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California Polytechnic State University

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Contact: Professor Joseph Montecalvo  
(805) 756-2109 [jmonteca@calpoly.edu](mailto:jmonteca@calpoly.edu)

FOR IMMEDIATE RELEASE

### **Cal Poly Wine Lab Blends Science With the Art of Winemaking**

Cal Poly now offers a complete Wine Analysis Laboratory available to graduate students and the wine industry on California's Central Coast -- and will soon be able to open the facility to undergraduate students as well, thanks to a \$50,000 donation.

The Wine Analysis Laboratory and the wine chemistry and analysis course taught there are the creation of Food Science and Nutrition Professor Joe Montecalvo. Currently the lab is only open to graduate students and students in Cal Poly's summer Extended Studies course in wine chemistry and analysis. But a recent \$50,000 gift from Carolyn Kruse will soon make the lab available to Cal Poly undergraduates.

Interest from a portion of the Kruse gift will pay for lab supplies and enable Montecalvo to teach a wine analysis chemistry course to undergrads. Cal Poly's College of Agriculture is currently seeking approval to offer a wine and viticulture major, and the course would be included in the major.

Montecalvo has been working with industry and grant agencies since the mid-1990s to gather the funding and equipment needed for a complete food and wine analysis laboratory at Cal Poly.

Industry support for the Wine Analysis Laboratory during the 1990s includes a \$21,000 equipment donation from Basic Vegetable Products, some \$406,000 in equipment donations from Nestle, more than \$80,000 in equipment donations from O.H. Kruse Milling Company, and \$18,000 in grant funding from the Southern California Section of the Institute of Food Technologists.

The latest grant money enabled Cal Poly to purchase a new \$25,000 Shimadzu gas chromatographic unit for the lab in January. Now close to complete, the Wine Analysis Laboratory is one of the most advanced university wine analysis facilities available to students in the nation, Montecalvo said.

Cal Poly is also seeking federal certification for the lab from the Bureau of Alcohol, Tobacco and Firearms (BATF) to test the alcohol content of wines, beer and distilled spirits as well as other chemical components of those beverages. If approved, Cal Poly would become the only BATF-certified laboratory on a university campus in the nation, Montecalvo said.

The high-tech equipment in the lab allows students to precisely measure and graph all of the components in beverage samples. Students are then able to use the analyses to plot and compare chemical differences that can account for taste variations and alcohol content, bringing a scientific perspective to the evaluation of wine.

"My grandfather was a winemaker, and he did everything by taste," Montecalvo said. That's not

a reliable quality-control method for wineries, he explained. "Tasting is very subjective. Chemistry can give you a very objective analysis of wine. You can measure the sulfites in wine. You can measure the volatile acidity in wine -- what you can smell above the wine. You can measure the alcohol content in wine. You can measure all of the components that contribute to wine flavor and aroma."

Equipment available in the lab includes a \$20,000 high-pressure liquid chromatography unit, UV-visible recording spectrophotometer, distillation equipment, a \$5,000 thermolyne ash furnace capable of ashing wine samples at 550 degrees Celsius for mineral analysis, digital refractometers used to measure sugar content of grapes, and the Shimadzu, a state-of-the-art gas chromatographic unit that works with a computer to provide students with a color display of chemical components in wine samples.

Currently the lab is used for a summer course in wine chemistry and analysis offered through the Cal Poly Extended Studies program. The four-day lab course was first offered in 2000 and carries a \$495 fee. So far, all of the Extended Studies students who have taken the course have been employed at Central Coast wineries. Meridian, Tobin James and Wild Horse wineries have donated wines to the summer course program for class analysis, Montecalvo said.

In the class, students learn how to run chemical analyses of wines, then compare chemical profiles of wines. The course closes with a wine and cheese sampling. "I call it painless chemistry," Montecalvo said. Cal Poly offers the hands-on course in the summer to allow winery and vineyard employees to take the course before the hectic fall crush begins.

Montecalvo hopes to make the Wine Analysis Laboratory even more

available to the wine industry in the future. "My vision," he said, "is to have this lab serve as a wine chemistry and analysis lab available to help the wine industry conduct appropriate analysis of their wines professionally and swiftly."

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(Note to Editors: To arrange interviews with Professor Montecalvo, contact Teresa Hendrix at [thendrix@calpoly.edu](mailto:thendrix@calpoly.edu) or (805) 756-7266.)

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California Polytechnic State University

San Luis Obispo, CA 93407

805.756.7266

[polynews@calpoly.edu](mailto:polynews@calpoly.edu)