

**Kent D. Kobayashi**  
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### **Education**

Ph.D., Horticulture. Oregon State University. 1982.  
B.S., Horticulture. Oregon State University. 1978.  
M.Ag., Agronomic Crop Science. Oregon State University. 1975.  
B.S., Entomology. University of Hawaii at Manoa. 1972.

### **Positions Held**

Associate Professor, Department of Tropical Plant and Soil Sciences, University of Hawaii at Manoa, 1987-present.  
Assistant Professor, Department of Horticulture, University of Hawaii at Manoa, 1982-87.

### **Research**

Light Environment Management of Tropical Crops.  
Controlled environment agriculture.  
Hydroponic production of vegetable crops.  
Modeling growth, phenology, and yield of tropical crops.

### **Extension**

Communication, Education and Information Delivery in Extension.  
iPhone/iPad applications in agriculture.  
Virtual reality and augmented reality.  
Computer applications in horticulture.

### **Teaching**

TPSS 601 Crop Modeling  
< <http://manoa.hawaii.edu/ctahr/tpss/current-students/course?id=601> >.  
TPSS 654 Communications in the Sciences  
< <http://manoa.hawaii.edu/ctahr/tpss/current-students/course?id=654> >.  
TPSS 300 Tropical Production Systems  
< <http://manoa.hawaii.edu/ctahr/tpss/current-students/course?id=300> >.

TPSS 674 Plant Growth and Development. (with R. Paull, R. Criley, and M. Muszynski).  
HORT/TPSS 667 Graduate Seminar. 2003, 2000, 1992, 1984.  
HORT 390 Undergraduate Seminar. 1988. (with F. Rauch).  
AGRN 220 Agricultural Systems Analysis. 1988. (with L. LeBeck and L. Cox).

### **Creative and Innovative Teaching**

TPSS 491 Experimental Topics. "Growing and Marketing Princettias/Poinsettias." 2017.  
TPSS 711 Special Topics. "Growing and Marketing Princettias/Poinsettias." 2017.  
TPSS 711 Special Topics. "Professional Development Series." 2004.  
TPSS 491 Experimental Topics. "Computer Applications, High Technology, and Robotics in Agriculture." 2003.  
HORT 491 Experimental Topics. "Computer Applications in Horticulture." 1998.

### **Honors and Awards**

**Fellow**, American Society for Horticultural Science. 2016. Election as a Fellow of the Society is the highest honor that ASHS can bestow on its members, in recognition of truly outstanding contributions to horticulture and the Society.

**Peer Review Award**, American Society for Horticultural Science. 2020. Outstanding contributions to *HortTechnology* as a peer reviewer of manuscripts.

**Ka Pouhana (Mentor) Award**, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. 2017. Recognizes a CTAHR faculty member for outstanding support of student learning and development through co-curricular activities. Awardee receives \$1,500 for instruction-related activities.

University of Hawaii Excellence in Teaching Award [**Nominee**]. 2016.  
CTAHR Scholarship Recipient to attend the AG 2004 Conference. Conference Planning Committee. October 21-22, 2004. Honolulu, HI.

William Menke Scholarship awarded yearly by the Oregon Nurseryman Association to a graduate student in Oregon for horticultural research. Oregon State University. \$500. 1979. Corvallis, OR.

### **Mentorships**

Mentor, Brylin Nelson, undergraduate in Tropical Agriculture and the Environment at the University of Hawaii. UH Undergraduate Research Opportunities research project on "Effects of Martian Soil Simulant and Artificial Lighting on the Growth of Fast Crops". 2021.

Mentor, Byron Fonseca and his undergraduate team in Mechanical Engineering at the University of Hawaii. ME 481 Final Design Tropical Greenhouse System Refinement. 2019.

Mentor, Preston Tran and his undergraduate team in Mechanical Engineering at the University of Hawaii. Box Farm Project. 2018-19. Autonomous automated robotic hydroponic plant growing system. They won first place in the University of Hawaii College of Engineering Francis J. Rhodes Montgomery innovation competition.

< <https://www.hawaii.edu/news/2019/05/12/space-plants-could-be-astronaut-game-changer/>  
>

Mentor, Noah Matias, University Laboratory School, on his science project "Effect of Higher and Lower Humidity on Pole Beans and Romaine Lettuce". 2018.

Mentor, Victoria Nhieu, McKinley High School, on her science fair research project “Light the Plant Up”. She received the University of Hawaii Consortium 2018 Science and Engineering Fair award. 2018.

Mentor, Tropical Plant and Soil Sciences Department Horticulture Society and TPSS Graduate Student Organization. 2016, 2017, 2018. Growing and marketing of Prinnettia/poinsettia plants.

< <https://ashs.org/news/news.asp?id=378731> >.

Mentor, James Sato, University Laboratory School, on his science fair research project on light-emitting diodes (LEDs) and vegetables. 2016-17.

Mentor, Aleca Borsuk, undergraduate in Mechanical Engineering at the University of Hawaii. Hawaii NASA Space Grant Consortium Undergraduate Fellowship. "Spatial Optimization of Artificial Lighting for Space Grown Amaranthus Caudatus". 2015-16.

< <https://www.hawaii.edu/news/2017/02/23/how-bright-is-the-future-of-space-food/> >.

Borsuk, A.M. 2016. Spatial optimization of artificial lighting for space grown amaranth. Undergraduate Fellowship Reports, pp. 1-6. Hawaii Space Grant Consortium, Honolulu. Undergraduate Fellowship Reports, HSGC Report 16-25.

Mentor, Girl Scouts of Hawaii International Space Station Project Teams. Each team, consisting of eight students from private and public high schools, designed and built an autonomous self-contained hydroponic system to grow vegetables on the International Space Station. 2012-13, 2013-14.

<

[https://www.nasa.gov/mission\\_pages/station/research/experiments/explorer/Investigation.html?id=1112](https://www.nasa.gov/mission_pages/station/research/experiments/explorer/Investigation.html?id=1112) >.

Mentor, Mitchell Loo, undergraduate in Tropical Plant and Soil Sciences at the University of Hawaii, on his research project "Development of a model aquaponics system equipped with environmental sensors that have reactive capabilities. 25th Annual CTAHR and COE Student Research Symposium Program: Abstract 25, p. 27. University of Hawaii at Manoa. Honolulu, HI. 2012-13.

Mentor, Ejay Tumacder and Ken Wallace, undergraduates in the University of Hawaii College of Engineering, on their project on light-emitting diodes (LEDs) and vegetables. 2013.

Mentor, Jocelyn Manuel, high school student, National Science Foundation Young Scholars Pacific Region Program, on her research project with lychee. 1988.

Mentor, Noelani Elementary School first graders, on hydroponics showing them the milk carton micro-hydroponics system that I developed. Advised their teachers on hydroponics.

< [https://www.ctahr.hawaii.edu/e-notes/05\\_02\\_2014.html](https://www.ctahr.hawaii.edu/e-notes/05_02_2014.html) >.

## Publications

### 2016-2021

#### *Edited Volumes*

A.D. Sierra, **Kobayashi, K.D.**, and A. Villordon (eds.). 2022. Technology in horticultural protection systems. CRC Press, Boca Raton, FL.

#### *Chapters in Books*

**Kobayashi, K.D.** 2021. Photosensitive films and shade cloths for horticulture. Horticultural Reviews. John Wiley & Sons, Inc.

## **2021-2025**

- Kobayashi, K.** 2021. Controlled environment agriculture and artificial lighting to grow plants. *Hawaii Landscape* May|June 2021, p. 14-16.
- Cox, J., N.V. Hue, A. Ahmad, and **K.D. Kobayashi.** 2021. Surface application or incorporated biochar and compost combination improves soil fertility, Chinese cabbage and papaya biomass. *Biochar* <https://doi.org/10.1007/s42773-020-00081-z>.
- Kobayashi, K.D.** 2021. Tomorrow is yesterday—Transmuting a tropical crop production course due to COVID-19. 2021 Hawaii International Conference on Education-Conference Proceedings, p. 470-481.
- Kobayashi, K.D.** and K. Perez. 2021. Attending an inaugural virtual horticulture conference: Experiences and lessons learned. 2021 Hawaii International Conference on Education-Conference Proceedings, p. 532-544.
- Kobayashi, K.D.** and K. Perez. 2021. Planting the seeds: Recruiting strategies for agricultural students of the 21st century. 2021 Hawaii International Conference on Education-Conference Proceedings, p. 458-469.

## **2016-2020**

- Kobayashi, K.** and C. Kubota. 2020. Technology Applications in Horticulture. *ASHS E-News* November 30, 2020.
- Kobayashi, K.** 2020. The lab on the edge of forever! 2020 Hawaii International Conference on Education-Conference Proceedings, p. 841-849.
- Kobayashi, K.** 2020. Micro-Hydroponics in your apartment. *CTAHR News*. College of Tropical Agriculture and Resources, University of Hawaii at Manoa.
- Kobayashi, K.** 2020. Farm at home during COVID-19 crisis. *University of Hawaii News*.
- Kobayashi, K.D.** and K. Perez. 2019. Flipped classroom and virtual field trips. *Chronica Horticulturae* 59(2):9-12.
- Kobayashi, K.D.** 2019. Virtual field trip—Quantum leap. 2019 Hawaii International Conference on Education-Conference Proceedings, p. 167-176.
- Teng, E., A. Corpuz, K. Perez, and **K.D. Kobayashi.** 2019. Horticultural experiential learning through poinsettia fundraising sales: Lessons learned. *Hawaii International Conference on Education-Conference Proceedings*, p. 704-715.
- Kobayashi, K.D.** 2017. Using flipped classroom and virtual field trips to engage students. *HortTechnology* 27:458-460.
- Trader, B.W. and **K.D. Kobayashi.** 2017. Introduction: Five-minute impact strategies for engaging students-Where to start with service-learning and fundraising Workshop. *HortTechnology* 27:453-454.
- Kobayashi, K.D.** 2017. Mobile apps to disseminate information for instruction and extension. 2017 Hawaii International Conference on Education-Conference Proceedings, p. 1190-1197.

## **2011-2015**

- Kobayashi, K.D.** 2015. Class assignments modeled after graduate student competitions at a national horticultural conference. 2015 Hawaii International Conference on Education-Conference Proceedings, p. 2292-2299.
- Kobayashi, K.D.** and K. Perez. 2015. A scientific poster is not a scientific article! 2015 Hawaii International Conference on Education-Conference Proceedings, p. 1520-1530.

- Kobayashi, K.** 2014. Workshops and colloquia: Integral parts of ASHS conferences. ASHS Newsletter 30(11):1, 4.
- Kobayashi, K.D.** 2014. Mobile devices and apps for extension education. 2014 Hawaii International Conference on Education-Conference Proceedings, p. 1495-1501.
- Kobayashi, K.D.** and T.D. Amore. 2014. Using the flipped classroom to teach flower/foilage production, plant growth/development, and crop modeling courses. 2014 Hawaii International Conference on Education-Conference Proceedings, p. 2776-2789.
- Kobayashi, K.D.** 2013. Are there horticulture-related mobile applications for me? HortTechnology 23:399-401.
- Kobayashi, K.,** M. Lazaro, and T. Amore. 2013. Light-emitting diodes (LEDs) for miniature hydroponic lettuce. Optics and Photonics Journal 3(1):74-77.
- Kobayashi, K.D.** 2013. Bend me, shape me – Light enhancing crop growth, p. 33-34. In: T. Rhodus (ed.), *Changing the Pace - Adopting a Pecha Kucha Approach to Presentations* [iBooks 3.0 or later]. Retrieved 1/28/2013 from <https://itunes.apple.com/us/book/changing-pace-adopting-pecha/id594201341?ls=1> .
- Kobayashi, K.D.,** J. Uyeda, and K. Perez. 2013. Rooftop learning center. 2013 Hawaii International Conference on Education-Conference Proceedings, p. 339-347.
- Kobayashi, K.D.** 2012. Introduction—Nutrient and Water Management Practices for Improving Crop Growth, Yield, and Quality Workshop. HortTechnology 26(6):730.
- Radovich, T.J.K., A. Pant, I. Gurr, N.V. Hue, J. Sugano, B. Sipes, N. Arancon, C. Tamura, K. Fox, **K.D. Kobayashi,** and R. Paull. 2012. Innovative use of locally produced inputs to improve plant growth, crop quality, and grower profitability in Hawai'i. HortTechnology 22(6):738-742.
- Clifford, P. and **K. Kobayashi.** 2012. Naturalizing orchids and the Hawaii Pacific Weed Risk Assessment System. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-51, 5 p.
- Kobayashi, K.,** Bittenbender, H. & Campbell, I. 2012. The Farmer's Bookshelf enhances dissemination of agricultural, scientific, and technological information to clientele in Hawaii and beyond. In: Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2012 (pp. 2918-2920). Chesapeake, VA:AACE.
- Kobayashi, K.D.** 2012. Scientific communications for graduate students. 2012 Hawaii International Conference on Education-Conference Proceedings, p. 2668-2674.
- Kobayashi, K.D.** and K. Perez. 2011. Graduate students—an untapped teaching resource for an undergraduate horticulture production systems course. 2011 Hawaii International Conference on Education-Conference Proceedings, p. 4343-4351.

## **2006-2010**

- Clifford, P. and **K. Kobayashi.** 2010. Non-invasive fruit trees for gardens in Hawaii. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Fruit, Nut, and Beverage Crops, F\_N-17, 10 p.
- Clifford, P. and **K. Kobayashi.** 2010. Non-invasive landscape plants with fragrant flowers. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-46, 9 p.
- Kobayashi, K.D.,** T.J.K. Radovich, and B.E. Moreno. 2010. A tropical perspective on environmental sustainability in horticultural education. HortTechnology 20(3):503-508.
- Kobayashi, K.D.** and K. Perez. 2010. Could horticultural virtual field trips supplement actual

field trips? 2010 Hawaii International Conference on Education-Conference Proceedings, p. 2934-2946.

- Kobayashi, K.D.** 2009. Effects of photo selective shade cloth and plastic film on the growth of potted poinsettia. Proceedings 35th National Agricultural Plastics Congress, 5 p.
- Perez, K., **K. Kobayashi**, and G. Sako. 2009. Foxtail palm, *Wodyetia bifurcata*. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-45, 4 p.
- Kobayashi, K.**, E. Mersino, A. Kawabata, J. Lichty, and J. Griffis. 2009. Sustainability in ornamental crop production. CTAHR Research News. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. p. 21-22.
- Kobayashi, K.D.** and K. Perez. 2009. Enhanced active learning and TA involvement in a production systems horticulture course. 2009 Hawaii International Conference on Education-Conference Proceedings, p. 738-748.
- Liu, L. and **K.D. Kobayashi**. 2008. Estimating leaf area of five cultivars of coffee plants in Hawaii. *Tropical Agriculture* 85(3):199-204.
- Kobayashi, K.**, R. Criley, A. Kaufman, S. Tsugawa, A. Ricordi, and P. Clifford. 2008. Barrier plants. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Landscape, L-20, 9 p.
- Kobayashi, K.D.** and E.F. Mersino. 2008. Photosensitive shade cloths alter flowering of potted orchids. Proceedings 34th National Agricultural Plastics Congress, 6 p.
- Sadanaga, K. and **K.D. Kobayashi**. 2008. Kupukupu fern. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-43, 3 p.
- Kobayashi, K.D.** 2008. Enhancing graduate students' professional writing and oral communication skills. 2008 Hawaii International Conference on Education-Conference Proceedings, p. 2093-2100.
- Kawabata, A.F., J.S. Lichty, **K.D. Kobayashi**, and W.S. Sakai. 2007. Effects of photosensitive shade cloths on potted (*Dracaena deremensis*) 'Janet Craig' and (*Dracaena marginata*) 'Colorama.' *Journal of Hawaiian and Pacific Agriculture* 14:49-54.
- Kobayashi, K.D.**, A.J. Kaufman, J. Griffis, and J. McConnell. 2007. Using houseplants to clean indoor air. Cooperative Extension Service, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-39, 7 p.
- Kobayashi, K.D.**, J. McConnell, and J. Griffis. 2007. Bougainvillea. Cooperative Extension Service, College of Tropical Agriculture and Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-38, 12 p.
- Kobayashi, K.D.**, J. McEwen, and A.J. Kaufman. 2007. Ornamental ginger, red and pink. Cooperative Extension Service, College of Tropical Agriculture and Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-37, 8 p.
- Kobayashi, K.**, J. Griffis, A. Kawabata, and G. Sako. 2007. Hawaiian ti. Cooperative Extension Service, College of Tropical Agriculture and Resources, University of Hawaii at Manoa. Ornamentals and Flowers, OF-33, 14 p.
- Kobayashi, K.D.**, A.F. Kawabata, J.S. Lichty, and W.S. Sakai. 2006. Growth and flowering of potted anthurium 'Lola' under photosensitive shade cloths. Proceedings 33rd National Agricultural Plastics Congress, 5 p.
- Kobayashi, K.D.** and A.J. Kaufman. 2006. Common gardenia. Cooperative Extension Service, University of Hawaii at Manoa. Ornamentals and Flowers, OF-32, 7 p.

- Kobayashi, K.D.** 2006. A writing course to develop scientific writing skills of graduate students in tropical agriculture. 2006 Hawaii International Conference on Education-Conference Proceedings, p. 3425-3434.
- Kobayashi, K.D.** 2006. Use of computer simulation to enhance student learning of crop physiology. 2006 Hawaii International Conference on Education-Conference Proceedings, p. 3435-3443.

### **Other Selected Publications**

- Kobayashi, K.D.** 2005. Enhancing student learning of computer application, high technology, and robotics in agriculture. 2005 Hawaii International Conference on Education-Conference Proceedings, p. 2307-2314.
- Kobayashi, K.D.** and H. Perez. 2005. Professional development series: preparing graduate students for graduate school and beyond. 2005 Hawaii International Conference on Education-Conference Proceedings, p. 23-15-2321.
- Perez, H. and **K.D. Kobayashi.** 2004. Graduate student professional development: a case study. HortTechnology 14(4):625-627.
- Kobayashi, K.D.** 2004. Effect of photoselective plastic film on the growth of chrysanthemums. 2004 Hawaii International Conference on Sciences-Conference Proceedings. p. 453-459.
- Loero, D.R. and **K.D. Kobayashi.** 2004. Estimating yield of coffee in Kona, Hawaii. 2004 Hawaii International Conference on Sciences-Conference Proceedings. p. 460-469.
- Kobayashi, K.D.,** D.L. Hensley, and H.C. Bittenbender. 2004. Selecting trees for landscaping using a hypermedia information system. 2004 Hawaii International Conference on Computer Sciences-Conference. p. 296-302.
- Kobayashi, K.D.,** H.C. Bittenbender, and I.S. Campbell. 2003. Enhancing stakeholder decision making with an agricultural information delivery system. In D. Lassner & C. McNaught (Eds.), Proceedings of EdMedia: World Conference on Educational Media and Technology 2003 (pp. 1040-1045). Association for the Advancement of Computing in Education (AACE).
- Liu, L. and **K.D. Kobayashi.** 2002. Biomass production of four turfgrasses in different light conditions in Hawaii. Journal of Hawaiian and Pacific Agriculture 12:67-74.
- Kobayashi, K.D.,** H.C. Bittenbender, and I.S. Campbell. 2002. Farmer's Bookshelf: evolution of a horticultural information delivery system. Journal of Hawaiian and Pacific Agriculture 12:57-65.
- Biswas, M. and **K.D. Kobayashi.** 1995. Girdling, wounding, stem maturity, and IBA effects on rooting of jackfruit stem cuttings. Journal of Hawaiian and Pacific Agriculture 6:19-25.
- McLean, R.M., **K.D. Kobayashi,** and J. DeFrank. 1994. Evaluation of seven weed control methods in a newly planted 'Tahitian' lime orchard. Journal of Hawaiian and Pacific Agriculture 5:9-15.
- McLean, R.M. and **K.D. Kobayashi.** 1993. Evaluation of 4 rates of eucalyptus mulch for weed control in a 'Tahitian' lime orchard. Journal of Hawaiian and Pacific Agriculture 4:89-95.
- Kobayashi, K.D.** and H.C. Bittenbender. 1993. A hypertext information system for recommending groundcovers. Journal of Hawaiian and Pacific Agriculture 4:49-56.
- Bittenbender, H.C. and **K.D. Kobayashi.** 1993. Farmer's Bookshelf: a computer-based information system for extension. Proceedings Australian Pacific Extension Conference 1:212-215.
- Kobayashi, K.D.** and H.C. Bittenbender. 1993. A computer information system for

- recommending groundcovers. *Hawaii Landscape*, p. 18-19.
- Kobayashi, K.D.** and H.C. Bittenbender. 1991. Farmer's Bookshelf: a computerized hypermedia information system for crops. *HortTechnology* 1(1):118-120.
- Kobayashi, K.D.**, H.C. Bittenbender, and H.H. Hirae. 1991. Hypermedia information system for diagnosing common problems of macadamia nut. *Journal of Hawaiian and Pacific Agriculture* 3:19-23.
- Bittenbender, H.C., **K.D. Kobayashi**, and H.H. Hirae. 1991. Diagnosing common problems of macadamia two ways are better than one. *Hawaii Mac Facts* 4(1):3-5, 7.
- Bittenbender, H.C. and **K.D. Kobayashi**. 1990. Predicting the harvest of cycled 'Beaumont' guava. *Acta Horticulturae* 269:197-204.
- Kobayashi, K.D.**, H.C. Bittenbender, and H.H. Hirae. 1990. Diagnosing common problems of macadamia nut and keep track of the nutrient status of crops. *Hawaii Macadamia Nut Association 30th Annual Meeting Proceedings*, p. 110-120.
- Hwang, S. and **K. Kobayashi**. 1990. WRCC-17 report for Hawaii. Report on macadamia flower survival rate. 1990 Annual Meeting W-130 and WRCC-17. Hilo, HI. October 16-18, 1990. 4 p.
- Loero, D. and **K. Kobayashi**. 1990. WRCC-17 report for Hawaii. Report on coffee yield model. 1990 Annual Meeting W-130 and WRCC-17. Hilo, HI. October 16-18, 1990. 2 p.
- H.C. Bittenbender and **K.D. Kobayashi**. 1989. Farmer's Bookshelf: a computer-based information system of fruit crops in Hawaii. *Hawaii Institute of Tropical Agriculture and Human Resources Brief* 075.
- Kobayashi, K.D.** and H.C. Bittenbender. 1989. Calculating total nut spoilage losses of macadamia with the Farmer's Bookshelf. *Proc. 29th Annual Meeting Hawaii Macadamia Nut Association*, p. 47-51.
- Kobayashi, K.D.** 1988. Estimating leaf area of 'Beaumont' guava. *Tropical Agriculture* 65(2):173-175.
- Kobayashi, K.D.** and H.C. Bittenbender. 1988. Farmer's Bookshelf. A computer-based information on macadamia nut and other fruit crops in Hawaii. *Proceedings 28th Annual Meeting of the Hawaii Macadamia Nut Association*, p. 62-65.
- Kobayashi, K.D.** 1987. Defoliation and vegetative regrowth of *Psidium guajava* with ethephon and gibberellic acid. *Acta Horticulturae* 201:145-148.
- Kobayashi, K.D.** 1987. Database program to select ground covers. *Western Computer Consortium Journal of Computer Applications* 2(2):6-8.
- Kobayashi, K.D.** and J.J. McHugh. 1987. Predicting watercress yield. *HITAHR, College of Tropical Agriculture and Human Resources, University of Hawaii, Research Extension Series* 076.
- Kobayashi, K.D.** 1987. Mechanisms of rest and dormancy: Introduction. *HortScience* 22(5):816.
- Kobayashi, K.D.** and M.A. Nagao. 1986. Irrigation effects on vegetative growth of coffee. *HortScience* 21(3):533.
- Nagao, M.A., **K.D. Kobayashi**, and G.M. Yasuda. 1986. Mineral deficiency symptoms of coffee. Honolulu (HI): University of Hawaii. *Research Extension Series; RES-073*. 15 p.
- Kobayashi, K.D.** and G.R. Ueunten. 1984. Estimating leaf area for 'Kakea' and 'Keau' macadamia. *HortScience* 19(3):413-145.
- Kobayashi, K.D.**, L.H. Fuchigami, and C.J. Weiser. 1983. Modeling cold hardiness of red-osier dogwood. *Journal American Society Horticultural Science* 108(3):376-381.
- Kobayashi, K.D.** and L.H. Fuchigami. 1983. Modeling bud development during the quiescent

- phase in red-osier dogwood (*Cornus sericea* L.). *Agricultural Meteorology* 28(1):75-84.
- Kobayashi, K.D.** and L.H. Fuchigami. 1983. Modeling temperature effects in breaking rest in red-osier dogwood (*Cornus sericea* L.). *Annals Botany* 52:205-215.
- Kobayashi, K.D.**, L.H. Fuchigami, and M.J. English. 1982. Modeling temperature requirements for rest development in *Cornus sericea*. *Journal American Society Horticultural Science* 107:914-918.
- Kobayashi, K.** 1982. Computer modeling and simulation of plant development. *Ornamentals NorthWest* 6(1):13-14.
- Kobayashi, K.** 1982. Using models to predict stages of plant development. *American Nurseryman* 17(3):65.
- Kobayashi, K.D.**, L.H. Fuchigami, and K.E. Brainerd. 1981. Ethylene and ethane production and electrolyte leakage of water stressed 'Pixy' plum leaves. *HortScience* 16:57-59.

### **Book**

- A.D. Sierra, **Kobayashi, K.D.**, and A. Villordon (eds.). 2021. *Technology in horticultural protection systems*. CRC Press, Boca Raton, FL.

### **Book Chapters**

- Kobayashi, K.D.** 2021. Photosensitive shade cloth technology for horticultural applications. *Horticultural Reviews*. John Wiley & Sons, Inc.
- Fuchigami, L.H., C.J. Weiser, **K.D. Kobayashi**, R. Timmis, and L.V. Gusta. 1982. A degree growth stage (°GS) model and cold acclimation in temperate woody plants, p. 93-116. In: P.H. Li and A. Sakai (eds.). *Plant cold and freezing stress*. Academic Press, New York.

### **Paper Presentations and Conference Abstracts**

#### **2021-2025**

- Kobayashi, K.D.\*** and T.D. Amore. 2021. LED and Fluorescent Lighting Effects on Hydroponically Grown Watercress. 2021 American Society for Horticultural Science Annual Conference. August 5-9, 2021. Denver, CO.
- Kobayashi, K.D.\*** and T.D. Amore. 2021. Red LED and fluorescent lighting effects on hydroponically grown 'Koba' green onion. 2021 American Society for Horticultural Science Annual Conference. August 5-9, 2021. Denver, CO.
- Kobayashi, K.D.\*** and K. Perez. 2021. Adaptation of a tropical crop production systems course: Lessons learned. 2021 American Society for Horticultural Science Annual Conference. August 5-9, 2021. Denver, CO.
- Ritchie, M.T.\* and **K.D. Kobayashi**. 2021. Student and instructor perspectives of an in-person graduate scientific communications course going virtual. 2021 American Society for Horticultural Science Annual Conference. August 5-9, 2021. Denver, CO.
- Kobayashi, K.D.** 2021. Tomorrow is yesterday—Transmuting a tropical crop production course due to Covid-19. 2021 Hawaii International Conference on Education-Conference. January 4-7, 2021. Honolulu, HI.
- Kobayashi, K.D.\*** and K. Perez. 2021. Attending an inaugural virtual horticulture conference: Experiences and lessons learned. 2021 Hawaii International Conference on Education-Conference. January 4-7, 2021. Honolulu, HI.
- Perez, K.\* and **K.D. Kobayashi**. 2021. Planting the seeds: Recruiting strategies for agricultural

students of the 21st century. 2021 Hawaii International Conference on Education-Conference. January 4-7, 2021. Honolulu, HI.

## **2016-2020**

- Kobayashi, K.D.\*** and T.D. Amore. 2020. LED and fluorescent lighting effects on hydroponically grown baby choi cabbage. *HortScience* 55(9) Supplement S249.
- Kobayashi, K.D.** 2020. Simulated Martian soil for hydroponically grown pak choi plants. *HortScience* 55(9) Supplement S135.
- Kobayashi, K.D.** 2020. The lab on the edge of forever—mentoring space farming student projects. *HortScience* 55(9) Supplement S225-S226.
- Kobayashi, K.** 2020. The lab on the edge of forever! 2020 Hawaii International Conference on Education-Conference. January 4-7, 2020. Honolulu, HI.
- Perez, K.\* and **K.D. Kobayashi**. 2019. Filling two needs with one deed: Enhancing teaching experiences for graduate students while simultaneously enhancing learning experiences for undergraduates. *HortScience* 54(9) Supplement:S205-206.
- Kobayashi, K.D.\*** and T.D. Amore. 2019. LED and fluorescent lighting effects on hydroponically grown Hawaiian chili pepper and 'Koba' green onion. *HortScience* 54(9) Supplement:S333-S334.
- Kobayashi, K.D.** 2019. Simulated Martian soil for hydroponically grown 'koba' green onions. *HortScience* 54(9) Supplement:S334.
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- Kobayashi, K.D.** 2008. Enhancing graduate students' professional writing and oral communication skills. 2008 Hawaii International Conference on Education. January 5-8, 2008. Honolulu, HI.
- Kobayashi, K.D.** 2007. Effects of photosensitive shade cloths and plastic film on the growth and flowering of poinsettia and Easter lily. 2007 American Society for Horticultural Science Annual Conference. July 16-19, 2007. Scottsdale, AZ. HortScience 42(4):949.

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- Kobayashi, K.D.** 2006. A writing course to develop scientific writing skills of graduate students in tropical agriculture. 2006 Hawaii International Conference on Education. January 6-9, 2006. Honolulu, HI.
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#### **Other Selected Paper Presentations and Conference Abstracts**

- Kobayashi, K.D.** 2005. Effects of photoselective shade cloths on growth and development of orchids. 2005 Hawaii Orchid Growers Association Annual Conference. October 7-9, 2005. Hilo, HI.
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- Kobayashi, K.D.\***, H.C. Bittenbender, and H.H. Hiraе. 1990. Hypermedia information system to diagnose problems of macadamia nut. 1990 American Society for Horticultural Science Annual Conference. November 4-8, 1990. Tucson, AZ. HortScience 25(9):1157.
- Bittenbender, H.C.\* and **K.D. Kobayashi**. 1989. Predicting the harvest of cycled 'Beaumont' guava. Symposium Tropical Fruit in International Trade. June 4-9, 1989. Honolulu, HI. Programme and Abstracts Symposium Tropical Fruit in International Trade:12.
- Biswas, M. and **K.D. Kobayashi\***. 1989. Propagation of jackfruit (*Artocarpus heterophyllus* L.) stem cuttings. 1989 American Society for Horticultural Science Annual Conference. July 29-August 3, 1989. Tulsa, OK. 1989 ASHS Annual Meeting/Program and Abstracts p. 75-76.
- Manuel, J.A., **K.D. Kobayashi\***, and R.M. McLean. 1989. Estimating yield of Litchi chinensis in Hawaii. 1989 American Society for Horticultural Science Annual Conference. July 29-August 3, 1989. Tulsa, OK. 1989 ASHS Annual Meeting/Program and Abstracts p. 81.
- Kobayashi, K.D.\*** and H.C. Bittenbender. 1989. Farmer's Bookshelf: a hypermedia information system for fruit crops. Proceedings of the Big Island Science Conference, Tenth Meeting X:27. April 20-22, 1989. Hilo, HI.
- Kobayashi, K.D.\*** and M.A. Nagao. 1988. Drip irrigation effects on vegetative growth and yield of *Coffea arabica*. 85th Annual Meeting American Society for Horticultural Science and 33rd Annual Meeting of the Canadian Society for Horticultural Science. August 6-11, 1988. East Lansing, MI. HortScience 23(3):724.
- Kobayashi, K.D.** and H.C. Bittenbender\*. 1988. Predicting the harvest period and yield of guava. 85th Annual Meeting American Society for Horticultural Science and 33rd Annual Meeting of the Canadian Society for Horticultural Science. August 6-11, 1988. East Lansing, MI. HortScience 23(3):785.
- Kobayashi, K.D.** 1988. A hypermedia information system for fruit trees. 85th Annual Meeting

American Society for Horticultural Science and 33rd Annual Meeting of the Canadian Society for Horticultural Science. August 6-11, 1988. East Lansing, MI. HortScience 23(3):824.

- Kobayashi, K.D.\*** and M.A. Nagao. 1987. Irrigation effects on flowering, growth, and yield of coffee. 84th Annual Meeting American Society for Horticultural Science and 34th Interamerican Society for Tropical Horticulture Annual Congress. November 6-12, 1987. Kissimmee, FL. HortScience 22(5):1046.
- McLean, M.\*, **K. Kobayashi**, and J. DeFrank. 1987. Weed control with various mulching and herbicide methods in a new lime orchard. 84th Annual Meeting American Society for Horticultural Science and 34th Interamerican Society for Tropical Horticulture Annual Congress. November 6-12, 1987. Kissimmee, FL. HortScience 22(5):1127.
- Sako, G.T.\* and **K.D. Kobayashi**. 1987. A model to predict first flower of cheese weed (*Malva parviflora*). 84th Annual Meeting American Society for Horticultural Science and 34th Interamerican Society for Tropical Horticulture Annual Congress. November 6-12, 1987. Kissimmee, FL. HortScience 22(5):1128.
- Kobayashi, K.D.\*** and M.A. Nagao. 1987. Irrigation effects on flowering, yield, and growth of coffee. Ninth Big Island Science Conference, April 23-25, 1987, Hilo, HI. Proceedings of the Big Island Science Conference, Ninth Meeting IX:24.
- McLean, M.\* and **K.D. Kobayashi**. 1987. Weed suppression and cost effectiveness of various mulching and herbicide methods in a new lime orchard. Ninth Big Island Science Conference, April 23-25, 1987, Hilo, HI. Proceedings of the Big Island Science Conference, Ninth Meeting IX:23.
- Sako, G.T.\* and **K.D. Kobayashi**. 1987. A model to predict first flower of Spanish needle (*Bidens pilosa* L.). Ninth Big Island Science Conference, April 23-25, 1987, Hilo, HI. Proceedings of the Big Island Science Conference, Ninth Meeting IX:22.
- Kobayashi, K.D.** 1986. Defoliation and vegetative regrowth of guava with ethephon. 83rd Annual Meeting American Society for Horticultural Science and XXII International Horticultural Congress. August 10-18, 1986. Davis, CA. HortScience 21(3):688.
- Kobayashi, K.D.\*** and M.A. Nagao. 1986. Irrigation effects on vegetative growth of coffee. 83rd Annual Meeting American Society for Horticultural Science and XXII International Horticultural Congress. August 10-18, 1986. Davis, CA. HortScience 21(3):669.
- Sako, G.T. and **K.D. Kobayashi\***. 1986. Weed model for integrated pest management of lettuce. 83rd Annual Meeting American Society for Horticultural Science and XXII International Horticultural Congress. August 10-18, 1986. Davis, CA. HortScience 21(3):869.
- Kobayashi, K.D.\*** and M.A. Nagao. 1986. Crop modeling in macadamia. Hawaii Macadamia Nut Association 26th Annual Meeting, Kona, HI. May 17, 1986.
- Kobayashi, K.D.** 1985. Defoliation of guava with ethephon and gibberellic acid for fruit cycling. 82nd Annual Meeting American Society for Horticultural Science. July 28-August 2, 1985. Blacksburg, VA. HortScience 20(3):527.
- Kobayashi, K.D.\*** and M.A. Nagao. 1985. Modeling nut growth of macadamia. 82nd Annual Meeting American Society for Horticultural Science. July 28-August 2, 1985. Blacksburg, VA. HortScience 20(3):529.
- Kobayashi, K.D.\*** and M.A. Nagao. 1985. Irrigation effects on flowering, growth, and harvesting of coffee. Proceedings of the 1st Annual Meeting of the Kona Coffee Council. April 20, 1985. Kona, HI.
- Nagao, M.A.\* , G.M. Yasuda, and **K.D. Kobayashi**. 1985. Coffee nutrition. Proceedings of the

- 1st Annual Meeting of the Kona Coffee Council. April 20, 1985. Kona, HI.
- Kobayashi, K.D.** 1984. Evaluating freeze injury in red-osier dogwood by ethylene and ethane production and electrolyte leakage. 81st Annual Meeting American Society for Horticultural Science and 29th Annual Meeting Canadian Society for Horticultural Science. August 3-9, 1984. Vancouver, B.C., Canada. HortScience 19(3):523.
- Kobayashi, K.D.** 1983. Modeling cold hardiness of red-osier dogwood. 4th Annual Meeting of Plant Physiologists of Hawaii. May 6, 1983. Honolulu, HI.
- Kobayashi, K.D.\*** and G.R. Ueunten. 1983. Leaf area models of macadamia 'Kakea' and 'Keaau'. 7th Big Island Science Conference, April 22-23, 1983. Hilo, HI. Proceedings Big Island Science Conference Seventh Meeting, Vol. 7, Abstr. 25.
- Kobayashi, K.D.\*** and L.H. Fuchigami. 1982. Modeling bud development during quiescence in red-osier dogwood. 79th Annual Meeting American Society Horticultural Science. August 8-13, 1983. Ames, IA. HortScience 17(3):522.
- Kobayashi, K.D.\*** and L.H. Fuchigami. 1982. Modeling of cold hardiness in red-osier dogwood. Annual Meeting of American Society for Horticultural Science, Western Region, University of California, Santa Barbara, June 20-23, 1982. HortScience 17(4):579.
- Fuchigami, L.H.\*, **K. Kobayashi**, C.J. Weiser, R. Timmis, and L.V. Gusta. 1981. Relationship of a degree growth stage ( $^{\circ}\text{GS}$ ) model to cold acclimation in temperate woody plants. Japan-U.S. Cooperative Seminar "Plant Cold Hardiness" Abstract:25. August 11-14, 1981. Sapporo, Japan.
- Kobayashi, K.\*** and L.H. Fuchigami. 1981. Air temperature effects on rest promotion, chilling, bud development, and cold acclimation in red-osier dogwood. Annual Meeting of American Society for Horticultural Science, Western Region, University of Oregon. June 14-19, 1981. Eugene, OR. HortScience 17(1):28.
- Kobayashi, K.** 1981. "Introduction to Horticulture." Master Gardeners Training Program, Oregon State University Extension Service. January 1981. Salem, OR.
- Kobayashi, K.** "Computer Modeling of Dormancy and Cold Hardiness in Red-osier Dogwood." Parts I, II, III, and IV. State Nursery Advisory Meeting. March 1979, 1980, 1981, April 1982. Salem, OR.
- Kobayashi, K.\***, L. Fuchigami, and K. Brainerd. 1980. Dormancy stages and cold hardiness of red-osier dogwood. 77th Annual Meeting American Society Horticultural Science. August 27-September 1, 1980. Fort Collins, CO. HortScience 15(3):409.

### Invited Speaker

- Invited speaker in the "Teachers Ignite!" Workshop held at the 2018 American Society for Horticultural Science Conference, July 31-August 3, 2018. Washington, DC. "Virtual field trip—Fantastic voyage!" HortScience Supplement 53(9):S6-S7.
- Invited speaker in the "Teachers Ignite!" Workshop held at the 2017 American Society for Horticultural Science Conference, September 19-22, 2017. Waikoloa, HI. "Teaching on the edge of forever." HortScience 52(9) Supplement:S113.
- Invited speaker in the "Novel Challenges and Opportunities in Tropical Ornamental Horticulture: Orchids as a Model Crop" Workshop held at the 2016 American Society for Horticultural Science Conference, August 8-11, 2016. Atlanta, GA. "Light quality enhancement of growth and flowering of orchids." HortScience 51(9):S77-S78.

Invited to give an online service training presentation on new mobile device apps and new upcoming computer technology for extension personnel. College of Tropical Agriculture and Human Resources, University of Hawaii. 2016. Honolulu, HI.

Invited speaker, Peek A Boo presentation, in the online Extension Associate Dean Online Update Meeting. College of Tropical Agriculture and Human Resources, University of Hawaii. March 3, 2016. Honolulu, HI.

Invited speaker, "Two Minute Teaching Tips." Tropical Plant & Soil Sciences Department Faculty Seminar. University of Hawaii. September 11, 2015. Honolulu, HI.

Invited speaker in the "Graduate Student Tool Kit" Workshop held at the 2014 American Society for Horticultural Science Conference, July 28-31, 2014. Orlando, FL. "Professional skills to help you succeed in graduate school."

Invited speaker in the "Two-Minute Teaching Tips" Workshop held at the 2014 American Society for Horticultural Science Conference, July 28-31, 2014. Orlando, FL, 2014. "Virtual field trips and enhance student learning."

Invited speaker in the "Teaching with Tablets and Apps" Workshop held at the 2013 American Society for Horticultural Science Conference, July 22-25, 2013. Palm Desert, CA. "Enhancing Tropical Plant and Soil Sciences (TPSS) instruction with mobile devices."

Invited speaker in the "How to Get in (and Succeed in) Graduate School" Workshop held at the 2013 American Society for Horticultural Science, July 22-25, 2013. Palm Desert, CA.

2013 Ag Professional In-Service Training on Risk Management event "Time to Catch App! (internet, mobile devices, e-tablets, apps, and many more)". Invited by the College of Tropical Agriculture and Human Resources Risk Management Hawaii Program to talk to extension agents at this education training event about the use of tablets, latest in mobile technology, and how devices can be used in extension. May 3, 2013. Honolulu, HI.

Invited speaker in the "Changing the Pace – Adopting a Pechakucha Approach to Presentations" Workshop held at the 2012 American Society for Horticultural Science Conference, July 31-August 3, 2012. Miami, FL. "Bend me, shape me—Light enhancing crop growth."

Invited speaker on "Mobile Tagging" about QR codes at the Dendrobium Orchid Growers Association of Hawaii (DOGAH)/TOGAH (Tropical Orchid Growers Association of Hawaii) Meeting. August 18, 2011. Honolulu, HI. Also present were people from the Hawaii Department of Agriculture.

Invited speaker on "Mobile Tagging" about QR codes at the Hawaii Export Nursery Association Meeting. July 21, 2011. Hilo, HI.

Invited speaker in the "ASHS Primer: Getting the Most out of the Conference" Workshop held at the American Society for Horticultural Science Conference, July 25-28, 2009. St. Louis, MO. "Getting the most from posters and presentations."

Invited speaker in the "ASHS Primer: Attending a Professional Conference" Workshop held at the American Society for Horticultural Science Conference, July 21-24, 2008. Orlando, FL.

Kobayashi, K.D.\* and M.A. Nagao. 1986. Crop modeling in macadamia. Hawaii Macadamia Nut Association 26th Annual Meeting, May 17, 1986. Kona, HI.

Kobayashi, K.\* and O. Kawabata. 1986. "Predicting Yield of Macadamia Nut" Report. 6 pp. C. Brewer Research Seminar, August 6, 1986. Hilo, HI. Developed a yield model of macadamia nut through collaboration with Mauna Loa Macadamia Nut Corporation, Hilo, HI.

Seminar on TK!Solver, a simultaneous equation solver, in the Microcomputer Software Seminar Series. College of Tropical Agriculture and Human Resources, University of Hawaii. November 8, 1985. Honolulu, HI.

### Invited Poster Displays

- Kobayashi, K.D.** and T.D. Amore. 2018. LED and fluorescent lighting effects on hydroponically grown 'Tom Thumb' lettuce. 2018 Western Region International Plant Propagators' Society Annual Meeting. July 31-August 3, 2018. Kona, HI.
- Kobayashi, K.D.** and T.D. Amore. 2016. Fluorescent and LED lighting effects on hydroponically grown 'Winter Density' bibb lettuce. Invited poster display at the 2016 North American Western Region International Plant Propagators' Society Meeting. October 19-22, 2016. Phoenix, AZ. Combined Proceedings of the International Plant Propagators' Society (Volume 66). *Acta Horticulturae* (2017) 1174:181-182.
- Kobayashi, K.D.** and T.D. Amore. 2015. Light source effects on hydroponically grown compact 'Winter Density' bibb lettuce. Invited poster display at the 2015 North American Western Region International Plant Propagators' Society Meeting. September 23-26, 2015. Modesto, CA. Combined Proceedings of the International Plant Propagators' Society (Volume 65). *Acta Horticulturae* (2016) 1040:193-194.
- Kobayashi, K.D.** and T.D. Amore. 2014. Light source effects on hydroponically-grown miniature 'Little Gem' lettuce. Invited poster display at the 2014 North American Western Region International Plant Propagators' Society Meeting. October 1-4, 2014. Abbotsford, British Columbia. Combined Proceedings of the International Plant Propagators' Society (Volume 64:361). *Acta Horticulturae* (2015) 1085:361-362.
- Kobayashi, K.D.** 2014. Iphone and iPad apps for extension. Invited poster display at the 2014 North American Western Region International Plant Propagators' Society Meeting. October 1-4, 2014. Abbotsford, British Columbia. Combined Proceedings of the International Plant Propagators' Society (Volume 64:359). *Acta Horticulturae* (2015) 1085:359-360.
- Kobayashi, K.** and H.C. Bittenbender. 1995. Farmer's Bookshelf computerized information system. Invited poster display at the Hawaii Cut Flower Conference. October 26, 1995. Hilo, HI.

### Grants

- University of Hawaii Women's Campus Club Grant. Purchase instruments to measure light, temperature, and relative humidity for student use in TPSS courses and their independent research projects. \$318. 2021.
- CTAHR Supplemental Funding. "Light Environment Management of Tropical Crops." University of Hawaii College of Tropical Agriculture and Human Resources. \$2,000. 2018-2019.
- CTAHR Supplemental Funding. "Communication, Education, and Information Delivery in Extension." University of Hawaii College of Tropical Agriculture and Human Resources. \$3,000. 2016-2017.
- University of Hawaii Women's Campus Club Grant. Purchase instruments to measure light, temperature, and relative humidity for student use in TPSS courses and their independent research projects. \$727. 2016. (Co-PI with K. Perez).
- CTAHR Supplemental Funding. "Light Environment Management of Tropical Crops." University of Hawaii College of Tropical Agriculture and Human Resources. \$4,015. 2014-2015. (Co-PI with T. Amore).
- CTAHR Supplemental Funding. "Light Environment Management of Tropical Crops." University of Hawaii College of Tropical Agriculture and Human Resources. \$5,595. 2013-2014. (Co-PI with T. Amore).

CTAHR Instructional, Extension or Research Instrumentation Award. "Upgrading Plant and Crop Physiology Instrumentation for Courses in Tropical Plant and Soil Sciences." University of Hawaii College of Tropical Agriculture and Human Resources. \$25,700. 2013-2014. (Co-PI with H-J Kim, T. Radovich, and R. Ogoshi. PI R. Paull).

CTAHR Supplemental Funding. "Communication, Education, and Information Delivery in Extension." University of Hawaii College of Tropical Agriculture and Human Resources. \$13,300. 2012-2013.

CTAHR Capacity Improvement Funds. "Improving Audiovisual Capabilities to Enhance Student Learning." University of Hawaii College of Tropical Agriculture and Human Resources. \$3,670. 2012.

University of Hawaii Women's Campus Club Grant. "A Minolta Spad Chlorophyll Meter for Leaf Senescence Studies." \$2,495. 2012. (Co-PI with H-J Kim).

CTAHR Supplemental Funding. "High Technology Lighting Systems for Hydroponic Vegetables." University of Hawaii College of Tropical Agriculture and Human Resources. \$9,400. 2011-2012. (Co-PI with T. Amore).

Federal Floriculture Research Grant. "Light-emitting Diodes (LEDs) in Anthurium Micropropagation." USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$5,800. 2009-2012. (Co-PI with T. Amore).

Federal Floriculture Research Grant. "Nutrient Management System for Potted Dendrobium and Oncidium Orchids." USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$5,043. 2008-2010.

Federal Floriculture Research Grant. "Development and Evaluation of Alternative Media and Fertilizer Formulations Utilized in the Production of Floral and Nursery Crops." USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$8,500. 2008-2010. (Co-PI with J. Griffis, A. Kawabata, and J. Lichty).

Federal Floriculture Research Grant. "Development and Evaluation of Alternative Media and Fertilizer Formulations Utilized in the Production of Floral and Nursery Crops." USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$8,400. 2006-2007. (Co-PI with J. Griffis, A. Kawabata, and J. Lichty).

Federal Floriculture Research Grant. "Light Quality Enhancement of Flowering of Orchids and Anthuriums." USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$4,800. 2006-2007.

Federal Floriculture Research Grant. "Floriculture Quality Enhancement". USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$3,329. 2006-2008.

Federal Floriculture Research Grant. "Nutrient Management System for Potted Dendrobium and Oncidium Orchids". USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$4,726. 2005-2007.

University of Hawaii Women's Campus Club Grant. "University of Hawaii Instructional Landscape Website." \$900. 2005-2006. (Co-PI with A. Kaufman).

County of Hawaii Dept. of Research and Development. "Effects of Photoselective Shadecloth on Potted Foliage/Ornamental Plants." \$5,000. 2004-2005. (Co-PI with A. Kawabata and J. Lichty).

Federal Floriculture Research Grant. "Light Quality Enhancement of Flowering of Orchids and Anthuriums." USDA-CSREES (U.S. Dept. of Agriculture-Cooperative State Research, Education, and Extension Service). \$14,535. 2003-2006.

UH Manoa Educational Improvement Fund Award. "Enhancing Student Active Learning Through Hands-on Use of Environmental Instrumentation." University of Hawaii. \$2,665. 2003-2004.

Tropical Plant & Soil Sciences Department Salary Savings, First Allocation. "Computer Simulation Software for Enhancing Student Learning of Plant Physiology." \$520. 2003.

UH Manoa Educational Improvement Fund Award. "Computer Applications, Simulation, and Robotics in Tropical Plant and Soil Sciences". University of Hawaii. \$3,550. 2002-2003.

USDA Tropical and Subtropical Agricultural Research Grant. "Dormancy, Tuber Sprouting, and Control of Purple Nutsedge." \$124,217. 1996-1999. (Co-PI with R. Nishimoto).

University of Hawaii College of Tropical Agriculture and Human Resources Extension Mini-Grant. "Hypermedia Information System." \$5,000. 1995-1996. (Co-PI with H.C. Bittenbender).

Hawaii Governor's Agricultural Coordinating Committee. "Estimating Yield of Coffee." \$32,670. 1989-1995. (Co-PI with H.C. Bittenbender).

Hawaii Sugar Planters Association. "Coffee Bud Release." \$42,000. 1988-1992. (Co-PI with F. Meisner).

Kilauea Agronomics, Inc. Orchards. "Guava Yield Model." \$2,000. 1986-1987.

Mauna Loa Macadamia Nut Corporation. "Macadamia Nut Yield". \$207. 1985-1986.

Hawaii Governor's Agricultural Coordinating Committee. "Irrigation Effects on Flowering, Growth, and Harvesting of Coffee." \$59,000. 1984-1989. (Co-PI with M. Nagao).

"Coffee Nutrition." Hawaii Governor's Agricultural Coordinating Committee. \$45,000. 1984-1989. (Co-PI with M. Nagao).

Cornell University. "Propagation of Jackfruit." \$2,000. 1984-1986.

USDA Tropical and Subtropical Agricultural Research Grant. "Prediction of Crop Performance from Climate-Growth Relationships." \$204,000. 1983-1988. (Co-PI with D. Bartholomew).

University of Hawaii Research and Training Revolving Fund. "Prediction of Flowering and Nut Maturity of Macadamia." \$4,753. 1983-1984.

University of Hawaii Foundation Fund. "Tropical Fruit and Nut Production". \$2,000. 1983-1984.

### **Travel Grants**

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,200. 2019. Funding to attend the American Society for Horticultural Science Annual Conference in Las Vegas, NV.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,000. 2018. Funding to attend the American Society for Horticultural Science Annual Conference in Washington, DC.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,000. 2017. Funding to attend the American Society for Horticultural Science Annual Conference in Waikoloa, HI.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,000. 2016. Funding to attend the American Society for Horticultural Science Annual Conference in Atlanta, GA.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,000. 2015. Funding to attend the American Society for Horticultural Science Annual Conference in New Orleans, LA.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,000. 2013. Funding to attend the American Society for Horticultural Science Annual Conference in Palm Desert, CA.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,250. 2012. Funding to attend the American Society for Horticultural Science Annual Conference in Miami, FL.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,200. 2011. Funding to attend the American Society for Horticultural Science Annual Conference in Waikoloa, HI.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,000. 2010. Funding to attend the American Society for Horticultural Science Annual Conference, Palm Desert, CA.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,421. 2009. Funding to attend the American Society for Horticultural Science Annual Conference, St. Louis, MO.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,700. 2008. Funding to attend the American Society for Horticultural Science Annual Conference, Orlando, FL.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,400. 2007. Funding to attend the American Society for Horticultural Science Annual Conference, Scottsdale, AZ.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$800. 2006. Funding to attend the American Society for Horticultural Science Annual Conference in New Orleans, LA. July 27-30, 2006.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,400. 2005. Funding to attend the American Society for Horticultural Science Annual Conference in Las Vegas, NV. July 18-21, 2005.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,350. 2004. Funding to attend the American Society for Horticultural Science Annual Conference in Austin, TX. July 17-20, 2004.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,500. 2003. Funding to attend the American Society for Horticultural Science Annual Conference in Providence, RI. October 3-6, 2003.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,318. 1997. Funding to attend the American Society for Horticultural Science Annual Conference in Salt Lake City, UT. July 23-26, 1997.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,745. 1995. Funding to attend the American Society for Horticultural Science Annual Conference in Montreal, Canada. July 30-August 3, 1995.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,154. 1994. Funding to attend the American Society for Horticultural Science Annual Conference in Corvallis, OR. July 7-10, 1994.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,239. 1990. Funding to attend the American Society for Horticultural Science Annual Conference in Tucson, AZ. November 4-8, 1990.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$1,100. 1989. Funding to attend the American Society for Horticultural Science Annual Conference in Tulsa, OK. August 29-September 1, 1989.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$948. 1988. Funding to attend the American Society for Horticultural Science Annual Conference in East Lansing, MI. August 6-11, 1988.

Travel Award from Research & Training Revolving Fund. University Research Council, University of Hawaii. \$992. 1987. Funding to attend the American Society for Horticultural Science Annual Conference in Kissimmee, FL. November 6-12, 1987.

Educational Innovations Fund. President's Advisory Funding Committee. University of Hawaii. \$840. 1985. Funding to attend the American Society for Horticultural Science Annual Conference in Blacksburg, VA. July 28-August 2, 1985.

## Websites

- Crop Modeling in Macadamia. (with M. Nagao).  
< <http://www.ctahr.hawaii.edu/kobayashik/Macfruit.html> >.
- Predicting Watercress Yield. (with J. McHugh, Jr.)  
< <http://www.ctahr.hawaii.edu/kobayashik/Watercre.html> >.
- Predicting the Harvest of Cycled 'Beaumont' Guava. (with H.C. Bittenbender).  
< <http://www.ctahr.hawaii.edu/kobayashik/Guavharv.html> >.
- Defoliation and Vegetative Regrowth of Psidium Guajava with Ethephon and Gibberellic Acid.  
< <http://www.ctahr.hawaii.edu/kobayashik/Guavdefo.html> >.
- Irrigation Effects on Vegetative Growth of Coffee. (with M. Nagao).  
< <http://www.ctahr.hawaii.edu/kobayashik/Coffeeir.html> >.
- Biomass Production of Four Turfgrasses in Different Light Conditions in Hawaii. (with L. Liu).  
< <http://www.ctahr.hawaii.edu/kobayashik/Turflite.html> >.
- Evaluation of Four Rates of Eucalyptus Mulch for Weed Control in a 'Tahitian' Lime Orchard. (with R.M. McLean).  
< <http://www.ctahr.hawaii.edu/kobayashik/Mulchweed.html> >.
- Horticulture Applications (Apps) for Windows Mobile Devices.  
< <https://sites.google.com/a/hawaii.edu/windows-hort-apps/home> >.
- Horticulture Applications (Apps) for Android Mobile Devices.  
< <https://sites.google.com/a/hawaii.edu/android-hort-apps/> >
- Horticulture Applications (Apps) for iOS Mobile Devices.  
< <https://sites.google.com/a/hawaii.edu/hort-apps/> >.
- Virtual Field Trips.  
< <http://twominuteteachingtips.weebly.com/virtual-field-trips.html> >.
- Micro-Hydroponics.  
< <http://microhydroponics.weebly.com> >.
- Rooftop Learning Center. (with J. Uyeda and K. Perez).  
< <https://sites.google.com/site/stjohnrooftoplearningcenter/> >.
- iFarmer's Bookshelf.  
< <https://sites.google.com/a/hawaii.edu/ifarmers-bookshelf/> >.
- Farmer's Bookshelf - Information on Tropical Crop Production in Hawaii. (With H.C. Bittenbender and I.S. Campbell). Started in 1987.
- Orchid Care for the Novice—An Orchid's Perspective.  
< <http://www.ctahr.hawaii.edu/kobayashik/Orchids.html> >.
- Growing Plants Indoors under Supplemental Lighting.  
< <http://www.ctahr.hawaii.edu/kobayashik/supplemental.html> >.
- Benefits of Plants in Your Dormitory, Home, and Office. (with A. Kaufman and A. Ohama).  
< <http://www.ctahr.hawaii.edu/uhtmlplants/home.htm> >.
- Making Your Own Terrariums.  
< <https://www.ctahr.hawaii.edu/kobayashik/Terrarium.html> >.
- Building Your Own Indoor Tabletop Fountain.  
< <http://www.ctahr.hawaii.edu/kobayashik/H2OFount.html> >.
- Simple Flowering Arranging.  
< <http://www.ctahr.hawaii.edu/kobayashik/Flowerarr.html> >.

Running Effective Meetings.

< <http://www.ctahr.hawaii.edu/kobayashik/Meetings.html> >.

E-mail Etiquette.

< <http://www.ctahr.hawaii.edu/kobayashik/emaileti.html> >.

Webmaster for the extension publication series "Landscape, Floriculture, and Ornamentals News." (with K. Leonhardt and J. Deputy).

< <http://www.ctahr.hawaii.edu/TPSS/digest/lfon.html> >.

Webmaster for the extension publication series "Horticulture Digest." (with F. Rauch and D. Hensley).

< <http://www.ctahr.hawaii.edu/TPSS/digest/index4.html> >.

### **Videos**

Kent Kobayashi Introduction.

< <https://www.youtube.com/watch?v=J887VfXVdH8> >.

DIY Milk Carton Hydroponics

< <https://www.youtube.com/watch?v=fC9RXkExx1Y> >.

Horticulture Society Princettia Project 2016.

### **E-Book**

Bottle Cap Gardens. Created with the iPad app "Book Creator."

#### **American Society for Horticultural Science Interview**

Invited HortEducator Interview. "Using Computer Simulation Software to Enhance Student Learning." 2003 American Society for Horticultural Sciences Annual Conference. October 3-6, 2003. Providence RI.

#### **American Society for Horticultural Science Symposium**

Organized and moderated the "Mechanisms of Rest and Dormancy" Symposium held at the 83rd Annual Meeting American Society for Horticultural Science and XXII International Horticultural Congress. August 10-18, 1986. Davis, CA.

#### **American Society for Horticultural Science Workshops**

Assisted in coordinating (with C. Rom and D. Butler) the "General Session – Scaling Heights in your Career. A Career and Professional Development Workshop" Session held at the 2021 American Society for Horticultural Science Conference, August 5-9, 2021, Denver, CO.

"Packing the Pack for Your Career Path – The Equipment and Skills You Will Need".

Assisted in coordinating (with C. Kubota, et al.) "Integrating Engineering Principles with Plant Biological Requirements in Controlled Environment Horticulture Research and Education" Workshop held at the 2021 American Society for Horticultural Science Conference, August 5-9, 2021, Denver, CO.

Assisted in coordinating (with M. McGiffin, et al.) "Automatic Agriculture: How Machines and Machine Learning Will Shape the Future" Workshop held at the 2021 American Society for Horticultural Science Conference, August 5-9, 2021, Denver, CO. (Chair, ASHS Technology

Applications in Horticulture Professional Interest Group).

Assisted in coordinating (with G. Nunez, et al.) “Going Beyond Zoom: Tips and Tricks for Teaching Horticulture Online” Workshop held at the 2021 American Society for Horticultural Science Conference, August 5-9, 2021, Denver, CO. (Secretary, ASHS Teaching Methods Professional Interest Group).

Assisted in coordinating and moderating (with K. Perez and C. Rom) the “General Session – Seeing a Career Vision” Session held at the 2020 American Society for Horticultural Science Conference, August 9-13, 2020, Orlando, FL. “20/20: Seeing Your Professional Future Coming into Focus”.

Moderated the Vegetable Crops Management 2 (Poster) session held at the 2020 American Society for Horticultural Science Conference, August 9-13, 2020, Orlando, FL.

Moderated the "Growing Horticulturists: Being Successful in Your Career" Session held at the 2019 American Society for Horticultural Science Conference, July 21-25, 2019. Las Vegas, NV.

Invited speaker in the "Teachers Ignite" Workshop to be held at the 2018 American Society for Horticultural Science Conference, July 31-August 3, 2018. Washington, DC. "Virtual Field Trip—Fantastic Voyage!".

Assisted in coordinating (with R. Mikkelsen) “Plant Nutrient Diagnosis” Workshop held at the 2018 American Society for Horticultural Science Conference, July 31-August 3, 2018, Washington, DC. (Chair, ASHS Plant Nutrient Management Professional Interest Group).

Assisted in coordinating (with R. Arancibia) “Grafting Vegetable Crops: Status and Challenges of an Expanding Industry” Workshop held at the 2018 American Society for Horticultural Science Conference, July 31-August 3, 2018, Washington, DC. (Chair, ASHS Computer Applications in Horticulture Professional Interest Group).

Assisted in coordinating (with A. Duarte Sierra) “Applications of Remote Sensors in Horticulture” Workshop held at the 2017 American Society for Horticultural Science Conference, Waikoloa, September 19-22, 2017, Waikoloa, HI. (Chair-elect, ASHS Computer Applications in Horticulture Working Group).

Invited speaker in the "Teachers Ignite" Workshop to be held at the 2017 American Society for Horticultural Science Conference, September 19-22, 2017. Waikoloa, HI. "Teaching on the Edge of Forever".

Invited speaker in the "Novel Challenges and Opportunities in Tropical Ornamental Horticulture: Orchids as a Model Crop" Workshop held at the 2016 American Society for Horticultural Science Conference, August 8-11, 2016. Atlanta, GA. "Light quality enhancement of growth and flowering of orchids."

Assisted in coordinating (with B. Pearson and A. Rajewski) "Developing Soft Skills in Tomorrow's Leaders" Workshop held at the 2016 American Society for Horticultural Science Conference, Atlanta, August 8-11, 2016. Atlanta, GA. (Chair, ASHS Teaching Methods Working Group).

Co-coordinator (with A. Villordon and G. Bi) "Innovative Applications of Computers in Horticulture" Workshop held at the 2016 American Society for Horticultural Science Conference, Atlanta, August 8-11, 2016. Atlanta, GA. (Secretary, ASHS Computer Applications in Horticulture Working Group).

Speaker in the "Five-minute Impact Strategies for Engaging Students—Where to Start with Service-learning and Fundraising?" Workshop held at the 2015 American Society for Horticultural Science Conference, August 4-7, 2015. New Orleans, LA. "Using flipped

classroom, BYOD, and public speaking to engage students."

Invited speaker in the "Graduate Student Tool Kit" Workshop held at the 2014 American Society for Horticultural Science Conference, July 28-31, 2014. Orlando, FL. "Professional skills to help you succeed in graduate school."

Invited speaker in the "Two-Minute Teaching Tips" Workshop held at the 2014 American Society for Horticultural Science Conference, July 28-31, 2014. Orlando, FL. "Virtual field trips and enhance student learning."

Coordinated and moderated the "Technological Innovations in Smart Device and Computer Usage for Extension and Teaching" Workshop held at the 2014 American Society for Horticultural Science Conference, July 28-31, 2014. Orlando, FL. (Chair, ASHS Computer Applications in Horticulture Working Group).

Co-coordinator (with T. Rhodus) and an invited speaker in the "Teaching with Tablets and Apps" Workshop held at the 2013 American Society for Horticultural Science Conference, July 22-25, 2013. Palm Desert, CA. (Chair, ASHS Computer Applications in Horticulture Working Group). "Enhancing Tropical Plant and Soil Sciences (TPSS) instruction with mobile devices."

Invited speaker in the "How to Get in (and Succeed in) Graduate School" Workshop held at the 2013 American Society for Horticultural Science, July 22-25, 2013. Palm Desert, CA.

Coordinator and speaker in the "I Have an App for That: Introduction to Mobile Applications and Development in Horticulture" Workshop held at the 2012 American Society for Horticultural Science Conference, July 31-August 3, 2012. Miami, FL. "Are there horticulture-related mobile applications for me?"

Invited speaker in the "Changing the Pace Adopting a PechaKucha Approach to Presentations" Workshop held at the 2012 American Society for Horticultural Science Conference, July 31-August 3, 2012. Miami, FL. "Bend me, shape me—Light enhancing crop growth."

Organized and moderated the "Nutrient and Water Management Practices for Improving Crop Growth, Yield, and Quality" Workshop held at the 2011 American Society for Horticultural Science Conference, September 25-28, 2011. Waikoloa, HI. (Chair, ASHS Plant Nutrient Management Working Group).

Organized and moderated the "Innovative Applications of Computers in Horticulture" Workshop held at the 2009 American Society for Horticultural Science Conference, July 25-28, 2009. St. Louis, MO. (Chair, ASHS Computer Applications in Horticulture Working Group).

Moderated and invited speaker in the "ASHS Primer: Getting the Most out of the Conference" Workshop held at the 2009 American Society for Horticultural Science Conference, July 25-28, 2009. St. Louis, MO. "Getting the most from posters and presentations."

Organized and moderated the "Current Innovative Computer Applications in Horticulture" Workshop held at the 2008 American Society for Horticultural Science Conference, July 21-24, 2008. Orlando, FL. (Chair, ASHS Computer Applications in Horticulture Working Group).

Invited speaker in the "ASHS Primer: Attending a Professional Conference" Workshop held at the 2008 American Society for Horticultural Science Conference, July 21-24, 2008. Orlando, FL.

Organized and moderated the "Current Innovative Uses of Mechanization in Horticulture" workshop held at the 2006 American Society for Horticultural Science Conference, July 27-30, 2006. New Orleans, LA. (Chair, ASHS Production and Harvest Mechanization Working Group).

Organized and moderated the "Current Innovative Computer Applications in Horticulture" Workshop held at the 2005 American Society for Horticultural Science Conference, July 18-21, 2005. Las Vegas, NV. (Chair, ASHS Computer Applications in Horticulture Working Group).

Organized and moderated the "Applied, Hands-on Uses of Computers in Horticulture" Workshop held at the 2004 American Society for Horticultural Science Conference, July 17-20, 2004. Austin, TX. (Chair, ASHS Computer Applications in Horticulture Working Group).

Speaker in the "Simulation Modeling in Agrometeorology" Workshop held at the 1990 American Society for Horticultural Science Conference, November 4-8, 1990. Tucson, AZ. "Development and implementation of simulation models."

Speaker in the "Modeling Dormancy in Trees" Workshop held at the 1985 American Society for Horticultural Science Conference, July 28-August 2, 1985. Blacksburg, VA. "Vegetative maturity and dormancy."

Speaker in the "Response of Plants at Different Physiological Stages of Development to Various Stress" Workshop held at the 1982 American Society for Horticultural Science Conference, August 8-13, 1983. Ames, IA.

### **Interviews**

Invited Plantae Interview. "Informational Interview with an Innovative Associate Professor." March 26, 2018. Honolulu, HI.

### **International Teaching**

Hokkaido Iwamizawa Agricultural High School. July 12, 2017. Participants: nine students and two teachers. T. Nakamura, Iwamizawa Agricultural High School.

Kyushu University Special Program in Presentation Skills and Teaching in English. International Programs of Outreach College, University of Hawaii at Manoa. March 7-18, 2016. Participants T. Abiko and D. Yasutake, Kyushu University.

### **Professional Service**

#### **American Society for Horticultural Science**

ASHS member since 1979.

ASHS Computer Applications in Horticulture Working Group. Chair 2017-2018; 2013-2014; 2012-2013; 2008-2009; 2004-2005. Chair-Elect 2016-2017. Secretary 2018-2019; 2015-2016.

ASHS Outstanding Graduate Educator Award Committee. 2015-2018; 2007-2014.

ASHS Collegiate Activities Committee. 2016-2018. 2011-2014.

ASHS Media Communications Committee. 2017-present.

ASHS Annual Conference Technical Program Committee. 2009-2013.

ASHS Graduate Student Activities Committee. Chair 2011-2013.

ASHS Membership Committee. 1991-1994. Chair 1993-1994.

ASHS Plant Nutrient Management (Mineral Nutrition) Working Group. Chair 2018-2019; 2017-2018, 2010-2011; Chair-elect 2009-2010; Secretary 2008-2009.

ASHS Production and Harvest Mechanization Working Group. Chair 2005-2006; Chair-elect

2004-2005.

ASHS Teaching Methods Working Group. Chair 2015-2016; Chair-elect 2014-2015; Secretary 2013-2014.

ASHS Outstanding Undergraduate Educator Award Committee. 2010-2014.

ASHS Nominations and Elections Committee (Education Division). 2006-2008.

ASHS Membership Representative for Hawaii. 2015-present, 1992-1993.

Member, Local Steering Committee; Assistant Chair, Program Committee; Oral Sessions Coordinator. 1992 ASHS Conference, Honolulu, HI. 1989-1992.

Assist in organizing judging of the ASHS Undergraduate Student Poster Competition, 2016 ASHS Conference, Atlanta, GA. 2016. (With K. Moore).

Organized judging of the ASHS Undergraduate Student Poster Competition, 2015 ASHS Conference, New Orleans, LA. 2015.

Organized judging of the ASHS Scholars Ignite Competition, 2014 ASHS Conference, Orlando, FL. 2014.

Organized judging of the ASHS Graduate Student Poster Competition, 2013 ASHS Conference, Palm Desert, CA. 2013.

Organized judging and a judge of the ASHS Graduate Student Poster Competition, 2012 ASHS Conference, Miami, FL. 2012.

Judge, ASHS Graduate Student Poster Competition, 2016 ASHS Conference, Atlanta, GA. 2016.

Judge, ASHS Graduate Student Poster Competition, 2015 ASHS Conference, New Orleans, LA. 2015.

Judge, ASHS Undergraduate Poster Competition, 2013 ASHS Conference, Palm Desert, CA. 2013.

Judge, ASHS Graduate Student Poster Competition, 2011 ASHS Conference, Waikoloa, HI. 2011.

Reviewer, Resume Review Session, 2015 ASHS Conference, New Orleans, LA. 2015.

Assist in the TPSS Dept.'s recruitment table at the Career and Graduate School Fair, 2016 ASHS Conference, Atlanta, GA. 2016.

Assisted in the setup of the Horticultural Commodity Judging Contest and Plant Identification Contest, 2015 ASHS Conference, New Orleans, LA. 2015.

Organized the University of Hawaii Tropical Plant & Soil Sciences Department's contribution of prizes for the 2014 ASHS Conference in Orlando, FL. 2016, 2014.

Organized and chaired a University of Hawaii Tropical Plant & Soil Sciences Department Ad Hoc Committee to nominate TPSS Department undergraduates for the ASHS Collegiate Scholars Award. 2015.

Have reviewed numerous manuscripts for JASHS, HortScience, and HortTechnology.

### **American Pomological Society**

Member, American Pomological Society Advisory Committee. 2010-2012; 2006-2008.

### **Tropical Plant & Soil Sciences (TPSS) Department**

#### **Leadership Positions**

Graduate Faculty Chair. 2001-2004, 1994-1998.

Undergraduate Advisor, Undergraduate Coordinator. 1992-1996.

Chair, Personnel Committee. 2010-2013, 2005-2006.

Chair, Curriculum Committee. 2012-2014, 2002-2004, 1997-1998, 1993-1994, 1989-1992, 1986-1987.

Chair, Curriculum Committee. In charge of the following areas of preparing our Academic Program Review---major curriculum changes, quality of current students, admissions statistics, attrition rate, student advising, strengths and weaknesses of the instructional program. 1994-1996.

Chair, Curriculum Committee. In charge of the Department's responses about articulation of horticulture courses of University of Hawaii Community Colleges and University of Hawaii at Hilo with University of Hawaii at Manoa.

Chair, Computer Policy Committee. 1990-1991.

Chair, Qualifying Examination Committee. 1988-1989.

Telecom Coordinator. 1996-present, 1993-1994.

Coordinator, Aloha United Way Campaign. 2006-present.

Coordinator, University of Hawaii Foodbank Drive. 2009-present, 1996. Assisted the Gamma Sigma Delta HI Food Bank Drive. 2009.

### Committees

Member, Graduate Program Committee, 2016-2018.

Member, Oahu Extension Agent Screening Committee, 2016-present.

Member, Magoon Greenhouse Committee. 2016-present, 2009-2012.

Member, Personnel Committee. 2010-2014, 2004-2006, 1995-1997, 1988-1990.

Member, Curriculum Committee. 2005-2006, 2002-2003, 1997-1998, 1994-1995, 1983-1985.

Member, Undergraduate Committee. 2002-2003.

Member, Equipment Committee. 1988-1989.

Member, Haruyuki Kamemoto Scholarship Committee. 1995-1996.

Member, Department Mini-Grant Review Committee. 1994.

Member, Undergraduate Recruitment Committee. 1991-1992.

Member, Fruit Group Committee, for staff planning for fruit crops in the Department. 1989-1990.

Member, Qualifying Examination Committee. 2001-2002, 1997, 1984-1989.

Member, Search Committee, TPSS Extension Agent position. 2011-2012.

Member, Search Committee, TPSS Sustainable Ornamentals position. 2010-2011.

Member, Landscape Specialist Screening Committee. 2003.

Member, Ornamental Specialist/Landscape Specialist Position Description Committee. 1990-1991.

Member, Ad Hoc Committee on determining the competency of horticulture undergraduate students. 1982-1983.

### Activities

Senator, College of Tropical Agriculture and Human Resources Faculty Senate. 2016-2019, 2014-2016, 2010-2012, 2002-2004, 1995-1996.

Organize the schedule the TPSS Department courses for Fall semester, Spring session, and Summer sessions. 2001-present.

Coordinated TPSS Dept.'s participation in the CTAHR Open House. July 3, 2017.

Coordinated TPSS Dept.'s participation in University of Hawaii at Manoa the "Manoa Experience". February 25, 2017.

Organized the TPSS Dept. representatives (faculty and graduate students) for the Associated Students of the University of Hawaii Grad Fair. 2016.

For the TPSS Department, I evaluated the assessment reports of the College of Tropical Agriculture and Human Resources nine undergraduate programs. 2007-2009.

In charge of the Computer Lab and the Departmental Web-Page. 2002-2003.

In charge of the computer control system that controlled the growth chambers in Pope Laboratory.

Developed the St. John Building Rooftop Learning Center for students to conduct lab activities for TPSS courses and for independent research. (with J. Uyeda and K. Perez). 2010-2013.

In charge of the Department PhD Diagnostic Exam (6 sections). 2001-2003.

Conducted several workshops in the Department on the use of microcomputers and mainframe computers. Workshops covered word processing, database management, statistical analysis, and graphics/plotting. MultiMate, SAS, WYLBUR, PC-FILE, BASIC programming, and Scientific Plotter. 1984-1986.

Wrote several tutorial/instructional manuals and mini-fact sheets for microcomputers and microcomputer programs, some of which were used in my workshops. Distributed to Department personnel, extension offices on the Big Island, and the College of Tropical Agriculture and Human Resources administrative personnel. They included "MultiMate Word Processor on the IBM PC Microcomputer" (7 pp.); "Microsoft Word" (6 pp.); "dBASE III Database Program" (6 pp.); "PC-FILE" (8 pp.); "Using Scientific Plotter-II Program with Apple Microcomputer and HP Plotter" (10 pp.); BASIC Programming with the IBM PC Microcomputer" (11 pp.); "Creating and Using an Autoexec.bat File on the IBM PC" Mini-Fact Sheet #1 (1 p.); "Formatting Diskettes—IBM PC" Mini-fact sheet #2 (1 p.); "Using the Qume Sprint 5 Letter Quality Printer with the IBM PC". Mini-Fact Sheet #3 (1 p.) (with G. Sako); "Care of Your Microcomputer." Mini-Fact Sheet #4 (1 p.).

Developed a database structure on a microcomputer for the Department Seed Lab, which sells seeds to the public. It kept track of customers, seeds purchased, demographic data, total sales for each month. 1985.

Coordinated the writing of the Department's factsheet. 1994.

Participated in taste panels on various commodities---coffee, steak, papaya, guava, basil. 1997.

Co-coordinator (with H. Bittenbender) of the Department Fall Dinner. 1997, 1996.

## **College of Tropical Agriculture and Human Resources (CTAHR)**

### **Leadership Positions**

Chair, CTAHR Faculty Senate. 2016-2017, 2011-2012.

Vice-Chair, Faculty Senate. 2015-2016, 2010-2011.

Secretary, Faculty Senate. 2017-2018.

Liasion, Faculty Senate Instruction Committee. 2018-2019.

Chair, Faculty Senate Elections Committee. 2015-2016; 2003-2004.

Senator, Faculty Senate. 2016-2019, 2014-2016, 2010-2012, 2002-2004, 1995-1996.

Co-Chair, CTAHR Technology Outreach Committee. 2016-present.

Chair, CTAHR Curriculum Committee. 1988-1990.

CTAHR Student Research Symposium Planning Committee.

Co-Program Coordinator.

Co-Chief Judge. 2013, 2012.

Judging Coordinator. 2012.

Head Judge, undergraduate research presentations. 2012.  
Co-Head Judge, undergraduate research presentations. 2017.  
Chair, Session III at the CTAHR Student Research Symposium. 1991.  
Chair, Hawaii Institute of Tropical Agriculture and Human Resources (HITAHR) Editorial Board. 1991-1994.

### Committees

Member, Faculty Senate Executive Committee. 2016-2019, 2015-2016, 2010-2011.  
Member, CTAHR Interim Dean Screening Committee. 2016.  
Member, CTAHR Technology Outreach Committee. 2016.  
Member, Technical Advisory Committee for CTAHR Extension. 2015.  
Member, CTAHR Collaboration Information Sharing System Team for CTAHR Internal website. 2014.  
Member, CTAHR Website Re-Design Committee. 2013.  
Member, CTAHR Website Students Sub-Committee. 2013.  
CTAHR Student Research Symposium Planning Committee. 2010-2013, 1999.  
Member, CTAHR Website Committee. 2012.  
Member, CTAHR one year Master's Program Committee. 2012-present.  
Member, CTAHR Ornamental Business & Research Working Group. 2010-2011.  
Member, CTAHR Organic Working Group. 2009-present.  
Member, Review Committee Integrated Hatch/Smith-Lever Proposals 2005; for Hatch/McIntire Stennis Proposals 2004.  
Member, External MS Committee. 1997-1998.  
Member, Hawaii Institute of Tropical Agriculture and Human Resources (HITAHR) Editorial Board. 1997, 1989-1994.  
Member, Faculty Senate Instruction Committee. 1995-1996.  
Member, Academic Affairs Council. 1994-1997.  
Member, CTAHR Coffee Multidisciplinary Group. 1987-1993. Consisted of members from CTAHR, USDA, Hawaii Sugar Planters Association, Oregon State University.  
Member, Macadamia Multidisciplinary Group. 1987-1992. Participated in the Fifth Macadamia Nut Industry Analysis, 1992. Fourth Macadamia Nut Industry Analysis, 1987. Third Macadamia Nut Industry Analysis, 1984.  
Member, Guava Multidisciplinary Group. 1991-1992. Participated in the Fifth Guava Industry Analysis, 1992. Guava Industry Analysis Number 4, 1986-1987.  
Member, Coffee Industry Analysis Group. 1986.  
Member, Statistics Group. 1986-1987.  
Member, Tomato Spotted Wilt Virus Multidisciplinary Group. 1985-1986.  
Member, Microsoft Training Group. 1985-1986.  
Member, Avocado Industry Analysis Group. 1983.  
Member, Banana Industry Analysis Group. 1983.  
Member, CR-21 Micrologger Users Group/MAUINET. 1983-1984.  
Member, Microcomputers for Extension Personnel Committee. 1983-1985. Helped in purchasing microcomputers and training extension personnel on IBM PC use.  
Member, Subcommittee on microcomputers for extension personnel to determine hardware and software requirements and costs. 1983-1985.

Member, Microcomputer Lab Committee. 1983-1984. Helped develop policy on use of VAX computer and Apple microcomputer.

Member, Curriculum Task Force. 1988-1991.

Member, Task Force on Rewarding Teaching. 1989-1993.

Member, CTAHR Coordinating Council. 1995-1996.

Member, CTAHR Editorial Review Board. 1989-1991.

Member, Hawaii Institute of Tropical Agriculture and Human Resources (HITAHR) Editorial Board. 1997, 1989-1994.

Member, CTAHR Publications & Information Working Group Committee. 1994-1995.

Member, CTAHR Outstanding Alumnus/Alumni Committee. 1998-1999.

Member, 1988 CTAHR Staff Development Conference Steering Committee. CTAHR 1988 Staff Development Conference. 1987-1988.

Member, CTAHR Web Page Advisory Committee and the Technical Subcommittee. 1995-1996.

Member, CTAHR Web Oversight Committee. 1998-1999.

Member, screening committee for the 1994-95 CTAHR tuition waivers, Alonzo-Gartley Awards, and CTAHR Alumni Association Tuition Waiver. 1994.

Member, CTAHR Scholarship Committee, Screened applicants for CTAHR tuition waivers, Alonzo-Gartley Awards, and CTAHR Alumni Association Tuition Waiver. 1992.

Member, CTAHR Information Systems Group. 1992-1993.

Member, CTAHR ARCS (Achievement Rewards for College Scientists) Foundation Scholarship Screening Committee. 1994-1997.

#### Activities

TPSS Department Senator, CTAHR Faculty Senate. 2016-2018, 2014-2016, 2010-2012, 2002-2004, 1995-1996.

Invited to give an online service training on new mobile device apps and new upcoming computer technology for extension personnel. 2016.

Judge, CTAHR Student Research Symposium. 2016-2017, 2007-2014, 2002, 1998, 1997.

An advisor to the CTAHR Student Organic Farm Training (SOFT) organization.

Presiding and demonstrator, "New Microcomputer Software Applications" session. CTAHR 1988 January Staff Development Conference, January 6-8, 1988, University of Hawaii.

Mentor, Jocelyn Manuel, a high school student, National Science Foundation Young Scholars Pacific Region Program, on her work with lychee. 1988.

Participated in the CSRS Review of our department. Chair of the Curriculum Committee and Undergraduate Coordinator. Participated in the review of the fruit and nut research and extension programs as fruit and nut crop faculty. 1994.

Invited by the CTAHR Risk Management Hawaii Program to talk to extension agents about use of tablets. May 3, 2013. Education training event. Trained on what's the latest in mobile technology. How devices can be used in extension 2013 Ag Professional In-Service Training on Risk Management event "Time to Catch App! (internet, mobile devices, e-tablets, apps, and many more)".

Invited to present a talk "Mobile Tagging" about QR codes at the Hawaii Export Nursery Association Meeting. Hilo, HI. July 21, 2011.

Invited to present a talk "Mobile Tagging" about QR codes at the Dendrobium Orchid Growers Association of Hawaii (DOGAH)/TOGAH (Tropical Orchid Growers Association of Hawaii)

meeting. August 18, 2011. Also present were some people from the Hawaii Department of Agriculture.

Presented a talk "Light-Emitting Diodes (LEDs) in Anthurium Micropropagation." Federal Floriculture Research Grant Industry Committee Mid-Year Review Meeting. May 26, 2010. University of Hawaii.

Presented a talk "Development and Evaluation of Alternative Media and Fertilizer Formulations Utilized in the Production of Floral and Nursery Crops" at the Federal Floriculture Research Grant Review Committee Meeting. April 25, 2006. Hilo, HI.

Presented a talk "Light Quality Enhancement of Flowering of Orchids and Anthuriums" at the Federal Floriculture research Grant Mid-Year Review Meeting. Jan. 27, 2006. University of Hawaii.

Presented a talk "Light Quality Enhancement of Orchid Growth and Flowering" at the Dendrobium Orchid Growers Association of Hawaii (DOGAH) Conference. 2006. (with E. Mersino).

Presented a talk "Light Quality Effects on Orchid Growth and Flowering" at the Kunia Orchid Society Meeting. 2006.

Presented a talk "Light Quality Enhancement of Flowering of Orchids and Anthuriums" at the Federal Floriculture Site Visit on January 29, 2004. University of Hawaii.

Presented a talk "Computer Applications in Agriculture" (with G. Sako). Hawaii Agricultural Leadership Foundation Seminar "The Future of Agriculture in Hawaii: A look at technological, economical and ecological directions". Hilo and Volcano, HI. Feb. 10-12, 1989.

Assisted F. Fujimoto, Extension Agent, in his study "Relationship of Vegetative Characteristics and Floral Yield of Dendrobium Jaquelyn Thomas Uniwai Supreme" developing an orchid yield model. 1984. Results were presented at the Dendrobium Orchid Growers Association of Hawaii (DOGAH) Conference. 1987.

Developed a yield model of macadamia nut (with O. Kawabata). Collaborated with Mauna Loa Macadamia Nut Corporation, Hilo, HI. Report "Predicting Yield of Macadamia Nut," 6 pp. 1986. Invited presentation at the C. Brewer Research Seminar. C. Brewer Co., Hilo, HI. August 6, 1986.

By invitation, presented a seminar on TK!Solver, a simultaneous equation solver, in the Microcomputer Software Seminar Series. CTAHR. November 8, 1985.

Speaker, Tropical Farming School "Soil Management and the Plant System." Spoke to extension agents and macadamia and coffee growers on plant mineral nutrition of macadamia and coffee, coffee irrigation, and crop modeling of macadamia. February 28, 1984. Kona, HI.

Presenter, exhibit about photoselective shade cloth and plastic film for the CTAHR Educational Fair for high school students. April 18, 1997.

Presenter, exhibit about light effects on plants called "Bend Me, shape Me, You Got the Power to Turn on the Light." 2004 CTAHR Open House. October 29, 2004. Open house to 373 participants from 10 high schools. Students, teachers, counselors.

Presenter, exhibit "Plastic Film and Plants" for the 2002 CTAHR Open House. October 25, 2002. Open house to participants from 8 high schools. Students, teachers, counselors.

My poster was displayed at the Hawaii State Horticultural Show. Part of CTAHR display area consisting of videos, demonstrations, and poster presentations. Hilo, HI. 1996.

Evaluated proposals for the research program in Tropical and Subtropical Agriculture. 1986.

Updated the Microcomputer User Directory in CTAHR. 1984.

Compiled and distributed a list of all microcomputers in use in CTAHR. 1983.

D. Wolnick, Department of Horticulture, The Pennsylvania State University, spent a six-month sabbatical leave with me, H.C. Bittenbender, and R. Criley working on "Developing a Computerized Database for the Floricultural Industry. 1992. Studied the Farmer's Bookshelf, HyperCard, computer modeling software to simulate crop production, and STELLA simulation language.

Participant, CTAHR Cooperative Extension Service State-wide Vegetable Crops Program Meeting. 1991.

Helped staff the CTAHR booth at the American Society of Plant Biologists Conference in Honolulu. 2003.

Helped staff a science experiment activity station at the 3rd Annual GENE-iuses Program Graduation. Honolulu. 2015.

Assisted in judging for the College of Tropical Agriculture and Human Resources/UH Manoa Special Award at the 59th Hawaii State Science & Engineering Fair. 2016.

## **University of Hawaii at Manoa**

### Leadership Positions

Mentor, Hawaii NASA Space Grant Consortium. 2015-2016. Mentor, Fellowship and Traineeship Programs, Hawaii Space Grant Consortium. 2003-present.

Convener, Council on Program Reviews (COPR), for the University of Hawaii Mathematics Department. 2004-2007.

Hawaii's representative, W-130 "Freeze Damage and Protection of Deciduous Fruit and Nut Crops" and WRCC-17 "Control of Fruiting" Technical Committees. 1982-1992.

Hosted the meeting in Hilo, HI. October 16-18, 1990.

Chair of the session on Vegetative Growth and Development at the WRCC-17 Meeting. 1986.

Faculty Coordinator, Soils-Climate-Crops and Crop Modeling Group. University of Hawaii.

Coordinated CSRS-USDA review of this group. Prepared pre-review document. 1982-1983.

### Committees

Member, 2003 National Association of Colleges and Teachers of Agriculture (NACTA) Graduate Student Teaching Award selection committee. 2003.

Member, University of Hawaii Tenure and Promotion Committee (TPRC). 1993-1994.

Member, University of Hawaii Graduate Council. 2001-2004, 1994-1998.

### Activities

Judge, "2017 Spring Undergraduate Showcase of Undergraduate Research and Creative Work." University of Hawaii. May 5, 2017.

Judge, "Three Minute Thesis (3MT) Inaugural Competition 2016." University of Hawaii. April 16, 2016.

Judge, "2016 Fall Undergraduate Showcase of Undergraduate Research and Creative Work." University of Hawaii. December 9, 2016.

Judge, "2016 Spring Undergraduate Showcase of Undergraduate Research and Creative Work." University of Hawaii. May 6, 2016.

Panelist, "Outlook for Hawaii's Agriculture Future" at the Ninth Big island Science Conference. Hilo, HI. April 23-25, 1987.

Judge, "2015 Fall Undergraduate Showcase of Undergraduate Research and Creative Work." University of Hawaii. December 11, 2015.

Judge, "2015 Spring Undergraduate Showcase of Undergraduate Research and Creative Work." University of Hawaii. May 8, 2015.

Judge, "2014 Fall Forum of Undergraduate Research and Creative Work." University of Hawaii. December 12, 2014.

Judge, "2014 Spring Symposium of Undergraduate Research and Creative Work Honors Program & Undergraduate Research Opportunities Program." University of Hawaii. May 8, 2014.

Judge, "2005 Symposium: A Presentation of Undergraduate Research and Creative Projects." University of Hawaii. 2005.

Judge at the "2004 Symposium: A Presentation of Undergraduate Research and Creative Projects." University of Hawaii. 2004.

Judge, "2003 Symposium: A Presentation of Undergraduate Research and Creative Projects." University of Hawaii. 2003.

Speaker, Graduate Program Orientation for the University of Hawaii at Hilo College of Agriculture students. University of Hawaii. May 26, 1989.

Session Moderator, Western Region Teaching Symposium. University of Hawaii. September 28, 2001.

Western Region Computer Applications Center. I participated in the visit by the Western Regional Computer Applications Center Study Team. 1982-1983. January 17-18, 1983.

Participant (as Department Graduate Faculty Chair) of the NSF-NIH Annual Survey of Graduate Students and Postdoctorates in Science and Engineering. 1997.

Gamma Sigma Delta.

President. 2017-2018, 1997-1998, 1988-1989.

President-Elect. 1996-1997.

Chair, GSD Membership Committee. 1990-1991.

Historian. 1998-1999, 1989-1990.

Co-coordinator of the GSD Hawaii Chapter Spring Meeting and Awards Ceremony. 1998-1999.

GSD Awards Committee. 1994-1995, 1991-1992.

In charge of Sophomore Awards and Senior Awards. 1991-1992.

Organized GSD Annual Banquet and Awards Ceremony. 1997.

Member, GSD Banquet Committee 1987-1988.

Assisted the Gamma Sigma Delta HI Food Bank Drive. 2009.

Member 2002-2003, 1998-2000, 1994-1995, 1989-1992, 1981-1982.

Booth attendant, University of Hawaii Graduate Fair. University of Hawaii. October 15, 1997.

I was part of the potential dispersed faculty in the Western Computer Consortium in the area of General Horticultural Applications. 1984.

Reviewer of high school student papers for the 2008 Pacific Symposium for Science and Sustainability. University of Hawaii. December 5-7, 2008.

One of two University Faculty Marshals at the University of Hawaii Mid-Year Commencement Ceremony. December 21, 2003.

### **Public Service**

Mentor, Girl Scouts of Hawaii International Space Station Project. 2013-2014, 2012-2013.

Division Deputy Chief, Hawaii State Science & Engineering Fair. 2017.  
Judge, Hawaii State Science & Engineering Fair. 1983-present.  
Section Head, Plant Cluster, Junior Division judging and a Judge. Hawaii Association of Independent Schools Science & Engineering Fair. February 6, 2016.  
Judge, Hawaii Association of Independent Schools Science & Engineering Fair. February 18, 2017.  
Head Judge and judge, Biology Category, Central Oahu District Science and Engineering Fair. 2012.  
Judge, district science fairs and school science fairs. 1997-2003.  
Member, Scientific Review Committee. Leeward District High School Science Fair. 1999-2002.  
Mentor, Hawaii Academy of Science. 2002-2003.  
Demonstrated our groundcover HyperCard computer program at the University of Hawaii Cooperative Extension Service Family Day, Bishop Museum. November 2, 1986.  
Mentor, Noelani School first graders in hydroponics, showing them the milk carton micro-hydroponics system that I developed.  
Spoke to a group of high school teachers on the use of HyperCard. High School and Community College Counselor's Orientation. Demonstrated the latest technology of a projection pad to high school counselors. University of Hawaii. 1988.  
Member, Hawaii Department of Education E-School's Digital Media Arts Advisory Board. 2003-2004.  
Judge of display boards for the Sustainable Agriculture and Health Menus Planning Competition for high school students. Sheraton Waikiki Hotel. May 4, 2009.

### **Oregon State University**

Member, Crop and Pest Management Working Group. 1980-1981.  
Vice-President, Oregon State University Horticulture Club. 1977-1978.  
Agricultural Executive Council Representative. 1977-1978.  
Member, Oregon State University Entomology Club. 1973-1974.  
Member, Oregon State University Department of Horticulture Graduate Student Seminar Committee.

### **Professional Memberships**

American Society for Horticultural Science. 1979-present.  
ASHS, Tropical Region. 1982-1984.  
ASHS, Western Region.  
Interamerican Society for Tropical Horticulture. 1986-1988.  
International Society for Horticultural Science. 2002-2004, 1986-1989.  
American Pomological Society. 2009-2012, 2006-2008.  
American Society for Plasticulture. 2006-2009.  
American Society of Plant Physiologists.  
American Society of Plant Physiologists, Western Region.  
American Society of Plant Biologists.  
The Society for Computer Simulation.  
Hawaii Society for Technology in Education. 2013-present.  
Hawaii Macadamia Nut Association.  
Gamma Sigma Delta 2017-present. 2002-2003, 1998-2000, 1994-1995, 1989-1992, 1981-1982.

Hawaii Academy of Science. 2001-2003.  
Sigma Xi. 1981-1982.

### **Graduate Students**

I have been the major professor for 10 graduate students and a member of the graduate committee of 75 graduate students.