National distributor or local partner?
Turns out you don’t have to choose.

Public health professionals come to Univar Environmental Sciences because of our reputation for efficient logistics and extensive product selection.

But they trust us because, with a presence in every region of the country, our experts understand the unique needs and environments of the local communities they serve.

Meet your local Univar representative today.
Visit Pestweb.com/markets/public-health
Call us at 800.609.9414
Or shop at Store.UnivarES.com

© 2017 Univar USA Inc. All rights reserved. Univar, the hexagon, MasterLine, and the Univar logo are registered trademarks of Univar USA Inc.
President’s Welcome

Welcome to Burlingame and the 87th Annual Conference and Exhibitor Showcase of the Mosquito & Vector Control Association of California (MVCAC). The support and efforts of Association members, staff, and Industry partners continually make this conference a success each year. This meeting brings together a wide range of public health professionals and experts to exchange knowledge and research regarding the latest developments in mosquito and vector control relevant to California integrated vector management programs.

It is my pleasure to welcome CDC Associate Director of Science Dr. Ronald Rosenberg to this year’s annual conference. Dr. Rosenberg will provide insights on how California Vector Control Professionals can best prepare for emerging vector-borne pathogens. Meeting attendees will be updated on the latest applied collaborative research efforts from the Pacific Southwest Center of Excellence in Vector-Borne Diseases as well as public perceptions of vector control in California. In addition, attendees will have the opportunity to attend symposia and a poster session that will focus on:

• Community outreach and engagement strategies
• Past research still relevant to today’s challenges
• Operational vector control strategies
• Research focused on mosquito biology, vector-borne disease, and pesticide resistance
• Studies on flea, tick and vertebrate control, biology, and disease,
• Public policy and administration procedures applicable to vector control districts,
• Unmanned aerial systems and their use in integrated vector management programs.

I hope that you find the conference informative, enjoyable, make new connections with fellow vector control professionals, and discover new strategies that can be incorporated into your integrated vector management program.

Lastly a very special Thank You to all the presenters, moderators, sponsors, and MVCAC staff who have worked so hard to make this conference a reality.

Jeremy Wittie, MS, MVCAC President
General Manager, Coachella Valley Mosquito and Vector Control District.
Sustainable vector control is an art form, and public health professionals need a broad palette of tools to draw from. Our comprehensive portfolio of target-specific solutions:

TARGETS THE RIGHT SPECIES
IS OPTIMIZED FOR DIVERSE SITUATIONS
LEVERAGES TECHNOLOGICAL INNOVATION
EMPOWERS PUBLIC HEALTH PROFESSIONALS

Contact:
Stephanie Whitman
307 721-4335
publichealth.valentbiosciences.com
Schedule of Events

SUNDAY

11:00 am  MVCAC Munzy Golf Tournament
           Poplar Creek Golf Course

2:00 pm   MVCAC 5K Fun Run/Walk

Thank you to our sponsor

2:00 pm – 6:30 pm  Registration Desk Open
                   Grand Peninsula Foyer

Thank you to our sponsors of registration items

2:00 pm – 6:30 pm  Speaker Ready Café Open
                   Grand Peninsula Foyer

2:00 pm – 5:30 pm  Exhibitor Set up
                   Grand Peninsula A–D

5:00 pm – 6:00 pm  Moderator Training
                   Bayside A

6:00 pm – 8:30 pm  Exhibitor Show Open
                   Grand Peninsula A–D
SUNDAY

President’s Welcome Reception
6:00 pm – 8:30 pm
Exhibit Hall

Thank you to our sponsors

Local Representative:
Dennis Candito
dcandito@myadapco.com
Mobile: (877) 875-6353
Orders: (800) 367-0659
myadapco.com

Protecting Public Health Together

Your Trusted Distributor
Larvicides
Sprayers
Adulticides
& more

creating value, growing together
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am – 5:00 pm</td>
<td>Speaker Ready Café Open</td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td>7:00 am – 4:00 pm</td>
<td>Registration Desk Open</td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td></td>
<td>Thank you to our sponsors of registration items</td>
<td></td>
</tr>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>Exhibitor Show Open</td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td>8:00 am – 12:00 pm</td>
<td>Morning Plenary Session and Reeves</td>
<td>Grand Peninsula EFG</td>
</tr>
<tr>
<td></td>
<td>New Investigator Award</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sessions Sponsored by Bayer</td>
<td></td>
</tr>
<tr>
<td>1:00 pm – 3:00 pm</td>
<td>Poster presentation lunch</td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td></td>
<td>Poster presenters will be available during this lunch break to talk about their posters</td>
<td></td>
</tr>
<tr>
<td>2:45 pm – 5:00 pm</td>
<td>Trustee Business Session</td>
<td>Harbour Room</td>
</tr>
<tr>
<td></td>
<td>Ethics Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ticket required for admission</td>
<td></td>
</tr>
</tbody>
</table>
MONDAY

3:00 pm – 5:30 pm  Afternoon Sessions
Community Outreach and Engagement
Grand Peninsula EFG
Don’t Reinvent the Wheel: Past Vector Control Research and Practices Relevant Today
Regency Ballroom

Sessions Sponsored by

5:30 pm  Day ends
## MONDAY

### Morning Plenary Session

**Grand Peninsula EFG**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 8:00 am | **Welcome to the MVCAC Annual Conference**  
Bob Achermann, MVCAC Executive Director |
| 8:10 am | **MVCAC Legislative Update**  
Ed Manning, MVCAC Legislative Advocate |
| 8:20 am | **AMCA Update**  
Bill Walton, PhD, AMCA President |
| 8:30 am | **Pacific Southwest Center of Excellence in Vector-Borne Diseases Presentation and Panel**  
Moderators: Chris Barker, PhD, University of California, Davis and William Walton, PhD, University of California, Riverside |
| 8:35 am | **Salience of human odor, heat and visual cues for landing of female Aedes aegypti after exposure to a plume of carbon dioxide**  
Presenter/Author: Benjamin DeMasi-Sumner, University of California, Riverside; Additional Author (s): Ring Carde, PhD, University of California, Riverside |
| 8:45 am | **Residues of adulticides in organically farmed rice**  
Presenter/Author: Jay Gan, PhD, University of California, Riverside |
| 8:55 am | **Bromeliads as Aedes breeding habitat in the San Gabriel Valley**  
Presenter/Author: Aviva Goldmann, PhD, University of California, Riverside; Additional Author (s): William Walton, PhD, University of California, Riverside and Melissa Doyle, San Gabriel Valley MVCD |
MONDAY

Morning Plenary Session
Grand Peninsula EFG

9:05 am  Population genomics of *Aedes aegypti* in California
Presenter/Author: Yoosook Lee, PhD, University of California, Davis; Additional Author (s): Gregory C. Lanzaro, PhD, University of California, Davis

9:15 am  Synopsis of 2018 bottle bioassay and ULV sentinel cage trial data
Presenter/Author: Katherine Brisco, University of California, Davis; Additional Author (s): Noemi Fonseca and Anthony J. Cornel, PhD, University of California, Davis

9:25 am  Tracking the emergence of St. Louis encephalitis virus in California with sequencing and phylogenetics
Presenter/Author: Daniele Swetnam, University of California, Davis; Additional Author (s): Jackson Stuart, Katherine Young, Hugh Lothrop and Lark Coffey, PhD, University of California, Davis

9:35 am  Estimates of aerial adulticide efficacy based on 12 years of mosquito surveillance in Sacramento-Yolo MVCD
Presenter/Author: Karen C. Holcomb, University of California, Davis; Additional Author (s): Robert Reiner and Christopher M. Barker, PhD, University of California, Davis

9:45 am  Exploring pyrethroid resistance in *Culex tarsalis*
Presenter/Author: Tara C. Thiemann, PhD, University of the Pacific; Additional Author (s): Sumiko De La Vega and Bonnie Ryan, University of the Pacific

9:55 am  Assessment of risk and transmission cycle of the emerging tick-borne pathogen, *Borrelia miyamotoi*
Presenter/Author: Samantha Sambado, San Francisco State University; Additional Author (s): Andrea Swei, PhD, San Francisco State University
### MONDAY

#### Morning Plenary Session

**Grand Peninsula EFG**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker/Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:05 am</td>
<td>Q&amp;A</td>
<td></td>
</tr>
<tr>
<td>10:15 am</td>
<td>Morning Break</td>
<td>Thank you to our morning break sponsor</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Californian’s Attitudes and Opinions of Vector Control</td>
<td>Adam Probolsky, President, Probolsky Research</td>
</tr>
<tr>
<td>10:50 am</td>
<td>Keynote: Preparing for the Unknown—the Threat from Emerging Vector-borne Pathogens</td>
<td>Dr. Ronald Rosenberg, Associate Director for Science, Division of Vector- Borne Diseases, National Center for Emerging &amp; Zoonotic Diseases, Centers for Disease Control &amp; Prevention (CDC)</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Reeves New Investigator</td>
<td>Moderator: Jamesina J. Scott, PhD, Lake County MVCD</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Revising Alkali Metals as a Tool for Mark-ReCapture Studies To characterize Patterns of Mosquito <em>Idifeca Culicade</em> dispersal and Ovi Booth</td>
<td>Presenter/Author: Matteo Marcantonia, Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis; Additional Author (s): Christopher M. Barker, PhD, Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis</td>
</tr>
</tbody>
</table>
MONDAY

Morning Plenary Session
Grand Peninsula EFG

12:30 pm  Microbial Ecology of Aedes albopictus: The Impact of Bacterial Microbiota on Mosquito Development
Presenter/Author: Xiaoming Wang, Orange County MVCD; Additional Author(s): Guiyun Yan, University of California, Irvine; Xiao-Guang Chen, Southern Medical University; Timothy Morgan and Robert Cummings, Orange County MVCD

1:00 pm – 3:00 pm  Poster Presentation Lunch (Lunch Provided)
Thank you to our lunch sponsors

3:00 pm – 5:00 pm  Afternoon Sessions
Session A: Community Outreach and Engagement
Grand Peninsula EFG
Session B: Don’t Reinvent the Wheel: Past Vector Control Research and Practices Relevant Today
Regency Ballroom
MONDAY

Afternoon Plenary Session—Session A
Grand Peninsula EFG

3:00 pm – 5:05 pm  Symposium: Community Outreach and Engagement  
Moderators: Ada Barros, Placer County Mosquito and Vector Control District  
Regency Ballroom

3:00 pm  Introduction  
Moderator: Ada Barros

3:04 pm  Is it broke? Should we fix it? Evaluating programs and projects  
Presenter/Author: Megan Sebay, MPH, Public Health Education and Outreach Officer, San Mateo County Mosquito and Vector Control District

3:16 pm  Using Google Forms (a free and low maintenance tool) to better understand our constituency  
Presenter/Author: Amanda Poulsen, MS, Vector Ecologist, Santa Cruz County Mosquito and Vector Control

3:28 pm  Homeless encampments and the rise (and fall) of the Norway rat  
Presenter/Author: Daniel Wilson, Community Relations Coordinator, Alameda County Vector Control Services District

3:40 pm  Where are these mosquitoes coming from? Changing a community’s perception of mosquito development sites  
Presenter/Author: Katherine Ramirez, Science Education Coordinator, Consolidated Mosquito Abatement District

3:52 pm  Large media for less: leveraging relationships to increase public awareness on a limited budget  
Presenter: Mary Joy Coburn, Public Affairs Coordinator, Orange County Mosquito and Vector Control District; Additional Author (s): Lora Young, Director of Communications, Orange County Mosquito and Vector Control District
4:04 pm  **Targeted and real time community outreach in response to elevated West Nile virus activity**  
Presenter/Author: Luz Maria Robles, Public Information Officer, Sacramento-Yolo Mosquito and Vector Control District

4:16 pm  **Effectiveness of a community clean-up event for the control of Aedes aegypti**  
Presenter: Jennifer A. Henke MS, Laboratory Manager, Coachella Valley Mosquito and Vector Control District;  
Additional Authors: Haide Vela-Alvarez, Intern; Edgar A. Castro, Public Outreach Coordinator; Mike Martinez, Field Supervisor; Jill Oviatt, M.C.D.M., Public Information Manager, Coachella Valley Mosquito and Vector Control District

4:28 pm  **The importance of utilizing research-based strategies in a successful school program**  
Presenter/author: Hester Petropoulos, Education Coordinator, Orange County Mosquito and Vector Control District

4:40 pm  **Overview of a popular vector education program**  
Presenter/Author: Eric Engh, Education Program Specialist, Marin/Sonoma Mosquito and Vector Control District
### MONDAY

#### Afternoon Plenary Session—Session B

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenter/Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 pm</td>
<td><strong>Symposium: Don’t Reinvent the Wheel: Past Vector Control Research and Practices Relevant Today</strong>&lt;br&gt;<strong>Moderators: J. Wakoli Wekesa, PhD, Coachella Valley MVCD</strong></td>
<td>Regency Ballroom</td>
</tr>
<tr>
<td>3:05 pm</td>
<td><strong>Constructed wetlands still produce mosquitoes...</strong>&lt;br&gt;Presenter/Author: William Walton, PhD, Department of Entomology, University of California, Riverside</td>
<td>Regency Ballroom</td>
</tr>
<tr>
<td>3:25 pm</td>
<td><strong>Don’t let your operational evaluations be out of control</strong>&lt;br&gt;Presenter/Author: William K. Reisen, PhD, Professor Emeritus, Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis</td>
<td>Regency Ballroom</td>
</tr>
<tr>
<td>3:50 pm</td>
<td><strong>The importance of targeting <em>Culex</em> control in time and space</strong>&lt;br&gt;Presenter/Author: Hugh Lothrop, Adjunct Professor Emeritus, Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis; Additional Author(s): William K. Reisen, PhD, Professor Emeritus, Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis</td>
<td>Regency Ballroom</td>
</tr>
<tr>
<td>4:15 pm</td>
<td><strong>Insecticide resistance testing with a meaning “operationally”</strong>&lt;br&gt;Presenter/Author: Anthony Cornel, PhD, University of California, Davis Department of Entomology and Nematology, Mosquito Control Research Laboratory, Kearny Agricultural Field Station; Additional Author(s): Katherine Brisco and Noemi Fonseca, University of California, Davis Department of Entomology and Nematology, Mosquito Control Research Laboratory, Kearny Agricultural Field Station</td>
<td>Regency Ballroom</td>
</tr>
</tbody>
</table>
MONDAY

Afternoon Plenary Session—Session B
Regency Ballroom

4:35 pm  More than just tucking pants into socks: approaches to tick control
Presenter/Author: Angie Nakano, MS, Laboratory Director, San Mateo County MVCD; Additional Author (s): Chindi Peavey, PhD, District Manager, San Mateo County MVCD

5:00 pm  Day Concludes
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am – 12:00 pm</td>
<td>Speaker Ready Café Open</td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td>7:00 am – 3:00 pm</td>
<td>Registration Desk Open</td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td></td>
<td>Thank you to our sponsors of registration items</td>
<td></td>
</tr>
<tr>
<td>7:00 am – 8:00 am</td>
<td>Trustee Business Session &amp; Breakfast</td>
<td>Harbour Room</td>
</tr>
<tr>
<td></td>
<td>Ticket required for admission</td>
<td></td>
</tr>
<tr>
<td>8:00 am – 12:15 pm</td>
<td>Concurrent Sessions A &amp; B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sponsored by</td>
<td></td>
</tr>
<tr>
<td>12:15 pm – 2:00 pm</td>
<td>Lunch break</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(lunch not provided)</td>
<td></td>
</tr>
<tr>
<td>2:00 pm – 4:00 pm</td>
<td>Concurrent Sessions A, B and C</td>
<td></td>
</tr>
<tr>
<td>4:00 pm – 4:15 pm</td>
<td>Afternoon break</td>
<td></td>
</tr>
</tbody>
</table>
**TUESDAY**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:15 pm – 5:15 pm</td>
<td><strong>UAS Panel Discussion</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The UAS Photogrammetry Panel Discussion part of the UAS Symposium will be an hour long discussion moderated by me with a series of questions for 4 pre-selected panelists with expertise in each of the areas covered by the questions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Moderator:</strong> Marty Scholl, UAS Operations, Sac-Yolo MVCD; <strong>Panelists:</strong> Werner Von Stein, Owner, San Francisco Drone School; Ruben Rosas, GIS Coordinator, Sac-Yolo MVCD; Bill Reynolds, CEO, Leading Edge Associates; Jay Mulakala, Senior Sales Engineer, Drone Deploy</td>
<td></td>
</tr>
<tr>
<td>6:00 pm</td>
<td><strong>President’s Reception</strong></td>
<td>Grand Peninsula Foyer</td>
</tr>
<tr>
<td>7:00 pm – 9:00 pm</td>
<td><strong>MVCAC Awards Banquet</strong></td>
<td>Grand Peninsula EFG</td>
</tr>
<tr>
<td></td>
<td>Join fellow district managers, trustees, board members, MVCAC Past President, David Heft and President Jeremy Wittie as they recognize committee members, sponsors and key volunteers that made 2018 a successful year in vector control and look toward 2019. William C. Reeves New Investigator award recipients will be named, along with presentations for Meritorious Service Award and Service with Distinction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Ticket required for admission.</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsored by</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="#">ADAPCO</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="#">Valent Biosciences</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="#">Univar</a></td>
<td></td>
</tr>
<tr>
<td>9:00 pm – 11:00 pm</td>
<td><strong>Post Banquet Gaming Café</strong></td>
<td>Grand Peninsula EFG</td>
</tr>
<tr>
<td></td>
<td>(Open to all attendees)</td>
<td></td>
</tr>
</tbody>
</table>
**Breakout Sessions—Session A**  
**Grand Peninsula EFG**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 8:00 am – 12:15 pm | **Symposium: Operations**  
**Moderator: Jake Hartle, Placer Mosquito and Vector Control District** |
| 8:00 am       | **Program overview including current projects and future ideas for culturing high yields of *Gambusia affinis***  
Presenter/Author: Tony Hedley, Fisheries Supervisor, Sacramento-Yolo Mosquito and Vector Control District; Additional Author (s): Samer Elkashef, PhD, Assistant Manager and Sarah S. Wheeler, PhD, Biologist, Sacramento-Yolo Mosquito and Vector Control District |
| 8:15 am       | **Efficacy evaluation of Sumilharv 0.5G in catch basins in Sacramento and Yolo Counties***  
Presenter/Author: Samer Elkashef, PhD, Assistant Manager, Sacramento-Yolo Mosquito and Vector Control District; Additional Author (s): Randy Burkhalter, Field Supervisor and Eric Guimont, Sacramento-Yolo Mosquito and Vector Control District |
| 8:30 am       | **Triumphs and tribulations: year three of Delta Vector Control District's expanded mosquito surveillance program***  
Presenter/Author: Mir Bear-Johnson, MS, Scientific Program Manager, Delta Vector Control District; Additional Author (s): Jesse Erandio, Biologist, Crystal Grippin, MsPH, Biologist, and Mark Nakata, Biologist, Delta Vector Control District |
| 8:45 am       | **Stormwater treatment control devices as significant mosquito breeding sources***  
Presenter/Author: Alfonso Melgoza, BS, Field Supervisor, West Valley Mosquito and Vector Control District; Additional Author (s): Michelle Brown, PhD, District Manager, West Valley Mosquito and Vector Control District |
TUESDAY

Breakout Sessions—Session A
Grand Peninsula EFG

9:00 am  “Tip this House”—A multi organizational mosquito-borne disease outbreak preparedness exercise under Incident Command System
Presenter/Author: Susanne Kluh, MS, Scientific-Technical Director, Greater Los Angeles County Vector Control District

9:15 am  Vector control operations around Oakland’s homeless encampments
Presenter/Author: Michael R Mooney, BS, Biologist, Alameda County Vector Control Services District; Additional Author(s): Bruce Kirkpatrick, PhD, Supervising Vector Biologist and David James, Vector Ecologist, Alameda County Vector Control Services District

9:30 am  West Nile virus resource allocation in the age of Aedes: an Operations’ perspective
Presenter/Author: Mark Daniel, BS, Director of Operations, Greater Los Angeles County Vector Control District

9:45 am  2018 Operational activities controlling Aedes aegypti in the Coachella Valley, California
Presenter/Author: Gonzalo Valadez, Lead Technician, Coachella Valley Mosquito and Vector Control District; Additional Author(s): Johnathan Herrera, Vector Control Technician, Vincent Valenzuela, Vector Control Technician, Michael Martinez, Vector Control Technician and J. Wakoli Wekesa, PhD, Operations Manager, Coachella Valley Mosquito and Vector Control District

10:00 am – Break
10:15 am
Breakout Sessions—Session A
Grand Peninsula EFG

10:15 am  Control activities against WNV/SLE-positive mosquitoes is key to limiting human cases in Coachella Valley
Presenter/Author: Gregorio Alvarado, Vector Control Technician, Coachella Valley Mosquito and Vector Control District; Additional Author (s): Geneva Ginn, Lead Technician, Coachella Valley Mosquito and Vector Control District

10:30 am  Effectiveness of wide area larviciding in the Coachella Valley
Presenter/Author: Jennifer A. Henke, MS, Laboratory Manager, Coachella Valley Mosquito and Vector Control District; Additional Author (s): Gabriela Perezchica-Harvey, MS, Biologist, Gerald Chuzel, Biologist, Chris Cavanaugh, Biologist, Melissa Snelling, Biologist, Arturo Gutierrez, Laboratory Assistant II, Kim Hung, PhD, Vector Ecologist, Greg Alvarado, Field Supervisor, Olde Avalos, Field Supervisor, Roberta Dieckmann, Field Supervisor, Mike Martinez, Field Supervisor, and J. Wakoli Wekesa, PhD, Operations Manager, Coachella Valley Mosquito and Vector Control District

10:45 am  Part 137 certification process for unmanned aircraft systems in Placer County
Presenter/Author: Joel Buettner, MS, General Manager, Placer Mosquito and Vector Control District; Additional Author (s): Scott Schon, Lead Vector Control Technician, Placer Mosquito and Vector Control District
TUESDAY

Breakout Sessions—Session A
Grand Peninsula EFG

11:00 am  Optimization of aerial larvicide applications in Placer County, CA: Comparison of a spray system equipped with 2 vs 4 Micronair AU5000 rotary atomizers
Presenter/Author: Jacob Hartle, B.A., Program Manager, Placer Mosquito and Vector Control District; Additional Author (s): Mario Boisvert, PhD, Assistant Manager, Mary Sorensen, PhD, Entomologist, and Jason Smith, Vector Control Technician, Placer Mosquito and Vector Control District

11:15 am  A new mosquito control product for California: A first look at DeltaGard efficacy in a rice growing habitat of Sacramento County
Presenter/Author: Sarah S. Wheeler, PhD, Biologist, Sacramento-Yolo Mosquito and Vector Control District; Additional Author (s): Steve Ramos, Program Coordinator, Marcia Reed, Laboratory Director and Samer Elkashef, PhD, Assistant Manager, Sacramento-Yolo Mosquito and Vector Control District; Dennis Candito, Territory Manager, ADAPCO

11:30 am  Evaluation of Vectobac WDG use in wide area larvicide spraying for the control of Culex pipiens in urban environments
Presenter/Author: Steven Ramos, Program Coordinator, Sacramento-Yolo Mosquito and Vector Control District; Additional Author (s): Sarah S. Wheeler PhD, Biologist, Tony Hedley, Fisheries Supervisor and Samer Elkashef, PhD, Assistant Manager, Sacramento-Yolo Mosquito and Vector Control District and Peter DeChant, BS, Valent BioSciences

11:45 am  Analyzing the movement of data with heat maps
Presenter/Author: Ruben Rosas, BS, GIS Coordinator, Sacramento-Yolo Mosquito and Vector Control District
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter/Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td><strong>Using mammal tracking techniques to improve placement and targeting of bait stations in rodent control programs</strong>&lt;br&gt;Presenter/Author: Tara Roth, PhD, Vector Ecologist, San Mateo County Mosquito and Vector Control District; Additional Author(s): Angie Nakano, MS, Laboratory Manager, San Mateo County Mosquito and Vector Control District</td>
<td></td>
</tr>
<tr>
<td>12:15</td>
<td><strong>Direct Mail, Text Messages, and an Impossible Goal</strong>&lt;br&gt;Presenter/Author: Jason Farned, MPA, San Gabriel Valley Mosquito and Vector Control District, Operations Manager; Additional Author(s): Gilbert Holguin, Vector Specialist III, Antonio Bishop, Vector Specialist III, Bryan Sorvillo, Data Analyst, San Gabriel Valley Mosquito and Vector Control</td>
<td></td>
</tr>
</tbody>
</table>
### TUESDAY

#### Breakout Sessions—Session B

**Regency A**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Instructor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am</td>
<td>Symposium: Mosquito Biology, Disease and Resistance</td>
<td>Melissa Yoshimizu, PhD, Senior Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health</td>
</tr>
<tr>
<td></td>
<td><strong>Tina Feiszli, MSPHPH; Senior Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health</strong></td>
<td></td>
</tr>
<tr>
<td>8:00 am</td>
<td>Successful population suppression of wild <em>Aedes aegypti</em> by release of Wolbachia-infected males</td>
<td>Jacob E. Crawford, PhD, Verily, Senior Scientist</td>
</tr>
<tr>
<td>8:15 am</td>
<td>New CalSurv Gateway maps for arbovirus activity and <em>Aedes</em> spread</td>
<td>Mathew Leland, DART Lab, University of California, Davis; Jody K. Simpson and Christopher M. Barker, PhD, University of California, Davis</td>
</tr>
<tr>
<td>8:30 am</td>
<td>The quiet invasion of <em>Aedes notoscriptus</em> in Southern California</td>
<td>Marco E. Metzger, PhD, Senior Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health; Renjie Hu, PhD, Supervising Public Health Biologist, and Vicki Kramer, PhD, Chief, Vector-Borne Disease Section, California Department of Public Health</td>
</tr>
<tr>
<td>8:45 am</td>
<td><em>Aedes aegypti</em> dispersal studies in Madera, California</td>
<td>Trinidad Reyes, Madera County MVCD; Matteo Marcantonio, Kurt Cramer, Sarah Abusaa, and Christopher M. Barker, PhD, University of California, Davis</td>
</tr>
</tbody>
</table>
### TUESDAY

#### Breakout Sessions—Session B

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter/Author</th>
<th>Additional Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am</td>
<td>Toward more comparable estimates of urban <em>Aedes</em> abundance</td>
<td>Sarah T. Abusaa, DART Lab, University of California, Davis; Robert Reiner, PhD, University of Washington; Christopher M. Barker, PhD, University of California, Davis</td>
<td></td>
</tr>
<tr>
<td>9:15 am</td>
<td>Studies on <em>Aedes aegypti</em> feeding and risk for local Zika virus transmission in Los Angeles, California</td>
<td>Marisa A.P. Donnelly, DART Lab, University of California, Davis; Susanne Kluh, PhD, Greater Los Angeles County VCD; Christopher M. Barker, PhD, University of California, Davis</td>
<td></td>
</tr>
<tr>
<td>9:30 am</td>
<td>Extrinsic incubation period of Zika virus in <em>Aedes aegypti</em></td>
<td>Olivia C. Winokur, DART Lab, University of California, Davis; Bradley Main, PhD, Jay Nicholson, PhD and Christopher M. Barker, PhD, University of California, Davis</td>
<td></td>
</tr>
<tr>
<td>9:45 am</td>
<td>Simultaneous detection of chikungunya, dengue and Zika viruses in mosquitoes using RT-PCR</td>
<td>Tianyun Su, PhD, Scientific Programs Director, West Valley Mosquito MVCD; Taylor Lura, PhD, Vector Ecologist and Michelle Q. Brown, PhD, District Manager, West Valley MVCD</td>
<td></td>
</tr>
</tbody>
</table>

10:00 am – 10:15 am **Break**
TUESDAY

Breakout Sessions—Session B
Regency A

10:15 am  **Opifex, Opifex, wherefore art thou Opifex? From fuscus to diagonalis, a tale of two skeeters**
Presenter/Author: Ary Faraji, PhD, Salt Lake City MAD; Additional Author(s): Stephen Doggett, PhD, Department of Medical Entomology, Westmead Hospital, New South Wales, Sydney, Australia; and Christina Liew, PhD, National Environment Agency, Singapore

10:30 am  **Incorporation of new technologies and methods to improve surveillance and control at Salt Lake City Mosquito Abatement District**
Presenter/Author: Gregory White, PhD, Assistant Director, Salt Lake City MAD

10:45 am  **Larval mosquito abundances in herbicide-treated water hyacinth**
Presenter/Author: Maribel A. Portilla, MPH, MS, University of California, Davis; Additional Author(s): Sharon Lawler, PhD, Professor, University of California, Davis

11:00 am  **Analysis of factors affecting daily timing of mosquito activity using data from an automated mosquito counting trap**
Presenter/Author: Mary Sorensen, PhD, BCE, Entomologist, Placer MVCD; Additional Author(s): Jake Hartle, Program Manager, Mario Boisvert, PhD, Assistant Manager and Joel Buettner, MS, District Manager, Placer MVCD

11:15 am  **Study of the behavior of *Culex tarsalis* in a rice field environment using a BG-Counter**
Presenter/Author: Mario Boisvert, PhD, Assistant Manager, Placer MVCD; Additional Author(s): Joel Buettner, M.Sc., General Manager, Placer MVCD
Breakout Sessions—Session B
Regency A

11:30 am  Utilizing new technology for analyzing host seeking mosquito activity: the BG counter trap
Presenter/Author: Marcia Reed, BS, Lab Director, Sacramento-Yolo MVCD; Additional Author(s): Sarah S. Wheeler, PhD, Deborah Dritz, MS and Samer Elksahef, PhD, Sacramento-Yolo MVCD

12:00 pm – Lunch
2:00 pm  (Lunch on own)
### Breakout Sessions—Session A

**Grand Peninsula EFG**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 2:00 pm – 4:15 pm | Symposium: Flea, Tick and Vertebrate Biology and Disease  
**Moderator:** Jennifer Henke, MS, Coachella Valley Mosquito and Vector control District |
| 2:00 pm | Six years of *Peromyscus* surveillance after a hantavirus outbreak in Yosemite National Park  
**Presenter/Author:** Mary Danforth, PhD, Biologist, Vector-Borne Disease Section, California Department of Public Health;  
**Additional Author(s):** Mark Novak, PhD, Supervising Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health; Danielle Buttke, DVM, PhD, MPH, One Health Coordinator, National Park Service; Sharon Messenger, PhD, Supervisor, Viral and Rickettsial Diseases Laboratory, California Department of Public Health; Vicki Kramer, PhD, Chief, Vector-Borne Disease Section, California Department of Public Health |
2:15 pm  **Flea-borne typhus surveillance in Orange County—working with others to protect the public**  
Presenter/Author: Robert Cummings, Director of Scientific Technical Services, Orange County Mosquito and Vector Control District; Additional Author (s): Laura Krueger, BCE, Vector Ecologist, Kiet Nguyen, Assistant Vector Ecologist, Carrie Fogarty, Microbiologist, Orange County Mosquito and Vector Control District, Tim Morgan, Vector Ecologist, Daisey Rangel, Research Associate, James Campbell, Intern, Amanda Penicks, Intern, and Michael Pecolar, Intern, Orange County Mosquito and Vector Control District

2:30 pm  **Detection of *Rickettsia* species in fleas collected from opossums, feral cats and Norway rats in Alameda County**  
Presenter/Author: Sutapa Biswas, MS, Vector Biologist, Alameda County Vector Control Services District; Additional Author (s): Natalia Fedorova, MS, Management Associate II; Bruce Kirkpatrick, PhD, Supervising Vector Biologist; David K. James, MA, Vector Ecologist; Adena Why, PhD, Vector Biologist; and Michael Mooney, MS, Vector Biologist, Alameda County Vector Control Services District
Breakout Sessions—Session A
Grand Peninsula EFG

2:45 pm  A survey of ectoparasites collected from Norway rats in homeless camps in Oakland, California
Presenter/Author: Adena Why, PhD, Vector Biologist, Alameda County Vector Control Services District; Additional Author(s): Bruce Kirkpatrick, PhD, Supervising Vector Biologist, and David K. James, MA, Vector Ecologist, Alameda County Vector Control Services District

3:00 pm  Coyotes as sentinels for the detection of plague activity in rodents: a look at multiple spatial scales
Presenter/Author: Gregory Hacker, MS, Associate Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health; Additional Author(s): Jim Tucker, MS, Senior Public Health Biologist, and Mark Novak, PhD, Supervising Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health

3:15 pm  Downslope movement of adult ticks, Ixodes pacificus and Dermacentor occidentalis, under natural conditions in Alameda County, California
Presenter/Author: Sergio Mendoza, Vector Biologist, Alameda County Vector Control Services District; Additional Author(s): David K. James, MA, Vector Ecologist; Sutapa Biswas, MS, Vector Biologist; and Bruce Kirkpatrick, PhD, Supervising Vector Biologist, Alameda County Vector Control Services District
3:30 pm  **Geospatial risk of *Ixodes pacificus* nymphs and the Lyme disease spirochete in Alameda County: a morning dryness factor determines biogeographic boundaries**  
Presenter/Author: Joyce Kleinjan, MS, Management Associate II, Alameda County Vector Control Services District; Additional Author(s): David K. James, MA, Vector Ecologist; Natalia Fedorova, MS, Management Associate II; and Spencer Sussman, MS, Vector Biologist, Alameda County Vector Control Services District

3:45 pm  **Tick-borne relapsing fever and missed diagnoses**  
Presenter/Author: Joseph Burns, Senior Public Health Biologist, Vector-Borne Disease Section, California Department of Public Health; Additional Author(s): Anne Kjemtrup, DVM, PhD, Epidemiologist, Vector-Borne Disease Section, California Department of Public Health

4:00 pm  **Evaluations of bait-only programs for outdoor nuisance cockroaches in California**  
Presenter/Author: Andrew M. Sutherland, PhD, BCE, Urban IPM Advisor, UC Cooperative Extension, SF Bay Area; Additional Author(s): Casey Hubble-Wrigler, MS, Staff Research Associate, UC Cooperative Extension, SF Bay Area; Siavash Taravati, PhD, Urban IPM Advisor, UC Cooperative Extension, Los Angeles Basin; Kathleen Campbell, Staff Research Associate, University of California, Riverside, Dong-Hwan Choe, PhD, Associate Cooperative Extension Specialist/Associate Professor, University of California, Riverside, and Michael Rust, PhD, Distinguished Professor of Graduate Division, University of California, Riverside
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Presenter/Author</th>
<th>Additional Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 pm</td>
<td><strong>Surveillance for mosquito-borne encephalitis virus activity in California, 2018</strong></td>
<td>Tina Feiszli, MSPH, Senior Public Health Biologist, California Department of Public Health</td>
<td>Kerry Padgett, PhD, Robert Snyder, PhD, Leslie Foss, MS, Sharon Messenger, PhD, and Vicki Kramer, PhD, California Department of Public Health; Jody K. Simpson, Ying Fang, and Christopher M. Barker, PhD, DART Lab, University of California, Davis</td>
</tr>
<tr>
<td>2:12 pm</td>
<td><strong>West Nile Virus associated Hospitalizations, California 2003–2016</strong></td>
<td>Robert Snyder, PhD, MPH, California Department of Public Health</td>
<td></td>
</tr>
<tr>
<td>2:24 pm</td>
<td><strong>Effects of short-term weather on the observed abundance of West Nile virus vectors</strong></td>
<td>Pascale C. Stiles, DART Lab, University of California, Davis</td>
<td>Cyril Caminade, PhD, University of Liverpool; Christopher M. Barker, PhD, University of California, Davis</td>
</tr>
<tr>
<td>2:36 pm</td>
<td><strong>Seasonal genetic variation in <em>Culex tarsalis</em> populations</strong></td>
<td>Bradley Main, DART Lab, University of California, Davis</td>
<td>Fatima Tuqan and Christopher M. Barker, PhD, University of California, Davis</td>
</tr>
<tr>
<td>2:48 pm</td>
<td><strong>WNV dead bird testing: an evaluation of sample preservation systems</strong></td>
<td>Kara Kelley, Microbiologist, Sacramento-Yolo MVCD;</td>
<td>Sarah S Wheeler, PhD, and Marcia Reed, BS, Lab Director Sacramento-Yolo MVCD</td>
</tr>
</tbody>
</table>
3:00 pm  **Evaluation of a residual insecticide in the field: should we use residual adulticides to reduce mosquito abundance and West Nile virus activity?**
Presenter/Author: Sarah S Wheeler, PhD, Biologist, Sacramento-Yolo MVCD; Additional Author(s): Kevin Combo, Bret Barner, Laboratory Technician, Marcia Reed, Laboratory Director and Samer Elkashef, PhD, Assistant Manager, Sacramento-Yolo MVCD

3:12 pm  **What’s influencing pyrethroid susceptibility in my district?**
Presenter/Author: Rajeev Vaidyanathan, PhD, Director of Entomology, Clarke

3:24 pm  **Knockdown resistance in *Aedes aegypti* from the Central Valley and Southern California**
Presenter/Author: Sarah Arnao Billeter, PhD, California Department of Public Health, Vector-Borne Disease Section; Additional Author(s): Fan Yang, PhD, Samuel Schildhauer, Kelly Liebman and Marco Metzger, PhD, California Department of Public Health, Vector-Borne Disease Section

3:36 pm – 4:00 pm  **Break**

4:00 pm  **Monitoring for naled resistance in Sacramento and Yolo counties**
Presenter/Author: Deborah A. Dritz, MS, Vector Ecologist, Sacramento-Yolo MVCD; Additional Author(s): Sarah S. Wheeler, PhD, Biologist, and Marcia Reed, Laboratory Director, Sacramento-Yolo MVCD
Breakout Sessions—Session B
Regency A

4:12 pm  Testing for insecticide resistance and identifying metabolic resistance mechanisms in *Culex tarsalis* populations from Northern California
Presenter/Author: Sumiko De La Vega, Graduate Student, Assistant Entomologist, San Joaquin County MVCD and University of the Pacific; Additional Author(s): Shaoming Huang, PhD, Entomologist, San Joaquin County MVCD; Bonnie Ryan, Graduate Student, University of the Pacific; Tara Thiemann, PhD, Assistant Professor, University of the Pacific

4:24 pm  The application of biochemical assay to measure detoxification enzyme levels in California *Aedes aegypti*
Presenter/Author: Fan Yang, PhD, Microbiologist, California Department of Public Health

4:36 pm  Impact of insecticide resistance on an integrated vector management in Placer County, California
Presenter/Author: Joel Buettner, MS, Manager, Placer MVCD

4:48 pm  New CalSurv Gateway tools for management and analysis of bottle bioassays
Presenter/Author: Jody K. Simpson, DART Lab, University of California, Davis; Additional Author(s): Bradley Main, PhD, Katherine Brisco, Noemi Fonseca, Anthony J. Cornel, PhD and Christopher M. Barker, PhD, University of California, Davis; Jeanne Kim, University of California, Berkeley
## Breakout Sessions—Session C

### Regency C

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenter/Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 pm</td>
<td>Symposium: Public Policy and Administration</td>
<td>Jared Dever, San Gabriel Mosquito and Vector Control District and Rick Howard, Orange County Mosquito and Vector Control District</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Mosquito and vector control as special districts: opportunities and challenges</td>
<td>Ryan Clausnitzer, MPA, General Manager, Alameda County Mosquito Abatement District; Kyle Packham, MPP, CSDA Advocacy and Public Affairs Director</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>Opportunities with the advancement of tidal marsh restoration in the San Francisco Bay Area</td>
<td>Erika Castillo, Regulatory and Public Affairs Director, Alameda County Mosquito Abatement District; Ryan Clausnitzer, MPA, General Manager, Alameda County Mosquito Abatement District</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Gone phishing—basic lessons in information security</td>
<td>Dan Fisher, IT Administrator, Sacramento Yolo Mosquito &amp; Vector Control District</td>
</tr>
<tr>
<td>2:45 pm</td>
<td>Coordinating with various land managers to control mosquitoes in Benton County, Washington</td>
<td>Angela Beehler, District Manager, Benton County Mosquito Control District</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Using system management strategies to identify inefficiencies and opportunities within your organization</td>
<td>Jason Farned, MPA, Operations Manager, San Gabriel Valley Mosquito and Vector Control District</td>
</tr>
<tr>
<td>Time</td>
<td>Session Title</td>
<td>Presenter/Author</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3:15 pm</td>
<td><em>Speak when they are actually listening: alternative strategies to improve interagency collaboration</em></td>
<td>Jared Dever, MPA, District Manager, San Gabriel Valley Mosquito and Vector Control District</td>
</tr>
<tr>
<td>3:30 pm</td>
<td><em>What does the policy say? A guide to better policies, procedures and regulations</em></td>
<td>Rick Howard, MPA, District Manager, Orange County Mosquito and Vector Control District</td>
</tr>
<tr>
<td>3:45 pm</td>
<td><em>Succession planning: cultivating our future leaders</em></td>
<td>Truc Dever, MPA, General Manager, Greater Los Angeles County Vector Control District</td>
</tr>
</tbody>
</table>
### WEDNESDAY

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 am – 11:00 am</td>
<td><strong>MVCAC Board of Directors Meeting</strong></td>
<td>Regency Ballroom</td>
</tr>
</tbody>
</table>

### MONDAY

#### Trustee Sessions

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:45 pm</td>
<td><strong>Ethics Training</strong></td>
<td>Harbour Room</td>
</tr>
<tr>
<td></td>
<td><em>Moderator: Donna Rutherford, Chair</em></td>
<td></td>
</tr>
<tr>
<td>5:00 pm</td>
<td><strong>Adjournment</strong></td>
<td></td>
</tr>
</tbody>
</table>

### TUESDAY

#### Trustee Sessions

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:20 am</td>
<td><strong>Trustee Business Session &amp; Breakfast</strong></td>
<td>Harbour Room</td>
</tr>
<tr>
<td></td>
<td><em>Moderator: Donna Rutherford, Chair</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Ticket required for admission.</em></td>
<td></td>
</tr>
<tr>
<td>8:00 am</td>
<td><strong>Adjournment</strong></td>
<td></td>
</tr>
</tbody>
</table>
MVCAC Poster Session

Developing novel RT-PCR markers for detecting dog heartworm (*Dirofilaria immitis*) and other filarial worms
Presenter/Author: Phillip Spinks, PhD, Placer MVCD; Additional Author (s): Joel Buettner, MS, Placer MVCD

An eco-epidemiologic investigation into a human case of hantavirus from an unexpected region in California
Presenter/Author: Tina Feiszli, California Dept. of Public Health—Vector Borne Disease Section; Additional Author (s): Melissa Yoshimizu, Anne Kjemtrup, Kerry Padgett, and Sharon Messenger, California Dept. of Public Health—Vector Borne Disease Section; Amanda Poulsen, Santa Cruz MVCD, Angie Nakano, San Mateo MVCD

Evaluating plague activity in the northern Sierra Nevada, California
Presenter/Author: Elizabeth S. Andrews, PhD, California Dept. of Public Health—Vector Borne Disease Section; Additional Author (s): James Tucker, MS and Mark Novak, PhD, California Dept. of Public Health- Vector Borne Disease Section

Comparison of *in vitro* and *in vivo* blood-feeding in *Culex quinquefasciatus* (Diptera: Culicidae)
Presenter/Author: Quan Vong, B.Sc., West Valley MVCD; Additional Author (s): Patrick Mullens, B.Sc., Taylor Lura, PhD, Tianyun Su, PhD, and Michelle Q. Brown, PhD, West Valley MVCD

Unexpected observations in catch basins treated with extended release briquettes
Presenter/Author: Sarah Erspamer, BS, Alameda County MAD; Additional Author (s): Eric Haas-Stapleton, PhD, Joseph Huston, BA, and Annika Avery, Alameda County MAD
Enhanced attractiveness of *Aedes aegypti* to oviposition cups baited with a gravid infusion compared to cups baited with tap water
Presenter/Author: Katherine Ramirez, Consolidated MAD; Additional Author(s): Jodi Holeman, and Steve Mulligan, Consolidated MAD

Evaluating the presence of the kdr mutation in *Culex pipiens* collected throughout Alameda County
Presenter/Author: Miguel Barretto, Alameda County MAD; Additional Author(s): Eric Haas-Stapleton, PhD and Dereje Alemayehu, Alameda County MAD

Bloodfeeding patterns of *Culex quinquefasciatus* from various habitat types in San Bernardino County
Presenter/Author: Aelish Guinn, MS, University of the Pacific; Additional Author(s): Tara Thiemann, PhD, University of the Pacific; Tianyun Su, Jennifer Thieme, and Michelle Q. Brown, West Valley MVCD

*Wolbachia* infections in mosquitoes of Merced County California
Presenter/Author: Ryan Torres, BS, UC Merced Public Health; Additional Author(s): Andrea L. Joyce, PhD; UC Merced Public Health; Jose Luis Ramirez, PhD; USDA ARS Crop BioProtection Research; Eunis Hernandez, MS, UC Merced Public Health; Rhiannon Jones, MS, Merced County MVCD

Making *Aedes* eggs count
Presenter/Author: Michael Esparza, Coachella Valley MVCD; Additional Author(s): Kim Y Hung, PhD, Coachella Valley MVCD

When do mosquitoes come out at night?
Presenter/Author: Arturo Gutierrez, Coachella Valley MVCD; Additional Author(s): Kim Y Hung, PhD, Coachella Valley MVCD
MVCAC Annual Conference

**MVCAC Poster Session**

**Adult mosquito longevity of *Culex quinquefasciatus* and *Culex tarsalis* laboratory colonies**
Presenter/Author: Jennifer West, BS, Placer MVCD; Additional Author(s): Jacob Hartle, BA, and Mary Sorensen, PhD, Placer MVCD

**Evaluation of spinosad tablets against *Culex* mosquito larvae in simulated catch basins**
Presenter/Author: Samanta Negrete, West Valley MVCD; Additional Author(s): T. Su, PhD, and M. Q. Brown, PhD, West Valley MVCD

**Impact of storage and handling temperatures on the activities of mosquito larvicides**
Presenter/Author: Jennifer Thieme, B.Sc., West Valley MVCD; Additional Author(s): Tianyun Su, PhD, Min-Lee Cheng, PhD and Michelle Q. Brown, PhD, West Valley MVCD

**Evaluation of EverGreen ULV 5-25 Ground at below label rate**
Presenter/Author: Kim Y Hung, PhD, Coachella Valley MVCD; Additional Author(s): Melissa Snelling, Christopher Cavanaugh, Arturo Gutierrez, Greg Alvarado and Jennifer Henke, MS, Coachella MVCD

**Underground storm drain systems**
Presenter/Author: Robert Cummings, MS, Orange County MVCD; Additional Author(s): Amber Semrow, MS, Kiet Nguyen, BS and Tim Morgan, MS, Orange County MVCD

**A case study: documenting the presence of the Turkestan cockroach, *Blatta lateralis*, in Santa Clara County**
Presenter/Author: Regina B. Williams, Santa Clara County VCD; Additional Author: Noor S. Tietze, PhD, Santa Clara County VCD
Could tracking bird populations help predict West Nile virus outbreaks?
Presenter/Author: Leslie Foss, MS, California Dept. of Public Health—Vector Borne Disease Section

Determining the effectiveness of a sticky light trap in trapping and testing mosquitoes for insecticide resistance
Presenter/Author: Annika Avery, Alameda County MAD; Additional Author(s): Babak Ebrahimi, PhD, Santa Clara County VCD; Miguel Barretto, Dereje Alemayehu, John Busam and Eric Haas-Stapleton, PhD, Alameda County MAD

A 25 year review of human hantavirus cases in California
Presenter/Author: Bryan Jackson, PhD, California Dept. of Public Health—Vector Borne Disease Section; Additional Author(s): Anne Kjemtrup, DVM, MPVM, PhD, Mark Novak, PhD and Vicki Kramer, PhD, California Dept. of Public Health—Vector Borne Disease Section

Use of float system to improve efficiency of control of tablets/briquettes formulations of long term larvicides
Presenter/Author: Jeff D. Rushing, Coachella MVCD, Additional Author(s): Fernando Gutierrez, Jonathan Zamaniego, Miguel Vargas, Michael Martinez, Roberta Dieckmann and Oldembour Avalos, Coachella Valley MVCD

Field management application software for operations workflow in Coachella Valley
Presenter/Author: Miguel Vargas, Coachella Valley MVCD; Additional Author(s): Jeff Rushing, Marko Petrovic, Antonio Molina, Edward Prendez, Gregorio Alvarado, Michael Martinez, Olmbour Avalos, and Roberta Dieckmann, Coachella Valley MVCD
Exhibitors/Sponsors

Exhibitor Showcase
The Exhibitor Showcase takes place over two and a half days, allowing all attendees the opportunity to conduct business with exhibitors. Exhibitors play a major part in our ability to offer quality educational programs. Please support MVCAC exhibitors by visiting their booths.

Exhibitor Showcase Hours
Grand Peninsula A-D

Sunday February 3, 2019
6:00 pm – 8:00 pm

Monday February 4, 2019
8:00 am – 5:00 pm

Tuesday February 5, 2019
8:00 am – 2:00 pm

Thank you to our sponsors:

Registration Desk
ADAPCO
Valent BioSciences Corporation, LLC

Attendee Neck Wallets
Central Life Sciences

Convention Attendee Bags
Clarke

5K Fun run
Univar

Welcome reception
Clarke
ADAPCO
AMVCAC Environmental Products
Bayer
Valent BioSciences Corporation, LLC

Monday AM Coffee Break
Central Life Sciences

Monday Plenary Session
ADAPCO
Bayer
Valent Biosciences

Tuesday Concurrent Sessions
AMVAC
Target Specialty Products
ADAPCO
Valent BioSciences Corporation, LLC

MVCAC Awards Banquet Refreshments
ADAPCO
Valent BioSciences Corporation, LLC
Univar
Exhibitor information

ADAPCO
Dino Candito
550 Aero Lane
Sanford, FL 32771
877-875-6353 | dcandito@myadapco.com
www.myadapco.com
Booth #203/205

Aerial Services
Robert Franklin
17605 Chateau Ct.
Castro Valley, CA 94552
510-889-1453 | robert_franklin@aerialservices.org
www.aerialpoolsurvey.com
Booth #101

American Longray, LLC
Brian Liang
23287 Foley St. Unit B
Hayward, CA 94545
415-830-9494 | Brian@pestgoaway.com
www.vdci.net
Booth #303

AMVAC
Rennie Kubik
10808 NE 27th Ct.
Vancouver, WA 98685
360-546-5954 | RennieK@amvac-chemical.com
www.amvac-chemical.com
Booth #109

Application Dynamics
Nicole Williams
PO BOX 152725
Cape Coral, FL 33915
239-673-8328 | williams@applicationdynamics.net
www.applicationdynamics.net
Booth #209
Exhibitors/Sponsors

**Bayer Environmental Science**
Kurt Vandock  
2400 Ellis Rd.  
Durham, NC 27703  
919-549-2226 | Kurt.Vandock@bayer.com  
www.bayer.com  
Booth #304

**BioQuip Products, Inc**
Ken Fall  
2321 E. Gladwick St.  
Rancho Dominquez, CA 90220  
310-667-8800 | ken@bioquip.com  
www.bioquip.com  
Booth #301

**Central Life Sciences**
John Neberz  
1501 E. Woodfield Rd. Suite 200W  
Schaumburg, IL 60173  
847-330-5385 | Jneberz@central.com  
www.centralmosquitocontrol.com  
Booth #213

**Clarke Mosquito Control**
Erin Arnott  
675 Sidwell Court  
Saint Charles, IL 60174  
760-415-0289 | earnott@clarke.com  
www.clarke.com  
Booth #200

**DK Environmental**
Dave McNabb  
3527 Mt. Diablo Blvd, #306  
Lafayette, CA 94549  
925-935-4200 | dave@dkenvironmental.com  
www.dkenvironmental.com  
Booth #204
Frontier Precision, Inc.
Linda Glover
154 1st Ave. W
Jerome, ID 83338
208-324-8006 | linda@frontierprecision.com
www.frontierprecision.com
Booth #305

Gambusia Solutions
Mike Brown
4670 Pacific St. #200
Rocklin, CA 95677
916-462-7331 | Mike@gambusiasolutions.com
www.GambusiaSolutions.com
Booth #100

Hayashida Architects
Sady Hayashida
832 Bancroft Way
Berkeley, CA 94710
510-428-2491 | Sadysh@hayashida-architects.com
www.hayashida-architects.com
Booth #211

Leading Edge Associates, Inc.
Mike Reynolds
702 Tulip Tree Court
Fletcher, NC 28732
828-246-2111 | mreynolds@leateam.com
www.leateam.com
Booth #208/210

Lightborne & Riverwick, LLC
Jesse Shelby
17485 Catalpa St., Ste B5
Hesperia, CA 92345
760-488-1394 | jesse@lightborneriverwick.com
www.shoplbrw.com
Booth #202
Exhibitors/Sponsors

MGK
Brian Meagher
8810 Tenth Ave. N
Minneapolis, MN 55427
612-257-1100 | brian.meagher@mgk.com
www.MGK.com
Booth #308

N&R Publications
Elizabeth Morabito
1124 Del Paso Blvd.
Sacramento, Ca. 95815
916-498-1234 | elizabethm@newsreview.com
www.nrpubs.com
Booth #108

Pro-Lab Diagnostics
Daniel Portillo
21 Cypress Suite 1070
Round Rock, TX 78665
512-832-9145 | Daniel.portillo@pro-lab.us
www.pro-lab-direct.com
Booth #300

SCI Consulting Group
Sonia Ortega
4745 Mangels Blvd.
Fairfield, CA 94534
707-430-4300 | sonia.ortega@sci-cg.com
www.sci-cg.com
Booth #102

ServDay
Ajay Dhillon
1024 Serpentine Ln. #101
Pleasanton, CA 94566
925-351-4874 | Ad@servday.com
www.servday.com
Booth #111
SOLitude Lake Management
Ann Marie Dori
2844 Crusader Circle #450
Virgina Beach, VA 23453
888-480-5253 | info@solitudelake.com
www.solitudelakemanagement.com
Booth #103

Star Milling Co.
Iva Gaglione
PO Box 1987
Perris, CA 92570
951-255-1600 | iva@starmilling.com
www.starmilling.com
Booth #302

Target Specialty Products
Joe Camacho
524 Galveston St.
West Sacramento, CA 95691
916-291-3173 | joe.camacho@target-specialty.com
www.target-specialty.com
Booth #104

Univar E.S.
Sandra Torry
36443 Fender Ave.
Madera, CA 93636
559-577-8872 | sandra.torry@univar.com
www.univares.com
Booth #212

Valent BioSciences Corporation, LLC
John Holick
1450 North 45th St.
Laramie, WY 82072
509-222-8039 | John.holick@valentbiosciences.com
www.valentbiosciences.com
Booth #201
Exhibitors/Sponsors

Vector Disease Control International, LLC
Paige Dawson
1320 Brookwood Dr., Ste H
Little Rock, AR 72202
501-280-0220 | Pdawson@vdci.net
www.vdci.net
Booth #105
<table>
<thead>
<tr>
<th>Exhibitor</th>
<th>Booth #</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAPCO</td>
<td>203/205</td>
</tr>
<tr>
<td>Aerial Services</td>
<td>101</td>
</tr>
<tr>
<td>American Longray, LLC</td>
<td>303</td>
</tr>
<tr>
<td>AMVAC</td>
<td>109</td>
</tr>
<tr>
<td>Application Dynamics</td>
<td>209</td>
</tr>
<tr>
<td>Bayer Environmental Science</td>
<td>304</td>
</tr>
<tr>
<td>BioQuip Products, Inc.</td>
<td>301</td>
</tr>
<tr>
<td>California Special Districts Assn</td>
<td>312</td>
</tr>
<tr>
<td>Catchmaster</td>
<td>110</td>
</tr>
<tr>
<td>Central Life Sciences</td>
<td>213</td>
</tr>
<tr>
<td>Clarke Mosquito Control</td>
<td>200</td>
</tr>
<tr>
<td>Digital Map Products</td>
<td>113</td>
</tr>
<tr>
<td>DK Environmental</td>
<td>204</td>
</tr>
<tr>
<td>FMC</td>
<td>310</td>
</tr>
<tr>
<td>Frontier Precision, Inc.</td>
<td>305</td>
</tr>
<tr>
<td>Gambusia Solutions</td>
<td>100</td>
</tr>
<tr>
<td>Hayashida Architects</td>
<td>211</td>
</tr>
<tr>
<td>Leading Edge Associates, Inc.</td>
<td>208/210</td>
</tr>
<tr>
<td>Lightborne &amp; Riverwick, LLC</td>
<td>202</td>
</tr>
<tr>
<td>MGK</td>
<td>308</td>
</tr>
<tr>
<td>N&amp;R Publications</td>
<td>108</td>
</tr>
<tr>
<td>Pro-Lab Diagnostics</td>
<td>300</td>
</tr>
<tr>
<td>SCI Consulting Group</td>
<td>102</td>
</tr>
<tr>
<td>ServDay</td>
<td>111</td>
</tr>
<tr>
<td>SOLitude Lake Management</td>
<td>103</td>
</tr>
<tr>
<td>Star Milling Co.</td>
<td>302</td>
</tr>
<tr>
<td>Target Specialty Products</td>
<td>104</td>
</tr>
<tr>
<td>Univar E.S.</td>
<td>212</td>
</tr>
<tr>
<td>Valent BioSciences Corporation, LLC</td>
<td>201</td>
</tr>
<tr>
<td>Vector Disease Control International, LLC</td>
<td>105</td>
</tr>
</tbody>
</table>