



### **Sunday February 3:**

<b>Noon</b>	<b>9:00 PM</b>	Registration and poster set up
<b>4:00 PM</b>	<b>6:00 PM</b>	<b>Pre-conference Bioinformatics Discussion Group (Attendance by invitation)</b>
<b>7:00 PM</b>	<b>9:00 PM</b>	<b>Welcome Reception</b>

### **Monday February 4:**

<b>7:30 AM</b>	<b>5:00 PM</b>	Registration
<b>7:00</b>	<b>8:00 AM</b>	<b>Continental Breakfast</b>
<b>8:00</b>	<b>8:45 AM</b>	Welcome and Introductions
<b>8:45</b>	<b>9:45 AM</b>	<b>Opening Keynote Address</b> <b>Professor Josy Bové</b>
<b>9:45</b>	<b>10:00 AM</b>	<b>Break</b>
		<ul style="list-style-type: none"> <li>● <b>Session 1: International and National Citrus Industries, Regulation, and Grower Experiences – Charla Hollingsworth, Moderator</b></li> </ul>
<b>10:00</b>	<b>1.1</b>	<b>Preliminary Evaluation of the Single-Tree, Huanglongbing Find in California</b> Wang, J., Roose, M., Ramadugu, C., Lee, R., Manjunath, K., Lin, H., Chen, J., Shatters, R., <b>Polek, MaryLou</b> , LeVesque, C., Vidalakis, G.
<b>10:15</b>	<b>1.2</b>	<b>Response of Government and the Citrus Industry to the Discovery of Asian Citrus Psyllid in Arizona</b> <b>Glenn C. Wright</b> , and G. John Caravetta.
<b>10:30</b>	<b>1.3</b>	<b>First Detection of Huanglongbing and Implementation of its Mitigation Efforts in Texas</b> <b>Sétamou, Mamoudou</b> , da Graça J. V., Kunta, M.
<b>10:45</b>	<b>1.4</b>	<b>HLB in Argentina: a New Disease Outbreak</b> Outi, Y., Cortese, P. Santinoni, L., Palma, L., <b>Agostini, Juan Pedro</b> , Preusler, C., Gastaminza, G., Perez, G., Dominguez, E.
<b>11:00-11:30</b>	<b>1.5</b>	<b>After the science is finished, the work begins – Navigating the legal and regulatory processes for the deregulation of genetically-enhanced HLB-resistant citrus</b> <b>Michael Irej</b> , Ricke Kress, Vickie Forster, Erik Mirkov

### Contributed Posters

- 1.6** **Huanglongbing Surveillance Program Actions in the State of Bahia, Brazil**  
**Silva, Suely X.B.**, Andrade, E.C., Nascimento, A.S., Barbosa, C.J., Girardi, E.A., Astúa, J.F., Laranjeira, F.F.
- 1.7** **Incidence of Huanglongbing in commercial orchards in northwest Paraná, Brazil**  
Mulati, F., Nocchi, P.T.R., Zanutto, C.A., Belasque Jr., J., **Nunes, William M.C.**
- 1.8** **The Citrus Sanitation Center of the Estación Experimental Agroindustrial “Obispo Colombres”, Tucumán, Argentina**  
**Beatriz Stein**

### ● **Session 2: Detection and Diagnosis –Mike Irey, Moderator**

- 11:30**    **2.1**    **Detection of Liberibacter asiaticus in a single infected Asian citrus psyllid adult or nymph: Impact of dilution with clean Asian citrus psyllids (Diaphorina citri) during extraction.**  
**Cynthia LeVesque**, Lucita Kumagai, Manjunath Keremane, Hong Lin, Madhurababu Kunta, John Morgan, David G. Hall and MaryLou Polek
- 11:45**    **2.2**    **Single chain antibodies against ‘Ca. Liberibacter asiaticus’**  
Yuan, Q., Jordan, R., Brlansky, R.H., Minenkova, O., **Hartung, John S.**
- 12:00**    **2.3**    **Portable Chemical Sensors for Monitoring Infection-Specific Volatiles in Asymptomatic Citrus**  
**Fink, Richard L.**, Aksenov, A.A., Thuesen, L.H., Pasamontes, A., Cheung, W.H.K., Peirano, D.J., and Davis, C.E.
- 12:15**    **2.4**    **Repertoire of novel sequence signatures for the detection of Candidatus Liberibacter asiaticus by quantitative real time-PCR**  
Sunitha Kogenaru and **Nian Wang**

### **12:30**    **1:30 PM**    **Lunch**

- 1:30**    **2.5**    **Tree-side Molecular Testing for DNA from the HLB Bacterium Candidatus Liberibacter asiaticus**  
R. Bruce Cary, Hong Cai, Mark Nowakowski, Courtney Martin and **YongPing Duan**
- 1:45**    **2.6**    **Relationship between Ct values, HLB symptoms and CLas titer**  
**Greg McCollum**, Mark Hilf, Mike Irey
- 2:00**    **2.7**    **Visualization of ‘Candidatus Liberibacter asiaticus’ Cells in Citrus Seed Coats with Fluorescence In Situ Hybridization and Transmission Electron Microscopy**  
**Mark E. Hilf**, K.R. Sims, S.Y. Folimonova, and D.S. Achor

### Contributed Posters

- 2.8**    **Guidelines for Selection of Tissues for Electron Microscopy Confirmation of Candidatus Liberibacter spp. in Huanglongbing-affected Citrus**  
**Diann Achor**, Craig L. Davis, Ronald H. Brlansky, and Svetlana Y. Folimonova

- 2.9 Comparison of optical sensing techniques for detecting citrus diseases.**  
Sindhuja Sankaran , Reza Ehsani
- 2.10 Advances in HLB Detection Using Agdia’s Isothermal AmplifyRP™ Platform**  
McOwen, Nathan, Russell, P.F., and Bohannon, R.
- 2.11 Occurrence of *Diaphorina citri* Kuwayama in an unexpected ecosystem: the Lake Kissimmee State Park Forest, Florida**  
Xavier Martini, Thomas Addison, Barry Fleming, Ian Jackson, Lukasz L. Stelinski
- 2.12 Efficiency of different set of primers in PCR detection of ‘*Candidatus Liberibacter asiaticus*’**  
Meneguim, L., Naldi, A.L., Poças, C.D., Leite Júnior, Rui P.
- 2.13 Home Detection Kit for *Candidatus Liberibacter asiaticus* (LAS) Associated with Citrus Huanglongbing from Psyllids**  
Manjunath L. Keremane, Chandrika Ramadugu, Ryo Kubota, Yongping Duan, David Hall, Daniel Jenkins and Richard F. Lee
- 2.14 Effect of Temperature on Lighted Sticky Traps (TransTrap®) used to Detect Asian Citrus Psyllids in Shipping Containers**  
David Bartels, Jason Carlson, and Matt Ciomperlik
- 2.15 Effect of time and storage methods on the detection of *Candidatus Liberibacter asiaticus* in *Diaphorina citri* by qPCR\***  
Sala, I., Martins, E.C., Coletti, D.A.B., Montesino, L.H., Bassanezi, Renato B., Wulff, N.A., Teixeira, D.C.
- 2.16 *Candidatus Liberibacter asiaticus* detection in the leaves, roots from infected trees and leaves of new shoots from the stumps of the infected sweet orange trees in Texas**  
Madhurababu Kunta, Carolina de La Garza, John V. da Graça, Mamoudou Sétamou, and Eliezer S. Louzada
- 2.17 Detection of *Candidatus Liberibacter asiaticus* in *Diaphorina citri* caught on yellow sticky traps during the winter and summer of Sao Paulo State Brazil\***  
Sala, I., Martins, E.C., Coletti, D.A.B., Montesino, L.H., Bassanezi, Renato B., Wulff, N.A., Teixeira, D.C.

● **Session 3: Epidemiology and Survey- Renato Bassanezi, Moderator**

- 2:15 3.1 Optimising regional-scale regulatory surveys for the detection of Huanglongbing**  
Parnell, Stephen, Gottwald, T.R. and Cunniffe, N.J.
- 2:30 3.2 Commercial risk-based survey for HLB and implications for efficacy of Citrus Health Management Areas (CHMAs)**  
Gottwald, Tim, Luo, W., Riley, T. and Parnell, S.
- 2:45 3.3 Predicting the establishment and spread of plant disease from regulatory sampling**  
Weiqi Luo, T.R. Gottwald, S. Pietravalle and M.S. Irey
- 3:00 3:15 Break**

3:15	<b>3.4</b>	<p><b>HLB bioMath: Sentinel network and research</b>  Laranjeira, F.F., <b>Andrade, Eduardo C.</b>, Nascimento, A.S., Barbosa, C.J., Silva, S.X.B. Alencar, J.A., Noronha, A.C.S., Ishida, A.K.N., Garcia, M.V.B., Garcia, T.B., Nava, D., Bueno, B..</p>
3:30	<b>3.5</b>	<p><b>A new method for spatial analysis of irregularly spaced HLB data and biological implications</b>  <b>Alissa B. Kriss</b>, Michael S. Irely, and Tim R. Gottwald</p>
3:45	<b>3.6</b>	<p><b><i>Risk-based residential HLB/ACP</i> survey for California, Texas and Arizona</b>  <b>Gottwald, Tim</b>, Luo, W., and McRoberts, N.</p>
4:00	<b>3.7</b>	<p><b>Edge Effects and Huanglongbing</b>  W. Luo, D.J. Anco, <b>Tim R. Gottwald</b> and M.S. Irely</p>
4:15	<b>3.8</b>	<p><b>Variability of direction of tree-to-tree spread of HLB over time</b>  <b>Alissa B. Kriss</b>, Silvio Lopes, and Tim R. Gottwald</p>
		<b><u>Contributed Posters</u></b>
	<b>3.9</b>	<p><b>Early detection surveillance for Huanglongbing in a plantation; from theory to practice.</b>  <b>Parnell, Stephen</b>, Gottwald, T.R., Cunniffe, N.J. and van den Bosch, F.</p>
		<p><b>🟡 Session 4: Asian Citrus Psyllid Biology and Genomics- David Hall, Moderator</b></p>
4:30	<b>4.1</b>	<p><b>Behavioral, Ultrastructural, and Chemical Studies on the 'Honeydew' Excretions in Nymphs and Adults of the Asian Citrus Psyllid</b>  Ammar, El-Desouky, Alessandro, R., Shatters, R.G., Hall, D.G.</p>
4:45	<b>4.2</b>	<p><b>Sequencing and annotation of the Wolbachia endosymbiont of Diaphorina citri by the CG-HLB Genome Resources group reveals candidate sources of interaction with the insect host</b>  Surya Saha, Wayne Hunter, and <b>Magdalen Lindeberg</b></p>
5:00	<b>4.3</b>	<p><b>Sexual transmission of a plant pathogenic bacterium, <i>Candidatus Liberibacter asiaticus</i>, between conspecific insect vectors during mating</b>  <b>Kirsten S. Pelz-Stelinski</b>, Rajinder S. Mann, Sara L. Hermann, Siddharth Tiwari, Lukasz L. Stelinski</p>
5:15	<b>4.4</b>	<p><b>Responses of Asian Citrus Psyllids to Substrate-borne Vibrational Communication Signals</b>  <b>Mankin, Richard W.</b>, Rohde, B., Heatherington E.</p>
		<b><u>Contributed Posters</u></b>
	<b>4.5</b>	<p><b>An evaluation of different plant species for rearing Asian citrus psyllid, <i>Diaphorina citri</i> Kuwayama (Hemiptera: Psyllidae)</b>  <b>David G. Hall</b> and <b>Joseph P. Albano</b></p>
	<b>4.6</b>	<p><b>Dispersal behavior of <i>Diaphorina citri</i> Kuwayama (Homoptera: Psyllidae) under laboratory condition</b>  Chuanqing Ruan, <b>Bo Liu</b>, Zhenquan Wu, Tao Li, Hanqing Hu, Guocheng Fan, Yongping Duan and David G. Hall</p>

**4.7** The Asian Citrus Psyllid Genome (*Diaphorina citri*, Hemiptera)  
*Wayne B. Hunter, Justin Reese*

**4.8** Molecular interaction between citrus bacterial pathogen  
*Liberbacter asiaticus* and its insect vector Asian citrus psyllid  
*Diaphorina citri*  
*Linling Wang and Nabil Killiny*

5:30 7:00PM [Posters Session 1, 2, 3 and 4](#)

7:00 8:30PM [Dinner](#)

## **Tuesday February 5:**

7:30 AM 5:00 PM Registration

7:00 8:00 AM [Continental Breakfast](#)

● **Session 5: Asian Citrus Psyllid Ecology and Transmission –  
*Kirsten Pelz-Stelinski, Moderator***

8:00 **5.1** A Comparative Transcriptomic Approach to Elucidate Psyllid-Ca.  
Liberibacter Interactions  
*Tonja Fisher, R. He, W. Nelson, M. Vyas, M. Willer, C. Soderlund, D.  
Gang, and J.K. Brown*

8:15 **5.2** Induced release of a plant-defense volatile ‘deceptively’ attracts  
insect vectors to plants infected with a bacterial pathogen  
*Lukasz L. Stelinski, Rajinder S. Mann, Jared G. Ali, Sara L.  
Hermann, Siddharth Tiwari, Kirsten S. Pelz-Stelinski, Hans T. Alborn*

8:30 **5.3** Disrupt the bacterial growth in the insect vector to block the  
transmission of *Candidatus Liberibacter Asiaticus* to citrus, the  
causal agent of citrus greening disease  
*Killiny, Nabil, Hajeri, S., Gowda, S., and Davis, M. J.*

8:45 **5.4** Stylet penetration activities of *Diaphorina citri* associated with  
transmission of *Candidatus Liberibacter asiaticus*  
*Ferreira, C., Okuma, D.M., Lopes, Jaoa R.S.*

9:00 **5.5** Characterization of the RNA Interference Response in the Asian  
Citrus Psyllid

*Lindsay Shaffer, R. G. Shatters, Jr., C. Powell, R. Cave, D. Borovsky*  
9:15 **5.6** Translating Anatomical Structures and Functional Genomics of  
*Candidatus Liberibacter asiaticus* and *solanacearum* Into  
Circulative, Propagative Vector-Mediated Transmission  
Processes

*Tonja Fisher, J. Cicero, M. Vyas, R. He, W. Nelson, M. Willer, C.  
Soderlund, D. Gang, and J.K. Brown*

9:30 **5.7** Low acquisition rates of ‘*Candidatus Liberibacter asiaticus*’ by  
*Diaphorina citri* Kuwayama from citrus plants exposed to high  
temperatures  
*Lopes, Silvio A., Luiz, F.Q.B.Q., Martins, E.C.; Fassini, C.G., Sousa,  
M.C., Barbosa, J.C., Beattie, G.A.C.*

[Contributed Posters](#)

- 5.8 SEM- and TEM-informed anatomical observations of *Ca. Liberibacter solanacearum* (Lso) parasite localization in its psyllid host**  
Joseph M. Cicero and J.K. Brown
- 5.9 Seasonal shifts in *Candidatus Liberibacter asiaticus* prevalence in the vector *Diaphorina citri* in Florida**  
Timothy A. Ebert, Ronald H. Brlansky, Michael E. Rogers
- 5.10 Stylet Morphometrics and Ultrastructure in Relation to Feeding Behavior and Pathogen Transmission by Nymphs and Adults of the Asian Citrus Psyllid *Diaphorina citri*, Vector of Citrus Huanglongbing Bacterium**  
Ammar, El-Desouky, Shatters, R.G., Hall, D.G.
- 5.11 Acquisition and Transmission Efficiency of the HLB Bacterium, '*Candidatus Liberibacter asiaticus*' by the Striped Mealybug, *Ferrisia virgata***  
Marco Pitino, Michele T. Hoffman, Lijuan Zhou, David Hall and Yong-Ping Duan
- 5.12 RNA Interference Screening Reveals Redox Processes to be Most Responsive to low dsRNA doses in Asian Citrus Psyllid**  
Ramos, John
- 5.13 Composition of citrus phloem sap and honeydew produced by the citrus phloem sap feeder, the Asian citrus psyllid, *Diaphorina citri* (Homoptera: Psyllidae)**  
Faraj Hijaz, Nabil Killiny

**● Session 6: Asian Citrus Psyllid Management - Mamoudou Sètamou, Moderator**

- 9:45 6.1 Huanglongbing management on bearing groves based on favorable periods for symptomatic-trees removal and vector control**  
Bassanezi, Renato B., Montesino, L.H., Bergamin Filho, A.
- 10:00 6.2 Analysis of Methods/Systems for Delivery of Volatile Repellent Compounds to Protect Young Citrus Plantings from HLB**  
Neuman, Ronald D., Shelton, A.B., Zee R.H.,
- 10:15 10:30 Break**
- 10:30 6.3 RNAi-Based Strategy for Asian Citrus Psyllid (*Diaphorina citri*) Control: A Method to Reduce the Spread of Citrus Greening Disease.**  
Chloe Hawkings, K. Morgan, L. Shaffer; C. Powell; D. Borovsky; R. Cave; B. Dawson, S. Gowda, R. G. Shatters, Jr.
- 10:45 6.4 Physiological selectivity of pesticides used in citrus culture on parasitoid *Tamarixia radiata* (Waterson, 1922) (Hymenoptera: Eulophidae)**  
Aline C. S. Lira, Odimar Z. Zanardi, Vitor H. Beloti, Pedro T. Yamamoto, José R. P. Parra, Geraldo A. Carvalho

11:00	<b>6.5</b>	<b>Synthesis results from eight years of field testing insecticides against Asian citrus psyllid <i>Diaphorina citri</i> vector of huanglongbing: Considerations and Implications</b> Jawwad A. Qureshi, Barry C. Kostyk and Philip A. Stansly
11:15	<b>6.6</b>	<b>Asian Citrus Psyllid Management Strategies for California, 2012 and Beyond</b> Grafton-Cardwell, Elizabeth E., Morse J. G., Taylor, B.J.
11:30	<b>6.7</b>	<b>Extension Model to Improve Asian Citrus Psyllid Control in Citrus Health Management Areas (CHMAs)</b> Moneen M. Jones and Philip A. Stansly
11:45	<b>6.8</b>	<b>Effect of Mineral Oil on Host Selection and Control of <i>Diaphorina citri</i> Kuwayama (Hemiptera: Psyllidae) on Citrus</b> Miranda, Marcelo P., Micelli, M.L., Felipe, M.R., Caldeira, R.E., Yamamoto, P.T.
12:00	1:00	<b>Lunch</b>
1:00	<b>6.9</b>	<b>Morphological characterization of <i>Hirsutella citriformis</i> Speare Mexican isolates and evaluation against <i>Diaphorina citri</i> Kuwayama (Hemiptera: Psyllidae)</b> Pérez-González, O., Maldonado-Blanco, M.G., Torres-Acosta, R.I., Rodríguez-Guerra, R., Elías-Santos, M., Sandoval-Coronado, C.F., López-Arroyo, J. Isabel
1:15	<b>6.10</b>	<b>Evaluating the Biological Control of ACP in the Rio Grande Valley of Texas</b> Daniel Flores, Andrew Parker, Jose Martinez, Eustorjio Rivas, and Matt Ciomperlik
1:30	<b>6.11</b>	<b>A grower question: So we are controlling the Asian Citrus Psyllid, but are we doing it well enough?</b> Irey, Mike, Gast, T., and Hou, H.
1:45	<b>6.12</b>	<b>The Flicker: A Vehicle-Driven, Mechanical Device for Detecting and Monitoring Adult Asian Citrus Psyllid and Other Arthropods in Citrus</b> David G. Hall and Holly Chamberlain
<b><u>Contributed Posters</u></b>		
	<b>6.13</b>	<b>Generating Asian citrus Psyllid <i>Diaphorina citri</i> Kuwayama (Homoptera: Psyllidae) with twisting wings to prevent the spread of citrus greening disease</b> El-Shesheny, Ibrahim; Harjeri, S.; Gowda, S.; and Killiny, N.
	<b>6.14</b>	<b>Novel synthetic compounds enhance the attractiveness of host-plant volatiles: An opportunity to boost detection and monitoring of Asian citrus psyllid?</b> Patt, Joseph, Woods, D., Dimitratos, S., Meikle, W., Stockton, D., S. Lapointe, Mafra-Neto, A.
	<b>6.15</b>	<b>Effects of <i>Tagetes coronopifolia</i> and <i>T. lemmonii</i> (Asteraceae) essential oils in nymphs of <i>Diaphorina citri</i> (Hemiptera: Psyllidae).</b>

- Mendoza-García, E.E., **Ortega-Arenas, Laura D.**, Serrato-Cruz, M.A., Villanueva-Jiménez, J.A., López-Arroyo, J.I., Pérez-Pacheco, R.
- 6.16** **Thresholds for HLB vector control in infected commercial citrus and compatibility with biological control.**  
**Monzo, Cesar**, Hendricks, K., Roberts, P., Stansly, P.A.
- 6.17** **Affordable Essential Oils for Management of the Asian Citrus Psyllid**  
**Emily H. Kuhns**, Yolani Tribuiani, Angel Hoyte, Lukasz L. Stelinski
- 6.18** **Strategy of HLB management with insecticides in citrus groves in São Paulo, Brazil.**  
Baldassari, R.B., **Lozano, Francisco**, Rinaldo, D., Gobato, C.A.G., Costa, D.F.
- 6.19** ***Brachygastra mellifica* (Hymenoptera: Vespidae): Predation preference and feeding behavior on *Diaphorina citri* (Hemiptera: Psyllidae) in Mexico.**  
Reyes-Rosas, M.A., Loera-Gallardo, J., **López-Arroyo, J. Isabel**, Buck, M.
- 6.20** **Frequent Low Volume Sprays of Horticultural Mineral Oil (HMO) for Psyllid and Leafminer Control**  
**Moneen M. Jones** and Philip A. Stansly
- 6.21** **Longevity of imidacloprid soil drench on citrus nursery stock for sale at retail stores in Florida**  
**Halbert, Susan E.**, Manjunath, K.L., Ramadugu, C., and Lee, R.L.
- 6.22** **Asian Citrus Psyllid and Huanglongbing Management in California: How Psyllid Spread Will Affect Grower Costs**  
Jetter, K.M., **Grafton-Cardwell, Elizabeth E.**, Daugherty, M.P., Lynn-Patterson, K.
- 6.23** **Recommended pesticides persistence for integrated citrus production on ectoparasitoid *Tamarixia radiata* (Waterston, 1922) (Hymenoptera: Eulophidae)**  
**Vitor H. Beloti**; Odimar Z. Zanardi; Aline C. S. Lira; Gabriel R. Rugno; José R. P. Parra; Pedro T. Yamamoto
- 6.24** **Introducing DuPont Exirel™ and Verimark™ new insect control products for pest management and optimizing yield in Florida citrus**  
**Hector E. Portillo**, Stanley S. Royal, James E. Taylor, Joshua H. Temple, Alex T. Truszkowski, Joseph T. Mares, Rachel A. Cameron, I. Billy Annan and Juan M. Alvarez
- 6.25** **Perspectives to the use of entomopathogenic fungi for biological control of *Diaphorina citri* in Mexico**  
**Sánchez-Peña, Sergio R.**, Guizar-Guzmán L., Torres-Acosta, R. I., López-Arroyo, J. I., Casique-Valdés, R.
- 6.26** **Identification and entomopathogenicity of newly-isolated fungi infecting *Diaphorina citri* Kuwayama (Homoptera: Psyllidae) in Murraya orchards of Fujian, China**

Chuanqing Ruan, Yulu Xia, Bo Liu, Jianli Chen, Yujing Zhu, Guocheng Fan, Ron Sequeira

**6.27 Targeting juvenile hormone metabolic genes in the Asian citrus psyllid (*Diaphorina citri* Kuwayama) as a strategy to reduce the spread of citrus greening disease**

Evelien Van Ekert, D. Borovsky, C. A. Powell, R. D. Cave, R. T. Alessandro, R. G. Shatters, Jr.

**6.28 Entomophagous insects associated to *Diaphorina citri* (Hemiptera: Psyllidae) in citrus orchards with different weed management systems in Papantla, Veracruz, Mexico**

Ortega-Arenas Laura D., López-López R., Lomelí-Flores J. R., Cedillo-Portugal E., Gómez-Tovar L., Salazar-Cruz J., Villegas-Monter A.

**6.29 Soil applied Systemic Insecticides for the reduction of HLB in newly planted Citrus Trees**

Phil Stansly, Barry Kostyk, and Hector Portillo

**Session 7: HLB Management, Fruit Quality, Crop Loss, and Economics – Elizabeth Baldwin, Moderator**

- |      |      |  |
|------|------|--|
| 2:00 | 7.1  | <b>Progress on Dissecting and Controlling the Citrus Huanglongbing Complex</b><br>Yongping Duan, Lijuan Zhou, Muqing Zhang, Lesley Benyon, Cheryl Armstrong-Vahling, Michele Hoffman, Guixia Hao, Huasong Zou, Melissa Doud, Fang Ding and Kent Morgan |
| 2:15 | 7.2  | <b><i>Citrus tristeza virus</i>-based RNA-interference (RNAi) vector and its potential in combating citrus Huanglongbing (HLB)</b><br>Shubash Hajeri, Chooa El-Mohtar, William O. Dawson and Siddarame Gowda   |
| 2:30 | 7.3  | <b>Pre-symptomatic fibrous root decline in citrus trees caused by Huanglongbing and potential synergistic interaction with <i>Phytophthora</i> spp.</b><br>Graham, James H., Gottwald, T.R., Irej, M.  |
| 2:45 | 7.4  | <b>Vector Control and Foliar Nutrition for Management of Huanglongbing in Florida Citrus.</b><br>Philip A. Stansly, H. Alejandro Arevalo, Jawwad A. Qureshi, Moneen M. Jones, Katherine Hendricks, Pamela D. Roberts, And Fritz M. Roka                |
| 3:00 | 3:15 | <b>Break</b>   |
| 3:15 | 7.5  | <b>Evaluation of enhanced nutritional programs for mitigating HLB damage</b><br>Johnson, Evan G., Irej, M.S., Gast, T., Bright, D.B., Graham, J.H.   |
| 3:30 | 7.6  | <b>Nutritional management, HLB epidemics and crop loss: Two years results</b><br>Bassanezi, Renato B., Montesino, L.H., Mattos Jr., D., Quaggio, J.A., Boaretto, R.M., Bové, J.M.  |
| 3:45 | 7.7  | <b>Antimicrobial Compounds to Combat Citrus Huanglongbing</b><br>Muqing ZHANG, Ying GUO, Charles A. Powell and Yongping DUAN   |

- 4:00 **7.8** **Progress towards the development of a routine process to discriminate juice originating from HLB-free and HLB-infected trees using sensory and analytical analyses**  
Michael Irej, Doug Van Stripj, Denise Freund, Hangxin Hou, Ping Sun, Paula Gadea, Liz Baldwin, Anne Plotto, and Jinhe Bai
- 4:15 **7.9** **Further Studies on the Effects of Greening on Juice Quality: Do Nutritional Sprays Ameliorate HLB-Induced Off-flavor?**  
Anne Plotto, Sharon Dea, Jinhe Bai, John Manthey, Cecilia N. Nunes, Jan Narciso, Mike Irej, Liz Baldwin
- 4:30 **7.10** **Limited success of heat treatments for curing HLB affected trees**  
Lopes, Silvio A., Luiz, F.Q.B.F, Fassini, C.G., Oliveira, H.T., Oliveira, S.L.A.
- 4:45 **7.11** **The Chemistry behind DNA Isolation from Orange Juice and Detection of 16S rDNA of *Candidatus Liberibacter asiaticus* by qPCR**  
Bai, Jinhe, Baldwin, E.A., Liao, H., Kostenyuk, I., Burns, J. and Irej, M.

#### **Contributed Posters**

- 7.12** **Estimating the Economic Impact of an Eventual Introduction of Huanglongbing (HLB) in the State of Bahia, Brazil.**  
Oliveira, J.M.C., Silva, Suely X.B., Nascimento, A.S., Miranda, S. H.G., Barbosa, C.J., Laranjeira, F.F.
- 7.13** **The effect of nutritional spray programs applied to mitigate symptoms of Huanglongbing on fruit drop caused by HLB and citrus canker and on 'Hamlin' orange trees**  
Pam D. Roberts, R. E. Rouse, S.S. Teems, R.E. Sytsma, Z. Shobert
- 7.14** **Metalized Polyethylene Mulch to Reduce Incidence of Huanglongbing and Improve Growth of New Citrus Plantings**  
Croxtton S. and Stansly Phil.
- 7.15** **Field validation of a greenhouse demonstration of phytohormone-mediated restoration of naturally infected HLB citrus in Florida, Texas and Jamaica**  
Woodward, Richard, J. H. Stoller, Albert Liptay and V. Alvarado.
- 7.16** **Preliminary Research on Soil Conditioner Mediated Citrus Huanglongbing Mitigation in the Field**  
Mei-Rong Xu, Mei-Dang Liang, Zheng Zheng, Qing Zhu, Jian-Chi Chen, Xiao-Ling Deng
- 7.17** **Relations between behavior of HLB and Iron application to Citrus tree**  
Matsuyama Tomoya, Muraki S., Subandiyah S., Joko T., Ono H., Masaoka, Y.
- 7.18** **Evaluation of antibiotics against the bacteria, *Candidatus Liberibacter* for control of citrus Huanglongbing**  
Zhang, Muqing, Guo, Y., Powell, C.A. and Duan, Y.
- 7.19** **Systemic Acquire Resistance - SAR in the Control of Huanglongbing**  
Bagio, T.Z., Barreto, T., Canteri, M.G., Leite Jr, Rui P.

- 7.20** **Effect of beneficial bacterial isolates from citrus roots in Florida on citrus Huanglongbing disease development (poster)**  
Li J., Trivedi P., and Wang Nian
- 7.21** **In-Field Thermal Treatment of Huanglongbing (HLB) infected Trees**  
Khot, L.R., Jones, S.E., Trivedi, P. Ehsani, M.R., Wang, N. and Reyes-De-Corcuera, Jose I.
- 7.22** **Thermotherapy and chemotherapy to control citrus HLB in the field**  
**Melissa Doud**, Mu-Qing Zhang, Charles A. Powell and Yong-Ping Duan
- 7.23** **Evaluation of Thermotherapy against Huanglongbing (Citrus Greening) under Laboratory Condition**  
**Guocheng Fan**, Yulu Xia, Xiongjie Lin, Zijian Cai, Hanqing Hu, Xianda Wang, Chuanqing Ruan, Lianming Lu, Ronald Sequeira, Bo Liu
- 7.24** **Thermotherapy for HLB Management - Historical perspective, anecdotal evidences, and recent research progress**  
Xia, Yulu, Fan, G., Deng, X., Takeuchi, Y., Sequeira, R.
- 7.25** **Study of Thermotherapy against Citrus Huanglongbing in Fujian Province, China**  
**Guocheng Fan**, Bo Liu, Xiongjie Lin, Zijian Cai, Hanqing Hu, Xianda Wang, Chuanqing Ruan, Lianming Lu, Ronald Sequeira, Yulu Xia
- 7.26** **Effect of Enhanced Zinc Nutrition on Mitigation of Huanglongbing (HLB)-affected Citrus**  
Li, S.L., Li, Z.G., He, Zhenli L. University of Florida, IFAS, Indian River REC, Fort Pierce, USA

5:00 7:00PM **Posters Sessions 5,6, and 7**

7:00 8:30PM **Dinner**

### **Wednesday February 6:**

7:30 AM 5:00 PM Registration

7:00 8:00 AM **Continental Breakfast**

8:00 5:00 PM Field Trip – Tour registrants to visit HLB infected grapefruit groves and citrus packinghouses (***Lunch provided to participants***)

**Dinner– On your own**

### **Thursday February 7:**

7:30 AM 5:00 PM Registration

7:00 8:00 AM **Continental Breakfast**

● **Session 8: Host-Pathogen Interactions - Sveta Folimonova, Moderator**

8:00 **8.1** **Analyses of proteomic expression profiles and nutrient status of citrus plants in response to HLB**  
Lin, Hong, Nwugo, C.C., Duan, Y.

8:15	<b>8.2</b>	<b>Transcriptome analysis of Huanglongbing-infected sweet orange leaves using RNA sequencing and quantitative PCR.</b> Cynthia C. Parra, Madhurababu Kunta, John V. da Graça, and Eliezer S. Louzada
8:30	<b>8.3</b>	<b>Comparison of microRNA Profiles and Some miRNA Target Gene Expression levels in Roots of Tangerine (<i>Citrus reticulata blanco</i> cv. 'Sanhu' ) Trees infected with and without Huanglongbing Bacteria</b> Yun Zhong, Chunzhen Cheng, Bo Wu, Xuejun Bei, Bo Jiang, Jiwu Zeng, Guangyan Zhong
8:45	<b>8.4</b>	<b>Citrus leaf volatiles response to <i>Candidatus Liberibacter asiaticus</i> and to its insect vector Asian citrus psyllids.</b> Faraj Hijaz and Nabil Killiny
9:00	<b>8.5</b>	<b>Development of Symptom Expression and Presence of <i>Candidatus Liberibacter asiaticus</i> in Recently Infected, Mature Orange Trees</b> Gast, T.C., Russo April A.
9:15	<b>8.6</b>	<b>Phloem disruption from HLB infection in canopy and root framework</b> L. Gene Albrigo, Valente Aritua, Nian Wang and Diann Achor
9:30	<b>8.7</b>	<b><i>Candidatus Liberibacter asiaticus</i> titers in citrus cultivars in the field and in ACP inoculated greenhouse trees</b> Greg McCollum, Mark Hilf, Ed Stover, Mike Irey
9:45	<b>8.8</b>	<b>Modulation of plant defense responses by Salicylate hydroxylase of <i>Candidatus Liberibacter asiaticus</i></b> Pankaj Trivedi, Nian Wang
10:00	10:15	<b>Break</b>
10:15	<b>8.9</b>	<b>Early root infection and damage in Huanglongbing disease development</b> Johnson, Evan G., Wu, J., Bright, D.B., Graham, J.H.
10:30	<b>8.10</b>	<b>Colonization and distribution patterns of <i>Candidatus Liberibacter asiaticus</i> in distinct citrus rootstocks</b> Lopes, Silvio A., Luiz, F.Q.B.F, Stuchi, E.S.
10:45	<b>8.11</b>	<b>Spatial Imaging of Zinc and Other Elements in Huanglongbing-affected Grapefruit by Microscopically Focused Synchrotron X-Ray Investigation</b> He, Zhenli L.1, Tian, S.K.1, Lu, L.L.2, Zhang, M.Q. 1, Powell, C.A.1 University of
<b><u>Contributed Posters</u></b>		
	<b>8.12</b>	<b>Genome-wide Expression Profiling in Ponkan Infected by <i>Candidatus liberibacter asiaticus</i></b> Bo Jiang, Yun Zhong, Chunzhen Cheng, Jiwu Zeng, Guangyan Zhong, Ganjun Yi .
	<b>8.13</b>	<b>Synthetic Peptides target ATP translocase of '<i>Candidatus Liberibacter asiaticus</i>' to block ATP uptake</b> Lesley S. Benyon, C.M. Vahling-Armstrong, E. Stover, Y.P. Duan.

- 8.14** Characterization of the microbial community structure in ‘*Candidatus Liberibacter asiaticus*’-infected citrus plants treated with antibiotics  
Muqing Zhang, Charles A. Powell, Yu Chuan and Yongping Duan
- 8.15** Monitoring of *Candidatus Liberibacter asiaticus* in Citrus Seedlings at Greenhouse Conditions and Commercial Orchards of Sweet Orange and Tahiti Lime in the Northwest of Parana State, Brazil  
Sauer, A.V., Barbieri, B.R., Coletta-Filho, H.D., Machado, M.A., Corazza, M.J., Nunes, William M.C.
- 8.16** Nutritional Analysis of Flowers from ‘Valencia’ Orange Tree Infected with Huanglongbing.  
Saccini, V. A. V., Dos Santos, D. M. M., Medina, Camilo L., Machado, R. S. Cruz, F. J. R.
- 8.17** Transmission of *Candidatus Liberibacter asiaticus* to 16 citrus cultivars by Asian citrus psyllids in a greenhouse study  
Greg McCollum, Mark Hilf, Mike Irey
- 8.18** Colonization of Seeds of Citrus Rootstock Varieties by ‘*Ca. Liberibacter asiaticus*’  
Mark E. Hilf
- 8.19** Seasonal Concentration of Macro and Micronutrients in Different Vegetative Organs of Valencia Oranges Tree Affected By HLB  
Medina, Camilo L., Saccini, V.A.V., Dos Santos, D.M.M., Machado, R.S., Bataglia, O.C., Furlani, P.R.
- 8.20** Nutrient concentration in sap extracts of HLB-infected trees  
Mattos Jr., D., Bassanezi, R.B., Della Coletta Filho, H., Quaggio, J.A., Alvarenga, F.V., Boaretto, R.M.

**● Session 9: Pathogen Genomics, Bioinformatics, Phylogenetics, and Culturing- Yong Ping Duan, Moderator**

- 11:00**     **9.1**     **Comparative genomics analysis of *Liberibacter* species to elucidate pathogenesis and culturability.**  
Michael T. Leonard, Jennie R. Fagen, Connor M. McCullough, Austin G. Davis-Richardson, Michael J. Davis, and Eric W. Triplett
- 11:15**     **9.2**     **The complete genome sequence of *Candidatus Liberibacter americanus*, a bacterium associated with Citrus Huanglongbing in Brazil.**  
Nelson A. Wulff, Shujian Zhang, Elaine Martins, João Setubal, Dibyendu Kumar, Xavier Foissac, Nalvo F. Almeida, Ricardo Harakava, Joseph M. Bové, Dean Gabriel
- 11:30**     **9.3**     **Clues into the metagenome of Huanglongbing infected *Citrus* by analysis of ancillary sequences from Ion Torrent whole genome *Candidatus Liberibacter asiaticus* sequencing.**  
Morgan, J. Kent, Shatters, R. G., Stover, E., Duan, Y. P., Moore, G. A., Powell, C. A., Jarra-Cavieres, A., Clark, S.
- 11.45**     **9.4**     **The Dynamics of Prophages/Phages FP1 and FP2 of ‘*Candidatus Liberibacter asiaticus*’ in Response to Stress Conditions**

Fang Ding, Shouan Zhang and Yong-ping Duan

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|-------|------|--|
| 12:00 | 1:00 | <b>Lunch</b>   |
| 1:00  | 9.5  | <b>Exploiting the Las and Lam phage for potential control of HLB</b><br>Zhang, Shujian J., Wulff, N. A., Fleites, L. A., Zhang, Y. C., Gabriel, D.W.   |
| 1:15  | 9.6  | <b>Characterization of putative virulent factors of <i>Candidatus Liberibacter asiaticus</i></b><br>Xiaobao Ying and Nian Wang   |
| 1:30  | 9.7  | <b>Differentiation of “<i>Candidatus Liberibacter asiaticus</i>” isolates from Brazil, China, and the United States</b><br>X. Deng, Jianchi Chen, S. Lopes, and X. Wang  |
| 1:45  | 9.8  | <b>‘<i>Candidatus Liberibacter asiaticus</i>’ Encodes Two Novel Autotransporters that Target to Mitochondria</b><br>Guixia Hao, Michael Boyle, Lijuan Zhou and Yongping Duan   |
|       |      | <b>Contributed Posters</b>   |
|       | 9.9  | <b>Prophage-mediated population dynamics of ‘<i>Candidatus Liberibacter asiaticus</i>’ in plant and insect hosts</b><br>Lijuan Zhou, Charles A. Powell and Yongping Duan   |
|       | 9.10 | <b>Improved methods for genome sequencing of Liberibacters by BAC library-based metagenomics approach</b><br>Manjunath L. Keremane, Chandrika Ramadugu, Yongping Duan, Lijuan Zhou, Greg Kund, John Trumble and Richard Lee.   |
|       | 9.11 | <b>Identification of small molecule inhibitors against SecA of <i>Candidatus Liberibacter asiaticus</i> by structure based design</b><br>Nagaraju Akula, Pankaj Trivedi, Frank Q. Han and Nian Wang  |
|       | 9.12 | <b>Detection of 16Sr IX phytoplasma (HLB phytoplasma) in Sunn Hemp (<i>Crotalaria juncea</i>) in São Paulo State, Brazil*.</b><br>Bianco, L.F., Martins, E.C., Coletti, D.A.B., Toloy, R.S., Wulff, Nelson A.  |
|       | 9.13 | <b>First Report of ‘<i>Candidatus Liberibacter asiaticus</i>’ associated with huanglongbing in the weeds <i>Cleome rutidosperma</i>, <i>Pisonia aculeata</i> and <i>Trichostigma octandrum</i> in Jamaica</b><br>Sherline E. Brown, A.P Oberheim, A. Barrett and W.A. McLaughlin |
|       | 9.14 | <b>‘<i>Candidatus Liberibacter</i>’ in four indigenous Rutaceous species from South Africa</b><br>Viljoen, Ronel, Steenkamp, E.T., Pietersen, G.   |
|       | 9.15 | <b>Increases in ‘<i>Candidatus Liberibacter asiaticus</i>’ viability and investigations of biofilm-like structures in citrus juice medium</b><br>Parker, Jennifer K., Wisotsky, S.R., Hilf, M.E., Sims, K.R., Cobine, P.A., De La Fuente, L.                                     |
|       | 9.16 | <b>“Whole Genome PCR Sequencing Strategy for ‘<i>Candidatus Liberibacter asiaticus</i>’: Analyzing Sequence Diversity Among U.S. Isolates.</b><br>Shatters, Jr. Robert G., Morgan, J.K., Jara-Cavieres, A., Stover E., Powell, C.A., Duan, Y.-P. and Moore G.                    |

● **Session 10: Host Tolerance and Resistance, Erik Mirkov, Moderator**

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|------|--------------|--|
| 2:00 | <b>10.1</b>  | <b>Huanglongbing Resistance and Tolerance in Citrus</b><br>Stover, Ed, McCollum, G., Driggers, R., Duan, Y., Shatters, Jr. R., Ritenour, M., Hall, D.G., Chaparro, J.  |
| 2:15 | <b>10.2</b>  | <b>Preliminary Evidence for Rootstock Effects on HLB Infection Frequency and Disease Severity in Sweet Orange and ‘SugarBelle’ Trees</b><br>Grosser, Jude W., S. Das, and F.G. Gmitter, Jr.  |
| 2:30 | <b>10.3</b>  | <b>Screening of Transgenic Citrus for HLB Resistance</b><br>Dutt, Manjul, Omar, A., Barthe, G.A., Orbovic, V., Irey M. and Grosser, J.W.   |
| 2:45 | <b>10.4</b>  | <b>HLB progress on Tahiti acid lime grafted onto eight rootstocks</b><br>Stuchi, Eduardo S., Reiff, E.T, Sempionato, O.R., Parolin, L.G., Bassanezi, R.B.  |
| 3:00 | <b>3:15</b>  | <b>Break</b>   |
| 3:15 | <b>10.5</b>  | <b>Resistance of <i>Poncirus</i> and <i>Citrus x Poncirus</i> Germplasm to the Asian Citrus Psyllid</b><br>Matthew L. Richardson and David G. Hall   |
| 3:30 | <b>10.6</b>  | <b>Screening of citrus and its close relatives for tolerance to huanglongbing</b><br>Chandrika Ramadugu, M. Keremane, E. Stover, S. Halbert, Y.P. Duan and R.F. Lee  |
| 3:45 | <b>10.7</b>  | <b><i>Candidatus Liberibacter americanus</i> induces significant reprogramming of the transcriptome of the susceptible citrus genotype</b><br>Mafra, V., Martins, P.K., Francisco, C.S., Ribeiro-Alves, M., Freitas-Astúa, Juliana, Machado, M. A.                               |
| 4:00 | <b>10.8</b>  | <b>Identification of differentially expressed genes in <i>Citrus sinensis</i> leaves and branches in response to <i>Candidatus Liberibacter asiaticus</i> and <i>Ca. L. americanus</i>.</b><br>Breton, M.C., Camargo, S.S., Kishi, L. T., Machado, M. A., Freitas-Astúa, Juliana |
| 4:15 | <b>10.9</b>  | <b>A quick evaluation method of AtNPR1 transgenic plants for resistance to HLB</b><br>Vicente J. Febres, Fabiana Rezende-Muniz and Gloria A. Moore   |
| 4:30 | <b>10.10</b> | <b>Lflg22, a Pathogen-Associated Molecular Pattern (PAMP) of <i>Candidatus Liberibacter asiaticus</i>, initiated differential PAMP-Triggered Immunity (PTI) in Grapefruit and Sun Chu Sha</b><br>Qingchun Shi, Vicente J. Febres, Abeer Khalaf, Gloria A. Moore                  |
| 4:45 | <b>10.11</b> | <b>Genetic transformation of sweet orange to overexpress a <i>CsPR-8</i> gene aiming <i>Candidatus Liberibacter asiaticus</i> resistance</b><br>Mourão Filho, Francisco A.A., Stipp, L.C.L., Beltrame, A.B., Boscariol-Camargo, R.L., Harakava, R., Mendes, B.M.J.               |
| 5:00 | <b>10.12</b> | <b>Analysis and evaluation of China-native citrus and citrus related germplasm on their susceptibility to the infestation by <i>Diaphorina citri</i> Kuwayama (Homoptera: Psyllidae)</b>   |

Hanqing Hu, Chuanqing Ruan, Bo Liu, **Zhenquan Wu**, Tao Li, Guocheng Fan, Yongping Duan, David G. Hall

**Contributed Posters**

- 10.13** **Results on attempts in management of HLB under small scale in Vietnam and initiation in screening for HLB tolerant from varieties/clones belonging to Rutaceae**  
**Nguyen Van Hoa**, Tran T. M. H., Nguyen T. B., Bui T. N. L., Nguyen M. C.
- 10.14** **Mandarin and mandarin hybrid genetic transformation for resistance to *Candidatus Liberibacter asiaticus***  
**Soriano, Leonardo**, Tavano, E.C.R., Harakava, R., Mourão Filho, F.A.A., Mendes, B.M.J.
- 10.15** **Cell Penetrating Peptides as an Alternative Transformation Method in Citrus**  
**Jensen, Shaun P**; Febres, Vicente J; and Moore, Gloria A
- 10.16** **Breaking citrus juvenility by modulating endogenous miR156 and miR172 levels**  
Jiang, Y., **Gabriel, Dean W.**
- 10.17** **One-for-all: a monoclonal antibody specific to different recombinant proteins in transgenic citrus plants**  
**Omar, Ahmad A.**, Dutt, M. and Grosser, J.W.
- 10.18** **Evidence that ‘flying dragon’ trifoliolate orange delays HLB symptom expression for four sweet orange cultivars, Tahiti lime and Okitsu mandarin**  
**Stuchi, Eduardo S.**, Reiff, E.T., Sempionato, O.R., Parolin, L.G., Toledo, D.A.
- 10.19** **A Tomato Detached Leaf Assay for Chemical Genomics of an HLB Model System**  
**Patne Sai**, Eulgem T, Roose M.L

**5:15** **6:30PM** **Posters Session 8, 9, And 10**

**7:00** **9:00PM** **Conference Banquet - featuring the Jazz Band – “Free Time”**

**Special Evening Keynote Speakers**

**8:00** **7.27** **Benefit-cost analysis of Huanglongbing management in Sao Paulo, Brazil**

Adami, A.C.O, Miranda, S.H.G., **Bassanezi, Renato B.**

**8:25** **1.6** **Florida Growers and HLB Research**  
**Jerry Newlin**

**Friday February 8:**

**9:00 AM** **Noon** **Post-conference Meeting of the Citrus Health Response Program – Science and Technology Research Coordination Group. Please contact [Charla.Hollingsworth@aphis.usda.gov](mailto:Charla.Hollingsworth@aphis.usda.gov) for information and details.**