

# 67

SIXTYSEVENTH  
NATIONAL  
CONFERENCE

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## 67th ASEV National Conference

**June 27–30, 2016**

### PROGRAM INCLUDES

Merit Award  
Presentation –

**Dr. Douglas O. Adams**  
**University of  
California, Davis**


ASEV Extension  
Distinction Award  
Presentation –

**Dr. Bruce Zoecklein**  
**Virginia Tech,  
Blacksburg**

Monterey County Winery  
& Vineyard Tour

Managing Water in  
California Vineyards  
Symposium  
(7.0 CCA CEUs)

Research Reports

 Student  
Flash Talks

Monterey County  
Regional Wine Reception

Industry Seminars with  
Supplier Displays

Outreach Seminar

**Portola Hotel  
& Monterey  
Marriot**

Monterey, California USA

## REGISTRATION & PROGRAM GUIDE



AMERICAN SOCIETY FOR ENOLOGY AND VITICULTURE

# 67th ASEV National Conference

The National Conference is returning to a California setting where wine tasting is minutes away from whale watching. Monterey County includes nine appellations showcasing 175 unique vineyards and 60 tasting rooms located in three different regions.

**Please visit [www.asev.org](http://www.asev.org) for additional program, sponsorship, registration, and hotel information.**

## 2016 Merit Award Presentation

The ASEV Merit Award is presented annually to an individual who has significantly contributed in an outstanding manner to the progress and advancement of enology and viticulture to the industry and/or to the Society. This award acknowledges excellence in the fields of education, technology, research, management, public relations or any discipline related to enology and viticulture.

Thursday, June 30, 9:30 am – 10:15 am

**Dr. Douglas O. Adams**, *University of California, Davis*  
*Representations and Interventions in Growing Grapes and Making Wine*



Best known for his research work on grape berry ripening, Dr. Adams has concentrated his efforts in two principal areas: (1) the biochemical changes that occur during ripening and (2) the development of tannins in skins and seeds of red wine varieties, which led to research related to tannin extraction during winemaking. His work on tannin development during ripening also led to the Adams-Harbertson Phenolics Panel, a protein precipitation assay designed to aid real-time winemaking decisions. He also has a project aimed at understanding factors that influence amino acid metabolism in grapevines and the amino acid composition of grapes at harvest. This work hopes to provide an analytical tool for viticulturists that will inform them about vine nitrogen status in vineyards managed for commercial wine production.

Dr. Adams is currently a viticulture professor in the Department of Viticulture and Enology in the College of Agricultural and Environmental Sciences at the University of California, Davis. He teaches Introduction to Winemaking and a graduate level class in grape berry development and composition. He was the recipient of the ASEV's Honorary Research Lecturer Award in 2006.

# 2016 ASEV National Conference Overview

All events will be held at the Portola Hotel & Monterey Marriott, unless noted otherwise.

*as of June 2016*

## Monday, June 27

|         |   |         |  |
|---------|---|---------|--|
| 8:00 am | – | 5:45 pm | Monterey County Winery & Vineyard Tour |
| 3:00 pm | – | 6:00 pm | Registration                           |
| 3:00 pm | – | 6:00 pm | Speaker Ready Room                     |
| 4:00 pm | – | 6:00 pm | ASEV Board Meeting                     |

## Tuesday, June 28

|         |   |          |   |
|---------|---|----------|---|
| 7:00 am | – | 6:00 pm  | Registration  |
| 7:00 am | – | 6:00 pm  | Speaker Ready Room  |
| 8:00 am | – | 6:00 pm  | Managing Water in California Vineyards Symposium (7.0 CCA CEUs) |
| 7:00 pm | – | 8:00 pm  | ASEV Board Reception (by invitation only)                       |
| 8:00 pm | – | 10:30 pm | ASEV Board Dinner (by invitation only)                          |

## Wednesday, June 29

|          |   |          |   |
|----------|---|----------|---|
| 6:30 am  | – | 7:00 pm  | Registration  |
| 6:30 am  | – | 7:00 pm  | Speaker Ready Room  |
| 7:00 am  | – | 7:55 am  | Early Career Member Breakfast   |
| 7:30 am  | – | 7:45 pm  | Poster Sessions   |
| 8:05 am  | – | 8:15 am  | President's Welcome   |
| 8:15 am  | – | 9:30 am  | Enology – General Enology Session (oral research reports)                             |
| 8:15 am  | – | 9:30 am  | Viticulture – Disease Management Session (oral research reports)                      |
| 9:45 am  | – | 10:30 am | Keynote Presentation – Arsenic in Wine: A Scientific Perspective                      |
| 10:00 am | – | 4:00 pm  | Supplier Displays   |
| 10:45 am | – | Noon     | Viticulture – General Viticulture Session (oral research reports)                     |
| 10:45 am | – | 12:15 pm | Enology – Microbiology Session (oral research reports)                                |
| 1:30 pm  | – | 3:30 pm  | Winemaking & Grapegrowing — Sulfur Management from Vine to Wine (industry seminar)    |
| 3:45 pm  | – | 4:30 pm  | ASEV Extension Distinction Award Presentation – In Vino Veritas and Jefferson's Dream |
| 4:45 pm  | – | 6:15 pm  | ⚡ Student Flash Talks (selected student poster presenters)                            |
| 6:15 pm  | – | 7:45 pm  | Poster Authors Present (research reports) & Monterey County Regional Wine Reception   |
| 7:15 pm  | – | 10:00 pm | Publications Committee Dinner Meeting (for committee members only)                    |

## Thursday, June 30

|          |   |          |   |
|----------|---|----------|---|
| 7:30 am  | – | 5:15 pm  | Poster Session (research reports)   |
| 7:30 am  | – | 5:00 pm  | Speaker Ready Room  |
| 7:30 am  | – | 7:00 pm  | Registration  |
| 8:00 am  | – | 9:15 am  | Enology – Phenolics Session (oral research reports)   |
| 8:00 am  | – | 9:15 am  | Viticulture – Water Relations Session (oral research reports)                                       |
| 9:30 am  | – | 10:15 am | ASEV Merit Award Presentation – Representations and Interventions in Growing Grapes and Making Wine |
| 10:00 am | – | 4:00 pm  | Supplier Displays   |
| 10:30 am | – | 11:15 am | Enology – Sensory Session (oral research reports)   |
| 11:30 am | – | Noon     | AJEV Best Enology Paper Author Presentation   |
| Noon     | – | 1:00 pm  | ASEV Annual Business Meeting  |
| 1:30 pm  | – | 2:30 pm  | Grapegrowing – Soil Salinity (industry seminar)   |
| 1:30 pm  | – | 2:30 pm  | Winemaking – Water Use in the Winery (industry seminar)   |
| 2:45 pm  | – | 3:15 pm  | AJEV Best Viticulture Paper Author Presentation   |
| 3:30 pm  | – | 5:00 pm  | Outreach Seminar — Mechanization and Precision Management of Winegrape Vineyards                    |
| 5:15 pm  | – | 7:15 pm  | Student-Industry Mixer Reception  |







## Monterey County Winery & Vineyard Tour

**MONDAY, JUNE 27**

8:00 am – 5:45 pm

*The tour is offered on a first registered, first enrolled basis.*

Fee: \$50/person (includes transportation, lunch, and wine tastings)

Tour Max: 50 people

Please dress comfortably and wear walking shoes. You may wish to bring sun protection and drinking water. You must be 21 or over and able to walk up some hills. Water will be provided on the bus and you may bring your own snacks and water or other non-alcoholic beverages if you like.

**Tour Guide:**

**Kristen Barnhisel**, *J. Lohr Vineyards and Wines, California*

**Schedule**

|          |                                      |
|----------|--------------------------------------|
| 8:00 am  | Depart Portola Hotel                 |
| 9:30 am  | Arrive at J. Lohr Winery Greenfield  |
| 11:30 am | Depart J. Lohr Winery Greenfield     |
| 11:45 am | Arrive at Griva Barn                 |
| 11:45 am | Griva Barn Tour                      |
| 12:15 pm | Catered Lunch with Arroyo Seco wines |
| 1:20 pm  | Depart Griva Barn                    |
| 1:40 pm  | Arrive at Hahn Estate                |
| 3:15 pm  | Depart Hahn Estate                   |
| 3:30 pm  | Arrive at Wrath Winery               |
| 4:45 pm  | Depart Wrath Winery                  |
| 5:45 pm  | Arrive Back at Portola Hotel         |

*Note: Attendees must be registered for the national conference to register for this tour. Refunds will not be issued for tours due to our contractual obligations. However, tours offered are conditional upon a minimum enrollment. If the minimum enrollment is not met and the tour is cancelled by ASEV, fees will be refunded in full.*



# Managing Water in California Vineyards Symposium (7.0 CCA CEUs)

## Organizing Committee:

**Mark Battany**, *University of California Cooperative Extension, San Luis Obispo County*

**Larry Bettiga**, *University of California Cooperative Extension, Monterey County*

**Andrew McElrone**, *University of California, Davis*

**Andy Walker**, *University of California, Davis*

## TUESDAY, JUNE 28

8:00 am – 6:00 pm

### Program:

#### Introduction to California Water Policy, Delivery and Use

**Jay Lund**, *University of California, Davis*

#### Whole Plant Ecophysiological Response to Drought – A Primer

**Andrew McElrone**, *University of California, Davis*

#### Berry Responses to Water Stress

**Markus Keller**, *Washington State University, Richland*

#### Molecular Physiology – Omics Approaches to Water Stress

**Simone Castellarin**, *Wine Research Center, Canada*

#### Monitoring Water Use: Technologies Compared from CIMIS And Beyond

**Rick Snyder**, *University of California, Davis*

#### Monitoring Water Use: Vineyard Level Case Histories from the Central Coastal

**Mark Battany**, *University of California Cooperative Extension, San Luis Obispo County*

#### Sensing and Monitoring Stress with Satellite Imagery

**Lars Pierce**, *California State University, Monterey Bay*

#### The Use of Leaf Monitors in Precision Irrigation of Grapes

**Shrini K. Upadhyaya**, *University of California, Davis*

#### Variable Rate Drip Irrigation for Vineyards

**Luis Sanchez**, *E & J Gallo, California*

#### Irrigation Scheduling

**Larry Williams**, *University of California, Davis*

#### Single Vine Precision Irrigation

**David Block**, *University of California, Davis*

#### How to Cope with Inadequate Water Amounts – When to Irrigate to Get the Greatest Impact

**Mike McCarthy**, *South Australian Research & Development Institute, Australia*

#### Managing Salinity with and without Adequate Amounts of Water

**Jim Ayars**, *United States Department of Agriculture, Fresno*

#### Using Rootstocks to Cope with Drought and Salinity

**Mike McCarthy**, *South Australian Research & Development Institute, Australia*

Research presentations (oral and poster) are based on submitted abstracts and represent work in progress and final research.

## WEDNESDAY, JUNE 29

### President's Welcome

8:05 am – 8:15 am

**Mark Greenspan**, *Advanced Viticulture, Inc., California*

### Enology – General Enology Session (research report)

8:15 am – 9:30 am

#### Moderator:

**Stephen Menke**, *Colorado State University, Grand Junction*

#### Program:

Measurement of Organic and Inorganic Arsenic Species in Californian Wines using LC-ICP-QQQ

**Courtney Tanabe**, *University of California, Davis*

Clarifying the Fate of Acetaldehyde in Wine: Its Hidden Derivatives

**Ana Peterson**, *University of California, Davis*

The Cellulose Content Changes in Bourbon Whiskey Barrels

**Jarrad Gollihue**, *University of Kentucky, Lexington*

Impact of Wine pH Reduction by Cation—Exchange on Sensory and Chemical Attributes

**Misha T. Kwasniewski**, *University of Missouri, Columbia*

Combination of Cold Soak and Whole-Cluster Fermentation in Pinot noir: Effect on Color, Phenols, and Sensory Properties

**Federico Casassa**, *California Polytechnic State University, San Luis Obispo*

### Viticulture – Disease Management Session (research report)

8:15 am – 9:30 am

#### Moderator:

**Lise Asimont**, *Francis Ford Coppola Presents, California*

#### Program:

Superior Salt Tolerance in Grafted Accessions of Wild *Vitis* Species

**Kevin Fort**, *University of California, Davis*

Further Understanding the Cause and Management of Sour Rot

**Megan Hall**, *Cornell University, New York*

Identifying Economic Hurdles to Early Adoption of Trunk Disease Preventative Practices in California Winegrape Vineyards

**Jonathan Kaplan**, *California State University, Sacramento*

Impacts of Grapevine Leafroll and Redblotch Diseases in Washington Vineyards

**Prashant Swamy**, *Washington State University, Prosser*

Molecular Strategies to Stack Powdery Mildew Resistance from Multiple Backgrounds in a Grape Breeding Program

**M. Andrew Walker**, *University of California, Davis*

### Keynote Presentation



9:45 am – 10:30 am

Arsenic in Wine: A Scientific Perspective

**Dr. Carl Winter**, *University of California, Davis*

### Viticulture – General Viticulture Session (research report)

10:45 am – Noon

#### Moderator:

**Hans Walter-Peterson**, *Cornell University, New York*

#### Program:

Comparison of Nitrogen Management Schemes in Cover Cropped Vineyards

**James Moss**, *Virginia Polytechnic Institute and State University, Winchester*

Cane Morphology Influences Bud Freezing Tolerance in *Vitis vinifera* Cabernet franc

**Thomas Todaro**, *The Ohio State University, Wooster*

Grapevine Root Cold Hardiness

**Eric Gale**, *Washington State University, Prosser*

Influence of Berry Development on the Activity of Tannin in Partial Extracts

**James Campbell**, *California State University, Fresno*

The Effects of Undervine Weed Management Methods on Vine Physiology, Yield, and Grape and Wine Composition

**Mark Krasnow**, *Thoughtful Viticulture Ltd., New Zealand*

### Enology – Microbiology Session (research report)

10:45 am – 12:15 pm

#### Moderator:

**Linda Bisson**, *University of California, Davis*

#### Program:

Isolation and Characterization of [Gar+] Yeasts in Commercial Stuck Fermented Wines

**Minami Ogawa**, *University of California, Davis*



Wednesday, June 29 (continued)

Understanding Nutrient Utilization Efficiency in Wine Yeasts and Its Role in Problem Fermentations

**Ayca Ozcan**, *University of California, Davis*

Impact of Bacterial Load and Oxidative Stress of the Grape Must in Problematic Fermentations

**Vidhya Ramakrishnan**, *University of California, Davis*

Influence of *Oenococcus oeni* and *Brettanomyces bruxellensis* on Hydroxycinnamic Acids and Volatile Phenols of Aged Wine

**Nathalia Kruse Edwards**, *Chr. Hansen A/S, Denmark*

Identifying Native and Immigrant *Saccharomyces* Yeast Strains

**Lucy Joseph**, *University of California, Davis*

Impact of Yeast Flocculation and Biofilm Formation on Yeast-fungus Co-adhesion in a Novel Immobilization System

**Jaime Moreno-García**, *University of California, Davis*

2016 ASEV Extension Distinction Award Presentation



3:45 pm – 4:30 am

In Vino Veritas and Jefferson's Dream

**Dr. Bruce Zoecklein**

2016 ASEV Extension Distinction Award Recipient

*Virginia Polytechnic Institute and State University, Blacksburg*

THURSDAY, JUNE 30

Enology – Phenolics Session

8:00 am – 9:15 am

Moderator:

**James Kennedy**, *Constellation Brands, Inc., California*

Program:

Impact of Cabernet Sauvignon Berry Maturity on Wine Anthocyanin, Tannin, and Polymeric Pigment Content over Time

**Caroline Merrell**, *Washington State University, Richland*

The Influence of Antioxidants and Microbes on Outcomes of Microoxygenation Treatments in Red Wines

**Charles Henschel**, *University of California, Davis*

Determination of the Optimum Amount, Rate, and Exposure Point of Microoxygenation for Cabernet Sauvignon

**Anita Oberholster**, *University of California, Davis*

Cold Soaking or Massive Sulfur Maceration Prior to Fermentation to Increase the Quality of Pinot noir?

**Pascal Wegmann-Herr**, *DLR-Rheinpfalz, Germany*

Influence of Polysaccharides on Tannin Activity in Red Wine

**Aude A. Watrelot**, *California State University, Fresno*

Viticulture – Water Relations Session (research report)

8:00 am – 9:15 am

Moderator:

**Markus Keller**, *Washington State University, Prosser*

Program:

Grape Berry Transpiration and Its Impacts on Ripening and Weight Loss

**Yun Zhang**, *Washington State University, Prosser*

Thirsty Grapes: Real-time Monitoring of Stem Water Potential

**Michael Santiago**, *Cornell University, New York*

Can a Canopy Temperature-based Stress Index Enhance Water Use Efficiency in Irrigated Wine Grape under Arid Conditions?

**Krista Shellie**, *United States Department of Agriculture-Agricultural Research Service, Idaho*

Can Winter Hardiness of Merlot be Improved by Manipulating Irrigation Practices?

**Carl Bogdanoff**, *Summerland Research & Development Centre, Canada*

Irrigation Strategies for White Winegrape Production

**Yun Zhang**, *Washington State University, Prosser*

Merit Award Presentation



9:30 am – 10:15 am

Representations and Interventions in Growing Grapes and Making Wine

**Dr. Douglas O. Adams**

2016 Merit Award Recipient

*University of California, Davis*

Enology – Sensory Session (research report)

10:30 am – 11:15 am

Moderator:

**Anita Oberholster**, *University of California, Davis*

Program:

Maceration and Cap Management Affect the Phenolic Distribution and Sensory Profile of Merlot Wine

**Scott Frost**, *University of California, Davis*

Chemosensory Approach for Understanding the Green, Aggressive, and Hard Character of Red Wines

**María-Pilar Sáenz-Navajas**, *Universidad de Zaragoza, Spain*

White Juice Solids: Effect on Phenolics, Polysaccharides and Mouth-feel of White Wine

**Richard Gawel**, *Australian Wine Research Institute, Australia*

Thursday, June 30 (continued)

## AJEV Best Enology Paper Author Presentation

11:30 am – Noon

Sulfur Dioxide and Glutathione Alter the Outcome of Microoxygenation

**Angelita Gambuti**, *University of Naples, Italy*  
2016 AJEV Best Enology Paper Award Recipient

## AJEV Best Viticulture Paper Author Presentation

2:45 pm – 3:15 pm

Characterization of Winery Wastewater for Reuse in California

**Maya C. Buelow**, *University of California, Davis*  
2016 AJEV Best Viticulture Paper Award Recipient

# POSTER SESSIONS (RESEARCH REPORTS)

## WEDNESDAY, JUNE 29

7:30 am – 7:45 pm

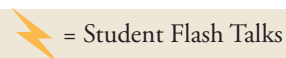
*Authors present their poster research during the Monterey County Regional Wine Reception (6:15 pm – 7:45 pm)*  
*Student Flash Talks: 4:45 pm—6:15 pm*

## THURSDAY, JUNE 30

7:30 am – 5:15 pm

Chair:

**Leticia Chacón-Rodríguez**, *Safe Harbor Wine Storage, California*




= Student Flash Talks

## Enology & Viticulture Research Report Posters

Optimizing the Genetic Transformation of Grape Fruiting and Rootstock Cultivars

**Cecilia Agüero**, *University of California, Davis*

 Evaluation of Native Non-*saccharomyces* Yeasts for Reducing Ethanol Production in Wine By Sugar Respiration

**Jesse Aplin**, *Washington State University, Pullman*

Vineyard Irrigation Scheduling based on Remote Sensed Estimates of Vine Water Status Using Aerial Thermal Images

**Joaquim Bellvert**, *University of California, Davis*

Aromatic Variables Associated with Quality of Texas High Plain Wines Made from Tempranillo and Cabernet Sauvignon

**Matthias Bougreau**, *Texas Tech University, Lubbock*


Response of Different Grapes Rootstock and Cultivars Combinations to Incidence, Severity and Defoliation Caused by Downy

**Luciane Bertoletti Barros**, *University of California, Davis*

Growing Region and Winery Influences on the Sensory Quality of Merlot Wines from the Okanagan and Similkameen Valleys

**Pat Bowen**, *Agriculture & Agri-Food Canada*

Evaluation of Riesling Clonal Selections in the Salinas Valley  
**Larry Bettiga**, *University of California Cooperative Extension, Monterey County*

 Analysis of *Brettanomyces bruxellensis* Penetration Depths in Different Types of Oak Barrel Staves  
**Zachary M. Cartwright**, *Washington State University, Pullman*

Sunburn in Grape Berries: Varietal Differences in Composition, Structure, and Physiology

**Bhaskar Bondada**, *Washington State University, Richland*

Microwave-assisted Extraction of Cabernet Sauvignon Grapes: Effects on Wine Phenolics, Color, and Sensory Properties

**Federico Casassa**, *California Polytechnic State University, San Luis Obispo*

Cold Soak to Reduce Maceration Length: Chemical, Chromatic, and Sensory Effects in Cabernet Sauvignon, Malbec, and Merlot

**Federico Casassa**, *California Polytechnic State University, San Luis Obispo*

Microwave-assisted Extraction of Merlot Grapes with Different Degrees of Ripeness

**Federico Casassa**, *California Polytechnic State University, San Luis Obispo*

Effect of Water Availability and Rootstocks on 'Chambourcin' Vine Physiology and Grape Quality

**Arianna Bozzolo**, *University of Missouri, Columbia*

The Potential Impact of Red-Blotch Incidence Levels on Wine Composition and Wine Quality in Cabernet Sauvignon

**Amanda Cihlar**, *Treasury Wine Estates, California*

Performance of UC-Davis Developed Pierce's Disease Resistant *Vitis vinifera* L. Selections in Alabama

**Elina Coneva**, *Auburn University, Alabama*

Polysaccharide Release by Immobilized *Schizosaccharomyces japonicus* Cells During the Alcoholic Fermentation

**Paola Domizio**, *Università degli Studi di Firenze, Italy*

Rootstocks for Management of *Meloidogyne Hapla* in Washington State Vineyards

**Katherine East**, *Washington State University, Prosser*





Enology & Viticulture Research Report Posters (continued)

Assessing Yeast Communities Within Inoculated and Spontaneous Fermentations by Culture-Dependent and Independent Methods

**Daniel Durall**, *University of British Columbia, Canada*

Antioxidant Capacity of Table Grapes from the South San Joaquin Valley Related to Skin Color

**Sarah Forester**, *California State University, Bakersfield*

Assessing the Effect of Different Percentages of Red Blotch Affected Fruit on Wine Composition for Cabernet Sauvignon

**Sean Eridon**, *University of California, Davis*

Foliar Spray Application of Inactive Dry Yeast at Veraison: Effect on Berry Skin Thickness, Aroma, and Phenolic Quality

**Simone Giacosa**, *Università degli Studi di Torino, Italy*

Chemistry of Red Wine Aging: Implications for Health and Biologic Activity

**Andrew Waterhouse**, *University of California, Davis*

Impact of Red Blotch Disease on Cabernet Sauvignon and Chardonnay Grape Composition

**Raul C. Girardello**, *University of California, Davis*

Small-Molecule Fingerprinting and Carbohydrate Profile of Used Bourbon Barrels

**Jarrad Gollihue**, *University of Kentucky, Lexington*

Differential Growth Effects of Native and Commercial Mycorrhizal Inoculants on Grapevine Rootstocks

**Taylor Holland**, *University of British Columbia, Canada*

Sensory Profiling and Chemical Analysis of Rosé Wines Elucidates Effects of Popular Production Techniques

**Kelley Hamilton**, *University of California, Davis*

Genetic Diversity Analysis of Grapevine Rupestris Stem Pitting-associated Virus in Ontarian Vineyards

**Julia Hooker**, *University of Guelph, Canada*

Chemical Analysis of Wine with HS-SPME and GC-TOFMS for Target Screening and Non-Target Characterization and Comparison

**Gail Harkey**, *LECO Corporation, Michigan*

Characterization of Pierce's Disease Resistance in Germplasm Collected from the Southwestern US and Mexico

**Karla Huerta**, *University of California, Davis*

Effects of Winery Wastewater on Soil, Grape Nutrition, and Wine Quality

**David Hirzel**, *University of California, Davis*

A Mechanistic Model for Vegetative Vigor in Grapevine

**Ines Hugalde**, *Instituto Nacional de Tecnología Agropecuaria, Argentina*

Physiological and Genetic Control of Vigor in a Ramsey x Riparia Gloire de Montpellier Population

**Ines Hugalde**, *Instituto Nacional de Tecnología Agropecuaria, Argentina*

Does Production of High Levels of Sulfite Correlate with Undesirable Sulfide Formation in Commercial Wine Yeasts?

**Garrett Holzwarth**, *Oregon State University, Corvallis*

Effects of Must pH on Red Grape Skin Tannin Extraction

**Eri Inoue**, *University of Yamanashi, Japan*

Influence of Direct Root-zone Micro-irrigation on Production of Cabernet Sauvignon in the Pacific Northwest

**Pete Jacoby**, *Washington State University, Pullman*

A Model for Predicting Anthocyanin Extractability in Red Wines

**Hend Letaief**, *Enartis USA, California*

Using Leaf Excision During Gas Exchange Measurements to Increase Sample Size

**Thayne Montague**, *Texas AgriLife Research and Extension Center, Lubbock*

Identification of Bacterial Metabolite Inducer(S) of [Gar+] Prion of *Saccharomyces cerevisiae*

**Peter Luong**, *University of California, Davis, California*

Pruning Systems and Applied Water Interact on Productivity and Phenolic Composition of Zinfandel

**Clinton Nelson**, *E&J Gallo, California*

How Flavonoids Stimulate Browning

**Lingjun Ma**, *University of California, Davis, California*

Comparative Response of Six Grapevine Rootstocks to Inoculation with Arbuscular Mycorrhizal Fungi (*Rhizophagus irregularis*)

**Antreas Pogiatis**, *University of British Columbia, Canada*

Brown Marmorated Stink Bug in Wine: Critical Stages of Processing, Remedial Treatment and Impact of Aging

**Pallavi Mohekar**, *Oregon State University, Corvallis*

Effect of Potassium and Ethephon on Color and Anthocyanins Concentration in Berries of Cv Red Globe (*Vitis vinifera* L.)

**Maria Beatriz Pugliese**, *Instituto Nacional de Tecnología Agropecuaria, Argentina*

Sulfur Dioxide Addition Alters *S. Cerevisiae* Populations and Wine Sensory Characteristics in Spontaneous Fermentations

**Sydney Morgan**, *University of British Columbia, Canada*

Grapevine Shoot and Cluster Development as a Function of Arm Positioning along the Cordon

**Brooke Robertson**, *California Polytechnic State University, San Luis Obispo*

Enology & Viticulture Research Report Posters (continued)

The Effects of Hyperoxidation and Storage Temperatures on the Flavor Profiles and Sensory Quality of Riesling Wine

**Lisa Robbins**, *The Ohio State University, Wooster*

Do Online Disease Management Courses Change Grower Behavior? Powdery Mildew and California Grape Growers

**Olena Sambucci**, *University of California, Davis*

Elucidating Contributions by Vineyard Site to Phenolic Profiles of Pinot noir Wines

**Ron Runnebaum**, *University of California, Davis*

⚡ The Impacts of Cluster Thinning and Cluster-zone Leaf Removal on the Hormone Dynamics of Ripening Pinot noir Berries

**Joseph Schmidt**, *Oregon State University, Corvallis*

⚡ Influence of Juice Turbidity, Hyper-oxidation, and Skin-contact on Chardonnay Wine Mouthfeel

**Anthony Sereni**, *Oregon State University, Corvallis*

Revisiting an Old Problem: Flower Necrosis in Grapevines

**R. Paul Schreiner**, *United States Department of Agriculture-Agricultural Research Service, Oregon*

Volatile Sulfur Compounds in Pinot noir Wine Postfermentation: Role of Nitrogen Composition and Elemental Sulfur

**Nadine Skillingstad**, *Oregon State University, Corvallis*

Evidence of Phenological Shoot Autonomy in Grapevines

**Michael Sipiora**, *Treasury Wine Estates, California*

Influence of Lysozyme Addition on Hydroxycinnamic Acids and Volatile Phenols During Yeast and Bacteria Co-fermentation

**Stephan Sommer**, *Appalachian State University, North Carolina*

Rapid and Matrix-Independent Method to Analyze Anthocyanins in Red Grape Juice and Wine by FT-MIR

**Stephan Sommer**, *Appalachian State University, North Carolina*

⚡ Evaluating Grape Root Architecture in a 101-14Mgt x 110R Genetic Mapping Population

**Jacob Uretsky**, *University of California, Davis*

Method Optimization for Total Arsenic Analysis in Wines using HG-MP-AES

**Courtney Tanabe**, *University of California, Davis*

The Effects of Pre-bloom and Fruit Set Leaf Removal on Yield, Composition and Wine Quality of Shiraz

**Kevin Usher**, *Agriculture and Agri-Food Canada*

⚡ The Effect of Initiating Alcoholic and/or Malolactic Fermentations on Microbes of Wine and Its Sensorial Profile

**Mansak Tantikachornkiat**, *University of British Columbia, Canada*

Flowering Time and Seed Content Contribute Asymmetrically to Uneven Ripening Initiation among Fruits in *Vitis vinifera*

**Amanda Vondras**, *Oregon State University, Corvallis*

Grape Leafroll Virus: A Systems Approach to Understand Its Interaction with the Plant and Its Effect on Fruit Ripening

**Amanda Vondras**, *Oregon State University, Corvallis*

Influence of Yeast Strain on the Production of Volatile Compounds of Cabernet Sauvignon Wine

**Isaela Villalpando**, *Centro de Investigación para los Recursos Naturales, Mexico*

Comparison of Different Screening Techniques for Grape Powdery Mildew Resistance

**M. Andrew Walker**, *University of California, Davis*

⚡ Identification of Vineyard and Winery Bacteria and Their Impact on Problematic Fermentations

**Emily Wiemer**, *University of California, Davis*

⚡ Effect of Various Levels of Biochar and Compost on Growth of Valvin Muscat Grapevines in a Controlled Environment

**Timothy Weber**, *University of Missouri, Columbia*

Comparison of Solid Phase Extraction and Liquid-Liquid Extraction for Aroma Extract Dilution Analysis of Merlot Wine

**Pengtao Zhao**, *Oregon State University, Corvallis*

Investigating the Effect of Topography on Vine Water Use (ET) and Vine Stress

**Lynn Wunderlich**, *University of California Cooperative Extension, El Dorado County*

⚡ Regulated Deficit Irrigation on Malbec and Syrah Grape Volatiles

**Fang Yuan**, *Oregon State University, Corvallis*

Industry Research Report Posters

Alternative to Filtration or Chemical Stabilization for Micro-organism Removal: Chitosan Fining

**Eglantine Chauffour**, *Enartis USA, California*

Innovative Tools to Limit Juice Oxidation

**Eglantine Chauffour**, *Enartis USA, California*

Application of Automated 4-D High Resolution Vineyard Soil Hydrology Assessments and Visualization

**David E. Ebert**, *Purdue University, Indiana*

Strategies to Limit Non-enzymatic Oxidation and Extend White Wine's Shelf Life

**Maria Navarro**, *Enartis USA, California*

Aroma Enhancement in White Wines During Fermentation and Storage, Due to New  $\beta$ -glycosidase Enzyme Activities

**Michael Sobe**, *Erbsloeh Geisenheim AG, Germany*

Evaluation of Wine Grape Ripeness using a New Combo BRIX & ACIDITY Meter

**John Thull**, *University of Minnesota, Excelsior*

Industry Research Report Posters (continued)

Development and Validation of a Reagent Based on Enzymatic Reactions for Determining Histamine in Wines  
**Andreu Tobena**, *BioSystems S.A., Spain*

Analysis of Toast Profiles by Near Infrared Spectroscopy for Traditional Barrels and Alternative Oak Products  
**Laura Weissberg**, *Tonnellerie Ô, California*

## Student Flash Talks

Some student authors have been assigned oral, 3.5-minute Flash Talks. These “flash” presentations will provide additional opportunities for interaction between conference attendees and student researchers.

**Moderator:**

**Andy Walker**, *University of California, Davis*

(Listed in presentation order)

### WEDNESDAY, JUNE 29

4:45 pm – 6:15 pm

Evaluation of Native Non-saccharomyces Yeasts for Reducing Ethanol Production in Wine By Sugar Respiration  
**Jesse Aplin**, *Washington State University, Pullman*

Analysis of *Brettanomyces bruxellensis* Penetration Depths in Different Types of Oak Barrel Staves  
**Zachary M. Cartwright**, *Washington State University, Pullman*

Assessing the Effect of Different Percentages of Red Blotch Affected Fruit on Wine Composition for Cabernet Sauvignon  
**Sean Eridon**, *University of California, Davis*

Impact of Red Blotch Disease on Cabernet Sauvignon and Chardonnay Grape Composition  
**Raul C. Girardello**, *University of California, Davis*

Small Molecule Fingerprinting and Carbohydrate Profile of Used Bourbon Barrels  
**Jarrad Gollihue**, *University of Kentucky, Lexington*

Sensory Profiling and Chemical Analysis of Rosé Wines Elucidates Effects of Popular Production Techniques  
**Kelley Hamilton**, *University of California, Davis*

Effects of Winery Wastewater on Soil, Grape Nutrition, and Wine Quality  
**David Hirzel**, *University of California, Davis*

Differential Growth Effects of Native and Commercial Mycorrhizal Inoculants on Grapevine Rootstocks  
**Taylor Holland**, *University of British Columbia, Canada*

Does Production of High Levels of Sulfite Correlate with Undesirable Sulfide Formation in Commercial Wine Yeasts?  
**Garrett Holzwarth**, *Oregon State University, Corvallis*

Genetic Diversity Analysis of Grapevine Rupestris Stem Pitting-associated Virus in Ontarian Vineyards  
**Julia Hooker**, *University of Guelph, Canada*

Characterization of Pierce's Disease Resistance in Germplasm Collected from the Southwestern US and Mexico  
**Karla Huerta**, *University of California, Davis*

A Mechanistic Model for Vegetative Vigor in Grapevine  
**Ines Hugalde**, *Instituto Nacional de Tecnología Agropecuaria, Argentina*

Effects of Must pH on Red Grape Skin Tannin Extraction  
**Eri Inoue**, *University of Yamanashi, Japan*

Identification of Bacterial Metabolite Inducer(S) of [Gar+] Prion of *Saccharomyces Cerevisiae*  
**Peter Luong**, *University of California, Davis*

How Flavonoids Stimulate Browning  
**Lingjun Ma**, *University of California, Davis*

Sulfur Dioxide Addition Alters *S. Cerevisiae* Populations and Wine Sensory Characteristics in Spontaneous Fermentations  
**Sydney Morgan**, *University of British Columbia, Canada*

Comparative Response of Six Grapevine Rootstocks to Inoculation with Arbuscular Mycorrhizal Fungi (*R. irregularis*)  
**Antreas Pogiatzis**, *University of British Columbia, Canada*

Grapevine Shoot and Cluster Development as a Function of Arm Positioning along the Cordon  
**Brooke Robertson**, *California Polytechnic State University, San Luis Obispo*

The Impacts of Cluster thinning and Cluster-zone Leaf Removal on the Hormone Dynamics of Ripening Pinot noir Berries  
**Joseph Schmidt**, *Oregon State University, Corvallis*

Influence of Juice Turbidity, Hyper-oxidation, and Skin-contact on Chardonnay Wine Mouthfeel  
**Anthony Sereni**, *Oregon State University, Corvallis*



The Effect of Initiating Alcoholic And/or Malolactic Fermentations on Microbes of Wine and Its Sensorial Profile  
**Mansak Tantikachornkiat**, *University of British Columbia, Canada*

Evaluating Grape Root Architecture in a 101-14Mgt x 110R Genetic Mapping Population  
**Jacob Uretsky**, *University of California, Davis*

Effect of Various Levels of Biochar and Compost on Growth of Valvin Muscat Grapevines in a Controlled Environment  
**Timothy Weber**, *University of Missouri, Columbia*

Identification of Vineyard and Winery Bacteria and Their Impact on Problematic Fermentations  
**Emily Wiemer**, *University of California, Davis*

Regulated Deficit Irrigation on Malbec and Syrah Grape Volatiles  
**Fang Yuan**, *Oregon State University, Corvallis*

## Outreach Seminar

With the ever-increasing cost and shortage of qualified labor, the desire to economize vineyard operations via mechanization has become increasingly important. Similarly the concept of precision viticulture has become more popular to manage inherent vineyard variability, environmental impact reduction and to increase profitability. This outreach seminar will discuss the impacts of vineyard mechanization and precision viticulture on labor, vineyard management efficiency, vineyard variability and grape quality.

**THURSDAY, JUNE 29**

3:30 pm – 5:00 pm

### Mechanization and Precision Management of Winegrape Vineyards

**Moderator:**

**Matthew Fidelibus**, *University of California, Davis*

**Program:**

Vineyard Mechanization and the Drive to Precision Management

**Kaan Kurtural**, *University of California, Davis*

Spraying in Vineyards Using Remotely Piloted Vehicles

**Ken Giles**, *University of California, Davis*

Automated Grape Yield Monitoring and Mapping

**Luis Sánchez**, *E & J Gallo Winery, California*

Impact of Mechanical Harvesting and Optical Berry Sorting on Grape and Wine Composition

**Anita Oberholster**, *University of California, Davis*

### Supplier Display Tables are still available (at publication time)!

Contact: [society@asev.org](mailto:society@asev.org) or (530) 753-3142 or visit [www.asev.org](http://www.asev.org) for details

#### 2016 Supplier Displays:

|                                |                                 |                           |  |
|--------------------------------|---------------------------------|---------------------------|--|
| Admeo, Inc.                    | The Barrel Mill                 | iCropTrak                 | Perkin Elmer                             |
| AEB Biochemical – USA          | Cermetek Microelectronics, Inc. | Invisible Sentinel, Inc.  | Reforestation Technologies International |
| Alpine Scientific, Inc.        | Dynamic Coatings, Inc           | Knights Grapevine Nursery | Scholle IPN Packaging, Inc.              |
| aquatools, Inc.                | Enartis USA                     | Maselli Measurements      | Tule                                     |
| ARS/SWASH Sanitising Equipment | Fruition Sciences               | Midwest Grower Supply     | Vason Group                              |
| Aran USA, Inc.                 | Gusmer Enterprises, Inc.        | National Storage Tank     | Vintage Nurseries                        |
| Astoria – Pacific              | HORIBA Scientific               | PA Trellising Systems     |  |





# Industry Seminars

These seminars are an ASEV program featuring the fundamentals of commercial winemaking and viticulture practices. They are designed to emphasize useful, practical, hands-on knowledge of the general topic category with specific product focus. Suppliers with related products and services will have table top displays to view.

**These seminars are included in the General Registration fee.**

## Organizing Committee:

**Nichola Hall** (*Chair*), *Scott Laboratories, California*

**Lise Asimont**, *Francis Ford Coppola Presents, California*

**Kristen Barnhisel**, *J. Lohr Vineyards and Wines, California*

## WEDNESDAY, JUNE 29

1:30 pm – 3:30 pm

### Winemaking & Grapegrowing – Sulfur Management from Vine to Wine

Follow Sulfur and Sulfur based compounds from vine to bottle during this joint grapegrowing and winemaking session.

We begin the session with an examination on efficient application of Sulfur based treatments in the vineyard focusing on enhancing IPM programs, followed by a presentation on the persistence of Sulfur compounds from the grapes and into the winemaking process.

#### Moderator:

**Rhonda Smith**, *University of California Cooperative Extension, Sonoma County*

#### Speakers:

**Michael Silacci**, *Opus One, California*

**Larry Bettiga**, *University of California Cooperative Extension, Monterey County*

**Misha T. Kwasniewski**, *University of Missouri, Columbia*

**Patricia Howe**, *Constellation Brands, California*

**Tom Collins**, *Washington State University, Richland*

## THURSDAY, JUNE 30

1:30 pm – 2:30 pm

### Grapegrowing – Soil Salinity

Dealing with soil salinity is an ongoing challenge in many grape growing areas, with each region having unique salinity-related conditions that need to be addressed to maintain sustainable production. This industry seminar will provide an open forum for the discussion of a range of topics related to vineyard salinity management, as determined by the specific interests of the attendees. Current and future rootstocks, irrigation management, soil and water treatments - it's all on the table.

#### Moderator:

**Mark Battany**, *University of California Cooperative Extension, San Luis Obispo County*

#### Speakers:

**Kevin Fort**, *University of California, Davis*

**Andy Walker**, *University of California, Davis*

1:30 pm – 2:30 pm

### Winemaking – Water Use in the Winery

In recent years, it has become evident and crucial for long-term sustainability to save water in both the vineyard and winery environments. In this session, the panel will discuss practical solutions to treat, conserve, and reuse water in the winery. A variety of ideas and practices will be discussed from a large winery perspective, a winery water consultant perspective, and from the university's theory into practice perspective. Please bring your questions and join us for this lively discussion to plan for the future of water use in your winery.

#### Moderator:

**Steven Botic**, *Constellation Brands, California*

#### Speakers:

**Roger Boulton**, *University of California, Davis*

**Chris Rogers**, *Antea Group, California*

**Aaron Stainthorpe**, *Francis Ford Coppola Presents, California*



## Pre-register by June 21 and save!

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Visit [www.asev.org](http://www.asev.org) for membership information.

### 2016 Pre-registration Rates

Valid through June 21

#### ■ Monterey County Winery & Vineyard Tour

(Monday, June 27)

**Includes:** Wine Tasting, Lunch and Transportation

|                      |      |
|----------------------|------|
| ASEV Member .....    | \$50 |
| Non-Member .....     | \$50 |
| Student Member ..... | \$50 |

#### ■ Managing Water in California Vineyards Symposium

(7.0 CCA CEUs)

(Tuesday, June 28)

|                      |        |
|----------------------|--------|
| ASEV Member .....    | \$275* |
| Non-Member .....     | \$375* |
| Student Member ..... | \$50*  |

#### ■ General Registration

(Wednesday, June 29 & Thursday, June 30)

**Includes:** Research reports (oral and poster), Industry Seminars & Supplier Displays, award and keynote presentations, Poster Session, Flash Talks, Monterey County Regional Wine Reception, and Student-Industry Mixer.

|                      |        |
|----------------------|--------|
| ASEV Member .....    | \$215* |
| Non-Member .....     | \$420* |
| Student Member ..... | \$65*  |

#### ■ Industry Seminar ONLY

##### – Sulfur Management from Vine to Wine (2 hrs.)

(Wednesday, June 29)

|  |         |
|--|---------|
| ASEV Member (if ONLY registering for Industry Seminar) ... | \$75**  |
| Non-Member (if ONLY registering for Industry Seminar) ...  | \$100** |

##### – Water Quality (1 hr.)

##### – Acid Management (1 hr.)

(Thursday, June 30)

|   |        |
|---|--------|
| ASEV Member (if ONLY registering for Industry Seminar) ...  | \$50** |
| Non-Member (if ONLY registering for Industry Seminar) ..... | \$75** |

These Industry Seminars and Supplier Displays are included in General Registration fees.

(Fees are per seminar and include admission to supplier displays)

\*After June 21, the additional \$25 – \$75 fee will only be applied once if you are registering for multiple events.

\*\*CAWG Members are welcome to register at the ASEV Member rates. Please contact us for a promotional code.

### 2 Ways to Pre-Register

#### 1 Online

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

#### 2 Telephone

1-(888) 559-9530 or (781)-688-8229

The call center is open from 6:00 am to 5:00 pm (PDT), Monday through Friday.

For registration changes, you may contact the call center by email ([registration@asev.org](mailto:registration@asev.org)) or at the number above.

### Hotel Information

#### Portola Hotel

**Single/Double occupancy:** \$205/night + tax (approx. 14.5%) and \$2/night County Tourism fee.

Available through Thursday, June 6, 2016 (based on room availability)

**Parking:** Valet Parking: \$22 per day | Self-parking at the hotel is available for \$19/day with in and out privileges

### Membership Information

Save over \$300 on registration fees by becoming a member today! If you are not already a member, now is the time to join. You can apply online or download an application from our website at [www.asev.org](http://www.asev.org). Membership includes access to our online journal.

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