

**Kent M. Daane**, Cooperative Extension Specialist  
Department of Environmental Science, Policy and Management (ESPM)  
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**Education:**

University of California, Berkeley	Entomology	Ph.D., 1988
University of California, Santa Barbara	Zoology	B.A., 1979

**Professional Experience:**

Assistant (2000-02), Associate (2002-06), and Cooperative Extension Specialist (2006-present).  
Department of Environmental Science, Policy, and Management, UC Berkeley.  
Assistant (1989-92), Associate (1992-98) and Research Specialist (1998-2000). Division of  
Biological Control, UC Berkeley. Stationed at the Kearney Agricultural Center, Parlier, CA.  
Lecturer (1989). Department of Conservation and Resource Studies, UC Berkeley.  
Post Doctoral Researcher (1988-89). Division of Biological Control, UC Berkeley.  
Graduate Student Research Assistant (1984-88). UC Berkeley.  
Research Assistant III (1982-83). California Department of Food and Agriculture.  
Laboratory Assistant I (1980, 1981). Department of Entomological Sciences, UC Berkeley.

**Committee/Organization Participation highlights:**

Co-Chair, Center for Biological Control (2000-present); Co-Chair, Van Den Bosch Memorial  
Scholarship (2005-present); Liaison, UC Research Advisory Committee, Calif. Table Grape  
Comm. (2005-present); Member, ESA Awards Committee (2019-present), Member, Kearney  
Agricultural Research and Extension Center – Strategic Plan (2014-2017); Member, National  
Institute of Food and Agriculture Grant Panel (2010); Chair, Insectary and Quarantine Oversight  
Committee (2003-2005); Co-chair: DANR “Biological Control” Workgroup, (2001-2007); Co-  
chair: California Conference on Biological Control (2000-present); Chair, Kearney Research and  
Extension Center Research Advisory Committee (2000–2005); Chair, UC Statewide Integrated  
Pest Management Project Biological Controls Workgroup (1997-2000); Member, Calif. Dept.  
Food and Agricul., PD/GWSS Review Panel (2002-2005); Member (Secretary–2002, President–  
2003), Western Regional Bio-Control

**Awards and Honors:**

2017 International IPM Award of Recognition (European Grapevine Moth) • 2017 California  
Environmental Protection Agency (DPR) “IPM Achievement Award” Virginia Creeper  
Leafhopper • 2015-2016 University of California Cooperative Extension Distinguished Service  
Award “Outstanding Team” • Adjunct Faculty Essig Museum of Entomology • Adjunct Faculty  
Dept Plant Science, CSU Fresno • 2005 Distinguished Achievement Award in Extension,  
Entomological Society of America (Pacific Branch) • 1998 Griswold Lecture, Cornell University  
• 1988 Magy Memorial Graduate Student Scholarship, UC Berkeley • 1987 Outstanding  
Graduate Instructor, UC Berkeley

**Professional Organizations:**

Entomological Society of America • Pacific Coast Entomological Society • International  
Organization for Biological Control • Association of Applied Insect Ecologists • Sigma Xi  
Society • California Certified Organic Farmers

## Professional Activities:

Publications: ca. 220 peer-reviewed and >350 grower-oriented reports and publications •  
Presentations: >770 grower-oriented and research symposia • Grants: approximately \$25 million received as PI or co-PI (1990-present) • Reviewer: >250 Manuscripts, > 250 Competitive grants  
• Associate Editor: *California Agriculture*, *Biological Control*, and *Entomologia* (Italian online).

Kent M. Daane is a Cooperative Extension Specialist (100% CE appointment) in the Department of Environmental Science, Policy and Management, University of California, Berkeley, CA, with laboratories on the Berkeley Campus and at the Kearney Agricultural Research and Extension Center (located near Fresno, CA). His primary focus has been on biological and sustainable controls; however, the laboratory has a secondary focus on the impact of grower management practices (such as irrigation amounts) on pest and natural numbers and crop damage. Because the research is largely applied and grower-oriented, Dr. Daane also studies insecticides and their effective use. Dr. Daane has nearly 35 years working on insect pests of California's agricultural crops, including olive, pistachio, almond, grape, vegetable crops, stone fruit, and cherries. The program focuses on applied research and extension. Research has involved foreign exploration for exotic predators and parasitoids of targeted pests and their quarantine evaluation, field release, and establishment; laboratory and field trials on the biology and seasonal phenology of pests and their natural enemies; insecticide trials on the experiment station and with farmers; and collaboration with more basic research laboratories in the UC system and elsewhere. Funding for this research has been provided primarily by US commodity boards, California state funding programs, and the USDA SCRI and USDA NIFA programs.

## Peer-reviewed Publications Past 4 years (excluding extension publications)

1. Bon, M. C., Hoelmer, K. A., Pickett, C. H., Kirk, A. A., He, Y., Mahmood, R., and **Daane, K. M.** 2016. Populations of *Bactrocera oleae* (Diptera: Tephritidae) and its parasitoids in Himalayan Asia. *Annals of the Entomological Society of America* 109(1): 81–91. doi: 10.1093/aesa/sav114
2. Hogg, B. N., Smith, L., and **Daane, K. M.** 2016. Impacts of the adventive psyllid, *Arytainilla spartiophila* (Hemiptera: Psyllidae) on growth of the invasive weed *Cytisus scoparius* under controlled and field conditions in California. *Environmental Entomology* 45(1): 109-116. <http://dx.doi.org/10.1093/ee/nvv179>
3. Wang, X.-G., Kaçar, G., Biondi, A., and **Daane, K. M.** 2016. Foraging efficiency and outcomes of interactions of two pupal parasitoids attacking the invasive spotted wing drosophila. *Biological Control* 96: 64-71. <http://dx.doi.org/10.1016/j.biocontrol.2016.02.004>
4. Benelli, G., Daane, K. M., Soler, R., and Stök, J. 2016. Chemical ecology of parasitic Hymenoptera. *BioMed Research International* Article ID 4298150 (2 pp.) <http://dx.doi.org/10.1155/2016/4298150>.
5. Burks, C. S., Kuenen, L. P. S., and **Daane, K. M.** 2016. Phenyl propionate and sex pheromone for monitoring navel orangeworm in the presence of mating disruption. *Journal of Economic Entomology*. 109(2): 958–961 <http://dx.doi.org/10.1093/jee/tov339>
6. Hogg, B. N., Smith, L., Moran, P. J., and **Daane, K. M.** 2016. Post-establishment assessment of host plant specificity of *Arytainilla spartiophila* (Hemiptera: Psyllidae), an adventive biological control agent of Scotch broom, *Cytisus scoparius*. *Biocontrol Science & Technology* 26(7): 995-1008 [doi.org/10.1080/09583157.2016.1178707](http://dx.doi.org/10.1080/09583157.2016.1178707)
7. Wang, X.-G., Kaçar, G., Stewart, T. J., and **Daane, K. M.** 2016. Life-history and host preference of *Trichopria drosophilae*, a pupal parasitoid of spotted wing drosophila. *BioControl* 61:387–397. DOI 10.1007/s10526-016-9720-9
8. Haye, T., Girod, P., Cuthbertson, A. G. S., Wang, X. G., **Daane, K. M.**, Hoelmer, K. A., Baroffio, C., Zhang, J. P., Desneux, N. 2016. Current SWD IPM tactics and their practical implementation in fruit crops across different regions around the world *Journal of Pest Science* 89(3): 643-651. doi 10.1007/s10340-016-0737-8

9. Wiman, N. G., Dalton, D. T., Anfora, G., Biondi, A., Chiu, J. C., **Daane, K. M.**, Gerdeman, B., Gottardello, A., Hamby, K., Isaacs, R., Grassi, A., Ioriatti, C., Lee, J. C., Miller, B., Rossi Stacconi, M. V., Shearer, P. W., Tanigoshi, L., Wang, X.-G., and Walton, V. M. 2016. *Drosophila suzukii* population response to the environment and management strategies. *Journal of Pest Science* 89(3): 653-665. DOI 10.1007/s10340-016-0757-4
10. Wang, X.-G., Stewart, T. J., Biondi, A., Chavez, B. M., Ingels, C., Caprile, J., Grant, J. A., Walton, V. W. and **Daane, K. M.** 2016. Population dynamics and ecology of *Drosophila suzukii* in Central California. *Journal of Pest Science* 89(3): 701-712. DOI 10.1007/s10340-016-0747-6
11. **Daane, K. M.**, Wang, X.-G., Biondi, A., Miller, B. E., Miller, J. C., Riedl, H., Shearer, P. W., Guerrieri, E., Giorgini, M., Buffington, M., van Achterberg, K., Song, Y., Kang, T., Yi, H., Jung, C., Lee, D.-W., Chung, B.-K., Hoelmer, K. A., and Walton, V. A. 2016. First foreign exploration for Asian parasitoids of *Drosophila suzukii*. *Journal of Pest Science* 89(3): 823-835. doi 10.1007/s10340-016-0740-0.
12. Zuparko, R. K., Triapitsyn, S. V., and **Daane, K. M.** 2016. Neotype designation for *Metaphycus hageni* Daane & Caltagirone, 1999 (Hymenoptera: Encyrtidae) (Scientific Note). *Pan-Pacific Entomologist* 92(2): 119-123. DOI:10.3956/2016-92.2.119
13. Wilson, H., Miles, A., **Daane, K. M.**, Altieri, M. A. 2016. Host plant associations of *Anagrus* spp. (Hymenoptera: Mymaridae) and *Erythroneura elegantula* (Hemiptera: Cicadellidae) in Northern California. *Environmental Entomology* 45(3): 602–615. doi: 10.1093/ee/nvw033
14. Wistrom, C. M., Blaisdell, G. K., Wunderlich, L. R., Almeida, R. P. P., and **Daane, K. M.** 2016. *Ferrisia gilli* (Hemiptera: Pseudococcidae) transmits grapevine leafroll associated viruses. *Journal of Economic Entomology* 109(4): 1519–1523. doi: 10.1093/jee/tow124
15. Blaisdell, G. K., Cooper, M. L., Kuhn, E. J., Taylor, K. A., **Daane, K. M.**, and Almeida, R. P. P. 2016. Disease progression of vector-mediated grapevine leafroll-associated virus 3 infection of mature plants under commercial vineyard conditions. *European Journal of Plant Pathology* 146: 105-116. DOI 10.1007/s10658-016-0896-8
16. Kaçar, G., Wang, X.-G., Stewart, T. J., and **Daane, K. M.** 2016. Overwintering survival of *Drosophila suzukii* (Diptera: Drosophilidae) and the effect of food on adult survival in California's San Joaquin Valley. *Environmental Entomology* 45(4): 763–771 <http://dx.doi.org/10.1093/ee/nvv182>
17. Wistrom, C. M., Blaisdell, G. K., Wunderlich, L. R., Botton, M., Almeida, R. P. P. and **Daane, K. M.** 2017. No evidence of transmission of grapevine leafroll-associated viruses by phylloxera (*Daktulosphaira vitifoliae*). *European Journal of Plant Pathology* 147: 937-941. DOI 10.1007/s10658-016-1049-9
18. Xin, B., Liu, P., Zhang, S., Yang, Z., **Daane, K. M.** and Zheng, Y. 2017. Research and application of *Chouioia cunea* Yang (Hymenoptera: Eulophidae) in China. *BioControl Science and Technology* 27(3): 301-310. <http://dx.doi.org/10.1080/09583157.2017.1285865>
19. Hogg, B. N., Mills, N. J., and **Daane, K. M.** 2017. Temporal patterns in the abundance and species composition of spiders on host plants of the invasive moth *Epiphyas postvittana* (Lepidoptera: Tortricidae). *Environmental Entomology* 46(3): 502–510. doi: 10.1093/ee/nvx065
20. Wilson, H., Miles, A., **Daane, K. M.**, Altieri, M. A. 2017. Landscape diversity and crop vigor outweigh influence of local diversification on biological control of a vineyard pest. *Ecosphere* 8(4): e01736. doi/10.1002/ecs2.1736
21. Kaçar, G., Wang, X.-G., Biondi, A., and **Daane, K. M.** 2017. Linear functional response by two pupal *Drosophila* parasitoids foraging within single or multiple patch environments. *PloS ONE* 12(8): e0183525. <https://doi.org/10.1371/journal>
22. Biondi, A., Wang, X.-G., Miller, J. C., Miller, B., Shearer, P. W., Zappalà, L., Siscaro, G., Walton, V. W., Hoelmer, K. A., and **Daane, K. M.** 2017. Innate olfactory responses of *Asobara japonica* toward fruits infested by the invasive spotted wing drosophila. *Journal of Insect Behavior*. 30: 495–506. DOI 10.1007/s10905-017-9636-y
23. Herrbach, E., Alliaume, A., Prator, C. A., **Daane, K. M.**, Cooper, M. L., and Almeida, R. P. P. 2017. Vector transmission of grapevine leafroll associated viruses (Chapter 24), pp. 483-503. In Meng, B., Martelli, G. P., Golino, D. A., Fuchs, M. [eds.]. *Grapevine Viruses: Molecular Biology, Diagnostics and Management*. Springer, New York. doi: 10.1007/978-3-319-57706-7\_24.

24. Wilson, H., and **Daane, K. M.** 2017. Review of ecologically-based pest management in California vineyards (special issue ‘Arthropod Pest Control in Orchards and Vineyards’). *Insects* 8, 108. doi:10.3390/insects8040108
25. **Daane, K. M.**, Vincent, C., Isaacs, R., and Ioriatti, C. 2018. Entomological opportunities and challenges for sustainable viticulture in a global market. *Annual Review of Entomology* 63:193-214.
26. Wang, X.-G., Nance, A., Jones, J. M. L., Hoelmer, K. A., and **Daane, K. M.** 2018. Aspects of the biology and developmental strategy of two Asian larval parasitoids evaluated for classical biological control of *Drosophila suzukii*. *Biological Control* 121: 58-65. doi.org/10.1016/j.biocontrol.2018.02.010
27. Wilson, H., Wong, J., Thorp, R., Miles, A. F., **Daane, K. M.**, Altieri, M. A. 2018. Summer flowering cover crops support wild bees in vineyards. *Environmental Entomology* 47(1): 63-69. doi: 10.1093/ee/nvx197
28. Spina, La, M., Pickett, C. H., **Daane, K. M.**, Hoelmer, K. A., Blanchet, A. Williams III, L. 2018. Effect of exposure time on mass-rearing production of the olive fruit fly parasitoid, *Psytalia lounsburyi* (Hymenoptera: Braconidae). *Journal of Applied Entomology* 142: 319-326. DOI: 10.1111/jen.12478/full
29. Wang, X.-G., Nance, A., Jones, J. M. L., Hoelmer, K. A., and **Daane, K. M.** 2018. Aspects of the biology and developmental strategy of two Asian larval parasitoids evaluated for classical biological control of *Drosophila suzukii*. *Biological Control* 121: 58-65. doi.org/10.1016/j.biocontrol.2018.02.010
30. Hogg, B. N., Nelson, E. H., Hagler, J. R., and **Daane, K. M.** 2018. Foraging distance of the Argentine ant relative to effectiveness of a liquid bait control strategy. *Journal of Economic Entomology* 111(2): 672–679. doi: 10.1093/jee/tox366
31. Ingels, C. A., and **Daane, K. M.** 2018. Phenology of brown marmorated stink bug and trap and lure studies in a California urban landscape *Journal of Economic Entomology* 111(2): 780–786. doi: 10.1093/jee/tox361
32. **Daane, K. M.**, Middleton, M. C., Sforza, R. F. H., Kamps-Hughes, N., Watson, G. W., Almeida, R. P. P., Correa, M. C. G., Downie, D. A., and Walton, V. M. 2018. Determining the geographic origin of invasive populations of the mealybug *Planococcus ficus* based on molecular genetic analysis. *PLoS One* 13(3): e0193852. <https://doi.org/10.1371/journal.pone.0193852>
33. **Daane, K. M.**, Hogg, B. N., Wilson, H., and Yokota, G. Y. 2018. Native grass ground covers in California vineyards provide multiple ecosystem services. *Journal of Applied Ecology* (in press) DOI:10.1111/1365-2664.13145
34. Wang, X.-G., Serrato, M. A., Son, Y., Walton, V. M., and **Daane, K. M.** 2018. Thermal performance of two indigenous pupal parasitoids attacking the invasive *Drosophila suzukii* (Diptera: Drosophilidae). *Environmental Entomology* 47(3):764-772. doi: 10.1093/ee/nvy053
35. Cooper, M. L., Daugherty, M. P., Jeske, D. R., Almeida, R. P. P., and **Daane, K. M.** 2018. Incidence of grapevine leafroll disease: effects of grape mealybug (*Pseudococcus maritimus*) abundance and pathogen supply. *Journal of Economic Entomology* 111(4): 1542–1550. doi: 10.1093/jee/toy124
36. **Daane, K. M.**, Hogg, B. N., Wilson, H., and Yokota, G. Y. 2018. Native grass ground covers in California vineyards provide multiple ecosystem services. *Journal of Applied Ecology* 55: 2473–2483. DOI:10.1111/1365-2664.13145
37. Hogg, B. N., and **Daane, K. M.** 2018. Aerial dispersal ability as a driver of spider success in a crop landscape. *Ecological Entomology* 43(5): 683-694. doi.org/10.1111/een.12641
38. Jalali, M. A., Sakaki, S., Ziaaddini, M., and **Daane, K. M.** 2019. Temperature-dependent development of *Oenopia conglobata* (Col.: Coccinellidae) fed on *Aphis gossypii* (Hem.: Aphididae). *International Journal of Tropical Insect Science* 38(4): 410-417.
39. Wang, X-G., Nance, A. H., Hougardy, E., Hogg, B. N., Hoelmer, K. A., and **Daane, K. M.** 2019. Potential competitive outcomes among three solitary larval endoparasitoids as candidate agents for classical biological control of *Drosophila suzukii*. *Biological Control* 130: 18-26.
40. Giorganina, M., Wang, X.-G., Chen, F., Hougardy, E., Hong-Mei, Zhang, H.-M., Chen, Z.-Q., Cascone, P., Formisano, G., Carvalhod, G. A., Biondi, A., Buffington, M., **Daane, K. M.**, Hoelmer, K. A., and Guerrieria, E. 2018. First survey of parasitoids of Drosophilidae in China for potential biocontrol agents of *Drosophila suzukii*. *Journal of Pest Science* doi.org/10.1007/s10340-018-01068-3

41. Wang, X-G., Hougardy, E., Nance, A. H., Hogg, B. N., Hoelmer, K. A., and **Daane, K. M.** 2019. Potential competitive outcomes among three solitary larval endoparasitoids as candidate agents for classical biological control of *Drosophila suzukii*. *Biological Control* 130: 18-26. <https://doi.org/10.1016/j.biocontrol.2018.12.003>
42. Hougardy, E., Hogg, B. N., Wang, X.-G., and **Daane, K. M.** 2019 Comparison of thermal performances of two Asian larval parasitoids of *Drosophila suzukii*. *Biological Control* 136: <https://doi.org/10.1016/j.biocontrol.2019.104000>
43. Dalton, D. T., Hilton, R. J., Kaiser, C., **Daane, K. M.**, Sudarshana, M. R., Vo, J., Zalom, F. G., Buser, J. Z., and Walton, V. M. 2019. Spatial associations of vines infected with grapevine red blotch virus in Oregon vineyards. *Plant Disease* 103(7): 1507-1514. DOI: 10.1094/PDIS-08-18-1306-RE
44. Wang, X.-G., Kaçar, G., and **Daane, K. M.** 2019. Temporal dynamics of host use by *Drosophila suzukii* in California's San Joaquin Valley: Implications for area-wide pest management. *Insects* 10(7), 206. [doi.org/10.3390/insects10070206](https://doi.org/10.3390/insects10070206)
45. Arnold, J. E., Egerer, M., and **Daane, K. M.** 2019. Local and landscape effects to biological controls in urban agriculture – a Review. *Insects* 10(7), 215. [doi:10.3390/insects10070215](https://doi.org/10.3390/insects10070215)
46. **Daane, K. M.**, Yokota, G. Y., and Wilson, H. 2019. Seasonal dynamics of the leaf-footed bug *Leptoglossus zonatus* and its implications for control in almonds and pistachios. *Insects* 10, 255. [doi:10.3390/insects10080255](https://doi.org/10.3390/insects10080255)
47. Wilson, H., Bodwitch, H., **Daane, K. M.**, Carah, J., Grantham T. E., Getz, C., and Bustin, V. 2019. First known survey of cannabis production practices in California. *California Agriculture* 73(3-4): 119-127.
48. Bodwitch, H., Getz, C., Hickey, G., **Daane, K. M.**, Carah, J., Grantham T. E., and Wilson, H. 2019. Growers say cannabis legalization excludes small growers, supports illicit markets, undermines local economies. *California Agriculture* 73(3-4): 177-184.
49. Lee, J. C., Wang, X.-G., **Daane, K. M.**, Hoelmer, K. A., Isaacs, R., Sial, A. A., Walton, V. M. 2019. Biological control of spotted-wing drosophila – current and pending tactics. *Journal of Integrated Pest Management* 10(1): 13; 1–9. [doi.org/10.1093/jipm/pmz012](https://doi.org/10.1093/jipm/pmz012)
50. Acebes-Doria, A. L., Agnello, A. M., Blaauw, B. R., Buntin, G. D., Alston, D. G., Beers, E. H., Bergh, J. C., Cottrell, T. E., Bessin, R., Chen, S., **Daane, K. M.**, Fleischer, S. H., Guédot, C., Gut, L. J., Hamilton, G. C., Hilton, R., Hoelmer, K. A., Hutchison, W. D., Jentsch, P., Krawczyk, G., Kuhar, T. P., Lee, J. C., Nielsen, A. L., Sial, A. A., Spears, L. R., Short, B., D., Toews, M. D., Walgenbach, J. D., Welty, C., Wiman, N. G., and Leskey, T. C. 2020. Season-long monitoring of the brown marmorated stink bug, *Halyomorpha halys* Stål (Hemiptera: Pentatomidae), throughout the United States using commercially available traps and lures. *Journal of Economic Entomology* (in press)
51. Wang, X.-G., Biondi, A., and **Daane, K. M.** 2020. Functional responses of three candidate Asian larval parasitoids evaluated for classical biological control of *Drosophila suzukii*. *Journal of Economic Entomology* (in press)
52. Blaisdell, G. K., Zhang, S. M., Rowhani, A., Klaassen, V., Cooper, M. L., **Daane, K. M.**, and Almeida, R. P. P. 2020. Trends in vector-borne transmission from co-infected hosts: Grapevine leafroll-associated virus-3 and Grapevine virus A. *European Journal of Plant Pathology* (in press)
53. Vulchi, R., **Daane, K. M.**, and Wenger, J. A. 2020. Development of multiplex PCR and DNA melt curve analysis for the identification of lepidopteran pests in almonds and pistachios. *Journal of Economic Entomology* (accepted)