



11th International Symposium on  
**FRUIT FLIES**  
of Economic Importance

13-18 NOV 2022 • SYDNEY • AUSTRALIA

Credit: Destination NSW

**11<sup>th</sup> International Symposium on Fruit Flies of Economic Importance**  
Macquarie University, Sydney, Australia 13-18 November 2022  
**Scientific Program**

**Sunday 13 November**

<b>15:00 - 19:00</b>	<b>Registration and Poster Hanging (Sessions 1-5)</b>
<b>17:00 - 19:00</b>	<b>Welcome Reception</b>

**Monday 14 November**

<b>TIME</b>	<b>TITLE / ACTIVITY</b>
<b>7:30 - 8:30</b>	<b>Registration and Poster Hanging (Sessions 1-5)</b>
<b>8:30 - 9:30</b>	<b>Opening ceremony</b> <ul style="list-style-type: none"><li>• Welcome to Country, <b>Erin Wilkins</b></li><li>• NSW Minister for Agriculture, <b>Dugald Saunders</b></li><li>• Assistant Secretary for Plant Health Policy at the Australian Chief Plant Protection Office (within DAFF), <b>Dr Bertie Hennecke</b></li><li>• Director Plant Biosecurity &amp; Product Integrity, NSW CPPO, <b>Satendra Kumar</b></li><li>• Welcome from the Steering and Organising Committees (<b>Rui Cardoso Pereira</b>, <b>Polychronis Rempoulakis</b>)</li></ul>
<b>9:30 - 10:30</b>	<b>Opening Keynote</b> Fly evolutionary adaptation: What have we learnt, where are we going? <b>Ary Hoffman</b>
<b>10:30 - 11:00</b>	<b>Break</b>
<b>11:00 - 13:05</b>	<b>Session 1: Biology, Ecology, Physiology and Behavior</b> Moderators: Nikos Kouloussis, Sonya Broughton
11:00 - 11:05	In memory of Roger Vargas <b>Nicholas Manoukis</b>
11:05 - 11:25	Intraspecific competition by larval aggression in the olive fly, <i>Bactrocera oleae</i> <b>Michael Ben-Yosef*</b>
11:25 - 11:45	Overwintering Mechanism of Mediterranean Fruit Fly in Western Australia. <b>Touhidur Rahman</b>
11:45 - 12:05	Effects of thermal history on <i>Bactrocera</i> and <i>Ceratitis</i> pests: Who flies better? <b>Kevin Malod</b>
12:05 - 12:25	Gut bacterial diversity and biological traits of <i>Bactrocera dorsalis</i> and <i>Zeugodacus cucurbitae</i> (Diptera:Tephritidae) under diet and temperature stress. <b>Hafsi Abir*</b>
12:25 - 12:45	Environmental drivers of fruit fly phenology across climate zones. <b>Vesna Gagic</b>
12:45 - 13:05	Polyandry is an important reproductive trait of the invasive <i>Drosophila suzukii</i> .

TIMES IN AUSTRALIAN EASTERN DAYLIGHT TIME (AEDT)

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	<b>Anna Malacrida</b>
<b>13:05 - 14:00</b>	<b>Lunch</b>
<b>13:05 - 14:30</b>	<b>Posters Session 1 and 2 (view)</b>
<b>14:30 - 16:30</b>	<b>Session 2: Taxonomy and Morphology</b> Moderators: Marc De Meyer, Penny Measham
14:30 - 14:50	New molecular phylogeny and diagnostic tools for Anastrepha. <b>Allen Norrbom*</b>
14:50 - 15:10	Investigating drivers of speciation in the fruit fly genus, <i>Bactrocera</i> (Diptera: Tephritidae). <b>Mitchell Irvine</b>
15:10 - 15:30	Appearance is all about diet: big-eyed generalists and big-nosed Cucurbitaceae specialists in Tephritidae. <b>Vincent Jacob</b>
15:30 - 15:50	Revision of the <i>Bactrocera tryoni</i> species complex. <b>Melissa Starkie</b>
15:50 - 16:10	Elusive species delineation of <i>Bactrocera dorsalis</i> and <i>B. occipitalis</i> in the Philippines. <b>Celia Medina</b>
16:10 - 16:30	Diet development of the Cape fly <i>Ceratitis quilicii</i> (Tephritidae). <b>Pia Addison</b>
<b>16:30 - 17:00</b>	<b>Break</b>
<b>17:00 - 18:30</b>	<b>Discussion Poster Sessions 1 and 2</b>

**Tuesday 15 November**

<b>TIME</b>	<b>TITLE / ACTIVITY</b>
<b>8:30 - 10:35</b>	<b>Session 3: Genetics and Biotechnology.</b> Moderators: Anna Malacrida , Alexie Papanicolaou
8:30 - 8:35	In memory of Antigone Zacharopoulou. <b>Kostas Bourtzis*</b>
8:35 - 8:55	Mitochondrial genetic diversity of <i>Bactrocera dorsalis</i> captured in California over a 14-year period. <b>Norman Barr*</b>
8:55 - 9:15	Rapid Screening of Tephritid Surveillance Traps using DNA Metabarcoding. <b>Alexander Piper</b>
9:15 - 9:35	Identifying translocation breakpoints in tephritid genomes. <b>Sheina Sim</b>
9:35 - 9:55	New generation of genetic sexing strains facilitate colony refreshment for SIT applications: proof-of-principle in medfly. <b>Carlos Caceres</b>
9:55 - 10:15	Global population genomics of Oriental fruit flies using RAD-seq. <b>Michael San José</b>
10:15 - 10:35	Mitochondrial haplotype diversity revealed multiple and fluctuating entry source of <i>Bactrocera dorsalis</i> complex into southwest Japan.

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	<b>Atsushi Honma</b>
<b>10:35 - 11:00</b>	<b>Break</b>
<b>11:00 - 13:00</b>	<b>Session 4: Chemical Ecology and Attractants</b> Moderators: Alvin Hee, Bernie Dominiak
11:00 - 11:20	Identification of a male-produced aggregation sex pheromone for <i>Bactrocera minax</i> (Enderlein) and a host attractant for male <i>Bactrocera tsuneonis</i> (Miyake). <b>Allard Cossé*</b>
11:20 - 11:40	Determining the presence and abundance of oriental fruit flies is more complex than counting numbers in traps. <b>Christopher Weldon</b>
11:40 - 12:00	Fruit flies (Diptera: Tephritidae) olfactory systems specialize in discriminating their various hosts. <b>Gaëlle Ramiaranjatovo</b>
12:00 - 12:20	The effect of various physiological parameters on the response of <i>Bactrocera zonata</i> males to methyl eugenol. <b>Yoav Gazit</b>
12:20 - 12:40	Comparative olfactory responses of two major cucurbit pests, <i>Zeugodacus cucurbitae</i> and <i>Zeugodacus tau</i> (Diptera: Tephritidae) to three phenylbutanoids male lures. <b>Suk Ling Wee</b>
12:40 - 13:00	Updates on the development of female attractants for improved monitoring of oviposition-impending <i>Bactrocera dorsalis</i> . <b>Dong Cha</b>
<b>13:00 - 14:00</b>	<b>Lunch</b>
<b>13:00 - 14:30</b>	<b>Posters session 3, 4 and 5 (view)</b>
<b>14:30 - 16:30</b>	<b>Session 5: Risk Assessment, Quarantine and Post-harvest</b> Moderators: Yoav Gazit, Solomon Balagawi
14:30 - 14:50	General Guidelines to Facilitate the Opening of International Markets for Fruits and Vegetables that are Fruit Fly Hosts based on International Standards for Phytosanitary Measures. <b>Robert Griffin*</b>
14:50 - 15:10	Host Reproduction Number for fruit fly management and trade. <b>Bernie Dominiak</b>
15:10 - 15:30	Development of microsatellite markers for the Japanese orange fly, <i>Bactrocera tsuneonis</i> (Diptera: Tephritidae). <b>Pattara Opadith</b>
15:30 - 15:50	A forecasting system for fruit fly biosecurity and pest management. <b>Darren Kriticos</b>
15:50 - 16:10	Phytosanitary systems approaches. <b>Rieks Van Klinken</b>
16:10 - 16:30	Developing genus-specific generic cold treatments. <b>Penny Measham</b>
<b>16:30 - 17:00</b>	<b>Group photo</b>
<b>17:00 - 17:30</b>	<b>Break</b>

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<b>17:30 - 19:00</b>	<b>Discussion poster sessions 3, 4 and 5</b>
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**Wednesday 16 November. Technical tours**

<b>6:00 - 10:00</b>	<b>Sydney Markets</b>
<b>8:30 - 16:30</b>	<b>EMAI and Belgenny Farms</b>

**Thursday 17 November**

<b>TIME</b>	<b>TITLE / ACTIVITY</b>
<b>8:00 - 8:30</b>	<b>Poster Hanging (Sessions 6-10)</b>
<b>8:30 - 10:30</b>	<b>Session 6: Sterile Insect Technique, Moderators: Abdel Bakri, Phil Taylor</b>
8:30 - 8:50	Host plant volatile compounds capable of stimulating <i>Anastrepha fraterculus</i> male sexual competitiveness. <b>Diego Segura*</b>
8:50 - 9:10	Review of the main packing and release methods for sterile fruit flies around the world. <b>Jose Luis Zavala Lopez</b>
9:10 - 9:30	Simultaneous Application of Sterile Insect and Male Annihilation Techniques to Enhance Fruit Fly Management. <b>Alvin Hee</b>
9:30 - 9:50	Predicting and achieving suppression of Queensland fruit fly using the sterile insect technique. <b>Lloyd Stringer</b>
9:50 - 10:10	SITplus: Building a world-class sterile insect technique for Queensland fruit fly, <i>Bactrocera tryoni</i> . <b>Gregory Chandler</b>
10:10 - 10:30	Development of the sterile insect technique to control the spotted-wing drosophila, <i>Drosophila suzukii</i> . <b>Simon Fellous</b>
<b>10:30 - 11:00</b>	<b>Break</b>
<b>11:00 - 13:00</b>	<b>Session 7: Natural Enemies and Biological Control</b> Moderators: Sunday Ekesi, Lloyd Stringer
11:00 - 11:20	An efficient method to test screens for use in augmentoria applied to <i>Bactrocera oleae</i> , <i>Ceratitis capitata</i> , and two parasitoid wasp species. <b>Nicholas Manoukis</b>
11:20 - 11:40	Releasing parasitoids for the control of <i>Bactrocera tryoni</i> (Froggatt) in Victoria. <b>Lucy McLay</b>
11:40 - 12:00	Host-endoparasitoid-endosymbiont interactions: <i>Dipterophagus daci</i> (Strepsiptera) provides new twist to Wolbachia in Australian tephritids <b>Markus Riegler</b>
12:00 - 12:20	Friend or foe: Symbiotic bacteria in <i>Bactrocera dorsalis</i> -parasitoid associations. <b>Rehemah Gwokyalya</b>

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12:20 - 12:40	The dual applications of entomopathogenic fungus and methyl eugenol for controlling <i>Bactrocera dorsalis</i> (Hendel) (Diptera: Tephritidae) under field condition in Thailand. <b>Narit Thaochan</b>
12:40 - 13:00	Modes and efficiency of transmission of Iflavirus and Cripavirus in Queensland fruit fly, <i>Bactrocera tryoni</i> . <b>Jennifer Morrow</b>
<b>13:00 - 14:00</b>	<b>Lunch</b>
<b>13:00 - 14:30</b>	<b>Poster sessions 6, 7 and 8 (view)</b>
<b>14:30 - 16:30</b>	<b>Session 8: Other Control Methods or New Developments</b> Moderators: Nicholas Manoukis, Markus Riegler
14:30 - 14:50	Smart-Traps for Fruit Flies: Their Integration into Pest Management and Biosecurity. <b>David Nestel*</b>
14:50 - 15:10	A systems approach for management of fruit fly pests in citrus in South Africa. <b>Aruna Mankarhan</b>
15:10 - 15:30	Insight on Fruit Fly IPM Technology Uptake and Barriers to Scaling in Africa. <b>Saliou Niassy</b>
15:30 - 15:50	Assessing attraction and toxicity of protein bait products to fruit flies. <b>Katharina Merkel</b>
15:50 - 16:10	A holistic approach to address invasive fruit flies (Diptera: Tephritidae) in Europe: the FF-IPM project. <b>Nikos Papadopoulos</b>
16:10 - 16:30	Daily Accurate Fruit Fly Forecast Enabled by Internet of Things Sensors <b>Nancy Schellhorn</b>
<b>18:00 - 22:00</b>	<b>Social Event - Sydney Harbour Cruise</b>

**Friday 18 November**

TIME	TITLE / ACTIVITY
<b>8:30 - 10:30</b>	<b>Session 9: Area-wide IPM and Action Programs</b> Moderators: Pablo Liedo, Satendra Kumar
8:30 - 8:50	Eradication of medfly in Colima, Mexico <b>Jesus Chavero</b>
8:50 - 9:10	A multifaceted approach to domestic management of invasive fruit fly threat in the United States. <b>Corinna Bazelet</b>
9:10 - 9:30	Applying Lessons of the Past to Recovery Strategy for Medfly in Guatemala <b>Luis Manuel Avila Ayala</b>
9:30 - 9:50	Area-wide management of Queensland fruit flies in Victoria's Goulburn Murray Valley by a combined government, industry, community and science approach <b>Ross Abberfield</b>
9:50 - 10:10	Eradicating Queensland fruit fly ( <i>Bactrocera tryoni</i> ) in Perth Western Australia - history, challenges, and future directions

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	<b>Sonya Broughton</b>
10:10 - 10:30	Fruit fly control in Mauritius. <b>Nausheen Patel</b>
<b>10:30 - 11:00</b>	<b>Break</b>
<b>11:00 - 13:00</b>	<b>Session 10: Social, Economic and Policy Issues of Action Programs</b> Moderators: Atsushi Honma , Carol Quashie-Williams
11:00 - 11:20	National fruit flies detection system (NFFDS) - Chile (55 years of one successful plan <b>Ricardo Rodriguez</b>
11:20 - 11:40	Fruit Fly (Diptera: Tephritidae) International Standards for Phytosanitary Measures Can Facilitate Safe Trade. <b>Rui Cardoso Pereira</b>
11:40 - 12:00	Two decades of fighting the invasive Oriental fruit fly <i>Bactrocera dorsalis</i> in Africa: A synopsis <b>Shepard Ndlela</b>
12:00 - 12:20	Protecting the Australian way of life: 40 years of monitoring and eradicating exotic fruit fly in northern Queensland. <b>Isarena Schneider</b>
12:20 - 12:40	Collaboration: Key to a strong and robust national fruit fly management system. <b>Stuart Burgess</b>
12:40 - 13:00	Medfly in a warming world: using models to understand shifting range dynamics. <b>Anna Szyniszewska</b>
<b>13:00 - 14:00</b>	<b>Lunch</b>
<b>13:00 - 14:30</b>	<b>Posters session 9 and 10 (view)</b>
<b>14:30 - 16:30</b>	<b>Discussion poster sessions 6, 7, 8, 9 and 10</b>
<b>16:30 - 17:00</b>	<b>Closing Ceremony</b> <b>Rui Cardoso Pereira, Polychronis Rempoulakis</b>