

CTAHR BIO-Bibliography

Kenneth William Leonhardt
College of Tropical Agriculture and Human Resources
Department of Tropical Plant and Soil Sciences
FTE Distribution: 20% I, 30% R, 50% E

Education

<u>Degree & University</u>	<u>Major</u>	<u>Year Graduated</u>
B.S., California State Polytechnic University, Pomona, CA.	Horticulture	1971
M.S., University of Hawaii at Manoa	Horticulture	1973
Ph.D., University of Hawaii at Manoa	Horticulture	1977

Professional Appointments

<u>Title</u>	<u>Employer</u>	<u>Dates Employed</u>
Specialist	Department of Tropical Plant and Soil Sciences, UHM	1996 – present
Associate Specialist	Department of Horticulture, UHM	1980 – 1996
Assistant Specialist	Department of Horticulture, UHM	1976 – 1980

Courses Taught

<u>Course No.</u>	<u>Title</u>	<u>Credits</u>
HORT 101	Plants are for People	1
HORT 262	Principles of Horticulture Science	3
TPSS 200	Tropical Crop Science (WI)	3
TPSS 364	Horticulture Practices	2
TPSS 369	Ornamental Plant Materials	3
TPSS 402	Flower and Foliage Crop Production	3
TPSS 492	Internship	1
TPSS 492L	Internship lab (WI)	3
TPSS 499	Directed Studies	v
TPSS 664	Orchidology	3
TPSS 695	Masters Project	3
TPSS 699	Directed Research	v
TPSS 700	Thesis Research	v

Publications

Refereed Journal Publications (2019-2022) (6)

Leonhardt, K.W. 2022. Breeding *Leucospermum* for Improved Horticultural Characteristics, Disease Tolerance and Cultivation in Tropical Climates. Acta Hort. 1347. ISBN. 978-94-62613-46-1, DOI 10.17660/ActaHortic.2022.1347.7

Leonhardt, K.W. 2020a. Cultivar Improvement in Tropical Ornamentals, for Landscape Uses and Floral Products. Acta Hort. 1288, 21-31. DOI:10.17660/ActaHort.2020.1288.4

Leonhardt, K.W. 2020b. A polyploid pink and white shower tree, *Cassia javanica*, produces diploid progeny. Acta Hort. 1282, 49-52
DOI: 10.17660/ActaHortic.2020.1282.9 <https://doi.org/10.17660/ActaHortic.2020.1282.9>

Leonhardt, K.W. and M.G. Wright. 2020. Breeding *Leucospermum* hybrids for potted flowering plant production, landscape uses and for cutflower production in the tropics; genetic factors contributing to plant architecture. Acta Hort. 1282, 163-166. DOI: 10.17660/ActaHortic.2020.1282.25
<https://doi.org/10.17660/ActaHortic.2020.1282.25>

CTAHR BIO-Bibliography

Leonhardt, K.W. 2019. Polyploidy as a Management Strategy for Invasive Species. HortTech. 29(5):554-558. DOI: <https://doi.org/10.21273>.
<https://journals.ashs.org/horttech/abstract/journals/horttech/29/5/article-p554.xml>

Leonhardt, K.W. 2019. Breeding and Selection of *Leucospermum* Hybrids for Tropical Climates. IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico, Oct. 2019.

Non-refereed Research and Extension Publications (2017-2023) (16)

Leonhardt, K.W. 2023. Two UH Graduate Students Ship 15,000 Cuttings of 11 Newly Released UH *Leucospermum* hybrid cultivars to 17 Hawaii Growers. In Hawaii Protea Growers Newsletter, Vol. 2:2. Dec. 2023.

Leonhardt, K.W., J. Olarti and N. Hein-Ferris. 2023. Erythrina ‘Dominic’ and ‘Sophia’. Two Erythrina Gall Wasp-Resistant Cultivars to Relace the ‘Tropic Coral’ Tall Wiliwili. Fact sheet No. 58. College of Tropical Agr. and Human Resources. Honolulu, HI.

Galanti, R. and **K.W. Leonhardt.** 2023. Results of the Low Elevation *Leucospermum* Hybrids Trial at Two Bee’s Farm On Oahu, Hawaii. In Hawaii Protea Growers Newsletter, Vol. 2:1. Sept. 2022.

Leonhardt, K.W. and R. Galanti. 2023. New Cultivar Releases from the University of Hawaii for 2023. In Hawaii Protea Growers Newsletter, Vol. 2:1. Sept. 2022.

Olarti, J., **K.W. Leonhardt** and R. Criley. 2023. (poster) Multi Level Air Layering. International Plant Propagators Society, Western Region Meeting, 24-28 January 2023, Portland, OR.

Leonhardt, K.W. 2022. XIX International Protea Association Conference and the XIV International Protea Research Symposium, Canary Islands, March 2022. In Hawaii Protea Growers Newsletter, Vol. 1:1. Oct. 2022.

Leonhardt, K.W. 2022. New Cultivar Releases from the University of Hawaii. In Hawaii Protea Growers Newsletter, Vol. 1:1. Oct. 2022.

Leonhardt, K.W. and R. Galanti. 2021. Stephanotis ‘Isabella and ‘Puanani’, Superior New Cultivars for Landscape Uses and Cut-Flower Production. Fact sheet. College of Tropical Agr. and Human Resources. Honolulu, HI.

Leonhardt, Ken. 2019. *Dendrobium* Jaq-Hawaii ‘Olomana’, Possibly the World’s Highest Yielding Spray Orchid. Fact sheet. College of Tropical Agr. and Human Resources. Honolulu, HI.

Leonhardt, Ken. 2018. (poster). A Polyploid Pink and white Shower Tree, *Cassia javanica*, Produces Diploid Progeny. IHC, Istanbul, Turkey

Leonhardt, Ken and Michael Martinez-Sepulveda. 2018. (poster). Polyploidy as a Management Strategy to Reduce Seed Litter. Landscape Industry Council of Hawaii, Green Industry Conference. Honolulu, Hawaii. Oct. 2018.

Leonhardt, Ken. 2017. Making of the Hawaiian Owl. Purebred Pigeon. 14(1): 48.

Leonhardt, Ken and Michael Martinez-Sepulveda. 2017. (poster). Autotetraploid Induced Sterility in

CTAHR BIO-Bibliography

the Golden Shower Tree. ASHS, Waikoloa, Hawaii. Sept. 2017.

Leonhardt, K.W. 2017. *Cassia fistula* ‘Pierce’, a New and Improved, Sterile, Seedless Yellow Shower Tree. Hawaii Landscape magazine. March/April 2017.

Leonhardt, K.W., R. Matsuda and C. Caines. 2017. *Alpinia* breeding at the University of Hawaii. Journal of the Heliconia Society International. Vol. 23(1), March. 2017. P 6-9.

Leonhardt, K.W. 2017. ‘Adrien’, an Erythrina Gall Wasp Tolerant Coral Tree. Hawaii Landscape magazine. Jan/Feb 2017, pp24-27.

Volumes edited and produced (2018-2023) (25)

Leonhardt, K.W. 2023. Hawaii Protea Growers Newsletter. Vol. 2:2. CTAHR, 10 p. Dec. 2023.

Leonhardt, K.W. and V. Loges. 2023. Bulletin. Journal of the Heliconia Society International. Vol. 29(3). 16 p. ISSN 2576-5507.

Leonhardt, K.W. 2022. Hawaii Protea Growers Newsletter. Vol. 2:1. CTAHR, 14 p. Sept 2023.

Leonhardt, K.W. and V. Loges. 2023. Bulletin. Journal of the Heliconia Society International. Vol. 29(2). 16 p. ISSN 2576-5507.

Leonhardt, K.W. and V. Loges. 2023. Bulletin. Journal of the Heliconia Society International. Vol. 29(1). 16 p. ISSN 2576-5507.

Leonhardt, K.W. and V. Loges. 2022. Bulletin. Journal of the Heliconia Society International. Vol. 28(3 & 4). 24 p. ISSN 2576-5507.

Van Huylenbroeck, **K.W. Leonhardt**, T.D. Amore and K. Bhattarai. 2022. Breeding, Genetics and Genomics of Ornamental Plants. Horticulturae. ISSN 2311-7524.

Leonhardt, K.W. 2022. Hawaii Protea Growers Newsletter. Vol. 1:1. CTAHR, 11 p. Oct. 2022.

Leonhardt, K.W. and V. Loges. 2022. Bulletin. Journal of the Heliconia Society International. Vol. 28(2). 16 p.

Leonhardt, K.W. and V. Loges. 2022. Bulletin. Journal of the Heliconia Society International. Vol. 27(4) and 28(1). 24 p.

Leonhardt, K.W. and V. Loges. 2021. Bulletin. Journal of the Heliconia Society International. Vol. 27(3). 16 p.

Leonhardt, K.W. and V. Loges. 2021. Bulletin. Journal of the Heliconia Society International. Vol. 27(2). 16 p.

Leonhardt, K.W. and V. Loges. 2021. Bulletin. Journal of the Heliconia Society International. Vol. 27(1). 16 p.

Leonhardt, K.W. and V. Loges. 2020. Bulletin. Journal of the Heliconia Society International. Vol. 26(4). 16 p.

CTAHR BIO-Bibliography

Leonhardt, K.W. and V. Loges. 2020. Bulletin. Journal of the Heliconia Society International. Vol. 26(3). 16 p.

Leonhardt, K.W. and V. Loges. 2020. Bulletin. Journal of the Heliconia Society International. Vol. 26(2), June. 2020. 16 p.

Leonhardt, K.W. and V. Loges. 2020. Bulletin. Journal of the Heliconia Society International. Vol. 26(1), March. 2020. 16 p.

Leonhardt, K.W. and R.A. Criley. 2019. Bulletin. Journal of the Heliconia Society International. Vol. 25(4), Dec. 2019. 16 p.

Leonhardt, K.W. and R.A. Criley. 2019. Bulletin. Journal of the Heliconia Society International. Vol. 25(3), Sept. 2019. 16 p.

Leonhardt, K.W. and R.A. Criley. 2019. Bulletin. Journal of the Heliconia Society International. Vol. 25(2), June. 2019. 16 p.

Leonhardt, K.W. and R.A. Criley. 2019. Bulletin. Journal of the Heliconia Society International. Vol. 25(1), March. 2019. 16 p.

Leonhardt, K.W. and R.A. Criley. 2018. Bulletin. Journal of the Heliconia Society International. Vol. 24(4), Dec. 2018. 16 p.

Leonhardt, K.W. and R.A. Criley. 2018. Bulletin. Journal of the Heliconia Society International. Vol. 24(3), Sept. 2018. 16 p.

Leonhardt, K.W. and R.A. Criley. 2018. Bulletin. Journal of the Heliconia Society International. Vol. 24(2), June. 2018. 16 p.

Leonhardt, K.W. and R.A. Criley. 2018. Bulletin. Journal of the Heliconia Society International. Vol. 24(1), March. 2018. 16 p.

Published abstracts of unpublished presentations (2018-2020) (5)

Leonhardt, K.W. 2022. Creating Sterility through Breeding and Polyploid Induction. ASHS, Chicago, 30 July 2022 (invited).

Leonhardt, K.W. 2019. Breeding and Selection of *Leucospermum* Hybrids for Tropical Climates. IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico, Oct. 2019.

Leonhardt, K.W. 2019. Polyploidy as an *Erythrina* Gall Wasp Management Strategy for the Indian coral tree, *Erythrina variegata*, IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico, Oct. 2019.

Leonhardt, K.W. 2019. Reducing Seed Pod Litter in Tropical Landscape Tree Species by Polyploid Induction, IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico, Oct. 2019.

Leonhardt, K.W. 2018. Cultivar Development in Tropical Ornamentals. Landscape Industry Council

CTAHR BIO-Bibliography

of Hawaii, Green Industry Conference. Honolulu, Hawaii. Oct. 2018.

Miscellaneous (2)

Radio interviews

HPR, The Conversation. Host Catherine Cruz. Trash Trees or Seedless Varieties. 1/2/2020. 30 minutes.

KTUH, UH radio station. Host Dr. Ted Radovich. Ornamental Plant Research at UHM. 1/19/2020. 90 minutes.

Creative Works

New and improved plant varieties created for the Hawaii nursery trade:

Tropical proteas have been created through traditional breeding and selection at the Hawaii Agricultural Research Center in Kunia. Fifteen tropical selections are being trialed with commercial growers, including 15 growers in Hilo, 3 in Kona, 2 in Waialua, 2 in Waimanalo, 1 on Lanai and 1 on Molokai. Leonhardt, K.W. 2000a, Leonhardt, K.W. and M.G. Wright. 2000. In December 2023 over 15,000 cuttings were distributed to 17 Hawaii growers.

***Dendrobium* ‘Olomana’** is an extremely high yielding selection of UH 306, however it was virus infected when identified as a superior individual. The virus was eradicated and 1,800 clean plants were distributed to 16 growers on Oahu, Hawaii and Molokai. Ball Horticulture is interest in patenting this orchid. Royalty revenues will support continued research. Leonhardt, Ken. 2019.

***Erythrina* gall wasp resistant ‘Tropic Coral’.** The diploid form, introduced in the 1980s quickly became the windbreak of choice in all of Hawaii and the tropics. The *Erythrina* gall wasp, arriving in 2005, quickly spread to all islands and decimated this and other *Erythrina* species. The induction of polyploidy created genetic resistance to the EGW. There are two resistant clones. An HDOA grant was awarded to increase and distribute these EGW resistant clones statewide. Leonhardt, K.W. 2019.

***Erythrina* ‘Adrien’**, is an *Erythrina* gall wasp tolerant Indian coral tree. The induction of polyploidy created the genetic resistance. Hundreds of cuttings have been distributed to commercial growers on all major islands. Leonhardt, K.W. 2017.

***Erythrina sandwicensis*, the native wiliwili.** Several 4N plants appear to have tolerance to the EGW. They need to be put through a more rigorous test to determine with certainty the level of tolerance.

4N *Stephanotis*, *Marsdenia floribunda*. Eight 4N accessions (selected from over 70 4N seedlings) are superior for size, form and texture, and are being increased and distributed to growers on all major islands for lei and landscape uses. They are also sterile. Leonhardt, K.W. and R. Galanti. 2021.

Sterile shower tree species. Auto-4N forms of *Cassia fistula* (4), *C. javanica* (6) and *C. bakeriana* (4) were created and all have flowered at Waimanalo and all are completely sterile. However, they are extremely difficult to propagate, and I have been unable to introduce them to the trade. Leonhardt, K.W. 2020a, Leonhardt, K.W. 2017.

Sterile shower tree hybrids. A hybrid shower tree population (genus *Cassia*) of 51 trees of the cross [(*C. fistula* x *C. javanica*) x *C. fistula*] x *C. grandis* was planted at the Waimanalo Research Station in 2017. The maternal parent, *C.* ‘Lunalilo Yellow’ is a hybrid that produces mostly unreduced gametes

CTAHR BIO-Bibliography

leading to triploid (3N), mixoploid (3N & 4N), and tetraploid (4N) progeny. Fourteen flowered this year and eight of them were sterile, with not a single seed produced. A duplicate planting has been installed at the Pearl City Urban Garden Center as a demonstration trial. These are much more easily propagated than the sterile 4N *Cassia* species.

Sterile octopus tree, *Shefflera actinophylla*. The octopus tree is one of the most invasive species in the tropics, worldwide, but landscapers continue to use it. A sterile form would be the ideal substitute. Fourteen polyploid plants were induced and are now coming to maturity at Waimanalo. Of the 7 that flowered in 2019 and 2020, all appear to be sterile. Propagation of confirmed sterile plants will begin in 2021. Leonhardt, K.W. 2020a

Sterile African tulip tree, *Spathodea campanulata*. A single orange mixoploid (4N and 2N tissues) tree produces 0 to 3 fruits annually but I have been unable to determine if the fruits have seeds. Control plants produce hundreds of fruits and tens of thousands of seed annually. When sterility is confirmed, the plant will be increased for distribution.

Ten 4N forms of the yellow African tulip tree are interplanted with 2N controls. Since this is a self-incompatible species I am hopeful of obtaining 3N seedlings that should be sterile. Leonhardt, K.W. 2020a

Sterile monkey pod tree, *Albizia saman*. The species can be invasive, and it is a serious litter problem in managed landscapes due to its resinous pods that stick to slippers and are difficult to sweep off sidewalks. Of 16 4N trees, most produce fruits with 1 to 4 seeds, while control plants produce fruits with 8 to 10 seeds. At least one 4N tree produces pods the size of a Chinese flat pea and is seedless. It has not been propagated yet, for lack of resources.

From fertile 4N plants a population of 100 seedlings were grown and assessed for ploidy. Eleven 3N plants were identified and planted at Waimanalo. They are about 3 meters tall now and some may flower in 2021. They are expected to be sterile. Leonhardt, K.W. 2020a

Sterile Royal Poinciana tree, *Delonix regia*. A single 4N tree produces about 80% fewer pods than similar size control plants, and most of the pods are without seeds. Attempts are being made to use its pollen to produce 3N progeny, which should be sterile. Leonhardt, K.W. 2020a

Sterile *Lagerstroemia* hybrids. From a 30-plant population of 10 accessions of sterile hybrids of *L. speciosa* x *L. indica*, from the USDA woody ornamentals lab in Missouri, three accessions appear to be superior for flowering and tolerance to the Japanese rose beetle. A joint release is anticipated in 2022.

***Plumeria stenopetala*.** This species was thought to have some resistance to the plumeria rust, so a few 4N plants were induced for breeding purposes. However, the 4N plants are not so resistant to the rust.

Autograph tree, *Clusia rosea*. This is one of the most invasive species in Hawaii and all of the tropics. Since landscapers continue to specify it, a sterile form would be highly desirable. Two mixoploid plants were induced, but neither has flowered yet.

Looking glass tree, *Heritiera littoralis*. Twenty-eight induced polyploidy trees began flowering in 2018, but they have not yet been evaluated for sterility due to lack of resources.

Malibar chestnut, *Pachira aquatic*. Three 4N plants appear to be superior to 2N control plants for ornamental characteristics. They have not yet been propagated due to lack of resources.

CTAHR BIO-Bibliography

Ornamental ginger, *Alpinia purpurata*. Sixteen selections were made from a 288-plant population from 10 controlled crosses. Releases are being withheld until there is better understanding and management practices for two or more new ginger viruses.

Purging nut, *Jatropha curcas*. Several 4N and mixoploid plants were induced for a colleague who was interested to learn if the seeds from a 4N plant would produce more oil or a higher quality oil than the seeds from control plants. The plants are now seed bearing, but that colleague is no longer at UHM. The plants will probably be offered to HARC.

Recent polyploid plantings. Ten 4N and 8 mixoploid plants of the common coral tree, *Erythrina christa-galli*; pink bauhinia, *Bauhinia monandra*; gold medallion tree, *Senna leptophylla*; and milo, *Thespesia populnea* were planted at Waimanalo in October 2020. They will be assessed for sterility when they reach maturity.

Introductions from overseas

Suregada multiflora is a dioecious evergreen shrub or small tree. This highly variegated form, purchased from a collector in the Philippines, has shiny leaves that are attractive in the landscape and last for over two weeks as cut foliage. Only the male form was introduced. Hundreds of cuttings have been given to commercial growers on all islands.

Pterocarpus indicus 'Pendula', weeping rosewood. This is a small leaved weeping form of the common narra tree, popular in Hawaii. This beautiful ornamental tree, found in a public park in Darwin, Australia, produces glossy green pinnate leaves that shimmer in the breeze. It is a very hardy tree, easily propagated from cuttings, and well adapted to dry conditions. Hundreds of cuttings have been given to commercial growers on all islands.

Leadership Roles (2018-2023)

TPSS

Chair, TPSS Graduate Faculty, 2016-present

Academic advisor to all TPSS undergrad students 2001 to 2016

Overseer, Plant Production and Management Academic Minor, to present

Chair, TPSS Scholarship Committee, 2001 to 2018

DPC member, 2020

Magoon committee

Advisor to the TPSS undergraduate Horticulture Society, 2001 to 2018

Faculty search committees (2)

CTAHR

Chair, TAE undergraduate BS degree program, 2016-2020

Overseer, Agribusiness Management Certificate program, to present

CTAHR Scholarship Committee, 2008 to 2018

UHM

Chair, TPRC #12, 2018

UHM Campus Grounds Committee, 2014-2018, 2023.

International

Co-Editor, Journal of the Heliconia Society International, 2010-present.

Scientific Committee, XIV Protea Research Symposium and the XX International Protea Association Conference, San Diego, CA, 2025.

Scientific Committee, XIV Protea Research Symposium and the XIX International Protea Association

CTAHR BIO-Bibliography

Conference, Tenerife, Spain, 2019-2022
Academic Editor, International Journal Horticulturae, Special Issue on Ornamentals Plant
Breeding, 2019-2022

Professional Organizations:

American Society for Horticultural Science (ASHS)
International Society for Horticultural Science (ISHS)
International Protea Association (IPA)
Heliconia Society International (HSI)

Graduate Student Committees (24); chaired (11)

Ashley Lelie, MS, Chair
Andrew Dedrick, MS, Chair
La'akea Dedrick, MS, Chair
Nikolay Klyashtornyy, MS, Chair
Natalie Hein-Ferris, MS, Chair, 2019
Emily Teng, PhD
Kauahi Perez, PhD, 2019
Peter Toves, PhD
Alexandra Campbell, MS, 2018
Greg Hoover, MS, 2016
Amanda Ackerman, MS, 2015, Chair
David Lingenfelter, MS, 2014, Chair
Sterling Thomas, MS, 2013
Liz Huppman, PhD, 2013
Huang Yu, PhD, 2012
Peter Wiggins, MS, 2011
Tilden Miguel, MS, 2010, Chair
Will Rehrig MS, 2008
Emily Teng, MS, 2007, Chair
Thomas Littleton, MS, 2007, Chair
Hideko Kasahara, MS, 2007
Susana Vanzie-Canton, MS, 2006, Chair
Susan Hamilton, MS, 2005 (Ag Econ)
Paul Singleton, PhD, 1980

Career

NFL wide receiver, 7 years
Self-employed businessman, HI
Family nursery business
Self-employed businessman, HI
USDA employed, HI
Nursery manager, PhD student, TPSS
Educational support, CTAHR
Graduated Dec. 2022.
Moved to Florida, lost track
PhD student on mainland
Nursery manager, Washington State
Florida Department of Agriculture
Self employed?
Researcher, Lyon Arboretum, recently retired
Lost track
Tissue culture technician, Lyon Arboretum
Self-employed businessman, tissue culture lab, HI
Tissue culture technician, Lyon Arboretum
Nursery manager, PhD student
Self-employed businessman, farm in Costa Rica
Technician for Bayer, HI
Tissue culture technician, CA
Lost track
Retired from distinguished career in CTAHR

Grant Support (excluding travel grants), (2018-2022)

PD	Agency	(Approx.)	Years	Key words in title
Leonhardt	CTAHR	\$29,412	2023-2024	Increase & Introduce several sterile (seedless) clones of tropical landscape trees.
Leonhardt	HDOA	\$32,000	2021 to 2022	Increase & Introduce Erythrina Gall Wasp resistant <i>Erythrina variegata</i> 'Tropic Coral'
Leonhardt Hosten	National Park Service	\$124,895	2015 to 2019	Internships at the Kalaupapa Settlement on Molokai, Hawaii for CTAHR students

CTAHR BIO-Bibliography

Leonhardt USDA/Hatch \$80,000 2017 to 2018 Create *Erythrina* Gall Wasp resistant
Erythrina variegata 'Tropic Coral'

Presentations

Invited Keynote International Conference Presentations (2019-2022) (2)

Breeding *Leucospermum* for Improved Horticultural Characteristics, Disease Tolerance and Cultivation in Tropical Climates. International Protea Research Symposium, ISHS, Tenerife, Spain. March, 2022.

Variety Improvement in Tropical Ornamentals, for Landscape Uses and Floral Products.

IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico. 30 Sept. to 3 Oct. 2019.

Presentations at Scientific Conferences (other than Keynotes), (2017-2022) (11, 6 invited)

Creating Sterility through Breeding and Polyploid Induction. ASHS, Chicago, 30 July 2022 (invited).

Breeding and Selection of *Leucospermum* Hybrids for Tropical Climates. IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico. 10-1- 2019 (invited).

Polyploidy as an *Erythrina* Gall Wasp Management Strategy for the Indian coral tree, *Erythrina variegata*. IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico. 10-2- 2019 (invited).

Reducing Seed Pod Litter in Tropical Landscape Tree Species by Polyploid Induction. IX International Symposium on New Ornamental Crops, ISHS. Guadalajara, Jalisco, Mexico. 10-1- 2019 (invited).

Breeding *Leucospermum* hybrids for potted flowering plant production, landscape uses and for cutflower production in the tropics; genetic factors contributing to plant architecture. IHC, Istanbul, Turkey. 8-14-2018.

A Polyploid Pink and White Shower Tree, *Cassia javanica*, produces Diploid Progeny (poster). IHC, Istanbul, Turkey, Aug 2018.

Autotetraploid Induced Sterility in *Cassia bakeriana*, the Pink Shower Tree. ASHS, Waikoloa, Hawaii. 9-22-2017.

Induced Sterility as a Management Strategy for Invasive Species (Invasive Species Workshop, invited). ASHS, Waikoloa, Hawaii. 9-20-2017 (invited).

History and Significance of Orchids in Hawaii (Orchid Workshop, invited). ASHS, Waikoloa, Hawaii. 9-21-2017 (invited).

Autotetraploid Induced Sterility in the Golden Shower Tree (poster). ASHS, Waikoloa, Hawaii. Sept. 2017.

Hybridizing *Spathoglottis*; New Directions for Creating Colorful Orchids for the Landscape and for Potted Flowering Plants (presented for Rolita Spowart, V.S Orchids, Manila, Philippines, who was unable to attend). ASHS, Waikoloa, Hawaii. 9-21-2017.