

Michael Melzer  
**College of Tropical Agriculture and Human Resources**  
Plant & Environmental Protection Sciences  
FTE Distribution: 25% I; 60% R; 15% E

**Education**

<u>Degree</u>	<u>University</u>	<u>Major</u>
Bachelors	Trent University	Biology & Environmental Sciences
Masters	University of Hawaii	Botanical Sciences (Plant Pathology)
PhD	University of Hawaii	Tropical Plant Pathology

**Professional Appointments**

<u>Title</u>	<u>Employer</u>	<u>Dates Employed</u>
Student Researcher	University of Guelph	1997-1998
Research Assistant	University of Hawaii	1998-2000
Junior Researcher	University of Hawaii	2000-2012
Assistant Researcher	University of Hawaii	2012-2019
Associate Researcher	University of Hawaii	2019-

**Current Courses Taught**

Course Number and Title (credits)

PEPS 601 Agrosecurity and Food Safety (2)

PEPS 615 Diagnosis and Management of Tropical Plant Diseases, Pests, and Disorders (3)

**Publications (reverse chronological order)**

Book Chapters

- Quito-Avila, D.F., Freitas-Astua, J., and Melzer, M.J. 2020. Bluner-, Cile-, and Higreviruses (*Kitaviridae*) in Reference Module in Life Sciences (Amsterdam: Elsevier). doi: 10.1016/B978-0-12-809633-8.21248-X
- Dey, K., Melzer, M., and Hu, J. 2017. Virus Induced Gene Silencing *in* Plant Biotechnology Vol. 2: Transgenics, Stress Management, and Biosafety Issues, Sahni, S., Deo Prasad, B., and Kumar, P. (eds.). Apple Academic Press ISBN 9781771885812

Refereed Journal Publications

- Olmedo-Velarde, A., Roy, A., Larrea-Sarmiento, A., Wang, X., Padmanabhan, C., Nunziata, S., Nakhla, M.K., Hu, J., and Melzer, M.J. 202X. First report of the hibiscus strain of citrus leprosis virus C2 infecting passionfruit (*Passiflora edulis*). Plant Disease (accepted)
- Keith, L.M., Sugiyama, L.S., Brill, E., Adams, B.L., Fukuda, M., Hoffman, K.M., Ocenar, J., Kawabata, A., Kong, A.T., McKemy, J.M., Olmedo-Velarde, A., and Melzer, M.J. 202X. First report of coffee leaf rust caused by *Hemileia vastatrix* on coffee (*Coffea arabica*) in Hawaii. Plant Disease (*in press*)
- Jenkins, D., Watanabe, S., Haff, R., Melzer, M., Jackson, E., Liang, P.-S. 202X. Dose response of coconut rhinoceros beetle (Coleoptera: Scarabaeidae) to 92 kV x-ray irradiation. Journal of Applied Entomology (*in press*)
- Olmedo-Velarde, A., Waisen, P., Kong, A.T., Wang, K.-H., Hu, J.S., and Melzer, M.J. 202X. Characterization of taro reovirus and its status in taro (*Colocasia esculenta*) germplasm from the Pacific. Archives of Virology (*in press*)
- Olmedo-Velarde, A., Hu, J., and Melzer, M.J. 2021. A virus infecting *Hibiscus rosa-sinensis* represents an evolutionary link between cileviruses and higreviruses. Frontiers in Microbiology DOI: 10.3389/fmicb.2021.660237
- Dahan, J., Orellana, G.E., Feng, X., Kong, A.T., Hamasaki, R.T., Melzer, M.J., and Karasev, A.V. 2020. First report of clover yellow vein virus in *Crotalaria micans* in Hawaii. Plant Disease PDIS-06-20-1195-PDN
- Hamim, I., Borth, W.B., Suzuki, J.Y., Melzer, M.J., Wall, M.M., and Hu, J.S. 2020. Molecular characterization of tomato leaf curl Joydebpur virus and tomato leaf curl New Delhi virus associated with severe leaf curl symptoms of papaya in Bangladesh. European Journal of Plant Pathology 158:457-472
- Olmedo-Velarde, A., Navarro, B., Hu, J.S., Melzer, M.J., and DiSerio F. 2020. Novel fig-associated viroid-like RNAs containing hammerhead ribozymes in both polarity strands identified by high-throughput sequencing. Frontiers in Microbiology 11:1903

- Wang, X., Larrea-Sarmiento, A., Borth, W.B., Barone, R.P., Olmedo Velarde, A., Melzer, M., Suzuki, J., Wall, M.M., and Hu, J. 2020. First report of *Basella alba* naturally infected with basella rugose mosaic virus in Hawaii. Plant Disease\*. <https://doi.org/10.1094/PDIS-06-19-1266-PDN>
- Larrea-Sarmiento, A., Olmedo-Velarde, A., Green, J.C., Al Rwahnih, M., Wang, X., Li, Y-H., Wu, W., Zhang, J., Matsumoto, T.K., Suzuki, J.Y., Wall, M.M., Borth, W., Melzer, M.J., and Hu, J.S. 2020. Identification and complete genomic sequence of a novel sadwavirus discovered in pineapple (*Ananas comosus*). Archives of Virology\* <https://doi.org/10.1007/s00705-020-04592-9>
- Fuchs, M., Bar-Joseph, M., Candresse, T., Maree, H.J., Martelli, G.P., Melzer, M.J., Menzel, W., Minafra, A., Sabanadzovic, S., and ICTV Report Consortium. 2020. ICTV Taxonomy Profile: *Closteroviridae*.\* <https://doi.org/10.1099/jgv.0.001397>
- Boluk, G., Dobhal, S., Crockford, A.B., Melzer, M., Alvarez, A.M., and Arif, M. 2020. Genome-informed recombinase polymerase amplification assay coupled with a lateral flow device for in-field detection of *Dickeya* species. Plant Disease <https://doi.org/10.1094/PDIS-09-19-1988-RE>
- Dobhal, S., Boluk, G., Babler, B., Stulberg, M.J., Rascoe, J., Nakhla, M.K., Chapman, T.A., Crockford, A.B., Melzer, M.J., Alvarez, A.M., Arif, M. 2020. Comparative genomics reveals signature regions used to develop a robust and sensitive multiplex TaqMan real-time qPCR assay to detect the genus *Dickeya* and *Dickeya dianthicola*. Journal of Applied Microbiology 128:1703-1719.
- Larrea-Sarmiento, A., Wang, X., Borth, W.B., Barone, R.P., Olmedo-Velarde, A., Melzer, M.J., Sugano, J.S.K., Galanti, R., Suzuki, J.Y., Wall, M.M., and Hu, J.S. 2020. First Report of Bean Common Mosaic Virus Infecting Flowering Ginger (*Alpinia purpurata*) in Hawaii. Plant Disease <https://doi.org/10.1094/PDIS-06-19-1264-PDN>
- Watanabe, S., Adams, B.-L., Kong, A., Masang, N., Vowell, T., and Melzer, M. 2020. Identification of genes that result in high mortality of coconut rhinoceros beetle (*Scarabaeidae*: *Coleoptera*) when targeted using an RNA interference approach: implications for large invasive insects. Annals of the Entomological Society of America (*invited paper; in press*)
- Wang, D., Hamim, I., Borth, W.B., Melzer, M.J., Suzuki, J.Y., Wall, M.M., Matsumoto, T., Sun, G.F., and Hu, J.S. 2019. First report of apple of Peru (*Nicandra physalodes*) infected with pepper mottle virus in Hawaii. Plant Disease <https://doi.org/10.1094/PDIS-06-18-1061-PDN>
- Wang, D., Ocenar, J., Hamim, I., Borth, W.B., Fukuda, M.T., Melzer, M.J., Suzuki, J.Y., Wall, M.M., Matsumoto, T., Sun, G.F., Ko, M., and Hu, J.S. 2019. First report of *Bean yellow mosaic virus* infecting nasturtium (*Tropaeolum majus*) in Hawaii. Plant Disease (*in press*) [doi.org/10.1094/PDIS-06-18-1082-PDN](https://doi.org/10.1094/PDIS-06-18-1082-PDN)
- Wang, D., Boluk, G., Quinto, E.A., Hamim, I., Borth, W.B., Melzer, M.J., Green, J., Suzuki, J.Y., Wall, M.M., Matsumoto, T., Sun, G.F., and Hu, J.S. 2019. First report of Zucchini tigre mosaic virus infecting bitter melon (*Momordica charantia*) in Hawaii. Plant Disease <https://doi.org/10.1094/PDIS-08-18-1391-PDN>
- Olmedo-Velarde, A., Roy, A., Belanger, C.A., Watanabe, S., Hamasaki, R.T., Mavrodieva, V.A., Nakhla, M.K., and Melzer, M.J. 2019. First report of tomato chlorotic dwarf viroid infecting greenhouse tomato in Hawaii. Plant Disease <https://doi.org/10.1094/PDIS-08-18-1401-PDN>
- Olmedo-Velarde, A., Park, A.C., Sugano, J., Uchida, J.Y., Kawate, M., Borth, W.B., Hu, J.S., and Melzer, M.J. 2019. Characterization of ti ringspot-associated virus, a novel emaravirus associated with an emerging ringspot disease of *Cordyline fruticosa* (L.). Plant Disease <https://doi.org/10.1094/PDIS-09-18-1513-RE>
- Hamim, I., Borth, W.B., Melzer, M.J., Suzuki, J.Y., Wall, M.M., and Hu, J.S. 2019. Occurrence of tomato leaf curl Bangladesh virus and associated subviral DNA molecules in papaya in Bangladesh: molecular detection and characterization. Archives of Virology 164:1661-1665
- Feng, X., Orellana, G., Green, J., Melzer, M.J., Hu, J.S., and Karasev, A.V. 2019. A new strain of *Bean common mosaic virus* from lima bean (*Phaseolus lunatus*): biological and molecular characterization. Plant Disease <https://doi.org/10.1094/PDIS-08-18-1307-RE>
- Manley, M., Melzer, M., and Spafford, H. 2018. Oviposition preferences and behaviors of wild caught and lab reared coconut rhinoceros beetle, *Oryctes rhinoceros* (*Coleoptera*:*Scarabaeidae*), in relation to substrate particle size. Insects doi: 10.3390/insects9040141
- Dey, K.K., Sugikawa, J., Kerr, C., and Melzer, M. J. 2019. Air potato (*Dioscorea bulbifera*) plants displaying virus-like symptoms are co-infected with a novel potyvirus and a novel ampelovirus. Virus Genes 55:117-121
- Miyasaka, S.C., Motomura-Wages, S., Pulakkatu-Thodi, I., Melzer, M.J., Clark, C.A., LaBonte, D.R., and Villordon, A.Q. 2018. Field performance of tissue-cultured, virus-tested ‘Okinawan’ sweetpotato and comparison with some promising cultivars in Hawai’i. HortTechnology (*in press*)

- Wang, D, Hamim, I., Borth, W.B., Melzer, M., Sun, G., Hu, J. 2018. First report of *Dasheen mosaic virus* infecting taro (*Colocasia esculenta*) in Bangladesh. Plant Disease (in press) [doi.org/10.1094/PDIS-03-18-0442-PDN](https://doi.org/10.1094/PDIS-03-18-0442-PDN)
- Kong, A., Long, M., Arakaki, A., Melzer, M. 2018. First report of Tobacco streak virus infecting sunn hemp (*Crotalaria juncea*) in Hawaii. Plant Disease (in press) [doi.org/10.1094/PDIS-04-18-0697-PDN](https://doi.org/10.1094/PDIS-04-18-0697-PDN)
- Atibalentja, N., Fiafia, S.T., Gosai, R.C., and Melzer, M.J. 2018. First report of taro vein chlorosis virus on taro (*Colocasia esculenta*) in the U.S. Territory of American Samoa. Plant Disease 102:828
- Roy, A, Stone, A. L., Melzer, M. J., Hartung, J. S., Mavrodieva, V., Nakhla, M. K., Brlansky, R. H., and Schneider, W. L. 2018. First report of Cilevirus associated with green ringspot on senescent hibiscus leaves in Tampa, Florida. Plant Disease 102:1181
- Dey, K.K., Melzer, M.J., Xiaolan, S., and Adkins, S. 2018. First report of *Tuberose mild mottle virus* infecting tuberose (*Polianthes tuberosa*) in the USA. Plant Disease 102:461
- Dey, K., Melzer, M., Sun, X., and Adkins, S. 2017. *Tomato chlorotic spot virus* identified in *Marsdenia floribunda* in Florida. Plant Health Progress 18:144-145
- Dey, K.K., Leite, M., Hu, J.S., Jordan, R., and Melzer, M.J. 2018. Detection of Jasmine virus H and characterization of a second pelarospovirus infecting star jasmine (*Jasminum multiflorum*) and angelwing jasmine (*J. nitidum*) plants displaying virus-like symptoms. Archives of Virology (in press) DOI :10.1007/s00705-018-3947-y
- Roy, A, Stone, A. L., Melzer, M. J., Shao, J., Hartung, J. S., Mavrodieva, V., Nakhla, M. K., Brlansky, R. H., and Schneider, W. L. 2018. Complete nucleotide sequence of a hibiscus infecting cilevirus Florida isolate and its relationship with closely associated cileviruses. Genome Announcements doi: 10.1128/genomeA.01521-17
- Wang, Y., Borth, W., Green, J., Hamim, I., Cao, K., Hu, J., and Melzer, M. 2017. Genome characterization and distribution of Taro bacilliform CH virus on taro in Hawaii, USA. European Journal of Plant Pathology <https://doi.org/10.1007/s10658-017-1353-z>
- Wang, Y., Wu, B., Borth, W., Hamim, I., Green, J., Melzer, M., Hu, J. 2017. Molecular characterization and distribution of two strains of Dasheen mosaic virus on taro in Hawaii, USA. Plant Disease 1980-1989
- Hamim, I., Green, J.C., Borth, W.B., Melzer, M.J. Wang, Y.N., and Hu, J.S. 2017. First report of *Banana bunchy top virus* in *Heliconia* spp. on Hawaii. Plant Disease 101:2153
- Wang, Y.N., Hu, J.S., Borth, W.B., Hamim, I., Green, J.C., and Melzer, M.J. 2017. First report of taro bacilliform CH virus (TaBCHV) on taro (*Colocasia esculenta*) in Hawaii, USA. Plant Disease 101:1334
- Green, K.J., Chikh-Ali, M., Hamasaki, R, Melzer, M.J., and Karasev, A.V. 2017. *Potato virus Y* (PVY) isolates from *Physalis peruviana* are unable to systemically infect potato or pepper and form a distinct new lineage within the PVY<sup>C</sup> strain group. Phytopathology 1433-1439
- Watanabe, S., and Melzer, M.J. 2017. A multiplex PCR assay for differentiating coconut rhinoceros beetle (*Oryctes rhinoceros*) from oriental flower beetle (*Protaetia orientalis*) in early life stages and excrement. Journal of Economic Entomology 110:678-682
- Zhang, J., Dey, K., Lin, B., Borth, W.B., Melzer, M.J., Sether, D., Wang, Y., Wang, I.-C., Shen, H., Pu, X., Sun, D, and Hu, J.S. 2017. Characterization of *Canna yellow mottle virus* in a new host, *Alpinia purpurata*, in Hawaii. Phytopathology 107:791
- Moore, A., Quitugua, R., Iriarte, A., Melzer, M., Watanabe, S., Cheng, Z., and Barnes, J.M. 2016. Movement of packaged soil products as a dispersal pathway for coconut rhinoceros beetle, *Oryctes rhinoceros* (Coleoptera:Scarabaeidae) and other invasive species. Proceedings of the Hawaiian Entomological Society 48:21
- Chikh-Ali, M., Vander Pol, D., Nikolaeva, O.V., Melzer, M.J., and Karasev, A.V. 2016. Biological and molecular characterization of a tomato isolate of *Potato virus Y* (PVY) from the PVY<sup>C</sup> lineage. Archives of Virology 161:3561-3566
- Watanabe, S., Ruschel, R., Marrero, G., Sether, D., Borth, W., Hu, J., and Melzer, M. 2016. A distinct lineage of *Watermelon mosaic virus* naturally infects honohono orchid (*Dendrobium anosmum*) and passionfruit (*Passiflora edulis*) in Hawaii. New Disease Reports 34:13
- Zhang, J., Borth, W.B., Lin, B., Dey, K.K., Melzer, M.J., Shen, H., Pu, X., Sun, D., and Hu, J.S. 2016. Deep sequencing of banana bract mosaic virus from flowering ginger (*Alpinia purpurata*) and development of an immunocapture RT-LAMP detection assay. Archives of Virology 161:1783-1795
- Roy, A, Hartung, JS, Schneider, WL, Shao, J, Leon, MG, Melzer, MJ, Beard, JJ, Otero-Colina, G, Bauchan, GR, Ochoa, R, Brlansky, RH. 2015. Role bending: complex relationships between viruses, hosts and vectors related to citrus leprosis, an emerging disease. Phytopathology 1013-1025
- Dey, KK, Borth, WB, Melzer, MJ, Hu, JS. 2015. Application of circular polymerase extension cloning to generate infectious clones of a plant virus. Journal of Applied Biotechnology 3:34-44

- Dey, K, Borth, W, Melzer, M, Wang, ML, Hu JS. 2015. Analysis of Pineapple mealybug wilt associated virus -1 and -2 for potential RNA silencing suppressors and pathogenicity factors. *Viruses* 7:969-995
- Long, MH, Ayin, C, Li, R, Hu, JS, Melzer, MJ. 2014. First report of taro vein chlorosis virus infecting taro [*Colocasia esculenta* (L.) Schott] in the United States of America. *Plant Disease* 98:1160
- Melzer, MJ, Shimabukuro, J, Long, M, Nelson, SC, Alvarez, AM, Borth, WB, Hu, JS. 2014. First report of Capsicum chlorosis virus infecting waxflower (*Hoya* sp.) in the United States of America. *Plant Disease* 98:571
- Melzer, MJ, Simbajon, N, Carillo, J, Borth, WB, Freitas-Astua, J, Kitajima, EW, Neupane, KR, Hu, JS. 2013. A cilevirus infects ornamental hibiscus in Hawaii. *Archives of Virology* 158:2421-2424
- Melzer, M, Ayin, C, Sugano, J, Uchida, J, Kawate, M, Borth, W, Hu, J. 2013. Differentiation and distribution of Cordyline viruses 1-4 in Hawaiian ti plants (*Cordyline fruticosa* L.). *Viruses* 5:1655-1663
- Melzer, MJ, Sugano, JS, Uchida, JY, Kawate, MK, Borth, WB, Sether, DM, Hu, JS. 2013. Molecular characterization of closteroviruses infecting *Cordyline fruticosa* (L.) in Hawaii. *Frontiers in Microbiology* 4:39 (doi: 10.3389/fmicb.2013.00039)
- Sether, DM, Melzer, MJ, Borth, WB, and Hu, JS. 2012. Pineapple bacilliform CO virus: diversity, detection, distribution, and transmission. *Plant Disease* 96:1798-1804
- Melzer, MJ, Sether, DM, Borth, WB, Hu, JS. 2012. Characterization of a new virus infecting *Citrus volkameriana* (Ten. & Pasq.) with citrus leprosis-like symptoms. *Phytopathology* 102:122-127
- Dey, KK, Lin, H, Borth, WB, Melzer, MJ, Hu, JS. 2012. A highly sensitive single-tube nested PCR assay for the detection of Pineapple mealybug wilt associated virus-2 (PMWaV-2). *Journal of Virological Methods* 183:215-218
- Melzer, MJ, Sugano, JS, Cabanas, D, Dey, K, Kandouh, B, Mauro, D, Rushanaedy, I, Srivastava, S, Watanabe, S, Borth, WB, Tripathi, S, Matsumoto, T, Keith, L, Gonsalves, D, Hu, JS. 2012. First report of *Pepper mottle virus* infecting tomato in Hawaii. *Plant Disease* 96:917
- Martelli, GP, Abou Ghanem-Sabanadzovic, N, Agranovsky, AA, Al Rwahnih, M, Dolja, VV, Dovas, CI, Fuchs, M, Gugerli, P, Hu, JS, Jelkmann, W, Katis, NI, Maliogka, VI, Melzer, MJ, Menzel, W, Rott, ME, Rowhani, A, Sabanadzovic, S, Saldarelli, P. 2012. Taxonomic revision of the family *Closteroviridae* with special reference to the grapevine leafroll associated members of the genus *Ampelovirus* and the putative species unassigned to the family. *Journal of Plant Pathology* doi:10.4454/jpp.fa.2012.022
- Melzer, MJ, Sether, DM, Borth, WB, Mersino, EF, Hu, JS. 2011. An assemblage of closteroviruses infects Hawaiian ti (*Cordyline fruticosa* L.). *Virus Genes* 42:254-260
- Ma, H, Song, C, Borth, W, Sether, D, Melzer, M, Hu, J. 2011. Modified expression of alternative oxidase in transgenic tomato and petunia affects the level of tomato spotted wilt virus resistance. *BMC Biotechnology* 11:96
- Melzer, MJ, Borth, WB, Sether, DM, Ferreira, S, Gonsalves, D, Hu, JS. 2010. Genetic diversity and evidence for recent modular recombination in Hawaiian *Citrus tristeza virus*. *Virus Genes* 40:111-118
- Melzer, MJ, Ogata, D, Fukuda, SK, Shimabuku, R, Borth, WB, Sether, DM, Hu, JS. 2010. First report of *Tomato yellow leaf curl virus* infecting tomato in Hawaii. *Plant Disease* 94:641
- Wang, I-C, Sether, DM, Melzer, MJ, Borth, WB, Hu, JS. 2010. First report of *Banana bract mosaic virus* in flowering ginger in Hawaii. *Plant Disease* 94:921
- Sether, DM, Borth, WB, Shimabuku, RS, Pappu, HR, Melzer, MJ, Hu, JS. 2010. First report of Iris yellow spot virus in onion in Hawaii. *Plant Disease* 94:1508
- Sether, DM, Borth, WB, Melzer, MJ, Hu, JS. 2010. Spatial and temporal incidences of Pineapple mealybug wilt associated viruses in pineapple planting blocks. *Plant Disease* 94:196-200
- Hu, JS, Sether, DM, Melzer, MJ, Subere, CV, Cheah, K, Chen, Y, Qi L, Borth, W, Wang, I.C, Nagai, C, and Wang, ML. 2009. Characterization and management of pineapple mealybug wilt associated viruses. *Acta Horticulturae* 822:185-190
- Sether, DM, Melzer, MJ, Borth, WB, and Hu, JS. 2009. Genome organization and phylogenetic relationship of Pineapple mealybug wilt associated virus-3 with family *Closteroviridae* members. *Virus Genes* 38:414-420
- Melzer, MJ, Sether, DM, Karasev, AV, Borth, W, and Hu, JS. 2008. Complete nucleotide sequence and genome organization of Pineapple mealybug wilt-associated virus-1. *Archives of Virology* 153:707-714
- Perez, EP, Sether, DM, Melzer, MJ, Busto, JL, Nagai, C, and Hu, JS. 2006. Characterization and control of pineapple mealybug wilt associated *Ampeloviruses*. *Acta Horticulturae* 702:23-27
- Melzer, MJ, Borth, WB, Zee, F, Hilf, ME, Garnsey, SM, and Hu, JS. 2005. Incidence, distribution, and diversity of *Citrus tristeza virus* in the Hawaiian Islands. Pages 179-186 in: *Proceedings of the 16<sup>th</sup> IOCV Conference*, Hilf, M.E.,
- Duran-Vila, N., and Rocha-Peña (eds.). IOCV/University of California, USA

- Sether, DM, Melzer, MJ, Busto, J, Zee, F, and Hu, JS. 2005. Diversity and mealybug transmissibility of ampeloviruses in pineapple. *Plant Disease* 89:450-456
- Mauch, H, Melzer, M, Hu, JS. 2003. Genetic algorithm approach for the closest string problem. *Proceedings of the 2003 IEEE*. DOI: 10.1109/CSB.2003.1227407
- Melzer, MJ, Karasev, AV, Sether, DM, and Hu, JS. 2001. Nucleotide sequence, genome organization, and phylogenetic analysis of pineapple mealybug wilt-associated virus-2. *Journal of General Virology* 82:1-7
- Bidochka, MJ, and Melzer, MJ. 2000. Genetic polymorphisms in three subtilisin-like protease isoforms (Pr1A, Pr1B, and Pr1C) from *Metarhizium* strains. *Canadian Journal of Microbiology* 46:1138-1144
- Bidochka, MJ, Melzer, MJ, Lavender, TM, and Kamp, AM. 2000. Genetically related isolates of the entomopathogenic fungus *Metarhizium anisopliae* harbour homologous dsRNA viruses. *Mycological Research* 1094-1097
- Melzer, MJ, and Bidochka, MJ. 1998. Diversity of double-stranded RNA viruses within populations of entomopathogenic fungi and potential implications for fungal growth and virulence. *Mycologia* 90:586-594
- Melzer, MJ, and Boland, GJ. 1998. Evaluation of *Trichoderma harzianum* treatments for dollar spot suppression. *Biological and Cultural Tests for Control of Plant Diseases* 13:141

#### Extension Publications

- Olmedo-Velarde, A., Hamasaki, R.T., Bushe, B., and Melzer, M.J. 2017. Tomato chlorotic dwarf viroid. College of Tropical Agriculture and Human Resources PD-113
- Melzer, M.J., Sether, D.M., Hu, J.S., and Alvarez, A.M. 2017. Citrus huanglongbing. College of Tropical Agriculture and Human Resources PD-112
- Long, M.H, Gosai, R. C., and Melzer, M. J. 2016. Taro vein chlorosis. College of Tropical Agriculture and Human Resources PD-111
- Hamasaki, R.T., Motomura, S.A., Melzer, M.J., and Bushe, B.C. 2015. Potato virus Y: A pathogen associated with an emerging disease of poha in Hawaii. College of Tropical Agriculture and Human Resources PD-109
- Komata, J, Melzer, M, and Nelson, S. 2014. Zucchini yellow mosaic. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-104
- Dragich, M, Melzer, M., and Nelson, S. 2014. Cucumber mosaic virus in Hawaii. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-101
- Uyeda, J, Sugano, J, Chou, MY, Fukuda, S, Uchida, J, Melzer, M, Tsuda, D, Wang, KH, Kawate, M. 2012. Major basil pests in Hawaii: three economically important basil pests as of 2012. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-92
- Melzer, MJ, Tripathi, S, Matsumoto, T, Keith, L, Sugano, J, Borth, WB, Wieczorek, A, Gonsalves, D, Hu, JS. 2012. Tomato spotted wilt. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-81
- Nelson, SC, Melzer, MJ, and Hu, JS. 2011. Citrus tristeza virus in Hawaii. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-77
- Sugano, J, Melzer, M, Pant, A, Radovich, T, Fukuda, S, Migita, S, Uyeda, J. 2011. Field evaluations of tomato yellow leaf curl virus-resistant varieties for commercial production. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-78
- Melzer, MJ, Ogata, DY, Fukuda, SK, Shimabuku, R, Borth, WB, Sether, DM, Hu, JS. 2009. Tomato yellow leaf curl. College of Tropical Agriculture and Human Resources Cooperative Extension Services publication PD-70
- Vidalakis, G, da Graca, JV, Dixon, WN, Ferrin, D, Kesinger, M, Krueger, RR, Lee, RF, Melzer, MJ, Olive, J, Polek, M, Sieburth, PJ, Williams, LL, Wright, GC. 2010. Citrus quarantine, sanitary, and certification programs in the USA. *California Citrograph* 1(4):27-39

#### Creative Works (i.e., Extension Videos, Websites, Blogs, Creative Designs and Exhibitions, etc.)

- [www.crbhawaii.org](http://www.crbhawaii.org)
- Melzer, M., Freitas-Astua, J., Kitajima, E., Verle Rodrigues, J.C., Roy, A., and Wei, G. 2018. Taxonomic proposal 2018.002P: Creation of *Kitaviridae*, a new RNA virus family. International Committee on the Taxonomy of Viruses

- Fuchs, M., Agranovsky, A.A., Bar-Joseph, M., Candresse, T., Dolja, V., Livieratos, I., Martelli, G.P., Maree, H., Melzer, M.J., Menzel, W., Minafra, A., and Sabanadzovic, S. 2017. Taxonomic proposal 2017.018P: One new species in the family *Closteroviridae*. International Committee on the Taxonomy of Viruses
- Fuchs, M., Agranovsky, A.A., Bar-Joseph, M., Candresse, T., Dolja, V., Livieratos, I., Martelli, G.P., Maree, H., Melzer, M.J., Menzel, W., Minafra, A., and Sabanadzovic, S. 2017. Taxonomic proposal 2017.016-P: Adoption of non-Latinized binomial format for naming recognized species in the four genera of the family *Closteroviridae*. International Committee on the Taxonomy of Viruses
- Melzer, M., Freitas-Astua, J., Kitajima, E., Verle Rodrigues, J.C., Roy, A., and Wei, G. 2016. Taxonomic proposal 2016.011a-dP: 1 new species in the new genus *Blunervirus*. International Committee on the Taxonomy of Viruses
- Melzer, M., Freitas-Astua, J., Kitajima, E., Verle Rodrigues, J.C., Roy, A., and Wei, G. 2016. Taxonomic proposal 2016.010aP: 1 new species in the genus *Cilevirus*. International Committee on the Taxonomy of Viruses
- Fuchs, M., Agranovsky, A.A., Bar-Joseph, M., Candresse, T., Dolja, V., Livieratos, I., Martelli, G.P., Maree, H., Melzer, M.J., Menzel, W., Minafra, A., and Sabanadzovic, S. Taxonomic proposal 2016.009a-dP: 5 new species in the family *Closteroviridae*. International Committee on the Taxonomy of Viruses
- Fuchs, M., Agranovsky, A.A., Bar-Joseph, M., Candresse, T., Dolja, V., Livieratos, I., Martelli, G.P., Maree, H., Melzer, M.J., Menzel, W., Minafra, A., and Sabanadzovic, S. Taxonomic proposal 2015.024a-cP: 5 new species in the family *Closteroviridae*. International Committee on the Taxonomy of Viruses

Current Leadership Roles (Committees, Boards, Advisory, etc.)

- Chair, Family *Kitaviridae* Study Group, International Committee on Taxonomy of Viruses
- Co-Chair, Hawaii Invasive Species Committee Prevention/Early Detection & Rapid Response Working Group
- Member, International Organization of Citrus Virologists
- Reviewer for: Plant Disease (55 manuscripts), Journal of Citrus Pathology (5 manuscripts), Archives of Virology (4 manuscripts), European Journal of Plant Pathology (3 manuscripts), Journal of Phytopathology (3 manuscripts), Phytopathology (2 manuscripts), Journal of Virological Methods (2 manuscripts), Australasian Plant Disease Notes (1 manuscript), Journal of Economic Entomology (1 manuscript), Journal for Plant Diseases and Plant Protection (1 manuscript), Journal of Plant Pathology (1 manuscript), Plant Pathology (1 manuscript), and Virology (1 manuscript)
- Steering Committee Member, Coordinating Group on Alien Pest Species
- Treasurer, Gamma Sigma Delta, The Honor Society of Agriculture

**Graduate Students**

<u>Category</u>	<u>Current Number of Students</u>	<u>Number Graduated (Career)</u>
Chair of Master's Committees	1	9
Chair of PhD Committees	1	0
Member of Master's Committees	1	8
Member of PhD Committees	3	4

**Grant Support (PI Listed First)**

- Melzer, M.J. 2021-2022. The NCPN University of Hawaii. USDA-APHIS-PPQ National Clean Plant Network, \$17,261
- Melzer, M.J. 2021-2022. Agrosecurity Lab Infrastructure. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey – Infrastructure, \$99,430
- Melzer, M.J. and Olmedo Velarde, A. 2021-2022. Survey for citrus leprosis and citrus fruit borer in Hawaii. \$30,733
- Melzer, M.J. 2021-2022. Hawaii bundled survey. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey. \$63,652
- Melzer, M.J. 2021-2022. WPDN Agrosecurity Lab. USDA-NIFA (subaward from UC-Davis), \$25,000
- Melzer, M.J. 2021-2022. University of Hawaii's Huanglongbing Diagnostic Lab and survey. USDA-APHIS-PPQ Citrus Health, \$29,118
- Melzer, M.J., Cheng, Z., and Jenkins, D.M. 2021-2022. Response to coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Plant Protection Act 7721, \$2,530,282
- Melzer, M.J. 2021-2022. Canine detection of coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Plant Protection Act 7721, \$329,718

- Melzer, M.J. Friday, J.B., and Martin, C. 2021-2022. Rapid Ohia Death (ROD) Supplemental Request: ROD prevention outreach & diagnostics. Hauoli Mau Loa Foundation, \$100,000
- Melzer, M.J. and Olmedo-Velarde. 2021. Plant disease prevention capacity. Hauoli Mau Loa Foundation, \$30,000
- Melzer, M.J. 2017-2020. C-GAPS Biosecurity Graduate Assistant. Hauoli Mau Loa Foundation, \$37,804 (PI transfer from J. Leary)
- Melzer, M.J. 2019-2021. Survey for mango sudden decline and mango fruit rot in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$38,442 (PI transfer from J. Uchida)
- Melzer, M.J., Friday, J.B., and Martin, C. 2020-2021. Coordinating Group on Alien Pest Species – Rapid Ohia Death. Hauoli Mau Loa Foundation, \$100,000
- Melzer, M.J. 2020-2021. Core support for the Rapid `Ōhi`a Death (ROD) Statewide Outreach Specialist/Coordinator. DLNR Division of Forestry and Wildlife, \$55,000
- Melzer, M.J. 2020-2021. Hawaii combined surveys. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$52,000
- Melzer, M.J. 2020-2021. The clean plant network in Hawaii. USDA-APHIS-PPQ National Clean Plant Network. \$20,000
- Melzer, M.J. 2020-2021. Canine detection of coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Plant Protection Act 7721, \$420,757
- Melzer, M.J. and Cheng, Z. 2020-2021. Response to coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Plant Protection Act 7721, \$1,999,224
- Melzer, M.J. 2019-2020. Statewide corn pest and pathogen survey in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$55,963
- Melzer, M.J. 2019-2020. University of Hawaii's Huanglongbing Diagnostic Lab and survey. USDA-APHIS-PPQ Citrus Health, \$29,118
- Melzer, M.J. and Cheng, Z. 2019-2020. Monitoring coconut rhinoceros beetle (CRB) at Joint Base Pearl Harbor-Hickham (JBPHH). USDOD-ACoE-CW \$542,124
- Melzer M.J., Friday, J.B., and Martin, C. 2019. Rapid `Ōhi`a Death (ROD) Supplemental Request: Addressing ROD Movement. Hauoli Mau Loa Foundation, \$100,000
- Melzer, M.J. and Martin, C. 2019. Core support for the Rapid `Ōhi`a Death (ROD) Statewide Outreach Specialist/Coordinator & Statewide Initiatives. Hawaii Department of Land and Natural Resources, \$110,200
- Melzer, M.J. 2019. Suitcase lab for detection of *Ceratocystis* species in *Metrosideros polymorpha*. Hawaii Department of Land and Natural Resources, \$25,998
- Melzer, M.J. 2019-2020. Hawaii's Clean Plant Network – Sweetpotato and Citrus. USDA-APHIS-PPQ-National Clean Plant Network, \$56,749
- Melzer, M.J., Oishi, D., and Cheng, Z. 2019-2020. Response to coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$1,300,000
- Melzer, M.J., and Cheng, Z. 2019-2020. Canine detection of coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$242,385
- Melzer, M.J., Jenkins, D., and Cheng, Z. 2019-2020. Development and implementation of genetic and physical management approaches for coconut rhinoceros beetle. USDA-APHIS-PPQ Farm Bill, \$260,815
- Melzer, M.J. 2018-2019. Western Plant Diagnostic Network. USDA-NIFA (subaward from UC-Davis), \$35,805
- Melzer, M.J., Jenkins, D.M., and Cheng, Z. 2018-2019. Detection and response to coconut rhinoceros beetle. Hawaii Invasive Species Council, \$100,000
- Melzer, M.J. 2018-2019. University of Hawaii's Huanglongbing Diagnostic Lab and survey. USDA-APHIS-PPQ Citrus Health, \$75,868
- Melzer, M. 2018-2019. Survey for *Candidatus* Phytoplasma australiense and other papaya pathogens in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey \$34,489
- Melzer, M.J., Cheng, Z., Watanabe, S., and Kitalong, C. 2018-2019. Management approaches for coconut rhinoceros beetle. USDA-APHIS-PPQ Farm Bill, \$75,000
- Melzer, M.J. 2018-2019. Hawaii sweetpotato clean plant program. USDA-APHIS-PPQ National Clean Plant Network, \$43,967
- Melzer, M.J., Cheng, Z., and Oishi, D. 2018-2019. Response to coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$1,682,513
- Cheng, Z., and Melzer, M. 2018-2020. Biological and chemical control of oriental flower beetle, *Protaetia orientalis*. CTAHR Supplemental Funding, \$80,000

- Cheng, Z, and Melzer, M. 2018-2019. Biological and chemical control of coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$46,312
- Arif, M, and Melzer, M. 2018-2019. Survey of Solanaceous vegetable crops for *Ralstonia solanacearum* r3 b2, *Candidatus* Phytoplasma australiense in Hawaii. USDA-APHIS-PPQ Farm Bill, \$53,000
- Melzer, M., and Martin, C. 2018-2019. Core support for the rapid ohia death (ROD) statewide outreach specialist/coordinator. Hawaii Department of Land and Natural Resources, \$100,000
- Melzer, M.J., Cheng, Z., and Jenkins, D. 2018-2019. Management of coconut rhinoceros beetle in Hawaii. Hawaii Invasive Species Council, \$100,000
- Cheng, Z., and Melzer, M.J. 2018. Integrated pest management of coconut rhinoceros beetle in Hawaii. Hawaii Invasive Species Council, \$17,771
- Melzer, M.J. 2017-2018. Western Plant Diagnostic Network. USDA-NIFA (subaward from UC-Davis), \$30,800
- Melzer, M.J. 2017-2018. The clean plant network in Hawaii. USDA-APHIS-PPQ National Clean Plant Network, \$37,780
- Melzer, M., Hu, J, and Amore, T. 2017-2019. Development, maintenance, and evaluation of pathogen-free tropical crop germplasm. CTAHR Supplemental Funding, \$60,000
- Melzer, M.J. 2017-2018. University of Hawaii's Huanglongbing Diagnostic Lab and survey. USDA-APHIS-PPQ Citrus Health, \$29,118
- Melzer, M.J. 2017-2019. CGAPS Biosecurity Graduate Research. Hauoli Mau Loa Foundation, \$56,000 (assumed PI duties from Dr. James Leary in 2019)
- Melzer, M.J. 2017-2018. Surveillance of citrus pests and pathogens in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$35,441
- Amore, T., Baldos, O., Manshardt, R., Melzer, M., Miyasaka, S., Nazario-Leary, C., Sewake, K., and Uchida, J. 2017-2020. Increasing Hawaii's Agriculture Production through Research, Importation, Evaluation, Propagation, and Distribution of New Germplasm. Hawaii Department of Agriculture \$493,489
- Melzer, M.J., and Cheng, Z. 2017-2018. Response to coconut rhinoceros beetle and other palm pests in Hawaii. Hawaii Invasive Species Council, \$258,200
- Cheng, Z, and Melzer, M. 2017-2018. Chemical and biological control of coconut rhinoceros beetle in Hawaii. Hawaii Invasive Species Council, \$41,800
- Melzer, M.J., Cheng, Z., Oishi, D.E., Blas, A., Atibalentja, N., and Gurr, I. 2017-2018. Palm health survey in the American Pacific. USDA-APHIS-PPQ Farm Bill, \$148,000
- Melzer, M.J., and Cheng, Z. 2017-2018. Response to coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$1,225,000
- Melzer, M.J. 2016-2017. Western Plant Diagnostic Network. USDA-NIFA (subaward from UC-Davis), \$28,105
- Melzer, M.J. 2016-2017. The sweet potato clean plant network in Hawaii. USDA-APHIS-PPQ National Clean Plant Network, \$38,269
- Melzer, M.J., and Cheng, Z. 2016-2017. Survey and detection for *Metamasius hemipterus* in Hawaii. USDA-APHIS-PPQ Farm Bill, \$130,107
- Melzer, M.J., and Cheng, Z. 2016-2017. Mobilizing against coconut rhinoceros beetle and other invasive species in Hawaii. Hawaii Invasive Species Council, \$331,557
- Melzer, M.J., and Martin, C. 2016-2017. Rapid Ohia Death Response Plan. Dorrance Family Foundation, \$10,000
- Melzer, M.J. 2016-2017. University of Hawaii's Huanglongbing Diagnostic Laboratory and Hawaii Survey. USDA-APHIS-PPQ Citrus Health, \$32,353
- Melzer, M., Hu, J., and Martin, C. 2016. Research support for rapid ohia death, an emerging disease of *Metrosideros*. Marisla Foundation, \$35,000
- Melzer, M., and Martin, C. 2016. Support for rapid ohia death response plan. Hawaii Community Foundation – Koaniani Fund, \$35,000
- Melzer, M., Cheng, Z., and Wright, M. 2016-2017. Response to coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$1,225,000
- Melzer, M., and Uchida, J. 2016-2017. Statewide survey for exotic banana pathogens. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$37,848
- Cheng, Z., and Melzer, M.J. 2016-2017. Developing an Integrated Pest Management Program to Control Coconut Rhinoceros Beetle on Oahu in Hawaii. USDA-APHIS-PPQ Farm Bill, \$75,000

- Melzer, M.J., Sandlin, M., and Hu, J.S. 2016. Rapid Ohia Death Public Outreach. Hauoli Mau Loa Foundation, \$75,000
- Bennett, G.M., and Melzer, M.J. 2016. Rapid Ohia Death Researcher in PEPS. Hauoli Mau Loa Foundation, \$40,000
- Melzer, M.J., and Spafford, H. 2016. Agrosecurity Laboratory. Hauoli Mau Loa Foundation, \$30,000
- Melzer, M.J., Cheng, Z., and Wright, M.G. 2015-2016. Safety training for coconut rhinoceros beetle response personnel and facility improvements at the University of Hawaii's invasive insect containment laboratory. Hawaii Invasive Species Council, \$67,650
- Melzer, M.J., Kawabata, A., and Uchida, J.Y. 2015-2016. Survey for coffee rust and other coffee pathogens in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$53,995
- Melzer, MJ, Hu, JS, and Sugii, N. 2015-2017. Safeguarding Hawaii's Taro and Banana Germplasm: Pathogen Discovery. CTAHR Supplemental Funding, \$68,000
- Melzer, M.J., Cheng, Z., and Wright, M. 2015-2016. Survey, rearing, and management of Coconut rhinoceros beetle on Oahu, Hawaii. USDA-APHIS-PPQ Farm Bill, \$1,901,014
- Melzer, M.J., and Hu, J.S. 2015-2016. The sweet potato clean plant network in Hawaii. USDA-APHIS-PPQ National Clean Plant Network, \$38,051
- Melzer, M.J., Hara, A., and Cheng, Z. 2015-2016. Survey for coconut rhinoceros beetle on Oahu. Hawaii Department of Agriculture, \$872,323
- Cheng, Z., Melzer, M., and Hara, A. 2015-2016. Chemical, biological and cultural control of coconut rhinoceros beetle in Hawaii. USDA-APHIS-PPQ Farm Bill, \$134,750
- Uchida, J.Y., and Melzer, M.J. 2015-2016. Survey for basil viruses in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$29,653
- Melzer, M., Hara, A., and Cheng, Z. 2014-2015. Multi-agency proposal for coconut rhinoceros beetle response, training, and research. Hawaii Department of Land and Natural Resources, \$389,253
- Melzer, M.J. 2014-2015. The citrus clean plant network in Hawaii. USDA-APHIS-PPQ National Clean Plant Network, \$14,000
- Melzer, M.J., and Hu, J.S. 2014-2015. National survey of solanaceous crop pests. USDA-APHIS-PPQ Farm Bill, \$14,500
- Melzer, M.J., and Hu, J.S. 2014-2015. Survey of edible fig viruses in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$29,946
- Melzer, M.J., and Hu, J.S. 2014-2015. Survey of exotic cacao viruses in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$29,242
- Melzer, M.J. 2014-2016. Detection of huanglongbing (citrus greening). USDA-APHIS-PPQ Citrus Health, \$53,850
- Melzer, M.J. 2014-2016. University of Hawaii's Huanglongbing Diagnostic Lab. USDA-APHIS-PPQ Citrus Health, \$10,832
- Melzer, M.J., Hu, J.S., Alvarez, A., and Borth, W. 2013-2014. Survey of phytoplasmas and viroids of palms in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$20,844
- Melzer, M., Hu, J.S., and Miyasaka, S. 2013-2014. Survey of sweet potato viruses in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$18,501
- Melzer, M.J. 2013-2015. University of Hawaii's Huanglongbing Diagnostic Lab. USDA-APHIS-PPQ Citrus Health, \$10,856
- Melzer, M.J. 2013-2014. Pathogen persistence in Hawaii's fresh produce. FDA/UC Davis Western Center for Food Safety, \$125,741
- Melzer, M.J. and Hu, J.S. 2012-2013. Survey of taro (*Colocasia esculenta*) viruses in Hawaii. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$23,453
- Melzer, M.J. and Hu, J.S. 2012-2013. Survey of *Watermelon mosaic virus* and other potyviruses in Hawaii's orchid industry. USDA-APHIS-PPQ Cooperative Agricultural Pest Survey, \$17,069
- Wright, M., Kaufman, L., and Melzer, M. 2011-2015. Low-Input Integrated Management of Tomato Viruses in Hawaii. Western SARE, \$297,296
- Melzer, M.J. and Hu, J.S. 2011-2015. The Citrus Clean Plant Network in Hawaii. USDA-APHIS-PPQ National Clean Plant Network, \$100,152

- Melzer, M.J., Alvarez, A., and Hu, J.S. 2011-2013. Establishment of a huanglongbing detection and wide-area monitoring program in Hawaii, 2011-2013, USDA-NIFA, \$150,000 (assumed PI duties from Dr. Diane Sether in 2012)
- Sugano, J., Kawate, M., Uchida, J., and Melzer, M. 2010-2012. Leaf spotting and its affect on ti leaf (*Cordyline terminalis* or *fruticosa*): for laulau operations. Hawaii Department of Agriculture, \$74,000
- Hu, J.S., and Melzer, M.J. 2010-2011. Management of the emerging tomato yellow leaf curl and potyviral diseases of tomato in Hawaii. USDA-T/STAR, \$40,000
- Hu, J.S., and Melzer, M.J. 2009-2010. Identification and characterization of a new viral disease in Hawaii's anthurium and production of virus-free plants. USDA-CSREES Federal Floriculture, \$20,000
- Hu, J.S., and Melzer, M.J. 2008-2011. Management of citrus blight in Hawaii. USDA-ARS Minor Crop Grants, \$120,000 (Co-PI)
- Hu, J.S., Gonsalves, D., Ferreira, S., and Melzer, M.J. 2008-2011. Evaluation of transgenic citrus plants for resistance to Citrus tristeza virus. USDA-ARS Special Grants, \$60,000
- Hu, J.S., Gonsalves, D., Ferreira, S., and Melzer, M.J. 2008-2011. Development of Mexican lime plants for resistance to Citrus tristeza virus. USDA-ARS Special Grants, \$60,000
- Hu, J.S., Gonsalves, D., Ferreira, S., and Melzer, M.J. 2004-2006. Transgenic citrus plants with broad and durable resistance to CTV. USDA-ARS Special Grants, \$165,000

### Presentations at Conferences

- Melzer, M.\*, Atwood, J.\*, Cheng, Z.\*, and Starke, M.\* 2019. Invasive Species in Hawaii: Impact to Agriculture and Producers. The 2019 Hawaii Agriculture Conference, Honolulu, HI.
- Crook, D.J.\*, Cosse, A., Melzer, M.J., Jenkins, D., Quitugua, R., Siderhurst, M., and Oishi, D. 2019. Chemical and visual ecology of the coconut rhinoceros beetle, *Oryctes rhinoceros* (L.). Entomology 2019, St. Louis, MO
- Boluk, G., Dohbal, S.\*, Crockford, A., Melzer, M.J., Alvarez, A.M., and Arif, M. 2019. Genome-informed recombinase polymerase amplification assay for specific and sensitive detection of *Dickeya* species at point-of-care. Plant Health 2019, Cleveland, OH
- Dohbal, S., Boluk, G.\*, Babler, B., Stulberg, M.J., Rascoe, J., Nakhla, M.K., Chapman, T., Crockford, A., Melzer, M.J., Alvarez, A.M., and Arif, M. 2019. Comparative genomics approach to develop a highly reliable duplex TaqMan qPCR assay for sensitive detection of genus *Dickeya* and *Dickeya dianthicola*. Plant Health 2019, Cleveland, OH
- Larrea-Sarmiento, A.\*, Green, J., Wang, X., Barone, R., Borth, W.B., Sugano, J., Melzer, M.J., and Hu, J. 2019. Epidemiological studies of a complex viral infection in red ginger in Hawaii. Plant Health 2019, Cleveland, OH
- Olemdo-Velarde, A., Kong, A., Larrea-Sarmiento, A., Wang, X., Hu, J., and Melzer, M.J. 2019. *Ficus carica* plants displaying sever viral-like symptoms harbor a complex virome. Plant Health 2019, Cleveland, OH
- Olmedo-Velarde, A.\*, and Melzer, M.J. 2018. Viroid diseases in Hawaii. International Congress of Plant Pathology, Boston, MA.
- Olmedo-Velarde, A.\*, Watanabe, S., Hamasaki, R.T., and Melzer, M.J. 2018. First report of Tomato chlorotic dwarf viroid and Southern tomato virus infecting greenhouse tomato in Hawaii. International Congress of Plant Pathology, Boston, MA.
- Feng, X., Orellana, G., Green, J., Melzer, M.J., and Karasev, A.V.\* 2018. Characterization of a *Bean common mosaic virus* isolate from lima bean (*Phaseolus lunatus*). International Congress of Plant Pathology, Boston, MA.
- Fatdal, L.\*, Sipes, B., and Melzer, M. 2017. Bioforensic studies in *Rotylenchulus reniformis* – sources and origin. Society of Nematologists Annual Meeting, Colonial Williamsburg, VA.
- Dey, K.K.\*, Melzer, M.J., Kerr, C., Xiaoan, S., and Adkins, S. 2017. A new potyvirus found in *Dioscorea bulbifera* in Florida. Annual Meeting of the American Phytopathological Society, San Antonio, TX.
- Roy, A.\*, Stone, A.L., Martinez, G.L., Otero-Colina, G., Melzer, M.J., Hartung, J.S., Wei, G., Mavrodieva, V.A., Brlansky, R.H., Schneider, W., and Nakhla, M.K. 2017. Development of two multiplex RT-PCRs for simultaneous detection of five cytoplasmic and three nuclear viruses associated with citrus leprosis complex. Annual Meeting of the American Phytopathological Society, San Antonio, TX.
- Watanabe, S.\*, and Melzer, M. 2016. Development of a multiplex PCR assay for the identification of coconut rhinoceros beetle (*Oryctes rhinoceros* L.). Entomological Society of America Annual Meeting, Ft. Lauderdale, FL.

- Marrero, G.\*, Yasuhara-Bell, J., Melzer, M., and Alvarez, A. 2016. Loop-mediated isothermal amplification for the detection of soft rot causing *Dickeya* spp. Annual Meeting of the American Phytopathological Society, Tampa, FL.
- Park, A.\* and Melzer, M. 2016. Molecular detection of Ti ringspot associated virus, a novel emaravirus associated with ti ringspot disease of *Cordyline fruticosa* (L.) in Hawai'i. Annual Meeting of the American Phytopathological Society, Tampa, FL.
- Melzer, M.\*, Dey, K., Chan Borges, A., Long, M., Borth, W., Wichitnithed, N., Hu, J., and Li, R. 2016. First report and characterization of *Taro bacilliform virus* in the USA. Annual Meeting of the American Phytopathological Society, Tampa, FL.
- Watanabe, S.\*, and Melzer, M. 2016. Survey for *Oryctes rhinoceros nudivirus* (OrNV) in a Hawaiian coconut rhinoceros beetle (*Oryctes rhinoceros*) population, and genetic diversity of Pacific isolates of OrNV. International Congress on Invertebrate Pathology and Microbial Control and the 49<sup>th</sup> Annual Meeting of the Society for Invertebrate Pathology, Tours, France.
- Melzer, M.J.\* 2015. Metagenomics applied to virology. 48<sup>th</sup> Brazilian Congress of Phytopathology, São Pedro, Brazil (Invited Speaker)
- Leite de Oliveira, M., Borth, W., Carrillo, J., Hu, J., Neupane, K., Stubblefield, S., and Melzer, M.\* 2015. Star jasmine (*Jasminum multiflorum*) plants in Hawaii are infected with multiple tomosviruses. Annual Meeting of the American Phytopathological Society, Pasadena, CA.
- Chikh-Ali, M., Vander Pol, D., Nikolaeva, O.V., Melzer, M.J., and Karasev, A.V.\* 2015. A novel strain of *Potato virus Y* from tomato. Annual Meeting of the American Phytopathological Society, Pasadena, CA.
- Zhang, J., Borth, W.B., Lin, B., Melzer, M.J., Shen, H., Pu, X., and Hu, J.\* 2015. Multiple detection of four banana viruses by reverse transcription loop-mediated isothermal amplification. Annual Meeting of the American Phytopathological Society, Pasadena, CA.
- Roy, A\*, Hartung, J.S., Shao, J., Leon, G., Melzer, M.J., Beard, J.J., Otera-Colina, G., Bauchan, G.R., Ochoa, R., Brlansky, R.H., and Schneider, W.L. 2015. Identification of *Brevipalpus yothersi* Baker as a vector and possible primary host of cytoplasmic citrus leprosis viruses. Annual Meeting of the American Phytopathological Society, Pasadena, CA.
- Melzer, M.\*, Sugano, J., Uchida, J., Kawate, M., Borth, W., and Hu, J. 2014. Partial characterization of a novel emara-like virus from *Cordyline fruticosa* (L.) with ti ringspot disease. Annual Meeting of the American Phytopathological Society, Minneapolis, MN.
- Dey, K.K.\* , Borth, W., Melzer, M., Hu, J., and Wang, M.L. 2014. Screening of pineapple mealybug wilt associated virus (PMWaV) genome for suppressors of gene silencing. Annual Meeting of the American Phytopathological Society, Minneapolis, MN.
- Melzer, M\*, Moyné, A.-L., Blessington, T., Alvarez, A., Jay-Russell, M., and Harris, L. 2014. Persistence of *Escherichia coli* on basil in tropical environments. International Association for Food Protection Annual Meeting, Indianapolis, IN.
- Long, M., Alvarez, A., Hu, J., and Melzer, M.\* 2013. Cytopathology of a novel virus-like disease of citrus. 19<sup>th</sup> Conference of the International Organization of Citrus Virologists, Mpumalanga, South Africa.
- Melzer, M.\*, Sether, D., Karasev, A., Borth, W., and Hu, J. 2011. Diversity and Evolution in the Family Closteroviridae. XXII Encontro Nacional de Virologia, VI Encontro de Virologia do Mercosul, Atibaia, Brazil (Invited Speaker).
- Melzer, M.\*, Kitajima, E., Sether, D., Borth, W., and Hu, J. 2011. Characterization of a novel virus infecting a *Citrus volkameriana* tree with leprosis-like symptoms. XXII Encontro Nacional de Virologia, VI Encontro de Virologia do Mercosul, Atibaia, Brazil.
- Melzer, M.\*, Sugano, J., Sether, D., Borth, W., and Hu, J. 2011. Detection, diversity, and molecular characterization of closteroviruses infecting Hawaiian ti (*Cordyline fruticosa* L.). Joint Meeting of the American Phytopathological Society and the International Association for Plant Protection Sciences, Honolulu, USA.
- Melzer, M.\*, Mauch, H., Borth, W., Ferreira, S., Sether, D., Gonsalves, D., Peña, L., and Hu, J. 2008. Development of transgenic Mexican lime plants for resistance to Citrus tristeza virus using post-transcriptional gene silencing. Biotechfruit 2008 – First International Symposium on Biotechnology of Fruit Species, Dresden, Germany.
- Melzer, M.\*, Mauch, H., Gonsalves, D., Peña, L., Ferreira, S., and Hu, J. 2007. Development of transgenic Mexican lime plants for resistance to *Citrus tristeza virus* through post-transcriptional gene silencing. 17<sup>th</sup> Conference of the International Organization of Citrus Virologists, Adana, Turkey.

- Melzer, M.\*, Borth, W., Zee, F., Garnsey, S., Hilf, M., and Hu, J. 2006. Incidence and diversity of *Citrus tristeza virus* in Hawaii. Joint Meeting of the American Phytopathological Society, the Canadian Phytopathological Society, and the Mycological Society of America, Quebec City, Canada.
- Melzer, M.\*, Borth, W., Zee, F., Garnsey, S., Hilf, M., and Hu, J. 2004. Incidence and diversity of *Citrus tristeza virus* in Hawaii. 16<sup>th</sup> Conference of the International Organization of Citrus Virologists, Monterrey, Mexico.
- Melzer, M.\*, Karasev, A., Sether, D., Dawson, W., and Hu, J. 2000. Nucleotide sequence and genome organization of pineapple mealybug wilt-associated virus 2. Annual Meeting of the American Phytopathological Society, New Orleans, LA.

#### Other Presentations

- Melzer, M.\* 2019. New pathogen detection technologies for Pacific biosecurity. CTAHR Cooperative Extension Service Invasive Species Conference, Hilo, HI
- Melzer, M.\* 2019. Agrosecurity in Hawaii and the Pacific. Master Gardener Program, Pearl City, HI
- Melzer, M.\* 2019. Agrosecurity in Hawaii and the Pacific. Vanuatu Agricultural Research and Technical Center, Santo, Vanuatu
- Melzer, M.\* 2018. The National Clean Plant Network & The Clean Plant Network in Hawaii. CE90 4-H100 Celebrations of UH Community Education, Honolulu, HI
- Melzer, M.\* 2018. The Clean Plant Network in Hawaii. 28<sup>th</sup> Annual Hawaii Tropical Fruit Growers Conference, Pearl City, HI (Invited Speaker)
- Melzer, M.\* 2018. The Sweetpotato (‘Uala) Clean Plant Program in Hawaii. National Clean Plant Network – Sweetpotato: Special Meeting, Baton Rouge, LA (Invited Speaker)
- Manley, M.\*, Melzer, M., and Spafford, H. 2017. Oviposition preferences of coconut rhinoceros beetle (*Oryctes rhinoceros*). Pacific Entomology Conference, Honolulu, HI
- Vowell, T., Watanabe, S., Lohiya, P., Manley, M., and Melzer, M.\* 2017. Approaches for coconut rhinoceros beetle control in Hawaii. Pacific Entomology Conference, Honolulu, HI (Invited Speaker)
- Melzer, M.J.\* 2017. Coconut rhinoceros beetle in Hawaii. Sub-Regional Workshop on Coconut Rhinoceros Beetle Guam Biotype, Suva, Fiji (Invited Speaker).
- Melzer, M.\* 2017. Agrosecurity Laboratory: Safeguarding Agriculture in Hawaii and the Pacific. Board Meeting of the Research Corporation of the University of Hawaii, Hilo, HI (Invited Speaker).
- Melzer, M.\* 2017. Agrosecurity in Hawaii. 1<sup>st</sup> Annual Hawaii Invasive Pest Symposium, Kapaa, HI (Invited Speaker).
- Spafford, H.\*, Melzer, M.\*, Atwood, J.P.\*, and Kaniaupio-Crozier, P.\* 2016. Biosecurity: Nurturing Health & Quality of Life. Hawaii Public Health Conference, Honolulu, HI (Invited Panelist)
- Melzer, M.J.\* 2016. Update on two new ginger diseases. East Oahu County Farm Bureau General Membership meeting. Kaneohe, HI
- Melzer, M.J.\* 2016. Agrosecurity Laboratory. National Plant Diagnostic Network - National Meeting. Washington, DC.
- Melzer, M.\*, Shimabuku, R., and Hu, J. 2015. New hosts for Hibiscus green spot virus 2. WERA-20 Annual Meeting 2015, Greenbelt, MD
- Melzer, M.\* 2015. The Clean Plant Network in Hawaii. Kauai Fruit Conference, Lihue, HI.
- Melzer, M.\* 2014. Sweet potato (‘Uala) in Hawaii. National Clean Plant Network – Sweet Potato Stakeholders Meeting, Raleigh, NC.
- Melzer, M.\* 2014. Agrosecurity in the Pacific: Start Clean, Stay Clean. East-West Center Wednesday Evening Seminar Series, Honolulu, HI.
- Melzer, M.J.\*, Borth, W.B., and Hu, J.S. 2014. Detection and discovery of viruses in edible fig (*Ficus carica* L.). WERA-20 Annual Meeting 2014. Hilo, HI.
- Melzer, M.J.\* 2014. Persistence of *Escherichia coli* on basil in tropical environments. Survival of Foodborne Pathogens in Pre-harvest and Post-harvest Produce Environments, Newport Beach, CA (Invited Speaker).
- Harris, L\*, Gorny, J\*, Assar, S\*, and Melzer, M\*. 2014. How to utilize alternatives and variances in the proposed Produce Safety Rule to comply with irrigation water quality criteria. 2014 Western US Irrigation Water Conference, Davis, CA. (Invited Panelist)