

66

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NATIONAL
CONFERENCE

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66th ASEV National Conference

June 15–18, 2015

PROGRAM INCLUDES

Merit Award
Presentation –

Mr. E.B. "Pete" Downs
Kendall-Jackson,
California

ASEV Extension
Distinction Award
Presentation

Matthew W. Fidelibus
University of California,
Davis

Columbia Gorge Vineyard
& Winery Tour

2nd International
Symposium on Nitrogen
in Grapes and Wine

Research Reports

⚡ Student
Flash Talks

Oregon Regional
Wine Reception

Industry Seminars with
Supplier Displays

Outreach Seminar –
Balancing Vines and
Wines from Coast
to Desert

REGISTRATION & PROGRAM GUIDE

**Portland Marriott
Downtown
Waterfront Hotel**

Portland, Oregon USA



AMERICAN SOCIETY FOR ENOLOGY AND VITICULTURE

66th ASEV National Conference

This marks the second time the ASEV National Conference will be held at this venue, offering the convenience of one conference location with direct access to downtown Portland.

Our tradition of holding the National Conference in wine regions continues. Oregon has 18 approved winegrowing regions and more than 600 wineries producing 72 varieties of grapes. The panoramic diversity of bench lands soaring above the Columbia River Gorge, the Willamette Valley's green, rolling hills, and the deep valleys of Southern Oregon offer a range of stunning sights as well as incredible wines.

Portland is well known as the City of Roses and for its exceptional sustainability practice. The Green Seal certified Portland Marriot Downtown Waterfront hotel is ideally located across from a wide river lined with paths. You can walk from the hotel to the urban downtown featuring trendy restaurants, food trucks, and brewpubs in old brick and stone buildings. The extensive MAX light rail network includes airport transportation and the downtown Portland Street Car

Please visit www.asev.org for additional program, sponsorship, registration, and hotel information.

2015 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 18, 9:30 am – 10:15 am

Mr. E.B. "Pete" Downs, *Consulting Enologist and Retired Senior VP for External Affairs, Kendall-Jackson, California*
Politics and Wine - Lions and Tigers and Bears, Oh My!



As the external affairs senior vice president for Kendall-Jackson Winery, Downs worked with legislators, regulators, and other members of the industry on a local, state, national, and international level.

He served as an advisor for vital industry issues such as wine shipment regulations, and his efforts were pivotal in winning USDA funding for research and control of the spread of the Glassy-winged sharpshooters and Pierce's disease. He was also part of the World Wine Trade Group that worked to minimize international trade barriers through international labeling requirements.

Downs served as ASEV president from 1991 to 1992 and has been an active member since 1973, holding several positions, including secretary/treasurer (1985-87 and 1995-99), membership committee chair, and public relations committee chair, and he was a member of the Unified Symposium organizing committee. His professional membership affiliations include Wine America, Family Winemakers of California, Sonoma County Wineries Association, Coalition for Free Trade, World Wine Trade Group, and the International Federation of Wines and Spirits. He was appointed by California's secretary of agriculture to the Pierce's Disease Glassy-winged Sharpshooter Board, and has served as a legislative committee chair for Family Winemakers of California, as well as the international committee chair for the American Vintners Association.

The ASEV Board is pleased to honor E.B. "Pete" Downs of Kendall-Jackson Winery as ASEV's 2015 Merit Award recipient.



2015 ASEV National Conference Overview

All events will be held at the Portland Marriott Downtown Waterfront Hotel, unless noted otherwise.

as of June 2015

Monday, June 15

8:00 am	–	5:15 pm	Tour of Columbia Gorge and Wineries
3:00 pm	–	6:00 pm	Registration
4:00 pm	–	6:00 pm	ASEV Board Meeting

Tuesday, June 16

7:30 am	–	4:30 pm	Registration
7:30 am	–	4:30 pm	Speaker Ready Room
8:30 am	–	4:30 pm	2nd International Symposium on Nitrogen in Grapes and Wine
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 17

7:00 am	–	7:00 pm	Registration
7:00 am	–	7:00 pm	Speaker Ready Room
7:30 am	–	7:15 pm	Poster Session (research reports)
8:05 am	–	8:15 am	President's Welcome
8:15 am	–	9:30 am	Enology - General Enology/Fermentation Session (oral research reports)
8:15 am	–	9:30 am	Viticulture - General Session (oral research reports)
9:45 am	–	10:30 am	ASEV Extension Distinction Award Presentation
10:00 am	–	4:00 pm	Supplier Displays
10:45 am	–	12:15 pm	Enology - Wine Tannins Session (oral research reports)
10:45 am	–	12:15 pm	Viticulture - Pests & Diseases Session (oral research reports)
1:45 pm	–	2:45 pm	Industry Seminars (2) <ul style="list-style-type: none">• Winemaking – The Influence of Malolactic Fermentation on Wine Quality• Grapegrowing – Crop Estimation: What Methods Work and Why?
3:00 pm	–	3:30 pm	AJEV Best Enology Paper Author's Keynote Presentation
3:45 pm	–	5:45 pm	⚡ Student Flash Talks (selected student poster presenters)
5:45 pm	–	7:15 pm	Poster Authors Present (research reports) & Oregon Regional Wine Reception
6:45 pm	–	10:00 pm	Publications Committee Dinner Meeting (for committee members only)

Thursday, June 18

7:30 am	–	5:15 pm	Poster Session (research reports)
7:30 am	–	6:00 pm	Speaker Ready Room
7:30 am	–	7:00 pm	Registration
8:00 am	–	9:15 am	Enology - General Session I (oral research reports)
8:00 pm	–	9:15 am	Viticulture - Ripening Session (oral research reports)
9:30 am	–	10:15 am	Merit Award Presentation
10:00 am	–	4:00 pm	Supplier Displays
10:30 am	–	11:15 am	Enology - General Session II (oral research reports)
10:30 am	–	11:15 am	Viticulture - Water Relations Session (oral research reports)
11:30 am	–	Noon	AJEV Best Viticulture Paper Author's Keynote Presentation
Noon	–	1:00 pm	ASEV Annual Business Meeting
1:30 pm	–	2:30 pm	Industry Seminars (2) <ul style="list-style-type: none">• Winemaking – Next Generation of Wine Microbes and Wine Microbiological Techniques to Meet Today's Winemaking Goals• Grapegrowing – Precision Viticulture in Practice in the Pacific Northwest Growing Region
2:30 pm	–	5:00 pm	Outreach Seminar – Balancing Vines and Wines from Coast to Desert
5:15 pm	–	7:15 pm	Student-Industry Mixer Reception





Columbia Gorge Vineyard & Winery Tour– SOLD OUT

MONDAY, JUNE 15

8:00am – 5:15pm

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

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

Tour Max: 30 people

Requirements: comfortable clothing, walking shoes, sun protection (sun screen, sunglasses, and hats), must be 21 or over, must be able to walk up some hills.

Tour Guide:

Mark Chien, *Oregon Wine Research Institute, Corvallis*

Schedule

8:00 am	Depart Portland Marriott Downtown Waterfront Hotel
9:15 am	Arrive at Mt. Hood Winery
10:45 am	Depart Mt. Hood Winery
11:15 am	Garnier Vineyards Tour
Noon	Garnier Vineyards for Wine Tasting and Lunch
1:00 pm	Depart Garnier Vineyards
1:30 pm	Arrive at Syncline Winery
3:00 pm	Depart Syncline Winery
4:00 pm	Arrive at Multnomah Falls
4:30 pm	Depart Multnomah Falls for Portland Marriott Downtown Waterfront Hotel
5:15 pm	Arrive back at Portland Marriott Downtown Waterfront 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.

2nd International Symposium on Nitrogen in Grapes and Wine

This symposium will address a broad range of impacts that nitrogen (N) has on grape and wine quality, from vineyard to bottle. Speakers will represent both academic and industry perspectives and will share findings whether from research or practice, relevant to applications in grape and wine production. Tastings will provide an opportunity to experience the potential impacts of N on wines made under different conditions and management strategies

Symposium Organizing Committee:

Amanda Stewart, (Chair) *Virginia Tech, Blacksburg*

Christian Butzke, *Purdue University, Indiana*

Nichola Hall, *Scott Laboratories, California*

James Osborne, *Oregon State University, Corvallis*

Patty Skinkis, *Oregon State University, Corvallis*

TUESDAY, JUNE 16

8:30 am – 4:30 pm

Program:

Welcome, Summary, and Agenda

Amanda Stewart (Chair), *Virginia Tech, Blacksburg*

I. Impact of Vine Nitrogen on Vine Balance, Must and Wine Style

Patty Skinkis (Moderator), *Oregon State University, Corvallis*

Lise Asimont (ASEV President), *Francis Ford Coppola Presents, California*

Sandy Walheim, *Francis Ford Coppola Presents, California*

Paul Schreiner, *U.S. Department of Agriculture, Oregon*

Tasting & Discussion

Ben Casteel, *Bethel Heights Vineyard, Oregon*

Tahmiene Momtazi, *Maysara Winery, Oregon*

II. Varietal Composition and Nitrogen Assessments

Amanda Stewart (Moderator), *Virginia Tech, Blacksburg*

Jean-Jacques Lambert, *University of California, Davis*

Bruce Dukes, *Naturaliste Vintners, Australia*

Tasting & Discussion

Geoff Hall, *Ste. Michelle Wine Estates, Oregon*

Gary Horner, *Erath Winery, Oregon*

III. Yeast Nutrition and Fermentation Dynamics

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

David Block, *University of California, Davis*

Anne Julien-Ortiz, *Lallemand, France*

Tasting & Discussion

James Osborne, *Oregon State University, Corvallis*

IV. Postfermentation and Aging: Impact of Residual Nitrogen Composition

James Osborne (Moderator), *Oregon State University, Corvallis*

James Osborne, *Oregon State University, Corvallis*

Michikatsu Sato, *University of Yamanashi, Japan, Retired*

Tasting & Discussion

Keith Hock, *Consulting Winemaker, California*

Rollin Soles, *ROCO Winery, Oregon*

Summary and Closing Remarks

Amanda Stewart (Chair), *Virginia Tech, Blacksburg*

Poster Presentations

Posters available to view during breaks.

Impact of Cultivar and Crop Load on Yeast Assimilable Nitrogen in Cider Apples Grown in Virginia

Thomas Boudreau, *Virginia Polytechnic Institute and State University*

Comparison of Yeast Performance between Dry and Liquid Strains at Three Different DAP Target Concentrations in Red Must

Leah Dwyer, *White Labs Inc., California*

Evaluation of Nitrogen Management Schemes for Intensively Cover-Cropped Vineyards

James Moss, *Virginia Tech, Blacksburg*

Effect of Foliar, Soil Nitrogen, and Sulfur Applications on Petit Manseng Grape Volatiles and Wine Aroma and Flavor

Molly Kelly, *Virginia Tech, Blacksburg*

Effect of Nitrogen Application Rate and Timing on Methoxypyrazine Content of Okanagan Sauvignon blanc Grapes

Kevin Usher, *Agriculture and Agri-Food Canada*

Balanced, Essential Metals for Yeast Growth and Metabolism in Fermentation Processes

Jürgen Fröhlich, *Erbslöh Geisenheim, Germany*

Why attend the Nitrogen Symposium?

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

WEDNESDAY, JUNE 17

President's Welcome

8:05 am – 8:15 am

Lise Asimont, *Francis Ford Coppola Presents, California*

Enology – General Enology/Fermentation Session (research report)

8:15 am – 9:30 am

Moderator:

Chik Brenneman, *University of California, Davis*

Program:

Pressing under Inert Gas – Impact on Chemical and Sensory Characteristics of Sauvignon blanc and Riesling

Dominik Durner, *DLR Rheinpfalz, Germany*

Role of Nutritional Deficiencies, Oxidative Stress, and Insufficient Sulfur Dioxide Levels in Sluggish Fermentations

Vidhya Ramakrishnan, *University of California, Davis*

Investigation of Pump-over Frequency and Volume on Fermentation and Phenolic Composition of Cabernet Sauvignon

David Block, *University of California, Davis*

Effect of Spontaneous and Inoculated Yeast Populations on Chemical and Sensory Profiles of Pinot noir and Chardonnay

Marissa Neuner, *University of British Columbia, Canada*

Q & A

Viticulture – General Viticulture Session (research report)

8:15 am – 9:30 am

Moderator:

Mark Greenspan, *Advanced Viticulture, California*

Program:

Effects of Biochar and Organic Floor Fertilization Practices on Vineyard Soil Greenhouse Gas Efflux and Nitrogen Status

Nicole Niehues, *University of California, Davis*

An Update on the Performance of the GRN Rootstocks

Andy Walker, *University of California, Davis*

Comparison of Benchgraft and Training Strategies on the Development and Productivity of Chardonnay Grapevines

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

Managing Anthocyanin Composition of Merlot Grapevine in the Hot Climate

Kaan Kurtural, *California State University, Fresno*

Magnitude and Timing of Fruit-Zone Leaf Removal Changes Yield and Fruit Composition of Cabernet Sauvignon

Cain C. Hickey, *Virginia Tech, Winchester*

2015 ASEV Extension Distinction Award Presentation

9:45 am – 10:45 am



Increasing Scope and Engagement in Extension

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

Enology – Wine Tannins Session (research report)

10:45 am – 12:15 pm

Moderator:

Elizabeth Tomasino, *Oregon State University, Corvallis*

Program:

Limits on Red Wine Tannin Extraction and Addition Part II: Role of Pathogenesis-Related Proteins in Terroir

Lindsay F. Springer, *Cornell University, New York*

Tannin Structure-Activity Relationships during Extraction Operations

Ralph S. Yacco, *California State University, Fresno*

Relationship between Wine Matrix Composition and Corresponding Tannin Concentration and Stickiness

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

Interactions between Polyphenols, Proteins, and Polysaccharides in Wine-like Model Systems

Stephan Sommer, *Appalachian State University, North Carolina*

Interactions of Grape Proanthocyanidins and Wine Polypeptides with Yeast Cells and Cell Walls during Wine Aging

Julie Mekoue Nguela, *The Institut National de la Recherche Agronomique (INRA), France*

Interaction of Tannin, Acid, and Ethanol Concentration on the Temporal Perception of Taste and Mouthfeel

Scott Frost, *University of California, Davis*



Wednesday, June 17 (continued)

Viticulture – Pests and Diseases Session (research report)

10:45 am – 12:15 pm

Moderator:

Chin-Feng Hwang, *Missouri State University, Mountain Grove*

Program:

Identification, Incidence, and Distribution of Grapevine Viruses in British Columbia

Sudarsana Poojari, *Agriculture and Agri-Food Canada Pacific, Canada*

Interpreting a Multi-Virus Survey and Designing and Delivering Virus Sampling Protocol for Industry-wide Benefits

Kari Arnold, *University of California, Davis*

Elucidating the Spread of Grapevine Leafroll Disease in Newly Planted Vineyards

Bhanu Donda, *Washington State University, Prosser*

Aspects of Entomopathogenic Nematodes for Controlling the Vine Mealybug, *Planococcus ficus*, in South African Vineyards

Patrique Le Vieux, *University of Stellenbosch, South Africa*

Improving Our Understanding of Sour Rot Etiology and Management Techniques

Megan Hall, *Cornell University, New York*

Combating *Erysiphe necator* in *Vitis vinifera* Chardonnay: Effectively Using Chemical and Cultural Tactics

Jensena M. Newhouse, *Washington State University, Prosser*

AJEV Best Enology Paper Author's Keynote Presentation

3:00 pm – 3:30 pm

In-Line Measurement of Color and Total Phenolics during Red Wine Fermentations Using a Light-Emitting Diode Sensor

André Knoesen, *University of California, Davis*
2015 AJEV Best Enology Paper Award Recipient

THURSDAY, JUNE 18

Enology – General Enology Session I (research report)

8:00 am – 9:15 am

Moderator:

Sabrina Lueck, *Walla Walla Community College, Washington*

Program:

Closure Consistency Continued: Chemical Analysis and Sensory Evaluation

Annegret Cantu, *University of California, Davis*

Profiling the Nonvolatile Composition of Cognacs, Armagnacs and American Brandies Using UHPLC-QTOF/MS

Tom Collins, *University of California, Davis*

Standard Approaches for Measurement of Free SO₂ in Red Wine Severely Overestimate its Antimicrobial Activity

Patricia Howe, *Cornell University, New York*

The Direct Effect of β -Damascenone and β -Ionone on Sensory Perception of Pinot noir Wine Quality

Elizabeth Tomasino, *Oregon State University, Corvallis*

Impact of Red Blotch Disease on Grape and Wine Composition and Quality

Anita Oberholster, *University of California, Davis*

Viticulture – Ripening Session (research report)

8:00 am – 9:15 am

Moderator:

Michelle Moyer, *Washington State University, Prosser*

Program:

Decrease in Fruit Firmness Can Be Used to Predict Veraison Date in Grapevine

Simone Diego Castellarin, *University of British Columbia, Canada*

Timing of Ripening Initiation in Grape Berries and Its Relationship to Seed Content and Pericarp Auxin Levels

Satyanarayana Gouthu, *Oregon State University, Corvallis*

Predicting the Fruit Quality of Cabernet Sauvignon Grapes in the Outer Coastal Plain AVA from Climate Data

Daniel Ward, *Rutgers University, New Jersey*

Can Accumulated Growing Degree Days Be Used to Predict Harvest Timing for Hybrid Grape Cultivars in the Midwest?

Paul Read, *University of Nebraska, Lincoln*

Apical Shoot Tips Mediate Reduced Root-to-Shoot Translocation of Chloride in Grapevine

Kevin Fort, *University of California, Davis*

Merit Award Presentation

9:30 am—10:15 am

Mr. E.B. "Pete" Downs

2015 Merit Award Recipient

Consulting Enologist and
Retired Senior VP for External Affairs,
Kendall-Jackson, California

Politics and Wine — Lions and
Tigers and Bears, Oh My!



Thursday, June 18 (continued)

**Enology – General Enology Session II
(research report)**

10:30 am – 11:15 am

Moderator:

Tom Collins, *University of California, Davis*

Program:

Impact of Winery Wastewater Irrigation on Soil, Grape Nutrition, and Grape and Wine Quality

David Hirzel, *University of California, Davis*

Profiling Microbial Populations in Stuck Fermentations from the 2014 Vintage

C.M. Lucy Joseph, *University of California, Davis*

Strain Diversity of Yeasts in Wine Production – Use of FTIR and PCR-based Techniques for Strain Typing

Christian von Wallbrunn, *Hochschule Geisenheim University, Germany*

**Viticulture – Water Relations Session
(research report)**

10:30 am – 11:15 am

Moderator:

Andy Walker, *University of California, Davis*

Program:

Effect of Water Deficits on Berry Growth and Composition of Seventeen Winegrape Cultivars in the San Joaquin Valley

Alexander Levin, *University of California, Davis*

Effect of Postveraison Canopy Reduction and Deficit Irrigation on Merlot grape Composition

Jose Carlos Herrera, *University of Udine, Italy*

Split-Container Culture Reveals Developmental Differences in Grapevine Roots Grown in Heterogeneous Soils

Jake Uretsky, *University of California, Davis*

**AJEV Best Viticulture Paper Author's Keynote
Presentation**

11:30 am—12:00 pm

Persistence of Elemental Sulfur Spray Residue on Grapes during Ripening and Vinification

Misha T. Kwasniewski, *University of Missouri, Columbia*
2015 AJEV Best Viticulture Paper Award Recipient

POSTER SESSIONS (RESEARCH REPORTS CONTINUED)

WEDNESDAY, JUNE 17

7:30 am – 7:15 pm

*Authors present during Oregon Regional Wine Reception
(5:45 pm – 7:15 pm)*

Student Flash Talks 3:45 pm—5:45 pm

THURSDAY, JUNE 18

7:30 am – 5:15 pm


Chair:

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

(Listed in alphabetical order)

 = Student Flash Talks

Enology & Viticulture Research Report Posters

 Impact of Cultivar and Crop Load on Yeast Assimilable Nitrogen in Cider Apples Grown in Virginia
Thomas Boudreau, *Virginia Polytechnic Institute and State University*

Comparison of Yeast Performance between Dry and Liquid Strains at Three Different DAP Target Concentrations in Red Must

Leah Dwyer, *White Labs Inc., California*

 Evaluation of Nitrogen Management Schemes for Intensively Cover-Cropped Vineyards
James Moss, *Virginia Tech, Blacksburg*

Effect of Foliar, Soil Nitrogen, and Sulfur Applications on Petit Manseng Grape Volatiles and Wine Aroma and Flavor

Molly Kelly, *Virginia Tech, Blacksburg*

Effect of Nitrogen Application Rate and Timing on Methoxypyrazine Content of Okanagan Sauvignon blanc Grapes

Kevin Usher, *Agriculture and Agri-Food Canada*

The Perception of Sauvignon blanc Aroma

Terry Acree, *Cornell University, New York*

Carrageenan Use in White Wine Fining: Features, Effectiveness, and Effects on Chemical Composition

Luca Bonetti, *Università degli Studi di Verona, Italy*

Enology & Viticulture Research Report Posters (continued)

-  Grapevine Leafroll and Red Blotch Diseases in Washington Vineyards
Jati Adiputra, *Washington State University, Prosser*
-  Influence of Vineyard Floor Competition on Growth, Yield, and Berry Quality in Southeastern Vineyards
Nicholas Basinger, *North Carolina State University, Raleigh*
-  Evolution of Pigmented Tannin
Jonathan Cave, *University of California, Davis*
-  Whole-Canopy Gas Exchange of Merlot Grapevine Is Affected by Interaction of Crop Load and Irrigation
Andrew L. Beebe, *California State University, Fresno*
- Effect of a No Plunge Winemaking Technique on Phenolic Extractions and Pigment Composition in Merlot Wines
Rod Chittenden, *Eastern Institute of Technology, New Zealand*
- Volatile Composition of Iowa's Cold-Hardy Grape Wines with the Use of GC-MS and Electronic Nose
Paulina Biernacka, *Iowa State University, Ames*
- Cell Wall Polysaccharides Release during the Alcoholic Fermentation by *Schizosaccharomyces pombe*
Paola Domizio, *University of Florence, Italy*
- Rootstocks Affect the Hardiness and Survival of Young Grapevines Exposed to Lethal Winter Temperatures
Carl Bogdanoff, *Pacific Agri-food Research Centre, Canada*
-  Identification of Genes Involved in Expression and Establishment of the [GAR+] Prion
Qingwen (Fairy) Fan, *University of California, Davis*
-  Mycotoxin Potential in High-Risk American *Vitis vinifera* Vineyards and Wines
Stephanie L. Bolton, *University of Georgia, Athens*
-  Addition Time of Exogenous Tannin for Optimal Retention in Hybrid Red Wines
Alex Fredrickson, *Cornell University, New York*
- Manipulation of Phloem Structure toward Revealing the Mechanism of SOUR Shriveling
Bhaskar Bondada, *Washington State University, Richland*
-  Sensory and Chemical Effects of Postfermentation Maceration in Merlot Wines
Scott Frost, *University of California, Davis*
- Chemical and Sensory Effects of Three Cap Management Techniques as Compared to Postfermentation Maceration in Merlot
Scott Frost, *University of California, Davis*
-  Elemental Profiling of Soil and Cabernet Sauvignon Grapes at the Vineyard Level in Napa Valley
Angela Carvalho, *University of California, Davis*
- Cold Soak Management by Selected *Metschnikowia pulcherrima* Yeast
Vincent Gerbaux, *IFV (Institut Français de la Vigne et du Vin), France*
- Selection of a New Wine Lactic Acid Bacteria Starter Culture for Red and Rosé Wines
Vincent Gerbaux, *IFV (Institut Français de la Vigne et du Vin), France*
- Severe Water Deficit Promotes Terpene Biosynthesis in White Grapes
Simone Diego Castellarin, *University of British Columbia, Canada*
- Comparison of Multivariate Regression Methods for the Analysis of Phenolics in Red Wine
James Harbertson, *Washington State University, Richland*
-  Evidence for the Development of Uneven Skin Strain in Water Soaked Grape Berries Prior to Cracking
Brian Bohr Jiun Chen, *University of California, Davis*
- Impact of Enzymatic Oxidation of β -Linolenic Acid and S-Glutathione as Precursors to 3-Mercaptohexan-1-ol Formation
Avery Heelan, *University of California, Davis*
- Changing Vine Leaf Area to Crop Load Ratio Affects Cool Climate Grown Pinot noir Vine Performance and Fruit Color Change
Glen Creasy, *Lincoln University Centre for Viticulture & Oenology, New Zealand*
- Changing Vine Leaf Area to Crop Load Ratio Affects Cool Climate Grown Pinot noir Grape and Wine Composition
Glen Creasy, *Lincoln University Centre for Viticulture & Oenology, New Zealand*
- A Comparison of Three Score Sheets Used to Evaluate Wine Quality in Wine Judging Competitions
Hildegard Heymann, *University of California, Davis*
- Determining the Impact of Cluster Thinning and Cluster Zone Leaf Removal on the Hormone Content of Pinot noir Grape Berry
Laurent G. Deluc, *Oregon State University, Corvallis*
-  Can Natural Sulfite Formation by Wine Yeasts Substitute for Sulfite Additions Disallowed in Organic Wine Production?
Garrett Holzwarth, *Oregon State University, Corvallis*
- Genetic Analysis of Dormant Rooting Potential in *Vitis aestivalis*-derived Norton Grape
Logan Duncan, *Missouri State University, Mountain Grove*
- Characteristics of Polyphenol Adsorption Properties toward Grape Skin Insoluble Polysaccharides in Muscat Bailey A Wine
Eri Inoue, *University of Yamanashi, Japan*

Enology & Viticulture Research Report Posters (continued)

Assessment of Winegrape Cultivars in North Carolina

Kevin Elder, *North Carolina State University, Durham*

Precursors of Hydrogen Sulfide during Wine Storage – the Role of Elemental Sulfur Pesticide Residues

Jillian Jastrzebski, *Cornell University, New York*

Cultivar Evaluation Study of Select *Vitis vinifera* Grapevines

Jackie Harris, *University of Missouri, Columbia*

Antioxidant Properties of Blackberry Wine Produced Using Korean Traditional Winemaking Techniques

Youri Joh, *Oklahoma State University, Stillwater*

Shoot Attributes of *Vitis vinifera* Converted from Cordon-Training and Spur-Pruning to Head-Training and Cane-Pruning

Tremain Hatch, *Virginia Tech, Winchester*

Impact of Elemental Sulfur and Nitrogen on Volatile Sulfur Compound Formation during and after Alcoholic Fermentation

Daniel Kraft, *Oregon State University, Corvallis*

Impact of Wine Lees Levels and Composition on Formation of Volatile Sulfur Compounds during Aging of Pinot noir Wine

Daniel Kraft, *Oregon State University, Corvallis*

Characterization of Grape Apoplastic β -1,3-Glucanase and Its Ability to Protect against Fungal Diseases

Tomoki Hattori, *University of Yamanashi, Japan*

A Mechanistic Investigation of Copper-Mediated Oxidation of Thiols in Model Wine

Gal Y. Kreitman, *Pennsylvania State University, University Park*

Preharvest Restored Irrigation after Severe Water Deficit: Effect on Merlot Grapes and Wines

Jose Carlos Herrera, *University of Udine, Italy*

Water Deficit Accelerates Veraison in Merlot Grapes

Jose Carlos Herrera, *University of Udine, Italy*

Grape Washing: Effects on Pesticides, Metals, and Fermentation Kinetics

Francesco Lonardi, *Perfect Wine Srl, Italy*

Diversity of Soil Microbial Communities Is Influenced by Key Environmental Factors Due to Vineyard Land Use

Taylor Holland, *University of British Columbia, Canada*

Influence of Novel Species of Grape Acetic Acid Bacteria on Yeast Fermentation

Yan Luo, *University of California, Davis*

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

Ines Hugalde, *Instituto Nacional de Tecnología Agropecuaria (INTA) and University of California, Davis*

Isolation and Purification of *Vitis vinifera* Grape and Wine Anthocyanins and Tannins

Caroline Merrell, *Washington State University, Richland*

Deep Sub-surface Microirrigation for Increasing Vineyard Water Use Efficiency

Pete Jacoby, *Washington State University, Pullman*

Effects of Initial Sulfur Dioxide Addition on *Saccharomyces cerevisiae* Populations in Spontaneous Fermentations

Sydney Morgan, *University of British Columbia, Canada*

Impacts of Late Season Soil and Foliar Nitrogen Fertilizer Supplements on Wine Grape Yeast Assimilable Nitrogen.

Catherine Jones, *Washington State University, Prosser*

Impact of Different Cold Soak Durations on Cabernet Sauvignon Fermentation and Composition

Siriwan Panprivech, *University of California, Davis*

Applied Water Amounts and Rootstocks Interact on Productivity and Phenolic Composition of Zinfandel in Hot Climate

Kaan Kurtural, *California State University, Fresno*

Analysis of Acetaldehyde Condensation Reaction Thermodynamics by 1D and 2D H-NMR

Ana Peterson, *University of California, Davis*

Influence of Fermentative Parameters on the Synthesis of Aromas by an Evolved Wine Strain of *Saccharomyces cerevisiae*

Stephanie Rollero, *The Institut National de la Recherche Agronomique (INRA), France*

Interspecific Hybrid Identification and Linkage Map Construction of a Chambourcin x Cabernet Sauvignon Population

Mia Mann, *Missouri State University, Springfield*

Impact of the Timing and Temperature of Malolactic Fermentation on Chardonnay Wine

Anthony Sereni, *Oregon State University, Corvallis*

Comparative SSR Analysis of Some *Vitis sylvestris* (GMEL.) Accessions and *Vitis vinifera* (L.) Cultivars in Hungary

Zora Annamaria Nagy, *NARIC Research Institute for Viticulture and Enology, Hungary*

Investigating the Role of Acetaldehyde in Tannin Modification and Color Stability of Red Wines

Marlena K. Sheridan, *Pennsylvania State University, University Park*

Grapevine Rootstocks: Root Development Variability and Responsiveness to Arbuscular Mycorrhizal Fungi

Antreas Pogiatis, *University of British Columbia, Canada*

Impact of Grape Maturity and Ethanol Concentration on the Composition of Washington State Merlot Wines

Emma Sherman, *University of Auckland, New Zealand*

Enology & Viticulture Research Report Posters (continued)

Genetic Study of Downy Mildew Resistance in *Vitis aestivalis*-derived Norton Based Population

Surya Sapkota, *University of Missouri, Columbia*

Regional Differences between Typical Riesling Wines from Rheingau and Washington State

Kimmo Sirén, *Hochschule Geisenheim University, Germany*

Effect of Crop Reduction of Vines Infected with Grapevine Red Blotch-associated Virus on Fruit Maturity

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

Proposal of the Head-Heart-Base System (HHB) as an Innovative Method to Describe and Evaluate the Flavor Profile of Wine

Stephan Sommer, *Appalachian State University, North Carolina*

Quantifying Carbon Stocks in a California Vineyard

Christine Stockert, *University of California, Davis*

Quantitative Method for Chiral Monoterpenes in White Wine by HP-SPME-MDGC-MS in Different Wine Matrix

Mei Song, *Oregon State University, Corvallis*

Establishment Technique Impacts the Morphology of Chambourcin Grapevines in Missouri

Keith Striegler, *E&J Gallo Winery, California*

Population Dynamics of *Saccharomyces cerevisiae* Strains during Controlled Multistarter Fermentations at Different Nitrogen Levels

Yue Sun, *University of California, Davis*

Impact of Grapevine Red Blotch Disease in Red-Berried Wine Grape Cultivars

Prashant Swamy, *Washington State University, Prosser*

Yeast Assimilable Nitrogen Optimization for Cool-Climate Riesling: Fermentation Performance and Wine Composition Effects

Camila Tahim, *Cornell University, New York*

Use of NGS in Conjunction with PMA to Determine the Relative Abundance of Viable Yeast and Bacteria Species in Wine

Mansak Tantikachornkiat, *University of British Columbia, Canada*

Foliar Application of Yeast Derivatives on Grape Quality and Resulting Wines

Javier Téllez, *Universidad Politécnica de Madrid, Spain*

Time of Flowering and Seed Content Contribute to Variable Entry of Pinot noir Fruits into the Ripening Phase

Amanda Vondras, *Oregon State University, Corvallis*

Investigation of a Novel Polymer-Based Fining System for the Removal of 2-Aminoacetophenone from *Vitis vinifera* Wines

Charlene B. Van Buiten, *Pennsylvania State University, University Park*

Can Grapevine Diseases be Managed by Cover Crop-Mediated Changes in Soil Microbial Diversity?

Eric Vukicevich, *University of British Columbia, Canada*

Characterization of Mexican Wine by Headspace Solid-Phase Microextraction-Gas Chromatography and UV-visible Spectroscopy

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

Trace Metal Content in Mexican Wine

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

Handler Dermal and Inhalation Exposure to Sulfur Dust Applications on Grapevines

Angelica Welsh, *California Environmental Protection Agency*

Metabolomic Assessment of the [GAR+] Prion State with UCD932 in Model and Chardonnay Juices

Gordon A. Walker, *University of California, Davis*

Investigation into the Genetic Basis of Leaf Shape in Grapes

Brigitte Williams, *Missouri State University, Springfield*

Impact of Environmental Factors on Peppery Aroma in *Vitis vinifera* L. cv. Shiraz Wine. A Modeling Approach

Pangzhen Zhang, *University of Melbourne, Australia*

Impact of Severe Leaf Removal on Methoxypyrazine Content and Vine Function of Merlot

Jennifer Wolf, *Oregon State University, Corvallis*

Managing Astringency and Stickiness of Grapevine and Wine Tannins of Merlot Grapevine in the Hot Climate

Runze Yu, *California State University, Fresno*

Leaf Removal and Deficit Irrigation Effect on Grape Texture and Phenolic Composition

Runze Yu, *California State University, Fresno*

Susceptibility of Different *Muscadinia rotundifolia* Cultivars to GFLV

Xiaoqing Xie, *University of California, Davis*

Grip22c, a Multifunctional Gene from Chinese Wild Grapes *Vitis quinquangularis*

Xiaoqing Xie, *Northwest A & F University, China*

Pinot noir Wine Aroma Composition as a Result of Changes in Vine Balance

Fang Yuan, *Oregon State University, Corvallis*



Enology & Viticulture Research Report Posters (continued)

Carotenoid and C₁₃-norisoprenoid Composition of Pinot noir Grapes from Vines of Differing Vine Balance

Fang Yuan, *Oregon State University, Corvallis*

Analysis of Volatile Phenols in Wine by EG/PDMS-based Stir Bar Sorptive Extraction and GC/MS

Qin Zhou, *Oregon State University, Corvallis*

Effect of Juice YAN Composition on Formation of Volatile Compounds in a Model System

Qin Zhou, *Oregon State University, Corvallis*

Industry Research Report Posters

Innovative Tools to Keep Spoilage Microbes Out of the Wines

Eglantine Chauffour, *Enartis Vinquiry, California*

Color Stability: Impact of Tannins, Polysaccharides, and Use of Microoxygenation

Eglantine Chauffour, *Enartis Vinquiry, California*

Monitoring Soil Water Tension to Manage Irrigation and Grapevine Stress – from Wireless Sensors to Managers' Browsers

Alan Campbell, *SmartVineyards, Oregon*

Development and Characterization of a Yeast Protein Extract as an Alternative to Wine Exogenous Fining Agents

Etienne Dorignac, *Fermentis – a Lesaffre division, France*

Development and Study of a New Decanter Technology on Grape Juice Extraction and Clarification

Gian Maria Ciman, *Perfect Wine, Italy*

Effect of Carboxymethyl Cellulose on Tartrate Salt, Protein, and Color Stability of Red Wine

Jürgen Fröhlich, *Erbslöh Geisenheim, Germany*

Balanced, Essential Metals for Yeast Growth and Metabolism in Fermentation Processes

Jürgen Fröhlich, *Erbslöh Geisenheim, Germany*

Decoloration of Wine and Subsequent Enzymatic Quantification of Histamine

Markus Lacorn, *R-Biopharm, Germany*

Comparison of Traditional versus Sap Flow-Based Irrigation Across Multiple Sites and Multiple Years: Impact on Water Saving

Thibaut Scholasch, *Fruition Sciences, France*

New SBSE Techniques for Aroma Chemicals in Beer and Wine Offer Wider Recovery Range of Analyte Polarity

Ray Marsili, *Marsili Consulting Group, Illinois*

Color and Tartaric Stability on "Early to Market" Red Wines

Maria Navarro, *Enartis Vinquiry, California*

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

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RTI – Ag

Biobest Biological Systems USA Inc.

iCropTrak

Scott Laboratories



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 17

3:45 pm – 5:45 pm

Grapevine Leafroll and Red Blotch Diseases in Washington Vineyards

Jati Adiputra, *Washington State University, Prosser*

Influence of Vineyard Floor Competition on Growth, Yield, and Berry Quality in Southeastern Vineyards

Nicholas Basinger, *North Carolina State University, Raleigh*

Whole-Canopy Gas Exchange of Merlot Grapevine Is Affected by Interaction of Crop Load and Irrigation

Andrew L. Beebe, *California State University, Fresno*

Mycotoxin Potential in High-Risk American *Vitis vinifera* Vineyards and Wines

Stephanie L. Bolton, *University of Georgia, Athens*

Impact of Cultivar and Crop Load on Yeast Assimilable Nitrogen in Cider Apples Grown in Virginia

Thomas Boudreau, *Virginia Polytechnic Institute and State University, Blacksburg*

Elemental Profiling of Soil and Cabernet Sauvignon Grapes at the Vineyard Level in Napa Valley

Angela Carvalho, *University of California, Davis*

Evolution of Pigmented Tannin

Jonathan Cave, *University of California, Davis*

Evidence for the Development of Uneven Skin Strain in Water Soaked Grape Berries Prior to Cracking

Brian Bohr Jiun Chen, *University of California, Davis*

Identification of Genes Involved in Expression and Establishment of the [GAR+] Prion

Qingwen (Fairy) Fan, *University of California, Davis*

Addition Time of Exogenous Tannin for Optimal Retention in Hybrid Red Wines

Alex Fredrickson, *Cornell University, New York*

Sensory and Chemical Effects of Postfermentation Maceration in Merlot Wines

Scott Frost, *University of California, Davis*

Diversity of Soil Microbial Communities Is Influenced by Key Environmental Factors Due to Vineyard Land Use

Taylor Holland, *University of British Columbia, Canada*

Can Natural Sulfite Formation by Wine Yeasts Substitute for Sulfite Additions Disallowed in Organic Wine Production?

Garrett Holzwarth, *Oregon State University, Corvallis*

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

Ines Hugalde, *Instituto Nacional de Tecnología Agropecuaria (INTA) and University of California, Davis*

Impact of Wine Lees Levels and Composition on Formation of Volatile Sulfur Compounds during Aging of Pinot noir Wine

Daniel Kraft, *Oregon State University, Corvallis*

A Mechanistic Investigation of Copper-Mediated Oxidation of Thiols in Model Wine

Gal Y. Kreitman, *Pennsylvania State University, University Park*

Influence of Novel Species of Grape Acetic Acid Bacteria on Yeast Fermentation

Yan Luo, *University of California, Davis*

Interspecific Hybrid Identification and Linkage Map Construction of a Chambourcin x Cabernet Sauvignon Population

Mia Mann, *Missouri State University, Springfield*

Effects of Initial Sulfur Dioxide Addition on *Saccharomyces cerevisiae* Populations in Spontaneous Fermentations

Sydney Morgan, *University of British Columbia, Canada*

Evaluation of Nitrogen Management Schemes for Intensively Cover Cropped Vineyards

James Moss, *Virginia Tech, Blacksburg*

Impact of Different Cold Soak Durations on Cabernet Sauvignon Fermentation and Composition

Siriwan Panprivech, *University of California, Davis*

Grapevine Rootstocks: Root Development Variability and Responsiveness to Arbuscular Mycorrhizal Fungi

Antreas Pogiatis, *University of British Columbia, Canada*

Impact of the Timing and Temperature of Malolactic Fermentation on Chardonnay Wine

Anthony Sereni, *Oregon State University, Corvallis*

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Marlena K. Sheridan, *Pennsylvania State University, University Park*

Regional Differences between Typical Riesling Wines from Rheingau and Washington State

Kimmo Sirén, *Hochschule Geisenheim University, Germany*

Wednesday, June 17 (continued)

Quantitative Method for Chiral Monoterpenes in White Wine by HP-SPME-MDGC-MS in Different Wine Matrix

Mei Song, *Oregon State University, Corvallis*

Population Dynamics of *Saccharomyces Cerevisiae* Strains during Controlled Multistarter Fermentations at Different Nitrogen Levels

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Managing Astringency and Stickiness of Grapevine and Wine Tannins of Merlot Grapevine in the Hot Climate

Runze Yu, *California State University, Fresno*

Impact of Environmental Factors on Peppery Aroma in *Vitis vinifera* L. cv. Shiraz Wine. A Modelling Approach

Pangzhen Zhang, *University of Melbourne, Australia*

Outreach Seminar

Grapes and wines are grown and made in the Pacific Northwest in extremely diverse environments. Vine balance in Dundee, OR is not necessarily the same as in Prosser, WA, and achieving balance in wines using different varieties grown in warm and cool regions requires different viticulture and winemaking strategies. In addition, cold winter temperatures with the threat of winter injury make even greater demands on wine growers. The goal of this seminar is to compare and contrast grapevine physiology, viticulture, enology, and winemaking practices for a cool-moist region like the Willamette Valley with the warm-dry conditions found in Eastern Washington and Oregon, and the Okanagan Valley of British Columbia. Given that all of these regions have relatively short growing seasons, how is a shared concept like vine balance different in these diverse wine regions?

THURSDAY, JUNE 18

2:30 pm – 5:00 pm

Balancing Vines and Wines from Coast to Desert

Moderator:

Mark Chien, *Oregon Wine Research Institute, Corvallis*

Program:

Managing Vine Balance for a Short Growing Season and Cold Winter

Pat Bowen, *Pacific Agri-Food Research Centre, Canada*

Balancing Wine Tannins in a Warm Climate

Jim Harbertson, *Washington State University, Richland*

Grapevine Water Relations and Irrigation Management

Markus Keller, *Washington State University, Prosser*

Yun Zhang, *Washington State University, Prosser*

Canopy Management in Contrasting Climates

Michelle Moyer, *Washington State University, Prosser*

Patty Skinkis, *Oregon State University, Corvallis*

Producing Balanced Wines in a Cool Climate

James Osborne, *Oregon State University, Corvallis*

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:

Lise Asimont (*Chair*), *Francis Ford Coppola Presents, California*

Mark Greenspan, *Advanced Viticulture, California*

Nichola Hall, *Scott Laboratories, California*

WEDNESDAY, JUNE 17

1:45 pm – 2:45 pm

Winemaking – The Influence of Malolactic Fermentation on Wine Quality

Malolactic fermentation is much more than a biological de-acidification. The bacterial strains employed during this process have the ability to modify wine flavor, aroma, texture, and wine color.

During this seminar our presenters will be discussing these attributes and the larger role that malolactic bacteria play in the winemaking process.

Moderator:

Jessica Just, *Oregon State University, Corvallis*

Speakers:

Sibylle Krieger-Weber, *Lallemand, Inc, Germany*

James Osborne, *Oregon State University, Corvallis*

David Rosenthal, *Chateau Ste. Michelle, Washington*

1:45 pm – 2:45 pm

Grapegrowing – Crop Estimation: What Methods Work and Why?

A lot of critical vineyard and winery decisions are based on knowing the amount of crop in a vineyard. A balanced crop, whether by correct pruning or crop thinning during the growing season, is essential for high quality wine production. Winemakers plan tank and barrel space, and wine marketers want to know how much wine they will have to sell. Crop estimating is an important tool necessary to achieve a balanced crop load. In this seminar we will learn about lag phase research at Oregon State University, as well as crop estimating methods in a small Oregon vineyard and a large Washington winery.

Moderator:

Mark Chien, *Oregon Wine Research Institute, Corvallis*

Speakers:

Patty Skinkis, *Oregon State University, Corvallis*

Chad Douglas, *Chehalem Winery, Oregon*

Kari Van Beek, *Ste. Michelle Wine Estates, Washington*

THURSDAY, JUNE 18

1:30 pm – 2:30 pm

Winemaking – Next Generation of Wine Microbes and Wine Microbiological Techniques to Meet Today's Winemaking Goals

From new strains of *Saccharomyces* to non-*Saccharomyces* yeast, there are more choices than ever for making wines in your own unique style. This session will cover the techniques used to produce new strains of *Saccharomyces*, what non-traditional yeasts can contribute to wines, and methods to help you analyze what is going on in your fermentations.

Moderator:

C.M. Lucy Joseph, *University of California, Davis*

Speakers:

Paola Domizio, *University of California, Davis and Università degli Studi di Firenze, Italy*

John Husnik, *Renaissance Yeast, Inc., Canada*

Torey Arvik, *Sonomaceuticals, California*

1:30 pm – 2:30 pm

Grapegrowing – Precision Viticulture in Practice in the Pacific Northwest Growing Region

Recent advances in farming technology have allowed growers to identify and map variability in their vineyards and farm precisely for improved uniformity and wine quality. Remote sensing, in combination with machine harvesters, can sort through variability on-the-fly, effectively creating two quality tiers within a vineyard where there was once only one. Precision viticulture is gaining a following in the Pacific Northwest thanks in part to better access to remote sensing technologies and the availability of GIS platforms. The sky is the limit for where this farming strategy will go. Speakers will discuss soil mapping, sensor technologies, and applications of these technologies in practice.

Moderator:

Mark Greenspan, *Advanced Viticulture, California*

Speakers:

Chad Vargas, *Adelsheim Vineyard, Oregon*

Eric Wavra, *SITECH, Oregon*



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(Monday, June 15)

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■ 2nd International Symposium on Nitrogen in Grapes and Wine

(Tuesday, June 16)

Includes: Speaker Handout

ASEV Member	\$275*
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■ General Registration

(Wednesday, June 17 & Thursday, June 18)

Includes: Research reports (oral and poster), Industry Seminars & Supplier Displays, Merit Award presentation, Poster Session, Flash Talks, Oregon Regional Wine Reception, and Student-Industry Mixer.

ASEV Member	\$215*
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Student Member	\$65*

■ Industry Seminars & Supplier Displays ONLY

(Wednesday, June 17 & Thursday, June 18)

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

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

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

*Fees will increase by \$75 after June 9

**Fees will increase by \$25 after June 9

After June 9, 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

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) or at the number above.

Hotel Information

Portland Marriott Downtown Waterfront Hotel

Single/Double occupancy: \$189/night + tax (approx. 14.5%)
Available through Friday, May 22, 2015 (based on room availability)

Parking: Valet Parking: \$35 per car, per night | \$40 for oversize vehicle | in/out privileges. Valet Parking for Hotel Guests: 25% discount

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