

# Department of Viticulture and Enology

## 2020-2021 Annual Report

### 1. Progress on Department Goals:

The goals set by the Department of Viticulture and Enology (VE) in 2020- 2021 were as follows:

- a. Complete and submit the curriculum revision for the BS degrees in Viticulture and in Enology.
- b. Complete and submit the curriculum revision for the MS degree in Viticulture and in Enology.
- c. Start offering departmental courses in a timely manner.
- d. Increase enrolment of students in the undergraduate programs in Viticulture and Enology.
- e. Complete the external program review process of the undergraduate programs in Viticulture and Enology.
- f. Complete the recruitment process of a tenure track position in viticulture.

The progress in each of the goals outlined above are as follows:

- a. The Department of VE has historically relied heavily on courses offered by other departments in their curriculum. However, in recent years, most of these departments are impacted and as a result they are giving priority to their own majors for registering in the courses also required by VE students. As a result, VE students are unable to get into these courses in a timely manner thus prolonging their graduation or having to substitute these courses with other courses. It was also deemed that some of these courses were not quite adequate to meet the changing needs of the industry in the current context. Therefore, the VE faculty and staff identified these courses, designed courses that would be taught within the department, and deleted courses that were not quite relevant to the VE students. Several new courses were designed to be included in the new curriculum. Syllabi for these courses were developed with the goal of submitting the curriculum change request to the JCAST AP&P committee in Spring 2020 semester. Some of these courses were introduced as Topics classes (VIT 162T). These included, “Vineyard ecology and organic production”, “Introduction to Viticulture”, “Management of Grape Disorders, Diseases, and Pests”, and “Plant and Yeast Biochemistry” until the new curriculum is approved. The revised curriculum for both programs were submitted in Spring 2020 and approved by the college committee but the university committee requested for changes in the proposal. These changes will be made, and the proposal will be resubmitted in Fall 2021.
- b. A revised curriculum for the MS program was prepared and submitted to the college and university committees in Spring 2021. The curriculum was approved and will be effective from Fall 2021.
- c. Students in prior years were not able to get into the major classes due to lack of faculty and one faculty being on sabbatical leave. The courses are now being offered in a timely manner.

- d. The last five years saw a steady decline in the number of students in VE from 154 to 98 partly due to lack of faculty and lack of attention paid to admission requirements. The decline in student numbers has stopped overall but enology is still seeing a decline in student numbers. The pandemic situation made it difficult to increase our efforts in recruitment, but the department will be more pro-active in the recruitment process in 2021/2022.
- e. The external program review process of the undergraduate programs in Viticulture and Enology were completed virtually on December 8, 2020. The committee provided a report, the department submitted the response to the report, and comments on the response was provided by the JCAST Dean to the department. Action will be taken on these suggestions and recommendations in 2021/2022 and beyond.
- f. The recruitment process for the tenure track position in viticulture was completed in April. The search committee was chaired by Dr. Luca Brillante (VE). The other members of the committee were Dr. Sanliang Gu (VE), Dr. Sharon Benes (PS), Dr. Annette Levi (AB), and Dr. Amila Bercibegovic (EEO). An offer was made to Dr. Runze Yu who accepted the position and is scheduled to join in August 2021.

## **2. Graduation initiative 2025:**

As mentioned above, total undergraduate enrollment in the Department of Viticulture and Enology has shown a steady decline (Figure 1) from Fall 2015 to Fall 2020, likely due in part to perceived lack of course availability etc., following faculty retirements and resignations as outlined above. The total number of registered undergraduate students in the department for academic year 2019/20 stood at 98. Moreover, the number of applicants to the undergraduate Viticulture and Enology program has also shown a steady decline in the past few years (Figure 1). However, it is interesting to note that the overall decline in student numbers in the department is because of the decrease in enology major and not viticulture major students. Therefore, efforts need to be directed to recruit students in enology if the concern of the decline in student numbers is to be addressed. Data from OIE have suggested that the students are choosing CalPoly SLO, UC Davis, and Washington State instead of Fresno State for enology major. It also appears that the attraction for students choosing CalPoly SLO over the VE program at Fresno State is because of the options of Wine Business major at CalPoly SLO. The option of offering a Wine Business minor in partnership with Ag Business department at Fresno State will be explored in 2021/2022. The student demographics have also changed over the last five years and the department now has more Hispanic students than any other race or ethnicity (Figure 1).

## Fact Sheet for Viticulture & Enology

### Enrollment

Select Fact Sheet Department		Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020
Grad	Viticulture and Enology				6	11
	Total				6	11
OtherPB	Special Study in Enology	5	3	1		
	Total	5	3	1		
Ugrad	Enology	75	67	47	41	32
	Viticulture	50	52	48	52	55
	Total	125	119	95	93	87
<b>Grand Total</b>		<b>130</b>	<b>122</b>	<b>96</b>	<b>99</b>	<b>98</b>

### Demographics

	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020
Male	65.4%	64.8%	65.6%	62.6%	55.1%
Local	33.8%	36.1%	29.2%	35.4%	32.7%
African American	0.0%	0.0%	0.0%	1.0%	2.0%
American Indian	1.5%	1.6%	2.1%	1.0%	0.0%
Asian	0.0%	0.8%	1.0%	1.0%	2.0%
Hispanic	35.4%	45.1%	50.0%	50.5%	52.0%
Non-Resident Alien	3.1%	3.3%	5.2%	5.1%	7.1%
Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.0%
Two or More	5.4%	4.1%	2.1%	2.0%	1.0%
Unknown	11.5%	12.3%	7.3%	4.0%	2.0%
White	43.1%	32.8%	32.3%	35.4%	33.7%

### New Students

	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020
First-Time Freshman	9	15	8	18	12
Transfer Undergraduate	12	11	15	13	14
New Postbac				6	3

### 1st Year Retention

	Cohort				
	Fall 2014	Fall 2015	Fall 2016	Fall 2017	Fall 2018
First-Time Freshmen	83.3%	82.4%	88.9%	73.3%	87.5%
Transfer Ugrd	100.0%	100.0%	77.8%	100.0%	100.0%

### 2 Year Graduation

	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017
Transfer Ugrd	5.9%	10.5%	6.7%	33.3%	9.1%

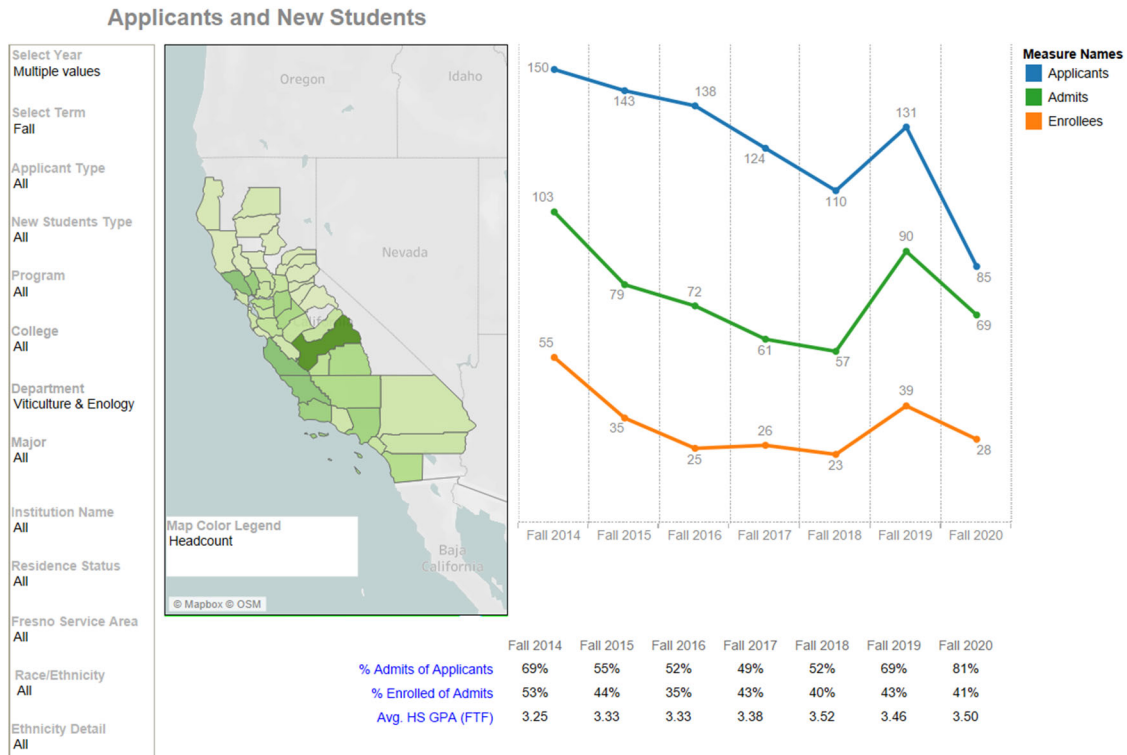
### 4 Year Graduation

	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015
First-Time Freshmen	33.3%	0.0%	9.1%	8.3%	11.8%
Transfer Ugrd	83.3%	60.0%	70.6%	94.7%	73.3%

### 6 Year Graduation

	Fall 2011	Fall 2013	Fall 2009	Fall 2010	Fall 2012
First-Time Freshmen	75.0%	72.7%	66.7%	50.0%	22.2%

**Figure 1.** Enrollment trend of undergraduate students in the Department of Viticulture and Enology from Fall 2015 to Fall 2020 (Data source: Office of Institutional Effectiveness).



**Figure 2.** Trend of applications for admission in the undergraduate programs of the Department of Viticulture and Enology from Fall 2014 to Fall 2020 (*Data source: Office of Institutional Effectiveness*).

**Graduation rates:**

Four-year freshman graduation rates are at 11.1% (Table 1), which is well below the campus 4-year target of 22% (Table 2). The 6-year graduation rate for freshman is at 50%, which is also a substantial drop from last year’s rate of 72.7% but higher than the campus target of 54% (Table 1 & 2). To remedy the low 4-year graduation rate the department is currently revising the viticulture curriculum to include more available course options. As currently designed only **22** of the **120** required units in the B.Sc. in Viticulture are taught in the department. This leads to significant issues with students finding available seats in classes controlled by other departments, and in many cases reserved for “majors only” in the first 1-2 weeks of registration.

**Table 1.** Freshman Undergraduate Cohort Retention, Graduation and Persistence for the Department of Viticulture and Enology (*Data source: Office of Institutional Effectiveness*).

First-time Full-time Freshmen Cohorts															
Entry Cohort	Cohort Size	Avg Entry GPA*	Avg. 1st Term GPA	Retention after 1st Term	Retention after 1 Year	Degree within 2 Years	Contin. after 2 Years	Degree within 3 Years	Contin. after 3 Years	Degree within 4 Years	Contin. after 4 Years	Degree within 5 Years	Contin. after 5 Years	Degree within 6 Years	Contin. after 6 Years
Fall 2008	12	3.10	2.26	91.7%	83.3%	0.0%	66.7%	0.0%	66.7%	0.0%	41.7%	8.3%	41.7%	25.0%	16.7%
Fall 2009	12	3.11	2.65	100.0%	91.7%	0.0%	83.3%	0.0%	83.3%	16.7%	66.7%	41.7%	33.3%	66.7%	8.3%
Fall 2010	14	3.13	2.29	100.0%	85.7%	0.0%	78.6%	0.0%	71.4%	21.4%	42.9%	28.6%	35.7%	50.0%	7.1%
Fall 2011	12	3.27	3.07	100.0%	100.0%	0.0%	91.7%	0.0%	83.3%	33.3%	58.3%	75.0%	0.0%	75.0%	0.0%
Fall 2012	9	3.25	2.57	100.0%	77.8%	0.0%	77.8%	0.0%	66.7%	0.0%	66.7%	11.1%	44.4%	22.2%	22.2%
Fall 2013	11	3.13	2.85	100.0%	100.0%	0.0%	100.0%	0.0%	100.0%	9.1%	90.9%	45.5%	45.5%	72.7%	9.1%
Fall 2014	24	3.25	2.81	91.7%	83.3%	0.0%	75.0%	0.0%	70.8%	8.3%	62.5%	33.3%	29.2%	50.0%	12.5%
Fall 2015	17	3.25	2.93	88.2%	82.4%	0.0%	70.6%	0.0%	64.7%	11.8%	52.9%	58.8%	11.8%		
Fall 2016	9	3.53	2.00	88.9%	88.9%	0.0%	66.7%	0.0%	55.6%	11.1%	33.3%				
Fall 2017	15	3.35	2.71	93.3%	73.3%	0.0%	66.7%	0.0%	66.7%						
Fall 2018	8	3.51	2.67	100.0%	87.5%	0.0%	75.0%								
Fall 2019	18	3.43	2.86	94.4%	88.9%										
Fall 2020	10	3.32	2.51	90.0%											
<b>Grand Total</b>	<b>171</b>	<b>3.27</b>	<b>2.67</b>	<b>94.7%</b>	<b>86.3%</b>	<b>0.0%</b>	<b>76.9%</b>	<b>0.0%</b>	<b>72.6%</b>	<b>12.5%</b>	<b>57.5%</b>	<b>38.7%</b>	<b>28.8%</b>	<b>52.1%</b>	<b>10.6%</b>

**Table 2.** California State University, Fresno 2025 Graduation Goals (*Data source: <http://www.fresnostate.edu/academics/studentssuccess/documents/Fresno-State-Goals.pdf>*)

FRESHMEN GRADUATION GOALS				
	Baseline Rate	Peer Group Benchmark	Additional Improvement	2025 Goal
6-Year Graduation Rate Goal (2019 Cohort)	48%	54%	6%	54%
4-Year Graduation Rate Goal (2021 Cohort)	14%	N/A	8%	22%
TRANSFER GRADUATION RATE GOALS				
4-Year Graduation Rate Goal (2021 Cohort)	68%	N/A	6%	74%
2-Year Graduation Rate Goal (2023 Cohort)	17%	N/A	8%	25%
FRESHMAN ACHIEVEMENT GAP GOALS				
6-Year URM/Non-URM Graduation Rate Gap Goal (2019 Cohort)	10%	N/A	50% Improvement	5%
4-Year Pell/Non-Pell Graduation Rate Gap Goal (2019 Cohort)	13%	N/A	50% Improvement	6%

The two-year transfer graduation rates is at 15.4%, which is below the campus target of 25%, and the four-year transfer graduation rates are at 77.8% (Table 3), which is a little above the campus target of 74% (Table 2). These data also suggest the department’s consideration of creating a core suite of courses that all VE students must complete prior to selection of either the 1) viticulture or 2) enology option may prove valuable.

**Table 3.** Transfer Undergraduate Cohort Retention, Graduation and Persistence for the Department of Viticulture and Enology (*Data source: Office of Institutional Effectiveness*)

First Time CCC Transfer Cohorts															
Entry Cohort	Cohort Size	Avg Entry GPA*	Avg. 1st Term GPA	Retention after 1st Term	Retention after 1 Year	Degree within 2 Years	Contin. after 2 Years	Degree within 3 Years	Contin. after 3 Years	Degree within 4 Years	Contin. after 4 Years	Degree within 5 Years	Contin. after 5 Years	Degree within 6 Years	Contin. after 6 Years
Fall 2008	10	2.76	2.76	100.0%	90.0%	0.0%	90.0%	50.0%	10.0%	60.0%	10.0%	70.0%	0.0%	70.0%	0.0%
Fall 2009	11	2.79	2.66	100.0%	100.0%	0.0%	90.9%	18.2%	72.7%	90.9%	0.0%	90.9%	0.0%	90.9%	0.0%
Fall 2010	26	2.94	2.94	100.0%	92.3%	3.8%	76.9%	65.4%	15.4%	73.1%	3.8%	80.8%	0.0%	80.8%	0.0%
Fall 2011	12	2.90	2.77	100.0%	91.7%	0.0%	83.3%	25.0%	58.3%	83.3%	0.0%	91.7%	0.0%	91.7%	0.0%
Fall 2012	15	2.76	2.74	100.0%	80.0%	0.0%	80.0%	33.3%	46.7%	60.0%	6.7%	73.3%	6.7%	73.3%	0.0%
Fall 2013	17	3.07	2.91	94.1%	94.1%	5.9%	70.6%	58.8%	23.5%	70.6%	11.8%	76.5%	5.9%	76.5%	5.9%
Fall 2014	19	2.88	3.15	94.7%	94.7%	10.5%	84.2%	73.7%	21.1%	94.7%	0.0%	94.7%	0.0%	94.7%	0.0%
Fall 2015	15	2.87	2.76	93.3%	93.3%	6.7%	86.7%	53.3%	26.7%	73.3%	6.7%	73.3%	6.7%		
Fall 2016	9	3.22	2.99	100.0%	77.8%	33.3%	44.4%	66.7%	11.1%	77.8%	0.0%				
Fall 2017	11	3.10	3.26	100.0%	100.0%	9.1%	90.9%	90.9%	9.1%						
Fall 2018	13	3.25	3.09	92.3%	92.3%	15.4%	61.5%								
Fall 2019	7	3.06	2.98	100.0%	85.7%										
Fall 2020	14	3.13	3.12	92.9%											
<b>Grand Total</b>	<b>179</b>	<b>2.97</b>	<b>2.94</b>	<b>97.2%</b>	<b>91.5%</b>	<b>7.0%</b>	<b>78.5%</b>	<b>55.2%</b>	<b>28.3%</b>	<b>76.1%</b>	<b>4.5%</b>	<b>81.6%</b>	<b>2.4%</b>	<b>82.7%</b>	<b>0.9%</b>

It will also be of value to distinguish graduation rates by degree, rather than combining data from both the viticulture or enology degree as each presents a unique set of challenges. The above graduation rates combine both majors so it remains difficult to effectively determine roadblocks are present, and if so the development of effective remedies for such.

The Department also has a Certificate in Enology program. In 2018/2019, one student was enrolled in the program and was successful in completing the requirements and obtaining the Certificate. However, this program has been put on temporary suspension because of lack of student interest and due to the Department’s faculty wanting to revisit the purpose and objectives of this Program.

***Retention rates:***

The First Time Freshmen and First Time Transfers retention rate are 88.9% and 84.6%, respectively (Table 4). While the Freshmen retention rate is higher than the College’s retention rate (86.4%), the transfer student retention rate is lower than that of the College (91.2%). Compared to the previous year, this year’s retention rate is slightly higher for Freshmen but lower for that of the transfer students. Therefore, the department should maintain focus on increasing the retention rate for both First Time Freshmen and Transfer students. Perhaps, the proposed new VIT 15 (Introduction to Viticulture) will help in keeping the Freshmen connected to the Department and the timely availability of classes in other departments will help in retention of the transfer students. Also, one bottleneck is that transfer students coming in mostly do not have the equivalent of BIOL 11 and this delays them because BIOL 11 is a pre-requisite to get into many of the upper division courses. The feeder colleges are being contacted and will be contacted about this issue.

**Table 4.** First Time Freshmen and First Time Transfer student retention rate of the Department of Viticulture and Enology and the Jordan College of Agricultural Sciences and Technology ((Data source: Office of Institutional Effectiveness))

### First Year Retention by Cohort

#### Viticulture And Enology - First Time Freshmen

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	17	9	15	8	18
Returned N	14	8	11	7	16
Returned %	82.4%	88.9%	73.3%	87.5%	88.9%

#### Viticulture And Enology- First Time Transfers

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	16	12	11	15	13
Returned N	15	10	11	13	11
Returned %	93.8%	83.3%	100.0%	86.7%	84.6%

#### All - First Time Freshmen

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	3,673	3,300	3,446	3,574	3,334
Returned N	2,846	2,674	2,758	2,913	2,875
Returned %	77.5%	81.0%	80.0%	81.5%	86.2%

#### All- First Time Transfers

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	1,747	2,238	2,140	2,126	2,041
Returned N	1,521	1,938	1,859	1,845	1,829
Returned %	87.1%	86.6%	86.9%	86.8%	89.6%

### First Year Retention by Cohort

#### All - First Time Freshmen

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	292	284	284	372	330
Returned N	234	233	233	314	285
Returned %	80.1%	82.0%	82.0%	84.4%	86.4%

#### All- First Time Transfers

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	234	242	238	252	226
Returned N	219	215	203	233	206
Returned %	93.6%	88.8%	85.3%	92.5%	91.2%

#### Jordan College of Agricultural Sciences and Technology - First Time Freshmen

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	292	284	284	372	330
Returned N	234	233	233	314	285
Returned %	80.1%	82.0%	82.0%	84.4%	86.4%

#### Jordan College of Agricultural Sciences and Technology- First Time Transfers

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
Cohort N	234	242	238	252	226
Returned N	219	215	203	233	206
Returned %	93.6%	88.8%	85.3%	92.5%	91.2%

### 3. High impact practices courses:

The following classes are taught as DISCOVERe classes:

- VIT165 Grapevine rootstocks and varieties
- VIT103 Raisin production and processing
- VIT105 Table grape production and marketing
- VIT102 General Viticulture

#### 4. Faculty/Staff hiring and development:

The faculty/staff list of the VE Department is shown in the Table below:

**Table 5:** Faculty and Staff of the VE Department.

Faculty	Title	Discipline
Dr. Anil Shrestha	Professor	Chair, Viticulture/Weed Science
Dr. Luca Brillante	Assistant Professor	Viticulture
Dr. Sanliang Gu	Professor	Viticulture
Dr. Sonet van Zyl	Associate Professor	Viticulture
Dr. Miguel Pedroza	Assistant Professor	Enology
Dr. Qun Sun	Assistant Professor	Enology
Mr. Kevin Smith*	Part-time Lecturer	Wine Marketing, Wine Business
Mr. William Whalen	Part-time Lecturer	Enology (Microbiology, Fermentation)
Ms. Sara Azevedo	Part-time Lecturer	Regulations: Wine & Brandy
Ms. Andrea Magdaleno	Dept. Administrative Assistant	

The tenure-track faculty members (Drs. Brillante, Pedroza, and Sun) have been very active in course/curriculum redesign. All three have spent considerable time with industry representatives to gain insight into current needs, focusing on providing a trained workforce for the grape and wine industry. They have also begun actively seeking internal and external research funding and have found some support from the existing membership of the Industry Advisory Board.

All the faculty members have been encouraged to register and participate in any internal and external training opportunities provided by the University. Participation examples include CANVAS training.

#### 5. Financial Management:

The Department receives \$15,000 annually from JCAST as operating costs for day-to-day needs. Other than that, the department has a trust fund for course fees for Enol 45 and Enol 105. The funds are used for lab supplies for both these classes, which usually is wine for tasting or items for sensory (aroma bottles, etc.). There is a carry forward of \$8141.60 as of May 30, 2019 (Table 6). There are plans to spend some of this money to get a new dishwasher for the lab, do some electrical repairs, and purchase new wine tasting glasses and glass racks.



**Table 6:** Carry forward amount in Trust Fund #48555

Account #	Account Name	June 16, 2021	Primary uses
48555	Enology Lab Fees	\$6423.47	Classroom and lab supplies for Enol 105 and Enol 45

The Department of Viticulture and Enology faculty is also active in seeking external funds to support their research. Although the amount of funds generated this year was low compared to the previous year, it is noticeable to see the substantial increase compared to 2017/2018 and 2018/2019. This can be attributed to the efforts of the new and existing faculty. Table 7 shows the research funds requested and received by the faculty and staff in the last four years.

**Table 7.** Research funds requested-received by Department of Viticulture and Enology faculty for the past four AY. *Funds requested do not include proposals under review at time of reporting that AY. Data source: Division of Research and Graduate Studies*

	2017-2018		2018-2019		2019-2020		2020-2021	
Sponsor	Requested	Received	Requested	Received	Requested	Received	Requested	Received
Federal	\$0	\$0	\$6356	\$6356	\$562,175	\$154,584	\$678,197	\$116,022
State	\$424,031	\$76,674	\$730,168	\$129,112	\$166,021	\$147,400	\$400,372	\$130,952
Private	\$124,501	\$104,501	\$449,477	\$171,651	\$461,271	\$317,518	\$415,102	\$280,665
Total	\$548,532	\$181,175	\$1,186,001	\$307,119	\$1,189,467	\$619,502	\$1,493,671	\$527,639

## 6. Fund Raising:

The department participated in the Fall 2020 Fresno State Crowdfunding Campaign to raise money for student field trips. The money raised will be used to provide bus transportation and lodging for upper division students to various wine regions around California. Our campaign had 29 donors and we raised a total of \$2800 (goal of \$3000)."

## 7. Advisory committee:

The advisory committee for the Department of Viticulture and enology is scheduled to meet four times a year. This year, the advisory committee met three times on November 20, 2020; January 21, 2021; and April 15, 2021. One meeting was cancelled because of the pandemic situation and logistics in scheduling. The composition of the Advisory Committee for the Department of Viticulture and Enology is shown in the Table below:

## Industry Advisory Board

Name	Affiliation	Title
Dwyane Cardoza	Raisin Bargaining Association	RBA Chairman
Jim Coleman	E & J Gallo Winery	Co-President
John Crossland	Vineyard Professional Services	President
Jerry DiBduo	DiBduo Land Management Company	President
Nat DiBduo	Alliance Ag Services (former President of Allied Grape Growers)	Ag Real Estate Agent
Cathy Ference	Constellation Brands	Senior Manager, Bulk Wine Supply
Matt Frank	Trinchero Estates	Viticulturist
Fred Franzia	Bronco Wine Company	CEO
Keith Horn	California Land Stewardship Institute (former Constellation Brands Vice President, Grape Management)	President
Wayde Kirschenman	Kirschenman Enterprises, Inc	President
Dianne Nury	Vie-Del Winery	President
Brott Ritzel	The Wine Group	Chief Operating Officer
Rick Stark	Sun-Maid Raisin Growers	Grower Relations Mgr.

### Agenda for the advisory committee meetings in 2020/2021.

November 20, 2020 meeting:

1.	Call to Order	J. Coleman	5 minutes
2.	Approval of Agenda	All	5 minutes
3.	Approval of Minutes	All	5 minutes
4.	College update	D. Nef	15 minutes
5.	COVID-19 and virtual operation	A. Shrestha, S. Sommer	10 minutes
6.	Department Annual Report	A. Shrestha	10 minutes
7.	Research Center Annual Report	S. Sommer	10 minutes
8.	Bylaws update	N. DiBduo, D. Nury	20 minutes
9.	Nominations	All	10 minutes
10.	Items from the floor		10 minutes
11.	Adjournment		
			100 minutes total

January 21, 2021 meeting:

1.	Call to Order	D. Nury	5 minutes
2.	Approval of Agenda	All	5 minutes
3.	Approval of Minutes	All	5 minutes
4.	College and University Update	D. Nef	10 minutes
5.	Vineyard Planting Update	M. Salwasser	10 minutes
6.	Construction and Renovation Updates	S. Sommer	15 minutes
7.	VERC Research Advisory Committees	S. Sommer	20 minutes
8.	Bylaws Update	N. DiBduo, D. Nury	10 minutes
9.	Nominations	All	10 minutes
10.	Items from the floor	All	10 minutes
11.	Adjournment		
			100 minutes total

April 15, 2021 meeting:

1.	Call to Order	D. Nury	5 minutes
2.	Approval of Agenda	All	2 minutes
3.	Approval of Minutes	All	3 minutes
4.	Board Member Update	D. Nury	10 minutes
5.	Bylaws Update	N. DiBduo, D. Nury	15 minutes
6.	University Update	S. Jimenez-Sandoval	15 minutes
7.	Vineyard Planting Update	D. Nef	20 minutes
8.	Research Advisory Committees	S. Sommer	15 minutes
9.	Research Update	Selected faculty	15 minutes
10.	Department Update	A. Shrestha	10 minutes
11.	Items from the floor		10 minutes
12.	Adjournment		
			120 minutes total

## **8. Publications, presentations and creative accomplishments**

\*Name of VE faculty in bold.

\*\*Students

### **Refereed Publications**

1. Bois B., Pauthier B., **Brillante L.**, van Leeuwen C., Mathieu O., Leveque, J., Castel, T., Richard Y. 2020. Sensitivity of grapevine soil–water balance to rainfall spatial variability at local scale level. *Frontiers in Environmental Science* 8:110.
2. **Brillante, L.**, Bonfante, A., Bramley, R., Tardaguila, J., Priori. 2020. Unbiased scientific approaches to the study of terroir are needed! *Frontiers in Earth Sciences*.
3. **Brillante, L.**, Martinez-Luscher, J., Yu, R., Kurtural, S. K. 2020. Carbon isotope discrimination ( $\delta^{13}\text{C}$ ) of grape musts is a reliable tool for zoning and the physiological ground-truthing of sensor maps in precision viticulture. *Frontiers in Environmental Science* 8:176.
4. Cecotti, H., Rivera, A., Farhadloo, M., & **Pedroza, M. A.** (2020). Grape detection with convolutional neural networks. *Expert Systems with Applications*, 159, 113588. doi:10.1016/j.eswa.2020.113588 (Number of students participating: 2).
5. Martinez-Lusher, J., Chen, C., **Brillante, L.**, Kurtural, S. K. 2020. Mitigating heat wave and exposure damage to ‘Cabernet Sauvignon’ wine Grape with partial shading under two irrigation amounts. *Frontiers in Plant Sciences* 11:579192
6. Priori, S., **Brillante, L.**, Bonfante, A., Vaudour, E., Winter, S., Conticelli, S. 2021. Editorial: Biogeosciences and wine, the management and environmental processes that regulate the terroir effect in space and time. *Frontiers in Environmental Sciences*. doi: 10.3389/fenvs.2021.711347
7. **Shrestha, A.**, M.P. Anwar, A.K.M. Mominul Islam, T. Gurung, S. Dhakal, A. Tanveer, M.M. Javaid, M. Nadeem, and N.A. Ikram. 2021. Weed science as a new discipline and its status in some south Asian universities and colleges: Examples from Bangladesh, Bhutan, Nepal, and Pakistan. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*. Online: <http://dx.doi.org/10.1079/PAVSNNR202116017>
8. **Sun Q.**, Groves, L.\*\* and **Van Zyl S.** 2021. Viticultural Manipulation and New Technologies to Address Environmental Challenges Caused by Climate Change. *Wine Business Journal* 2021 Special Issue. Abstract Accepted.
9. **Sun Q.**, Vasquez, K., and Zhuang SJ. 2021. The Impact of Labor Shortage and Adaptation Options for Vineyards. *Wine Business Journal* 2021 Special Issue. Abstract Accepted.
10. **Sun Q.**, Zhuang, S.J., and Asci S. 2021. Berry Composition and Economic Analysis of Cabernet Sauvignon Treated by Mechanical Leafing and Deficit Irrigation. *Catalyst: Discovery into Practice*. Submitted.
11. Yu, R., **Brillante, L.**, Torres, N., Kurtural, S.K. 2021. Proximal sensing of vineyard soil and canopy vegetation for determining vineyard spatial variability in plant physiology and berry chemistry. *OENO One*, vol. 55, No. 2.

12. Yu, R., **Brillante, L.**, Martínez-Lüscher, J., Kurtural, S.K. 2020. Spatial Variability of Soil and Plant Water Status and Their Cascading Effects on Grapevine Physiology Are Linked to Berry and Wine Chemistry. *Frontiers in Plant Science*, 11:790

### **Non-Refereed Publication**

1. **Brillante, L.** 2020. Autonomous predictions of vineyard yield – Machine learning modeling of remote sensing and historical data assist at the block level. *Progressive Crop Consultant*. 09/2020.
2. **Brillante, L.** 2020. Autonomous predictions of vineyard yield: machine-learning modeling of remote sensing and historical data assiste at the block level. *My Ag Life* (podcast).
3. Mitchell, J., **A. Shrestha**, T. Willey, and J. Warnert. 2020. Improving farming systems for the common good. *Organic Farmer*. August/September 2020: 36-38. <http://organicfarmermag.com/2020/08/improving-farming-systems-for-the-common-good/>

### **Conference Presentations**

#### *Oral*

1. **Brillante, L.** Within-vineyard variability in grape composition at the estate scale can be assessed through machine-learning modeling of plant water status in space and time. A case study from the hills of Adelaida District AVA, Paso Robles, CA, USA. XI International Terroir Congress Adelaide, 2021. IVES Conference Series, n.6686.
2. **Brillante, L.** Within-vineyard variability in grape composition at the estate scale can be assessed through machine-learning modeling of plant water status in space and time. A case study from the hills of Adelaida District AVA, Paso Robles, CA.
3. **Pedroza, M.** Perceptual differences of wine impact odorants between consumers and industry experts. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 3).
4. **Pedroza, M.** Perceptual differences of wine impact odorants between consumers and industry experts. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 3).
5. **Sun, Q.**, Zhuang S.J., Marinos, A.\*\*\*, Wilson, J., and Garcia, D.\*\* Investigate the Differences of Cabernet Sauvignon Grapes and Wines Between Madera AVA and Other California Wine Regions. 2021 American Society of Enology and Viticulture National Conference.
6. Zhuang, S.J. and **Sun, Q.** Impact of Mechanical Leafing on Yield and Berry Composition of Ruby Cabernet grown in the San Joaquin Valley of California. 2021 American Society of Enology and Viticulture National Conference.
7. Zhuang, S.J. and **Sun, Q.** Effect of Deficit Irrigation and Mechanical Leafing on Yield, Berry and Wine Chemistry of Cabernet Sauvignon in California. 2021 American Society of Enology and Viticulture National Conference.

#### *Posters*

1. **Brillante, L.** 2021. Assisting irrigation scheduling through machine-learning modeling of grapevine water status in space and time. ASEV National Conference, 6/15/2021 (online).
2. Celaya-Finke, G.\*\*\*, K. Waselkov, L. Sosnoskie, and **A. Shrestha**. 2021. Effects of moisture and salt stress on germination of common waterhemp (*Amaranthus tuberculatus*). California Weed Science Society Annual Meeting (Virtual).
3. De Censi, P.\*\*\*, Singh, K.\*\*\*, Sanjuan, A., **Brillante, L.** 2021. Use of VIS-NIR Hyperspectral Imaging to Quantify Anthocyanins, Soluble Solids and Titratable Acidity in Grape Berries. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 2).
4. Galvan, K.\*\*\*, **A. Shrestha**, and K. Waselkov. 2021. Effects of salinity and pH on common waterhemp (*Amaranthus tuberculatus*) germination. California Weed Science Society Annual Meeting (Virtual).
5. Groves, L.\*\*\*, M. Mehlman\*\*, E. Person, J. Coetzee, and **S. Van Zyl**. Calibration of microbial spoilage indicators via mycobiota levels in wine grapes. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 9).
6. Lopez, A.J.\*\*\*, **A. Shrestha**, L. Synoskie, and K.E. Waselkov. 2021. Origins of *Amaranthus tuberculatus* (waterhemp) in Central Valley agroecosystems: A population genetics approach using genotyping-by sequencing. California Weed Science Society Annual Meeting (Virtual).
7. Lum, R.\*\*\*, **A. Shrestha**, and K.E. Waselkov. 2021. Characterizing herbicide resistance in Southwestern U.S. and invasive California populations of *Amaranthus palmeri*. California Weed Science Society Annual Meeting (Virtual).
8. Morales, G.\*\*\*, J. Llyod\*\*, S. Sommer, and **S. Van Zyl**. Calibration of microbial spoilage indicators via mycobiota levels in wine grapes. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 7).
9. Llyod, J.\*\*\*, Morales, G.\*\*\*, S. Sommer, and **S. Van Zyl**. Fermentation kinetics and sensory of microbially impacted red and white wine. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 7).
10. Singh, K.\*\*\*, Daane, K., **Brillante, L.** 2021. Control of Vine Mealybug (*Planococcus ficus* Signoret) in Organic Viticulture. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 1).
11. Singh, K.\*\*\*, De Censi, P.\*\*\*, **Brillante, L.** 2021. Monitoring Grapevine Response to Calcium Based Soil Amendments through Remote Sensing in San Joaquin Valley, California. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 2).
12. Steinhauer, K.\*\*\*, **A. Shrestha**, J. Bushoven, and K.E. Waselkov. 2021. Environmental conditions on postemergence herbicides control of glyphosate-resistant junglerice (*Echinochloa colona*). California Weed Science Society Annual Meeting (Virtual).
13. Vasquez, K.\*\*\*, Fuchs M., Cooper, M., **Brillante, L.** 2021. Remote Sensing-Assisted Scouting of Virus Infections in Vineyards. ASEV National Conference, 6/15/2021 (online). (Number of students in the research: 1).

\*\*Student

## Oral Presentations

## A. Invited talks

1. **Brillante, L.** Three ways to improve color in red wine grapes. March 12, 2021, American Vineyard Magazine (Online Video).
2. **Brillante, L.** The HYPERVID project, hyperspectral virus identification and detection. Napa Valley Wine Tech Group, April 26, 2021.
3. **Brillante, L.** Grapevine responses to water deficit and heat stress. Tree & Vine Expo, Virtual, November 11, 2020.
4. **Brillante, L.** Vineyard soil reclamation by different forms and doses of CaSO<sub>4</sub> amendments in the San Joaquin Valley of California. November 5, 2020. Universidad Autonoma de Baja California, Facultad de Enologia y Gastronomía.
5. **Brillante, L.** Organic Fertilizer Association of California, Sustainable & Organic Production Webinar - Organic Fertilizer Association of California, August 6, 2020.
6. **Brillante, L.** Vineyard soil reclamation by different forms and doses of CaSO<sub>4</sub> Amendments in the San Joaquin Valley of California, Fresno State Grape Day, August 4, 202
7. **Brillante, L.** Remote sensing in viticulture. San Joaquin Valley Winegrowers Association Research Roadshow. June 4th, 2020.
8. **Pedroza, M.** 'Demonstration of Biopotentials as a New Tool to Evaluate Sensory Stimulation Evoked by Wine Aroma', Fresno State Grape Day, 8/4/2020 (virtual). (Number of students in the research: 2).
9. **Pedroza, M.** 'Biopotentials as a new tool to evaluate sensory stimulation evoked by wine aroma', 4to Seminario de investigacion de "De la vid al vino", Ensenada, Baja California, Mexico (Online conference, 11/5/2020).
10. **Pedroza, M.** Internet of Things and Winemaking. Enartis Webinars (Online, 11/5/2020).
11. **Pedroza, M.** Wine faults: Sulfur. Invited Lecture: Santa Rosa Junior College. Santa Rosa, CA. 5/13/2021.
12. **Pedroza, M.** Characterization of wine aroma pleasantness using facial muscular activity, 14th Pangborn Sensory Science Symposium, Sustainable Sensory Science' (Online conference, 08/09/21 – 08/12/21). (Number of students in the research: 1).
13. **Shrestha, A.** 'Aspects of vineyard weed management', Virtual Lodi Grape Day, University of California Agriculture and Natural Resources, Feb. 2, 2021 (*invited webinar*).
14. **Shrestha, A.** 'Cover-crop crimping, practical applications in vineyards', 9<sup>th</sup> Annual Vineyards & Wineries Continuing Education Class Series, Napa County Farm Bureau Foundation and the Ag Commissioners Office, Nov. 12, 2020 (*invited webinar*).
15. **Shrestha, A.** 'Vineyard weed management issues: issues, challenges, and opportunities. Sustainable Ag & International Sustainable Winegrowing Summit, Nov. 9 – Dec. 4, 2020 (*invited webinar*).
16. **Shrestha, A.** 'A developing and developed countries perspective on

- implementation of integrated weed management’, Western IPM Center, Davis, CA, Sept.9, 2020 (*invited webinar*).
17. **Shrestha, A.** ‘Agroecology: a pathway to agricultural sustainability’. Himalayan College of Agricultural Sciences and Technology, Kathmandu, Nepal, August 7, 2020 (*invited webinar*).
  18. **Sun, Q.** My STEM Career. Fresno County Superintendent of Schools Virtual STEM for Girl Conference. 2021
  19. **Sun, Q.** Impact of Deficit Irrigation and Mechanical Leafing on Yield and Berry/Wine Composition of Cabernet Sauvignon in the SJV. College of Agriculture, Food and Environmental Sciences (CAFES) Research Seminar Series, California Polytechnic State University. 2020.
  20. **Sun, Q.** Impact of Deficit Irrigation and Mechanical Leafing on Yield and Berry/Wine Composition of Cabernet Sauvignon in the SJV. 2020 Grape Day, Fresno State. 2020.
  21. **Sun, Q.,** Zhuang G., and Wang Z. Backyard Soil, Water, Fertilizer Management and Grape Growing. Chinese American Faculty Association (CAFA) Annual Community Service Series. 2020
  22. **Sun, Q.** 2019 Cabernet Sauvignon Trial Update. The Wine Group Inc. Grape Growers and Winemakers meeting. 2020
  23. **Sun, Q.** Impact of Deficit Irrigation and Mechanical Leafing on Yield and Berry/Wine Composition of Cabernet Sauvignon in the SJV. Fourth Edition of the Virtual Seminar from Vine to Wine at Autonomous University of Baja California (UABC), Mexico. 2020.

#### **Undergraduate Student presentations**

1. Kampen H and Benitez B. Impact of Yeast Derivative Treatment on Smoke-Tainted Cabernet Sauvignon Wine. 2021 American Society of Enology and Viticulture National Conference. (supervised by **Dr. Q. Sun**).
2. Kampen H and Benitez B. Impact of Activated Carbon and Polyvinylpyrrolidone Treatments for Amelioration of Smoke Tainted Cabernet Sauvignon Wine. 2021 American Society of Enology and Viticulture National Conference. (supervised by **Dr. Q. Sun**).
3. Pineda, S. Effects of color and pigmentation on Crimson Seedless grapes from OR-151 applications. JCAST Honors program presentations Monday, May 3rd, 2021. (supervised by **Dr. S. Van Zyl**).

#### **Organizational Efforts (Events and activities organized)**

1. **Shrestha, A.** Program Chair, 2021 California Weed Science Society Annual Meeting. Jan. 25 – Feb. 26, 2021 (Virtual).

#### **Community Outreach/Professional**

1. **Brillante, L.** Research Committee Member, National Grape Research Alliance.
2. **Brillante, L.** Member of Advisory Board, Vintage Report.



3. **Shrestha, A.** Academic Editor, PLOS One, 1160 Battery Street, Suite 100, San Francisco, CA, USA (since Apr. 18, 2014).
4. **Shrestha, A.** Editorial Board Member, Journal of Agroecology and Sustainable Food Systems, Taylor & Francis Press, Philadelphia, PA, USA.
5. **Shrestha, A.** Editorial Board Member, Journal of Crop Improvement, Taylor & Francis Press, Philadelphia, PA, USA.
6. **Shrestha, A.** Associate Editor, Agronomy Journal, American Society of Agronomy, USA (since Feb. 1, 2013).
7. **Shrestha, A.** Associate Editor, Agronomy Journal, American Society of Agronomy, USA (since Feb. 1, 2013).
8. **Shrestha, A.** Associate Editor, Agricultural and Environmental Letters, American Society of Agronomy, USA (since Jan. 1, 2021).
9. **Shrestha, A.** Editor-in-chief, Fundamental and Applied Agriculture, Bangladesh (since Jan. 1, 2021).

### **Committees**

#### **Brillante, L.**

- RSAC Committee (College)
- Academic Senate (University)

#### **Gu, S.**

- Personnel Committee (College)
- Faculty Executive Committee (College)

#### **Pedroza, M.**

- UAL Committee (College)

#### **Shrestha, A.**

- President, California Weed Science Society, January 2021 onwards.
- Liaison of the American Society of Agronomy to the Weed Science Society of America, Jan. 1, 2018 to Dec. 31, 2020.
- Advisory Committee Member, Western Integrated Pest Management Center, Davis, CA, May 2014 onwards.
- JCAST Sustainability Task force (College) March. 2021 onwards.
- Advisory Board Member, Madera Community College

#### **Smith, K.**

- Budget Committee (College)

#### **Sun, Q**

- JCAST Honors Council (College)
- Academic Senate Committee (University)
- Chinese American Faculty Association, 5/9/2019-present
- Enology Society student club, 10/2017-present
- ASC II for VERC search committee, 9/5/2018-12/15/2018

#### **Van Zyl, S.**

- Academic Programs Committee (College)
- Faculty Hearing Panel (University)
- Faculty Advisor – Fresno State Viticulture Club (Department)
- California Raisin Marketing Board – Public Voting Member
- Raisin Administrative Committee – Public Voting Member

**9. 2021-2022 Goals and objectives**

- a. Complete and resubmit undergraduate and graduate curriculum revision to the College AP& P Committee
- b. Increase student enrolment efforts in both the undergraduate and graduate programs.
- c. Start teaching new courses initially as Topics courses till revised curriculum is accepted.
- d. Explore the option of a joint Wine Business minor program with the Department of Agricultural Business.