

CURRICULUM VITAE

Sanliang Gu**RANK** **TITLE**

Professor Ricchiuti Chair of Viticulture Research

OFFICE ADDRESS **CONTACTS**

Viticulture and Enology Research Center
 Department of Viticulture and Enology
 California State University, Fresno
 2360 East Barstow Avenue M/S VR 89
 Fresno, California 93740-8003

Office: 559-278-4786
 FAX: 559-278-4795
 E-Mail: sanliang@csufresno.edu

EDUCATION

Doctor of Philosophy	Horticulture	Oregon State University	1992
Master of Science	Horticulture	Oregon State University	1987
Bachelor of Science	Pomology	Shandong Agricultural University	1982

Ph.D. Dissertation: Relationships of ammonium and nitrate status with inflorescence necrosis in 'Pinot noir' grapevines.

M.S. Thesis: Effect of crop density on vegetative and fruit growth and mineral status in 'Nijiseiki' pear trees (*Pyrus Pyrifolia*).

HONORS

Lifetime Achievement Award (*Viticulture and Enology Program at California State University, Fresno*). 2011. The California Exposition and State Fair.

Outstanding Research & Scholarly Activity Award. 2004. College of Agricultural Sciences & Technology, California State University, Fresno, California.

Best Paper of the Year. 1995. American Journal of Enology and Viticulture, American Society for Enology and Viticulture. **Gu, S., P.B. Lombard, and S.F. Price.** 1994. Inflorescence necrosis induced from ammonium incubation and deterred by α -keto-glutarate, and ammonium assimilation in 'Pinot noir' grapevines. *American Journal of Enology and Viticulture*. 45:155-160.

PROFESSIONAL EXPERIENCE

Ricchiuti Chair of Viticulture Research (1999-present) and Professor (2013-present), Associate Professor (2005-2013), Assistant Professor (1999-2005) of Viticulture. Viticulture and Enology Research Center, Department of Viticulture and Enology (2000-present), and Department of Plant Science (1999-2000), California State University, Fresno, California. 75% research and 25% teaching to develop and maintain a rigorous research program in winegrape physiology and production, work closely with grape and wine industries and collaborate with other faculty and research scientists as well as to teach undergraduate or graduate-level courses in viticulture or research methodology and supervise student research projects. Research effort focuses on redefining and introducing new parameters of cold hardiness and climatic analysis, fruit

color and quality enhancement, ABA applications, water relations, irrigation management, hangtime, rootstock and clone evaluation, mineral nutrition, Eutypa dieback control, and pruning and training systems.

Viticulture Advisor and Assistant Research Professor of Fruit Science (1995-1999).

Department of Fruit Science, Southwest Missouri State University, Mountain Grove, Missouri. 70% advisement and 30% research to educate grape growers and conduct research on immediate problems affecting the grape and wine industry. Research projects focused on grapevine cold hardiness, mineral nutrition, training system, canopy management, and cultivar evaluation. The position involved advisement of existing and prospective growers, conduction and participation in meetings and workshops for growers and processors, preparation of publications on the culture of grapes including a bimonthly newsletter and Missouri Commercial Grape Pest Control Guide, cooperation with grape grower groups, demonstration of viticulture methods, and advisement of other researchers and market development specialists.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Society for Enology and Viticulture.

American Society for Horticultural Science.

International Society for Horticultural Science.

UNIVERSITY TEACHING

Viticulture 106 (*Viticulture and Tree Fruits 106, Plant Science 170T*). Winegrape

Production. Department of Viticulture and Enology, Department of Plant Science, California State University, Fresno. Undergraduate. Fall, 1999 - 2004, 2006 - present.

Viticulture 102. General Viticulture II (*Advanced Viticulture*). Department of Viticulture and Enology, California State University, Fresno. Undergraduate. Spring, 2004, 2007 - present.

Viticulture 165. Grapes – Varieties and Rootstocks. Department of Viticulture and Enology, Department of Plant Science, California State University, Fresno. Undergraduate. Spring, 2005, 2008.

Viticulture 101. General Viticulture I (*Principles of Viticulture*). Department of Viticulture and Enology, California State University, Fresno. Undergraduate. Fall, 2002.

Agriculture 220. Research Methodology and Communications. College of Agricultural Sciences and Technology, California State University, Fresno. Graduate. Spring, 1999 - 2003.

JOURNAL PUBLICATIONS

Gu, S. 2015. Growing degree hours – a simple, accurate, and precise protocol to better approximate growing heat summation for grapevines. *International Journal of Biometeorology*. (under revision for publication).

Feliziani E, J. L. Smilanick, D. Margosan, M. Mansour, G. Romanazzi, **S. Gu**, H. L. Gohil, and A. Rubio. 2013. Preharvest fungicide, potassium sorbate, or chitosan use on quality and storage decay of table grapes. *Plant Disease*. 97:307-314.

Gu, S., S. Jacobs, B. McCarthy, and H. Gohil. 2012. Forcing vine regrowth and shifting fruit ripening in warm regions to enhance fruit quality of ‘Cabernet Sauvignon’ grapevines. *Journal of Horticultural Science and Biotechnology*. 87:287-292.

- Gu, S.**, S. Jacobs, and G. Du. 2011. Efficacy, rate and timing of applications of abscisic acid to enhance fruit anthocyanin contents in ‘Cabernet Sauvignon’ grapes. *Journal of Horticultural Science and Biotechnology*. 86:505-510.
- Guan, X.Q. and **Gu, S.** 2009. Photorespiration and photoprotection of grapevine (*Vitis vinifera* L. Cv. Cabernet Sauvignon) under water stress. *Photosynthetica* 47:437-444.
- Gu, S.**, R. C. Cochran, G. Du, A. Hakim, K. C. Fugelsang, J. Ledbetter, C. A. Ingels, and P. S. Verdegaal. 2005. Effect of training-pruning regimes on Eutypa dieback and performance of Cabernet Sauvignon grapevines. *Journal of Horticultural Science and Biotechnology*. 80:313-318.
- Gu, S.**, G. Du, D. Zoldoske, A. Hakim, R. Cochran, K. Fugelsang, and G. Jorgensen. 2004. Effect of irrigation amount on water relations, vegetative growth, yield, and fruit composition of Sauvignon blanc grapevines under partial rootzone drying and conventional irrigation in the San Joaquin Valley of California, USA. *Journal of Horticultural Science and Biotechnology*. 79:26-33.
- Gu, S.**, P. Ding, and S. Howard. 2002. Effect of temperature and exposure time on cold hardiness of primary buds during early, middle, and late dormant season in Concord, Norton, Vignoles, and St. Vincent grapevines. *Journal of Horticultural Science and Biotechnology*. 77:635-639.
- Gu, S.**, S. Dong, J. Li, and S. Howard. 2001. Acclimation and deacclimation of primary bud cold hardiness in ‘Norton’, ‘Vignoles’, and ‘St. Vincent’ grapevines. *Journal of Horticultural Science and Biotechnology*. 76:655-660.
- Gu, S.** 1999. Lethal temperature coefficient – a new parameter for interpretation of cold hardiness. *Journal of Horticultural Science and Biotechnology*. 74:53-59.
- Gu, S.**, L.H. Fuchigami, L.L. Cheng, S.H. Quak, and C. Shin. 1998. Effects of antitranspirant and leaching on medium osmotic potential, leaf stomatal status, transpiration, abscisic acid content, and plant growth in ‘Early Girl’ tomato plants. *Journal of Horticultural Science and Biotechnology*. 73:473-477.
- Gu, S.**, L. H. Fuchigami, S.H. Guak, and C. Shin. 1996. Effect of short-term water stress, hydrophilic polymer amendment, and antitranspirant on stomatal status, transpiration, water loss, and growth in ‘Better Boy’ tomato plants. *Journal of American Society for Horticultural Science*. 121:831-837.
- Gu, S.**, P.B. Lombard, and S.F. Price. 1996. Effect of shading and nitrogen source on growth, tissue ammonium and nitrate status, and inflorescence necrosis in Pinot noir grapevines. *American Journal of Enology and Viticulture*. 47:173-180.
- Gu, S.**, P.B. Lombard, and S.F. Price. 1994. Inflorescence necrosis induced from ammonium incubation and deterred by α -keto-glutarate, and ammonium assimilation in Pinot noir grapevines. *American Journal of Enology and Viticulture*. 45:155-160.

MAJOR RESEARCH GRANTS

- Gu, S.**, K. Kurtural, M. Paggi, J. Kennedy, and D. Zoldoske. Crop forcing for quality winegrape production of cool climate fruit in warmer regions – cultural practices and economic analysis. *California State University-Agricultural Research Institute, Valent BioSciences, and AgroPlasma, Inc.* \$276,100 plus in-kind matching \$185,500. 2011-2015.
- Gu, S.**, A. Sabuwala, and Hemant Gohil. Using degree hours to better interpret heat accumulation and thermal distribution for winegrape production in California. *California*

- State University-Agricultural Research Institute*. \$79,860 plus cash matching of \$20,000 and in-kind matching \$60,000. 2012-2014.
- Gu, S.** and K. Kurtural. Crop forcing for quality winegrape production - unconventional means to produce cool climate fruit in warmer regions. *California State University-Agricultural Research Initiative*. \$49,200 plus cash matching of \$12,300 and in-kind matching of \$37,000. 2010-2012.
- Gu, S.** and R. Wample. Application of abscisic acid (ABA) to enhance color development and extractability in red winegrapes. *California State University-Agricultural Research Initiative, USDA, Constellation Wines, and Valent BioScience*. \$268,586 plus in-kind matching of \$250,000. 2007-2012.
- Gu, S.** and R. Wample. Impact of hang time on fruit quality and vine health of Syrah and Cabernet Sauvignon grapevines under different irrigation management strategies in California's San Joaquin Valley. *California State University-Agricultural Research Initiative and USDA Viticulture Consortium Research Grants Program*. \$198,000 plus in-kind matching of \$120,000. 2005-2009.
- Gu, S.**, D. Zoldoske, D. Bryla, and R. Wample. Feasibility of air injection under subsurface drip irrigation for improving vine performance, fruit quality, and irrigation efficiency in Cabernet Sauvignon grapevines. *California State University-Agricultural Research Initiative and Buying California Special Crop Grant*. \$52,000 plus cash matching of \$13,000 and in-kind matching of \$39,000. 2003-2005.
- Gu, S.**, J. Prince, K. Fugelsang, P. Verdegaal, C. Ingels, and J. Ledbetter. Influence of training systems, pruning practices, and soil types on Eutypa dieback incidence and severity, viticultural performance, and wine quality in Cabernet Sauvignon grapevines. *American Vineyard Foundation, Lodi-Woodbridge Winegrape Commission, and California State University-Agricultural Research Initiative*. \$179,821. 1999-2004.
- Gu, S.**, K. Fugelsang, B. Anthony, and D. Zoldoske. Concentration and potential of and relationship between juice arginine and wine ethyl carbamate influenced by rootstocks, clones, training, pruning, irrigation, and soil fertility in Cabernet Sauvignon, Syrah, Sauvignon blanc, and Chardonnay grapevines. *California State University-Agricultural Research Initiative and E & J Gallo Winery*. \$151,230 plus in-kind matching of \$110,000. 1999-2001.
- Gu, S.**, D. Zoldoske, and K. Fugelsang. Effect of partial rootzone drying on vine water relation, vegetative growth, mineral nutrition, yield components, fruit composition, and wine quality in Sauvignon blanc and Merlot grapevines. *American Vineyard Foundation, California Competitive Grant Program for Research in Viticulture and Enology, California State University-Agricultural Research Initiative, and Lodi Irrigation, Inc.* \$117,916 plus in-kind matching of \$90,000. 1999-2002.
- Gu, S.**, D. Zoldoske, and S. Borra. Effect of partial rootzone drying under subsurface drip irrigation on vegetative growth, mineral nutrition, yield, and fruit quality in grapevines. *California State University-Agricultural Research Initiative and Lodi Irrigation, Inc.* \$12,872. 1999-2000.
- Gu, S.** and D. Ramming. Evaluation of viticultural performance of new USDA-ARS rootstocks for wine, raisin, and table grapes grown in the San Joaquin Valley of California. *California Grapevine Rootstock Improvement Commission*. \$98,060. 1999-2001.

- Gu, S.**, K. Fugelsang, R. Metzler, and J. Holmquist. Effect and interaction of clone, rootstock, and pruning mechanization on vine performance and wine quality of Chardonnay grapevines under warm climate conditions in the San Joaquin Valley of California. *American Vineyard Foundation and California State University-Agricultural Research Initiative*. \$27,945. 1999-2001.
- Gu, S.**, S. Graves, T. Valdera, R. Irwin, B. Franzia, R. Rossini, and T. Irwin. Evaluation of rootstocks for winegrape production in the San Joaquin Valley. \$17,857. West Coast Grape Farms. 1999-2000.
- Gu, S.** Acquisition of a portable photosynthesis system. *USDA NRICGP Equipment Grants and Southwest Missouri State University*. \$29,445. 1998-1999
- Gu, S.** and R. Goodman. Acclimation and deacclimation of cold hardiness in major existing and imported grapevines under fluctuating winter temperatures. *USDA Viticulture Consortium Research Grants Program. Cornell University*. \$35,000. 1996-1999.
- Gu, S.**, K. L. Wilker, M.R. Dharmadhikari. Evaluation of grape cultivars and advanced breeding selections for adaptability to Missouri conditions. *Missouri Department of Agriculture*. \$33,000. 1995-1999.
- Gu, S.**, K. L. Wilker, M.R. Dharmadhikari. Effects of vine management on fruit composition and quality in ‘Vignoles’ and ‘Norton’ grapevines. \$30,000. Missouri Department of Agriculture. 1995-1999.
- Gu, S.** and M.R. Dharmadhikari. Technician for viticultural research and advisory program. *Missouri Department of Agriculture*. \$115,000. 1995-1999.
- Gu, S.** Effect of elevated CO₂ and temperature on cold hardiness in relation to carbohydrate status, abscisic acid, and gas exchange in Douglas-fir (*Pseudotsuga menziesii*). *National Research Council Associateship Program and EPA Corvallis Environmental Research Laboratory*. \$70,000. 1995-1996.

PROFESSIONAL MEETING PRESENTATIONS AND RESEARCH ABSTRACTS

- Tian, T. and **S. Gu**. 2015. Effect of irrigation amounts during fruit ripening on skin anthocyanins in forced Cabernet Sauvignon grapevines. *American Society for Horticultural Sciences Annual Conference*. New Orleans, Louisiana.
- Gu, S.** 2015. Forcing vine regrowth and shifting fruit ripening in warm regions to enhance quality for winegrape production. *IX International Symposium on Viticulture and Enology*. Chongyi, Jiangxi, P.R. China.
- Gu, S.**, A. Sabuwala, and H. Gohil. 2014. Comparison of growing degree hours based on hourly average temperatures with growing degree days based on daily minimum and maximum or average temperatures to interpret heat summation. *American Society for Horticultural Sciences Annual Conference*. Orlando, Florida.
- Gu, S.**, T. Tian, M. Cao, G. Dervishian and S.K. Kurtural. 2014. Chemical removal of primary inflorescence and mature leaves to force vine regrowth and fruiting in a warmer region for winegrape production. *American Society for Horticultural Sciences Annual Conference*. Orlando, Florida.
- Gu, S.** 2014. Forcing vine regrowth and shifting fruit ripening in warm regions to enhance quality for winegrape production. *IV International Symposium on Table Grapes and Raisins Production and II National Symposium on Viticulture and Oenologie*. San Juan, Argentina.

- Gu, S.,** B. McCarthy, and H. Gohil. 2012. Effect of nitrogen application on mineral nutrients, vigor, and yield under crop forcing in a warm region to produce cool climate quality fruit. *American Society for Horticultural Sciences Annual Conference*. Miami, Florida.
- Gu, S.,** H. Gohil, and A. Sabuwala. 2012. Introducing degree hours to better interpret heat accumulation and thermal distribution for wine grape production regions and vintages. *National Conference of American Society for Enology and Viticulture*. Portland, Oregon.
- Gohil, H., A. Sabuwala, and **S. Gu**. 2012. Comparison of heat summation and thermal distribution between a hot and a warm region for wine grape production in California. *National Conference of American Society for Enology and Viticulture*. Portland, Oregon.
- McCarthy, B., H. Gohil, and **S. Gu**. 2012. Cabernet Sauvignon fruit pH and organic acid profile when ripened in cooler conditions using crop forcing. *National Conference of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.,** B. McCarthy, and H. Gohil. 2011. Fruit quality and vine vigor of Cabernet Sauvignon grapevines under crop forcing in a warm region to produce cool climate quality fruit. *American Society for Horticultural Sciences Annual Conference*. Waikoloa, Hawaii.
- Gu, S.,** B. McCarthy, and H. Gohil. 2011. Inhibiting Effect of Primary Clusters, Leaves, and Laterals On Vine Regrowth and Yield Components In Cabernet Sauvignon Grapevines Under Crop Forcing. *American Society for Horticultural Sciences Annual Conference*. Waikoloa, Hawaii.
- Gohil, H. and **S. Gu**. 2011. Effect of temperature and abscisic acid on profile of skin anthocyanins in Cabernet Sauvignon berries. *American Society for Horticultural Sciences Annual Conference*. Waikoloa, Hawaii.
- Gohil, H., B. McCarthy, and **S. Gu**. 2011. Skin anthocyanins and phenolics enhancement by crop forcing in Cabernet Sauvignon grapes grown in a warm region. *National Conference of American Society for Enology and Viticulture*. Monterey, California.
- Gu, S.** and S. Jacobs. 2010. Crop forcing by complete removal of shoot tips, clusters, and leaves in warm regions to produce cool climate quality fruit. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.** and S. Jacobs. 2010. Effect of heavy hedging on vine vigor, yield components, and fruit composition in warmer region Cabernet Sauvignon grapevines. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.,** S. Jacobs, E. Mallea, and Y. Fang. 2010. Efficacy of ABA application to enhance fruit and wine color in warm region Syrah and Merlot grapes. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.,** E. Mallea, and Y. Fang. 2010. Effect of temperature and ABA on skin anthocyanin, tannin, and phenolics in Cabernet Sauvignon berries. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.
- Mallea, E. B., Y. Fang, and **S. Gu**. 2010. Development of tannin and phenolics in skins and seeds of Syrah berries in a warm region. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.
- Mallea, E. B., Y. Fang, and **S. Gu**. 2010. Effect of ABA on tannin and phenolics in skins and seeds of Syrah berries. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.

- Jacobs, S.D., Y. Fang, and **S. Gu**. 2010. Effect of rootstock and water stress on gas exchange, water relations, and water-use efficiency in Petite Sirah grapevines. *National Conference of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.**, Y. Fang, G. Du, E. Mallea, S. Jacobs, and R. Wample. 2009. Influence of berry dehydration on berry fresh weight and fruit composition during hang time in Cabernet Sauvignon grapes in a warmer region. *Annual Meeting of American Society for Enology and Viticulture*. Napa, California.
- Gu, S.**, E. Mallea, Y. Fang, S. Jacobs, G. Du, and R. Wample. 2009. Effect of ABA application to enhance fruit color on vine vigor, yield components, and fruit composition in Cabernet Sauvignon grape in a warm region. *Annual Meeting of American Society for Enology and Viticulture*. Napa, California.
- Gu, S.**, S. Jacobs, G. Du, X. Guan, and R. Wample. 2008. Efficacy of ABA application to enhance fruit color of Cabernet Sauvignon grape in a warmer growing region. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.**, K. Kaigas, M. Kaigas, G. Du, S. Jacobs, and R. Wample. 2008. Efficacy of ABA application to enhance wine color of Cabernet Sauvignon in a warmer growing region. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.** X. Guan, and R. Wample. 2006. Impact of hang time on yield, fruit composition, and vine health under different pruning regimes and crop levels in Syrah grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Sacramento, California.
- Gu, S.**, X. Guan, R. Wample, and E. Dickson. 2006. Effect of hang time on yield, fruit composition, and vine health under regulated deficit irrigation in Syrah grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Sacramento, California.
- Gu, S.** and X. Guan. 2006. Effect of ABA application on berry color development in Cabernet Sauvignon, Syrah, and Merlot grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Sacramento, California.
- Gu, S.** and D. Ramming. 2005. Viticultural performance of Syrah grapevines on new USDA-ARS rootstocks for winegrape production in the San Joaquin Valley of California. *Annual Meeting of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.** and D. Ramming. 2005. Viticultural performance of Thompson Seedless grapevines on new USDA-ARS rootstocks for raisin production in the San Joaquin Valley of California. *Annual Meeting of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.**, R. Cochran, K. Fugelsang, C. Ingles, J. Ledbetter, and P. Verdegaal. 2004. Effect of soil type and training-pruning system on petiole mineral contents at bloom in Cabernet Sauvignon grapevines. *Annual Meeting of American Society for Enology and Viticulture*. San Diego, California.
- Gu, S.**, R. Cochran, K. Fugelsang, C. Ingles, J. Ledbetter, and P. Verdegaal. 2003. Effect of training and pruning practices on Eutypa dieback control in Cabernet Sauvignon grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Reno, Nevada.
- Gu, S.**, R. Cochran, K. Fugelsang, R. Ross, M. Ocafrain, and M. Kropp. 2003. Foliar applications of messenger do not affect physiology and performance in Cabernet Sauvignon grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Reno, Nevada.

- Gu, S.,** R. Cochran, G. Du, and A. Hakim. 2002. Effect of berry and juice storage under cooling or freezing conditions on measurements of fruit composition in Cabernet Sauvignon, Syrah, Sauvignon blanc, and Thompson Seedless grapes. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.,** G. Du, D. Zoldoske, and A. Hakim. 2002. Effect of partial rootzone drying on leaf water relation and chlorophyll fluorescence characteristics in Sauvignon Blanc Grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.,** G. Du, A. Hakim, and R. Metzler. 2002. Effect of clone, rootstock, and pruning on vine performance of Chardonnay grapevines in the San Joaquin Valley of California. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.,** A. Hakim, G. Du, K.C. Fugelsang, B. Anthony, B.E. Trombella, and G.C. Hodson. 2002. Effect of arginine addition to must on wine urea, ethyl carbamate, and ethyl carbamate potential in Cabernet Sauvignon, Syrah, Chardonnay, and Sauvignon blanc grapes. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.,** A. Hakim, G. Du, K.C. Fugelsang, B. Anthony, B.E. Trombella, and G.C. Hodson. 2002. Relationship of wine ethyl carbamate potential to vine and fruit N status influenced by rootstock, clone, training, pruning, irrigation, and soil in Chardonnay, Sauvignon blanc, Cabernet Sauvignon, and Syrah grapevines. *Annual Meeting of American Society for Enology and Viticulture*. Portland, Oregon.
- Gu, S.,** G. Du, D. Zoldoske, A. Hakim, K. Fugelsang, and G. Jorgensen. 2001. Effect of partial rootzone drying on vine water relation, vegetative growth, mineral nutrition, yield components, fruit composition, and wine chemistry in Sauvignon blanc grapevines. *Annual Meeting of American Society for Enology and Viticulture*. San Diego, California.
- Gu, S.** and D.F. Zoldoske. 2000. Partial rootzone drying (PRD) to improve fruit quality and water use efficiency. *2000 California Plant and Soil Conference*. Stockton, California.
- Gu, S.** and S. Howard. 2000. Adjusting pruning weight for grapevines with partial cane death to better estimate vigor and determine number of buds to be retained. *Annual Meeting of American Society for Enology and Viticulture*. Seattle, Washington.
- Gu, S.,** S. Howard, and M. K. Walsh. 1999. Effect of shoot positioning, leaf removal, cluster shading, and curtain orientation on fruit composition and primary bud cold hardiness in 'Norton/Cynthiana' grapevines (*Vitis aestivalis*). *American Society for Horticultural Sciences Annual Conference*. Minneapolis, Minnesota.
- Gu, S.,** L. H. Fuchigami, L.L. Cheng, S. H. Guak, C. C. H. Shin. 1998. Effect of antitranspirant and fertilization on flowering, fruiting, and biomass production in 'Early Girl' tomato plants. *American Society for Horticultural Sciences Annual Conference*. Charlotte, North Carolina.
- Gu, S.,** K. L. Wilker, M.R. Dharmadhikari, J. F. Moore, S. Howard, C. E. Edson, T. M. Bonney, and M. K. Walsh. 1998. Evaluation of grape cultivars and breeding lines for adaptability to Missouri conditions. *The 7th International Symposium on Grapevine Genetics and Breeding*. Montpellier, France.
- Gu, S.,** S.F. Dong, J.Q. Li, S. Howard, and R. N. Goodman. 1998. Acclimation and deacclimation of primary bud cold hardiness in Norton, Vignoles, and St. Vincent grapevines. *Annual Meeting of American Society for Enology and Viticulture*.

Sacramento, California.

- Gu, S.**, L.H. Fuchigami, L.L. Cheng, S.H. Guak, and C.H. Shin. 1997. Effect of antitranspirant and fertilization on stomatal conductance, transpiration, mineral nutrition, and growth in 'Early Girl' tomato plants. *American Society for Horticultural Sciences Annual Conference*. Salt Lake City, Utah.
- Gu, S.**, L.H. Fuchigami, S.H. Guak, and C.H. Shin. 1996. Effects of short-term water stress, hydrophilic polymer amendment, and antitranspirant on stomatal status, transpiration, water loss, and growth in 'Better Boy' tomato plants. *American Society for Horticultural Sciences Annual Conference*. Lexington, Kentucky.
- Gu, S.**, L.L. Cheng, and L. H. Fuchigami. 1996. Effects of antitranspirant and leaching on medium solution osmotic potential, leaf gas exchange, abscisic acid content, and growth in 'Early Girl' tomato plants. *American Society for Horticultural Sciences Annual Conference*. Lexington, Kentucky.
- Gu, S.**, T.M. Bonney, and L.H. Fuchigami. 1996. Effect of media containing processed fiber, micro nutrient application, and mixing ratio of processed fiber with perlite on plant appearance and growth of pansy plants. *American Society for Horticultural Sciences Annual Conference*. Lexington, Kentucky.
- Gu, S.**, L.H. Fuchigami, and V. Sahakian. 1996. Effect of media containing processed fiber, fertilization, and fumigation on appearance and growth in containerized woody perennial plants. *American Society for Horticultural Sciences Annual Conference*. Lexington, Kentucky.
- Gu, S.** and L. H. Fuchigami. 1994. Processed fiber as a substitute of peat moss and bark for production of roses. *American Society for Horticultural Sciences Annual Conference*. Corvallis, Oregon.
- Gu, S.**, C. H. Crisosto, R. S. Johnson, R. C. Cochran, and D. Garner. 1994. Relationship of growing location, harvest maturity, summer pruning, soil N application, and storage on fruit postharvest performance in 'Hayward' kiwifruit. *American Society for Horticultural Sciences Annual Conference*. Corvallis, Oregon.
- Gu, S.**, R. S. Johnson, C. H. Crisosto, R. C. Cochran, and D. Garner. 1994. Relationship of macro-mineral nutrition on fruit postharvest performance in 'Hayward' kiwifruit. *American Society for Horticultural Sciences Annual Conference*. Corvallis, Oregon.
- Gu, S.**, P.B. Lombard, and S.F. Price. 1991. Effect of glutamine synthetase / glutamate synthase (GS/GOGAT) inhibitors on the ammonium accumulation of 'Pinot noir' grapevines (*Vitis vinifera* L.). *The 1st International Symposium on Nitrogen in Grapes and Wine*. Seattle, Washington.
- Gu, S.**, P.B. Lombard, and S.F. Price. 1991. Inflorescence necrosis induced by high ammonium concentration in 'Pinot noir' grapevines (*Vitis vinifera* L.). *The 1st International Symposium on Nitrogen in Grapes and Wine*. Seattle, Washington.

EXTENSION AND OUTREACH PRESENTATIONS

- Gu, S.** 2015. The basics of grapevine mineral Nutrition. Paso Robles Viticulture Technical Group (PRVTG), Paso Robles, California.
- Gu, S.** 2015. California winegrape production and viticulture research in California State University. Guangxi Academy of Agricultural Sciences. Nanning, Guangxi, P.R. China.
- Gu, S.** 2015. Viticulture research in California and California State University. Shandong

- Pomology Institute. TaiAn, Shandong, P.R. China.
- Gu, S.** 2014. Growing Degree Hours - how to tell how hot it really is. *Grape Day 2014*. Viticulture and Enology Research Center, California State University, Fresno. Fresno, California.
- Gu, S.** 2014. Degree, research, and outreach programs in Viticulture at California State University, Fresno. EEA Mendoza INTA, Argentina.
- Gu, S.** 2013. Light, Temperature, and Canopy Management for Winegrapes. *Viticulture and Enology Science and Technology Alliance (VESTA), Redlands Community College*. El Reno, Oklahoma.
- Gu, S.** 2013. Red winegrape production in Warm Regions – Crop Forcing and Hangtime. *Viticulture and Enology Science and Technology Alliance (VESTA), Redlands Community College*. El Reno, Oklahoma.
- Gu, S.** 2013. Light, Temperature, and Canopy Management for Winegrapes. *Quality Wine is Made in the Vineyard Seminar. California State University – San Marcos*. San Marcos, California.
- Gu, S.** 2013. Water Relations and Irrigation Management for Winegrapes. *Quality Wine is Made in the Vineyard Seminar. California State University – San Marcos*. San Marcos, California.
- Gu, S.** 2013. Mineral Nutrition and Fertilization for Winegrapes. *Quality Wine is Made in the Vineyard Seminar. California State University – San Marcos*. San Marcos, California.
- Gu, S.** 2012. Pruning considerations for Winegrape. *Post-Harvest Management Seminar. California State University – San Marcos*. San Marcos, California.
- Gu, S.** 2012. Postharvest Irrigation Management. *Post-Harvest Management Seminar. California State University – San Marcos*. San Marcos, California.
- Gu, S.** 2012. Hang Time for winegrapes. *Post-Harvest Management Seminar. California State University – San Marcos*. San Marcos, California.
- Gu, S.** 2012. Grapevine irrigation practices and technology. *Vineyard Seminar, Los Angeles Nursery Growers Association, Irrigation and Land Group*. Bel-Air, Los Angeles, California.
- Gu, S.** 2011. Fruit ripening and quality improvement in warmer regions - to shift but not to extend. *Department of Viticulture and Enology, Jordon College of Agricultural Sciences and Technology, California State University, Fresno*. Fresno, California.
- Gu, S.** 2011. Red winegrape production in the Valley – Hangtime, ABA, and crop forcing. *4th Annual Viticulture Research Roadshow and Educational Wine Tasting. San Joaquin Valley Winegrowers Association*. Kingsburg, California.
- Gu, S.** 2011. Hangtime and crop forcing. *28th Annual Grape Day, Temecula Valley Winegrowers Association*, Temecula, California.
- Gu, S.** 2011. Premium red winegrape production in the Valley – possibilities and approaches. *Jordon College of Agricultural Sciences and Technology, California State University, Fresno*. Fresno, California.
- Gu, S.** 2011. Premium red winegrape production in the Valley – possibilities and approaches. *San Joaquin Valley Agricultural Sciences Center, USDA-ARS and Kearney Agricultural Research and Extension Center, University of California*. Parlier, California.
- Gu, S.** 2010. Crop forcing by complete removal of shoot tips, clusters, and leaves in warm regions to produce cool climate quality fruit. *Grape Day 2010*. Viticulture and Enology

- Research Center, California State University, Fresno. Fresno, California.
- Gu, S.** 2008. Abscisic acid and grape color. *Grape Day 2008*. Viticulture and Enology Research Center, California State University, Fresno. Fresno, California.
- Gu, S.** 2008. Abscisic acid and grape color. *Constellation Wines US Technical Conference*. Napa, California.
- Gu, S.** 2007. Plant hormones and grape color. *10th Annual Central Coast Viticulture and Enology Issues Conference – Syrah II*. San Luis Obispo, California.
- Gu, S.** 2006. Eutypa dieback control. *San Joaquin Valley Viticulture Technical Group Meeting*. Fresno, California.
- Gu, S.** 2006. Hang Time – to hang or not to hang. *Grape Day 2006*. Viticulture and Enology Research Center, California State University, Fresno. Fresno, California.
- Gu, S.** 2005. Soils, training, pruning, and minerals. *San Joaquin Valley Viticulture Technical Group Meeting*. Fresno, California.
- Gu, S.** 2004. Partial rootzone drying – The final report. *Grape Day 2004*. Viticulture and Enology Research Center, California State University, Fresno. Fresno, California.
- Gu, S.** 2004. Control of Eutypa dieback. *7th Annual Central Coast Viticulture and Enology Issues Conference – Syrah*. San Luis Obispo, California.
- Gu, S.** 2003 Principles of vigor and canopy management. *6th Annual Central Coast Viticulture and Enology Issues Conference – Critical Control Points for Premium Wine Growing*. Santa Barbara, California.
- Gu, S.** 2002. Vine nutrition, fruit arginine, and wine ethyl carbamate potential in wine grapes. *5th Annual Central Coast Viticulture and Enology Issues Conference – Managing Grapevine Nutrition*. Santa Barbara, California.
- Gu, S.** 2001. Ethyl carbamate-viticulture issues and research report. *Wine Institute Ethyl Carbamate Working Group Meeting*. Manteca, California.
- Gu, S.** 2000. Winegrape Research Program in Viticulture and Enology Research Center at California State University, Fresno. *The Grape Grower Magazine Farm Show-North*. Lodi, California.
- Gu, S.** 2000. Partial rootzone drying for winegrape production. *Grape Day 2000*. California State University, Fresno. Fresno, California.
- Gu, S.** 2000. Partial rootzone drying for winegrape production. *The American Vineyard Grape Expo-Central Valley*. Madera, California.
- Gu, S.** 2000. Partial rootzone drying for winegrape production. *The Grape Grower Magazine Farm Show-Central*. Caruthers, California.
- Gu S.** and D.F. Zoldoske. 1999. Partial rootzone drying, is it an alternative to regulated deficit irrigation? *Advances in Irrigation*. Parlier, California.
- Gu, S.** and D.F. Zoldoske. 1999. Partial rootzone drying in grapes to improve wine quality. *Grower Appreciation Workshop*. Lodi Irrigations, Inc. Lodi, California.
- Gu, S.** 1999. Pruning and Eutypa dieback in Cabernet Sauvignon grapevines. *Departmental Seminar*. Department of Plant Pathology, University of California, Davis. Davis, California.
- Gu, S.** 1998. Shoot positioning and leaf removal in grapevines. *The 1998 Viticulture Field Day*. Mountain Grove, Missouri.
- Gu, S.** 1998. Parentage, vine performance, and disease resistance of selected grapevine cultivars under evaluation for adaptability and productivity in Missouri. *New Cultivar*

- Wine Tasting Workshop*. Mountain Grove, Missouri.
- Gu, S.** 1998. Nitrogen and potassium fertilization in grapevines. *1998 Rosati Grape Growers' Meeting*. St. James, Missouri.
- Gu, S.** 1997. Fundamentals of grapevine pruning and training in Missouri. *1997 Pruning Workshop*. Mountain Grove, Missouri.
- Gu, S.** 1997. Vine performance and disease resistance of selected grapevine cultivars under evaluation for adaptability and productivity in Missouri. *New Cultivar Wine Tasting Workshop*. Mountain Grove, Missouri.
- Gu, S.** 1997. Training 'Vignoles' grapevines. *1997 Rosati Grape Growers' Meeting*. St. James, Missouri.
- Gu, S.** 1996. Vine performance and disease resistance of selected grapevine cultivars under evaluation for adaptability and productivity in Missouri. *New Cultivar Wine Tasting Workshop*. Mountain Grove, Missouri.
- Gu, S.** 1996. Effects of drought in grapevines. *1996 Rosati Grape Growers' Meeting*. St. James, Missouri.
- Gu, S.** 1996. Grapevine pruning and training in Missouri. *1996 Pruning Workshop*. Mountain Grove, Missouri.
- Gu, S.** 1995. Vine performance and disease resistance of selected grapevine cultivars under evaluation for adaptability and productivity in Missouri. *New Cultivar Wine Tasting Workshop*. Hermann and Dutzow, Missouri.
- Gu, S.** 1995. Viticulture Advisory Program at Southwest Missouri State University. *1995 Fall Field Day*. Mountain Grove, Missouri.
- Gu, S.** and L.H. Fuchigami. 1994. Applications of processed fiber and NutriTex for nursery plant production. Tillamook People's Utility District Advisory Board Meeting. Tillamook, Oregon.
- Gu, S.** and C. Crisosto. 1993. Effect of nitrogen rate on fruit bruising susceptibility in 'Fantasia' nectarine. Department of Pomology, University of California. Davis, California.