Reserve your space now!

Due to limited class size, **advance registration is required**.
Please fax this form back to (707) 838-1765
or call (707) 838-6312 to reserve your space.

FEE	Early Bird (Register by April 15th)		Standard Fee	
	First Registrant	Additional Registrant from same Company	First Registrant	Additional Registrant from same Company
MOLECULAR BASIS OF WINE AROMA	$ 400	$ 375	$ 450	$ 425
MAXIMIZING VOLATILE THIOLS FROM VINE TO BOTTLE	$ 275	$ 245	$ 315	$ 285

Registrations for both sessions receive a 10% discount.
Lunch is included for all sessions.

Location Enartis Vinquiry Education Center
7975 Cameron Drive - Building #1800 - Windsor, CA 95492

PLEASE SELECT FROM THE FOLLOWING SESSIONS:

- ❑ June 3rd, 8:30am - 5:30pm – Molecular Basis of Wine Aroma
- ❑ June 4th, 8:30am - 12:30pm – Maximizing Volatile Thiols from Vine to Bottle
- ❑ June 5th, 8:30am - 5:30pm – Molecular Basis of Wine Aroma
- ❑ June 6th, 8:30am - 12:30pm – Maximizing Volatile Thiols from Vine to Bottle

Name(s) _____

Company _____

Phone _____ Email* _____

PAYMENT METHOD:

- ❑ Enclosed is a check payable to Vinquiry, Inc.
- ❑ Enartis Vinquiry Account
- ❑ Visa/MasterCard/American Express/Discover

Credit Card #: _____ Exp:_____ V-Code:_____

Cardholder: _____ Zip Code:_____

**If you do not receive confirmation via email within 48 hours of submitting this form, please call to ensure that your space has been reserved.*

7795 Bell Road - Windsor, CA 95492
Tel: 707 838 6312 - Fax: 707 838 1765 - www.enartisvinquiry.com

Enartis Vinquiry and Intelli'Oeno partner to bring California two workshops focused on wine aromas:

MOLECULAR BASIS OF WINE AROMA

AND

MAXIMIZING VOLATILE THIOLS FROM VINE TO BOTTLE

Both seminars will be led Marco Li Calzi, PhD

MOLECULAR BASIS OF WINE AROMA

June 3rd or 5th from 8:30am to 5:30pm

This workshop will present the most up-to-date scientific answers to some common questions among winemakers:

- Why do some red wines have aromas reminiscent of red fruit or chocolate, while other similar category wines have almost no aroma?
- Which compounds are responsible for specific varietal characteristics of single varietal wines?
- Is it possible to explain 'quality' in terms of aroma composition?

Recent research has allowed us to learn the chemical identity of the most important compounds for the formation of wine aromas. We are also beginning to understand how they interact with each other in the formation of different organoleptic notes.

As far as we know, the source of wine aroma is impacted by ethanol and other compounds produced during fermentation. This mixture can hide the properties of many odors added to it. For this reason, it is called an "aromatic buffer". There are at least three different ways to break this buffer:

- A single compound (but only 16 have the ability to do this!)
- A family of compounds with similar aromatic properties (at least 10 families identified)
- A large variety of compounds with some similarities in their attributes

Some aroma compounds have an amazing ability to combine with others to create new perceptions or to enhance the intensity of their odor, while other molecules create situations of competition. There are many volatile compounds that can compromise wine quality at concentrations well below the recognition threshold, and many of them are not yet considered defects.

Various volatile molecules which come into play will be described together with some examples of varietal aroma, fruit and quality compounds. The course will also highlight some key aspects of the role of grapes, focusing on viticultural and enological factors that may affect wine aroma.

This full-day session will include an educational tasting of seventy samples (including wines, aqueous solutions and model solutions) representative of the aroma compound families presented during the workshop. Aroma reconstitution examples for certain wine types will be compared to real wines, based on the relationship between the aromatic composition of wines and their sensory impact.

SEMINAR STRUCTURE

The Molecular Basis of Wine Aroma Seminar has a total duration of 8 hours, with the following format:

1. Aromatic Base Families: fruity esters, acetates, ethyl esters of fatty acids, iso-acids, higher alcohols, fatty acids.
2. The volatile compounds associated with some grape varieties (Varietal Compounds): terpenols, rotundone, thiols, lactones, nor- isoprenoid, aliphatic aldehydes.
3. Aromatic Families that play a role in the ageing of wines:
   - Wood aromas: whiskey lactone, vanillin, volatile phenols (from wood);
   - Compounds associated with oxidation: isoaldehydes, methional, phenylacetaldehyde, sotolon;
   - Compounds associated with reduction: benzylmercaptans, furfurylthiols.
4. Deconstruction of wine aroma: exercises on white and red wines.

CONTRIBUTORS

The content of this workshop was developed by the French company Intelli'Oeno in close collaboration with Professor Vicente Ferreira, University of Zaragoza (the result of more than 20 years of innovative research on wine aromas).

MAXIMIZING VOLATILE THIOLS FROM VINE TO BOTTLE

June 4th or 6th from 8:30am to 12:30pm

Over the past two decades, interest in the contribution of Varietal Thiols in young wines has grown considerably. Varietal thiols, especially 4-mercapto- 4-methylpentan-2-one (4MMP), 3-mercaptohexyl acetate (3MHA), and 3-mercaptohexan-1-ol (3MH), have been identified as key molecules of young wines elaborated with many varieties. They have been shown to play a major role in the aroma profile of Sauvignon blanc.

These compounds belong to the class of varietal aromas because they result from the cleavage of odorless precursors present in grapes or musts by yeast during alcoholic fermentation (classical pathway) and by addition of glutathione and potentially other sulfur compounds on 6-carbon molecules coming from the processing of grapes (new pathway).

Volatile varietal thiols positively contribute to the fruit notes of young wines at very low concentrations close to part-per-trillion levels. Their biogenesis in the plant and during winemaking has involved many investigations during the past 20 years with the aim of better understanding and managing wine quality.

This seminar encompasses a comprehensive literature synthesis on varietal thiols with a particular focus on the viticulture and winemaking conditions, which allow expression and maximization of these aroma compounds in grapes and wines.

A sensory session will familiarize participants with varietal thiol aromas. The seminar will be concluded with a tasting of Sauvignon blanc wines from different world wine regions.

SEMINAR STRUCTURE

The Varietal Thiols Seminar has a total duration of 4 hours, with the following format:

1. Varietal thiols: nature, chemistry, history
2. Biosynthesis (pathway 1 and 2)
3. Aroma contribution of varietal thiols
4. Blind tasting of wines spiked with varietal thiols molecules
5. Maximizing varietal thiols in the vineyard
6. Maximizing varietal thiols in the winery
7. Blind tasting of Sauvignon blanc from different world wine regions

CONTRIBUTORS

The seminar's content has been designed by Intelli'Oeno with the collaboration of Michel Moutounet (core content author), Christophe Gerland (contributor and content coordinator), Marco Li Calzi (contributor), and Guillaume Berlioz (contributor).

About Marco Li Calzi

Marco Li Calzi received his PhD in Pharmacology from Mario Negri Institute in Milan (Italy) in 1995. He then spent three years as a postdoctoral researcher in the Biochemistry Department of Wake Forest University, Winston-Salem, NC. Marco returned to Italy and worked, between 1998 and 2007 as a sales representative in the pharmaceuticals industry for Merck in the Verona area (Northern Italy). His passion for wine prompted Marco to enroll in an Enology & Viticulture bachelor degree program at the University of Bologna. He defended his thesis and obtained his degree in Cesena, Italy, in December 2008. For two years, 2006-07, Marco was a collaborator of the Italian wine consumer guide "Vini Buoni d' Italia" as an evaluator of Soave and Gambellara wines. From July 2007 to December 2009 Marco completed his second postdoctoral experience in the Viticulture & Enology department of the University of California, Davis, CA. Marco Li Calzi was the Enology Program Leader of the ICCVE, at University of Missouri, Columbia, between January 2010 and February 2012 where he conducted research on the identification of the aroma compounds of Mid-West grapes and wines and taught two courses: "Wine Production" and "Cellar Operations and Special Vinifications". Marco started his own company in Southern France in March 2012 where he works as an enology consultant and instructor.

INTELLI'OENO, in its educational activity, has trained over 15000 professional people in France, Italy, USA, South America, Spain and Portugal since 2003 (winemakers, consultant, analysts, sommeliers).