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Arizona Biological Control contributed \$300 for student activities

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2015-2016 Pacific Branch Entomological Society of America

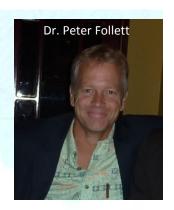
OFFICERS

President Peter Follett, USDA-ARS

Incoming President Sanford Eigenbrode, University of Idaho

Past President Lisa Neven, USDA-ARS

Secretary Treasurer Jesse Richardson, DOW-Agrosciences
Governing Board Rep Doug Walsh, Washington State University



EXECUTIVE COMMITTEE MEMBERS AT LARGE

2013-2016
2013-2016
2014-2017
2014-2017
2015-2018
2015-2018

2015-2016 COMMITTEE

Auditing

Award Canvasing Award Selection

Bylaws

Continuing Education Linnaean Games Local Arrangements

Nominations Operations Program Resolutions

Site Selection (2018 meeting)

Student Employment Opportunities
Student Paper/Poster Competition
Student Texting Competition

Student Travel Awards

CHAIR(S)

Tad Gantenbein Charles Burks David Haviland Lisa Neven

Pedro Hernandez Phil Mulder

Mark Wright, Janis Matsunaga

Silvia Rondon Mark Wright

Rodney Cooper, Laura Lavine

Vonnie Barlow

Surendra Dara, Elina Nino, Pedro Hernandez

Alix Whitener, Robert Zinna Jamie Strange, Joe Hull Michael Orr, Amber Tripodi

Holly Ferguson

PBESA 2016 LOGISTICS & BASICS

REGISTRATION: All PBESA 2016 attendees must register. You can continue to register by credit card up through the start of the meeting at www.entsoc.org/Pacific/2016-pacific-branch-annual-meeting. Credit card payments, cash and checks will be accepted for on-site registration, which is \$230 for members, \$260 for non-members, \$80 for guests, and \$70 for students and honorary/emeritus members. One day registration is \$110. Register in the 5th floor Grand Ballroom Foyer on: April 3, 1:00 pm to 4:30 pm; April 4 & 5, 7:00 am to 4:00 pm; & April 6, 7:00 am to 10:00 am.

SCHEDULE: The "meeting-at-a-glance" grid on page 6 shows the overall schedule. Full program with details begins on page 7.

MEETING INFORMATION: Schedule changes and other information of general interest will be posted throughout the conference at the PBESA registration desk.

HOTEL INFORMATION: The hotel is located in downtown Honolulu on Waikiki Beach at 2490 Kalakaua Ave, Honolulu, HI 96815. On-site dining is available at the Oceanarium Restaurant and the Aloha Center Cafe. PBESA attendees will receive a reduced resort fee of \$10 per day that includes high speed internet, an eco-friendly water bottle, discount at the Laulea Spa and 24 hour Fitness Center, free local calls and 60 minutes of long distance calls to U.S. and Canada, use of tennis courts, golf hitting cages, and putting greens (equipment included), pool towels, and in-room safe. Hotel self-parking costs \$12.50/day.

HOTEL MAP: The meeting rooms are located on the 2nd, 3rd, and 5th floors of the hotel. Maps are provided on the back cover.

TRANSPORTATION

The hotel is located in Waikiki about 11 miles from the Honolulu International Airport. Taxis and shuttles are available at the airport terminal.

SPECIAL MEETINGS AND EVENTS

PLENARY SESSION: We are pleased to present a Plenary Session by Dr. Lee Goff titled "The CSI Effect" on Sunday, April 3 from 5:00 pm to 6:00 pm in the Mahi Mahi Room located on the 3rd floor. Details for the plenary session and information about Dr. Goff are on page 7.

PACIFIC BRANCH EXECUTIVE COMMITTEE

MEETING: The Executive Committee will meet Sunday, April 3, from 6:30 p.m. to 8:30 p.m. in the Papio Room located on the 3rd floor.

BUSINESS MEETINGS: The combination opening session/preliminary business meeting will be held from 8:00 am to 12:00 pm on Monday morning April 4 in the Grand Ballroom located on the 5th floor. See page 8 for details.

The final business meeting will be held from 7:00 am to 8:00 am on Wednesday, April 6 in the Grand Ballroom located on the 5th floor. A complimentary breakfast will be served to final business meeting attendees.

STUDENT COMPETITION JUDGES &

MODERATORS MEETING: Those who have volunteered to serve as moderators and judges for the student poster and paper competitions should attend an organizational meeting on Sunday at 6:00 pm in the Papio Room located on the 3rd floor. All judges should meet in the Neptune Room on the 2nd floor at 5:00 pm on Monday April 4 to finalize the student competition evaluations. Please see James Strange or Joe Hull if you have any questions.

PBESA MIXER/PRESIDENT'S RECEPTION:

PBESA 2015-2016 President Peter Follett will host a reception for all registered PBESA 2016 attendees on Monday evening, April 4, from 6:00 p.m. to 8:00 p.m. in the Grand Ballroom located on the 5th floor.

TEXTING COMPETITION: The fifth annual texting competition will be held Monday, April 4 from 7:00 pm to 7:30 pm in the Neptune Room located on the 2nd floor. Test your entomological knowledge and texting skills in this fast and fun competition. Participants earn points for accurately and quickly texting insects' Latin names and the answers to insect trivia questions. Participants must supply their own mobile phones and are responsible for texting costs. Registration is open until noon on the day of the competition. To register your mobile phone or other texting device, just text your name to (435) 554-8408. Prizes are donated by BioQuip Products and BioQuipBugs. Please contact Michael Orr if you have any questions: (michael.christopher.orr@gmail.com).

LINNAEAN GAMES

Linnaean Games will be held on Monday, April 4 from 8:00 pm to 10:00 pm in the Neptune room on the 2nd floor. The winning PBESA team and runner-up team both qualify to represent the branch by competing in the National ESA Linnaean Games. To offset their travel expenses to the national competition in Orlando, FL (September 25-30, 2016), the first place winning team will receive \$2000 and the second place team will receive \$1000.

AWARDS LUNCHEON

The PBESA 2016 Awards Luncheon will be held on Tuesday, April 5 from 12:00 to 1:25 pm in the Grand Ballroom. Your full conference registration includes admission to the luncheon.

SOCIAL HOUR WITH POSTER PRESENTERS

Join us for social hour with poster presenters on Tuesday, April 5 from 5:00-6:00 pm. Posters will be displayed in the Grand Ballroom Foyer.

EMPLOYMENT OPPORTUNITIES

The Pacific Branch Career Fair will be held Tuesday April 5, from 6:00 to 7:00 pm in the Grand Ballroom. Representatives from industry, academia and government sectors will be there to answer your questions, provide advice, and highlight some current openings in entomology.

Please bring your questions, CV, and business cards. Appetizers and a cash bar will be provided and there will be fun prizes for students collecting the most employer business cards.

ELEVATOR OPPORTUNITY

The second annual 'Elevator Opportunity' will be held in the Grand Ballroom following the Career Fair on Tuesday, April 5 from 7:00 to 8:00 pm. How would you react if you suddenly found yourself on an elevator with the 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. This open event is limited to the first 20 people. You can register at the meeting. For further information contact either Alix Whitener (alix.crilly@email.wsu.edu) or Lisa Neven (lisa.neven@ars.usda.gov).

CONTINUING EDUCATION CREDITS

We have applied for continuing Education Credits (CEC) will be available for Arizona, California, Idaho, Nevada Washington, and Hawaii. We have credits for the following sessions: (1) What's New in Industry (1 credit) session on Monday, April 4 from 5:00-6:15 pm in the Ahi room; (2) General Paper Session II (4 credits) on Tuesday, April 5 from 1:30-5:30 pm in the Mahi Mahi room; (3) The Symposium "Navel Orangeworm Management for the 21st Century" (3 credits) on Monday April 4 from 1:30-4:50 pm in the Papio room; (4) The Symposium "Challenges and Solutions for the Floriculture and Nursery Industry's Exotic Pest Crisis" (4 credits) on Tuesday April 5 from 8:00 to 12:00 am in the Marlin room; and (5) The Symposium "IPM of Agriculturally Important Heteroptera in the Western States" (4 credits) on Wednesday April 6 from 8:00 to 12:00 am in the Mahi Mahi room. A registration table will be set up outside those rooms. Please contact Pedro Hernandez for questions or further information (Phernandez@nichino.net).

PHOTO SALON/INSECT EXHBITS

The Photo Salon and Insect Exhibits will be held Tuesday, April 5 from 8:00 to 12:00 am in the Moi room located on the 3rd floor. Both events will be organized by Rodney Cooper (rodney.cooper@ars.usda.gov) and Peter Follett (peter.follett@ars.usda.gov). The Photo salon will be non-competitive and is for sharing fascination of shots of insect form, function, and behavior. We also highly encourage photos of outreach and extension, and of people interacting with insects. Exhibits will showcase pinned or preserved invasive or native insects (no live insects), regardless of pest-status. This is a great opportunity to see important or interesting insects, invasive species, native pollinators, and natural enemies.

PRESENTER/MODERATOR INSTRUCTIONS

POWERPOINT SLIDESHOW PRESENTATIONS

The presentation format will be PowerPoint files using laptop computers and projectors. Laptop computers and projection equipment will be available on site. Please contact Mark Wright (markwrig@hawaii.edu) with questions about Audio/ Visual operations.

Speakers who present submitted papers (Student Competition or General Session) should bring their PowerPoint files on a flash drive (USB memory stick) to the Operations Committee table in the Venus Room located on the 2nd floor by the day before their scheduled session. Mac users please make sure your presentation file has a .ppt(x) file extension. Members of the Operations Committee will upload the file and you will be provided a chance to look over the presentation and ensure that it transferred correctly. Speakers that need special accommodations, have very large files, or plan on using embedded video should contact Mark Wright (markwrig@hawaii.edu) in advance of the session. There will be no formal area for students to practice.

Symposia speakers should deliver their presentations to the organizer of their symposium prior to the session. This should be done according to the time line and instructions provided by the organizer of each symposium. Symposium organizers will then compile the talks onto their own laptop computers and bring them to the session.

POSTER DISPLAY PRESENTATIONS

Student posters will be displayed Monday, April 4 from 1:30 to 5:00 pm in the Grand Ballroom Foyer. Students are requested to hang their posters from 8:00 am to 12:00 pm on Monday. Students should be prepared to discuss their poster with judges from 3:00 to 4:00 pm while judging is underway. Students who are not by their posters will not be judged. Student posters should be removed Monday evening between 5:00 to 6:00 pm. General Posters should be hung between 6:00 to 10:00 pm on Monday in the Grand Ballroom Foyer for viewing on Tuesday, Tuesday poster presenters are encouraged to be present at their posters from 5:00 to 6:00 pm during the Social Hour with Poster Presenters. Breaks are also popular times to view posters. All posters should be removed after 6:00 pm on Tuesday. Posting materials will be provided on site.

MODERATOR RESPONSIBILITIES

Moderators for symposia are responsible for collecting and bringing symposia presentations on a personal laptop. Presentations for student competitions and general session papers will be collected by the Operations Committee and will be provided on a laptop for use in the session. Moderators of all symposia and general sessions should attend the moderators training meeting at 6:00 on Sunday, April 3 in Grand Ballroom Foyer. If a presentation is completed early or cancelled, the moderator must ensure that the subsequent presentation begins at the scheduled time. Any questions regarding procedures or the roles of moderators can be addressed by contacting Mark Wright (markwrig@hawaii.edu).

MEETING AT A GLANCE

SUNDAY	MONDAY	TUESDAY	WEDNESDAY
3-April 2016	4-April 2016	5-April 2016	6-April 2016
2016 PBESA	7:00 am t	7:00 am to 10:00 am	
"Celebrating 100	Registration Desk Open 8:00 am to 12:00 pm 8:00 am to 12:00 pm		Registration Desk Open 7:00 am to 8:00 am
Years of Pacific	1) Opening Session/	1) Symp: Native	Final Business Meeting
Branch: Science	Preliminary Business	Pollinator	
	Meeting	2) Symp: Natural History	
for the Next	2) 2016 C.W. Woodworth Winner	3) Symp: Floriculture & Nursery Exotic Pests	
Century"	Presentation	4) TMP	
	3) 2016 John Henry	5) Symp: Evolution of	357
Meeting at a	Comstock Award Winner	Herbivory	
Glance.	Presentation	6) Symp: Little Genes,	
	4) Hang Student Posters	Big Data 7) Photo Salon/Insect	
	一直/建进\	Exhibits	
	11/100	8:00 am to 6:00 pm	8:00 am to 12:00 pm
	T ASS	Posters available for	1) GMOs
	1.5° I H	viewing	2) Symp: Pollinator
			Protections 3) Symp: IPM of
	- 17		Heteroptera
			4) Symp: Fruit Fly
			Research
	12:00 pm to 1:30 pm	12:00 pm to 1:30 pm	12:00 pm
1:00 pm to 4:30 pm	Lunch on your own	Awards Luncheon	Meeting Adjourn
1:00 pm to 4:30 pm Registration Desk Open	Lunch on your own 1:30 pm to 5:00 pm	Awards Luncheon	Meeting Adjourn
1:00 pm to 4:30 pm Registration Desk Open	Lunch on your own	Awards Luncheon	Meeting Adjourn
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW	Awards Luncheon	Meeting Adjourn
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering	Awards Luncheon	Meeting Adjourn
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science	Awards Luncheon	Meeting Adjourn
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID	Meeting Adjourn
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science	Awards Luncheon	Meeting Adjourn
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect Conservation 5) Symp: Pollinator Management and Policy	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID Workshop	Meeting Adjourn PACIFIC BRANCH
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect Conservation 5) Symp: Pollinator Management and Policy 6) Symp: Agroecology	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID Workshop 5) Symp: Vector Biology 6) TMP	Meeting Adjourn PACIFIC BRANCH Honolulu, HI
	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect Conservation 5) Symp: Pollinator Management and Policy 6) Symp: Agroecology 5:00 pm to 6:15 pm	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID Workshop 5) Symp: Vector Biology 6) TMP 5:00 pm to 6:00 pm	Meeting Adjourn PACIFIC BRANCH
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Registration Desk Open	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect Conservation 5) Symp: Pollinator Management and Policy 6) Symp: Agroecology 5:00 pm to 6:15 pm 1) What's New in Industry 2) Hang General Posters (by 10 pm)	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID Workshop 5) Symp: Vector Biology 6) TMP 5:00 pm to 6:00 pm Social Hour with Poster Presenters	Meeting Adjourn PACIFIC BRANCH Honolulu, HI
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5:00 pm to 6:00 pm Plenary Session "The CSI Effect" Dr. Lee	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp: NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect Conservation 5) Symp: Pollinator Management and Policy 6) Symp: Agroecology 5:00 pm to 6:15 pm 1) What's New in Industry 2) Hang General Posters (by 10 pm) 6:00 pm to 8:00 pm	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID Workshop 5) Symp: Vector Biology 6) TMP 5:00 pm to 6:00 pm Social Hour with Poster Presenters 6:00 pm to 7:00 pm	Meeting Adjourn PACIFIC BRANCH Honolulu, HI
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5:00 pm to 6:00 pm Plenary Session "The CSI Effect" Dr. Lee Goff 6:00 pm to 6:30 pm Moderator/Judge meeting	Lunch on your own 1:30 pm to 5:00 pm 1) Student oral and poster competition 2) Symp:NOW 3) Symp: Fostering Diversity in Science 4) Symp: Insect Conservation 5) Symp: Pollinator Management and Policy 6) Symp: Agroecology 5:00 pm to 6:15 pm 1) What's New in Industry 2) Hang General Posters (by 10 pm) 6:00 pm to 8:00 pm PBESA Mixer 7:00 pm to 7:30 pm Texting Competition	Awards Luncheon 1:30 pm to 5:00 pm 1) Symp: Honoring Dr. Tamashiro 2) Symp: Biocontrol 3) Symp: Little Genes, Big Data 4) Symp: Scarab ID Workshop 5) Symp: Vector Biology 6) TMP 5:00 pm to 6:00 pm Social Hour with Poster Presenters 6:00 pm to 7:00 pm Career Fair	Meeting Adjourn PACIFIC BRANCH Honolulu, HI
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SUNDAY, APRIL 3RD

SUNDAY EVENTS

Registration

1:00 p.m. to 4:30 p.m. Grand Ballroom Foyer (5th floor)

Plenary Session

Dr. Lee Goff "The CSI Effect"

5:00 p.m. to 6:00 p.m. Mahi Mahi Room (3rd floor)

Student Competition Judge & Moderator Meeting

6:00 p.m. to 6:30 p.m. Papio Room (3rd floor)

Executive Board Meeting

6:30 p.m. to 8:30 p.m. Papio Room (3rd floor)



DR. LEE GOFF PLENARY SPEAKER



Dr. M. Lee Goff, Professor Emeritus, in Forensic Sciences at Chaminade University of Hawaii and Dept. of Plant and Environmental Sciences, University of Hawaii, Manoa,, received his B.S. in Zoology from the University of Hawaii at Manoa in 1966, M.S. in Biology from California State University, Long Beach in 1974, and Ph.D. in Entomology from the University of Hawaii at Manoa in 1977. He was Professor of Entomology and Chair of the Entomology Graduate Program at University of Hawaii at Manoa from 1983 until 2001. He then moved to Chaminade University of Honolulu as Director of the Forensic Sciences Program. Dr. Goff has been involved in forensic entomology for over 25 years. He is currently a consultant in forensic entomology for the Office of the Medical Examiner, City and County of Honolulu and other state and federal agencies throughout the world. Dr. Goff was one of the founding members of the American Board of Forensic Entomology, from which he retired in 2013. He also serves as a consultant for the crime dramas CSI (CBS) and Bones (FOX). He is curator of a traveling museum exhibition called CSI: Crime Scene Insects. Dr. Goff has also served as a member of the instructional staff for the FBI Academy course in Detection and Recovery of Human Remains taught at Quantico, Virginia. He has published over 200 papers in scientific journals, authored the popular book, A Fly for the Prosecution, co-edited the recent publication "Advances in Forensic Entomology" and participated in over 350 homicide investigations, consulting on cases worldwide.

OPENING SESSION AND PRELIMINARY BUSINESS MEETING 8:00 a.m. to 12:00 p.m.

	Grand Ballroom
8:00	Welcome and Opening Remarks, Peter Follett, President Pacific Branch ESA
8:15	National ESA Report, May Berenbaum, President ESA
8:30	National ESA Governing Report, David Gammel, Executive Director, ESA
8:45	ICE 2016 announcements and up-date Walter Leal, Co-Chair, ICE
	ESA Section reports, Section representatives
	Update on P-IE Section, Mark Wright, Vice President P-IE
9:00	The Legacy of C.W. Woodworth, Brian Holden, Great grandson of C.W. Woodworth
9:15	2016 C.W. Woodworth Winner presentation – Dr. Timothy Paine, University of California Riverside, "Invasive insects and biological control in California urban forests"
9:35	2016 John Henry Comstock Award Winner presentation – Rebecca Schmidt-Jeffris, Cornell University, "Something mite have changed: investigating an old biocontrol exemplar"
10:00	BREAK
10:30	Preliminary Business Meeting
	Governing Board report, Doug Walsh
	Pacific Branch Executive Committee report, Peter Follett
	Secretary/Treasurer report, Jesse Richardson
	Nominations, Siliva Rondon
	Announcements/New business, Peter Follett

12:00 to 1:30 pm—Lunch on Your Own

Student Competition Posters should be posted before 1:30 pm in the Grand Ballroom Foyer

MONDAY EVENTS

Registration

7:00 a.m. to 4:00 p.m. Grand Ballroom Foyer (5th floor)

Opening Session and Preliminary Business Meeting

8:00 a.m. to 12:00 p.m. Grand Ballroom (5th floor). See page 8 for details.

Student Competition Judges Meeting 5:00 to 5:30 p.m. Neptune Room (2nd floor)

Hang General Posters

6:00 to 10:00 p.m. Grand Ballroom Foyer (5th floor)

PBESA Mixer/ President's Reception 6:00 to 8:00 p.m. Grand Ballroom (5th floor)

Texting Competition

7:00 to 7:30 p.m. Neptune Room (2nd floor) *Prizes Donated by BioQuip Products and BioQuipBugs*

Linnaean Games

8:00 to 10:00 p.m. Neptune Room

MONDAY POSTERS

Undergraduate Poster Competition Grand Ballroom Foyer

- P1 Bacteria colonizing sentinel flowers in riparian and orchard habitats: do their volatiles attract beneficial insects? <u>Isabel Cueva</u> (cuevai@heritage.edu)¹ and Thomas R. Unruh², ¹Heritage Univ., ²USDA-ARS
- P2 Age effects on nectar feeding preferences in queen bumble bees. Natalie Fischer (nfisc001@ucr.edu) and S. Woodard, Univ. of California Riverside
- P3 Scarab beetles of Hawaii & Guam. Jackie
 Baum (jackisan15@gmail.com), Emmy Engasser,
 Joshua Dunlap and Mary Liz Jameson, Wichita
 State Univ.

"Candidatus Liberibacter solanacearum" associated with Bactericera maculipennis (Hemiptera: Triozidae): Evidence for plant-mediated horizontal transmission of Liberibacter between psyllid species. Karina Borges (BorgesK@heritage.edu)¹, William Rodney Cooper², Andrew Jensen³, David Horton² and Nina M. Barcenas¹, ¹Heritage Univ., ²USDA-ARS, ³Washington State Potato Commission

Masters Poster Competition Grand Ballroom Foyer

- P5 Testing the attractiveness and efficacy of baits for the monitoring and control of the thief ant, *Solenopsis papuana*. Cassandra Ogura-Yamada (cso@hawaii.edu) and Paul Krushelnycky, Univ. of Hawai'i Manoa
- P6 The effectiveness of organic and conventional pesticides on grape leafhoppers in Washington state vineyards. Jonathan O'Hearn (jonathan.ohearn@wsu.edu) and Douglas Walsh, Washington State Univ.
- P7 The native Hawaiian Ohelo berry as a potential host for the spotted wing drosophila (*Drosophila suzukii*). Keena Newton (keena@hawaii.edu)¹, Jonathan Koch¹ and Donald Price², ¹Univ. of Hawai'i Hilo, ²Univ. of Hawai'i
- P8 Lab assay of systemic insecticides on the coconut rhinoceros beetle (*Oryctes rhinoceros*).

 Matthew Kellar (kellarm@hawaii.edu) and Zhiqiang Cheng, Univ. of Hawai'i Manoa
- P9 Brown marmorated stink bug: a growing problem in Washington State and the discovery of an exotic egg parasitoid. Joshua Milnes (joshua.milnes@wsu.edu)¹, Michael Bush¹, Gwen Hoheisel², Todd Murray¹, Mike Klaus³, Peter J. Landolt⁴, Douglas Walsh¹, Jay Brunner¹ and Elizabeth H. Beers¹, ¹Washington State Univ., ²Washington State Univ. Extension, ³Washington State Dept. of Agriculture, ⁴USDA-ARS

P10 Using controlled exposure trials to assess predation and parasitism of the Kamehameha butterfly (Nymphalidae: *Vanessa tameamea*).

<u>Colby Maeda</u> (colbytl@hawaii.edu)¹, William Haines², Cynthia B. A. King³ and Leyla V.

Kaufman², ¹Univ. of Hawai'i Manoa, ²Univ. of Hawai'i, ³State of Hawai'i

PhD Poster Competition Grand Ballroom Foyer

- P11 Efficacy of field-aged insecticide residues for control of *Drosophila suzukii*. Alix Whitener (alix.crilly@wsu.edu) and Elizabeth H. Beers, Washington State Univ.
- P12 Transcriptomic analysis reveals genes response to host plant allelochemicals in *Leptinotarsa decemlineata*. Adekunle Adesanya (adekunle.adesanya@wsu.edu)¹, Bianca Mendoza¹, Haichuan Wang², Mariany Morales¹, Laura C. Lavine¹, Douglas Walsh¹ and Fang (Rose) Zhu¹, ¹Washington State Univ., ²Univ. of Nebraska
- P13 Efficacy and non-target effects of net enclosures in apple orchards. Adrian Marshall (adrianm460@gmail.com) and Elizabeth H. Beers, Washington State Univ.
- P14 The effects of burning residual rice straw on tadpole shrimp (*Triops longicaudatus*) hatching rate and its implications for California rice farmers. Joanna Bloese (jbbloese@ucdavis.edu), Kevin Goding and Larry Godfrey, Univ. of California
- P15 Field and cage enclosure studies investigating the impact of invasive aquatic macrophytes on disease vector behavior and ecology. Rakim Turnipseed (rturnipseed@berkeley.edu)¹ and Patrick J. Moran², ¹Univ. of California Berkeley, ²USDA-ARS

P16 The effects of microbes on the nutrition of an important pollinator *Megachile rotundata*. Kaleigh Russell (kruss002@ucr.edu)¹, Peter Graystock², Hoang Vuong¹, Jason Rothman¹ and Quinn McFrederick², ¹Univ. of California Riverside, ²Univ. of California

MONDAY ORAL

Undergraduate TMP Competition Neptune Room (2nd Floor)

Moderators: James Strange¹ and Ricardo Ramirez², ¹USDA-ARS, ²Utah State Univ.

1:30 PM - 1 Gut content screening of Chagas disease vectors reveals new vertebrate host associations. Anna Georgieva (ageor005@ucr.edu)¹, Eric Gordon² and Christiane Weirauch², ¹Univ. of California Riverside, ²Univ. of California

Masters TMP Competition

Neptune Room (2nd Floor)

Moderators: James Strange¹ and Ricardo Ramirez², ¹USDA-ARS, ²Utah State Univ.

- 1:45 PM 2 Montana's huckleberry (*Vaccinium globulare* Rydberg) mystery: Pollinators, pests, and potential threats. Amelia Dolan (amelia.clare1229@gmail.com) and Michael A. Ivie, Montana State Univ.
- 1:57 PM 3 A tale of two ends: Evolution of head and male genitalic morphology of *Nannocoris*Reuter (Hemiptera: Schizopteridae). Christiane
 Weirauch and Sarah Frankenberg
 (sfran012@ucr.edu), Univ. of California
- 2:09 PM 4 Arthropod biodiversity estimates for three native subalpine plant species on Hawaii's Maunakea volcano. <u>Heather Stever</u> (hstever@hawaii.edu)¹, Jesse A. Eiben² and Marleena Sheffield¹, ¹Univ. of Hawai'i, ²Univ. of Hawai'i Hilo

- 2:21 PM 5 Fifteen years of variability in relative density for *Nysius wekiuicola*, an endemic seed bug of conservation concern on the summit of the Maunakea volcano, Hawai'i. Jessica Kirkpatrick (jakirkpa@hawaii.edu) and Jesse A. Eiben, Univ. of Hawai'i Hilo
- 2:33 PM 6 Sulfuryl fluoride fumigation of brown marmorated stink bug, Halyomorpha halys [(Heteroptera: Pentatomidae) (Stål)] infesting US automobile exports. Adelaine Abrams (aeabrams@ucdavis.edu)^{1,2}, Spencer Walse² and Steve Tebbets², ¹Univ. of California Davis, ²USDA-ARS

PhD TMP Competition

Ahi Room

Moderators: Erica Tassone and Joe Hull, USDA-ARS

- 1:50 PM 7 Largus than life: Ancient and persistent environmental symbiont reacquisition in bordered plant bugs (Pyrrhocoroidea: Largidae). Eric Gordon (erg55@cornell.edu), Quinn McFrederick and Christiane Weirauch, Univ. of California
- 2:02 PM 8 Ecological modelling of the effects of water hyacinth nutrient composition on the performance of a biological control agent. Emily Bick (enbick@ucdavis.edu) and Christian Nansen, Univ. of California Davis
- 2:14 PM 9 Biology of a new bee species that nests in sandstone, *Anthophora pueblo* (Hymenoptera: Apidae). Michael Orr (michael.christopher.orr@gmail.com)¹, Frank Parker², Terry Griswold² and James P. Pitts¹, ¹Utah State Univ., ²USDA-ARS
- 2:26 PM 10 Management of ovicidal miticides resistance in the two-spotted spider mites

 Tetranychus urticae Koch on hops. Adekunle

 Adesanya (adekunle.adesanya@wsu.edu),

 Douglas Walsh, Laura C. Lavine and Fang (Rose)

 Zhu, Washington State Univ.

- 2:38 PM 11 Population growth and reproduction of *Galendromus flumenis* (Acari: Phytoseiidae) on Banks grass mite eggs. Fatemeh Ganjisaffar (fatemeh.ganjisaffar@email.ucr.edu) and Thomas M. Perring, Univ. of California
- 2:50 PM 12 Can you smell me? Identifying the semiochemicals associated with the Western Mosquitofish, *Gambusia affinis*, and their effect on the oviposition behavior of the Western Encephalitis mosquito, *Culex tarsalis*. Adena Why (awhy001@ucr.edu) and William E. Walton, Univ. of California
- 3:02 PM 13 Molecular systematic analysis of nihoa *Hyposmocoma* reveals cryptic diversity. <u>Jonathan Bradley Reil</u> (jbreil@hawaii.edu), William Haines and Daniel Rubinoff, Univ. of Hawai'i
- 3:14 PM Break
- 3:34 PM 14 Detectability of habitat influence on wild bee communities varies by collection technique. Paul Raymond Rhoades (paul.r.rhoades@gmail.com), Sanford D. Eigenbrode, Lisette Waits and Nilsa A. Bosque-Pérez, Univ. of Idaho
- 3:46 PM 15 An integrated approach towards Asian citrus psyllid management: Ant baiting and biological control. <u>Kelsey Schall</u> (kscha008@ucr.edu) and Mark S. Hoddle, Univ. of California
- 3:58 PM 16 Going over the edge: Eradicating little fire ants (Wasmannia auropunctata Roger) from Kauai, phase II. Michelle Montgomery (michelle.montgomery@littlefireants.com), Univ. of Hawai`i, Univ. Canberra
- 4:10 PM 17 Functional response of *Chrysoperla rufilabris* (Neuroptera: Chrysopidae) to *Klamabothrips myopori* (Thysanoptera: Phlaeothripidae) under laboratory conditions. Christopher Shogren (cshog001@ucr.edu), Univ. of California

MONDAY, APRIL 4TH

4:22 PM - 18 Population dynamics of Erythroneura ziczac in Californian vineyards. Cindy Preto (crpreto@ucdavis.edu), Univ. of California Davis

4:34 PM - 19 Into the eyes of darkness: A first look at the ultrastructure of *Elenchus koebelei* eyes. Marisano James (mjajames@ucdavis.edu), Univ. of California

Navel Orangeworm Management for the 21st Century

Moi Room

Moderators and Organizers: Bradley Higbee¹ and Kris Tollerup², ¹Wonderful Orchards, ²Univ. of California

1:30 PM - 20 Understanding where we've been to see where we're going: Analysis of pesticide use trends in almonds and pistachios. <u>David R. Haviland</u> (dhaviland@ucdavis.edu), Univ. of California

1:50 PM - 21 Spray coverage and ovi-larvicides in almonds. <u>Bradley Higbee</u> (brad.higbee@wonderful.com), Wonderful Orchards

2:10 PM - 22 Is there a relationship between navel orangeworm egg and male moth capture?

Kris Tollerup (ketollerup@ucanr.edu)¹, Roger
Duncan², David R. Haviland¹, Danielle Lightle¹,
Franz Niederholzer², Emily J. Symmes¹ and Frank
Zalom³, ¹Univ. of California, ²Univ. of California
Cooperative Extension, ³Univ. of California Davis

2:30 PM - 23 Semiochemical traps: Detection and monitoring for management of navel orangeworm. Charles Burks (charles.burks@ars.usda.gov)¹ and Bradley Higbee², ¹USDA-ARS, ²Wonderful Orchards

2:50 PM - 24 Kairomones for monitoring navel orangeworm populations. John Beck (john.beck@ars.usda.gov)^{1,2} and Bradley Higbee³, ¹USDA-ARS, ²Univ. of California Davis, ³Wonderful Orchards

3:10 PM Break

3:30 PM - 25 Using big data to evaluate navel organgeworm phenology in almonds and pistachio. Vincent Jones (vpjones@wsu.edu)¹, Bradley Higbee², Chad Aeschliman³ and Johnny Park³, ¹Washington State Univ., ²Wonderful Orchards, ³Spensa Technologies Inc

3:50 PM - 26 Is it NOW time for SIT? <u>Douglas Light</u> (doug.light@ars.usda.gov) and Ron Haff, USDA-ARS

4:10 PM - 27 Chemical communication in the navel orangeworm from a bioinformatics' perspective. Walter Leal (wsleal@ucdavis.edu), Univ. of California Davis

4:30 PM - 28 Disruption of mating in the navel orangeworm: Mechanisms and prospects.

Ring T. Cardé (ring.carde@ucr.edu), Univ. of California

Celebrating a Mixed-Plate in the Pacific Branch: Fostering Diversity in Science Papio Room

Moderators and Organizers: Jonathan Koch¹ and Emily A. Sadler², ¹Univ. of Hawai'i Hilo, ²Utah State Univ.

1:30 PM - 29 Expanding the diversity narrative in science. Jonathan Koch (jonathan.b.koch@gmail.com)¹ and Teresa

Mourad², ¹Univ. of Hawai'i Hilo, ²Ecological Society of America

1:50 PM - *30* Inclusiveness in educational programs: Challenges and opportunities.

<u>Sujaya Rao</u> (sujaya@oregonstate.edu), Oregon State Univ.

2:10 PM - *31* Pacific internship programs for exploring science: A successful model for building a local conservation workforce.

<u>Sharon Ziegler-Chong (ziegler@hawaii.edu)</u> and Moana Ching, Univ. of Hawai'i Hilo

- 2:30 PM 32 Challenges and obstacles for immigrant scientists from a Latin American perspective. Juanita Rodriguez
- (juanitarodrigueza@gmail.com), Auburn Univ.
- 2:50 PM 33 Widening the circle: From youth to gardens to landscapes. Virginia LJ. Bolshakova (virginia.bolshakova@usu.edu), California Cooperative Extension San Mateo-San Francisco Counties
- 3:30 PM *34* Broadening Navajo perspectives: Lessons learned by the Ch'osh tribe. Emily A. Sadler (sadler.e@gmail.com), Kathryn Weglarz, David Denlinger and Corey Andrikopoulos, Utah State Univ.

Break

3:10 PM

- 3:50 PM 35 ADVANCE at Washington State University: How institutionalizing change for women in STEM and under-represented minorities at a land-grant positively impacts the landscape for higher education. Laura C. Lavine (lavine@wsu.edu) and Maria Gartstein, Washington State Univ.
- 4:10 PM 36 Mentoring diversity students abroad: A case study with U.S. American students in Turkey. Victor H. Gonzalez (victorgonzab@gmail.com)¹ and John Barthell², ¹Univ. of Kansas, ²Univ. of Central Oklahoma
- 4:30 PM 37 Culturally transforming USDA Agricultural Research Service: A work in progress. Theresa Pitts-Singer (Theresa.Pitts-Singer@ars.usda.gov), USDA-ARS
- 4:50 PM 38 Diversity improves productivity: Ways to encourage complementarity in science. Ricardo Ramirez (ricardo.ramirez@usu.edu), Utah State Univ.

Integrating Insect Conservation Theory and Practice

Marlin Room

Moderators and Organizers: Daniel Rubinoff¹ and Jesse A. Eiben², ¹Univ. of Hawai'i, ²Univ. of Hawai'i Hilo

- 1:30 PM 39 An ecosystem and relational approach to invertebrate conservation.

 <u>Lorena Wada (Lorena</u> Wada@fws.gov), Pacific Islands Fish and Wildlife Office
- 1:50 PM 40 What should we conserve? Lessons learned on Haleakal'a James Liebherr (JKL5@cornell.edu), Cornell Univ.
- 2:10 PM 41 The conservation status of endemic Hawaiian ambrosia beetles and the need for a revised species concept (Curculionidae: Scolytinae). Anthony I. Cognato (cognato@msu.edu), Michigan State Univ.
- 2:30 PM *42 Drosophila* conservation on Oahu: Progress and priorities. <u>Karl Magnacca</u> (knm956@gmail.com), Oahu Army Natural Resources Program
- 2:50 PM 43 Potential for captive breeding and translocations of Hawaiian insects. William Haines (whaines@hawaii.edu), Univ. of Hawai'i
- 3:10 PM Break
- 3:30 PM 44 Developing the State of Hawaii Native Invertebrate Database, a tool for managers and researchers. Cynthia B. A. King (cynthia.b.king@hawaii.gov)¹ and Rodney Murashige², ¹State of Hawai¹i, ²DataHouse Consulting
- 3:50 PM 45 Conserving native insect communities: Insights from management projects in the Waianae Mountains of Oahu, Hawaii. Paul Krushelnycky (pauldk@hawaii.edu), Univ. of Hawai'i Manoa

4:10 PM - 46 Reconciling statistical rigor and biological inference in models of butterfly occupancy. Erica Fleishman (efleishman@ucdavis.edu)¹, Rick Scherer², Matthias Leu³ and David Pavlik⁴, ¹Univ. of California Davis, ²Colorado State Univ., ³College

4:30 PM - 47 Conservation status of two listed butterflies in the Mariana Islands.

of William and Mary, ⁴Univ. of Minnesota

<u>Daniel Rubinoff</u> (rubinoff@hawaii.edu), Univ. of Hawai'i

4:50 PM - 48 Seasonal sensitivity in the life history of a tropical leafwing (*Anaea aidea*; Nymphalidae) in a temperate climate. Robert McElderry (rmcelderry@bio.miami.edu)¹ and Carol Horvitz², ¹Univ. of California Los Angeles, ²Univ. of Miami

5:10 PM - 49 Intra- and inter-annual distribution and density fluctuations of high alpine restricted arthropods on the summit of Maunakea, Hawaii.

Jesse A. Eiben (eiben@hawaii.edu)¹, Jessica Kirkpatrick¹, Frederick Klasner¹ and Daniel Rubinoff², ¹Univ. of Hawai'i Hilo, ²Univ. of Hawai'i

Using High-Throughput Data to Impact and Inform Pollinator Management and Policy

Mahi Mahi Room

Moderators and Organizers: Vanessa Corby-Harris, USDA-ARS

2:10 PM - 50 Connecting high-throughput analyses to questions of nutrition and pesticides in nurse worker honey bees (*Apis mellifera*).

Vanessa Corby-Harris
(vanessa.corby@ars.usda.gov), USDA-ARS

2:30 PM - *51* Consequences of colonization: Genetic diversity and honey bee breeding in the New World. Walter Sheppard (shepp@wsu.edu), Washington State Univ. 2:50 PM - *52* Genomics of the honey bee queen post-mating changes. Elina Nino (elnino@ucdavis.edu)¹, Christina M. Grozinger², David Tarpy³, Osnat Malka² and Abraham Hefetz⁴, ¹Univ. of California Davis, ²Pennsylvania State Univ., ³North Carolina State Univ., ⁴Tel Aviv Univ.

3:10 PM Break

3:30 PM - 53 Metagenetic sequencing of pollen identifies landscape-level patterns of honey bee forage in a critical agroecosystem.

R. Scott Cornman (rcornman@usgs.gov), U.S. Geological Survey

3:50 PM - *54* Adventures in honey bee microbiota and next-gen sequencing. <u>Kirk E. Anderson</u> (kirk.anderson@ars.usda.gov), USDA-ARS

4:10 PM - 55 Bees, the environment, and microbial communities: High-throughput insights.

Quinn McFrederick
(quinn.mcfrederick@ucr.edu), Univ. of California Riverside

Population Perspectives in Agroecology

Neptune Room (2nd Floor)

Moderators and Organizers: John Banks¹ and John Stark², ¹California State Univ. Monterey Bay, ²Washington State Univ.

3:30 PM - 56 Dispersal and biological control of insect pests: Do natural enemies lag in colonizing new habitat? Edward W. Evans (ted.evans@usu.edu), Utah State Univ.

3:50 PM - *57* Pea aphid host races in the Pacific Northwest: Movements, host ranges and interactions with legume viruses. <u>Sanford D. Eigenbrode</u> (sanforde@uidaho.edu), Univ. of Idaho

4:10 PM - 58 Life cycle vulnerability: A population perspective on classical biological control. Nicholas J. Mills (nmills@berkeley.edu), Univ. of California Berkeley

4:30 PM - *59* Population perspectives in pest management: A surrogate species approach. <u>John Banks</u> (jebanks@csumb.edu), California State Univ. Monterey Bay

4:50 PM - 60 Advances in estimating the effects of chemical stressors on populations. <u>John Stark</u> (starkj@wsu.edu), Washington State Univ.

What's New in Industry?

Ahi Room

Moderators and Organizers: Jesse M. Richardson¹, Christopher Clemens², Jesse M. Richardson¹ and Christopher Clemens², ¹Dow AgroSciences, ²Syngenta Crop Protection LLC

5:00 PM - *61* **Gowan products update.** <u>Gary</u> <u>Melchior</u> (gmelchior@gowanco.com), Gowan Co

5:07 PM - *62* Syngenta products update.

<u>Joshua Adkins</u> (joshua.adkins@syngenta.com),

Syngenta Crop Protection LLC

5:14 PM - 63 **Dow AgroSciences products update.** <u>Harvey A. Yoshida</u> (hyoshida@dow.com), <u>Dow AgroSciences</u>

5:21 PM - 64 Bayer CropScience products update. Dean Christie (dean.christie@bayer.com), Bayer CropScience

5:28 PM - 65 Nichino products update. <u>Pedro</u>
<u>Hernandez</u> (PHernandez@nichino.net), Nichino
America Inc

5:35 PM - 66 Marrone Bio Innovations Update.

Melissa O'Neal (moneal@marronebio.com),

Marrone Bio Innovations

5:42 PM - *67* **Trece products update**. <u>Bill Lingren</u> (blingren@trece.com), Trece Inc

5:49 PM - 68 Valent products update. <u>Todd</u> <u>Burkdoll</u> (todd.burkdoll@valent.com), Valent USA

5:56 PM - 69 ISK Biosciences products update. Sean Whipple (whipples@iskbc.com), Univ. of Nebraska 6:03 PM - 70 FMC Products Update. <u>Tim</u> <u>Ksander</u> (tim.ksander@cheminova.com), Cheminova

TUESDAY EVENTS

Registration

7:00 a.m. to 4:00 p.m. Grand Ballroom Foyer (5th floor)

Photo Salon/Insect Exhibits

8:00 to 12:00 a.m. Moi Room (3rd floor)

Awards Luncheon

12:00 to 1:30 p.m. Grand Ballroom (5th floor) Schedule on page 24

Social Hour with Poster Presenters

5:00 to 6:00 p.m. Grand Ballroom Foyer (5th floor)

Employment Fair

6:00 to 7:00 p.m. Grand Ballroom (5th floor)

Elevator Opportunity

7:00 to 8:00 p.m. Grand Ballroom (5th floor)

TUESDAY POSTERS

General Poster Session Grand Ballroom Foyer

- P17 Systemic protection of hybrid poplar during stand establishment. Andrew Rodstrom (andrew.rodstrom@gwrglobal.com)¹, Justin Skoczylas² and Timothy Waters², ¹GreenWood Resources, ²Washington State Univ.
- P18 Spatial and temporal distribution of potato psyllid haplotypes on matrimony vine in south-central Washington. Jenita Thinakaran (jenita.thinakaran@ars.usda.gov)¹, Joseph Munyaneza¹, William Rodney Cooper¹, David Horton¹, Alexander Karasev², Jennifer Dahan², Tariq Mustafa¹ and Carrie Wohleb³, ¹USDA-ARS, ²Univ. of Idaho, ³Washington State Univ.
- P19 Stakeholder response to the publication
 "Varroa mite IPM for small scale beekeepers in
 Nevada". Joy Paterson
 (patersonj@unce.unr.edu), Univ. of Nevada
 Cooperative Extension

- P20 Primary and secondary parasitoids of the Monterey pine aphid, *Essigella californica* (Essig) (Hemiptera: Aphididae: Lachninae), in Riverside, California, USA. Serguei Triapitsyn (serguei@ucr.edu), Peter Tretiakov and Vladimir Berezovskiy, Univ. of California
- P21 Stakeholder driven solutions: Working together to balance critical uses of chlorpyrifos insecticide, risk mitigation and improved IPM systems. Peter Goodell (pbgoodell@ucanr.edu)¹ and Lori Berger², ¹Univ. of California, ²Univ. of California Cooperative Extension
- P22 Efficacy of seedling tray drench application of insecticides against *Bagrada hilaris* (Hemiptera: Pentatomidae) in broccoli. Shimat Villanassery Joseph (svjoseph@ucdavis.edu)¹, Larry Godfrey² and Ian M. Grettenberger², ¹Univ. of California, ² Univ. of California Davis
- P23 Behavioral response of walnut husk fly (*Rhagoletis completa*) to walnut volatiles. Ruth Poliakon (poliakon@berkeley.edu) and Robert Van Steenwyk, Univ. of California
- P24 Physical characteristics of walnut husk in relation to infestation by walnut husk fly (*Rhagoletis completa*). Robert Van Steenwyk (bobvanst@berkeley.edu), Univ. of California
- P25 Screening organic pesticides for control of Asian citrus psyllid (*Diaphorina citri*) in California. Marianne Whitehead (mwhitehead@ucanr.edu)¹, James A. Bethke¹, Joseph G. Morse², Elizabeth Grafton-Cardwell³, Lea Corkidi¹, Frank Byrne², Kris Godfrey² and Mark S. Hoddle², ¹Univ. of California Cooperative Extension, ²Univ. of California, ³Univ. of California Riverside
- P26 Mapping Hessian fly resistance genes in spring wheat utilizing a genotyping by sequencing method. Esraa A. Alalwan¹, Nilsa A. Bosque-Pérez (nbosque@uidaho.edu)², Steven Odubiyi², Vandhana Krishnan³, Deven R. See³ and Michael Pumphrey¹, ¹Washington State Univ., ²Univ. of Idaho, ³USDA-ARS

- P27 The *raison d'etre* for pest management strategic plans. Matthew Baur (mebaur@ucanr.edu)¹, Jim Farrar², Katie Murray³ and Steve Elliott¹, ¹Western IPM Center, ²Univ. of California ANR, ³Oregon State Univ.
- P28 Using individual scale *de novo* assembly to characterize the genetic basis of a sexually dimorphic locus in the medfly (*Ceratitis capitata*) genetic sexing strain. Scott Geib (Scott.Geib@ARS.USDA.GOV) and Sheina Sim, USDA-ARS
- P29 Influences on honey bee foraging activity in California pepper fields. Ruben Alarcón (ruben.alarcon@csuci.edu), Claira Castillo and Twyla Gollery, California State Univ. Channel Islands
- P30 Measuring island restoration progress through arthropod and bee diversity on Santa Rosa Island. Reilly Walker (reilly.walker299@myci.csuci.edu), Cause Hanna and Ruben Alarcón, California State Univ. Channel Islands
- P31 Chemical and physical measures to deter damage by adult *Oryctes rhinoceros* to growing tips of coconut palms in Hawai'i. Arnold Hara, Matthew Kellar, Megan Manley and Ruth Y. Niino-DuPonte (duponte@hawaii.edu), Univ. of Hawai'i Manoa
- P32 The rise of phytosanitary irradiation.

 Peter Follett (peter.follett@ars.usda.gov) and Allison Swedman, USDA-ARS
- P33 Where to oviposit: Influence of host plants on *Bagrada hilaris* (Hemiptera: Pentatomidae) oviposition site selection. <u>Stacey Rice</u> (slrice@ucdavis.edu)¹, Ian M. Grettenberger¹, Larry Godfrey¹ and Shimat V. Joseph², ¹Univ. of California Davis, ²Univ. of California Cooperative Extension
- P34 An update on *Varroa destructor* detected in *Apis mellifera* colonies on Guam, Saipan, and Tinian. Christopher Rosario (rosarioc1640@gmail.com) and Ross Miller, Univ. of Guam

- P35 Invertebrate diversity in little fire ant (LFA), Wasmannia auropunctata, infestations in Costa Rica and in the recently infested Micronesian island of Guam. Joyce Santos¹, Ross Miller¹, Maia Raymundo¹, Lee Roy Sablan (leeroyjr03@gmail.com)¹, Hannah White² and Jamie McBryde³, ¹Univ. of Guam, ²Oklahoma State Univ., ³Colorado State Univ.
- P36 Reproduction, feeding, and ecology of predatory flat bark beetles in a scolytine-infested agricultural landscape. Eva Brill (eva.brill@ars.usda.gov)¹, Andrea Kawabata² and Peter Follett¹, ¹USDA-ARS, ²Univ. of Hawai'i
- P37 The role of larval immune activation on adult weapon development in the rhinoceros beetle, *Trypoxylus dichotomus*. Amy Worthington (amy.marie.worthington@gmail.com) and Laura C. Lavine, Washington State Univ.
- P38 System drivers of IPM for onion thrips and Iris yellow spot virus in onion. Diane G.

 Alston (diane.alston@usu.edu), Claudia

 Nischwitz, Daniel Drost, Jennifer R. Reeve, Corey

 V. Ransom and Ruby Ward, Utah State Univ.
- P39 Gut content analysis of the phloem feeding insects, *Bactericera cockerelli* and *Cacopsylla pyricola*. William Rodney Cooper (rodney.cooper@ars.usda.gov), David Horton and Thomas R. Unruh, USDA-ARS
- P40 Survey of entomaopathogenic nematodes on Oahu: potential for the biological control of coconut chinoceros beetle. Roshan Manandhar (roshanm@hawaii.edu), Matthew Kellar and Zhiqiang Cheng, Univ. of Hawai'i Manoa
- P41 Steps toward sustainable management of corn pests in Hawaii. <u>D. Henne</u> (hennedon@hotmail.com)¹ and Krishnareddy Bayyareddy², ¹Monsanto Hawaii, ²Monsanto

- P42 **2015** update on the variability of taxa, distribution, and abundance of arthropod species on Mauna Kea. <u>Darcy Yogi</u> (dyogi2@hawaii.edu), Jessica Kirkpatrick and Frederick Klasner, Univ. of Hawai'i Hilo
- P43 Progress towards mass production of navel orangeworm. Earl Andress
 (Earl.R.Andress@aphis.usda.gov)¹, Ernie D.
 Miller², John Claus¹, Hannah Nadel³ and Michelle
 Walters¹, ¹USDA-APHIS-PPQ, ²USDA-APHIS,
 ³USDA-APHIS-PPQ-CPHST
- P44 Adventive populations of *Trissolcus* japonicus, an Asian natural enemy of Halyomorpha halys, in the USA. Angelita L. Acebes¹, Elizabeth H. Beers², Christopher Bergh¹, Marie-Claude Bon³, Matthew L. Buffington³, Mary Cornelius³, Christine Dieckhoff³, Elizabeth L. Fread¹, Matthew Greenstone³, Megan Herlihy³, Vincent Lesieur⁴, Tracy C. Leskey³, Ludovic Manaargadoo³, Joshua Milnes², William R. Morrison³, Paula M. Shrewsbury⁵, Elijah Talamas³, Kathy Tatman³, Rebeccah A. Waterworth⁵, Donald C. Weber³, Nik G. Wiman (nik.wiman@oregonstate.edu)⁶ and Kim A. Hoelmer³, ¹Virginia Polytechnic Institute and State Univ., ²Washington State Univ., ³USDA-ARS, ⁴USDA - ARS, ⁵Univ. of Maryland, ⁶Oregon State Univ.
- P45 Screening of species-derived germplasm and non-U.S. cultivars to identify sources of resistance to Zebra Chip disease of potato. Arash Rashed (arashed@uidaho.edu)¹, Mahnaz Rashidi¹, Richard G. Novy², Regina Cruzado¹, Nora Olsen¹ and Erik Wenninger¹, ¹Univ. of Idaho, ²USDA-ARS
- P46 Effects of potato psyllid density and time of infection on development of zebra chip disease at harvest and during storage. Erik Wenninger (erikw@uidaho.edu), Nora Olsen, Arash Rashed, Phillip Wharton and Alexander Karasev, Univ. of Idaho

- P47 Determining ideal soil conditions for rearing alkali bees (*Nomia melanderi*). Emily Wine (emily.wine@wsu.edu) and Douglas Walsh, Washington State Univ.
- P48 Effects of miticides on beneficial mites. <u>Anna Howell</u> (adhowell@ucanr.edu) and Oleg Daugovish, Univ. of California
- P49 New and upcoming publications by the Oregon Department of Agriculture Insect Pest Prevention and Management Program.

<u>Christopher Hedstrom</u>

(hedstroc@onid.oregonstate.edu), Oregon Dept. of Agriculture

- P50 Larval X-ray irradiation influences protein expression in pupae of the oriental fruit fly, *Bactrocera dorsalis*. Chiou Ling Chang (stella.chang@ars.usda.gov), Cynthia Goodman, Joseph Ringbauer, Scott Geib and David Stanley, USDA-ARS
- P51 Assessing 'Candidatus Liberibacter solanacearum' transmission efficiency of adults and nymphs of potato psyllid (Bactericera cockerelli) using EPG technology. Tariq Mustafa (tariq.mustafa@wsu.edu)¹, Joseph Munyaneza¹, David Horton¹, William Rodney Cooper¹, Richard Zack² and Hanu Pappu², ¹USDA-ARS, ²Washington State Univ.
- P52 Got moths? Bycatch associated with common targets in CAPS and Farm Bill surveys.

 Maggie Freeman (mfreeman@agr.wa.gov)¹,
 Katharine Buckley¹, Greg Chrislip², Mike Klaus¹,
 Eric LaGasa¹, Chris Looney¹, Marion Murray³,
 Ricardo Ramirez³, Laurinda Ramonda², Lori R.
 Spears³ and Angela Yoder¹, ¹Washington State
 Dept. of Agriculture, ²Kansas Dept. of
 Agriculture, ³Utah State Univ.
- P53 Databasing fruit fly (Diptera: Tephritidae) host information to create a research tool: data mining, data entry, and user interface. Megan Hanlin (mahanli2@ncsu.edu), Amanda Birnbaum, Kelly Nakamichi, Jess Inskeep and Alex Ching, North Carolina State Univ.

- P54 Development of innovative small-scale rearing techniques for native predatory mites (*Neoseiulus longispinosus, Amblyseius tamatavensis*) for use in tropical strawberry production. Beverly S. Gerdeman (mitehunter1@hotmail.com), Rufino garcia and Lynell K. Tanigoshi, Washington State Univ.
- P55 Incorportating an essential-oil based biopesticide to mitigate pyrethroid resistance in bed bugs. Fang (Rose) Zhu (fang.zhu@wsu.edu), Christina Nguyen, Mariany Morales, Bianca Mendoza, Laura C. Lavine and Douglas Walsh, Washington State Univ.
- P56 Valid reference gene selection for xenobiotic adaptation in *Tetranychus urticae*.

 Mariany Morales (mariany.morales@wsu.edu),
 Bianca Mendoza, Laura C. Lavine, Douglas Walsh and Fang (Rose) Zhu, Washington State Univ.
- P57 The USDA compendium of fruit fly (Diptera: Tephritidae) host information. Nicanor Liquido (nicanor.j.liquido@aphis.usda.gov)¹, Grant T. McQuate² and Karl Suiter³, ¹USDA-APHIS-PPQ-CPHST, ²USDA-ARS, ³NSF Center for Integrated Pest Management
- P58 Efforts in endemic and invasive pest outreach for urban and community audiences in California. Karey Windbiel-Rojas (kwindbiel@ucanr.edu), Univ. of California
- P59 The ant network: Citizen science (Myrmecology). Miles Maxcer (milesim@icloud.com), Univ. of Idaho
- P60 Development of stable isotopes and new biochemical tools for identification of sterile insects and determination of pest origin. Gregory S. Simmons

(gregory.s.simmons@aphis.usda.gov)¹, Rebecca Hood-Nowotny², Goggy Davidowitz³, Heather Costa³, Brittany Munoz¹ and T. D. Greene¹, ¹USDA-APHIS-PPQ-CPHST, ²Univ. of Vienna, ³Univ. of Arizona P61 Cold hardiness of a subtropical insect, Maruca vitrata. Younggyun Kim (hosanna@andong.ac.kr), Andong National Univ.

TUESDAY MORNING ORAL

General Paper Session I Neptune Room (2nd Floor)

Moderators: David G. James¹, Jonathan Sprague² and Sara M. Galbraith³, ¹Washington State Univ., ²U.S. Fish & Wildlife Service, ³Tropical Agricultural Research and Higher Education Center

8:00 AM - 85 Using local ecological knowledge to study ecosystem services from insects: A case study with Costa Rican beekeepers. Sara M.

Galbraith (sara.marie.galbraith@gmail.com)¹,
Troy Hall², Héctor Tavárez¹, Chad Kooistra²,
Jenny Ordoñez³ and Nilsa A. Bosque-Pérez⁴,
¹Tropical Agricultural Research and Higher
Education Center, ²Oregon State Univ., ³World
Agroforestry Centre Latin America, ⁴Univ. of
Idaho

8:12 AM - 86 Insects of Papahanaumokuakea:

Diversity, conservation, and invasion. Jonathan

Sprague (jonathan_sprague@fws.gov)¹, Daniel
Rubinoff², Sheldon Plentovich¹ and Jonathan

Bradley Reil², ¹U.S. Fish & Wildlife Service, ²Univ.
of Hawai'i

8:24 AM - 87 Citizens, incarcerated and free, helping to unravel the mysteries of monarch butterfly (*Danaus plexippus*) migration in the Pacific Northwest. <u>David G. James</u> (david_james@wsu.edu), Washington State Univ.

8:36 AM - 88 Seasonal phenology of spotted wing drosophila (*Drosophila suzukii*) in the intermountain west. <u>Lori R. Spears</u> (lori.spears@usu.edu)¹, Stephen P. Cook², James D. Barbour², Diane G. Alston¹ and Ricardo Ramirez¹, ¹Utah State Univ., ²Univ. of Idaho

8:48 AM - 89 Spotted wing drosophila, Drosophila suzukii, in Virginia vineyards: Crop effects and prospects for biological control. Douglas G. Pfeiffer (dgpfeiff@vt.edu), Meredith Shrader, James Wahls and Curt A. Laub, Virginia Polytechnic Institute and State Univ.

9:00 AM - 90 Biological control of insect pests: Current projects by the Oregon Department of Agriculture. Christopher Hedstrom (hedstroc@onid.oregonstate.edu), James R. LaBonte, Barry Bai and Helmuth Rogg, Oregon Dept. of Agriculture

9:12 AM - 91 Host specificity of *Metaphycus* sp., a potential biocontrol agent for Macadamia felted coccid. <u>Juliana A. Yalemar</u> (Juliana.A.Yalemar@hawaii.gov), Renato Bautista, Mohsen Ramadan and Stacey Chun, Hawaii Dept. of Agriculture

9:24 AM - 92 Canopy management of macadamia nut trees and understory plant diversification to reduce macadamia felted coccid (*Eriococcus ironsidei*) populations. Rosemary Gutierrez (gr6@hawaii.edu)¹, Mark Wright² and Ishakh Pulakkatu-Thodi², ¹Univ. of Hawai'i, ²Univ. of Hawai'i Manoa

9:36 AM - 93 Effects of prior cropping history on natural enemy populations in processing sweet corn. Rebecca Schmidt-Jeffris (schmidt-jeffris@cornell.edu) and Brian A. Nault, Cornell Univ.

9:48 AM - 94 Feeding in the field margins: Interactions of *Bagrada hilaris* with non-crop hosts. <u>Ian M. Grettenberger</u> (iangrett@gmail.com)¹, Jhalendra Rijal², Larry Godfrey³ and Shimat V. Joseph², ¹Univ. of California Davis, ²Univ. of California Cooperative Extension, ³Univ. of California

10:00 AM Break

10:20 AM - 95 Wireworms in Idaho cereals: Comparison of wireworm damage to wheat and barley with respect to seeding depth and soil media. Arash Rashed (arashed@uidaho.edu), Mahnaz Rashidi, Christopher Rogers and Juliet Marshall, Univ. of Idaho

10:32 AM - 96 SANC: Promoting a harmonized, risk-based Systems Approach to Nursery Certification. Helmuth Rogg (hrogg@oda.state.or.us), Oregon Dept. of Agriculture

10:44 AM - 97 Rapid 'Ôhi'a Death: Insects associated with infected trees and potential vectors of the causative agent, *Ceratocystis fimbriata*. Curtis Ewing (cpe1@hawaii.edu), Ishakh Pulakkatu-Thodi, J.B. Friday and Gordon Bennett, Univ. of Hawai'i Manoa

10:56 AM - 98 Looking for leafhoppers that vector Western X in Washington cherries. Holly Ferguson (hferguson@wsu.edu), Dan Villamor, Andrea Bixby-Brosi and Ken Eastwell, Washington State Univ.

11:08 AM - 99 The fat signaling pathway regulates isometric growth of horns and other appendages in *Trypoxylus dichotomus*. Mark Lavine (mark.lavine@wsu.edu)¹, James Hust¹, Hiroki Goto², Amy Worthington¹ and Laura C. Lavine¹, ¹Washington State Univ., ²Nagoya Univ.

11:20 AM - 100 What is a suitable method for functional characterization of insect odorant receptors? Bing Wang (cutebbz@hotmail.com), Yang Liu and Guirong Wang, Chinese Academy of Agricultural Sciences Institute of Plant Protection

Celebrating North America's Iconic Native Pollinator-Contemporary Advances in the Study of Bumble Bee Ecology and Evolution

Ahi Room

Moderators and Organizers: S. Woodard¹, Jonathan Koch² and James Strange³, ¹Univ. of California Riverside, ²Univ. of Hawai'i Hilo, ³USDA-ARS

8:00 AM - 71 Patterns of population genetic diversity of *Bombus huntii* in western North America. Jonathan Koch

(jonathan.b.koch@gmail.com), Univ. of Hawai'i Hilo

8:20 AM - 72 Unveiling cryptic bumble bee diversity in Mesoamerica. Michelle Duennes (michelle.duennes@ucr.edu), Univ. of California Riverside

8:40 AM - 73 Pacific Northwest agricultural landscape fosters native bumble bee populations. Sujaya Rao (sujaya@oregonstate.edu), Oregon State Univ.

9:00 AM - 74 Bumble bee nutritional genomics. S. Woodard (hollis.woodard@ucr.edu), Univ. of California Riverside

9:20 AM - 75 What's inside North America's iconic pollinator? A large-scale survey of bumble bee parasites and pathogens. Amber D. Tripodi (Amber.tripodi@ars.usda.gov), USDA-ARS

9:40 AM - 76 Western North American bumble bees: Where we are, where we are going. <u>James Strange</u> (James.Strange@ars.usda.gov), USDA-ARS

Strategies Underlying the Evolution of Herbivory

Papio Room

Moderators and Organizers: Paul Nabity¹ and Noah Whiteman², ¹Washington State Univ., ²Univ. of Arizona

8:00 AM - 77 The dynamics of sexual selection and the evolutionary processes of adaptive shifts. Kenneth Kaneshiro (kykanesh@hawaii.edu), Univ. of Hawai'i Manoa

8:20 AM - 78 Island biogeography of coevolution: Diversification and community assembly in leafflower trees (*Phyllanthus s. l.* [*Glochidion*]) and their pollinating leafflower moths (Gracillariidae: *Epicephala*) in southeastern polynesia. David Hembry (davidhembry1@gmail.com), Univ. of Arizona

8:40 AM - 79 The evolution of nutritional symbioses in plant sap-feeding leafhoppers.

<u>Gordon Bennett</u> (gmb4@hawaii.edu), Univ. of Hawai'i Manoa

9:00 AM - 80 Genetic and metabolic interdependencies of the cicada-bacteria symbioses. James Van Leuven (jtvanleuven@gmail.com), Univ. of Idaho

9:20 AM - *81* Plants as moving targets: Ontogenetic patterns in anti-herbivore defense traits. <u>Kasey Barton</u> (kbarton@hawaii.edu), Univ. of Hawai'i Manoa

9:40 AM - 82 Genomic basis of adaptation in herbivorous insects. Noah Whiteman (whiteman@email.arizona.edu), Univ. of California Berkeley

10:00 AM Break

10:20 AM - 83 Evolution of carnivory in Hawaii's most diverse endemic radiation. <u>Daniel Rubinoff</u> (rubinoff@hawaii.edu), Univ. of Hawai'i

10:40 AM - 84 How do the Phylloxeridae co-opt plant form and function? Paul Nabity (paul.nabity@wsu.edu), Washington State Univ.

TUESDAY, APRIL 5TH

Challenges and Solutions for the Floriculture and Nursery Industry's Exotic Pest Crisis

Marlin Room

Moderators and Organizers: Arnold Hara¹ and James A. Bethke², ¹Univ. of Hawai'i Hilo, ²Univ. of California Cooperative Extension

8:00 AM - 101 New challenges to ornamental plant production in San Diego County California.

James A. Bethke (jabethke@ucanr.edu), Univ. of California Cooperative Extension

8:20 AM - 102 Assessing the risk posed by California nurseries in contributing to Asian citrus psyllid spread. Matthew P Daugherty (matt.daugherty@ucr.edu), Univ. of California Riverside

8:40 AM - 103 Getting a bigger hammer: Impacts of mandated pesticides. Cheryl A. Wilen (cawilen@ucanr.edu), Univ. of California Statewide IPM Program

9:00 AM - 104 Light brown apple moth in California: Challenges for nursery operators. <u>SA Tjosvold</u> (satjosvold@ucanr.edu), Univ. of California Cooperative Extension

9:20 AM - 105 Biology and management tactics for the polyphagous shot hole borer in nursery and landscape. <u>Timothy D. Paine</u> (timothy.paine@ucr.edu), Univ. of California

9:40 AM - 106 Challenges of the painted bug (bagrada bug). Darcy Reed (darcy.reed@ucr.edu)¹ and Thomas M. Perring², ¹Univ. of California Riverside, ²Univ. of California

10:00 AM Break

10:20 AM - 107 The floriculture and nursery industry's struggle with invasive species. Daniel Klittich (dsklittich@ucdavis.edu) and Michael P. Parrella, Univ. of California

10:40 AM - 108 SANC: Promoting a harmonized, risk-based systems approach to nursery certification. Helmuth Rogg (hrogg@oda.state.or.us), Oregon Dept. of Agriculture

11:00 AM - 109 Waterloo: Is the battle against western flower thrips lost? Raymond Cloyd (rcloyd@ksu.edu), Kansas State Univ.

11:20 AM - 110 Development IPM compatible chemical control alternatives for floriculture and nursery. <u>Carlos Bogran</u> (cbogran@ohp.com), OHP Inc

11:40 AM - 111 Clove bud oil as a novel tool for managing *Cornu aspersum* (Gastropoda: Helicidae:) in potted plants. Rory J. McDonnell (rjmcdonnell@gmail.com), Univ. of California Riverside

Bringing Natural History Back in to Focus: Utilizing Modern Resources for High Throughput Observational Data Mahi Mahi Room

Moderators and Organizers: Eric Gordon¹ and Kaleigh Russell², ¹Univ. of California, ²Univ. of California Riverside

8:40 AM - 112 Overcoming Darwinian and Eltonian shortfalls of biodiversity knowledge in the tropical termite assassins. Eric Gordon (erg55@cornell.edu) and Christiane Weirauch, Univ. of California

9:00 AM - 113 Snapshots in time: Stable isotopes illuminate niche ecology in an adaptive radiation of Hawaiian spiders. Susan Kennedy (fourjaws@berkeley.edu), Univ. of California

9:20 AM - 114 Molecular tools in biocontrol: Discovery and evaluation of host-parasitoid associations. Tara Gariepy (tara.gariepy@agr.gc.ca), Agriculture & Agri-Food Canada

9:40 AM - 115 The flower's eye view: New ways to look at pollination. Joan Edwards (jedwards@williams.edu), Williams College

10:00 AM Break

10:20 AM - 116 Using ecology to identify candidate indicator species for insecticide risk assessment. <u>Kelton Welch</u>

(keltondouglaswelch@gmail.com)¹ and Jonathan G. Lundgren², ¹USDA-ARS, ²Ecdysis Foundation

10:40 AM - 117 Mark your turf: Tagging insects for large-scale dispersal research. James Hagler (james.hagler@ars.usda.gov), USDA-ARS

11:00 AM - 118 Simultaneous investigation of pollen and bacterial communities in brood provisions of a small carpenter bee. Quinn McFrederick (quinn.mcfrederick@ucr.edu)¹ and Sandra Rehan², ¹Univ. of California, ²Univ. of Pennsylvania

Little Genes, Big Data: Applying Genomic Techniques to Solve the Problems that But Us (Morning Session)

Ahi Room

Moderators and Organizers: Joe Hull and Scott

Geib, USDA-ARS

10:20 AM - 119 VectorBase, an improved bioinformatics resource for vector genomics and population biology. Scott J. Emrich (semrich@nd.edu), Univ. of Notre Dame

10:40 AM - 120 Assessing the quality of de novo transcriptome assemblies in non-model organisms. Erica Tassone
(Erica.Tassone@ARS.USDA.GOV), USDA-ARS

11:00 AM - 121 Strategies for in silico prediction of arthropod peptidomes. Andrew Christie (crabman@pbrc.hawaii.edu), Univ. of Hawaii Manoa

11:20 AM - 122 Bringing Mendel back: Integrating NGS with classical approaches to map traits necessary for the rearing of sterile insect colonies for mass release. Sheina Sim (ssim8@hawaii.edu), USDA-ARS

11:40 AM - 123 Plant-insect association and genome evolution in Hawaiian picture-wing drosophila. Ellie Armstrong (ellieearmstrong@gmail.com) and Donald Price, Univ. of Hawai'i

2016 PBESA Awards Luncheon

Tuesday, April 5, 2016 12:00 pm to 1:25 pm

Grand Ballroom

Your full-meeting registration includes admission to the luncheon.

Congratulations to the following recipients of Pacific Branch recognition awards:

C. W. Woodworth Award – Timothy Paine (University of California-Riverside)

John Henry Comstock Graduate Student Award – Rebecca Schmidt-Jeffris (Cornell University)

PBESA Distinguished Achievement Award in Teaching – Catherine Loudon (University of California-Irvine)

PBESA Distinguished Achievement Award in Extension – Lucia Varela (University of California Agriculture and Natural Resources)

PBESA Award for Excellence in Integrated Pest Management – Edwin Lewis (University of California- Davis)

PBESA Plant-Insect Ecosystems Award – William Snyder (Washington State University)

PBESA Physiology, Biochemistry, and Toxicology Award – Colin Brent (USDA-ARS, Maricopa, AZ)

PBESA Student Leadership Award – Michael Orr (Utah State University)

PBESA Team Work Award – No Candidates
PBESA Medical, Urban, and Veterinary Entomology Award – No candidates
PBESA Distinction in Student Mentoring – No candidates
PBESA Systematics, Evolution and Biodiversity Award – No Candidates

TUESDAY AFTERNOON ORAL

Little Genes, Big Data: Applying Genomic Techniques to Solve the Problems that Bug Us (Afternoon Session)

Ahi Room

Moderators and Organizers: Joe Hull and Scott Geib, USDA-ARS

- 1:30 PM 124 Transcriptome analysis reveals a comprehensive insect resistance mechanism of cotton in response to infestation by whitefly. Shuangxia Jin (jsx@mail.hzau.edu.cn), National Key Laboratory of Crop Genetic Improvement
- 1:50 PM *125* **Population and functional genomics of malaria mosquitoes.** <u>Bradley White</u> (bradley.white@ucr.edu), Univ. of California
- 2:10 PM 126 Uncovering the molecular mechanism of odor recognition in non-model insects based on antennal transcriptome sequencing. Yang Liu (yangliu@ippcaas.cn) and Guirong Wang, Chinese Academy of Agricultural Sciences Institute of Plant Protection
- 2:30 PM 127 Tissue culture condition setting for drug-resistant genetic studies. Norichika Ogata (norichik@nbiodata.com), Nihon BioData Coporation
- 2:50 PM 128 Understanding pheromone production in Drosophila using genetic and mass spectrometry approaches. <u>Joanne Yew</u> (jyew@hawaii.edu), Univ. of Hawai'i
- 3:10 PM Break
- 3:30 PM 129 Developing gene drive systems to control pest related issues. Omar Akbari (Omar.Akbari@ucr.edu), Univ. of California Riverside
- 3:50 PM 130 CRISPR in butterflies. <u>Xueyan Li</u> (lixy@mail.kiz.ac.cn) and Wen Wang, State Key Laboratory of Genetic Resources and Evolution

4:10 PM - 131 Electroporation-mediated functional analyses of body surface structure in caterpillars. Haruhiko Fujiwara (haruh@k.u-tokyo.ac.jp), Univ. of Tokyo Graduate School of Frontier Sciences

4:30 PM - 132 Identifying the regulators of gene expression during mosquito reproduction. Sourav Roy (sourav.roy@ucr.edu)¹, Tusar Saha¹, Jisu Ha¹, Lisa K. Johnson¹, Zhen Zou² and Alexander Raikhel¹, ¹Univ. of California Riverside, ²Chinese Academy of Sciences

4:50 PM - 133 Developing a biopesticide to combat spotted wing drosophila. Joanna Chiu (cchiu@ucdavis.edu), Univ. of California

Honoring Professor Minoru
Tamashiro's Contributions to
Entomology: His Legacy and Academic
Genes

Papio Room

Moderators and Organizers: Nan-Yao Su¹, J. Kenneth Grace² and Faith Oi¹, ¹Univ. of Florida, ²Univ. of Hawai'i Manoa

- 1:30 PM 134 Termite research at the University of Hawaii: Building on the foundation poured by Dr. Tamashiro. J. Kenneth Grace (kennethg@hawaii.edu), Univ. of Hawai'i Manoa
- 1:50 PM 135 Experiences working under the father of subterranean termite research in Hawaii, Prof. Minoru Tamashiro. Jack Fujii (jfujii@hawaii.edu), Univ. of Hawai'i Hilo
- 2:10 PM *136* **Dr. Minoru Tamashiro, founder of the termite research programs in Hawaii.** <u>Po-Yung Lai</u> (po.yung.lai@gmail.com), Agricultural Liaison, Office of the Mayor
- 2:30 PM 137 A career in insect pathology: A tribute to my undergraduate mentor. Harry K. Kaya (hkkaya@ucdavis.edu), Univ. of California Davis

2:50 PM - *138* Incubating modeling and its implementation to monitoring and mathematical ecology. <u>Tae-Soo Chon</u>

(tschon.chon@gmail.com), Pusan National Univ.

3:10 PM Break

3:30 PM - 139 Formosan subterranean termite and Taiwanese: A hundred-year journey of seeking the truth and solution. Hou-Feng Li (houfeng@nchu.edu.tw)¹ and Nan-Yao Su², ¹National Chung Hsing Univ., ²Univ. of Florida

3:50 PM - *140* Addressing the formosan subterranean termite in modern extension programs. Faith Oi (foi@ufl.edu), Univ. of Florida

4:10 PM - *141* A lasting impact of a mentor, in science and in person. Nan-Yao Su (nysu@ufl.edu), Univ. of Florida

New Tools to Mitigate the Spread of the Coconut Rhinoceros Beetle and other Invasive Scarabs

Neptune Room (2nd Floor)

Moderators and Organizers: Mary Liz Jameson, Joshua Dunlap and Jackie Baum, Wichita State Univ.

1:30 PM - *142* Globally invasive scarabs – from the Midway Islands to Milan, Italy. <u>Michael G. Klein</u> (klein.10@osu.edu), Ohio State Univ.

1:50 PM - 143 Coconut rhinoceros beetle in Hawaii: Prospects for eradication and impacts on conservation. Darcy Oishi

(Darcy.E.Oishi@Hawaii.gov), Hawaii Division of Plant Industry

2:10 PM - 144 New variant of rhinoceros beetle, Guam biotype, and implications for global control. <u>Aubrey Moore</u> (amoore@uguam.uog.edu), Univ. of Guam 2:30 PM - 145 An overview of techniques that can help minimize defoliation of cacao, *Theobromo cacao* L., and other crops, by Chinese rose beetle, *Adoretus sinicus*. Grant T. McQuate (Grant.McQuate@ars.usda.gov)¹, Charmaine Sylva¹, Alex Ching², Chelsea Hardin², Megan Manley², Helen Spafford³ and H.C. "Skip" Bittenbender², ¹USDA-ARS, ²Univ. of Hawai'i Manoa, ³Univ. of Hawai'i

2:50 PM - 146 The changing diversity and ecosystem function of dung beetles on the Canadian prairies: A never-ending story. Kevin Floate (Kevin.Floate@agr.gc.ca), Agriculture & Agri-Food Canada

3:10 PM Break

3:30 PM - *147* **Web-based resources for pest identification.** <u>A.J. Redford, USDA-APHIS-PPQ-CPHST</u>

3:50 PM - 148 Taxonomic gap: Delivering the scarab ID tool for Hawaii and the Pacific. Joshua Dunlap (niceae24@yahoo.com), Jackie Baum and Mary Liz Jameson, Wichita State Univ.

4:40 PM - 149 Hawaiian Scarab ID: Questions, answers, and feedback. Mary Liz Jameson (maryliz.jameson@gmail.com), Joshua Dunlap and Jackie Baum, Wichita State Univ.

Promising Accomplishments in Biological Control

Marlin Room

Moderators and Organizers: Thomas R. Unruh, USDA-ARS

1:30 PM - 150 Influence of habitat diversity on biological control of *Erythroneura* leafhoppers in California vineyards. Houston Wilson (houston@berkeley.edu), Albie F. Miles, Kent M. Daane and Miguel Altieri, Univ. of California

1:50 PM - *151* Biological control of spider mites: Do walnuts differ from other western tree crops? Nicholas J. Mills (nmills@berkeley.edu), Univ. of California Berkeley

- 2:10 PM *152* What is the economic value of conservation biological control?" <u>Steven Naranjo</u> (steve.naranjo@ars.usda.gov), USDA-ARS
- 2:30 PM 153 Biological control of the Erythrina gall wasp, a pest that threatens the Hawaian endemic Wiliwili tree, *Erythrina variegata*. Leyla V. Kaufman (leyla@hawaii.edu)¹, Juliana A. Yalemar², Cynthia B. A. King³ and Mark Wright⁴, ¹Univ. of Hawai¹i, ²Hawaii Dept. of Agriculture, ³State of Hawai¹i, ⁴Univ. of Hawai¹i Manoa
- 2:50 PM 154 Using multiple approaches to enhance biological control in tree fruit:
 Simulation, field studies, and behavioral components. Vincent Jones (vpjones@wsu.edu), Ute Chambers, Callie C. Baker and Tawnee D. Melton, Washington State Univ.
- 3:10 PM Break
- 3:30 PM *155* Entomophagous nematodes can significantly suppress wire worms in wheat. <u>Ivan</u> Milosavljevic

(ivan.milosavljevic@email.wsu.edu), Aaron Esser and David Crowder, Washington State Univ.

- 3:50 PM 156 Beauty with benefits:
 Naturescaping Washington vineyards for biological control and butterfly conservation.

 David G. James (david_james@wsu.edu),
 Lorraine M. Seymour, Geraldine L. Lauby and Katharine Buckley, Washington State Univ.
- 4:10 PM 157 Untangling the arthropod food web using a multiuse immunoassay for predator gut analysis. <u>James Hagler</u> (james.hagler@ars.usda.gov)¹ and Sarah Mansfield², ¹USDA-ARS, ²AgResearch Ltd

4:30 PM - 158 Establishment and spread of an

introduced parasitoid for the control of olive fruit fly in California. Xin-geng Wang (xggwang@ucanr.edu)¹, Kent M. Daane², Diego J. Nieto², Charles H. Pickett³, Arnaud Blanchet⁴, Michelangelo La Spina⁴, Livy Williams⁴, Lincoln Smith⁴, Kim A. Hoelmer⁴, Antonio Biondi² and Marshall W. Johnson², ¹Univ. of California Berkeley, ²Univ. of California, ³California Dept. of Food and Agriculture, ⁴USDA-ARS

4:50 PM - 159 Gut content analyses to guide conservation biocontrol: Metagenomics and abundance is the future. Thomas R. Unruh (thomas.unruh@ars.usda.gov), USDA-ARS

Animal and Plant Vector Biology: Addressing Old Questions with New Technologies

Moi Room

Moderators and Organizers: Monika Gulia-Nuss¹ and Judith K. Brown², ¹Univ. of Georgia, ²Univ. of Arizona

- 1:30 PM 160 Functional genomics analysis of *Bemisia tabaci* salivary glands and guts following begomovirus (SLCV) acquisition. <u>Judith K. Brown</u> (jkbrown@ag.arizona.edu), Univ. of Arizona
- 1:50 PM 161 Highly efficient site specific mutagenesis in malaria mosquitoes. <u>Bradley White</u> (bradley.white@ucr.edu), Univ. of California
- 2:10 PM 162 Global climate teleconnections to forecast increased risk of vector-borne animal and human disease transmission. Kenneth J. Linthicum (Kenneth.Linthicum@ars.usda.gov), USDA-ARS
- 2:30 PM 163 How to test if technologies based on disruption of *Xylella fastidiosa*-vector interactions effectively control disease spread?

 <u>Anne Sicard</u> (anne.sicard@berkeley.edu), Adam Zeilinger, Fabien Labroussaa and Rodrigo PP.

 Almeida, Univ. of California Berkeley
- 2:50 PM 164 Bactericera maculipennis: Biology, natural history, and interactions with the zebra chip pathogen. William Rodney Cooper (rodney.cooper@ars.usda.gov)¹, David Horton¹, Andrew Jensen², Nina M. Barcenas³, Glenda Torres³ and Karina Borges³, ¹USDA-ARS, ²Washington State Potato Commission, ³Heritage Univ.

3:10 PM Break

- 3:30 PM 165 New insights into regulation of mosquito metabolism. <u>Alexander Raikhel</u> (araikhel@ucr.edu), Univ. of California Riverside
- 3:50 PM 166 Abscisic acid: A supplement to reduce *Plasmodium* disease severity and transmission. <u>Elizabeth Glennon</u> (ekglennon@ucdavis.edu), Univ. of California Davis
- 4:10 PM 167 Drought stress drives contextdependent mutualism in a cereal aphid-virus interaction. <u>Seth Davis</u> (tsdavis1@gmail.com), Cal Poly State
- 4:30 PM 168 Insect peptide neurohormone receptors as insecticide targets. Andrew Nuss (anuss@cabnr.unr.edu), Univ. of Nevada
- 4:50 PM 169 Flies: Migrants and wanderers bringing together animal feces and farm fresh produce. Alec Gerry (alec.gerry@ucr.edu)¹ and Kim Hung², ¹Univ. of California, ²North Carolina State Univ.
- 5:10 PM 170 Blocking filarial nematode development in mosquitoes using RNAi. Monika Gulia-Nuss (mgulianuss@unr.edu), Univ. of Nevada Reno

General Papers Session II Mahi Mahi Room

Moderators: Ayman Mostafa¹ and Harvey A. Yoshida², ¹Univ. of Arizona, ²Dow AgroSciences

- 1:30 PM 171 Systemic insecticide efficacy on wheat stem sawfly (*Cephus cintus*). Brandy Tannahill (brandy@rd4ag.com)^{1,2} and Steve West¹, ¹Research Designed for Agriculture, ²Montana State Univ. Northern
- 1:42 PM 172 Integrated management of insect pests in dryland cereal crops of eastern Washington state. Diana Roberts (robertsd@wsu.edu)¹, David Crowder², Stephen Van Vleet¹ and Dale Whaley¹, ¹Washington State Univ. Extension, ²Washington State Univ.

- 1:54 PM 173 Insecticides as repellents against garden symphylans. Shimat Villanassery Joseph (svjoseph@ucdavis.edu), Univ. of California
- 2:06 PM 174 Managing Lygus bugs (*Lygus hesperus*) in dry beans in California. Rachael Long (rflong@ucanr.edu)¹ and Larry Godfrey², ¹Univ. of California, ²Univ. of California Davis
- 2:18 PM 175 Management of winter insect pests of hay alfalfa in the southwest desert.

 Ayman Mostafa (ayman@cals.arizona.edu),
 Univ. of Arizona
- 2:30 PM 176 Evaluation of efficacy and application method for control of onion thrips (*Thrips tabaci*) in dry bulb onions in Washington state. Timothy Waters (twaters@wsu.edu), Washington State Univ.
- 2:42 PM 177 Whitefly (*Bemisia tabaci*) control from foliar applications of Sivanto in vegetable crops. <u>Hank Mager</u> (hank.mager@bayer.com) and Mark White, Bayer CropScience
- 2:54 PM 178 Evaluation of Isoclast™ active in Pacific Northwest crops. Harvey A. Yoshida (hyoshida@dow.com), Michael D. Lees and Melissa Willrich Siebert, Dow AgroSciences
- 3:06 PM Break
- 3:30 PM 179 Delegate and Sequoia™:
 Insecticides for managing key insect pests of specialty crops in California. Alistair McKay
 (ahmckay@dow.com)¹, Robert Van Steenwyk²,
 Elizabeth Grafton-Cardwell³, Jesse M.
 Richardson¹, Alejandro Calixto¹ and Melissa
 Willrich Siebert¹, ¹Dow AgroSciences, ²Univ. of
 California, ³Univ. of California Riverside
- 3:42 PM 180 Effect of a terpene-based repellent on the infestations of coffee berry borer, *Hypothenemus hampei* (Ferrari) in commercial coffee orchards of Hawaii Island. Ishakh Pulakkatu-Thodi (ishakpt@gmail.com)¹, Rosemary Gutierrez² and Mark Wright¹, ¹Univ. of Hawai'i Manoa, ²Univ. of Hawai'i

3:54 PM - *181* Which tactics are best for control of coffee berry borer in fallen berries? Robert Hollingsworth

(Robert.Hollingsworth@ars.usda.gov), USDA-ARS

4:06 PM - 182 Evaluation of Isoclast[™] active in California and Arizona crops. Jesse M. Richardson (jmrichardson@dow.com)¹, James P. Mueller¹, Alistair McKay¹, Melissa Willrich Siebert¹, John Palumbo², Peter Ellsworth², Larry Godfrey³, Eric Natwick⁴ and Surendra Dara³, ¹Dow AgroSciences, ²Univ. of Arizona, ³Univ. of California, ⁴Univ. of California ANR

4:18 PM - 183 Non-target invertebrates attracted to broadcast rodenticide baits in Hawaii. <u>David Foote</u> (dfoote@usgs.gov), U.S. Geological Survey

4:30 PM - 184 Monitoring *Drosophila suzukii* for action thresholds. <u>Elizabeth H. Beers</u> (ebeers@wsu.edu) and Alix Whitener, Washington State Univ.

4:42 PM - 185 Danitol, fenpropathrin, as an alternative cleanup-spray and initial protective cover spray for SWD, *Drosophila suzukii*, in red raspberry. Beverly S. Gerdeman (mitehunter1@hotmail.com), Lynell K. Tanigoshi and Hollis G. Spitler, Washington State Univ. 4:54 PM - 186 Research updates on several important landscape pests in Hawaii:

Management of coconut rhinoceros beetle, lobate lac scale, and banyan gall wasps. Zhiqiang Cheng (cheng241@hawaii.edu), Bishnu Bhandari, Arnold Hara and Matthew Kellar, Univ. of Hawai'i Manoa

5:06 PM - 187 Synergism of the IGRs methoprene and pyriproxyfen against cat fleas. Michael K. Rust (michael.rust@ucr.edu)¹ and Lance Hemsarth², ¹Univ. of California Riverside, ²Hartz Mountain Corp.

5:18 PM - 188 Community based management of little fire ants (*Wasmannia auropunctata*) in Hawaii. Heather Forester (heather.forester@littlefireants.com), Hawaii Ant Lab

WEDNESDAY, APRIL 6TH

EVENTS

Registration

7:00 a.m. to 10:00 a.m. Grand Ballroom Foyer

Final Business Meeting

7:00 a.m. to 8:00 a.m. Grand Ballroom

WEDNESDAY MORNING ORAL

Pollinator Protection: Parasites, Pathogens, and Management Practices Marlin Room

Moderators and Organizers: Brian Bret¹ and Amber Vinchesi², ¹Dow AgroSciences, ²Washington State Univ.

8:00 AM - 189 Deformed wing virus in Hawaii: Disentangling pollinator networks to assess exposure risk and cross-species dispersion beyond *Apis mellifera*. Ethel Villalobos (emv@hawaii.edu), Univ. of Hawai'i Manoa

8:20 AM - 190 Examining the potential impact of deformed wing virus on honeybee larval survivorship in Hawaii. Scott Nikaido (snikaido@hawaii.edu) and Ethel Villalobos, Univ. of Hawaii Manoa

8:40 AM - 191 Deformed wing virus the killer and potential saviour of honeybees. <u>Laura</u>
<u>Brettell</u> (L.E.Brettell@edu.salford.ac.uk) and Stephen Martin, Univ. of Salford

9:00 AM - 192 Coevolution of honeybees and pathogens and parasites. <u>Diana Cox-Foster</u> (Diana.Cox-Foster@ars.usda.gov), USDA-ARS

9:20 AM - 193 Prospects for biological control of small hive beetle. Mohsen Ramadan (Mohsen.M.Ramadam@hawaii.gov), Hawaii Dept. of Agriculture

9:40 AM - 194 Evaluating various biopesticides for varroa mite control on honey bees. Elina Nino (elnino@ucdavis.edu), Patricia Bohls and Bernardo Niño, Univ. of California Davis

10:00 AM Break

10:20 AM - 195 Examination of potential synergistic effects of chronic exposure to Amitraz and multiple pesticides on honey bee (*Apis mellifera*) survivorship. Cameron Jasper (wcjasper@ucdavis.edu), Kyle Gray and Elina Nino, Univ. of California Davis

10:40 AM - 196 Risk assessment applied to pollinator exposure to pesticides: The next step beyond hazard identification. Allan Felsot (afelsot@wsu.edu), Washington State Univ.

11:00 AM - 197 Pollinator protection and pest management in California almonds and other ag and non-ag setttings. Robert Curtis (rcurtis@almondboard.com), Almond Board of California

11:20 AM - 198 Pollinating almonds with blue orchard bees: Deal or no deal? Theresa Pitts-Singer (Theresa.Pitts-Singer@ars.usda.gov)¹, Derek R. Artz¹ and Stephen Peterson, ¹USDA-ARS

IPM of Agriculturally Important Heteroptera in Western States

Mahi Mahi Room

Moderators and Organizers: Casey Butler¹ and John Palumbo², ¹Syngenta Crop Protection LLC, ²Univ. of Arizona

8:00 AM - 199 Delineating the distribution of invasive pentatomids in Washington state.

Michael Bush (michael.bush@co.yakima.wa.us)¹
and Chris Looney²,¹Washington State Univ.

Extension,²Washington State Dept. of
Agriculture

8:20 AM - 200 Landscape approach for improving *Lygus* management. <u>Yves Carrière</u> (ycarrier@ag.arizona.edu), Univ. of Arizona

8:40 AM - 201 Managing hemipteran pests in California strawberries and vegetables. Surendra Dara (skdara@ucanr.edu), Univ. of California

WEDNESDAY, APRIL 6TH

- 9:00 AM 202 Potential disruption of an established cotton IPM program by the brown stink bug. Lydia Brown¹, Peter Ellsworth (peterell@ag.arizona.edu)¹, Steven Naranjo², Michael Toews³ and George Frisvold¹, ¹Univ. of Arizona, ²USDA-ARS, ³Univ. of Georgia
- 9:20 AM 203 Western tarnished plant bug, Lygus hesperus, management in San Joaquin Valley field crops: Trends and implications. Larry Godfrey (Idgodfrey@ucdavis.edu)¹, Treanna Pierce¹ and Kevin Goding², ¹Univ. of California Davis, ²Univ. of California
- 9:40 AM 204 Is there a role for landscape diversity in area wide management of western tarnished plant bug? Peter Goodell (pbgoodell@ucanr.edu), Univ. of California

10:00 AM Break

- 10:20 AM 205 Unraveling leaffooted bug's increasing status as a fruit and nut pest in California. David R. Haviland (dhaviland@ucdavis.edu), Univ. of California
- 10:40 AM 206 Management of bagrada bug, Bagrada hilaris, on cole crops in the desert southwest. John Palumbo (jpalumbo@ag.arizona.edu), Univ. of Arizona
- 11:00 AM 207 How will we manage brown marmorated stink bug in the western US? Peter Shearer (peter.shearer@oregonstate.edu) and Nik G. Wiman, Oregon State Univ.
- 11:20 AM 208 Seasonal population dynamics and control of Consperse stink bug in Central California processing tomatoes. <u>Tom Turini</u> (taturini@ucanr.edu), Univ. of California
- 11:40 AM 209 Brown stink bug, Euschistus servus, movement within cotton fields. Vonny Barlow (vmbarlow@ucanr.edu), Univ. of California

Current Research on Fruit Flies (Diptera: Tephritidae) in the Pacific Area *Ahi Room*

Moderators and Organizers: Roger Vargas and Nicholas Manoukis, USDA-ARS

- 8:00 AM 210 Investigating invasion and establishment of oriental fruit fly (*Bactrocera dorsalis*) using high-throughput genotyping techniques. Sheina Sim (ssim8@hawaii.edu) and Scott Geib, USDA-ARS
- 8:20 AM 211 Using eological niche models to predict the invasive potential of apple maggot (*Rhagoletis pomonella*) and western cherry fruit fly (*Rhagoletis indifferens*) to Asian-Pacific countries. <u>Lisa Neven</u>

(Lisa.Neven@ars.usda.gov)¹, Sunil Kumar² and Wee Yee¹, ¹USDA-ARS, ²Colorado State Univ.

8:40 AM - 212 The dichotomy of suitable and regulatory fruit fly hosts in horticultural trade. <u>Nicanor Liquido</u>

(nicanor.j.liquido@aphis.usda.gov)¹ and Grant T. McQuate², ¹USDA-APHIS-PPQ-CPHST, ²USDA-ARS

- 9:00 AM 213 Perceptions about fruit fly host status and potential export threats. Helen Spafford (hspaffor@hawaii.edu)¹, Christine Lynch¹ and Nicanor Liquido², ¹Univ. of Hawai'i, ²USDA-APHIS-PPQ-CPHST
- 9:20 AM 214 The redland oriental fruit fly eradication program in Florida. Trevor Smith (trevor.smith@freshfromflorida.com), Florida Dept. of Agriculture and Consumer Services
- 9:40 AM 215 Evolution, biogeography and systematics of the tribe Dacini based on 9 genes. Michael San Jose (mdsjose@hawaii.edu)¹, Luc Leblanc² and Daniel Rubinoff¹, ¹Univ. of Hawai'i, ²Univ. of Idaho

10:00 AM Break

WEDNESDAY, APRIL 6TH

10:20 AM - 216 Sterile insect technique and control of Tephritid fruit flies: Do species with more complex courtship require higher over flooding ratios? Todd Shelly

(todd.e.shelly@aphis.usda.gov), USDA-APHIS

10:40 AM - 217 New twists in an old story: Recent results on the attraction of oriental fruit Fly (*Bactrocera dorsalis*) to methyl eugenol. Nicholas Manoukis

(nicholas.manoukis@ars.usda.gov), USDA-ARS

11:00 AM - 218 Simulated field applications of insecticide soil drenches for Tephritid fruit flies: Area-wide control and quarantines. John Stark (starkj@wsu.edu)¹ and Roger Vargas², ¹Washington State Univ., ²USDA-ARS

11:20 AM - 219 Synergistic / additive interactions among components of food-based baits underlie fruit fly (Tephritidae) attraction. Jaime Pinero (Pinero J@lincolnu.edu)¹, Steven Souder², Trevor Smith³ and Roger Vargas², ¹Lincoln Univ., ²USDA-ARS, ³Florida Dept. of Agriculture and Consumer Services

11:40 AM - 220 Captures of wild male oriental fruit fly (*Bactrocera dorsalis*) and melon fly (*Bactrocera cucurbitae*) with SPLATTM containing a mixture of methyl eugenol, cue-lure and spinosad. Steven Souder (steven.souder@ars.usda.gov)¹, Jaime Pinero², Helen Spafford³, Bruce Mackey¹, Agenor Mafra-Neto⁴ and Roger Vargas¹, ¹USDA-ARS, ²Lincoln Univ., ³Univ. of Hawai'i, ⁴ISCA Technologies Inc

12:00 PM - 221 Field evaluation of zingerone/cue-lure mixtures in attracting male melon flies (*Bactrocera cucurbitae*). Jess Inskeep (jrinskee@ncsu.edu)¹, Helen Spafford¹, Roger Vargas² and Todd Shelly³, ¹Univ. of Hawai'i, ²USDA-ARS, ³USDA-APHIS

The Future of Genetic Engineering: Opportunities, Risks, and Challenges *Papio Room*

Moderators and Organizers: Natalie Boyle¹, Sujaya Rao² and Doug Walsh¹, ¹Washington State Univ., ²Oregon State Univ.

8:20 AM - 222 Pink bollworm resistance to Bt cotton: Genetics and molecular mechanisms.

Jeffrey A. Fabrick (jeff.fabrick@ars.usda.gov),

8:40 AM - 223 Oxitec: Genetic control of insect pests. Sian Spinner¹ and Amandine Collado (Amandine.Collado@oxitec.com), ¹Oxitec,

9:00 AM - 224 Herbicide resistance, risk assessment of GE crop varieties. Carol Mallory-Smith (carol.mallory-smith@oregonstate.edu), Oregon State Univ.

9:20 AM - 225 Seeds of promise and discontent. Margery Bronster (mbronster@bfrhawaii.com), Bronster Fujichaku Robbins

9:40 AM - 226 Improving resistance management for pyramided Bt crops. Yves Carrière (ycarrier@ag.arizona.edu)¹, Bruce Tabashnik¹ and Jeffrey A. Fabrick², ¹Univ. of Arizona, ²USDA-ARS

10:00 AM Break

10:20 AM - 227 Bee-mediated pollen flow in alfalfa produced for seed. Natalie Boyle¹, Douglas Walsh (dwalsh@wsu.edu)², Sandya Kesoju², Stephanie Greene¹ and Stephen Martin¹, ¹USDA-ARS, ²Washington State Univ.

10:40 AM - 228 Gynodioecious mating system aids in tracking gene flow in papaya. Richard Manshardt (manshard@hawaii.edu)¹ and C. Neal Stewart², ¹Univ. of Hawai'i, ²Univ. of Tennessee

11:00 AM - 229 lessons from Hawaii on how to talk biotechnology with a skeptical public. John Purcell (john.p.purcell@monsanto.com)

11:20 AM - 230 Social aspects associated with using genetic engineering in agriculture. Ania Wieczorek (ania@hawaii.edu), Univ. of Hawai'

WOODWORTH & COMSTOCK AWARD WINNER BIOS

DR. TIMOTHY D. PAINE 2016 C.W. WOODWORTH AWARD



Dr. Timothy Paine is a Professor in the Dept. of Entomology at the Univ. of California, Riverside. He served as Dept. Chair for 6 years, Director of the UCR Center for Invasive Species Research, Statewide Program Leader for Agricultural Policy and Pest Management for the UC Division of Agriculture and Natural Resources, and Divisional Dean for Agriculture and Natural Resources in the UCR College of Natural and Agricultural Sciences. Dr. Paine received a BS degree in Entomology (1973), a BA in History (1973), and a Ph.D. in Entomology (1981) from UC Davis. After a post-doc at the Univ. of Arkansas, he joined the faculty at UC Riverside. He is internationally recognized for his research in ornamental/urban landscape and forest entomology. His research primarily addresses ecological interactions among plants, herbivores, and natural enemies introduced into California. Dr. Paine has received a number of national awards from professional, government, and university organizations, including the ESA Distinguished Achievement Award in Horticultural Entomology, ESA Recognition Award in Urban Entomology, Norman Jay Colman Research Award from the American Nursery & Landscape Association, USDA Distinguished Service Team Award for Environmental and Natural Resource Protection, and the Western Chapter of the International Society of Arboriculture Arboricultural Research Award. He is a Fellow in the ESA and the AAAS. He has taught seven courses ranging from small specialized graduate courses to large core introductory life science classes. His teaching excellence has been recognized with 10 national, regional and campus awards including the UCR Distinguished Teaching Award, UCR Innovative Teaching Award, ESA Distinguished Achievement Award in Teaching, and the 2015 Food and Agricultural Sciences Excellence in Teaching Award, Western Region, from the USDA/Association of Public and Land-Grant Universities. He was President of the PBESA in 2000.

REBECCA SCHMIDT-JEFFRIS 2016 JOHN HENRY COMSTOCK GRADUATE STUDENT AWARD



Dr. Rebecca Schmidt-Jeffris received her Ph.D. in Entomology from Washington State University in May 2015, under the direction of Dr. Elizabeth Beers. Her dissertation research, titled "Phytoseiids as biological control agents of phytophagous mites in apple", included phytoseiid releases, diversity surveys, behavioral and pesticide bioassays, phenology monitoring, and the investigation of tri-trophic interactions. She received her B.S. in Biology from Washburn University in Topeka, Kansas in 2010. Her undergraduate research project, with advisor Lee Boyd, examined prey preferences and kin selection in praying mantids. Rebecca has published eight peerreviewed studies, with others in review. She is currently a postdoctoral research associate at Cornell University, working with Brian Nault to investigate the effects of landscape and management practices on European corn borer populations in vegetable and field crops. Rebecca enjoys participating in ESA and has chaired the Student Affairs Committee, and is currently the co-chair of the ICE Student Affairs Committee and represents the Plant-Insect Ecosystems Section on the Student Transition and Early Professional (STEP) Committee. In these roles, she has organized many events, including symposia, the Student Debates, the Branch text messaging competition, and a Lunch and Learn. Rebecca has received the ESA Student Activity Award and the Pacific Branch Leadership Award. She also received several scholarships while at WSU, including the Student of the Year award, the Hambelton Fellowship, and the Albrecht Scholarship. She hopes to eventually serve the agricultural community as a professor with a research and extension appointment.

PRESIDENT BIOS

INCOMING PRESIDENT PBESA 2016-2017 DR. SANFORD EIGENBRODE



Sanford D. Eigenbrode is Professor and Chair of the Division of Entomology at the University of Idaho. He received degrees in Natural Resources (M.S., 1986) and Entomology (Ph.D., 1990) from Cornell University. Sanford conducts research on the chemical ecology of insect-plant and multi-trophic interactions. This has included an emphasis on the chemical ecology, landscape ecology and management of insect-vectored viruses of wheat, potatoes and legumes in the Pacific Northwest. The regional scope of this work has led to substantial interdisciplinary effort addressing the sustainability of agricultural systems. He is project director for a \$20M NIFA Coordinated Agricultural Project on Regional Approaches to Climate Change in Pacific Northwest Agriculture. He has been a co-PI on two NSF-IGERT projects, one ongoing, studying resilience of ecological and social systems in changing landscapes, which includes extensive collaboration with the Tropical Agricultural Research and Higher Education Center in Costa Rica. Sanford is engaged in research with philosophers and sociologists focused on improving the process of collaborative science. In 2013, he was named University Distinguished Professor at the University of Idaho.

PRESIDENT-ELECT NOMINEE BRAD HIGBEE



Brad Higbee is currently the Director of Entomology Research at Wonderful Orchards, one the largest growers of almonds, pistachios and pomegranates in the world. After attending the University of California, Irvine, he began his career as a technician with the USDA-ARS in Yakima, Wash. From 1978 to 1990, he worked on the development of biological control programs for pests of pears and insect predator rearing techniques while continuing his studies at U.C. Berkeley, Central Wash. Univ. and Washington St. Univ. He was promoted to the level of scientist in 1990 and his research shifted to various aspects of apple and pear pest management, including pioneering work in the use of insect hormones for the control of a key homopteran pest of pears in the Pacific Northwest. In 1995, he was further promoted and assigned to manage two Codling Moth Areawide Projects, which were pivotal in the integration of mating disruption into the pest management programs of the apple and pear industries. In 2002, he accepted a position with Paramount Farming Co. and established a research laboratory. His work with Paramount (now Wonderful Orchards) has included research leading to the implementation of mating disruption for control of navel orangeworm, along with the overall development of pest management tactics and programs for pests in almonds, pistachios and pomegranates. He has published over 50 research articles in peer reviewed scientific journals, 3 book chapters and has served on numerous industry and professional committees.

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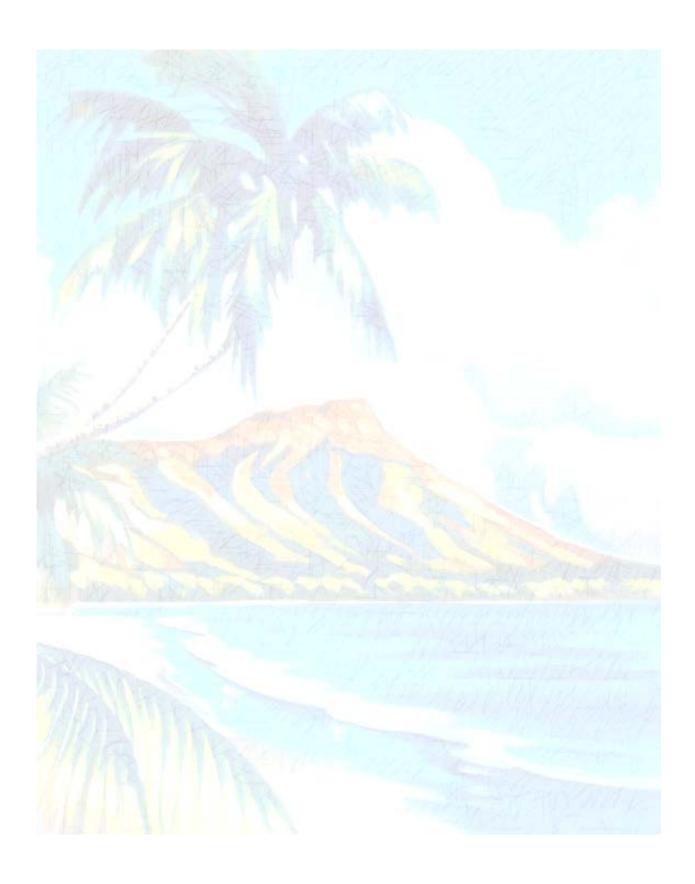
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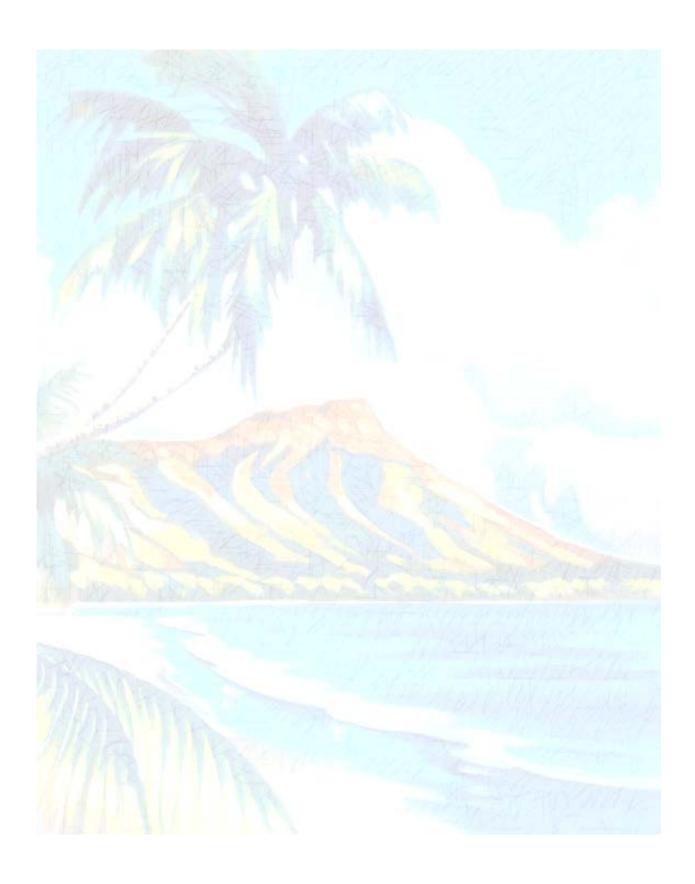
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