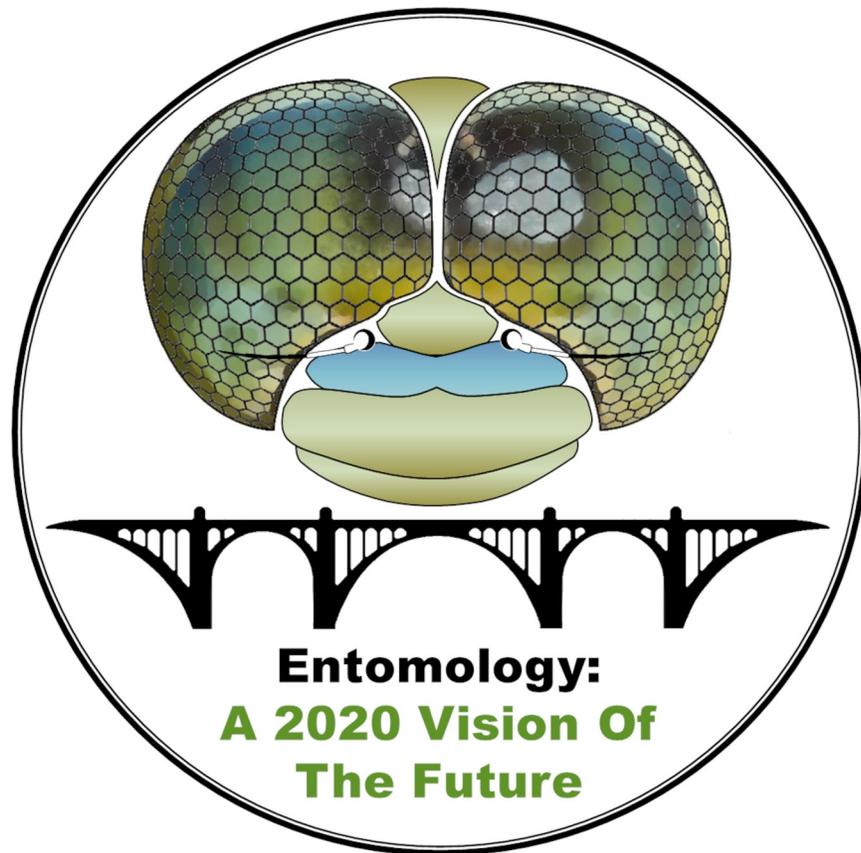


104th Annual Meeting of the Pacific Branch of the Entomological Society of America



Virtual Business Meeting & Awards Ceremony

April 20, 2020 at 9:00 AM PST

Thank you to all our members!

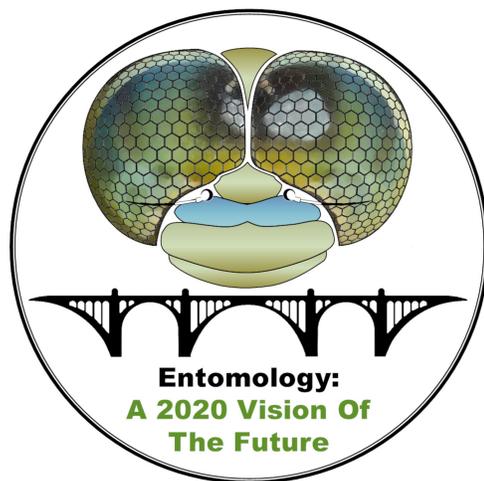
The last time an ESA branch meeting was canceled was during World War II. We are living in unprecedented times, and our membership has made it clear they are resilient, flexible, and excellent problem-solvers.

We appreciate the volunteerism that goes into every meeting and the amount of planning it takes to be a meeting participant. We especially appreciate those qualities in situations like we are experiencing in 2020, with some symposium organisers hosting their talks online, our membership attending our virtual business meeting to ensure we transition to the 2021 PB-ESA meeting fully prepared, and more.

Thank you all for your patience and flexibility during this difficult time. We look forward to a time when we can celebrate each others' accomplishments and share each others' research in person!



Cover Art by
Dr. Marco V. Rossi Stacconi



Marco is a postdoctoral research associate in the Department of Horticulture at Oregon State University. He earned his Ph.D. in Entomology at the University of Perugia (Italy) in 2012. His current research focuses on the biology of insect pests and natural enemies in fruit crops with the goal of developing and implementing IPM programs that improve farm productivity and profitability while reducing environmental impacts.

Letter from the Program Chairs

Dear PB-ESA Membership,

Thank you to all who submitted symposia and talks for this meeting. Some symposia are being adapted into virtual and/or archived symposia, and we encourage you to participate! We appreciate all your hard work and strongly encourage you to build on these ideas and submit them again next year.

Please attend the virtual business meeting on Monday, April 20th at 9:00AM PST to participate in Branch business decisions and to recognize your colleagues who have won awards. We also hope you consider reaching out to awardees personally; we would typically be celebrating them in person and since we are unable to do so this year, we're sure the gesture will be appreciated!

We are grateful for the opportunity to organize this program and would like to thank 2020 PB-ESA President Betsy Beers and the rest of the executive committee for their leadership of the Branch through this difficult time.

Throughout this program, you will find photographs from the Photo Salon as well as a synopsis of the information you would normally find in your meeting program book. We hope this program serves as a reminder of the time and effort our branch volunteers and leadership put into this meeting.

We look forward to seeing everyone next year in Hawaii!

Cheers,

Alix Whitener Rebecca Schmidt-Jeffrie

~Alix and Rebecca

PB-ESA Program Co-Chairs



Photo by Megan Asche

2020 Pacific Branch Leadership

Executive Committee

President	Elizabeth Beers
Incoming President	Mark Wright
President-Elect Nominee	Rodney Cooper
Secretary-Treasurer	Harvey Yoshida

Members at Large

2017—2020	Arash Rashed Allison Walston
2018—2021	Ayman Mostafa Laura Lavine
2019-2022	Jhalendra Rijal Peter McGhee

Governing Board Representative

Doug Walsh

National ESA

ESA President	Alvin Simmons
ESA Executive Director	Chris Stelzig



Photo by Rebecca Schmidt-Jeffris

Planning Committees

Awards Canvassing	Mary Sorenson
Awards Selection	Tim Paine
Bylaws	Lisa Neven Jennifer Henke

Continuing Ed. Credits	Casey Butler
Linnaean Games	Alix Whitener Mike Bush

Student Competition	Heather Andrews
Student Travel Awards	Amber Vinchesi
Nominations	Peter McGhee Vaughn Walton

Operations	Todd Murray
Program	Alix Whitener Rebecca Schmidt-Jeffris

Photo Salon	Lisa Brain
Auditing	Tad Gatenbein
Resolutions	
Site Selection (2021)	Amber Tateno Chrissy Mogren Dan Rubinoff Nick Manoukis Peter Follett Mark Wright

Texting Competition	Jim Hepler
Elevator Talks	Abigail Hayes

Student Employment Fair	Tessa Shates Jaimie Kenney Deena Husein
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Photo by Jessica Maccaro



Photo by Megan Asche

**We encourage you to begin thinking of colleagues to nominate for the
2021 PB-ESA Professional, Early Career Professional, and Student awards!**

Professional Awards:

Award for Excellence in IPM

C.W. Woodworth Award

Distinction in Student Mentoring

Distinguished Achievement in Teaching

Distinguished Achievement in Extension

Entomology Teamwork Award

Section Awards:

Medical, Urban, & Veterinary Entomology

Physiology, Biochemistry, & Toxicology

Plant-Insect Ecosystems

Systematics, Evolution, & Biodiversity

Early Career Professional Awards:

Excellent in Early Career Award

Student Awards:

John Henry Comstock Graduate Student Award

Student Leadership Award

Student Travel Awards

Award descriptions, requirements,
and other nomination information
can be found on the
[Pacific Branch Award site](#).



Photos by Bijay Subedi

2020 PB-ESA Recognition Awards

The Pacific Branch of the Entomological Society of America is pleased to announce the 2020 award winners.

Pacific Branch President Elizabeth Beers reported that the Branch received 22 nomination packets for 10 different awards.

Nominees represented 11 different institutions across four U.S. states and one other country.

Winners were selected by a diverse group of 12 anonymous judges from the Branch.

The awards will be presented at the virtual Pacific Branch meeting on April 20th, 2020.

Please join us in honoring the hard work of our membership and colleagues!

There were no nominees for the Award for Excellence in Extension, the Systematics, Evolution, and Biodiversity Award, or the Plant-Insect Ecosystems Award this year.

Please consider nominating your colleagues next year to honor their hard work!

C.W. Woodworth Award

Dr. Lynn Kimsey; UC-Davis

Award for Excellence in Teaching

Dr. Walter Leal; UC-Davis

Award for Excellence in Integrated Pest Management

Dr. Surendra Dara; UC-Cooperative Extension

Physiology, Biochemistry, and Toxicology Award

Dr. Laura Lavine; Washington State University

Medical, Urban, and Veterinary Entomology Award

Dr. Dong-Hwan Choe; UC-Riverside

Distinction in Student Mentoring

Dr. Robert Kimsey; UC-Davis

Entomology Teamwork Award

Navel Orangeworm Mating Disruption Adoption Team
David Haviland, Brad Higbee, Charles Burks,
Jhalendra Rijal, Emily Symmes,
Robert Curtis, and Stephanie Rill

Excellence in Early Career Award

Dr. Priya Chakrabarti; Oregon State University

Comstock Graduate Student Award

Dr. Jacqueline Serrano; USDA-ARS

Student Leadership Award

Megan Asche; Washington State University

2020 PB-ESA Awards

2020 C.W. Woodworth Award



Dr. Lynn S. Kimsey

Professor of Entomology

University of California Davis

Dr. Lynn S. Kimsey is Director of the Bohart Museum of Entomology and Professor of Entomology in the Department of Entomology and Nematology at UC Davis. Her research interests include the systematics of aculeate wasps, particularly in the families Chrysididae, Tiphidae, Pompilidae and Vespidae, and mosquitoes, as well as urban entomology. Her outreach specialties include insect diversity, urban entomology, civil forensics and arthropod-related industrial hygiene. She is also Executive Director of the Bohart Museum Society in addition to her faculty position. She has authored over 130 journal articles and books, over 17 reports, and more than 70 arthropod information pages. In addition, she has received more than \$5 million in research grants from the National Science Foundation, USDA, USDI, private foundations and the California Dept. of Food

and Agriculture. As Executive Director of the Bohart Museum Society she has written more than 60 society newsletters. She completed her B.S. at UC Davis in 1976 and Ph.D. in 1979. After postdoc positions at the Smithsonian Tropical Research Institute in Panama and at UC Davis, she took a two-year lecturer position at Harvard University. In 1990 she accepted a professorial position and directorship of the Bohart Museum of Entomology at UC Davis. In the years since, she has taught courses in general entomology, biodiversity, insect morphology and graduate seminars in systematics and evolution. As director of the Bohart Museum, she was instrumental in expanding the collections to nearly 8 million specimens, and created public outreach programs that reach more than 16,000 school-aged children, parents and teachers throughout northern California annually. She also expanded diagnostic services to the public, governmental agencies and business, as well as supporting the international research community. In addition to all of these activities, she has also served as an expert witness in a number of homicide and civil court cases. Because of one memorable case dealing with insect residue on a car radiator, she worked with NASA and Boeing engineers studying the effects and mitigation of bug splats on jet wings. Everything insect has been her passion her entire career.

2020 PB-ESA Awards

2020 PB-ESA Entomology Teamwork Award The Navel Orangeworm Mating Disruption Adoption Team:

David Haviland (UC-Coop Ext), Brad Higbee (Trécé, Inc), Charles Burks (USDA-ARS), Jhalendra Rijal (UC-IPM), Emily Symmes (UC-IPM), Robert Curtis (Almond Board), and Stephanie Rill (UC-Coop Ext)



For more than a decade, members of the Navel Orangeworm Mating Disruption Adoption Team conducted research that defined mating disruption programs for navel orangeworm in almonds. This research can be found in 27 referred publications and four book chapters on navel orangeworm semiochemicals. This work led to practical recommendations for mating disruption implementation.

Over the past three years, team members focused on mating disruption adoption, particularly through a Pest Management Alliance demonstration project in the Southern and Northern San Joaquin Valleys. During the project, team members wrote 28 extension publications and gave more than 100 presentations to pest control advisor and grower audiences. Presentations were given in 36 different cities in 20 California counties with a total attendance in excess of 16,000 people. Team members also gave 13 scientific presentations at ESA and other conferences in four countries.

Pest control advisors involved in the project reported increases in the percentage of their acreage using mating disruption from 28.5% in 2017 to 57.6% in 2019. These growers and advisors reported that they influence 419,459 acres of almonds, 109,035 acres of pistachios, and 81,642 acres of walnuts. This amount of almond acreage is the equivalent of approximately 42 million trees that annually produce about 1 billion pounds of almond kernels valued at \$2.6 billion annually.

2020 PB-ESA Awards

2020 Early Career Professional Award



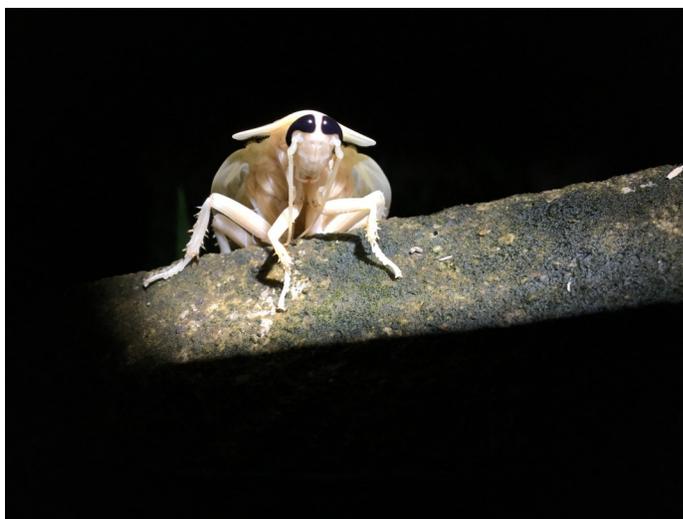
Dr. Priyadarshini Chakrabarti

Postdoctoral Researcher

Oregon State University

Dr. Priya Chakrabarti earned her Ph.D. in Zoology from University of Calcutta in India, where she studied the effects of pesticides on wild Indian honey bees. Currently a postdoctoral researcher at the Oregon State University – focusing on improving bee nutrition, bee health and pollination services – she is also the President of the OSU Postdoctoral Association. A gold medalist in her Master's, Priya has been the recipient of the prestigious INSPIRE Fellowship by the Department of Science & Technology (Government of India), the highly competitive Royal Society Newton International Fellowship by the Royal Society and the prominent

Newton-Bhaba PhD Placement Fellowship jointly by the governments of India and UK. In 2019, Priya received the OSU Phi Kappa Phi Postdoctoral Scientist Award and the OSU Postdoctoral Excellence Award. Priya is an entomologist working on apiculture, pollination biology, insect physiology, insect nutrition, molecular ecology, insect neuroethology and ecotoxicology. Priya has published several peer reviewed scientific manuscripts, book chapters and extension articles. She has been an active participant in sharing research with various stakeholders across Oregon and North America. Apart from mentoring undergraduate and graduate students, Priya also interacts at daylong seminars with schoolchildren to teach honey bee biology and spread environmental and pollinator awareness.



Photos by Jessica Maccaro

2020 PB-ESA Awards

2020 John Henry Comstock Graduate Student Award

Dr. Jacqueline Serrano

Postdoctoral Research Associate

USDA-ARS, Wapato

Dr. Jacqueline (Jackie) Serrano received her Ph.D. in Entomology from the University of California, Riverside (UCR) in September 2019, under the direction of Dr. Jocelyn G. Millar. Her dissertation research focused on the chemical ecology of click beetles (Coleoptera: Elateridae), specifically sex pheromones and sex attractants. During her tenure as a graduate student, Jackie published the first conclusive pheromone identifications for elaterid species from North America. In 2012, Jackie received her B.S. in Biology from UCR, where she developed strong interests in both organic chemistry and entomology. During her time as a graduate student, Jackie received several awards from ESA and UCR including 1st place in the Student TMP Competition at the 2017 ESA meeting, 1st and 2nd place in PBESA Linnaean Games, and Outstanding Teaching Assistant for the Entomology Department at UCR. She also received several scholarships and fellowships while at UCR, including the Harry H. Shorey Endowed Scholarship, a Student Travel Award from the International Society of Chemical Ecology, and a Dissertation Year Program Fellowship. As a student member of ESA, Jackie has organized symposia, competed with the UCR Linnaean Games team, and was Chair of Operations for the 2019 PBESA meeting. Currently, she is representing the Plant-Insect Ecosystems section on the Committee on Diversity and Inclusion and looks forward to becoming more involved in ESA. Jackie is now a postdoctoral research associate with USDA-ARS at the Temperate Tree Fruit and Vegetable Research Unit in Wapato, WA, where she will be working on the chemical ecology of tree fruit pests while also continuing her work on elaterid pheromones and attractants.



2020 PB-ESA Awards

Award for Excellence in Teaching

Dr. Walter S. Leal; UC-Davis

Walter S. Leal is a distinguished professor in the UC-Davis Department of Molecular and Cellular Biology and former professor and chair of the UC Davis Department of Entomology. A member of the UC Davis faculty since 2000, he has taught insect physiology for 13 years and biochemistry for six years. In his classrooms, Leal employs the strategic use of digital technology in truly innovative ways to generate animated eReviews, eClarifications, and eSolutions. He teaches, motivates, and inspires. His motto: *"I don't teach because I have to; I teach because it is a joy to light the way and to spark the fire of knowledge."* Leal received the 2020 Distinguished Teaching Award for Undergraduate Teaching from the UC Davis Academic Senate. He is a fellow of four organizations: ESA, National Academy of Inventors, American Association for the Advancement of Science, and the California Academy of Sciences. He also received the Gakkaisho (fellow equivalent) from the Japanese Society of Applied Entomology and Zoology. Leal was the first non-Japanese scientist to earn tenure in the Japan Ministry of Agriculture. His other honors include Technology Prize, Society for Bioscience, Biotechnology and Agrochemistry, Japan; ESA's Nan Yao Su Award for Innovation and Creativity; Silver Medal, International Society of Chemical Ecology; Medal of Achievement, Entomological Society of Brazil; and Corresponding Member, Brazilian Academy of Sciences. Leal co-chaired the 2016 International Congress of Entomology and delivered ESA's 2019 Founders' Memorial Lecture in honor of Tom Eisner, father of chemical ecology.



Award for Excellence in IPM

Dr. Surendra Dara; UC-Cooperative Extension



Surendra Dara is the Entomology and Biologicals Advisor with UC-Cooperative Extension. He has a Ph.D. in entomology from Virginia Tech and a post-graduate diploma in Applied Information Technology from Information Technology Institute, Canada. He has nearly 25 years of experience in IPM and microbial control, working on 17 species of invasive pests, diseases, and several endemic species. He has authored/co-authored more than 360 scientific and extension articles, which include three co-edited books, one co-edited special issue of a journal, 16 book chapters, and 50 peer-reviewed journal articles. He is currently working on addressing pest and disease issues of small fruits and vegetables with conventional and biological options, and finding alternative uses for entomopathogenic fungi as biofungicides and biostimulants. His strong research and extension program develops innovative solutions for sustainable crop production and protection, reaching out to the agricultural community locally, regionally, and internationally. As a volunteer, he provided training in pest management, IPM, and crop production to farmers in Bangladesh, Guatemala, Haiti, Kosovo, Moldova, Mozambique, and Myanmar, and to visitors from Bosnia and Herzegovina, Bulgaria, and Colombia. He is currently serving on various committees or holding offices at the University of California, the Society for Invertebrate Pathology, and the Association of Applied IPM Ecologists. He publishes two eJournals and is a Subject Editor for JEE, an Associate Editor of the International Journal of Tropical Insect Science, a co-editor of two special issues of two Frontiers journals. Dara was featured in 2019 as a Western Innovator by Capital Press for his work in biologicals. He is also a recipient of the ESA America Distinguished Achievement Award in Extension at the Pacific Branch and National levels in 2019.

2020 PB-ESA Awards

Physiology, Biochemistry, and Toxicology Award

Dr. Laura Lavine; Washington State University

Dr. Laura Lavine is Professor and Chair of the WSU Department of Entomology. Dr. Lavine has published more than 65 primary articles and reviews that are strongly biased toward top tier journals for her areas of study. She has also been invited to present her work worldwide. These research outputs are unquestionably excellent on their own but are all the more impressive when one considers that she has also contributed greatly to other activities of importance to students, stakeholders and colleagues. Major contributions at her home institution include serving for several years as Assistant Director of the WSU College of Agricultural, Human and Natural Resources Sciences Office of Research. Laura is an award-winning teacher and she has contributed significantly to WSU through classroom teaching, student mentoring, and outreach functions. Nationally and in the Pacific Branch Region, Laura has also taken on leadership responsibilities that impact a number of programs of importance to entomological research and pest management. In addition, Laura is currently coPI and Project Manager of the NSF ADVANCE grant titled “Values-based Academic Leadership Trajectories for women in STEM (VAULTS), totaling \$1,218,058. Altogether, Laura has contributed significantly to the study of insect physiology, biochemistry and toxicology, but the breadth of her activities extend beyond traditional research metrics.



Medical, Urban, & Veterinary Entomology Award

Dr. Dong-Hwan Choe; UC-Riverside

Dr. Choe’s research focuses on three major areas: urban entomology, insect behavior, and chemical ecology. In particular, on exploring innate and learned behaviors of economically or environmentally important insect species to develop more effective IPM programs.

He investigates how behaviors of insects can be exploited to improve management and to develop novel management techniques. Dr. Choe also uses field studies to test the feasibility of new techniques in real-world conditions. He also works with other researchers, especially from industries and other academic disciplines, when possible.

Subjects of current work include development of new control strategies for pest ants, bed bug detection and control, drywood termite biology / control, and development of web-based resource for urban pest management.



2020 PB-ESA Awards

Distinction in Student Mentoring

Dr. Robert B. Kimsey; UC-Davis

Dr. Robert B. Kimsey earned his PhD at the University of California-Davis, where he is a forensic entomologist in the Department of Entomology and Nematology. He is the coordinator and master advisor of the animal biology major at UC-Davis, serving over 400 students annually. Dr. Kimsey's research interests include public health entomology, arthropods of medical importance, zoonotic disease, biology and ecology of tick-borne pathogens, and tick feeding behavior and biochemistry. His research includes the nuisance flies on Alcatraz Island, where a former guard at the penitentiary nicknamed him 'The Fly Man of Alcatraz.' 'The Fly Man' has received many honors in education, including the Outstanding Educator award at UC-Davis, where students acknowledged how he goes above and beyond what is required of a teacher to give his students an opportunity to apply principles from the classroom to real-world situations.



Student Leadership Award

Megan Asche; Washington State University

Megan Asche is a Ph.D. student in the Department of Entomology at Washington State University under the supervision of Dr. Richard Zack. She specializes in honey bee biology and Vespidae wasp behavior.

Megan has been an active member of the Entomological Society of American Pacific Branch since 2015. Currently, she holds multiple positions within the association, including editor of the photography showcase "Through the Loupe" for *American Entomologist* magazine, a board member for *AE* magazine, and an ESA "World of Insects" Calendar committee member.

In 2007, Megan earned a BA in design from Western Washington University. She worked as a graphic designer for 6 years, specializing in corporate advertising campaigns and merchandising, before beginning her career in science. Her art background and training in communication

design made her uniquely qualified to produce diagrams and scientific illustrations. In 2019, her digital artwork was featured in the journals *Ecology* and *Environmental Entomology*.

Megan is an award-winning macro insect photographer and has contributed to many international scientific and outreach publications. Since 2013, she has posted over 7,000 insect images online that are available for public viewing. These images are taken for educational purposes and are donated to researchers upon request.



PB-ESA President Bios

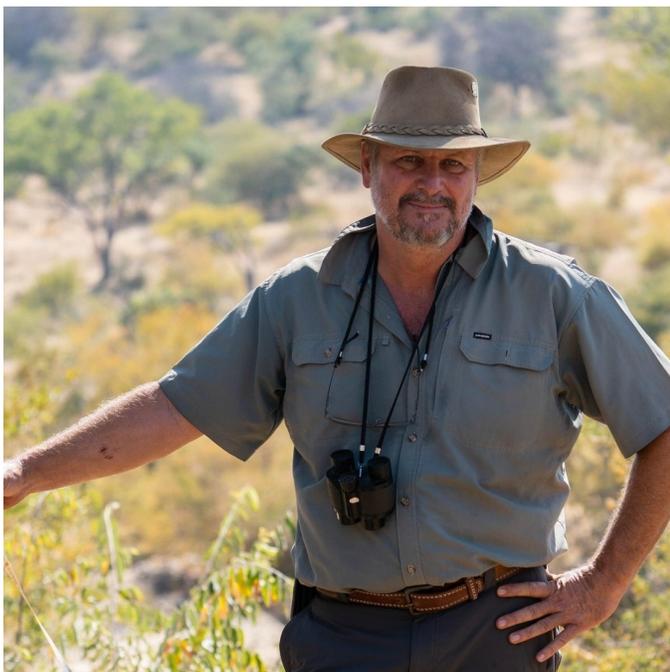
President Dr. Elizabeth (Betsy) Beers

Dr. Elizabeth (Betsy) Beers is a professor of entomology at Washington State University, located at the Tree Fruit Research & Extension Center in Wenatchee, WA. She earned her Ph.D. in Entomology at Penn State under the direction of Dr. Larry Hull. Dr. Beers' program has covered various aspects of tree fruit research and extension for the past 33 years at the heart of one of the largest and most innovative tree fruit industries in the nation. Her research and outreach program during this time has adapted to the needs of the industry, and although the target pest has changed over time, the approach has always worked toward a broadly based IPM program.

Early work focused on secondary pests, where the opportunity for partial or complete biological control is the greatest. Pests included aphids, leafhoppers and leafminers, some of which were reduced to non-pest status. A career-long area of interest is conservation biological control of spider mites, a successful program started the 1960s by colleague and mentor Stan Hoyt. Her program continues today by examining nontarget effects of a new suite of pesticides, with recent work on how the phytoseiid complex has responded to those changes. The most recent projects have focused on two invasive species that threaten Washington's tree crops, spotted-wing drosophila and brown marmorated stink bug. The ongoing challenge is to find management solutions that are not disruptive to existing IPM programs by implementing alternative control tactics including cultural and biological control.



Incoming President Dr. Mark Wright



Mark G. Wright is a professor and extension entomologist at the University of Hawaii at Manoa. Mark works on IPM of pests of tropical fruit and nut crops, concentrating on biological control. He has also worked on biocontrol of invasive species attacking native plant species. He has published papers addressing biological control, development of pest sampling methods, diversified cropping systems, and even the effect of bee alarm pheromones as deterrents of African elephants. Mark served as president of the Plant-Insect Ecosystems sections of the ESA (2017), and is currently serving on the P-IE governing council as past-president. He has previously served the ESA Pacific Branch, dealing with local arrangements for Hawaii meetings.

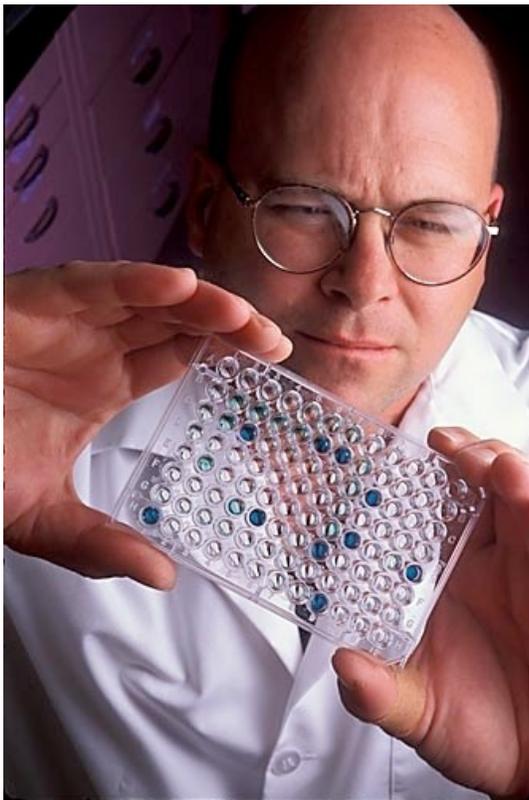
President Elect Nominee Rodney Cooper



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

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

PB-ESA 2020 Plenary Speaker Dr. James Hagler



Flight of ideas: Protein immunomarking to study arthropod dispersal and feeding behavior

Dr. James Hagler, a Research Entomologist with the USDA-ARS, Arid-Land Agricultural Research Center since 1991, is the pioneer of the protein immunomarking technique. Dr. Hagler earned a B.S. and M.S. in Pest Management from New Mexico State University and a Ph.D. in Entomology from the University of Arizona. His protein immunomarking procedures have revolutionized mark-release-recapture (central point release research), mark-capture (area-wide dispersal), and gut analysis research. Dr. Hagler's global collaborations have supported management of numerous pests that impact human health, crop production, and urban environments.

PB-ESA Photography Salon Awards



Clockwise from top left:

Best Student Photo

Megan Asche

Best Cell Phone Photo

Rebecca Schmidt-Jeffris

Most Outstanding

Rebecca Schmidt-Jeffris

Other photograph submissions can be found throughout this program; photographer credit included with each image.

Thank you to Dr. Lisa Brain for managing the Photography Salon this year

In Memorium

Remembering our PB-ESA membership who have passed away.

Each year, we take time during our opening session to remember those members in our Branch we've lost. This year, we will take the time to reflect during our virtual business meeting on April 20th, 2020. We hope you will join us in honoring their memory and the contributions they've made to our discipline and our lives.

Dr. George E. Ball; University of Alberta

Dr. James Hodge Black; University of California Cooperative Extension

Dr. Jordan Lewis Burke; University of British Columbia

Dr. Everett Burts; Washington State University

Dr. Steve Castle; USDA-ARS Maricopa

Dr. Russell W. Clausen; University of Idaho

Genevieve Comeau; University of Arizona

Dr. Douglas A. Craig; University of Alberta

Dr. Stanley C. Hoyt; Washington State University

Dr. Peter Landolt; USDA-ARS Wapato

Dr. Nilima Prabhaker (Castle); University of California-Riverside

James Ricci; University of California-Riverside and Ovipost

Dr. Steven J. Seybold; USDA Forest Service-Davis

Dr. Robbin Thorp; University of California-Davis

Save the Date!



105th Annual Meeting of the PBESA

April 11-14, 2021

Waikoloa Beach Marriot Resort & Spa

