

**Cover:**

MVCAC

Mosquito and Vector Control Association of California

78<sup>th</sup> Annual Conference

February 7 – 10, 2010

Hyatt Regency Sacramento

Sacramento, California

## **Chairman's Welcome**

Welcome to the 78th Annual Conference of the Mosquito and Vector Control Association of California. This year the conference will provide you with an opportunity to evaluate presentations and symposiums that will be both intellectually stimulating and challenging. The interaction between those presenting and the audience, as well as interaction between professionals in both mosquito control and other related disciplines, will provide each participant with a unique platform to share ideas and develop a network to improve your agencies ability to meet the challenges that lie ahead of us in 2010.

This year the Conference Plenary Session is designed to provide timely information that every Mosquito and Vector Control Agency will need to adjust to; such as the changes that are occurring economically, politically and environmentally to continue to protect the citizens of California and its' visitors from vector-borne disease. Major issues such as: Future funding and restructuring of state and local government, and the future of mosquito research and the development of an Adulticiding NPDES Permit for mosquito control will be presented at the Plenary session. Participants will have the opportunity to listen to students competing for the Reeves New Investigator Award on Monday afternoon. Also, a special GIS workshop designed to help agencies develop their personnel in GIS and a glimpse at the Gateway version 2 will be presented to a select group.

The sessions on Tuesday will include presentations about West Nile virus from the operational to the biological/ecological aspect, administration, public education and other vectors. The Trustee Program is designed to provide information that both seasoned trustees and novice trustees can use to ensure that their respective agencies are run effectively and efficiently.

So, enjoy the conference and when you get a chance, thank the exhibitors, presenters and volunteers who have given of their time and expertise to make this conference a conference that we all take pride in.

Jerry M. Davis, Chairman  
MVCAC Program Committee  
District Manager, Turlock Mosquito Abatement District

Schedule of Events

**Sunday, February 7, 2010**

10 a.m. – 6 p.m. Registration Desk Open (*Regency Ballroom Foyer*)  
Sponsored by



10 a.m. – 4 p.m. Exhibitor Set-up  
(*Regency E/F/G*)

10 a.m. – 4 p.m. Speaker Ready Room Open (*Santa Barbara Room*)

3 – 7 p.m. Exhibitor Show Open  
(*Regency E/F/G*)

5 – 7 p.m. President's Reception and Superbowl Party– (*Exhibit Hall, Regency E/F/G*)  
Sponsored by



**Monday, February 8, 2010**

7 a.m. – 4 p.m. Speaker Ready Room Open (*Santa Barbara Room*)

7 a.m. – 4 p.m. Registration Desk Open  
(*Regency Ballroom Foyer*)

8 a.m. – 5 p.m. Exhibitor Show Open (*Regency Ballroom E/F/G*)

8 a.m. Morning Plenary Session (*Regency A/B/C*) Sponsored by



9:30 – 9:55 a.m. Break in Exhibit Hall - Sponsored by



12 p.m. Lunch on your own

1:30 – 5 p.m. GIS Symposia (*Carmel A&B*)

1:30 p.m. Afternoon Plenary Session (*Regency A/B/C*)  
Sponsored by



3:45 – 4 p.m. Break in Exhibit Hall

4 p.m. William C. Reeves New Investigator Award Competition (*Regency A/B/C*)

4:45 p.m. Adjournment

## Tuesday, February 9, 2010

7 a.m. – 12 p.m. Speaker Ready Room Open (*Santa Barbara Room*)

7 a.m. – 3 p.m. Registration Desk Open (*Regency Ballroom Corridor*)  
Sponsored by



8 a.m. – 3 p.m. Exhibitor Show Open (*Regency Ballroom E/F/G*)

8 a.m. Concurrent Session A (*Regency A*)

8 a.m. Concurrent Session B (*Regency B*)

8 a.m. Concurrent Session C (*Regency C*)

10:00 a.m. – 10:50 a.m. Break in Exhibit Hall Sponsored by





- 11:45 a.m. – 4:45 p.m. Trustee Business Session & Luncheon (*Capital View 15<sup>th</sup> Floor*)
- 11:45 – 1:30 p.m. Lunch on your own
- 1 p.m. – 1:30 p.m. Poster Presentation Q & A (*Regency Ballroom Foyer*)
- 1:30 p.m. Concurrent Session A (*Regency Ballroom A*)
- 1:30 p.m. Concurrent Session B (*Regency Ballroom B*)
- 1:30 p.m. Concurrent Session C (*Regency Ballroom C*)
- 3:15 p.m. – 3:35 p.m. Break in Exhibit Hall
- 3:35 p.m. - 4:35 p.m. Concurrent Sessions Continue
- 6 p.m. – 7 p.m. Reception (*Regency Ballrooms Corridor*) sponsored by



- 7 p.m. – 10 p.m. Awards Banquet and Raffle (*Regency Ballrooms A/B/C*)  
**Wine Sponsored by**



**Wednesday, February 10, 2010**

- 8:00 a.m. – 12 p.m. MVCAC Board of Directors Meeting (*Regency BC*)
- 12 p.m. Hotel Check-out\*
- 12:30 – 4 p.m. Vector Control Advisory Committee – VCAC (*Regency BC*)

\*To make arrangements for late checkout, or luggage storage, please contact the hotel front desk.

**GENERAL INFORMATION**

**Registration Open**



**Sunday, February 7, 2010**

10 a.m. – 6 p.m.

**Monday, February 8, 2010**

7 a.m. – 4 p.m.

**Tuesday, February 9, 2010**

7 a.m. – 3 p.m.

***Exhibit Show***

The exhibitor show takes place over two and one-half days, allowing all attendees the opportunity to conduct business with exhibitors. Exhibitors play a major part in our ability to offer you quality educational programs in four-star locations. Please support our exhibitors by visiting their booths and conducting business with them.

***Exhibitor Show Hours***

**Sunday, February 7, 2010**

4 p.m. – 6 p.m.

**Monday, February 8, 2010**

8 a.m. – 5 p.m.

**Tuesday, February 9, 2010**

8 a.m. – 3 p.m.

## EXHIBITORS

Sustaining Member and Sponsor

ADAPCO

550 Aero Lane

Sanford, FL 32771

800.367.0659

[www.myadapco.com](http://www.myadapco.com)

Larvicides, Adulticides, application equipment & technology

Sustaining Member and Sponsor

AMVAC

P.O. Box 1580

Carmicheal, CA 95609

916.484.3415

[www.amvac-chemical.com](http://www.amvac-chemical.com)

Supplier

AndersonPenna

35839 Garlock Rd.

Acton, CA 93510

661.269.1300

[www.andpen.com](http://www.andpen.com)

Special District financial consulting (benefit assessment districts)

Sustaining Member and Sponsor

Aerial Services

17605 Chateau Court

Castro Valley, CA 94552

510.889.1453

[www.aerialservices.org](http://www.aerialservices.org)

Green pool detection and wetlands mapping

BVA INC.

P.O. Box 930301

Wixon, MI 48393

248.348.4920

[www.bvaoils.com](http://www.bvaoils.com)

Organic based diluents for adulticide and AVA larv 2

Sustaining Member and Sponsor

B&G Products of California

P.O. Box 6246

Anaheim, CA 92816

714.264.8780

[www.bgchem.com](http://www.bgchem.com)

Distributor & technical support for chemicals, spray equipment and GIS hardware and software

Sustaining Member and Sponsor  
Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle Park, NC 27709  
919.549.2543  
[www.backedbybayer.com](http://www.backedbybayer.com)  
Vector Control Products

Sustaining Member and Sponsor  
Central Life Sciences  
1501 E. Woodfield Road, Suite 200 West  
Schaumburg, IL 60173  
847.330.5332  
[www.altosid.com](http://www.altosid.com)  
[www.zenivex.com](http://www.zenivex.com)  
Mosquito larvicide and adulticide

Sustaining Member and Sponsor  
Clarke Mosquito Control  
110 E. Irving Park Rd. -4th Floor  
Roselle, IL 60172  
800.323.5727 ext. 3184  
[www.clarke.com](http://www.clarke.com)

Clarke is a global environmental products and services company, focused on helping to make communities around the world more livable, safe and comfortable. Specializing in mosquito control and aquatic services, our mission is to pioneer, develop and deliver the most eco-responsible and advanced products, services and business practices possible.

Sustaining Member  
Cognis Corporation  
5051 Estecreek Drive  
Cincinnati, OH 45232  
513.482.3855  
[www.cognis.com](http://www.cognis.com)  
Agnique MMF mosquito larvicides and pupicides

Sustaining Member  
Dynamic Aviation  
P.O. Box 7, 1402 Airport Rd.  
Bridgewater, VA 22812  
540.828.6070  
[www.dynamicaviation.com](http://www.dynamicaviation.com)  
Aerial adulticiding

Sustaining Member  
Electronic Data Solutions

P.O. Box 31  
Jerome, ID 83338  
208.320.8006

[www.elecdata.com](http://www.elecdata.com)

Electronic Data Solutions specializes in providing mobile GPS/GIS applications for mosquito control backed by exceptional technical support and product training.

Sustaining Member and Sponsor

FourStar Microbial Products LLC.

3330 Noyac Rd., Bldg. E.

Sag Harbor, NY 11963

877.264.6655

[www.fourstarmicrobialproducts.com](http://www.fourstarmicrobialproducts.com)

Supplier of sustained release microbial larvicide products for mosquito control

Sustaining Member

Harris & Associates

1401 Willow Pass Road, Suite 500

Concord, CA 94520

925.827.4900

[www.harris-assoc.com](http://www.harris-assoc.com)

Civil engineering firm that provides Assessment Engineering Services and Project/Construction Management Services to public agencies.

Hayashida Architects

1250 45th Street Suite 340

Emeryville, CA 94608

510.428.2491

[www.hayashida-architects.com](http://www.hayashida-architects.com)

Architectural Design

Leading Edge Associates, LLC

450 Brannon Forest Dr.

Waynesville, NC 28785

828.926.6525

[www.leateam.com](http://www.leateam.com)

Custom programming for droplet analysis and custom apps for real-time data tracking

Sustaining Member and Sponsor

MGK

8810 Tenth Ave. North

Minneapolis, MI 55427

800.645.6466

[www.mgk.com](http://www.mgk.com)

Points West Argo, Inc.

707 N. George Washington Blvd.

Yuba City, CA 95993  
530.671.6905  
www.argoparts.com  
Amphibitious 6x8 wheeled all terrain vehicles, utility vehicles

SCI Consulting Group  
4745 Mangels Blvd.  
Fairfield, CA 94534  
707.430.4300  
www.sci-cg.com  
Surveys, ballot measures, revenue measure feasibility and special administration services

Thermo Scientific  
46360 Fremont Blvd.  
Fremont, CA 94538  
510.979.5157  
www.thermo.com/diagnostics

Sustaining Member and Sponsor  
Univar USA, Inc.  
2893 N. Miami Ave.  
Fresno, CA 93727  
559.577.8872  
www.univarpps.com

Sustaining Member and Sponsor  
Valent Bio Sciences  
1450 North 45th Street  
Laramie, WY 82072  
307.721.4335  
Biorational larvicides VectoBac, VectoLex, Vectomax

## **SPONSORS**

### **Registration Desk**

Clarke Mosquito Control

### **President's Reception**

ADAPCO

Bayer Environmental Science

Central Life Sciences

Clarke Mosquito Control

Valent BioSciences

### **Refreshment Break Sponsors**

ADAPCO  
AMVAC  
Bayer  
Valent BioSciences

**Award Banquet**

ADAPCO  
Bayer  
Central Life Sciences  
Clarke Mosquito Control  
Univar  
Valent BioSciences

A special thank you to all the member agencies, vendors and other individuals who sponsored door prizes.

## SPEAKER INFORMATION

Thank you for participating in the MVCAC 78<sup>th</sup> Annual Conference

**To Our Moderators:** Please keep the sessions on schedule. Help your speakers by keeping each presentation within the time allotted as shown in the program.

Speakers must submit their papers in writing, along with a diskette if they wish to have it printed in the MVCAC Proceedings. The best time to do this is prior to or at the conference. The deadline for submission of completed manuscripts to the Proceedings Editor for inclusion in the next Proceedings publication is April 27, 2010. Manuscripts submitted after the deadline will be held until the following year's Proceedings.

Proceedings Editor:  
c/o Ashley Bradley, MVCAC Office  
1215 K Street, Suite 2290  
Sacramento, CA 95814  
Phone: 916- 440-0826 Fax: 916-231-2141  
Email: [abradley@mcvcac.org](mailto:abradley@mcvcac.org)

**To Our Speakers: PowerPoint® Presentation Slides:** Deadline for submissions of all presentations was January 25, 2010. We may be able to accommodate changes. There are laptop computers available in the speaker ready room to arrange and preview your presentation. For Monday's Plenary Session, PowerPoint® files should be submitted at least two hours before the session starts. For Tuesday's Concurrent Sessions, take files to the preview room on Monday afternoon before 4 p.m. No revisions will be accepted after your session has started. Sorry, no exceptions. If you have questions, please see personnel in the preview room. NOTE: All materials MUST be picked up in the speaker ready room by 5 p.m. on Tuesday.

### **A Message to Proceedings Contributors From Dr. Jan Washburn, Ph.D., 2010 Proceedings Editor**

MVCAC and affiliated members have continued to produce quality Annual Conference Proceedings. In accordance with maintaining that quality, I want to suggest a number of recommendations that will facilitate the production of a polished manuscript prior to submission for editing and subsequent publication. Suggested manuscript actions prior to submission:

- Review papers (e.g. related to contributor's topic) previously published in the Proceedings and elsewhere. Please note writing style, grammar, overall content/length, tables/graphics, and literature cited formats.
- Manuscript should be reviewed by a coworker/colleague and corrected as necessary with emphasis on the above criteria.
- Tables and graphics should be presented in a way that is easily interpreted, not confusing, and self evident without requiring an "explanation" within the text (e.g. results section, etc.)
- Double check to make sure that all references cited in the text are listed in proper format in the literature/references cited section.
- For those contributors submitting papers (not abstracts) for publication, be sure to include a deserved acknowledgements section for persons (excluding coauthors) and entities that provided both direct and indirect support in the study/project and final manuscript draft.

Day at-a-Glance

**Sunday, February 7, 2010**

10 a.m. – 6 p.m. Registration Desk Open (*Regency Ballroom Corridor*)  
Sponsored by



10 a.m. – 3 p.m. Exhibitor Set-Up  
(*Regency E/F/G*)

10 a.m. – 4 p.m. Speaker Ready-Room Open (*Santa Barbara Room*)

3 p.m. – 7 p.m. Exhibitor Show Open  
(*Regency E/F/G*)

5 p.m. – 7 p.m. President's Reception – (*Exhibit Hall – Regency E/F/G*)  
Sponsored by



Bayer Environmental Science



Day at-a-Glance

**Monday, February 8, 2010**

7 a.m. – 4 p.m. Speaker Ready Room Open (*Santa Barbara Room*)

7 a.m. – 4 p.m. Registration Desk Open (*Regency Ballroom Corridor*)  
sponsored by



8 a.m. – 5 p.m. Exhibitor Show Open (*Regency Ballroom E/F/G*)

8 a.m. Morning Plenary Session (*Regency Ballroom A/B/C*)  
Sponsored by



9:30 – 9:55 a.m. Break in Exhibit Hall – Sponsored by



12:00 p.m. Lunch on your own

1:30 p.m. Afternoon Plenary Session (*Regency Ballroom A/B/C*)



1:30 p.m. – 5 p.m. GIS Symposia (*Carmel A/B*)

3:45p.m. – 4 p.m. Break in Exhibit Hall

4 p.m. William C. Reeves New Investigator Award Competition

4:05 p.m. – 4:45 p.m. Sessions

Monday, February 8, 2010  
Plenary Session  
Sponsored by

**MGK**<sup>®</sup>

Location: **Regency Ballroom ABC**  
Moderator: **Jerry Davis, MVCAC President-Elect**

- 8:00 am. Welcome and Opening Remarks  
**Jerry M. Davis**, MVCAC President-Elect, Turlock MAD
- 8:15 a.m. Welcome to Sacramento  
**Steve Cohn**, City Council Member District Three, City of Sacramento
- 8:25 a.m. President's Address  
**John Rusmiser**, Alameda County MAD
- 8:40 a.m. Moving California Forward: Provocative Solutions for Improving the Legislative Process by The Honorable **Fred Keeley**, Treasurer, Santa Cruz County and Former State Assemblyman
- 9:15 a.m. Update on State of California Legislature  
**Ralph Heim**, Public Policy Advocates LLC
- Recognition of **Senator Lois Wolk** for her Support of the Mosquito Research Program
- 10: 00 a.m. The Contributions of the University of California Research Program to Mosquito and Vector Control in California  
**Bruce F. Eldridge**, Emeritus Professor of Entomology, Department of Entomology and Center for Vectorborne Diseases, University of California, Davis

Break in Exhibit Hall Sponsored by



Moderator: **Bob Gay, San Mateo County MVCD**

- 10:40 a.m. Update on ANR's response to the budget crisis, the strategic initiatives and how they interface with the Mosquito Research Program, **Donald J. Klingborg, DVM, Associate Dean** for Extension, UC Davis School of Veterinary Medicine and **Director**, Advocacy & County Partnerships Member, Executive Working Group UC Agriculture & Natural

Resources

11:15 a.m. Culex pipiens complex mosquitoes create adulticide control challenges in Fresno County,  
**Anthony J. Cornell, Ph.D.**, Associate Entomologist, UC-Mosquito Research Laboratory

12:00 p.m. -1:30 p.m. Lunch on your own

Moderator: **Ken Bayless, Greater LA County VCD**

1:30 p.m. State Water Board Perspective on the NPDES Permit Process  
**Ken Harris**, Chief of the Regulatory Section State Water Resources Control Board

2:00 p.m. Progress on Adulticiding Mosquito NPDES Permit Challenges and Concerns  
**Lisa Hunt**, PE, Senior Consultant, Ecological Risk Assessment and Water Quality URS Corporation

2:30 p.m. AMCA Update: 75 years of service  
**Doug Carlson, AMCA President**

2:50 p.m. Stormwater and Mosquitoes: A Decade of Study,  
**Marco Metzger, Ph.D.**, Senior Public Health Biologist , CDPH

3:20 p.m. Environmental Stewardship along Florida's Indian River Lagoon:  
Balancing Mosquito Control and Natural Resource Interests  
**Doug Carlson, AMCA President**

3:40 p.m. Break Exhibit Hall

Moderator: **Bruce Eldridge**, Emeritus Professor of Entomology, Department Of Entomology and Center for Vectorborne Diseases, University of California, Davis

4:00 p.m. William C. Reeves New Investigator Award Competition  
Reeves New Investigator Award Committee  
**Shaoming Huang, Ph.D., San Joaquin County MVCD**  
**Susanne Kluh, Ph.D., Greater LA County VCD**  
**Vicki Kramer, Ph.D., CDPH-VBDS**

4:05 p.m. Evaluating Trap Bias in Blood Meal Identification Studies,  
**Tara C. Thiemann, Ph.D. candidate**, UC-Davis, Center for Vectorborne Diseases

4:20 p.m. Distribution and Prevalence of Novel Flavivirus in California,  
**Martha Veronica Armijos, Ph.D. Student**, UC-Davis, Center for Vectorborne Diseases

4:35 p.m. Effect of Temperature on West Nile Virus Replication in Different Host Cell Types:  
Potential for Altered Transmission Cycles in California,  
Christy C. Andrade, UC-Davis, VM-PMI, Center for Vectorborne Diseases

4:50 p.m. Adjournment

**MONDAY, February 8, 2010**

**SYMPOSIA: GIS Workshop**

Location: **Carmel A&B**

Participants must bring their own laptops with the software preinstalled as described in the abstracts below. A CD containing lesson plans giving step-by-step directions and practice datasets will be provided for each workshop, as well as a GIS resource guide. There will be 30 desk spaces set up for participants with laptops who wish to follow along, and approximately 50 spaces for individuals who wish to solely observe the workshop. Internet access will be provided.

Moderator: **Jonathan Kwan**, California Department of Public Health, Vector-Borne Disease Section

1:30 p.m.-3 p.m.

"Introduction to GIS for Integrated Pest Management Using ESRI® ArcMAP" – **Jodi Holeman**, Consolidated MAD

This workshop will first give an overview of ArcMAP, then teach the user how to: 1) Display spatial or tabular data, 2) Query data, and 3) Edit data, all using GIS software ArcMAP. The user will learn the layout of the menus and screen, functions of basic tools, how to use the joins and relates function, connect to an existing database, and how to manipulate data. Participants must have ESRI® ArcMap 9.3 installed on their laptops prior to the workshop in order to follow along. Information for ArcGIS and where to purchase it may be found at <http://www.esri.com/software/arcgis/arcview/index.html>.

3 -3:10 p.m.

Break

3:10 p.m.- 5 p.m.

"Managing spatial data using the CalSurv Gateway 2.0" – **Chris Barker**, UC Davis, Center for Vectorborne Diseases

This workshop will first give an overview of the new aspects of Gateway 2.0, a free Web-based software program hosted by CalSurv. The presentation will be followed by an interactive session in which users with laptops will be able to try Gateway 2.0 for themselves. Topics discussed will include defining surveillance sites, integration of Google Maps®, creating and editing sites, and summarizing data based on spatial groupings. Web browser requirements: Microsoft Internet Explorer 8 or a recent version of Safari or Mozilla Firefox. Please ensure that you have a login and password prior to the workshop. You may obtain one by contacting the Gateway data manager at your agency.

## Day at-a-Glance

Tuesday, February 9, 2010

7 a.m. – 12 p.m. Speaker Ready Room Open (*Santa Barbara Room*)

7 a.m. – 3 p.m. Registration Desk Open (*Regency Ballroom Corridor*)  
sponsored by



8 a.m. – 5 p.m. Exhibitor Show Open (*Regency Ballroom E/F/G*)

8 a.m. Concurrent Session A (*Regency Ballroom A*)

8 a.m. Concurrent Session B (*Regency Ballroom B*)

8 a.m. Concurrent Session C (*Regency Ballroom C*)

10 a.m. – 10:25 a.m. Break in Exhibit Hall Sponsored by



Bayer Environmental Science



11:45 a.m. – 4:45 p.m. Trustee Business Session & Luncheon (*Capital View 15<sup>th</sup> Floor*)

12 p.m. – 1:30 p.m. Lunch (on your own)

1 p.m. – 1:30 p.m. Poster Presentations (*Regency Ballroom Corridor*)

1:30 p.m. Concurrent Session A (*Regency Ballroom A*)

1:30 p.m. Concurrent Session B (*Regency Ballroom B*)

1:30 p.m. Concurrent Session B (*Regency Ballroom C*)

2 p.m. – 2:30 p.m. Break in Exhibit Hall

3:35 p.m. - 4:35 p.m. Sessions

6 p.m. – 7 p.m. Reception (*Regency Ballrooms North/South Foyer*) sponsored by



7 p.m. – 10 p.m. Awards Banquet and Raffle (*Regency Ballrooms A/B/C*)

**Wine Sponsored by**



**TUESDAY, February 9, 2010**

**Morning Concurrent Session A**

Location: **Regency Ballroom A**

Moderator: **Moderator- Joel Buettner, Placer MVCD**

**SYMPOSIUM: UC Davis – Epidemiology and Control of West Nile Virus**

- 8:05 a.m. Introduction - **William Reisen, Ph.D., Research Entomologist and Adjunct Professor, Mosquito and Arbovirus Ecology**
- 8:10 a.m. Comparative Sensitivity of RNA Extraction Methods: What it Means in Wild Bird and Mosquito Surveillance, **Ying Fang, MS, Laboratory Manager, CVEC**
- 8:25 a.m. Sampling Paradigms for Trap Allocation, **Chris Barker, Ph.D., Postdoctoral Scholar, CVEC**
- 8:35 a.m. Survey of Culex Host Selection Patterns in California, **Tara Thieman, Ph.D. Student, Graduate Group in Entomology, CVEC**
- 8:50 a.m. Avian Seroprevalence in Sacramento County 2004-2009  
**Stan Wright, Vector Ecologist Sac- Yolo MVCD**

- 9:05 a.m. Evaluation of Three West Nile Virus Vaccines in Western Scrub-jays, **Sarah Wheeler, Ph.D. Student**, Graduate Group in Entomology, CVEC
- 9:20 a.m. An Analysis of Sentinel Chickens Utility for Surveillance in Urban Environments, **Jennifer Kwan, Ph.D. Student**, Graduate Group in Epidemiology, CVEC
- 9:35 a.m. Unsupervised Classification Scheme for Detecting Clean and Neglected Swimming Pools From Satellite Sdata, **Forest Melton, MS, NASA**
- 9:50 a.m. ULV Efficacy Trials of EPA Exempt Adulticides, **Hugh Lothrop, Specialist Entomologist**, CVEC
- 10:10 a.m. Break Sponsored by



Moderator: **Min-Lee Cheng, Ph.D.**, West Valley MVCD

**SYMPOSIUM: UC Davis – Invading and Emerging Arboviruses**

- 10:25 a.m. Introduction - **William Reisen, Ph.D., Research Entomologist and Adjunct Professor**, Mosquito and Arbovirus Ecology
- 10:30 a.m. What Will be the Next West Nile Virus? **William Reisen, Ph. D.**, Research Entomologist and Adjunct Professor, Mosquito and Arbovirus Ecology
- 10:45 a.m. Detecting Invasive Viruses: Some Thoughts for Surveillance, **David Clark, Ph.D., Assistant Research Virologist**, CVEC
- 11:00 a.m. Chikungunya Virus: A Macaque Model, **Ching-I Chen, Ph.D. Project Scientist**, CVEC
- 11:15 a.m. Invasive Viruses: The European Blue Tongue Experience, **Gabrielle Worma, Postdoctoral Scholar**, CVEC
- 11:30 a.m. Blue Tongue Virus and Culicoides in California: The Next Problem for MVCAC? **Bradley Mullen, Ph.D., Professor Entomology**, UC Riverside
- 12:00 p.m. Lunch

Moderator: **David Whitesell**, Colusa MAD

- 1:30 p.m. Efficacy of VectoMax CG for Mosquito Control in Wild Rice in Lake County, California  
**Jamesina J. Scott, Ph.D., District Manager/ Research Director**, Lake County VCD
- 1:40 p.m. The Efficacy of VectoMax CG Against Mosquito Populations on a Wildlife Refuge,  
**Deborah Dritz**, U.C. Davis, Department of Entomology
- 1:50 p.m. FourStar™ SBG (Bti Sand Granule) Pre and Post-Hatch Field Trials-2009,  
**Robert D. Sjogren, Ph.D., Technical Director**, FourStar Microbial Products LLC
- 2:00 p.m. Field trials with New Spinosad Larvicides, **Steve Schutz, Ph.D., Scientific Programs Manager**, Contra Costa Mosquito & Vector Control District
- 2:10 p.m. Laboratory and Microcosm Evaluation of a New Bipesticide Natular T-30,  
**Steven T. Su, Ph.D., Vector Ecologist**, West Valley Mosquito & Vector Control District
- 2:20 p.m. Natular™ Stewardship Initiatives Over the Past Season,  
**James McNelly, Director – Environmental Sciences**, Clarke Mosquito Control
- 2:30 p.m. Break

Moderator: **David Whitesell**, Colusa MAD

- 3:00 p.m. Field Assessment of Natular G and Natular EC Against Aedes nigromaculis and Culex tarsalis larvae in Merced County Irrigated Pastures and Seasonal Wetlands,  
**Allan D. Inman, Manager-Entomologist**, Merced County MAD
- 3:10 p.m. Designing Simulated Catch Basins for Larvicide Trials, **Katy Parise, BS in Biology, Laboratory Technician**, Sac- Yolo Mosquito & Vector Control District
- 3:20 p.m. Ground ULV & Backpack Application Trial of Etofenprox (Zenivex™) In Sonoma County, California, **Valkyrie Piper Kimball, Laboratory Director**, Marin/Sonoma MVCD
- 3:30 p.m. Adulticide Challenges Caused by Both Ground ULV Application Inefficiencies and Resistance, **Anthony J. Cornel, Ph.D., Associate Entomologist**, UC Mosquito Research Laboratory
- 3:45 p.m. Mosquito Adulticide Use by MVCAC Member Districts-Results of a Survey Conducted in Preparation for the NPDES Mosquito Adulticide Permit,  
**Chindi Peavey, Ph.D., Laboratory Director**, San Mateo County MVCD
- 4:00 p.m. Adjournment

## Morning Concurrent Session B

Location: **Regency Ballroom B**

Moderator: **Paul Binding, Santa Cruz County MVCD**

### SYMPOSIUM: Surveillance

- 8:05 a.m. Surveillance for Mosquito-Borne Encephalitis Virus Activity in California 2009, **Tina Feiszli, MSPH**, CDPH, Vector-Borne Disease Section
- 8:20 a.m. West Nile Virus Activity in San Joaquin County, CA: A Six-year Summary 2004-2009, **Shaoming Huang, Ph.D.**, San Joaquin County MVCD
- 8:30 a.m. High Altitude West Nile Virus and Mosquito Surveillance in Mammoth Lakes, CA, **Steven Ganong, Manager**, Mammoth Lakes MAD
- 8:40 a.m. Arbovirus Surveillance in Orange County, 2009  
**Kiet Nguyen, Laboratory Specialist**, Orange County VCD
- 8:50 a.m. Comparison of RT-PCR West Nile Virus Test Results for Paired Samples of Kidney and Bilateral Intraocular Cocktail from Dead Birds Submitted to Orange County Vector Control District in 2009, **Robert Velten, Vector Ecologist**, Orange County VCD
- 9:00 a.m. Using the Collection Bottle Rotator Trap for Mosquito Abundance and Temporal Activity in Fresno County, **Charles W. Smith, Entomologist**, Consolidated MAD
- 9:10 a.m. Designing a Time Segregated Gravid Trap, **Marcia Reed, Vector Ecologist**, Sac-Yolo MVCD
- 9:20 a.m. Different Technologies for Virus Testing and Challenges Posed to Current Mosquito Control and Virus Activity Response Plans  
**Paula A. Macedo, Ph.D.**, Laboratory Director, Sac-Yolo MVCD
- 9:35 a.m. West Nile Virus Dead Bird Surveillance Program, **Jaynia Anderson, Assistant Program Coordinator**, CDPH, Vector-Borne Disease Section
- 9:45 a.m. Sentinel Chickens: The Evolution of Laboratory Testing in the California Arbovirus Surveillance Program  
**Laura Diaz Zamora, Microbiologist**, CDPH Vector-Borne Disease Section
- 9:55 a.m. Host Bloodmeal Identification, **Inger-Marie E. Vilcins, Ph.D., MIPH, Public Health Biologist**, CDPH, Vector-Borne Disease Section
- 10:05 a.m. Break Sponsored by



**Bayer Environmental Science**



## **Biology/Ecology/Administrative**

Moderator: **Tim Phillips, Fresno MVCD**

- 10:35 a.m. Host-Seeking Preferences of Three Species of Culex Mosquitoes in Southern California  
**Robert Cummings, Director of Scientific Technical Services, Orange County VCD**
- 10:45 a.m. Defining Genetic, Taxonomic and Geographic Boundaries Among Species in the Psorophora Confinnis Complex, **Gregory C. Lanzaro, Professor, Department of Pathology, UC Davis**
- 11:00 a.m. Invasive Aquatic and Riparian Weeds and Mosquitoes; Challenge, Successes, & Continuing Needs, **Charles E. Blair, MD Trustee, Mosquito and Vector Management District of Santa Barbara County**
- 11:10 a.m. A Tale of Two Bulrushes: The Vector-Related Consequences of using California Bulrush or Alkali Bulrush as Emergent Macrophytes for Constructed Treatment Wetlands  
**Bill Walton, Ph.D. and Dagne Duguma, M.S., Ph.D. Student Dept. of Entomology, UC Riverside**
- 11:25 a.m. Don't Let the Bed Bugs Bite: A Review of Current Bed Bug Literature and Resources  
**Denise Bonilla, MS, Associate Public Health Biologist, CDPH, Vector-Borne Disease Section**
- 11:35 a.m. Myth or Reality: Bed Bugs in San Bernardino County, CA,  
**J. Wakoli Wekesa, Ph.D., San Bernardino County MVC Program**
- 11:45 p.m. Lunch (on your own)

## **Afternoon Concurrent Session B**

Location: **Regency Ballroom B**

Moderator: **Brian Passaro, Santa Barbara County MVMD**

## **SYMPOSIUM: Administration/Public Education**

- 1:30 p.m. Gateway v2: What's Changed? **Bborie Park, Programmer, UC Davis**
- 1:40 p.m. Vector Concepts' Design Standards for the Prevention of Vector-Borne Diseases,  
**James L. Shaffer, Planner Vector-Borne Disease Program, Washoe County Health Department, NV**
- 1:55 p.m. Fight the Bite Goes Digital  
**Luz Maria Rodriguez, Public Information Officer, Sac-Yolo MVCD**
- 2:10 p.m. Highlights from the Mobile Education Unit Program, **Andy Pak and LeShawn Simplis, Education Program Coordinator's, Greater L.A. County VCD**
- 2:20 p.m. Working with Private Pest Control as a Public Health Agency?  
**Cheryl Sebay, Assistant Vector Ecologist, San Mateo County MVCD**
- 2:30 p.m. - 3 p.m. Break in exhibit hall

Moderator: **Brian Passaro, Santa Barbara County MVMD**

**SYMPOSIUM: Administration/Public Education**

- 3 p.m.            Communications Opportunities and Challenges on the Intranet LBAM Presentation  
**Steve Lyle, Director of Public Affairs, CDFA**
- 3:30 p.m.        Public Health Surveillance: Conveying Numbers with Meaning  
**Anne Kjemtrup, DVM, MPVM, Ph.D.**, CDPH, Vector-Borne Disease Section
- 3:50 p.m.        A Scientific and Empathetic Approach to Public Health Education  
**Claudia Erickson, MS, CHES**, CDPH, Vector-Borne Disease Section
- 4:10 p.m.        Adjourn

**Morning Concurrent Session C**

Location: **Regency Ballroom C**

Operational -Moderator: **Rob Quiring, Kern County MVCD**

- 8:05 a.m.        USAF Wide Area Operational Aerial Application of Zenivex (etofenprox) Against Natural  
Populations and Caged Adult Mosquitoes in Williston, North Dakota.  
**Bill Reynolds, Central Life Sciences**
- 8:20 a.m.        Aerial Response to Increased West Nile Virus Activity in Kings County, CA  
**Michael Cavanagh, Manager**, Kings County Mosquito Abatement District
- 8:30 a.m.        Deployment of Efforts to Control West Nile in Kern, CA  
**Richard Takahashi, Entomologist**, Kern MVCD
- 8:40 a.m.        Mosquito Control-California and Florida Lets Share the Wealth,  
**James F. Clauson, Director**, Beach Mosquito Control District, Florida
- 8:50 a.m.        A Web-based Solution for Data Collection and Management,  
**Derek Wright, Technology Business Manager**, ADAPCO, Inc.
- 9:00 a.m.        Mobile GIS Application for Coachella Valley Mosquito and Vector Control District,  
**Cary Roberts, GIS Specialist**, Coachella Valley MVCD
- 9:30 a.m.        Web-based Operational Data Management: Then, Now and Future  
**Min-Lee Cheng, Ph.D., Manager**, West Valley MVCD
- 9:50 a.m.        Benefits of GIS in Vector-Borne Disease Surveillance  
**Ryan Pierson, GPS/GIS Specialist**, Electronic Data Solutions
- 10:00 a.m.      Break Sponsored by





### Vectors of Public Health Importance

Moderator: **Jim Wanderscheid, Marin-Sonoma MVCD**

- 10:30 a.m. The Biogeography of the Forensically Important Flies of California,  
**Michael Niemela, Associate Public Health Biologist**, CDPH Vector-Borne Disease Section
- 10:40 a.m. Are Late Season Mosquitoes More Likely to be Infected With Dog Heartworm? A Study of  
The Relationship between Age and Infection in *Aedes sierrensis*,  
**Brittany M. Mills-Nelms, Assistant Biologist**, CVEC
- 10:50 a.m. Canine Heartworm Surveillance Program in Sacramento and Yolo Counties- Past, Present  
and future, **Kara Kelley, Microbiologist**, Sac-Yolo MVCD
- 11:00 a.m. RIFA Surveillance and Control Strategies in the Coachella Valley, CA,  
**Bobbie Dieckmann, Operations Biologist**, Coachella Valley MVCD
- 11:10 a.m. Distribution and Prevalence of *Rickettsia felis* in San Bernardino, CA, J.  
**Wakoli Wekesa, Ph.D., Vector Ecologist**, San Bernardino County MVCP
- 11:25 a.m. Basic Yellow Jacket Biology, Surveillance and Control for Sac-Yolo MVCD  
**Kevin G. Valone, Field Technician**, Sac-Yolo MVCD
- 11:35 a.m. Looking for Ticks in All the Right Places: A Novel Approach for Surveillance of Adult  
*Ixodes pacificus* Ticks  
**Martin B. Castro, Associate Public Health Biologist**, CDPH Vector-Borne Disease Section
- 11:45 a.m. *Ixodes pacificus* Hosts and *Borrelia burgdorferi* at the Quail Ridge Preserve,  
**Stan Wright, Environmental Biologist**, Sac-Yolo MVCD
- 11:55 a.m. Lunch on your own

### Vectors of Public Health Importance

Moderator: **Lucia Hui, Alameda County VCSD**

- 1:30 p.m. Lyme Disease Physician Survey: Medical Community Outreach in Alameda County,  
**Daniel Wilson, Community Relations Coordinator**, Alameda County VCSD
- 1:45 p.m. The Vertebrate Pest Control Research Advisory Committee - 10 Reasons Why You Should  
Be Interested ..., **Mark G. Novak, Ph.D., Supervising Public Health Biologist**, CDPH Vector-  
Borne Disease Section
- 1:55 p.m. Tick-Borne Spotted Fever Group *Rickettsiae* Surveillance in California Ticks - From the

Mexican Border to Oregon. **Kerry A. Padgett, PhD, Supervising Public Health Biologist,**  
CDPH Vector-Borne Disease Section

2:05 p.m. An Update on Tick-Borne Spotted Fever Group Rickettsiae in Southern California,  
**Renjie Hu, Ph.D., Supervising Public Health Biologist,** CDPH Vector-  
Borne Disease Section

2:25 p.m. High Altitude Plague Epizootic in Mono County, **Joseph Burns, Senior Public Health  
Biologist,** CDPH Vector-Borne Disease Section

2:35 p.m. Adjournment

### **Trustee Session**

**Tuesday, February 9, 2010**

Location: **Capital View Room 15<sup>th</sup> Floor**

11 – 11:10 a.m. Welcome  
**Henry Morgan,** Chair of Trustees

11:10 a.m. – 12 p.m. Employment Issues  
**Rick Bolanos,** Liebert Cassidy Whitmore, San Francisco

12 p.m. – 2:15 p.m. Lunch with guest speaker  
After the guest speaker there will be brief business session and drawing.

2:15 – 2:30 p.m. Break

2:30 p.m. New Trustee Session  
**Lyndon Hawkins** and **Rod Coburn**

4:45 p.m. Adjournment

Day at a Glance

**Wednesday, February 10, 2010**

8:00 a.m. – 12 p.m. MVCAC Board of Directors Meeting (*Regency BC*)

12 p.m. Hotel Check-out\*

12:30 – 4 p.m. Vector Control Advisory Committee – VCAC (*Regency BC*)

\*To make arrangements for late checkout, or luggage storage, please contact the hotel front desk.

### **POSTER PRESENTATIONS**

**Monday, February 8 – Tuesday, February 9, 2010**

Location: **Regency Ballroom Corridor**

**Presentations on Tuesday, February 9 from 1 p.m. – 1:30 p.m.**

- **A Simple In Vitro Blood Feeding Method for Culex pipiens**  
Angela T. Nakano, Vector Ecologist, San Mateo County MVCD
- **Utilizing Real-Time PCR to Detect Borrelia burgdorferi Infection in Ixodes pacificus**  
Kimberly A. Heilig, Biologist, Kristen Holt, Biologist Valkyrie P. Kimball, Assistant Vector Ecologist, Marin/Sonoma MVCD
- **Nematodes as Potential Biological Control Agents**  
Gabriela Perezchica-Harvey, Assistant Biologist Coachella Valley MVCD
- **Invasive Aquatic Weeds; Implication for Mosquito Control**  
Charles E. Blair , MD Trustee, Mosquito and Vector Management District of Santa Barbara County
- **From the Bottle to the Bowl; Determining VectoMax™ CG Application Strategies in Sonoma County, California**  
Joanne Towl, Field Supervisor, Valkyrie Piper Kimball, Lab Director, Kristen Holt, Biologist, Paul Filippi, Vector Control Technician, Stacy Bearden, Ph.D., Entomologist/Consultant  
Marin/Sonoma MVCD
- **Evaluation of EcoExempt Insecticide Concentrate Oil against Chironomid Midge at Water Pollutant Control Plant, San Jose**  
Dr. Nayer Zahiri Vector Ecologist
- **Arbovirus Surveillance In Orange County, 2009**  
Tim Morgan, Bob Cummings, Robert Velten, Steve Bennett, Laura Krueger, Carrie Fogarty, Keit Nguyen, Karin De Collibus, Kimberly Stephens, Catalina Herrera, Daisy Folores, Art Tilzer, Jim Francisco, Martine Jozan