

## Program

### Monday 4<sup>th</sup> of April

8:00 am- 9:00 am: Arrival, registration and setting up posters

9:00 – 9:30: Opening Ceremony

9:30- 10:00: Current problems and challenges in managing citrus diseases worldwide and in the Mediterranean region.

Keynote Speaker: Eleftherios Tjamos

### 10:00 – 10:30 Coffee break

- **Biological Control**

**Chair: Darija Lemic and Alejandro Tena**

10:30 – 12:30

#### **Presentation 1**

Predation assessment of the African citrus psyllid *Trioza erytreae* (Del Guercio) by molecular methods.

*Paula Molina, María Teresa Martínez-Ferrer<sup>1</sup>, José Miguel Campos-Rivela, Jordi Riudavets, Nuria Agustí*

#### **Presentation 2**

Entomopathogenic nematodes for control of Mediterranean fly *Ceratitis capitata*: prospects and limitations.

*Apostolos Kapranas, Anna Chronopoulou, Ioanna C. Lytra, Spyridon Antonatos, Panagiotis G. Milonas and Dimitrios P. Papachristos*

#### **Presentation 3**

Application of classic biological control program for the management of *D. aberiae*.

*Antonia Soto, Marco Benito, Elena Romero.*

#### **Presentation 4**

Rate of parasitism among citrus whiteflies *Dialeurodes citri* Ash. populations in chemically managed citrus orchards in Mitidja plain, Algeria.

*Leila Benfekih, Riyane Lazreg, Ali Bouellares, Nesrine Benatallah, Abdelhaq Mahmoudi*

#### **Presentation 5**

Classical biological control of the huanglongbing vector, *Trioza erytreae*, in Europe.

*Alejandro Tena*

#### **Presentation 6**

IOBC – WPRS WG “Integrated Control in Citrus Fruit crops” Nafplio  
(Greece) 4-6 April 2022

Establishing cover crops for the conservation of natural enemy assemblages during winter in citrus orchards.

*Casiraghi, A., Urbaneja, A., Monzó, C.*

#### **Presentation 7**

Ant-exclusion reduces *Delottococcus aberiae* density and damage in citrus crops).

*Ángel Plata, María A. Gómez, Francisco Beitia and Alejandro Tena*

#### **12:30- 14:00 Lunch break**

14:00 – 14:30: The invasion of *Trioza erythrae* in the Mediterranean basin: current status, management achievements and further steps.

Keynote Speaker: Alberto Urbaneja

- **Integrated Pest Management**

**Chair: Cesar Monzo Ferrer and Dionysios Perdikis**

14:30- 16:00

#### **Presentation 8**

The impact of Kaolin clay on *Trioza erythrae* global behavior.

*D. Félix-Oliveira, J. Benhadi-Marín, E. Garzo, A. Ferreres, J.A. Pereira*

#### **Presentation 9**

Analysis factors to improve IPM strategies of the nesting whitefly *Paraleyrodes minei* (Homoptera: Aleyrodidae) in the Mediterranean basin.

*Javier Puig-Ochoa, Antonia Soto*

#### **Presentation 10**

Residues of neonicotinoids in wildflowers after foliar spray in commercial citrus orchards.

*José Miguel Campos-Rivela, Ana Isabel García-Valcárcel, María Dolores Hernando-Guil, María Teresa Martínez-Ferrer*

#### **Presentation 11**

Effect of selected systemic insecticides on *Anagyrus vladimiri* (Hymenoptera: Encyrtidae) feeding on nectar of treated flower plants.

*Paula Molina, José Miguel Campos-Rivela, Nuria Agustí, Maria Teresa Martínez-Ferrer*

#### **Presentation 12**

A sustainable mixed cropping-beekeeping system in the Mediterranean basin.

*K.M. Kasiotis, F. Karamaouna, V. Kati, M. Barda, N. Kabli, A. Mohammedi, S.A. Shairra, J.A. Jaques, P.-P. Danieli, Y. Le Conte, S. Merabet, R. Terriaca, Y. Karypidis*

**16:00 – 16:30 Coffee break**

- **Challenges in pest and disease management**

**Chair: Dimitris Dimou and Christina Varveri**

16:30 – 17:30

**Presentation 13**

Citrus tristeza virus: the major current phytopathological problem of Greek citrus industry.

*D. Beris, O. Kektsidou, I. Malandraki, N. Vassilakos, C. Varveri*

**Presentation 14**

Mediterranean fruit fly Area Wide Suppression Programme in the Valencian Community (Spain).

*Vicente Dalmau Sorli, Ignacio Plá Mora*

**Presentation 15**

A molecular diagnostic assay for the discrimination of eleven species of aphids infesting citrus.

*Despoina Ev. Kapantaidaki, Afroditi Krokida, Vasiliki Evangelou, Panagiotis Milonas and Dimitrios P. Papachristos*

**Presentation 16**

The role of the Cuarentagri project in monitoring and issuing phytosanitary sheets concerning the Mediterranean Fruit Fly (*Ceratitis capitata* Wiedeman) (Diptera: Tephritidae) as part of an agricultural warning system in the Azores.

*David Horta Lopes, Elisa Tarantino, Adriano Mota, Beatriz Sousa, Jéssica Machado, Cristina Moules, Ricardo Rodrigues, Jéssica Machado*

- **IOBC Citrus guidelines**

17:30 - 19:00

*Lucía-Adriana Escudero-Colomar, Aude Alaphilippe, María Teresa Martínez-Ferrer*

**20:00 – 22:00: Reception at the Hellenic National Gallery- Department of Nafplio**

**Tuesday 5<sup>th</sup> of April**

**9:00- 17:00 Technical excursion**

Visit to the Archaeological site of Mycenae

Visit to the experimental orchards of Anyfion

Visit to winery “Skouras” – Wine tasting and light lunch

**20:00 – 23:00 Gala Dinner**

Agamemnon Palace- Mycenae

### Wednesday 6<sup>th</sup> of April

9:00 – 9:30: Climate change and citrus pests

Keynote Speaker: Darren Kriticos

- **Biology of Citrus Pests**

**Chair: Panagiotis Milonas and David Horta Lopez**

9:30- 11:00

#### **Presentation 17**

Population dynamics of medfly on citrus orchards in Korinthos region, Greece.  
*Dimitrios Papachristos, Spyridon Antonatos, Vasileios Karras, George Partsinevelos, Savvina Toufexi, Panagiotis Milonas*

#### **Presentation 18**

Biology, ecology and management of the orchid thrips *Chaetanaphothrips orchidii* (Moulton) (Thysanoptera: Thripidae).  
*José Catalán, Alejandro Tena*

#### **Presentation 19**

Comparison of *Trioza erythrae* infestation on Citrus × sinensis versus Citrus × limon in controlled conditions.  
*Tomás Thormann Magalhães, Jose Alberto Pereira, Amilcar Duarte, Luís Miguel Mascarenhas Neto, Natalia T. Marques*

#### **Presentation 20**

Interactions between time of day and physiology on fruit fly responsiveness to lures.  
*Tania Pogue, Kévin Malod, Christopher W. Weldon*

#### **Presentation 21**

Spatio-temporal population trend of the Mediterranean fruit fly in mixed fruit orchards in Central Greece.  
*Kostas Zarpas, Vasilis G. Rodovitis, Stella A. Papanastasiou, Kleopatra Moraiti, Eleni Verikouki, Nikolaos Patronis, Stratos Nikolaou and Nikos T. Papadopoulos*

**11:00- 11:30 Coffee break**

- **Pest Ecology and Physiology**

**Chair: María Teresa Martínez-Ferrer and Kiki Varikou**

11:30- 13:00

#### **Presentation 22**

IOBC – WPRS WG “Integrated Control in Citrus Fruit crops” Nafplio  
(Greece) 4-6 April 2022

Effect of fruits aroma and citrus essential oils on *Ceratitis capitata* (Diptera: Tephritidae) oviposition.

*Spyridon Antonatos, Eirini Anastasaki, Antonios Michaelakis, George Balayiannis, Panagiotis Milonas, Nikolaos T. Papadopoulos and Dimitrios P. Papachristos*

### **Presentation 23**

Characterization of the volatile infestation-fingerprint of oranges by *Ceratitis capitata*, *Bactrocera zonata* and *B. dorsalis* and conversion into a detection tool (e-Nose).

*Eirini Anastasaki, Aikaterini Psoma, Spyridon Antonatos, Ioanna Lytra, Maria-Vasiliki Giakoumaki, Dimitrios Papachristos and Panagiotis Milonas*

### **Presentation 24**

Effect of host fruit and temperature on overwintering capacity of different *Ceratitis capitata* populations.

*Antonis G. Papadopoulos, Georgia D. Papadogiorgou, Cleopatra A. Moraiti, Panagiota M. Koskinioti and Nikos T. Papadopoulos*

### **Presentation 25**

Field surveys on *Aleurocanthus spiniferus* natural enemies on Citrus in Italy.

*Massimino Cocuzza Giuseppe Eeros, Bella Salvatore, Tumminelli Ricardo, Siscaro Gaetano*

### **Presentation 26**

Wildflower habitats enhance pest regulation services in Spanish orange orchards.

*Alice Mockford, Alberto Urbaneja, Alejandro Tena, Kate Ashbrook, Duncan B. Westbury*

## **12:30- 14:00 Lunch break**

14:30- 16:00

- **Round table discussion: Invasive pests threaten the citrus production in the Mediterranean countries**

**Moderators: Nikos T. Papadopoulos, Antonia Sotto**

Panel: *Panagiotis Milonas, Christos Arambatzis, David Horta Lopes, Darren Kriticos*

## **16:00 – 16:30 Coffee break**

16:30 – 17:30

IOBC - WPRS WG "Integrated Control in Citrus Fruit crops" Nafplio  
(Greece) 4-6 April 2022

- **Poster Discussion**

**Chair: Eleftheria Bempelou, Nikos Kouloussis and Benfekih Leila**

17:30 - 18:00 Closing ceremony- Awards

**Chair: Antonios Augustinos and Maria Terreza**

**20:00- 22:00 Nafplio tour**

## List of Posters

### Monday 4<sup>th</sup> of April

- **Biological Control**

#### Poster 1

The zoophytophagous predator *Pilophorus clavatus* (Hemiptera: Miridae) induces plant defenses in citrus plants.

*Meriem Dahmane, Alberto Urbaneja, Omar Ruíz-Rivero, Miquel Alonso-Valiente, Meritxell Pérez-Hedo*

#### Poster 2

Do Eucalyptus essential oils represent a threat to *Scymnus subvillosus* Goeze (Coleoptera: Coccinellidae) a potential biocontrol agent of aphids in citrus orchards?

*Leila Benfekih, Amina Smail, Leila Mohamed Ali, Abdelhaq Mahmoudi*

#### Poster 3

Effect of thermal acclimation and prevailing conditions on the response of adult Mediterranean fruit flies to traps

*Eleftheria-Maria D. Bali, Eleni C. Savvidou, Eleni Verykouki, Charalampos S. Ioannou, Nikos T. Papadopoulos*

#### Poster 4

Population levels and biological control of *Phyllocnistis citrella* 23 years after its introduction in three regions of Greece

*Nikolina Grammenou, Antonios Tsagkarakis, Argyro Kalaitzaki, Sofia Dervisoglou, Dionysios Perdikis*

#### Poster 5

Do the diaphragm pumps of hydraulic sprayers affect –the viability and infectivity of entomopathogenic fungi?

*Roberto Beltrán-Martí, Jaime Cuquerella, Laura Catalán, Cruz Garcerá and Patricia Chueca*

- **Integrated Pest Management**

#### Poster 6

Effect of ozone treatment on mandarin pathogens.

*Helena Virić Gašparić, Mario Bjeliš, Darija Lemić*

#### Poster 7

Sustainable control strategies of two-spotted mite *Tetranychus urticae* Koch (Prostigmata: Tetranychidae) in citrus

*José Miguel Campos-Rivela, Josep Miquel Fibla Queralt, María Teresa Martínez-Ferrer*

#### Poster 8

Temporal Variation in Pesticide Residues in Citrus Fruits from Chios, Greece, before and after the Development of an Integrated Pest Management Strategy (IPMS): A Five-Year Study (LIFE13 ENV GR/000414)



*Eleftheria Bempelou, Christos Anagnostopoulos, Maroula Kioussi, Panagiota Malatou, Konstantinos Liapis, Nikos Kouloussis, Vassilis Mavraganis and Nikolaos T. Papadopoulos*

**Poster 9**

A survey exploring farmers and stakeholders’ perceptions in the control of medfly populations with the innovative attractant Biodelear. A case study in the island of Chios in Greece. (LIFE13 ENV GR/000414)

*Nicolia Samari, Eleftheria Bempelou, Christos Anagnostopoulos, Nikos Katsenios, Nikos A. Kouloussis, Vassileios Mavraganis, Nikos T. Papadopoulos*

**Poster 10**

The PLANT-B mixed farming system of citrus, aromatic plants and bee-keeping: Impact of weed vegetation in citrus field margins on conservation of insect pollinators and natural enemies.

*Filitsa Karamaouna, Vaya Kati, Leonidas Economou, Theodoros Stathakis, Myrto Barda*

- **Challenges in pest and disease management**

**Poster 11**

Invasion of *Ceratitis capitata* W. (Diptera, Tephritidae) from coastal to inland areas of Dalmatia region of Croatia: E-traps as an improved detection tool.

*Mario Bjeliš, Ivan Tavra, Frane Strikić, Miro Stojić, David Nestel*

**Poster 12**

Pest status of California red scale on citrus in Tunisia.

*Amira Najjar, Imène Belaam-Kort, Synda Boulahia-Kheder*

**Poster 13**

Resurgence of citrus pests in Tunisia.

*Imène Belaam-Kort, Amira Najjar, Synda Boulahia-Kheder*

**Poster 14**

Development and implementation of an environmental impact assessment procedure (IAP) at farm level as a tool to support sustainability in Mediterranean citrus agro-ecosystems.

*E. Karanasios, M. Barda, F. Karamaouna, V. Kati, K. Kyriakopoulou, L. Economou, A. Charistou, G. Pavlidis, A. Tsakirakis, M. Lykogianni, Th. Nikolopoulou, Th. Stathakis, I. Mantzouni, K. Kasiotis, E. Markellou*

**Poster 15**

Global distribution and diversity of the fungal pathogen *Colletotrichum* associated with citrus.

*Thea Kristensen, Birgit Jensen, Henrik H. de Fine Licht*

**Wednesday 6<sup>th</sup> of April**

- **Biology of Citrus Pests**

**Poster 16**

Effects of environmental factors on the energetic traits of *Ceratitis capitata*.

*Darija Lemic, Helena Virić Gašparić, Pave Ninčević, Ivana Pajač Živković, Mario Bjeliš*

**Poster 17**

Role of mineral nutrition on the fluctuations of *Parlatoria ziziphi* (Homoptera: Diaspididae) populations on citrus in Rouiba region, Algiers (Algeria).

*Boukhobza Laila, Belguendouz Rachida, Zaabta Insaf, Chebli Abderahmen and Biche Mohammad*

**Poster 18**

The mass-trapping attractant biodegradable effects on medfly reproduction in laboratory conditions.

*Terzidou Anastasia, Alatza Maria- Paraskevi, Nikos T. Papadopoulos Koveos Dimitrios and Kouloussis Nikos*

**Poster 19**

On automatic classification of aphids in flight.

*Kiki Varikou, Antonia Karagianni, Matthaios Mathioudakis, Panagiota Psirofonia, Ilyas Potamitis*

**Poster 20**

Observations on the within-crop dispersal patterns of the African citrus psyllid, *Trioza erythrae* (del Guercio), in northwestern Portugal.

*Jacinto Benhadi-Marín, Diogo Félix-Oliveira, Alberto Fereres, José Alberto Pereira*

- **Pest Ecology and Physiology**

**Poster 21**

A new sensitive photochemical method for early and easy detection of biotic stress.

*Chondrogiannis Christos, Grammatikopoulos Giorgos*

**Poster 22**

Optimization of protein quantity in an agar-based larval diet for the Mediterranean fruit fly

*Paraschos Prekas, Vasilis G. Rodovitis, Evmorfia P. Bataka, Nikos T. Papadopoulos*

**Poster 23**

Wolbachia-infected *Ceratitis capitata* Vienna 8 genetic sexing strains: potential for combined IIT/SIT applications.

*Kotsadam Eleni, Chondrogiannis Christos, Telli Sevastia, Karathanasi Venetia, Augustinos Antonis*

**Poster 24**

Qplots: An interactive web platform for the analysis and visualization of microbial sequencing data based on the R-shiny framework

*Bel Mokhtar Naima, Asimakis Elias, Stathopoulou Panagiota, Tsiamis George*



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