM
Removal: Tuesday, April 16th 6:00 PM – 8:00 PM
Author Presence: Contributed poster presenters are encouraged to be present from 10:00 AM – 10:30 AM (odd numbers) and 3:30 PM – 4:00 PM (even numbers) on Tuesday, April 16.

PowerPoint Presentations

Speakers who present submitted papers (Student Competition or General Session) must bring their PowerPoint files on a USB drive to the Operations Desk (Paniolo Foyer) preferably the day before their scheduled session. Student Competition and General TMP speakers must have their talks uploaded by 8:00 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 have a chance to look over the presentation to ensure that it has been transferred correctly.

Speakers who are presenting in symposium sessions should provide their presentations directly to their symposium organizer in advance of the session.

Questions about audiovisual needs can be directed to Stephanie Rill (smrill@ucanr.edu) or Autumn Maust (amaust@uw.edu) prior to the conference, or by visiting the operations 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.

Session Moderators & Student Competition Judges

Symposia session organizers, volunteer moderators, and judges for the student poster and paper competitions should review moderator guidelines and judging instructions. All judges should submit their rankings online by 6:00 PM on Monday April 15th to finalize the student competition evaluations. Contact Heather Andrews at heather.andrews@oregonstate.edu with any questions.

Special Meetings & Events

Aloha Welcome & Plenary Session

The combination welcome session/plenary will be held from 6:00 PM – 7:00 PM on Sunday, April 14th in Naupaka 4.

We are pleased to present a Plenary Session by Dr. Ross H. Miller titled “War in the Pacific: the Struggle Against Invasive Species in the Western Pacific”

PBESA Executive Committee Meeting

The Executive Committee will meet Sunday, April 14th 4:00 PM – 5:00 PM in Paniolo 1.

Entomology Games

Preliminary Round: Sunday April 14th, 5:00 PM – 6:00 PM in Naupaka 4. We will hold a pub-trivia style preliminary round (3 rounds with 7 questions each) where both student competitors and anyone interested in participating can partake in the fun. Students not currently on a team are encouraged to form ad hoc teams on site.

Traditional Buzzer-Style Finale: Monday April 15th, 8:00 PM – 10:00 PM in Naupaka 4

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

Social Hour with Poster Presenters

Join us for a social hour with student poster presenters on Monday (April 15th) 5:00 PM – 6:00 PM and general poster presenters Tuesday (April 16th) at 10:00 AM – 10:30 AM for odd numbers and 3:30 PM – 4:00 PM for even numbers. Posters will be displayed in the Naupaka Patio.

Photo Salon

Be sure to stop by and check out the insect photo salon! Images will be on display on Monday and Tuesday in the Naupaka Patio. Thanks to Josh Milnes for organizing this year's photo salon and congratulations to all the winners.

PBESA Mixer

PBESA 2023-2024 President David Haviland will host a reception for all registered PBESA 2024 attendees on Monday, April 15th 6:00 PM – 8:00 PM on the Paniolo Ocean Terrace.

Surf and Turf Fun Run

Sunday April 14, 2:00 PM. Looking for some exercise? Enjoy our at-your-own-pace Waikoloa Surf and Turf Fun Run featuring a jogging route along the beautiful Waikoloa coastline followed by an optional refreshing swim in A-Bay.

Meet at the Snorkel Cabana on the beach behind the Marriott Hotel at 2 PM on Sunday. You'll start at the beach and run north along the coastline. Turn around at the Buddha statue at the northern end of the Hilton for a 4.2 mi run. The trail includes sand, rocky but flat trail, and paved path, so please plan your footwear accordingly! Upon returning to the beach, you have the choice of an optional swim to the buoy for a 200-yard swim. Start your PB-ESA 2024 off with some sightseeing and fresh air!

Student Soirée

Tuesday, April 16th 7:30 PM – 9:30 PM
Marriott Luau Grounds

Calling all students! Join us for an informal social event that provides a fun opportunity for student networking and decompressing. A cash bar will be provided as well as some light snacks.

Texting Competition

The annual texting competition will be held Tuesday, April 16th 3:00 PM – 3:45 PM in Naupaka 4.

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.

Please contact Emily Carlson (emily.carlson@oregonstate.edu) or Downen Jocson (downen.jocson@wsu.edu) for questions.

Entomolympics

The third annual Entomolympics will be held on Tuesday, April 16th 4:00 PM – 5:30 PM on the Luau Grounds.

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 assemble the bug dorms the fastest?
- Remember 3-legged races? How about 6-legged races!?

Come as a team of 5 (max) or create a team on site! Please contact Downen Jocson (downen.jocson@wsu.edu) and Michelle Au (aumi@hawaii.edu) for questions.

Awards Luncheon

The PBESA 2024 Awards Luncheon will be held on Tuesday, April 4th 12:15 PM – 1:45 PM in Naupaka 4. Your full conference registration includes admission to the luncheon.

Elevator Talks

The annual 'Elevator Talks' will happen on Tuesday, April 16th from 2:00 PM to 2:45 PM in the Naupaka 4.

- 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 1 minute 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 Riley Reed (riley.reed@wsu.edu) with 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 16th 5:30 PM – 7:00 PM in the Expedia Room. 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 the panel in the same room. Please bring your questions, CV, and business cards. Please contact Aldo Hanel (aldo.hanel@wsu.edu) or Danny Hausler (daniel.hausler@usda.gov).

2025 Aloha Kickoff and Business Meeting

The meeting will be Monday, April 15th 8:00 AM – 9:00 AM in Naupaka 4.

Continuing Education Credits

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

CA credits applied for: 1 for What's New in Industry, 2 for Same Bugs, New Tricks: Innovation in IPM in the the Western United States; 1.5 for Understanding Pesticides: Regulations, Misuse, and their Role in IPM

OR credits applied for: 1 for What's New in Industry; 3 for Same Bugs, New Tricks: Innovation in IPM in the Western United States; 2 for Understanding Pesticides: Regulations, Misuse, and their Role in IPM

HI credits approved: 1 for What's New in Industry, contact Allison Walston to receive credit for Same Bugs, New Tricks: Innovation in IPM in the Western United States and/or Understanding Pesticides: Regulations, Misuse, and their Role in IPM

WA credits applied for: 1 for What's New in Industry; 3 for Same Bugs, New Tricks: Innovation in IPM in the Western United States; 2 for Understanding Pesticides: Regulations, Misuse, and their Role in IPM

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).

Hotel & Local Information

Refreshments

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

Hotel Amenities

Hawaii Calls Restaurant

American - Open Every Day
7:00 AM-9:00 PM

Enjoy breakfast at Hawaii Calls Restaurant before exploring the Big Island or relaxing at the beach. Enjoy salads, sandwiches & tropical drinks poolside for lunch, or dinner of Pacific Rim and American cuisine.

Aka'ula Lanai

American - Open Every Day
6:00 AM-11:00 AM and 4:00 PM-9:00 PM

Aka'ula Lanai, our open-air terrace café with stunning resort and ocean views. Start your morning with breakfast, including a variety of grab-and-go bites, coffee, and tea selections. Then join us each evening for cocktails, beers on tap, and island fare.

Sunset Luau

Monday and Wednesday
5:00 PM-8:00 PM

Celebrate the distinctive culture of Polynesia at our Sunset Luau. Join us for a quintessential luau-style evening under the stars with Hawaiian food, live music, and dancing at our Waikoloa resort restaurant.

Price: Starting at \$157.74 per person

Internet:

WiFi access has been set up exclusively for the PBESA meeting area. 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.

ID: Marriott_Bonvoy_Ballroom

PW: PBESA2024

Parking:

Valet parking is available at the Hotel for a fee of \$35.00 per vehicle daily.

Self-parking is available at the Hotel at a reduced rate of \$15.00 per vehicle daily. Day parking is complimentary for attendees staying at the Hilton Hotel.

Transportation:

The Big Island of Hawaii features major airports in Kona (KOA) and Hilo (ITO). Travel from Kona to Waikoloa takes about 25 minutes by vehicle (19 miles), whereas the drive from Hilo takes approximately 90 minutes (70 miles). Both airports feature offices of major rental car agencies. Bus, taxi, and rideshare options are also available. For local or day travel based at the hotel venue, the Waikoloa Marriott features an Enterprise Rental Car desk in the main hotel lobby. The office is open from 8:00 AM until noon daily.

Activities & Attractions

At the Hotel

Hotel guests at the Marriott and Hilton will receive gifts and access to daily activities associated with the hotels' Resort Fees. At the Marriott, this includes reusable water bottles, drink tickets, access to pickleball and tennis courts, snorkel gear rental, yoga classes, and daily cultural activities. A full listing of free and paid activities can be found by visiting the QR code shown here, or by visiting the activities kiosks found in the main hotel lobby. Pre-registration for all activities is encouraged, and for some activities is required.



The Marriott features a large infinity pool, additional pools and hot tubs, and poolside lounge chairs that are available on a first-come first-served basis. Hotel patrons can obtain towels at the pool-side cabana.

Adjacent to the pool is a walking path to the white sand beach of Anaeho'omalu Bay (known locally as A-Bay). This is a great place to relax, snorkel or paddle board. The reef starts about 100 yards offshore and is known for an abundance of sea turtles.

Snorkeling

Snorkeling can be done almost anywhere along the Kona Coast. The best locations are protected coves where the reef is close to the rocky lava shoreline. Approximately 40 miles south of Waikoloa is one of the highest-rated snorkeling locations on the Kona coast. This protected cove, near the Captain Cook Monument, can be found at the north end of Kealakekua Bay (K-Bay). Access to the cove requires travel by charter boat, kayak (2 miles round trip from the south end of the Bay), or by foot (4 mile round trip on the Captain Cook Monument Trail, starting on Nāpō'opo'o Rd Telephone Pole #4, 19°29'32"N, 155°55'4.5"W). Several branch members plan on meeting up informally at the cove on Sunday morning for a joint snorkeling adventure.

Volcanoes, waterfalls, and tropical forests

The Kona Coast, including Waikoloa, sits on the leeward (dry) side of the Big Island of Hawaii. Approximately 1.5 to 2 hours by car to the east is the windward (wet) side of the island. This region features tropical rainforests, waterfalls, and the Hawai'i Volcanoes National Park. Travel to the east side of the island is a must for conference attendees that are seeking a complete Big Island experience.

Shopping

Across the street from the Marriott is the King's Cross shopping area, featuring a wide range of shops and eateries. Also adjacent to the Marriott is the Queen's Crossing Shopping Mall that contains the closest market for food or general supplies.

2024 PBESA Meeting Organizers



David Haviland
President



Anne Leonard & Erik Wenninger
Program Co-Chairs



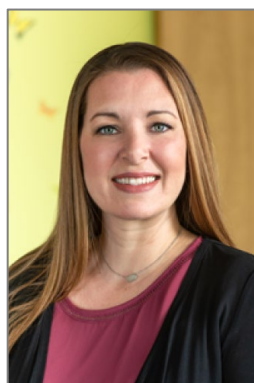
Marc Fisher
Secretary/Treasurer



Stephanie Rill & Autumn Maust
Operations/Local arrangements



Joanna Blouse
Local arrangements



Cindy Myers
ESA Staff
Associate Director, Partnerships,
Programs & Events



Becky Anthony
ESA Staff
Associate Director of
Programs & Meetings

PBESA Leadership and Committee Information

Executive Committee Members

President: David Haviland

Incoming President: Silvia I. Rondon

President Elect: Laura Lavine

Past President: Alix Whitener

Secretary/Treasurer: Marc Fisher

Members At Large:

2021-2024: Josh Milnes, Rebecca Schmidt-Jeffris

2022-2025: Colin Brent, Stephen Onayemi

2024-2026: Dong-Hwon Choe, Berenice Romero

2025-2027: Downen Jocson, Adrian T. Marshall

PBESA Representatives

Governing Board: Mark Wright

ECP: Jacqueline Serrano

Awards & Honors: Gina Marie Angelella

Science Policy: Ricky Lara

Diversity & Inclusion: Erika M. Bueno

Education & Outreach: Grace Tiwari

Entomology Games: Tolulope Morawo

Student Affairs: Michelle Garwei Au

Planning Committees

Program Chairs: Anne Leonard, Erik Wenninger

Operations: Stephanie Rill, Autumn Maust

Local Arrangements: Joanna Blouse

Site Selection: Mark Wright, Rodney Cooper, David Haviland, Silvia Rondon

Nominations and Awards Canvassing: Tobin Northfield

Awards Selection: Sean Prager

Continuing Education Credits: Allison Walston

Entomology Games: Jonathan Koch and Robert Orpet

Photo Salon: Josh Milnes

Student-Organized Activities: Downen Jocson

Student Competition: Heather Andrews

Student Travel Awards: Karol Krey

Pacific Branch Recognition Awards in Entomology

The Pacific Branch of the Entomological Society of America is pleased to announce the winners of its 2024 awards! The Branch received 30 nomination packets for 13 different awards. Winners were selected by a diverse group of anonymous judges from the Branch. The awards will be presented at the Awards Luncheon.

Student Awards

<i>Award</i>	<i>Winner</i>	<i>Institution</i>
Pacific Branch John Henry Comstock Award	Dane Elmquist	University of Idaho
Pacific Branch Dr. Stephen Garczynski Undergraduate Research Scholarship	Grant Wass	Palomar College

Professional Awards

<i>Award</i>	<i>Winner</i>	<i>Institution</i>
Pacific Branch C. W. Woodworth Award	Elizabeth Beers	Washington State University
Pacific Branch Award for Excellence in Integrated Pest Management	David Haviland	University of California
Pacific Branch Distinction in Student Mentoring Award	Joanna Chiu	University of California, Davis
Pacific Branch Distinguished Achievement in Teaching Award	Juli Carrillo	University of British Columbia
Pacific Branch Plant-Insect Ecosystems Award	Allison Hansen	University of California, Riverside
Pacific Branch Medical, Urban, and Veterinary Entomology Award	Monika Gulia-Nuss	University of Nevada, Reno
Pacific Branch Physiology, Biochemistry, and Toxicology Award	Naoki Yamanaka	University of California, Riverside
Pacific Branch Excellence in Early Career Award	Robert Orpet	Washington State University
Award for Excellence in Extension	Wendy Sue Wheeler	Washington State University
Pacific Branch Systematics, Evolution, and Biodiversity Award	Silas Bossert	Washington State University
Entomology Teamwork Award	Tobin Northfield	Washington State University

2024 Pacific Branch Awards

C.W. Woodworth Award

Dr. Elizabeth H. Beers

Professor, Washington State University

Join us on Monday, April 15, 2024 from 8:00 AM - 10:00 AM in the Naupaka 4 room to hear Dr. Betsy Beers present her research.



Dr. Elizabeth Beers is a tree fruit entomologist with Washington State University located in the heart of the state's fruit growing region, the Tree Fruit Research and Extension Center in Wenatchee. She has a research and extension responsibility for the state's orchard crops. Over the course of her career, she has worked on direct and indirect pests in many tree fruit IPM systems, both conventional and organic, with an emphasis in the area of conservation biological control (CBC). Her approach has focused on determining insecticide efficacy, integrating chemical and biological control, and exploring habitat modification to achieve a higher level of CBC in orchards. Since 2010, her lab has shifted focus to invasive species, including brown marmorated stink bug and spotted-wing drosophila. The latter studies have helped build the story of the distribution, biology and ecology of these species in Washington's

semi-arid climate while in the process of invasion. Highlights include discovery and re-distribution of adventive populations of exotic parasitoids targeted for classical biocontrol of the two invasive species. Regardless of the pest or crop, her focus has been grower-centric: solving grower pest problems, communicating the results of her own and colleagues' research, and facilitating the adoption of IPM practices.

John Henry Comstock Graduate Student Award

Dr. Dane Elmquist

University of Idaho

Join us on Monday, April 15, 2024 from 8:00 AM - 10:00 AM in the Naupaka 4 room to hear Dane Elmquist present his research.



Dane Elmquist obtained his Ph.D. from the University of Idaho in December 2023. Dr. Sanford Eigenbrode was his advisor. He received his B.S. in Ecology from the University of Minnesota and his M.S. in Entomology from Washington State University. Dane's doctoral research focused on understanding how agricultural diversification practices influence soil arthropod communities' biodiversity and ecosystem functioning. His extension and outreach focused on increasing producer and public awareness about the incredible world of soil arthropods

and how these often-overlooked organisms contribute to soil health and agroecosystem sustainability. Dane received a USDA NIFA predoctoral fellowship and a Western SARE graduate student grant during his doctoral program. He also received the Outstanding Graduate Student award from the University of Idaho (2023). Dane has received the President's Prize in several student TMP and poster competitions at PBESA and ESA. He has been an ESA member since 2015 and served as the PBESA representative to the ESA Entomology Games Committee (2020-2022). During his doctoral program, Dane was the Treasurer and Vice President of the University of Idaho's Aldrich Entomology Club. He now works as an Extension Outreach Specialist in the Crop and Soils program at the University of Wisconsin-Madison.

Dr. Stephen Garczynski Undergraduate Research Scholarship

Grant Wass

Palomar College



Grant Wass is a second-year undergraduate student at Palomar College, a community college in California, and has an intense passion for insects and other arthropods. Grant's love for invertebrates was fostered in his childhood by exploring the chaparrals and deserts of his hometown, San Diego. As of now, he conducts research on invasive insect ecology, arachnid taxonomy, and arachnid biogeography. In the future, Grant aspires to engage systematically disadvantaged students in research as a professor, and currently advocates for community college undergraduate research as the Student Trustee of Palomar College's Governing Board. He also hopes to shed light on the evolutionary history of

underappreciated taxa, and to integrate complex phylogenetic analyses with arthropod ecology to aid in biodiversity conservation efforts and trait origin delineation.

Excellence in Early Career Award

Dr. Robert Orpet

Washington State University's Tree Fruit Research & Extension Center



Dr. Robert "Bob" Orpet of Washington State University's Tree Fruit Research & Extension Center works to help people and the environment through entomology. To apply the teachings of Vernon Stern *et al.* and help reduce harmful overuse of pesticides, Bob collaborates with colleagues and stakeholders for on-farm public-facing integrated research and extension projects. The Orpet group manages the Pear Insects Lab, an Earwig Transportation Workshop, and an orchard pest & beneficial insect habitat study. Bob serves as the Pacific Branch Entomology Games master of ceremonies and is active in the local community to share appreciation and application

of insects. Bob's excellence during the early career is thanks to a great community of students, workers, mentors, collaborators, and stakeholders connecting with the group. Academic history includes: BS University of Illinois, MS University of Arizona, PhD Washington State University.

Excellence in Integrated Pest Management Award

David Haviland

Extension Entomologist, University of California



For the past 20 years, David Haviland has conducted research and extension programs related to IPM in the lower San Joaquin Valley of California. As an extension entomologist for the University of California, his work has spanned numerous crops, pests, and management techniques. Examples of his work include the development of disinfestation programs using hot-water treatments for grape nursery stock, mating disruption programs for navel orangeworm in nut crops, monitoring and cultural controls using roguing to combat Pierce's disease in grapevines,

the use of entomopathogenic nematodes for grub control in blueberries, and the development of economic injury levels for Gill's mealybug. If asked about the two greatest accomplishments in his career, David is likely to talk about his work to develop treatment thresholds for spider mites in almonds that are based on trapping for their primary predator (sixspotted thrips), or about his work to help commercialize hydrogel-based baits for sugar-feeding ants to decrease pest problems by increasing biological control. In total, David has produced more than 500 publications, given more than 850 presentations, and done more than 400 media interviews about integrated pest management. He has earned individual or team awards from the Pacific Branch ESA, ESA PI-E Section, California Department of Pesticide Regulation, UC Ag and Natural Resources, Western Extension Directors Association, the Association of IPM Ecologists, and the International IPM Symposium.

Distinction in Student Mentoring Award

Dr. Joanna Chiu

Professor, University of California-Davis



Joanna Chiu obtained her B.A. in Biology and Music at Mount Holyoke College, MA, USA, and her Ph.D. in Molecular Genetics at New York University, USA. As a postdoctoral fellow at the Center for Advanced Biotechnology and Medicine, Rutgers University, USA, she investigated the molecular mechanisms regulating insect circadian rhythms. She started her laboratory at UC Davis in 2010. Her research group uses a combination of molecular genetics, biochemical, and omics approaches to dissect the molecular and cellular mechanisms that control insect circadian and seasonal rhythms. Her laboratory also leverages genomic approaches to study invasive insects with the goal of developing new strategies for controlling agricultural pests, thus contributing to long-

term global food security. Dr. Chiu received the NIH Pathway to Independence Award in 2008, the UC Davis Chancellor's Fellowship in 2018, and the Entomological Society of America Physiology, Biochemistry, and Toxicology Research Award in 2019. In addition to her research program, Dr. Chiu is dedicated to the training of the next generation of scientists and promoting diversity in science and society. She was awarded the 2022 UC Davis Academic Senate Distinguished Teaching

and Mentoring Award for her contributions to graduate and professional mentoring and the 2023 UC Davis Chancellor's Award for Excellence in Mentoring Undergraduate Research. She currently serves as the Director of the NIH-funded Postbaccalaureate Research Education Program at UC Davis to facilitate successful transition of trainees from undergraduate to graduate education.

Distinguished Achievement in Teaching Award

Dr. Juli Carrillo

Associate Professor, University of British Columbia



Juli Carrillo is an Associate Professor in the Faculty of Land and Food Systems at the University of British Columbia, and is a member of the Biodiversity Research Centre. She leads the Plant-Insect Ecology and Evolution Lab, with research projects focused on using ecological theory to support biodiversity in agricultural and other managed systems, using techniques to evaluate pollination, pest control, decomposition and other insect-mediated ecosystem services. She teaches Insects in Agroecosystems, a course focused on insects' roles and functions in agriculture, and sustainable solutions to support insect biodiversity, and Conservation Agricultural and Biodiversity Monitoring, a field-based intensive summer course located at UBC Farm to

provide training in real world biodiversity monitoring techniques and assessments. She also co-teaches Audio Storytelling, a course that supports students to develop and use a journalistic framework to tell compelling scientific stories.

Distinguished Achievement in Extension Award

Wendy Sue Wheeler

Director, Washington State University's Pesticide Resources and Education Program



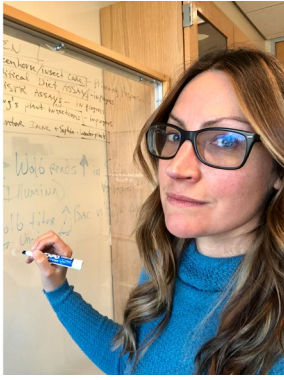
Wendy Sue Wheeler is the Director of the Washington State University's Pesticide Resources and Education Program. She has been a pesticide safety educator since 2012 and part of the program since 2008. She has a keen interest in improving pesticide safety education and pesticide resources in Washington, her region, and across the country. An important responsibility of her pesticide safety education training focuses on pesticide stewardship to protect humans, the environment, and ecosystems.

Plant-Insect Ecosystems Award

Dr. Allison Hansen

Associate Professor, University of California-Riverside

Dr. Allison Hansen, an Associate Professor in Entomology at the University of California, Riverside, USA, is an evolutionary biologist with a focus on the ecological and evolutionary genomics of insect-microbe-plant interactions. Using an evolutionary framework, Dr. Hansen's lab employs



genomics tools to investigate plant-insect interactions and the evolution of insect symbionts and plant pathogens with their insect hosts. Over the past decade, her lab's research has focused on the nuanced interplay between host plant nutrition and the co-evolved metabolisms of sap-sucking insects and their nutritional endosymbionts. Hansen's lab also conducts translational research investigating the impact of insect microbiomes on agriculture and plant galling. Her work sheds light on the profound roles of these microbial communities in plant disease and ecosystem management. Notably, her research in the Pacific Branch region focuses on the evolution and detection of new *Ca. Liberibacter* species and their pathosystems and collaborating with plant pathologists to seek

management solutions for citrus greening disease and psyllid yellows disease on solanaceous crops.

Medical, Urban, and Veterinary Entomology Award

Dr. Monika Gulia-Nuss

Associate Professor, University of Nevada, Reno



Dr. Monika Gulia-Nuss is an associate professor in the Department of Biochemistry and Molecular Biology at the University of Nevada, Reno (UNR). Gulia-Nuss received her MS and PhD in vector biology and medical entomology from India. She was awarded the Johns Hopkins Malaria Research Institute International Postdoc fellowship. However, she joined the laboratory of Dr. Helen Benes at the University of Arkansas for Medical Sciences to study mosquito transgenics. She subsequently moved to the University of Georgia, where, under the supervision of Drs. Mark Brown and Mike Strand, she studied the role of insulin signaling in mosquito reproduction and pathogen development. She moved to Purdue University in 2013 to work with Dr. Catherine Hill, who introduced her to tick research. She set up her independent lab at UNR in 2016, and for the last eight years, her lab has been studying multiple aspects of mosquito

and tick biology. She has combined her training in vector biology, genetics, and biochemistry to develop genetic tools for tick research. Her lab developed the first embryo injection protocol for ticks and used it to create a CRISPR-Cas9-based knockout in ticks. Her lab is funded through NSF and NIH to develop transgenic ticks for functional genomics studies. She has been awarded the 2024 Fulbright US Scholar award to travel to Uruguay and develop transgenic methods for cattle fever tick, a major veterinary vector. In addition to genetic research, Gulia-Nuss also works on population genomics and pathogen prevalence in ticks in the Western USA. As a Graduate Director for Biochemistry program, she strives for diversity and equity in science. When not engaged in research, Gulia-Nuss enjoys exploring the great outdoors in Reno with her husband and two children and snuggling with her cat, Dotsy.

Physiology, Biochemistry, and Toxicology Award

Dr. Naoki Yamanaka

Associate Professor, University of California, Riverside



Dr. Yamanaka earned his Ph.D. in Biological Sciences from the University of Tokyo in 2007 and is currently an Associate Professor in the Department of Entomology at UC Riverside. His expertise is in insect endocrinology and development, and he has worked on various kinds of insects throughout his career, including silkmoths, fruit flies, bumble bees, and yellow fever mosquitoes.

Systematics, Evolution, and Biodiversity Award

Dr. Silas Bossert

Assistant Professor, Washington State University



Dr. Silas Bossert is an Assistant Professor in the Department of Entomology at Washington State University. Silas holds a B.Sc. in Biology from the University of Konstanz (Germany) where he briefly studied aquatic invertebrate herbivory and then completed a M.S. researching cryptic species diversity of bumblebees in Austria. He did his PhD research on the phylogeny of the bee family Apidae at Cornell University. During this time he also began working as a pre-doctoral fellow at the Smithsonian National Museum of Natural History and now continues on as a Research Associate there. Silas studies many aspects of native bee biology and is an instructor at the annual “Bee Course” in Arizona. Beyond bees, Silas has a passion for keeping backyard chickens and growing exotic cucurbit vegetables.

Entomology Teamwork Award

Dr. Tobin Northfield

Assistant Professor, Washington State University

The X-disease vector host identification team includes members at Washington State University (Tobin Northfield, Abigail Clarke, Tawnee Melton, Cody Molnar, Scott Harper, and Louis Nottingham), Oregon State University (Chris Adams), University of California Berkeley (Alexander Purcell), and USDA-ARS (Rodney Cooper and Adrian Marshall). The team works on X-disease, which is currently at epidemic levels in Pacific Northwest (PNW)

orchards growing cherries and other stone fruits. X-disease is vectored by a small group of leafhoppers that are most abundant after cherry harvest (mid-summer) through October. There is no treatment for infected trees, only reduction of transmission through tree removal and



insecticide treatments, which were often applied every two weeks from July through October. In 2019 a taskforce was developed to address the problem, and in August 2019 a tour of orchards with growers that included members of this team revealed that the key vectors were abundant in orchard ground cover broadleaf weeds. Several common weed species were then identified as key hosts through host feeding trials and molecular gut content analysis from field-collected adults. In addition, screening weedy plants for X-disease phytoplasma found that these weed species commonly served as disease hosts. Cultural controls that reduce access to broadleaf weeds or movement from groundcover into trees were each found to dramatically reduce vector abundance in field trials. Planting highly competitive grasses or application of broadleaf-specific herbicides to orchard ground covers were also found to reduce vector abundance in commercial orchards. These findings help improve X-disease vector management and reduce reliance on insecticides, in favor of a more comprehensive integrated pest management program.

President Bios

President, David Haviland (2023-2024)



David Haviland currently serves as a UC Cooperative Extension Entomology and Pest Management Advisor for Kern County, CA, and has a formal association with the UC Statewide IPM Program. His primary responsibilities are to conduct research and extension programs that lead to the adoption of IPM practices. He has a B.S. in Zoology from Brigham Young University and a M.S. in Plant Protection and Pest Management from UC Davis. As an extension entomologist, David has spent the past 20 years working on a wide

range of insect-related pest problems on the more than 100 commodities grown in the lower San Joaquin Valley. He has produced more than 500 publications and given more than 850 presentations, the majority of which targeted audiences comprised of agricultural stakeholders. David's ability to form bridges between academia and on-farm production practices has made him in high demand throughout California and elsewhere. He has given keynote or plenary presentations at conferences in four states, Switzerland, Brazil, Peru, Chile, Australia and Italy, and has been featured as the principal scientist during week-long educational road-shows on IPM adoption in Peru, Mexico, Chile, Costa Rica, and Australia. When David is not working, he and his wife Jill are likely to be found working in their garden, enjoying activities with their four college-age children, or finding ways to enjoy the marvels of nature.

Incoming President, Silvia I. Rondon (2024-2025)

Dr. Silvia Rondon is the Oregon State University Integrated Pest Management Center director, and a professor and extension entomology specialist. She received her BA and MS in entomology at the Agraria University in Perú, and a Ph.D. in Crop Sciences from the University of Illinois at Urbana-Champaign. In 2002, she was a Postdoctoral Associate at the University of Florida joining OSU in 2005. Her position at OSU includes Research, Extension, and Administration while managing her program relying on external funding managing over \$12 million in private, state, and federal grants. Her area of expertise is IPM with an emphasis on insect ecology, distribution,



population dynamic, plant interactions, and pest control. She has over 123 peer-reviewed scientific and extension papers, book chapters, and non-peer-reviewed publications. She is passionate about DEI activities.

Dr. Rondon has been an ESA member since 1996 starting as a student and then as a professional since 2001. She has served as a judge on multiple occasions (poster and oral presentations), she has organized symposiums at the branch and national level, she has also organized or co-organized the Pacific Northwest Branch Mixer for at least the last 10 years. She organized the first Hispanic/Latin Symposium now in its 10th year. She has been invited as keynote speaker for the Hispanic/Latin Symposium in 2022. She is passionate about DEI and has served as a member of the ESA DEI group for the last couple of years. She is currently part of a sub-committee organizing articles for American Entomologist "Entomology for ALL". She is a senior editor of Environmental Entomology and subject editor of Journal of Economic Entomology. She has won several ESA awards most notably the National IPM Extension Award.

President-Elect, Dr. Laura Lavine (2025-2026)



Dr. Laura Lavine is Professor and Chair of the Washington State University Department of Entomology. Dr. Lavine received her Ph.D. in Entomology at the University of Kentucky and was a USDA NIFA Postdoctoral Fellow at the University of Wisconsin-Madison. Dr. Lavine has held many leadership roles while at WSU. Dr. Lavine's research program on the evolution of adaptation understanding the mechanisms underlying an organism's ability to rapidly adjust to its environment. Her research has been funded by the NSF and the USDA as well as commodity commissions and she has published her work in diverse journals such as *Nature*, *Science*, and the *Proceedings of the National Academy of Science*.

Plenary Speaker

Dr. Ross H. Miller

War in the Pacific: The Struggle Against Invasive Species in the Western Pacific



Dr. Ross H. Miller, a 1984 ESA Pacific Branch John Henry Comstock Award winner, received a Ph.D. in entomology from Washington State University in 1984, an MSc. in Biology from the University of Houston in 1979, and a B.S. in Zoology from Brigham Young University in 1976. Joining the University of Guam in 1997 he holds the rank of Professor of Entomology. Prior to UOG, Dr. Miller was Principal Scientist – Entomology at the International Center for Agricultural

Research in the Dry Areas (ICARDA) in Aleppo, Syria from 1986 – 1994 where he assisted in the development of insect resistant rainfed wheat and barley throughout West Asia, the Nile Valley, North Africa, and Latin America. Prior postdocs include stints at the Washington State University Tree Fruit Research and Extension Center in Wenatchee, WA and the USDA-ARS Rangeland Insect Laboratory formerly in Bozeman, MT. In addition to publishing over 70 scientific articles and supervising MS level graduate students, Dr. Miller has served as Program Chair of UOG’s graduate Environmental Science Program, as Associate Dean of Research in UOG’s College of Natural and Applied Sciences, and most recently as Interim Director of the Water and Environmental Research Institute of the Western Pacific. Miller holds memberships in the Hawaiian Entomological Society, the Philippine Entomological Society, and the American Association for the Advancement of Science in addition to ESA. Dr. Miller currently teaches graduate courses in ecology and in scientific principles and ethics. Ongoing projects include surveillance for, identification of, and mitigation of invasive insect species in Micronesia, including the little fire ant, the coconut rhinoceros beetle, and the greater banded hornet. When not doing science, Dr. Miller plays trumpet in the Guam Symphony, the UOG Jazz Band, and in the Guam Territorial Band with whom he has performed at Carnegie Hall, the Beijing Olympics, and the Sydney Opera House.



Dr. Miller will speak on “War in the Pacific- the Struggle Against Invasive Species in the Western Pacific.” The culturally diverse area designated as Micronesia encompasses over 2100 tropical islands extending from Palau in the west to the Gilbert Islands in the east. Settled by voyagers from Indo-Asia and Taiwan in successive waves since 5000 BCE and subsequently colonized by various Asian, European, and North American powers since the 16th century, the entomological fauna ranges from indigenous and endemic species uniquely adapted to life on isolated tropical atolls and high islands to introduced species reflective of the colonizing nations they came from. Dr. Miller will discuss some of the most important of these insect invaders, highlighting the cultural and political forces that affect their management.

Please join us for Dr. Miller’s presentation on Sunday, April 14th from

6:00 PM – 7:00 PM in Naupaka 4

General Program Schedule – [VIEW FULL SCHEDULE](#)

SUNDAY, APRIL 14TH, 2024

Program	Time	Location
Operations	12:00 PM - 9:00 PM	Paniolo 3
Registration and Presentation Uploads	2:00 PM - 6:00 PM	Paniolo Foyer
Executive Committee Meeting	4:00 PM - 5:00 PM	Paniolo 1
Entomology Games Preliminary Round	5:00 PM - 6:00 PM	Naupaka 4
Aloha Welcome and Opening Plenary	6:00 PM - 7:00 PM	Naupaka 4

MONDAY, APRIL 15TH, 2024

Program	Time	Location
Registration and Presentation Uploads	7:30 AM - 4:00 PM	Paniolo Foyer
Operations	7:00 AM - 7:00 PM	Paniolo 3
Aloha Kickoff & Business Meeting	8:00 AM - 10:00 PM	Naupaka 4
Photo Salon	8:00 AM - 5:00 PM	Naupaka Patio
Morning Break	10:00 AM - 10:30 AM	Naupaka Patio
Coffee with ESA President, Jennifer Henke	10:00 AM - 10:30 AM	Naupaka Patio
Student Poster Setup	10:00 AM - 12:00 PM	Naupaka Patio
Student Posters	12:00 PM - 6:00 PM	Naupaka Patio
Monitoring and Modeling of the Behavior, Welfare, and Phenology of Insect using Machine Learning and AI Techniques	10:30 AM - 12:25 PM	Naupaka 6
Advancing Undergraduate Education in Entomology	10:30 AM - 12:30 PM	Naupaka 7
Basic and Applied Parasitoid-Host Interactions in Classical Biological Control	10:30 AM - 12:30 PM	Naupaka 2
Climate Change & Insect Declines: Life History Strategies Overcoming Environmental Challenges	10:30 AM - 12:30 PM	Naupaka 5

Understanding Pesticides: Regulations, Misuse, and their Role in IPM	10:30 AM - 12:30 PM	Naupaka 1
Undergraduate Ten-Minute Papers	1:30 PM - 2:30 PM	Naupaka 2
General Ten-Minute Paper Session 4	1:30 PM - 3:10 PM	Naupaka 5
PhD Ten-Minute Paper Session 1	1:30 PM - 3:30 PM	Naupaka 4
General Ten-Minute Paper Session 5	1:30 PM - 4:30 PM	Naupaka 1
General Ten-Minute Paper Session 6	1:30 PM - 4:30 PM	Naupaka 7
Masters Ten-Minute Paper Session	2:45 PM - 5:00 PM	Naupaka 2
Afternoon Break	3:00 PM - 3:30 PM	Naupaka Patio
Global Anthropogenic Influences in Entomology	3:20 PM - 5:40 PM	Naupaka 6
Reviewers' Workshop: How Reviewing Can Help You Publish	3:30 PM - 5:30 PM	Naupaka 5
PhD Ten-Minute Paper Session 2	3:45 PM - 5:35 PM	Naupaka 4
What's New in Industry	4:45 PM - 6:00 PM	Naupaka 7
Social Hour and Q&A with Student Poster Presenters	5:00 PM - 6:00 PM	Naupaka Patio
PBESA Mixer	6:00 PM - 8:00 PM	Paniolo Ocean Terrace
Student Poster Removal	6:00 PM - 8:00 PM	Naupaka Patio
Entomology Games Final Round	8:00 PM - 10:00 PM	Naupaka 4

TUESDAY, APRIL 16TH, 2024

Program	Time	Location
General Poster Setup	7:00 AM - 8:00 AM	Naupaka Patio
Operations	7:00 AM - 7:00 AM	Paniolo 3
Registration and Presentation Uploads	7:30 AM - 4:00 PM	Paniolo Foyer
Photo Salon	8:00 AM - 5:00 PM	Naupaka Patio
Regular Posters	8:00 AM - 6:00 PM	Naupaka Patio

Gut Wrenching: Utilizing Dietary History to Expand Insect Ecology	8:00 AM - 12:00 PM	Naupaka 6
Emerging Entomologists in the Pacific Branch: Highlighting Research and Experiences By ECPs	8:10 AM - 12:00 PM	Naupaka 7
Careers in Integrated Pest Management (IPM)	8:40 AM - 12:00 PM	Naupaka 2
Advancing Integrated Pest Management: The Sterile Insect Technique	8:50 AM - 12:00 PM	Paniolo 2
Diversity, Equity, and Inclusion across the Pacific Branch: Challenges and Successes	8:50 AM - 12:00 PM	Naupaka 1
Same Bugs, New Tricks: Innovation In IPM In The Western United States	8:50 AM - 12:00 PM	Paniolo 1
General Ten-Minute Paper Session 1	9:00 AM - 12:00 PM	Naupaka 3
General Ten-Minute Paper Session 3	9:00 AM - 12:00 PM	Naupaka 5
Morning Break	10:00 AM - 10:30 AM	Naupaka Patio
Q&A with General Poster Presenters (odd numbers)	10:00 AM - 10:30 AM	Naupaka Patio
Awards Luncheon	12:15 PM - 1:45 PM	Naupaka 4
Elevator Talks	2:00 PM - 2:45 PM	Naupaka 4
Navigating Urban Pest Management and Surveillance in Tropical Urban Areas	2:00 PM - 3:30 PM	Naupaka 1
Challenges and Advances in Mealybug Management	2:00 PM - 5:05 PM	Naupaka 6
Advances in Integrated Pest Management Strategies in Tree Nut Systems	2:00 PM - 6:00 PM	Naupaka 2
Interdisciplinary Research to Advance Classical Biological Control of Weeds in the Western United States	2:00 PM - 6:00 PM	Paniolo 1
New Solutions to an Old Problem: How Interdisciplinary Collaborations are Battling X-Disease	2:00 PM - 6:00 PM	Naupaka 7
Semiochemicals for Insect Pest Management	2:00 PM - 6:00 PM	Naupaka 5

Applied Insect Genomics: Integrating Sub-Disciplines and Making Advancements across Systems	2:00 PM - 6:05 PM	Naupaka 3
Merging IPM and IRM Concepts for Sustaining Effectiveness of Insecticidal Transgenic Crops	2:00 PM - 10:00 PM	Paniolo 2
Texting Competition	3:00 PM - 3:45 PM	Naupaka 4
Break	3:30 PM - 4:00 PM	Naupaka Patio
Q&A with General Poster Presenters (even numbers)	3:30 PM - 4:00 PM	Naupaka Patio
Entomolympics	4:00 PM - 5:30 PM	Luau Grounds
General Ten-Minute Paper Session 2	4:00 PM - 6:00 PM	Naupaka 1
Student and Early Career Professional Employment Fair	5:30 PM - 7:00 PM	Expedia Room
General Poster Removal	6:00 PM - 8:00 PM	Naupaka Patio
Student Soiree	7:30 PM - 9:30 PM	Luau Grounds

WEDNESDAY, APRIL 15TH, 2024

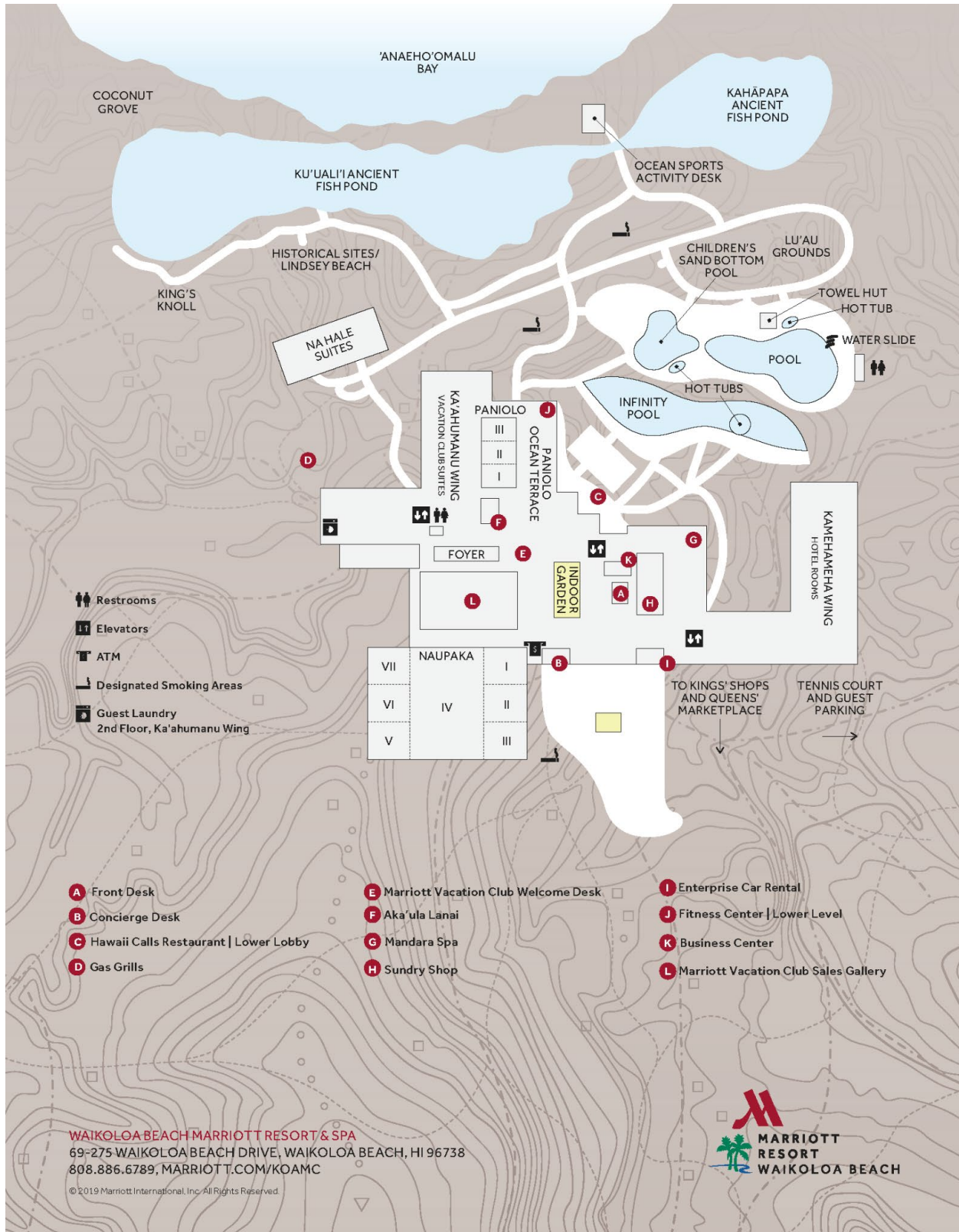
Program	Time	Location
Operations	7:00 AM - 2:00 PM	Paniolo 3
Registration and Presentation Uploads	7:30 AM - 9:00 AM	Paniolo Foyer
Developing an Integrated Pest Management Plan for Coffee Berry Borer (<i>Hypothenemus hampei</i>) in Hawai'i Agro-ecosystems	8:00 AM - 10:30 AM	Naupaka 6
Towards 2050: Perspectives on the Future of Entomology	8:00 AM - 11:05 AM	Naupaka 2
Novel Strategies for Controlling Vector Arthropods: Field-ready Approaches and Future Visions	8:00 AM - 11:10 AM	Naupaka 7
Power of Partnership: Making Positive Impacts through Cross-Border Collaborations	8:00 AM - 11:25 AM	Paniolo 1

Areawide Integrated Pest Management in the Pacific Region 8:00 AM - 12:00 PM Naupaka 1

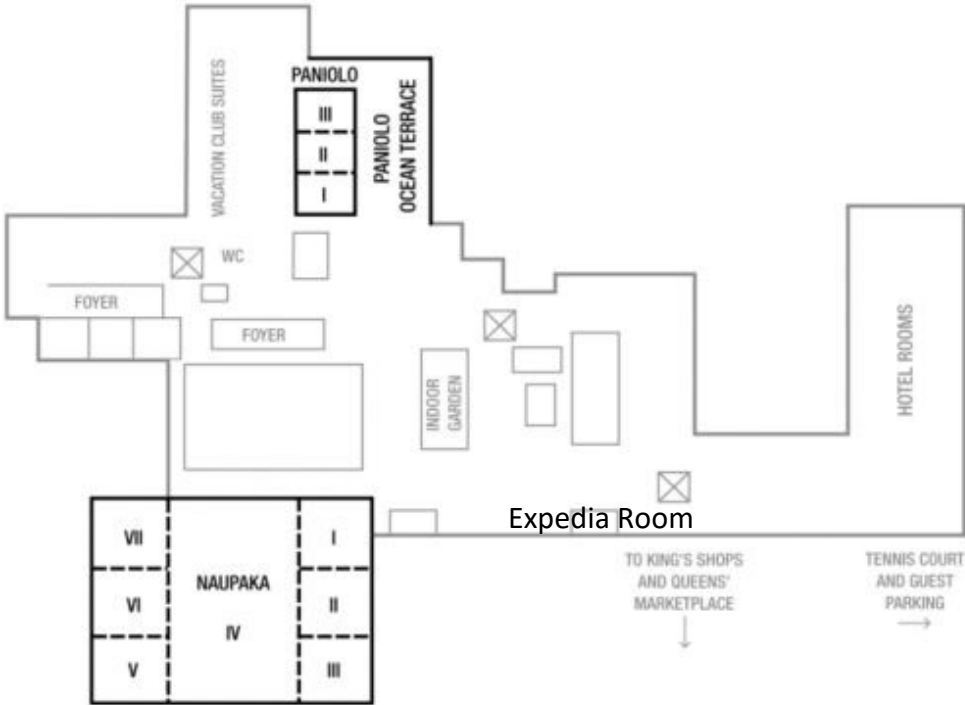
Population Models in Entomology 8:00 AM - 12:00 PM Paniolo 2

Morning Break 10:00 AM - 10:30 AM Naupaka Patio

Hotel Map



MEETING ROOMS



2024 Annual ESA Meeting Information



www.entsoc.org/events/annual-meeting

Entomology 2024 will take place November 10-13, 2024 in Phoenix, AZ at the Phoenix Convention Center. The theme for Entomology 2024 is **Empowering Tomorrow with Insect Science.**

Important Dates & Deadlines

May 31 – Abstract, function, meeting, mixer, mini-workshop deadline

September 16– Early Bird Registration Deadline

2025 PBESA Meeting Information

SAVE THE DATE



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109th Annual Meeting of PBESA March 30 – April 2, 2025 Salt Lake City, UT Hilton Salt Lake City Center

The Pacific Branch of ESA invites you to Salt Lake City, Utah. Salt Lake City is a modern city with every urban amenity set minutes away from spectacular mountains.

Located in downtown Salt Lake City, the Hilton offers a blend of modern comfort and convenience. With sophisticated amenities, including a fitness center, indoor pool, and elegant dining options, guests can enjoy a luxurious stay.