



DETAILED PROGRAM



ECE 2023
CRETE
European Congress of Entomology

XII European Congress of Entomology

16-20.10.2023

Cultural Conference Center of Heraklion
Crete, Greece

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ΕΛΛΑΔΑΣ



Welcome Letter



Dear Colleagues,

On behalf of the Organizing Committee of the ECE 2023 and the Hellenic Entomological Society, we are delighted to welcome entomologists from around the globe to the XII European Congress of Entomology (ECE 2023), in Heraklion, Crete, on 16-20 October 2023.

Forty-five years after the first European Congress of Entomology in 1978 at Reading University, UK and following a series of successful congresses around Europe, we now have the great honor to host this major European entomological meeting in our beautiful country and with it the opportunity to share knowledge, expertise and perspectives.



The world of entomology faces many problems with the increasing threat of climate change, damaging vector-borne diseases, biodiversity loss and the need to feed an expanding world population. Our goal is to gather scientists from around the globe and provide a unique opportunity to exchange information and to communicate research results on a wide range of topics. The ECE 2023 audience consists of researchers and academics from a diverse range of entomology related fields, as well as policy-makers, field agronomists, crop protection experts, medical practitioners, engineers, social scientists and artists.

The congress program includes invited lectures from international experts, symposia, oral and poster sessions, workshops and satellite seminars. In addition, the congress is undoubtedly the ideal meeting place to network and interact, establishing the starting point for future collaborations and breakthrough innovations in entomology.

The historic, as well as magnificent island of Crete sets the ideal scenery for ECE 2023. The congress is hosted in the Cultural and Conference Center of Heraklion, a contemporary venue of international standards, offering high level services in an inspiring environment.

We strongly believe that we will deliver a high-quality meeting which will turn out to be a memorable experience. The success of the congress depends on the contributions of the delegates and we thank you for being actively involved.

Welcome at ECE Congress in Heraklion in 2023!

On behalf of the Organizing Committee

Emmanouil Roditakis, Stefanos Andreadis
ECE2023 Congress Chairs

Plenary Speakers



Prof. Dr. Consuelo De Moraes

Professor, Department of Environmental Systems Science
Biocommunication & Ecology
Director of the Entomological Collection,
ETH Zürich, Switzerland

Consuelo De Moraes is Professor of Biocommunication and Ecology at The Swiss Federal Institute of Technology (ETH) in Zürich, Switzerland. Her research efforts focus on the role of information in mediating ecological interactions among species, with a particular focus on chemical signaling and olfaction. Work from her laboratory has documented novel and frequently unexpected aspects of chemical communication among plants, insects, and other organisms, elucidating important features of plant-plant and plant-insect interactions, as well as disease transmission by insect vectors. Prof. De Moraes's research findings have broad relevance for ecology, agriculture, and human health and have been published in leading scientific journals, including Science, Nature, and PNAS. Her work has also reached a broader audience, being featured in several life science textbooks and documentary films, as well as numerous articles in the scientific and popular press. Prof. De Moraes's professional accomplishments have been recognized through numerous awards and honors, including a Packard Foundation Fellowship; the Beckman Foundation's Young Investigator Award; the ESA Early Career Innovation Award; the Du Pont Award; the ESA Nan-Yao Su Award for Innovation and Creativity; and the International Society of Chemical Ecology's Silverstein-Simeone Award. She has also been named a Fellow of the Entomological Society of America and of the American Association for the Advancement of Science.



Prof. George Dimopoulos

Professor, PhD MBA
Dept. Molecular Microbiology and Immunology
Johns Hopkins Malaria Research Institute
Bloomberg School of Public Health
Johns Hopkins University, Baltimore, Maryland, United States of America
Director (JHMRI Parasite Core), Deputy Director (JHMRI)
ERA Chair, Institute of Molecular Biology and Biotechnology (IMBB), FORTH – Hellas

Dr. Dimopoulos has over the past 30 years acquired a broad expertise in the molecular biology, functional genomics and genetics of disease vector mosquitoes and relevant infection models. He received his BSc in microbiology from Stockholm University in 1990, his PhD in biology from the University of Crete in 1996, and his MBA from Johns Hopkins University Carey Business School in 2008. He performed postdoctoral training at the European Molecular Biology Laboratory in Prof. Kafatos laboratory between 1996 and 2001, he was a Senior Lecturer at Imperial College London between 2001 and 2003, and then joined the faculty at Johns Hopkins University Bloomberg School of Public Health, Molecular Microbiology and immunology Department and the Malaria Research Institute. He was promoted to tenured professor in 2011, and serves as a deputy director of the Malaria Research Institute and director of the Parasite Core facility. Dr. Dimopoulos is an elected member of the Alpha Chapter of the Delta Omega Public Health Honor Society, and a member of the American Academy of Microbiology. Dr. Dimopoulos' research program broadly focuses on the innate immune systems and microbiomes of the mosquito disease vectors Anopheles and Aedes, and how these can be harnessed to attenuate transmission of malaria and arboviral diseases. His group has pioneered in studies of how mosquito immunity and microbiota influences Plasmodium and arbovirus infection virus infection. Dr. Dimopoulos' research aims at understanding the biology of mosquito – pathogen interactions to develop novel intervention strategies. The basic science, which addresses a largely unexplored area of the tripartite interactions between parasitic or viral pathogens, the insect's innate immune system and microbiome, is coupled to innovative translational research that aims at vector-borne disease control.



Prof. Dr. Theodora Petanidou

Professor of Ecology & Ecogeography, Department of Geography,
University of the Aegean, Greece

Theodora Petanidou is professor of Ecology & Ecogeography at the University of the Aegean, Greece, with research experience from several universities in Europe and the Americas. Her research interests vary from pollination ecology to natural resources and conservation, Mediterranean ecogeography and cultural ecology. She adores marginal habitats characterized by extreme conditions (phrygana, saline systems, abandoned lands and agriculture terraces) especially in the Aegean Archipelago, where she devotes her main research efforts. Her major research work is on pollination ecology, focusing principally on biodiversity, structure and function of plant–pollinator communities, pollinator diversity and biogeography, in particular of bees and hoverflies, as well as floral rewards, especially nectar. A great amount of her most recent research emphasizes on threats posed on pollinators and pollination systems in the Mediterranean, such as climate change and fires, as well as habitat overexploitation including overgrazing and beekeeping intensification. Furthermore, and since mountain systems constitute sensitive indicators of climate change, she has started a systematic monitoring of plant–pollinator systems of the major Greek mountains. Her interests the last few years include also large-scale popularizing and outreaching of the collected knowledge targeting to public awareness and sensitization, as well as to behavioral change (e.g. projects LIFE TERRACESCAPE, LIFE 4 POLLINATORS). She is the founder of the “Melissotheque of the Aegean”, an important insect collection infrastructure established in the Biogeography & Ecology Laboratory, in Mytilene; so far the Melissotheque includes more than 200,000 pollinator specimens from the Aegean and adjacent areas.



Prof. Dr. Norbert Perrimon

Professor of Genetics, Harvard Medical School
Investigator, Howard Hughes Medical Institute, United States of America

*Norbert Perrimon, PhD, James Stillman Professor of Developmental Biology in the Department of Genetics at Harvard Medical School, Investigator of the Howard Hughes Medical Institute, and Associate member of the Broad Institute, is a geneticist known for pioneering a number of techniques in *Drosophila*, as well as specific substantive contributions to signal transduction, developmental biology, and physiology. Among the tools that he has developed are the FLP-FRT Dominant Female Sterile technique to generate germline mosaics, the GAL4-UAS method to control gene expression both spatially and temporally, high-throughput genome wide RNAi and CRISPR screens, and proximity labeling methods to identify secreted molecules. These methods have had transformative impacts in signal transduction, development, physiology, neurobiology, and functional genomics. Early in his career, he identified and characterized factors involved in RTK, Wnt, and JAK/STAT signaling, contributing to the elucidation of these canonical pathways. Perrimon went on discover intestinal stem cells in the adult fly gut, opening up an entire field of study to identify factors and pathways involved in stem cell homeostasis and regeneration. In more recent years, he has taken a systematic approach to identify factors involved in inter-organ communication, which are leading to a systems wide understanding of how hormonal systems are regulated by the state of various organs in homeostatic and stressed conditions. Perrimon has been on the faculty of Harvard Medical School since 1986. He received the George W. Beadle Medal from the Genetics Society of America in 2004. He has been elected to the American Academy of Arts and Sciences, American Association for the Advancement of Science, EMBO, and the National Academy of Sciences. He has trained more than 120 students and postdoctoral fellows, most of whom currently hold academic positions.*



Prof. dr. ir. Thomas Van Leeuwen

Professor, Faculty of Bioscience Engineering
Department of Plants and Crops
Ghent University, Belgium

*Dr. ir. Thomas Van Leeuwen is professor at the Department of Plants and Crops of Ghent University, Belgium. Prof. Van Leeuwen devotes his research to the elucidation of adaptation mechanisms in crop pests, mainly mites such as the spider mite *Tetranychus urticae*. In the last decade, he was one of the first scholars to underpin the molecular mechanisms of acaricide resistance. With the availability of a high-quality genome sequence, his team and collaborators acquired considerable expertise in genomic mapping, which allowed to elucidate resistance mechanisms without any prior hypothesis, thereby also uncovering the molecular mode of action of several classes of insecticides and acaricides. Although acaricide resistance is the primary subject, investigations into the mechanisms of plant adaptation and extreme polyphagy are also a main interest. Recently, after obtaining an ERC consolidator grant, prof. Van Leeuwen focusses on the molecular genetic mechanisms of gene regulation in the context of xenobiotic resistance. This entails the determination of cis- and trans regulatory variation, expression QTL mapping and the role of gene copy number variation. His research also expands into the fundamental development of reverse genetic tools (RNAi, Crispr/Cas9) tailored to spider mites and other difficult to transform insects.*



Prof. Robert M. Waterhouse

Swiss National Science Foundation Professeur Boursier
Group Leader, SIB Swiss Institute of Bioinformatics, Department of Ecology and Evolution
University of Lausanne, Switzerland

As an Assistant Professor and Swiss Institute of Bioinformatics Group Leader at the Department of Ecology and Evolution of the University of Lausanne since 2017, Robert Waterhouse is developing the research initiatives of his group with a focus on comparative molecular evolutionary and functional genomics of arthropod biodiversity. His team strives to build bioinformatics tools and resources that facilitate the elucidation of interactions between gene evolution and gene function, developing computational approaches to interrogate evolutionary and functional data: relating gene and genome evolution to gene function, gene expression, and organismal traits. He is also deeply involved in coordinating and leading European efforts for scaling up production of biodiversity genomics data and building data management infrastructures required for efficient processing and open data sharing. His research motivations are on the downstream analyses: data science focused on developing the computational biology tools required to make sense of the molecular data, to characterise how genes and genomes evolve and how this relates to genomic element functions at molecular, cellular, and organismal levels. The biological focus of his group is on arthropods, where rapidly increasing genomic taxonomic sampling combined with their countless evolutionary adaptations mean they are an ideal study system for investigating how conservation or divergence of functional genomic elements give rise to the splendour of animal biology. His group's research interfaces evolutionary and computational biology, with a focus on key questions in molecular biology and evolution that are also directly relevant to global public health and with applications to agriculture and the environment in the context of a rapidly changing planet.

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IT: George Kanakaris

Congress Venue: Cultural Conference Center of Crete

ARTION Onsite Desk	Level 0 Plenary Foyer
Operation Hours	
Monday 16 Oct 2023	07:30 - 19:00
Tuesday 17 Oct 2023	08:30 - 19:00
Wednesday 18 Oct 2023	08:30 - 19:00
Thursday 19 Oct 2023	08:30 - 19:00
Friday 20 Oct 2023	08:30 - 13:00
Poster Sessions Area	Level 1
Exhibitors and Coffee Breaks	Levels 2 & 3
Lunches	Level 0

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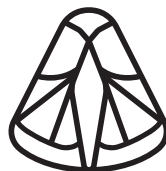
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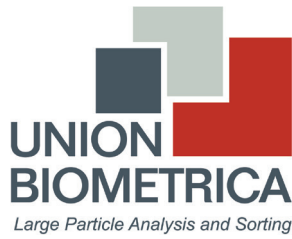
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Programme at a Glance

Monday 16 October 2023

07:30 - 08:30	Registrations					
	Plenary Hall					
08:30 - 09:00	Welcome - Opening					
09:00 - 10:00	Plenary lecture 1					
10:00 - 10:30	<i>Coffee break</i>					
10:30 - 12:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Ecology and Behavior	Biological Control and Biopesticides	Urban and Forest Entomology	Toxicology and Pesticide Resistance	Morphology and Systematics	Workshop on Bee Identification
12:30 - 13:30	<i>Lunch break - Poster Session I</i>					
13:00 - 13:20	Lunch Seminar Sponsored by K&N EFTHYMIADIS - Hall 2					
	Plenary Hall					
13:30 - 14:30	Plenary lecture					
14:30 - 16:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Ecology and Behavior	Biological Control and Biopesticides	Urban and Forest Entomology	Toxicology and Pesticide Resistance	Morphology and Systematics	Workshop on Bee Identification
16:30 - 17:00	<i>Coffee break - Poster Session I</i>					
17:00 - 19:00	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Ecology and Behavior	Biological Control and Biopesticides	Urban and Forest Entomology	Toxicology and Pesticide Resistance	Morphology and Systematics	Workshop on Bee Identification
19:00 - 21:00	Congress Welcome Reception					

Plenary Hall (Hall 1): Andreas & Maria Kalokairinou

Hall 2: Concert Hall

Hall 3: Experimental Theater

Hall 4: Seminar Hall

Hall 5: Small Theater

Hall 6: Creative Workshop

Tuesday 17 October 2023

	Plenary Hall					
09:00 - 10:00	Plenary lecture 2					
10:00 - 10:30	Coffee break					
10:30 - 12:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Ecology and Behavior	Biological Control and Biopesticides	Multitrophic Interactions Insect, Microbial, Host plants	Invasion Biology and Climate Change	Genetics and Evolutionary Biology	Workshop on Bee Identification
12:30 - 13:30	Lunch break					
13:30 - 15:00	Poster Session II					
15:00 - 17:00	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Ecology and Behavior	Biological Control and Biopesticides	Multitrophic Interactions Insect, Microbial, Host plants	Invasion Biology and Climate Change	Genetics and Evolutionary Biology	Workshop on Bee Identification
17:00 - 17:30	Coffee break					
17:30 - 19:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Ecology and Behavior	Biological Control and Biopesticides	Multitrophic Interactions Insect, Microbial, Host plants	Invasion Biology and Climate Change	Genetics and Evolutionary Biology	Workshop on Bee Identification

Plenary Hall (Hall 1): Andreas & Maria Kalokairinou

Hall 2: Concert Hall

Hall 3: Experimental Theater

Hall 4: Seminar Hall

Hall 5: Small Theater

Hall 6: Creative Workshop

Wednesday 18 October 2023

	Plenary Hall					
09:00 - 10:00	Plenary lecture 3					
10:00 - 10:30	Coffee break					
10:30 - 12:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Medical and Veterinary Entomology	Symbiosis and Insect Pathology	Insect Biotechnology	Invasion biology and climate change	Physiology and Biochemistry	Bioprotection Symposium
12:30 - 13:30	Lunch break					
13:00 - 13:20	Lunch Seminar Sponsored by MERCK - Hall 2					
13:30 - 15:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Integrated Pest Management	Symbiosis and Insect Pathology	Insect Biotechnology	Invasion biology and climate change	Physiology and Biochemistry	Bioprotection Symposium
15:30 - 16:00	Coffee break					
16:00 - 16:30	Poster Session III					
16:30 - 18:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Integrated Pest Management	Symbiosis and Insect Pathology	Insect Biotechnology	Biodiversity and Conservation	Physiology and Biochemistry	Workshop: "New approaches on the management of invasive Lepidoptera in urban/suburban areas and forests"
18:30 - 19:00	Poster Session III					
20:00 - 22:00	Congress Dinner <i>Busses will start departing from the Congress Venue at 19:00</i>					

Plenary Hall (Hall 1): Andreas & Maria Kalokairinou

Hall 2: Concert Hall

Hall 3: Experimental Theater

Hall 4: Seminar Hall

Hall 5: Small Theater

Hall 6: Creative Workshop

Thursday 19 October 2023

	Plenary Hall					
09:00 - 10:00	Plenary lecture 4					
10:00 - 10:30	Coffee break					
10:30 - 12:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	Hall 6
	Integrated Pest Management	Medical and Veterinary Entomology	Stored Product Protection	Biodiversity and Conservation	Social Insects and Apidology	Social Insects and Apidology
12:30 - 13:30	Lunch break					
13:30 - 15:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	
	Integrated Pest Management	Medical and Veterinary Entomology	Stored Product Protection	Biodiversity and Conservation	Social Insects and Apidology	
15:30 - 16:00	Coffee break					
16:00 - 16:30	Poster Session IV					
16:30 - 18:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5	
	Integrated Pest Management	Medical and Veterinary Entomology	Stored Product Protection	Biodiversity and Conservation	Social Insects and Apidology	
18:30 - 19:00	Poster Session IV					
18:30 - 20:15			Workshop: Insects on the plate - Edible insects for food and feed			

Plenary Hall (Hall 1): Andreas & Maria Kalokairinou

Hall 2: Concert Hall

Hall 3: Experimental Theater

Hall 4: Seminar Hall

Hall 5: Small Theater

Hall 6: Creative Workshop

Friday 20 October 2023

	Plenary Hall				
09:00 - 10:00	Plenary lecture 5				
10:00 - 10:30	Coffee break				
10:30 - 12:30	Hall 1	Hall 2	Hall 3	Hall 4	Hall 5
	Integrated Pest Management	Medical and Veterinary Entomology	Stored Product Protection	Biodiversity and Conservation	Social Insects and Apidology
12:30-13:30	Plenary Hall				
	Closing Session				

Plenary Hall (Hall 1): Andreas & Maria Kalokairinou

Hall 2: Concert Hall

Hall 3: Experimental Theater

Hall 4: Seminar Hall

Hall 5: Small Theater

Hall 6: Creative Workshop

Detailed Programme

Monday 16 October 2023

07:30 - 08:30

Registrations

08:30 - 09:00

Welcome - Opening

Hall 1: Andreas & Maria Kalokairinou Hall

09:00 - 10:00

Plenary Lecture

Hall 1: Andreas & Maria Kalokairinou Hall

PL1. A mighty model: Unraveling the molecular genetic mechanisms of extreme polyphagy and pesticide resistance in the crop pest *Tetranychus urticae*

Thomas Van Leeuwen

Professor, Faculty of Bioscience Engineering, Department of Plants and Crops, Ghent University, Belgium

10:00 - 10:30

Coffee Break & Poster Session I

10:30 - 19:00

Workshop on Bee Identification

Tutors: Dr Denis Michez & Dr Sara Reverté from the University of Mons, Belgium

Hall 6: Creative Workshop

Pre-registration is required

Morning Sessions

10:30 - 12:30

SESSION 4

Ecology and Behavior

Sensory Biology

Chair: Konstantinos Iatrou, National Centre for Scientific Research "Demokritos", Greece

Hall 1: Andreas & Maria Kalokairinou

10:30 - 11:00

Keynote speech

OC068. Function and regulation of insect odorant receptors

Dieter Wicher

Max Planck Institute for Chemical Ecology, Germany

11:00 - 11:15

OC069. Molecular basis of olfactory-driven behaviours of *Culicoides imicola*

Adi Behar

The Hebrew University, Israel

11:15 - 11:30

OC70. Evolution of maxillary palp-mediated repellency in culicine mosquitoes

Jonathan Bohbot

The Hebrew University, Israel

11:30 - 11:45

OC071. The oviposition cue indole inhibits animal-host attraction in *Aedes aegypti* (Diptera: Culicidae)

Evyatar Sar-Shalom

The Hebrew University of Jerusalem, Israel

11:45 - 12:00

OC072. Reverse chemical ecology in a moth: identification of new behaviorally active semiochemicals in the cotton leafworm

Emmanuelle Jacquin-Joly

Sorbonne Université, Université de Paris, France

12:00 - 12:15

OC73. A biosensor powered by a mosquito odorant receptor

Yuri Vainer

Hebrew University of Jerusalem, Israel

12:15 - 12:30

OC74. Effects of two herbicides and a medical drug, alone or in mixtures, on learning in *Aedes aegypti* larvae

Fernando Guerrieri

University of Tours, France

10:30 - 12:30

SESSION 14

Biological Control and Biopesticides

New Developments in Greenhouse

Chair: George Broufas, Democritus University of Thrace, Greece

Hall 2: Concert Hall

10:30 - 11:00

Keynote speech

OC362. Biological control in greenhouse crops: from releasing natural enemies to ecosystem management

Gerben J. Messelink

Wageningen University & Research, The Netherlands

11:00 - 11:15

OC363. Exploring the relationship between *Nesidiocoris tenuis* and *Trichoderma harzianum* in tomato plants under water stress

Alberto Urbaneja

Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

11:15 - 11:30

CO364. *Pronematus ubiquitus*: a multitasking mite in greenhouse crops

Felix Wäckers

BiobestGroup, Belgium

11:30 - 11:45

OC365. Smart parasitoids: applying parasitoid learning to increase the efficacy of mealybug biocontrol

Gordana Durovic

Netherlands Institute of Ecology (NIOO-KNAW), The Netherlands

11:45 - 12:00

OC366. Application of alternative food can constrain biological pest control**Jacques A. Deere**

University of Amsterdam, The Netherlands

12:00 - 12:15

OC367. Testing effective and sustainable management strategies for the control of the horticultural pest *Lygus rugulipennis***Louis Sutter**

AGROSCOPE, Switzerland

12:15 - 12:30

OC368. Improved fitness of artificially selected strains of *Orius laevigatus* (Fieber) (Hemiptera: Anthoridae) feeding on astigmatid mites**Amador Rodríguez-Gómez**

Polytechnic University of Cartagena, Spain

10:30 - 12:30

SESSION 8**Urban and Forest Entomology**

Insects in Urban Landscapes - Pests, Friends and Allies

Chairs: Dimitrios Avtzis, Hellenic Agricultural Organization "DEMETER", Greece & **Şükran Oğuzoğlu**, Isparta University, Turkey

Hall 3: Experimental Theater

10:30 - 11:00

Keynote speech

OC178. Invasive insects in urban landscapes - pests, friends and allies**Marc Kenis**

Centre for Agriculture and Bioscience International (CABI), Switzerland

11:00 - 11:15

OC179. Is ash sawfly a problem in Ireland?**Florentine Spaans**

Agri-Food & Biosciences Institute, Northern Ireland

11:30 - 11:45

OC181. Exotic Aphid Species of Mediterranean Forests of Türkiye**Şükran Oğuzoğlu**

Isparta University of Applied Sciences, Türkiye

11:45 - 12:00

OC182. Human impact on mosquito breeding habitats in Urban Green Space and consequences for mosquito proliferation in urban areas**Pénélope Duval**

Université Claude Bernard Lyon 1, France

12:00 - 12:15

OC183. Mosquitoes of Turkey**Fatma Bursalı**

Aydın Adnan Menderes University, Turkey

12:15 - 12:30

OC184. Control of *Xylotrechus chinensis* (Chevrolat) (Coleoptera: Ceramycidae) using four conventional insecticides**Maria C. Boukouvala**

Agricultural University of Athens, Greece

12:30 - 12:45

OC185. Syngenta TreeCare application: an effective treatment against *Xylotrechus chinensis* in mulberry trees**Antonios Tsagkarakis**

Agricultural University of Athens, Greece

10:30 - 12:30

SESSION 13**Toxicology and Pesticide Resistance**

Toxicology and Pesticide Resistance I

Chairs: Ralf Nauen, Bayer AG, Germany & **Thomas Van****Leeuwen**, Ghent University, Belgium

Hall 4: Seminar Hall

10:30 - 11:00

Keynote speech

OC342. The evolution of resistance to natural and synthetic xenobiotics in the aphid *Myzus persicae***Chris Bass**

University of Exeter, United Kingdom

11:00 - 11:15

OC343. Molecular mechanisms of resistance to complex II inhibitors in *Tetranychus urticae* populations from Türkiye**Emre İnak**

Ghent University, Belgium

11:15 - 11:30

OC344. Chromosome-level genome assembly of *Helicoverpa assulta* (Lepidoptera: Noctuidae) provides insight into the biology of the host-plant specialist**Juil Kim**

Kangwon National University, Republic of Korea

11:30 - 11:45

OC345. Molecular genotyping of mutations in the GABA-gated chloride channel in populations of *Euschistus heros* in Brazil**Ana C. P. Cuenca**

Bayer S.A, Brazil & University of Campinas, Brazil

11:45 - 12:00

OC346. Combatting pesticide resistance in insects using botanical bio-synergists**Hannah Fenton**

Newcastle University & Fera Science Ltd, United Kingdom

12:00 - 12:15

OC347. High-resolution genetic mapping of dicofol resistance identifies the glutamate-gated chloride channel as the mite-specific target-site of dicofol, bromopropylate

and chlorobenzilate

Marilou Vandenhole

Ghent University, Belgium

12:15 - 12:30

OC348. Oviposition avoidance against systemically applied imidacloprid in the Colorado Potato Beetle

Alitha Edison

University of Münster & University of Mainz, Germany

10:30 - 12:30

SESSION 1

Morphology and Systematics

Advances in Hemipterology

Chair: Shashikant Udikeri, University of Agricultural Sciences, India

Hall 5: Small Theater

10:30 - 10:45

OC001. 99 million years of evolutionary stasis – first amber inclusion of the family Trichotonannidae, with an overview of the fossils of the infraorder Dipsocoromorpha (Heteroptera)

Viktor Hartung

LWL Museum of Natural History & Westphalian State Museum with Planetarium, Germany

10:45 - 11:00

OC002. Origins of the central Macaronesian psyllid lineages (Hemiptera; Psylloidea)

Saskia Bastin

Instituto Canario de Investigaciones Agrarias (IVIA), Spain

11:00 - 11:15

OC003. Morphological identification and DNA barcoding of nymphs of Auchenorrhyncha species: A useful tool for species level identification

Zoi Thanou

Agricultural University of Athens, Greece

11:15 - 11:30

OC004. Genome skimming of sea skaters improves phylogenetic resolution of Halobatinae (Hemiptera: Heteroptera: Gerridae)

Jia Jin Marc Chang

National University of Singapore, Singapore

11:30 - 11:45

OC005. Rapid species-level hemolymph color test for all life stages of Nipaecoccus viridis (Newstead) (Hemiptera: Pseudococcidae), an invasive and regulatory pest in the United States

Muhammad Ahmed

U.S. Department of Agriculture (SIHRU, ARS, USDA), United States of America

11:45 - 12:00

OC006. Molecular diversity among the mirid bugs infesting cotton in India and DNA barcoding of undescribed species

Shashikant S. Udikeri

University of Agricultural Sciences, India

12:00 - 12:15

OC007. Brindley glands in Zelus renardii

Ugo Picciotti

University of Bari Aldo Moro, Italy & University of Alicante, Spain

12:15 - 12:30

OC008. A description of egg collection, morphology, and hatching rates of eight Lepidopteran species of California USA

Maria K. Sakka

University of Thessaly, Greece

12:30 - 13:30

Lunch Break & Poster Session I

13:00 - 13:20

Lunch Seminar Sponsored by K&N EFTHYMIADIS

Hall 2: Concert Hall

13:30 - 14:30

Plenary lecture

Hall 1: Andreas & Maria Kalokairinou Hall

PL2. Bumblebee leaf-damaging behavior and its effects on plant flowering

Consuelo De Moraes

Professor, Department of Environmental Systems Science, Biocommunication & Ecology, Director of the Entomological Collection, ETH Zürich, Switzerland

Afternoon Sessions

14:30 - 16:30

SESSION 4

Ecology and Behavior

Evolutionary Ecology and Behavior I

Chair: Emmanouelle Jacquin-Joly, INRAE, France

Hall 1: Andreas & Maria Kalokairinou

14:30 - 14:45

OC075. Why are insects virtually absent from the open sea?

Claudio R. Lazzari

University of Tours, France

14:45 - 15:00

OC076. What is the secret of success of the invasive brown widow spider Latrodectus geometricus?

Michal Segoli

Ben-Gurion University, Israel

15:00 - 15:15

OC077. Larval behavior as an adaptive strategy to agricultural practices in European and Asian Corn Borers: adaptation or pre-adaptation?

Vincent Calcagno

INRAE, France

15:15 - 15:30

OC078. Population dynamics of a socially behaving pest insect facing environmental changes

Magnus Jonsson

University of Helsinki, Finland

15:30 - 15:45

OC079. Behavioural and neural variability: do invasive ants need it to solve problems?

Srikrishna Narasimhan

Museum and Institute of Zoology PAN, Poland

15:45 - 16:00

OC080. Divergence and aggressiveness within a supercolony lagoon

Sanmartín-Villar

Universidade de Vigo, Spain & Museum and Institute of Zoology PAN, Poland

16:00 - 16:15

OC081. Sib-mating enhances fitness in a haplodiploid beetle

Yael Lubin

Ben-Gurion University of the Negev, Israel

16:15 - 16:30

OC082. Mate-finding and mating disruption in the invasive fruit fly *Drosophila suzukii*

Alicia Reyes-Ramírez

Université Claude Bernard, France

14:30 - 16:30

SESSION 14

Biological Control and Biopesticides

Biological Control of Orchard and Vineyard Pests I

Chair: Panagiotis Milonas, Benaki Phytopathological Institute, Greece

Hall 2: Concert Hall

14:30 - 15:00

Keynote speech

OC369. Biological control of invasive pests in citrus: challenges and solutions

Alejandro Tena

Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

15:00 - 15:15

OC370. Proactive biological control of *Lycorma delicatula* (Hemiptera: Fulgoridae) in west coast of USA: from classical to conservation?

Francesco Gómez Marco

University of California Riverside, USA

15:15 - 15:30

OC371. The killer detects prey's odours: can fungi be attracted to *Halyomorpha halys* eggs by their volatiles?

Diana la Forgia

AGROSCOPE, Switzerland

15:30 - 15:45

OC372. Consequence of rearing temperature for several generations on the low temperature activity of the parasitoid *Aphidius matricariae* on the rosy apple aphid, *Dysaphis plantaginea*

Thierry Hance

Biodiversity Research Centre, Belgium

15:45 - 16:00

OC373. Management of Entomopathogenic based strategy against the red palm weevil in Israeli date palm plantations

Dana Ment

Volcani Institute, Israel

16:00 - 16:15

OC374. Biological programs against stink bugs in France: diversity of egg parasitoids and deployment strategies

Alexandre Bout

Université Côte d'Azur, France

16:15 - 16:30

OC375. Mortality factors of the red-legged shield bug, *Pentatoma rufipes* (L.) (Hemiptera: Pentatomidae), an emerging pest in European fruit orchards

Tim Hays

Centre for Agriculture and Bioscience International (CABI), Switzerland

14:30 - 16:30

SESSION 8

Urban and Forest Entomology

Forest Insects in a Changing Environment - Challenges and New Approaches

Chairs: Dimitrios Avtzis, Hellenic Agricultural Organization "DEMETER", Greece & **Luc De Bruyn**, Research Institute for Nature and Forest, Belgium

Hall 3: Experimental Theater

14:30 - 15:00

Keynote speech

OC186. New and emerging bark and ambrosia beetles in Europe

Massimo Faccoli

University of Padua, Italy

15:00 - 15:15

OC187. Demographic history of the spruce bark beetle

Piotr Zieliński

Jagiellonian University, Poland

15:15 - 15:30

OC188. Comparing methods of mapping the infestation by insects of a Mediterranean forest in Karpathos, Greece, using Sentinel 2 data

Konstantinos Papadopoulos

Ministry of Environment and Energy, Greece

15:30 - 15:45

OC189. Bark beetles of Greece – refining species checklist and assessing complementary management approaches

Dimitrios N. Avtzis

Hellenic Agricultural Organization "DEMETER", Greece

15:45 - 16:00

OC190. National Biodiversity Future Center (NBFC): assessment of impact of alien ambrosia beetles (Coleoptera: Curculionidae, Scolytinae) on Coleoptera native community in Italian Protected Areas

Eleonora Cresta

Università degli Studi della Tuscia, Italy

16:00 - 16:15

OC191. Methods of early detection of insect outbreak in a Mediterranean forest in Karpathos, Greece, using SENTINEL 2

Konstantinos Papadopoulos

Ministry of Environment and Energy, Greece

16:15 - 16:30

OC192. The effect of irrigation on the mesofauna of Mediterranean vineyards

Emile Melloul

Avignon Université, France

16:30 - 16:45

OC180. Community composition of psylliphagous ladybirds in a tropical island environment in La Réunion island, France

Marine Baujeu

Université de La Réunion, France

14:30 - 16:30

SESSION 13

Toxicology and Pesticide Resistance

Toxicology and Pesticide Resistance II

Chairs: Ralf Nauen, Bayer AG, Germany &

Thomas Van Leeuwen, Ghent University, Belgium

Hall 4: Seminar Hall

14:30 - 15:00

Keynote speech

OC349. Using genome engineering to characterize the molecular basis of insecticide resistance in mosquitoes and agricultural pests

Linda Grigoraki

Foundation for Research and Technology-Hellas (IMBB-FORTH), Greece

15:00 - 15:30

Keynote speech

OC350. Characterization, impact and spread of ketoenol resistance in different whitefly species with special reference to mutations in acetyl-CoA carboxylase

Ralf Nauen

Bayer, Germany

15:30 - 15:45

OC351. Gene editing in thrips species to validate the molecular mechanisms of insecticide resistance

Antonio Mocchetti

Ghent University, Belgium

15:45 - 16:00

OC352. Management of western corn rootworm with transgenic maize: current status and future prospects

Aaron Gassmann

Iowa State University, United States of America

16:00 - 16:15

OC353. Characterization of resistance to *Bacillus thuringiensis* (Bt) Cry1A and Vip3A insecticidal proteins in Brazilian strains of *Spodoptera frugiperda* (Lepidoptera: Noctuidae)

Lukas Schröder

Bayer AG, Germany

16:15 - 16:30

OC354. Fall Armyworm invasion in maize fields in Israel - establishing an insecticide-resistance management plan

Rami A. Horowitz

Gilat Research Center & Katif Research Center, Israel

14:30 - 16:30

SESSION 1

Morphology and Systematics

Advances in Diptera & Hymenoptera

Chair: Efrat Gavish-Regev, The Hebrew University of Jerusalem, Israel

Hall 5: Small Theater

14:30 - 14:45

OC009. Discrimination of the *Anastrepha fraterculus* complex using the ITS2 sequence

Giuliano Gasperi

University of Pavia, Italy

14:45 - 15:00

OC010. EURL and regulated fruit-flies: two sharper tools for a tighter list

Pascal Rousse

European Union Reference Laboratory (EURL) for Insects and Mites, France

15:00 - 15:15

OC011. Denucleation of neurons is a key to extreme brain miniaturization

Alexey Polilov

Lomonosov Moscow State University, Russia

15: 15 - 15:30

OC012. Denucleation of neurons during metamorphosis in *Megaphragma viggianii* (Trichogrammatidae)**Anastasia Makarova**

Lomonosov Moscow State University, Russia

15:30 - 15:45

OC013. Flight mechanics of the miniature parasitoid wasp *Megaphragma viggianii***Nadezhda Lapina**

Lomonosov Moscow State University, Russia

15:45 - 16:00

OC014. Advances in the systematics and taxonomy of whitefly parasitoids (Hymenoptera: Chalcidoidea, Platygastroidea)**Zachary Lahey**

United States Department of Agriculture, United States of America

16:00 - 16:15

OC015. Fruit fly identification: it's apt to use an app**Marc De Meyer**

Royal Museum for Central Africa, Belgium

16:15 - 16:30

OC016. Automated 3D-modeling of small invertebrates**Nathalie Klug**

Karlsruhe Institute of Technology, Germany

16:30 - 17:00

Coffee Break & Poster Session I

17:00 - 19:00

SESSION 4**Ecology and Behavior**

Evolutionary Ecology and Behavior II

Chair: Jeremy Mc Niel, Western University, Canada

Hall 1: Andreas & Maria Kalokairinou

17:00 - 17:15

OC083. Is polyandry an important adaptive trait of *Drosophila suzukii*?**Anna R. Malacrida**

University of Pavia, Italy

17:15 - 17:30

OC084. Weather based prediction module: A promising tool for *Spodoptera litura* anticipation in groundnut?**Mahabaleshwar G. Hegde**

University of Agricultural Sciences, India

17:30 - 17:45

OC085. The olfactory basis of *Ae. albopictus* dominance over *Aedes aegypti* at the larval stage**Dor Perets**

The Hebrew University of Jerusalem, Israel

17:45 - 18:00

OC086. Fitness costs in the presence and absence of insecticide use explains abundance of two common *Aedes aegypti* knockdown resistance alleles found in the Americas**Juan Silva**

Institute Of Molecular Biology & Biotechnology Foundation for Research & Technology Hellas, Greece

18:00 - 18:15

OC087. Characterization of swarming behaviour in *Anopheles coluzzii* mosquitoes using 3D videotracking**Sofi Vielma**

Institute of Tropical Medicine, Belgium

18:15 - 18:30

OC088. Some co-evolutionary process at work between egg parasitoids and their host(s): case of the genus *Trissolcus***Alexandre Bout**

Université Côte d'Azur, France

18:30 - 18:45

OC089. Flash behaviour increases prey survival against avian predators**Changku Kang**

Seoul National University, South Korea

18:45 - 19:00

OC090. Behavioural adaption of the pink bollworm moth in response to the mating disruptive technique used in cotton fields**Shevy Waner Rips**

The Hebrew University of Jerusalem & The Volcani Center, Israel

17:00 - 19:00

SESSION 14**Biological Control and Biopesticides**

Biological Control of Orchard and Vineyard Pests II

Chair: Alejandro Tena, Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

Hall 2: Concert Hall

17:00 - 17:15

OC376. Study of the parasitoid wasp *Campoplex capitator* in the vineyards of the Centre-Val de Loire Region in France for biological control of the grapevine moth *Lobesia botrana*.**Matthieu Leobold**

University of Tours, France

17:15 - 17:30

OC377. Effects of *Trissolcus japonicus* releases on the distribution and parasitism rate of *Halyomorpha halys* egg parasitoids in Emilia-Romagna region, Northern Italy**Antonio Masetti**

University of Bologna, Italy

17:30 - 17:45

OC378. Biological characteristics of *Anagyrus aberia* (Hymenoptera: Encyrtidae), a parasitoid of the citrus mealybug *Delottococcus aberiae* (Hemiptera: Pseudococcidae)

Elena Romero

Universitat Politècnica de València, Spain

17:45 - 18:00

OC379. Risk assessment of the fruit fly parasitoid *Diachasmimorpha longicaudata* (Hymenoptera: Braconidae) on three nontarget tephritids in laboratory bioassays

Patrizia Sacchetti

University of Florence, Italy

18:00 - 18:15

OC380. Comparison of digital and manual traps monitoring against theoretical flights modelling of the European grapevine moth (*Lobesia botrana*) in France in 2022

Thierry Varrailon

Syngenta A.G., France

18:15 - 18:30

OC381. Disentangling the effects of the invasive pest, *Dryocosmus kuriphilus*, and the introduced biocontrol agent, *Torymus sinensis*, on native parasitoids in an isolated insular chestnut-growing area

Laura Loru

National Research Council (IRET-CNR), Italy

18:30 - 18:45

OC382. The side effects of two *Providencia entomophila* strains isolated from olive tree insect pests on the egg parasitoid *Trichogramma oleae*

Ines Ksentini

University of Sfax, Tunisia

18:45 - 19:00

OC383. Vermicomposted olive mill waste soil amendment as potential pest biological control promoter in olive

Martin Aguirrebengoa

Estación Experimental del Zaidín (CSIC), Spain

17:00 - 19:00

SESSION 8

Urban and Forest Entomology

Ecology and Evolution of Bark Beetles

Chairs: Carole Kerdelhue, INRAE, France & **Ferenc Lakatos**,

University of Sopron, Hungary

Hall 3: Experimental Theater

17:00 - 17:30

Keynote speech

OC193. Old friends – new challenges, forest insects in Central Europe

Ferenc Lakatos

University of Sopron, Hungary

17:30 - 17:45

OC194. pclim.net, a database and web application to explore larval phenology of the pine processionary moth *Thaumetopoea pityocampa* across its range since 2015

Mathieu Laparie

INRAE, France

17:45 - 18:00

OC195. In the context of climate change, the pine processionary moth is no longer facing suitable conditions at the southern edge of its range in Tunisia

Asma Bourougaaoui

INRAE, France

18:00 - 18:15

OC196. Effects of temperature-related mortality factors and urban heat islands in the phenology of the pine processionary moth, *Thaumetopoea pityocampa*

Clément Bourgade

INRAE, France

18:15 - 18:30

OC197. Back to the future: Assessing the pine processionary moth range shifts according to past, current and future climate conditions

Jean-Pierre Rossi

INRAE, France

18:30 - 18:45

OC198. Does phenology drive population genetic divergence in the pine processionary moth in Bulgaria?

Carole Kerdelhue

INRAE, France

18:45 - 19:00

OC199. Upper and smoother! A 50 year-long survey revealed altitudinal changes in forest outbreaks of the larch budmoth in response to climate warming in the French Alps

Alain Roques

INRAE, France

17:00 - 19:00

SESSION 13

Toxicology and Pesticide Resistance

Toxicology and Pesticide Resistance III

Chairs: Ralf Nauen, Bayer AG, Germany & **Thomas Van**

Leeuwen, Ghent University, Belgium

Hall 4: Seminar Hall

17:00 - 17:30

Keynote speech

OC355. Development of N-arylamide insecticides to control hemipteran pests of agricultural systems

Daniel Swale

University of Florida, United States

17:30 - 17:45

OC356. Molecular diagnostics for pesticide resistance monitoring and management of major agricultural pests**Konstantinos Mavridis**

Foundation for Research and Technology-Hellas (IMBB-FORTH) & Agricultural University of Athens, Greece

17:45 - 18:00

OC357. Highlighting new toxicity biomarkers using volatolome deviation analysis in *Apis mellifera* chronically exposed to fipronil**Vincent Fernandes**

Université Clermont Auvergne, France

18:00 - 18:15

OC358. *Apis mellifera* CYP6AQ1 orthologous genes of four stingless bee species mediate flupyradifurone detoxification**Xingzhi Xiao**

Bayer AG & University of Bonn, Germany

18:15 - 18:30

OC359. Investigating mortality caused by environmental doses of urban pollutants, the phthalates DnBP and DEHP, on the urban pollinator *Bombus terrestris***Justine Dewaele**

Universite Lille, France & University of Mons, Belgium

18:30 - 18:45

OC360. The effect of pesticides on ants**Jakub Svoboda**

University of Hradec Králové, Czech Republic

18:45 - 19:00

OC361. Insecticide resistance of *Anopheles maculipennis* and *Anopheles melanoon* (Culicidae: Diptera) species in the Mediterranean and Aegean regions of Turkey**Fatma Bursali**

Aydin Adnan Menderes University, Turkey

17:00 - 19:00

SESSION 1**Morphology and Systematics**

Advances in Coleoptera and other Arthropods

Chair: Giuliano Gasperi, University of Pavia, Italy

Hall 5: Small Theater

17:00 - 17:15

OC017. Unusual flight style and bristled wings help miniature beetles to fly faster**Sergey Farisenkov**

Lomonosov Moscow State University, Russia

17:15 - 17:30

OC018. Tissue liquid diffusivity and chemical composition changes in *trypoxylus dichotomus* during pupal stage using Magnetic Resonance Imaging and Spectroscopy**Shoto Ikegami**

Tokai University, Japan

17:30 - 17:45

OC019. A study on colour complexity in *Trypocopris vernalis* (Linnaeus, 1758) (Coleoptera, Geotrupidae)**Angela Roggero**

University of Torino, Italy

17:45 - 18:00

OC020. Phylogenomic species delimitation of the twisted-winged parasite genus *Stylops* (Strepsiptera)**Meri Lähteenaro**

Stockholm University & Swedish Museum of Natural History, Sweden

18:00 - 18:15

OC021. Unraveling the taxonomic status of the endemic alpine dytiscid *Agabus nevadensis* by an integrative taxonomy approach**Susana Pallarés**

University of Seville, Spain

18:15 - 18:30

OC022. Speciation in troglomorphic and parthenogenetic *Amblypygi* from the Levant**Efrat Gavish-Regev**

The Hebrew University of Jerusalem, Israel

18:30 - 18:45

OC023. Crawling in the deep - exceptional subterranean speciation of cryptic troglobitic spiders**Shlomi Aharon**

The Hebrew University of Jerusalem, Israel

18:45 - 19:00

OC024. Exploring the sympatric cryptic diversity within *Colomerus vitis* (Acari: Eriophyidae), the vector of Grapevine Pinot gris virus**Denise Navia**

University of Montpellier, France

19:00 - 21:00

Congress Welcome Reception**Congress Venue**

Tuesday 17 October 2023

09:00 - 10:00

Plenary lecture

Hall 1: Andreas & Maria Kalokairinou Hall

PL3. A CRISPR pooled screening platform in arthropod cells Norbert Perrimon

Professor of Genetics, Harvard Medical School, Investigator, Howard Hughes Medical Institute, USA, Group Leader, SIB Swiss Institute of Bioinformatics, Department of Ecology and Evolution, University of Lausanne, Switzerland

10:30 - 19:00

Workshop on Bee Identification

Tutors: **Dr Denis Michez** & **Dr Sara Reverté** from the University of Mons, Belgium

Hall 6: Creative Workshop

Pre-registration is required

10:00 - 10:30

Coffee break

Morning Sessions

10:30 - 12:30

SESSION 4

Ecology and Behavior

Chemical communication/engineering

Chairs: **Maria Konstantopoulou**, National Centre for Scientific Research "Demokritos", Greece & **Stefanos Andreadis**, Hellenic Agricultural Organization "DEMETER", Greece

Hall 1: Andreas & Maria Kalokairinou

10:30 - 11:00

Keynote speech

OC091. Moth pheromones produced in cell and plant factories for control of orchard and row crop pests

Christer Löfstedt

Lund University, Sweden

11:00 - 11:15

OC092. Expanding the toolbox for detection and monitoring of cerambycid beetles: Identification and testing of a variety of new pheromone structures

Jocelyn G. Millar

University of California, United States of America

11:15 - 11:30

OC093. Seven decades of ant chemical ecology - retrospect and prospects

Abraham Hefetz

Tel Aviv University, Israel

11:30 - 11:45

OC094. Male sex pheromones in parasitic wasps of the *Nasonia* group

Joachim Ruther

University of Regensburg, Germany

11:45 - 12:00

OC095. Differences in responses of green lacewings to methyl salicylate (Neuroptera: Chrysopidae)

Sándor Koczor

Centre for Agricultural Research, Hungary

12:00 - 12:15

OC096. Uncovering regional variation in sexual communication in the invasive pest species *Spodoptera frugiperda* in Africa

Renée A.H. van Schaijk

University of Amsterdam, The Netherlands

12:15 - 12:30

OC097. Semiochemical pre-treatment reduces the response of *Bactrocera dorsalis* to methyl eugenol under semi-field condition

Tania Pogue

University of Pretoria, South Africa

10:30 - 12:30

SESSION 14

Biological Control and Biopesticides

Entomopathogens as Biopesticide

Chair: **Apostolos Kapranas**, Aristotle University of Thessaloniki, Greece

Hall 2: Concert Hall

10:30 - 11:00

Keynote speech

OC384. Indirect effects of entomopathogenic fungi in biological control

Nicolai V. Meyling

University of Copenhagen, Denmark

11:00 - 11:15

OC385. Interactions between entomopathogenic fungi and entomopathogenic nematodes in microbial control

Eustachio Tarasco

University of Bari "Aldo Moro", Italy

11:15 - 11:30

OC386. When competitors join forces: using consortia of entomopathogenic *Pseudomonas* bacteria, nematodes and fungi for pest control

Anna Spescha

ETH Zurich, Switzerland

11:30 - 11:45

OC387. Entomopathogenic fungi are compatible with a parasitoid for *Spodoptera littoralis* (Boisduval) control while inducing resistance mechanisms in melon under greenhouse conditions

Enrique Quesada-Moraga

Universidad de Córdoba, Spain & Universidad Autónoma Agraria Antonio Narro, Mexico

11:45 - 12:00

OC388. Laboratory and field evaluation of entomopathogenic fungi, bioinsecticides and RNAi for Colorado potato beetle (*Leptinotarsa decemlineata*, Coleoptera: Chrysomelidae) control

Jaka Razinger

Agricultural Institute of Slovenia, Slovenia

12:00 - 12:15

OC389. Assessing interactions among *Beauveria bassiana*, western corn rootworm larvae and maize

Abigail Kropf

Iowa State University, United States of America

12:15 - 12:30

OC390. The feasibility of using entomopathogenic nematodes for Mediterranean fruit fly control

Apostolos Kapranas

Aristotle University of Thessaloniki, Greece

10:30 - 12:30

SESSION 5

Multitrophic Interactions Insect, Microbial, Host plants

Multitrophic Interactions in a Changing World

Chair: Anne-Marie Cortesero, University of Rennes, France

Hall 3: Experimental Theater

10:30 - 11:00

Keynote speech

OC114. Chemically-mediated insect-plant interaction across space and time

Sergio Rasmann

University of Neuchâtel, Switzerland

11:00 - 11:15

OC115. How plant microclimates modulate the vulnerability of insects to climate change

Sylvain Pincebourde

University of Tours - CNRS, France

11:15 - 11:30

OC116. Biological control of Lepidopteran grapevine pests: plant and insect host mediated bottom-up effects of elevated CO₂. Lessons from a VineyardFACE facility

Christine Becker

Hochschule Geisenheim University, Germany

11:30 - 11:45

OC117. The effect of climate change on a *Bemisia tabaci* based pathosystem

Matteo Ripamonti

Luxembourg Institute of Science and Technology, Luxembourg

11:45 - 12:00

OC118. Under the radar: The preference for volatiles from plants infested with small and young aphid colonies may help aphid parasitoids to avoid intraguild predation

Ilka Vosteen

Georg-August-Universität Göttingen, Germany

12:00 - 12:15

OC119. Defense priming in cauliflower (*Brassica oleracea*) by the entomopathogenic fungus *Metarhizium robertsii*

Morgane Ourry

University of Copenhagen, Denmark

12:15 - 12:30

OC120. The endophytic role of the entomopathogenic fungus *Beauveria bassiana* in agricultural plant protection against *Spodoptera littoralis* larvae

Corentin Clavé

University of Naples "Federico II", Italy & University of Tours, France

10:30 - 12:30

SESSION 10

Invasion Biology and Climate Change

Invasion and Climate Change I

Chairs: Nikolaos Papadopoulos, University of Thessaly, Greece & **Ewelina Czwieczek**, EFSA European Food Safety Authority

Hall 4: Seminar Hall

10:30 - 11:00

Keynote speech

OC235. EFSA activities on risk assessment and preparedness for invasive alien insects in Europe

Giuseppe Stancanelli

European Food Safety Authority, Italy

11:00 - 11:15

OC236. Efficacy of entomopathogenic fungi and nematodes against *Popillia japonica* adults and larvae in potted plants

Immacolata Iovinella

CREA Research Centre for Plant Protection and Certification, Italy

11:15 - 11:30

OC237. *Bagrada* bug in Europe vs America: insights on biological traits, genetics, invasion pattern and management

René FH Sforza

U.S. Department of Agriculture & Agricultural Research Service (USDA-ARS), France

11:30 - 11:45

OC238. Hymenoptera parasitoids (Eulophidae and Braconidae) of the lime leaf miner Phyllonorycter issikii (Lepidoptera, Gracillariidae): in invasive areas of Europe and Asia

Zoya A. Yefremova

The Steinhardt Museum of Natural History, Israel

11:45 - 12:00

OC239. Quantitative risk assessment of the lesser cornstalk borer, *Elasmopalpus lignosellus* (Lepidoptera: Pyralidae), for the European Union

Ewelina Czwinięzek

European Food Safety Authority (EFSA), Italy

12:00 - 12:15

OC240. Genomic architecture informs the spread of *Spodoptera frugiperda* and *Lobesia botrana*

Wee Tek Tay

CSIRO, Australia

12:15 - 12:30

OC241. Niche modelling and landscape genetics of the yellow-legged hornet (*Vespa velutina*): an integrative approach for evaluating central–peripheral population patterns in Europe

Cayetano Herrera

University of the Balearic Islands, Spain

10:30 - 12:30

SESSION 2

Genetics and evolutionary biology

Sex Determination

Chair: Leo Beukeboom, University of Groningen,

The Netherlands

Hall 5: Small Theater

10:30 - 10:45

Keynote speech

OC025. Genetics and evolution of insect sex determination mechanisms: progress and prospects

Leo Beukeboom

University of Groningen, The Netherlands

10:45 - 11:00

Keynote speech

OC026. Endosymbionts induce parthenogenesis by manipulation of sex determination gene transcripts

Elzemies Geuverink

University of Groningen, The Netherlands

11:00 - 11:15

OC027. Fertility related long non-coding RNAs as novel species-specific insect control targets

Kostantinos D. Mathiopoulos

University of Thessaly, Greece

11:15 - 11:30

OC028. Post-mating response in a viviparous species: the case of *Glossina morsitans*

Anna R. Malacrida

University of Pavia, Italy

11:30 - 11:45

OC029. Spontaneous parthenogenesis and sex determinism in the parasitoid wasp *Cotesia typhae*

Florence Mougel

Université Paris-Saclay, France

11:45 - 12:00

OC030. The role of the antagonistic pleiotropy on the genetic variability of thermal tolerance in *Drosophila melanogaster*

Luis E. Castañeda

Universidad de Chile, Chile

12:00 - 12:15

OC031. Mitochondrial genotype decreases mitochondrial respiration in seed beetles: implications for male subfertility

Lea Vlajnić

University of Belgrade, Serbia

12:15 - 12:30

OC032. Finding the Y: a step towards improving the assemblies of Y chromosomes

Dimitris Rallis

University of Thessaly, Greece

12:30 - 13:30

Lunch Break

13:30 - 15:00

Poster Session II

Afternoon Sessions

15:00 - 17:00

SESSION 4

Ecology and Behavior

Biotic - Abiotic Factors I

Chair: Piotr Bebas, University of Warsaw, Poland

Hall 1: Andreas & Maria Kalokairinou

15:00 - 15:15

OC098. Development of three-dimensional models for numerical simulations of insect exposure to Radio-Frequency Electromagnetic Fields

Pieterjan De Boose

Ghent University, Belgium

15:15 - 15:30

OC099. Modelling the impacts of light pollution on UK moth populations at two temporal resolutions**Ishbel Hayes**

Rothamsted Research & University of Exeter, United Kingdom

15:30 - 15:45

OC100. Impact of ozone on the behavior of pollinators**Maryse Vanderplanck**

CEFE, Univ Montpellier, CNRS, EPHE, IRD, France

15:45 - 16:00

OC101. Comparative assessment of heat tolerance in weevils associated with a fire-prone ecosystem**Marion Javal**

University of Montpellier, France & Stellenbosch University, South Africa

16:00 - 16:15

OC102. Two common invasive whitefly cryptic species (B and Q) interact differentially with old-world and new-world begomoviruses**Rajagopalbabu Srinivasan**

University of Georgia, United States of America

16:15 - 16:30

OC103. Biological oscillator activity in relation to seasonal migrations of two European nymphalid species – *V. atalanta* and *V. cardui***Piotr Bebas**

University of Warsaw, Poland

16:30 - 16:45

OC104. Myrmecomorphy in the predatory mirid *Pilophorus gallicus*: living between the devil and the deep blue sea**David Cabanillas**

Instituto Murciano de Investigación y Desarrollo Agrario y Medioambiental (IMIDA), Spain

16:45 - 17:00

OC105. Poison or potion: An infected bee story**Antoine Gekière**

University of Mons, Belgium

15:00 - 17:00

SESSION 14**Biological Control and Biopesticides**

Conservation Biological Control

Chair: Filitsa Karamaouna, Benaki Phytopathological Institute, Greece

Hall 2: Concert Hall

15:00 - 15:15

OC391. Using cover crops and landscape features to promote biological control in vineyards: an Australian study**Geoff M. Gurr**

Charles Sturt University, Australia

15:15 - 15:30

OC392. Functional agrobiodiversity supports pollination and pest control in agricultural landscapes**Zilva A. van Rossum**

University of Amsterdam, The Netherlands

15:30 - 15:45

OC393. European ants: friends or foes in the biological control of agricultural pest insects?**Enrico Schifani**

University of Parma, Italy

15:45 - 16:00

OC394. Pest and beneficial arthropod responses to hedging in southeast USA pecan systems**Jason M. Schmidt**

University of Georgia, United States of America

16:00 - 16:15

OC395. Pre-designed cover crops in citrus to build up complex trophic webs: Implications on Conservation Biological Control**Alice Casiraghi**

Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

16:15 - 16:30

OC396. Understorey biodiversity management in olive cultivation for integrated management of natural enemies**Georgios Stavrianakis**

University of the Aegean, Greece

16:30 - 16:45

OC397. Pesticides increase food and macronutrient deficiency levels in beneficial carabid beetles**Norbertas Noreika**

Estonian University of Life Sciences, Estonia & Nature Research Centre, Lithuania

16:45 - 17:00

OC398. Impact of a rich-nutrient floral food source on the main parasitoids of *Tuta absoluta* in tomato**Pablo Urbaneja-Bernat**

Institute of Agrifood Research and Technology (IRTA), Spain

15:00 - 17:00

SESSION 5**Multitrophic Interactions Insect, Microbial, Host plants**

Multitrophic Interactions: from Symbiosis to Antibiosis

Chair: Maria Pappas, Democritus University of Thrace, Greece

Hall 3: Experimental Theater

15:00 - 15:30

Keynote speech

OC121. Symbiotic microbes as driving forces of evolutionary innovation in beetles**Martin Kaltenpoth**

Max Planck Institute for Chemical Ecology, Germany

15:30 - 15:45

OC122. Diversity, transmission and function of the microbiota of a root phytophagous insect

Juliette Carpentier

Université Bretagne-Loire, France

15:45 - 16:00

OC123. Effects of caterpillar's diet and gut microbiota on the tomato defense response upon herbivory by two Spodoptera species

Cristina Crava

University of Valencia, Spain

16:00 - 16:15

OC124. Parasitic wasps alter the microbiome and body odours of caterpillar hosts, with consequences for higher trophic levels

Gabriele Gloder

KU Leuven, Belgium

16:15 - 16:30

OC125. CaMV and TuYV modify the post-acquisition behavior of aphids with consequences on virus transmission

Maxime Verdier

Université Strasbourg, France

16:30 - 16:45

OC126. Is Tomato yellow leaf curl virus an attractant or repellent for whitefly predatory beetles?

Zachary Lahey

United States Department of Agriculture, United States of America

16:45 - 17:00

OC127. Gut content analysis in predatory mites as a tool to reveal trophic interactions in vineyards

Saioa Legarrea

Universidad de La Rioja, Spain

15:00 - 17:00

SESSION 10

Invasion biology and climate change

Invasion and climate change II

Chairs: Nikolaos Papadopoulos, University of Thessaly, Greece

& **Ewelina Czwienczek**, EFSA European Food Safety Authority

Hall 4: Seminar Hall

15:00 - 15:15

OC242. Invasapp: early detection tools for invasive insect species on Mediterranean islands

Mar Leza

University of the Balearic Islands, Spain

15:15 - 15:30

OC243. Spread of the lime butterfly *Papilio demoleus* in Europe: Projection of environmental suitability using citizen science data

Elli Tzirkalli

Open University of Cyprus, Cyprus

15:30 - 15:45

OC244. Phenotypic plasticity in initial introduction phase and its discrepancy effect for artificially intelligent identification of economic Thysanoptera

Peter Fedor

Comenius University Slovakia

15:45 - 16:00

OC245. Guardians of plant health – the European Union Reference Laboratory for Insects and Mites

Pascal Rousse

European Union Reference Laboratory (EURL) for Insects and Mites, France

16:00 - 16:15

OC246. Predicting the impact of constant and variable temperatures on Neotropical stink bugs using Dynamic Energy budgets

Evridiki Klagkou

University of Crete, Greece

16:15 - 16:30

OC247. Influence of temperature on biological control of the codling moth *Cydia pomonella* (L.) by two natural enemies

Marie Perrin

Avignon University, France

16:30 - 16:45

OC248. An ecological index for arthropod habitats using climate model data applied to the Circum-Sicilian islands

James M. Ciarlo

University of Malta, Malta

16:45 - 17:00

OC249. Assessing the impact of climate change on fungal pathogens and insect pests in wheat: A joint species distribution model approach

Bingxin X. Wang

Wageningen University & Research, The Netherlands

15:00 - 17:00

SESSION 2

Genetics and evolutionary biology

Evolutionary Genomics I

Chair: Philippos Papathanos, The Robert H. Smith Faculty of

Agriculture, Israel

Hall 5: Small Theater

15:00 - 15:30

Keynote speech

OC033. Approaching the mechanistic basis of disease tolerance in *Drosophila melanogaster*

Élio Sucena

Instituto Gulbenkian de Ciência & Universidade de Lisboa, Portugal

15:30 - 15:45

OC034. A supergene underlies social polymorphism in the desert ant *Cataglyphis niger***Eyal Privman**

University of Haifa, Israel

15:45 - 16:00

OC035. Lipid metabolism dysfunction in the tsetse fly following symbiont elimination is linked to altered Kennedy pathway homeostasis**Geoffrey M. Attardo**

University of California Davis, United States of America

16:00 - 16:15

OC036. Evolved transcriptional responses and their regulation after long-term adaptation of *Bemisia tabaci* to a marginally-suitable host**Ella Tadmor**

University of Jerusalem, Israel

16:15 - 16:30

OC037. Identification of the microRNAs involved in the regulation of aestivation in the cabbage stem flea beetle (*Psylliodes chrysocephala*)**Doga Cedden**

University of Göttingen, Germany

16:30 - 16:45

OC038. Interaction between the parasitoid *Cotesia typhae* and its host *Sesamia nonagrioides* studied through transcriptomic and proteomic approaches: insights into virulence and resistance traits**Samuel Gornard**

UMR Université Paris-Saclay, France

16:45 - 17:00

OC039. Complex inversion polymorphism landscape in spruce bark beetle**Krystyna Nadachowska-Brzyska**

Jagiellonian University, Poland

17:00 - 17:30

Coffee Break

17:30 - 19:30

SESSION 4**Ecology and Behavior**

Biotic- Abiotic Factors II

Chair: Ruth Müller, Institute of Tropical Medicine Antwerp, Belgium

Hall 1: Andreas & Maria Kalokairinou

17:30 - 17:45

OC107. Food plants and their localization by the sugar beet weevil *Asproparthenis punctiventris***Elisabeth H. Koschier**

University of Natural Resources and Life Sciences (BOKU) Vienna, Austria

17:45 - 18:00

OC108. Are aphids a source of medicine for ants?**Jason Rissanen**

Karl-Franzens University of Graz, Austria & University of Helsinki, Finland

18:00 - 18:15

OC109. Fungal infection alters collective nutritional intake of ant colonies**Eniko Csata**

University of Regensburg, Germany & Museum and Institute of Zoology, Poland

18:15 - 18:30

OC110. A beta-glucosidase of an insect herbivore determines both toxicity and deterrence of a dandelion defense metabolite**Meret Huber**

University of Muenster & Max-Planck Institute for Chemical Ecology & University of Mainz, Germany

18:30 - 18:45

OC111. What's on the menu? Investigation of the feeding behaviour of the brown marmorated stink bug *Halyomorpha halys* using a molecular gut analysis**Maja Fluch**

Free University of Bozen-Bolzano, Italy

18:45 - 19:00

OC112. Life history traits and immune investment in the black soldier fly are influenced by larval density**Leonard Owuraku Opare**

University of Tartu, Estonia

19:00 - 19:15

OC113. Host size overrides maternal effects on development of a secondary hyperparasitoid wasp**Xianhui Shi**

Netherlands Institute of Ecology, The Netherlands

19:15 - 19:30

OC106. The sugar diet and associated environmental compounds in the crop of the mosquito *Culex pipiens***Ruth Müller**

Universidad Peruana Cayetano Heredia Lima, Peru & Institute of Tropical Medicine Antwerp, Belgium

17:30 - 19:30

SESSION 14**Biological Control and Biopesticides**

Greenhouses and Other Topics

Chair: Gerben J. Messelink, Wageningen University, The Netherlands

Hall 2: Concert Hall

17:30 - 17:45

OC399. Expanding the use of Orius predatory bugs for the control of foliar pests in floriculture

Angelos Mouratidis

Wageningen University, The Netherlands

17:45 - 18:00

OC400. Building a better banker plant by incorporating predatory pallidus beetles, *Delphastus pallidus* LeConte (Insecta: Coleoptera: Coccinellidae), into the papaya banker plant system

Muhammad Ahmed

U.S. Department of Agriculture, United States of America

18:00 - 18:15

OC401. Control of *Bemisia tabaci* MEAM1 on poinsettia using pallidus beetle, *Delphastus pallidus* LeConte applied either directly or by a papaya banker plant system

Cindy L. McKenzie

U.S. Department of Agriculture, United States of America

18:15 - 18:30

OC402. Investigating factors affecting the *Eretmocerus eremicus* parasitism level by comparative studies on two *Bemisia tabaci* populations from Greece

Georgia Konstantara

Hellenic Mediterranean University, Greece

18:30 - 18:45

OC403. Differential effects of fungal biocontrol agents on spider mites under different application methods and environmental conditions

Zhongqiu Xie

University of Copenhagen, Denmark

18:45 - 19:00

OC404. Assaying semiochemicals and entomopathogenic fungi for an auto-dissemination biocontrol strategy of *Frankliniella occidentalis*

François Lefort

University of Applied Sciences and Arts Western Switzerland, Switzerland

19:00 - 19:15

OC405. Evaluation of the parasitoid *Cotesia typhae* for augmentative biological control of the Mediterranean corn borer *Sesamia nonagrioides*

Laure Kaiser

UMR Université Paris-Saclay, France

19:15 - 19:30

OC406 Assessing risk for non-target species before introducing an exotic parasitoid for biocontrol of the corn stem borer *Sesamia nonagrioides*

Taiadjana Fortuna

UMR Université Paris-Saclay, France

17:30 - 19:30

SESSION 5

Multitrophic Interactions Insect, Microbial, Host plants

Multitrophic Interactions: Ecology and Evolution

Chair: David Giron, University of Tours - CNRS, France

Hall 3: Experimental Theater

17:30 - 18:00

Keynote speech

OC128. Aphid herbivory on macrophyte drives real-time evolution of the aquatic community

Shuqing Xu

Johannes Gutenberg University Mainz, Germany

18:00 - 18:15

OC129. Endophytic *Beauveria bassiana* modifies flowering phenology, floral volatile profile and pollinator behaviour in melon

Enrique Quesada-Moraga

University of Cordoba, Spain

18:15 - 18:30

OC130. Tomato trichomes and its effect on the development and dispersal of *Tetranychus urticae* and of its promising biological control agent the phytoseiid mite *Typhlodromus (Anthoseius) recki*

Denise Navia

Université Montpellier, France

18:30 - 18:45

OC131. Induced resistance by arbuscular mycorrhizal fungi in tomato: a new tool for integrated pest management programs

Maria J. Pozo

Estación Experimental del Zaidín (CSIC), Spain

18:45 - 19:00

OC132. Beneficial microbes to optimize pest control in sustainable tomato production

Maria L. Pappas

Democritus University of Thrace, Greece

19:00 - 19:15

OC133. The multifaceted nature of the modulation of plant responses to insect herbivory by beneficial microbes

Arjen Biere

Netherlands Institute of Ecology, The Netherlands

19:15 - 19:30

OC134. Microbe-induced resistance against *Tuta absoluta*: from the lab to the field

Zhivko Minchev

Estación Experimental del Zaidín (CSIC), Spain & Koppert Biological Systems, The Netherlands

17:30 - 19:30

SESSION 10

Invasion biology and climate changeInvasion of *Popillia japonica* in Europe and Management Approaches**Chairs: Francesco Nardi**, University of Siena, Italy & **Nelson Simões**, Universidade Dos Açores, Portugal
Hall 4: Seminar Hall

17:30 - 18:00

Keynote speech

OC250. Is integrated pest management suitable to control a regulated quarantine pest? Prospects and limitations of IPM against *Popillia japonica* in Europe**Giselher Grabenweger**

AGROSCOPE, Switzerland

18:00 - 18:15

OC251. How reachable is Europe for the Japanese beetle: tracking planes, trains and trucks to inform surveillance strategies**Leyli Borner**

INRAE, France

18:15 - 18:30

OC252. Tracing the dispersal route of the invasive Japanese beetle *Popillia japonica***Agostino Strangi**

CREA Research Centre for Plant Protection and Certification, Italy

18:30 - 18:45

OC253. Draft de novo assembly and annotation of the nuclear genome of *Popillia japonica* from the invasive Italian population**Claudio Cucini**

University of Siena, Italy

18:45 - 19:00

OC254. Searching for the role of the microbiome in the population growth of *Popillia japonica***Nelson Simões**

Universidade Dos Açores, Portugal

19:00 - 19:15

OC255. *Popillia japonica* infestation in Northwestern Italy: main damage in agricultural crops and challenges in pest control**Giovanni Bosio**

Plant Health Service, Italy

19:15 - 19:30

OC256. Attract-and-infest strategy to biologically control Japanese beetles**Magdalena Wey**

ETH Zürich, Switzerland & AGROSCOPE, Switzerland

17:30 - 19:30

SESSION 2

Genetics and evolutionary biology

Evolutionary Genomics II

Chair: Kostas Mathiopoulos, University of Thessaly, Greece
Hall 5: Small Theater

17:30 - 18:00

Keynote speech

OC040. Patterns of genome evolution of the arboviral vector *Aedes aegypti***Mariangela Bonizzoni**

University of Pavia, Italy

18:00 - 18:15

OC041. Thermal evolution during range expansions toward warmer and cooler regions in the damselfly species *Ichnura elegans***Jose Antonio Carbonell**

University of Leuven, Belgium & University of Seville, Spain

18:15 - 18:30

OC042. Interfering with the microRNA pathway in aestivating cabbage stem flea beetle (*Psylliodes chrysocephala*)**Gözde Güney**

University of Göttingen, Germany

18:30 - 18:45

OC043. Novel molecular approaches to study malaria transmission and mosquito-parasite-human interplay**Giulia Bevivino**

Sapienza University of Rome, Italy

18:45 - 19:00

OC044. Horizontal Gene Transfer (HGT) contributes to the evolution of *Bemisia tabaci***Osnat Malka**

The Hebrew University of Jerusalem & The Gaza Envelope Research and Development Center, Israel

19:00 - 19:15

OC045. Insights into comparative phylogeography patterns of *Pyrrhalta viburni*, a specialist leaf feeder of *Viburnum* plants and its associated egg parasitoid *Aprostocetus* as part of a biological control program**Marie-Claude Bon**

European Biological Control Laboratory - USDA ARS, France

19:15 - 19:30

OC046. Intraspecific variation and molecular phylogeny of *Scaphoideus titanus* using complete mitogenomes**Juan S. Enciso**

Free University of Bolzano-Bozen, Italy

Wednesday 18 October 2023

09:00 - 10:00

Plenary lecture

Hall 1: Andreas & Maria Kalokairinou Hall

PL4. Plenary lecture - Scaling up data production and management systems to catalogue explore and monitor the richness of arthropod biodiversity

Robert M. Waterhouse

Swiss National Science Foundation Professeur Boursier, Group Leader, SIB Swiss Institute of Bioinformatics, Department of Ecology and Evolution, University of Lausanne, Switzerland

10:00 - 10:30

Coffee break

Morning Sessions

10:30 - 12:30

SESSION 9

Medical and Veterinary Entomology

Paradigms of "One Health" Approach in Combating Vector Borne Diseases (VBDs)

Chairs: Smaro Sotiraki, Hellenic Agricultural Organization "DEMETER", Greece & **Mary Cameron**, London School of Hygiene and Tropical Medicine, United Kingdom
Hall 1: Andreas & Maria Kalokairinou

10:30 - 11:00

Keynote speech

OC200. CLIMOS PROJECT - In-depth study for knowledge and comprehension of climate and environmental drivers of sand fly borne diseases

Gioia Bongiorno

Italian Institute of Health, Rome, Italy

11:00 - 11:15

OC201. Mosquito and avian-based West Nile virus (WNV) surveillance systems as an integral component of integrated vector control (IVM) programs

Alexandra Chaskopoulou

(USDA-ARS), European Biological Control Laboratory, Greece

11:15 - 11:30

OC202. Risk assessment of (re)-emerging arbovirolos in Southern Europe

Monica Falcinelli

University of Camerino, Italy

11:30 - 11:45

OC203. A social-ecological systems approach to tick and tick-borne disease risk: exploring local actor engagement in collective action tick bite prevention strategies in the Occitanie region in southern France

Iyonna Zortman

CIRAD, INRAE, France

11:45 - 12:00

OC204. Sandflies vectors of *Leishmania infantum* in Greek islands

Panagiota Ligda

Hellenic Agricultural Organization "DEMETER", Greece

12:00 - 12:15

OC205. Vector borne diseases: an expanding health threat for animals and humans

Smaragda Sotiraki

Hellenic Agricultural Organization "DEMETER", Greece

12:15 - 12:30

OC206. Molecular detection of *Leishmania* DNA and blood meal analysis in wild caught *Phlebotomus* (*Larrousius*) species

Latifa Remadi

University of Monastir, Tunisia & Foundation for Research & Technology Hellas, Greece

10:30 - 12:30

SESSION 7

Symbiosis and Insect Pathology

Reproductive Manipulation and More: Symbiont-Mediated Host Alterations

Chairs: Laurence Mouton, University of Lyon, France & **Anastasia Tsagkarakou**, Hellenic Agricultural Organization "DEMETER", Greece
Hall 2: Concert Hall

10:30 - 11:00

Keynote speech

OC157. Invasion dynamics of *Wolbachia* in cherry fruit flies

Hannes Schuler

Free University of Bozen-Bolzano, Italy

11:00 - 11:15

OC158. Complex host modifier systems control two symbiont-mediated reproductive phenotypes in a tetranychid mite

Nicky Wybouw

Ghent University, Belgium

11:15 - 11:30

OC159. Zombie-flies: Is symbiosis at the heart of behavioural manipulation by an insect-destroying fungus?

Sam Edwards

University of Copenhagen, Denmark & University of Exeter, Exeter, United Kingdom

11:30 - 11:45

OC160. Diversity in symbiont-mediated killing and integrity of defensive symbiosis at extreme temperatures underpin protective efficacy in an anti-parasitoid insect-bacterial symbiosis

Roy Kucuk

University of Georgia, United States of America

11:45 - 12:00

OC161. Wolbachia-induced cytoplasmic incompatibly to control *Drosophila suzukii***Xavier Fauvergue**

Université Côte d'Azur, France

12:00 - 12:15

OC162. Evolutionary history of *Cacopsylla* species and their little helpers: diversity of endosymbionts and their co-evolution**Erika Corretto**

Free University of Bolzano-Bozen, Italy

12:15 - 12:30

OC163. Effects of high temperatures exposure on *Halyomorpha halys* (Hemiptera: Pentatomidae) and its bacterial endosymbiont *Pantoea carbaekii***Enrico Miranda**

Università degli Studi di Padova, Italy

10:30 - 12:30

SESSION 6**Insect Biotechnology**

Improved Methods for Rnai-Mediated Pest Control (Part 1)

Chairs: Gianluca Tettamanti, University of Insubria, Italy & **Luc Swevers**, National Centre for Scientific Research "Demokritos", Greece

Hall 3: Experimental Theater

10:30 - 11:00

Keynote speech

OC135. RNA-based biocontrols: successes, challenges, and learnings in different insect species**Olivier Christiaens**

Syngenta Ghent Innovation Center, Belgium

11:00 - 11:15

OC136. RNAi in Integrated Pest Management**Kristof De Schutter**

Ghent University, Belgium

11:15 - 11:30

OC137. The quest for the best dsRNA target sequences for pest control by a genome wide screen**Gregor Bucher**

University Göttingen, Germany

11:30 - 11:45

OC138. Advances towards RNA interference-based management of *Brassicoglyphus aeneus***Triin Kallavus**

Estonian University of Life Sciences, Estonia & Ghent University, Belgium

11:45 - 12:00

OC139. Development of a novel biopesticide using an RNA interference approach targeting potassium and fibroblast growth factor in *Helicoverpa armigera***Feras M. Affi**

Newcastle University, United Kingdom

12:00 - 12:15

OC140. RNAi-mediated knockdown of essential central nervous system genes as a potential *Spodoptera littoralis* control strategy**Chloe Start**

Newcastle University, United Kingdom

12:15 - 12:30

OC141. Optimization of small interfering RNAs derived from double-stranded RNAs for enhanced pest control**Doga Cedden**

University of Göttingen, Germany

10:30 - 12:30

SESSION 10**Invasion biology and climate change**

Fruit Fly Invasion

Chairs: Marc De Meyer, Royal Museum for Central Africa, Belgium & **Marc Schetelig**, Justus-Liebig-University Giessen, Germany

Hall 4: Seminar Hall

10:30 - 11:00

Keynote speech

OC257. Invasion of the fruit fly *Bactrocera dorsalis* (Tephritidae), with a focus on the Indian Ocean islands, a threat to Europe**Hélène Delatte**

CIRAD, UMR PVBMT, Saint Pierre, France

11:00 - 11:15

OC258. Exploring the impact of changing climate and irrigation patterns on the potential distribution of organisms: Insights from fruit fly case studies**Anna M. Szyniszewska**

CLIMEX models

11:15 - 11:30

OC259. Innovative sexing systems for insect pest control through Sterile Insect Technique (SIT) within the REACT program**Marc F. Schetelig**

Justus-Liebig-University Giessen, Germany

11:30 - 11:45

OC260. Response of adults of geographically distant populations of the Mediterranean fruit fly to different temperature regimes**Antonios G. Papadopoulos**

University of Thessaly, Greece

11:45 - 12:00

OC261 Effects of thermal history and ambient temperature on the flight performance of the Mediterranean fruit fly**Eleftheria M. D. Bali**

University of Thessaly, Greece

12:00 - 12:15

OC262. Temperature-induced plasticity on the thermal tolerance landscape in *Drosophila suzukii***Luis E. Castañeda**

Universidad de Chile, Chile

12:15 - 12:30

OC263 Thermal preference plasticity of a major pest: a key to its invasion success?**Gwenaëlle Deconninck**

University of Tours - CNRS, France

10:30 - 12:30

SESSION 3**Physiology and Biochemistry**

Recent Insights into Peptide Research in Insects

Chair: Marianne Alleyne, University of Illinois at

Urbana-Champaign, United States of America

Hall 5: Small Theater

10:30 - 11:00

Keynote speech

OC047. Silencing FMRamide-like peptide (FLP) and short neuropeptide F (sNPF) leads to alter lipid metabolism in *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae)**Umut Toprak**

Ankara University & Ankara University Technopolis, Türkiye

11:00 - 11:15

OC048. Short neuropeptides F regulate feeding related processes in *Tenebrio molitor* beetle**Pawel Marciniak**

Adam Mickiewicz University, Poland

11:15 - 11:30

OC049. Unveiling the neuropeptidome and functions of adipokinetic hormones in Blattodea**Shixiong Jiang**

Freie Universität Berlin & Federal Institute for Materials Research and Testing (BAM), Germany

11:30 - 11:45

OC050. Tachykinin-related peptides modulate immune system activity of mealworm beetle, *Tenebrio molitor* L**Arkadiusz Urbański**

Adam Mickiewicz University, Poland

11:45 - 12:00

OC051. "Am I overweight?" New insights into Adipokinetic hormone (AKH) pathway in Colorado potato beetle *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae)**Solmaz Ghanbari**

Ankara University, Türkiye

12:00 - 12:15

OC052. Effect of the rearing diet on the gene expression of antimicrobial peptides in *Tenebrio molitor* L. (Coleoptera: Tenebrionidae)**Rosemarie Tedeschi**

University of Torino, Italy

12:15 - 12:30

OC053. Comparative efficacy of a recombinant and chemically-synthesized spider toxin peptide against *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae)**Sümeyye Pınar Öztekin**

Ankara University, Türkiye

10:30 - 12:30

BIOPROTECTION SYMPOSIUM**Organiser: Francesco Penacchio**, University of Napoli

"Federico II", Italy

Hall 6: Creative Workshop

10:30 - 10:50

Combining chemical ecology and conservation biological control: flower-associated microbes impact nectar traits with consequences for insect parasitoids**Stefano Colazza**

University of Palermo, Italy

10:50 - 11:10

Enhancing ecosystem service provision for EcoStacking: an oilseed rape exemplar**Sam M. Cook**

Rothamsted Research, United Kingdom

11:10 - 11:30

Novel Bioprotection through Bio-inspired Pest Control Technologies**Martin Edwards**

Newcastle University, United Kingdom

11:30 - 11:50

Fitting parasitoids into ecological networks to improve pest control in crops**Darren M. Evans**

Newcastle University, United Kingdom

11:50 - 12:10

Setting the scene for a scientifically sound risk assessment of low-risk pesticides**Dimitrios G. Karpouzias**

University Of Thessaly, Greece

12:10 - 12:30

Agroecology and landscape management to reinforce ecosystem services**Douglas A. Landis**

Michigan State University, United States of America

12:30 - 13:30

Lunch Break

13:00- 13:20

Lunch Seminar Sponsored by MERCK
Hall 2: Concert Hall

Afternoon Sessions

13:30 - 15:30

SESSION 15

Integrated Pest Management

Plant Defenses, Elicitors and Antagonists

Chair: Alberto Urbaneja, Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain
Hall 1: Andreas & Maria Kalokairinou

13:30 - 14:00

Keynote speech

OC407. Plant defenses in Integrated Pest Management

Maria L. Pappas

Democritus University of Thrace, Greece

14:00 - 14:15

OC408. Conspecific and non-conspecific airborne cues prime Brassica napus defence response

Pius Otto

Université Paris-Saclay, INRAE, France

14:15 - 14:30

OC409. Entomopathogenic fungus-related priming defense mechanisms in cucurbits impacts on Spodoptera littoralis (Boisduval) fitness

Meelad Yousef-Yousef

Universidad de Córdoba, España

14:30 - 14:45

OC410. Plants with benefits: enhancing direct and indirect plant defenses against insect herbivores by plant-beneficial fungi

Sara Van Hee

KU Leuven & Leuven Plant Institute, Belgium

14:45 - 15:00

OC411. Unraveling direct and indirect control mechanisms of P. ubiquitus against the tomato russet mite and powdery mildew

Lore Vervaeet

Ghent University, Belgium

15:00 - 15:15

OC412. Plant damage caused by the predatory bug Nesidiocoris tenuis (Reuter) (Hemiptera: Miridae) can be reduced by eliciting plant defenses

Laura Depalo

Alma Mater Studiorum Università di Bologna, Italy

15:15 - 15:30

OC413. Exposure of sweet pepper plants to the volatile Z-3-HP enhances the plant's resilience to herbivore attacks and water deficits

Chaymaa Riahi

Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

13:30 - 15:30

SESSION 7

Symbiosis and Insect Pathology

Nutritional Symbiosis and Insect Rearing

Chairs: Georgios Tsiamis, University of Patras, Greece & **Alicia Reyes-Ramírez**, Université Claude Bernard Lyon 1, France

Hall 2: Concert Hall

13:30 - 14:00

Keynote speech

OC164. Contribution of microbiota in mosquito nutritional ecology

Claire Valiente Moro

Université Claude Bernard Lyon 1, France

14:00 - 14:15

OC165. Probiotic bacteria can improve insect health of mass-cultured housefly larvae reared for animal feed

Anna Voulgari Kokota

University of Groningen, The Netherlands

14:15 - 14:30

OC166. Effects of Asaia bacteria on mosquito fitness for improvement of SIT programs

Alessandro Roman

University of Exeter, United Kingdom

14:30 - 14:45

OC167. Interactions of Liberibacter solanacearum with carrot psyllid Endoplasmic reticulum (ER) and its association with apoptosis

Ola Jassar

The Volcani Center, Israel

14:45 - 15:00

OC168. Assessing the risks of co-infection by a fungal and a bacterial insect pathogen in Tenebrio molitor

Pascal Herren

University of Copenhagen, Denmark & University of Leeds & UK Centre for Ecology & Hydrology, United Kingdom

15:00 - 15:15

OC169. Both transcriptomic response and gut microbiota composition of Nosema ceranae-infected honeybees differ between laboratory and semi-field conditions

Thania Sbaghdi

University of Clermont Auvergne, France

15:15 - 15:30

OC170. Studying insect egg microbiomes as a first step towards the identification of microbial elicitors to enhance plant defenses against insect eggs

Margot W. J. Geerinck

KU Leuven, Belgium

13:30 - 15:30

SESSION 6

Insect Biotechnology

Discovery and Engineering of Viruses and Micro-Organisms for Improved Pest Control

Chairs: Gianluca Tettamanti, University of Insubria, Italy & **Luc Swevers**, National Centre for Scientific Research "Demokritos", Greece

Hall 3: Experimental Theater

13:30 - 14:00

Keynote speech

OC142. Discovery and engineering of viruses and microorganisms for improved pest control

Murad Ghanim

The Volcani Institute, Israel

14:00 - 14:15

OC143. PIWI proteins play an antiviral role in lepidopteran cell lines

Dulce Santos

KU Leuven, Belgium

14:15 - 14:30

OC144. Assessment of insect virus-like particles as nano-vehicles for efficient dsRNA delivery in insect tissues and cells

Luc Swevers

National Centre for Scientific Research "Demokritos", Greece

14:30 - 14:45

OC145. Leveraging the role of Dnmt1 in early development for potential use in whitefly pest management

Emily A. Shelby

University of Georgia, United States of America

14:45 - 15:00

OC146. RNA spray for plant protection - knockdown of p300 reduces lifespan and causes early onset and reduction of offspring in *Myzus persicae*

Maurice Pierry

Fraunhofer Institute for Molecular Biology and Applied Ecology, Germany

15:00 - 15:15

OC147. Effective and sustainable control of *Halyomorpha halys* (stink bug) using a novel alginate-encapsulated dsRNA formulation

Venkata Partha Sarathi Amineni

University of Hohenheim, Germany

15:15 - 15:30

OC148. Species-specific dsRNAs designed against agricultural pests show no significant cross-species activity against *Coccinella septempunctata*

Eileen Knorr

Fraunhofer Institute for Molecular Biology and Applied Ecology (IME), Germany

13:30 - 15:30

SESSION 10

Invasion biology and climate change

Invasive Arthropods Affecting Human and Animal Health

Chairs: Antonios Michaelakis, Benaki Phytopathological Institute, Greece & **Anastasia Accoti**, University of Texas Medical Branch, United States of America

Hall 4: Seminar Hall

13:30 - 14:00

Keynote speech

OC264. How climate and invasion can shape the transmission of vector-borne diseases

Matthew B. Thomas

University of Florida, United States of America

14:00 - 14:15

OC265. Modelling how climate change will affect the distribution of arthropod-borne disease across Europe; a case study on West Nile Virus and the invasive vector *Culex modestus* in the UK

Amy J. Withers

Animal and Plant Health Agency (APHA), United Kingdom

14:15 - 14:30

OC266. Trade-offs between desiccation tolerance and midgut permissiveness to arboviruses in *Ae. Aegypti*

Anastasia Accoti

University of Texas Medical Branch, United States of America

14:30 - 14:45

OC267. Carry-over effects of different larval competition treatments on vector competence in three medically important mosquito species

Adwine Vanslebrouck

Institute of Tropical Medicine, Belgium

14:45 - 15:00

OC268. Investigating the presence of three sympatric *Phortica* spp. in the Latium region (Manziana, Rome, Italy)

Cristiana Poggi

Sapienza Università di Roma, Italy

15:00 - 15:15

OC269. The Growing Threat of Invasive Ticks in a Changing World

Javid Kashefi

USDA-ARS European Biological Control Laboratory, France

15:15 - 15:30

OC270. Climate change and adaptations: presence and trophism of sandflies on winter in Sicily**Maria Liliana Di Pasquale**

Istituto Zooprofilattico Sperimentale della Sicilia A. Mirri, Palermo, Italy

13:30 - 15:30

SESSION 3**Physiology and Biochemistry**

Unique Physiological Adaptations in Insect Development and Survival

Chair: Morena Casartelli, University of Milan, Italy

Hall 5: Small Theater

13:30 - 14:00

Keynote speech

OC054. Launching engineered prototypes to better understand the factors that influence the click beetle jump**Marianne Alleyne**

University of Illinois at Urbana-Champaign, United States of America

14:00 - 14:15

OC055. Obligate diapause and its termination in a frozen state are essential for the seasonal life cycle of the Antarctic midge**Mizuki Yoshida**

Osaka City University, Japan

14:15 - 14:30

OC056. Regulation of corpora allata activity: allatoregulatory factors and feedbacks**Fernando G. Noriega**

Institute of Parasitology, Ceske Budejovice, Czech Republic

14:30 - 14:45

OC057. MicroRNAs from mosquito saliva may contribute to vertebrate host manipulation with potential implications for pathogen transmission**Bruno Arcà**

Sapienza University of Rome, Italy

14:45 - 15:00

OC058. A novel olfactory protein of Anopheles gambiae involved in the recognition of plant-derived repellents**Eleanna Christodoulou**

National Hellenic Research Foundation & National and Kapodistrian University of Athens, Greece

15:00 - 15:15

OC059. Deciphering the regulation of nitrogen and carbon metabolism in Aedes aegypti mosquitoes**Patricia Y. Scaraffia**

Tulane University, United States of America

15:15 - 15:30

OC060. Challenging the popular belief, mosquito larvae breath underwater (but pupae do not)**Claudio R. Lazzari**

University of Tours - CNRS, France

13:30 - 15:30

BIOPROTECTION SYMPOSIUM**Physiology and Biochemistry****Organiser: Francesco Penacchio**, University of Napoli

"Federico II", Italy

Hall 6: Creative Workshop

13:30 - 13:50

Volatile interaction between undamaged plants suppress aphid in cultivar mixtures**Velemir Ninkovic**

Swedish University of Agricultural Sciences, Sweden

13:50 - 14:10

Insect multitrophic interactions and bioprotection**Francesco Pennacchio**

University of Napoli "Federico II", Italy

14:10 - 14:30

Tomato prosystemin as novel source of bioactive peptides**Rosa Rao**

University of Napoli "Federico II", Italy

14:30 - 14:50

Honeydew: the hidden and sweet driver of interactions in biological control**Alejandro Tena**

Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

14:50 - 15:10

The new approach to biocontrol**Maria Torne**

CORTEVA Agriscience, Spain

15:10 - 15:30

Ecological Innovations provide bioprotection alternatives to pesticides**Felix Wäckers**

BiobestGroup, Belgium

15:30 - 16:00

Coffee break

16:00 - 16:30

Poster Session III

16:30 - 18:30

SESSION 15**Integrated Pest Management**

Pest Bio-Ecology, Monitoring and Control I

Chair: Lucia Zappalà, University of Catania, Italy

Hall 1: Andreas & Maria Kalokairinou

16:30 - 16:45

OC414. Impact of visual and olfactory cues on *Psylliodes chrysocephala* (Coleoptera, Chrysomelidae) host plant location and selection in the field

Laurie Magnin

AGROSCOPE, Switzerland & AgroParisTech, France

16:45 - 17:00

OC415. Host plant preference of citrus species and ornamental plants to *Trioza erytreae*, vector of HLB

Alberto Ferreres

Instituto de Ciencias Agrarias (ICA-CSIC), Spain

17:00 - 17:15

OC416. Pheromone-based control of the strawberry tortrix, *Acleris comariana*, a major pest in Danish and Swedish strawberry production

Glenn P. Svensson

Lund University, Sweden

17:15 - 17:30

OC417. Exploring yeast-based formulations for environmentally friendly management of *Drosophila suzukii*: efficacy, chemical characterization and potential for attract-and-kill approach

Marko Bjeljic

Free University of Bozen-Bolzano & Laimburg Research Centre, Italy

17:30 - 17:45

OC418. Host plant volatile lures attract the poplar bark beetle *Trypophloeus* (Coleoptera: Scolytidae)

Antonio Ortiz Hernández

University of Jaén, Spain

17:45 - 18:00

OC419. "Catch me if you can" – improving monitoring and control of vine weevil (Coleoptera: Curculionidae) in soft fruit and ornamental crops

Eugenia Fezza

Harper Adams University, United Kingdom & Ashtown Research Centre, Ireland

18:00 - 18:15

OC420. A novel insect food-based attractant: the case of olive fruit fly *Bactrocera oleae*

Ioannis Koufakis

Hellenic Agricultural Organization "DEMETER", Greece

18:15 - 18:30

OC421. Implementing the 'female removal' technique for apple orchard protection: recent results in the Trentino-Alto Adige region

Veronica Carnio

Free University of Bozen-Bolzano, Italy

16:30 - 18:30

SESSION 7

Symbiosis and Insect Pathology

Takes More Than Two to Tango: Multiple Insect Host - Symbionts Interactions and Insights to Insect Virome

Chairs: Antonios Avgoustinos, Hellenic Agricultural Organization "DEMETER", Greece &

Laurence Mouton, Université de Lyon, France

Hall 2: Concert Hall

16:30 - 17:00

Keynote speech

OC171. Comparative genomic analysis of fruit fly associated bacteria: New insights into bacteria-host interactions

Georgios Tsiamis

University of Patras, Greece

17:00 - 17:15

OC172. Silencing of leafhopper vector genes to disrupt phytoplasma transmission

Luciana Galetto

National Research Council (IPSP-CNR), Italy

17:15 - 17:30

OC173. Food envy: Interactions between entomopathogenic nematodes, their mutualists and insecticidal pseudomonads

Maria Zwyssig

ETH Zurich, Switzerland

17:30 - 17:45

OC174. Legume flowers as bridge for interspecific virus transmission among sympatric honey bees (*Apis mellifera*) and long-horned bees (*Eucera* spp.)

Avi Eliyahu

The Hebrew University of Jerusalem & Agricultural Research Organization (ARO), Israel

17:45 - 18:00

OC175. Filamentous viruses constitute a novel family among Naldaviricetes preferentially associated with parasitoid wasps

Matthieu Leobold

University of Tours, France

18:00 - 18:15

OC176. Symbiotic endobacteria modulate virus effects on plant-aphid interactions

Patricia Sances

ETH Zürich, Switzerland

18:15 - 18:30

OC177. Assessment of nematode and microbiome diversity present in the most destructive forest pest in Europe

Julia Morales-García

University of Krakow, Poland

16:30 - 18:30

SESSION 6

Insect Biotechnology

Genome Editing of Insect Pests and Vectors of Disease to Understand Physiological Processes and Resistance Mechanisms

Chairs: **Vassilis Douris**, University of Ioannina, Greece & **Luc Swevers**, National Centre for Scientific Research "Demokritos", Greece

Hall 3: Experimental Theater

16:30 - 17:00

Keynote speech

OC149. Recoding immunity in the malaria mosquito midgut

George K. Christophides

Imperial College London, United Kingdom

17:00 - 17:15

OC150. Developing a novel sex ratio distortion system in *Anopheles gambiae*

Yael Arien

Hebrew University of Jerusalem, Israel

17:15 - 17:30

OC151. Exploring YG5 for malaria control: Developing Y-linked sex ratio distorter in *Anopheles gambiae*

Elad Y. Yonah

Hebrew University of Jerusalem, Israel

17:30 - 17:45

OC152. An efficient method for CRISPR/Cas9 mediated gene editing in difficult to transform arthropods

Sander De Rouck

Ghent University, Belgium

17:45 - 18:00

OC153. Deciphering the role of ROS/CncC signaling pathway in the adaptation of *Spodoptera frugiperda* to plant allelochemicals and insecticides using Sf9 cells

Gaelle Le Goff

Université Côte d'Azur, France

18:00 - 18:15

OC154. Development of a next-generation CRISPR-mediated population control strategy for Tephritid pests as a replacement for traditional sterile insect technique

Serafima Davydova

Imperial College London, United Kingdom

18:15 - 18:30

OC155. Investigating chemosensory protein ligands as novel synergists for insecticides

Vassilis Douris

Foundation for Research and Technology-Hellas (IMBB-FORTH) & University of Ioannina, Greece

16:30 - 18:30

SESSION 11

Biodiversity and Conservation

Identification and Monitoring Tools

Chair: **Denis Michez**, University of Mons, Belgium

Hall 4: Seminar Hall

16:30 - 16:45

OC271. Outcomes from the European project SPRING: capacity building in pollinator taxonomy

Sara Reverté

University of Mons, Belgium

16:45 - 17:00

OC272. Toward a unified view of insect distribution

Michael Orr

Staatliches Museum für Naturkunde Stuttgart, Germany & Chinese Academy of Sciences, China

17:00 - 17:15

OC273. Beelibre: Towards the development of Luxembourg's first on-line repository of local wild bee content

Fernanda Herrera-Mesías

Musée national d'histoire naturelle de Luxembourg & Fondation faune-Flore, Luxembourg

17:15 - 17:30

OC274. Could we identify bumblebees from their buzzes? A proof of concept combining acoustic tools and artificial intelligence

Jérémy S.P. Froidevaux

University of Stirling, United Kingdom & National Museum of Natural History, France

17:30 - 17:45

OC275. Environmental variables and wild bee species traits as drivers of change in pollination spectrum in agricultural landscapes: a pollen DNA approach

Marina Querejeta

University of Tours - CNRS, France & University of Oviedo, Spain

17:45 - 18:00

OC276. A DNA barcoding library for exploring the evolution and diversity of European ants

Mattia Menchetti

Institut de Biologia Evolutiva (CSIC-UPF), Spain

18:00 - 18:15

OC277. Capture efficiency of pitfall traps based on sampling strategy and the movement of arthropods

Danish A. Ahmed

Gulf University for Science and Technology, Kuwait

18:15 - 18:30

OC278. Biodiversity discovery with the Diversity Scanner and the Entomoscope

Christian Pylatiuk

Karlsruhe Institute of Technology, Germany

16:30 - 18:30

SESSION 3

Physiology and Biochemistry

From Digestion Towards Metabolism & Immunity

Chair: Umut Toprak, Ankara University, Turkey

Hall 5: Small Theater

16:30 - 17:00 Keynote speech

OC061. Current knowledge and future perspectives on the immune system of black soldier fly

Gianluca Tettamanti

University of Insubria & University of Napoli "Federico II", Italy

17:00 - 17:15

OC062. Black soldier fly larvae can efficiently grow on the organic fraction of municipal solid waste thanks to the physiological plasticity of the midgut

Morena Casartelli

University of Milan & University of Napoli "Federico II", Italy

17:15 - 17:30

OC063. Investigating the role of amylases from *Hermetia illucens* larvae and their substrate in starch digestion

Jérémy B. Guillaume

Université Paris-Saclay & Agronutris, France

17:30 - 17:45

OC064. Characterization of a phospholipase A(1)-like protein and its potential role in the lipid metabolism of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae)

İdil Osan

Ankara University, Türkiye

17:45 - 18:00

OC065. Environmental rearing condition influence essential fatty acid use in the migratory moth, *Mythimna unipuncta*

Jeremy N. McNeil

The University of Western Ontario, Canada

18:00 - 18:15

OC066. New target sites in the control of *Myzus persicae* (Hemiptera: Aphididae) by RNAi: Facilitated glucose transporter member 1-Like (FTG1) and protein transport protein (Sec23A)

Betul Yılmaz

Ankara University, Türkiye

18:15 - 18:30

OC067. Role of muscarinic receptor in regulation of metabolic activity of insect fat body

Szymon Chowański

University in Poznań, Poland

16:30 - 18:30

WORKSHOP

New approaches on the management of invasive Lepidoptera in urban/ suburban areas and forests

Organiser: Christos Athanassiou, University of Thessaly, Greece

Hall 6: Creative Workshop

***Lymantria dispar* (L.) (Lepidoptera: Erebidiae): a highly important pest in forests, urban and suburban areas.**

Actions of LIFE eGymer in Europe

Nickolaos Kavallieratos

University of Thessaly, Greece

Recent findings on the management of *Thaumetopoea pityocampa* (Den. & Schiff.) (Lepidoptera: Thaumetopoeidae)

Boukouvala Maria

Agricultural University of Athens, Greece

Novel trap devices for the capture of larvae and adults of *Lymantria dispar*

Bohnic Tanja,

University of Ljubljana, Slovenia

Remote monitoring of *Lymantria dispar*

Agrafioti Paraskevi

Centre of Research and Technology – Hellas (CERTH), Greece

Novel techniques for the control of *Thaumetopoea processionea* (L.) (Lepidoptera: Notodontidae).

Actions of LIFE Oak Processionary

Luc De Bruyn

Research Institute For Nature And Forest (INBO), Belgium

18:30 - 19:00

Poster Session III

20:00 - 23:00

Congress Dinner at Traditional Village Karouzanos

Busses will start departing from the Congress Venue at 19:00

Pre-registration required

Thursday 19 October 2023

09:00 - 10:00

Plenary lecture

Hall 1: Andreas & Maria Kalokairinou

PL5. Curing Disease Vectors from Human Pathogens

George Dimopoulos

Professor, PhD MBA, Dept. Molecular Microbiology and Immunology, Johns Hopkins Malaria Research Institute, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, Maryland, United States of America, Director (JHMRI Parasite Core), Deputy Director (JHMRI, ERA) Chair, Institute of Molecular Biology and Biotechnology (IMBB), FORTH – Hellas

10:00 - 10:30

Coffee break

Morning Sessions

10:30 - 12:30

SESSION 15

Integrated Pest Management

Pest Bio-Ecology, Monitoring and Control II

Chair: Dionysis Perdikis, Agricultural University of Athens, Greece

Hall 1: Andreas & Maria Kalokairinou

10:30 - 10:45

OC422. Integrated pest management and field efficacy of insecticides on potato tuber moth *Phthorimea opercutella* (Lepidoptera: Gelechiidae)

Philippos Ioannidis

Eurofarm S.A., Greece

10:45 - 11:00

OC423. First steps of developing a novel push-pull-kill strategy: Primary and secondary plant metabolites involved in the attraction and feeding behavior of BMSB

Bruna Czarnobai de Jorge

JKI, Germany

11:00 - 11:15

OC424. Study of the winter ecology of *Palomena prasina* (L.) (Hemiptera: Pentatomidae) in a perspective of Integrated Pest Management

Laetitia Driss

University of Toulouse – ANPN, France

11:15 - 11:30

OC425. Exploring refuge sizes to delay resistance by western corn rootworm to Bt maize

John McCulloch

Iowa State University, United States of America

11:30 - 11:45

OC426. Inheritance and fitness costs of field-evolved resistance to Gpp34/Tpp35Ab1 maize by western corn rootworm (Coleoptera: Chrysomelidae)

Eliott M. Smith

Iowa State University, United States of America

11:45 - 12:00

OC427. CRISPR-Cas12a-based biosensing of pests

Gur Pines

The Volcani Center, Israel

12:00 - 12:15

OC428. The oak pinhole borer, *Platypus cylindrus* F. (Coleoptera; Curculionidae): population dynamics and association with *Diplodia corticola* in productive stands of cork oak

E. Jordán Muñoz-Adalia

CTFC - University of Valladolid - INIA, Spain

12:15 - 12:30

OC429. Facultative endosymbionts; new biological control agents of grain crop aphids and their horizontal transmission

Safieh Soleimannejad

The University of Melbourne, Australia

10:30 - 12:30

SESSION 9

Medical and Veterinary Entomology

Next Generation Vector Surveillance: Emerging Technologies and the Role of Society

Chairs: Alexandra Chaskopoulou, USDA-ARS, Greece & **Mary Cameron**, London School of Hygiene and Tropical Medicine, United Kingdom

Hall 2: Concert Hall

10:30 - 11:00

Keynote speech

OC207. The difference between able to act and willing to act: The case for keeping the public in public health decisions

Lee Cohnstaedt

United States Department of Agriculture, United States of America

11:00 - 11:15

OC208. Mass spectrometry toolbox: lessons learnt from a decade of applications on phlebotomine sand flies

Vit Dvorak

Charles University, Czech Republic

11:15 - 11:30

OC209. A new FTA card-based trapping system for mosquito-borne diseases surveillance

Sara Manzi

Sapienza Università di Roma, Italy

11:30 - 11:45

OC210. Defining wing-beat patterns of mosquitoes for automated detection**Frederick Sarathchandra**

London School of Hygiene & Tropical Medicine, United Kingdom

11:45 - 12:00

OC211. Is Aedes albopictus truly exophagic in Italy? Citizen science data can provide the answer**Alessandra della Torre**

Sapienza Università di Roma, Italy

12:00 - 12:15

OC212. Pilot test of a novel, multiplex point-of-need tool to detect pathogen DNA/RNA in vectors for integrated vector borne disease surveillance**Mary Cameron**

London School of Hygiene and Tropical Medicine, United Kingdom

12:15 - 12:30

OC213. A change in IRS insecticide and mode of application in the Visceral Leishmaniasis elimination programme in India - the impact on sand fly abundance and disease incidence**Michael Coleman**

Liverpool School of Tropical Medicine, United Kingdom

10:30 - 12:30

SESSION 16**Stored Product Protection**

Urban Entomology and Stored Product Protection: Integrated Protection of Stored Product Pests

Chairs: Nickolas Kavallieratos, Agricultural University of Athens, Greece & **Sara Savoldelli**, University of Milan, Italy
Hall 3: Experimental Theater

10:30 - 11:00

Keynote speech

OC453. Lessons from the study of stored-product insect interactions with pheromones and their application to monitoring and management programs for the food industry**James Campbell**

USDA ARS Center for Grain and Animal Health Research, United States of America

11:00 - 11:15

OC454. The microbial ecology of stored products insect pests in Greece**Hannah Quellhorst**

Kansas State University, United States of America

11:15 - 11:30

OC455. Dispersal ability and prey preference of the predatory mites Blattisocius sp. and Cheyletus sp. in stored rice**Julia Parsons**

Institute of Agrifood Research and Technology (IRTA), Spain

11:30 - 11:45

OC456. Monitoring stored-product insect pests to build better predictive models for migration and seasonal variation**Christos Athanassiou**

University of Thessaly, Greece

11:45 - 12:00

OC457. Mating disruption technique for the European grain moth infestations**Sara Savoldelli**

University of Milan, Italy

12:00 - 12:15

OC458. Lessons learned for phosphine distribution in "real world" fumigations**Paraskevi Agrafioti**

CERTH, Greece & University of Thessaly, Greece

12:15 - 12:30

OC459. Feasibility of grain aeration for safe storage and insect infestation prevention in moderate climates and the alternative use of artificially cooled air using a grain chiller**Anna-Maria Nunez Vega**

Grain Technik Pvt. Ltd., India

10:30 - 12:30

SESSION 11**Biodiversity and Conservation**

Biodiversity in Agro-Ecosystems

Chairs: Filitsa Karamaouna, Benaki Phytopathological Institute, Greece & **Menelaos Stavrinides**, Cyprus University of Technology

Hall 4: Seminar Hall

10:30 - 11:00

Keynote speech

OC279. Biodiversity drivers of arthropod pest regulation services in tropical agroecosystems of La Réunion island, a first systemic insight**Thibault Nève de Mévergnies**

CIRAD, Réunion & CIRAD, Montpellier, France

11:00 - 11:15

OC280. Conservation of farmland biodiversity in Mediterranean agroecosystems**Athanasia Mandoulaki**

Cyprus University of Technology, Cyprus

11:15 - 11:30

OC281. Cover crops enhance ecosystem services and increase biodiversity in pear orchards**Juan Antonio Sanchez**

IMIDA, Spain

11:30 - 11:45

OC282. Floral resources for beneficial arthropods in apple orchards**Lene Sigsgaard**

Norwegian University of Life Sciences, Norway & University of Copenhagen, Denmark

11:45 - 12:00

OC283. Wild vegetation and marketable habitat enhancement plants support pollinator diversity in Moroccan farmlands**Ahlam Sentil**

University of Mons, Belgium & ICARDA, Morocco

12:00 - 12:15

OC284. Use of hedgerows with aromatic plants as conservation practice for natural enemies of pests in orange orchards**Theodoros Stathakis**

Benaki Phytopathological Institute, Greece

12:15 - 12:30

OC285. Birds consume brown marmorated stink bugs, *Halyomorpha halys* (Hemiptera: Pentatomidae) in orchard agroecosystems**Erin Grabarczyk**

USDA ARS & Valdosta State University, United States of America

10:30 - 12:30

SESSION 12**Social Insects and Apidology**

Bee Threats in a Changing Environment I

Chair: Fani Hatjina, Hellenic Agricultural Organization "DEMETER", Greece

Hall 5: Small Theater

10:30 - 10:45

OC307. Unveiling the use of precision apiculture systems usage by European beekeepers**Philippos Vardakas**

Hellenic Agricultural Organization "DEMETER", Greece

10:45 - 11:00

OC308. Climatic conditions, geographic features, land cover, genetic background, and profile of beekeeping operations contribute to honey bee winter losses**Mert Kükrcer**

Middle East Technical University, Ankara, Türkiye

11:00 - 11:15

OC309. Nutrition of the honey bee parasite *Varroa destructor*, from behavioural observations to molecular considerations**Vincent Piou**

Université Paul Sabatier, France

11:15 - 11:30

OC310. The effect of Juvenile hormone on viral infection severity in bumble bees**Assaf Tzdaka**

The Volcani Institute, Israel

11:30 - 11:45

OC311. Effects of lactic acid on *Varroa destructor* grip skill: fitness cost under artificial conditions**Caroline Vilarem**

Université Paul Sabatier & M2i Biocontrol-entreprise SAS, France

11:45 - 12:00

OC312. Evaluation of the efficacy of essential oils against *Varroa destructor* on *Apis mellifera macedonica***Dott Dalila Di Criscio**

University of Molise, Italy

12:00 - 12:15

OC313. Challenges facing beekeeping in Europe through the lens of stakeholders and beekeepers**Wim Verbeke**

Ghent University, Belgium

12:15 - 12:30

OC314. Optimizing Italian honey bee (*Apis mellifera ligustica* Spin.) density in caged laboratory trials**Federico Mangelano**

University of Tuscia, Italy

10:30 - 12:30

SESSION 12**Social Insects and Apidology**

Sociality in Insects

Chairs: Maria Bouga, IBRA, United Kingdom & **Deborah Smith**, University of Kansas, United States of America
Hall 6: Creative Workshop

10:30 - 11:00

Keynote speech

OC315. The hidden diversity of Asian honey bees**Deborah Smith**

University of Kansas, Lawrence, Kansas USA

11:00 - 11:15

OC316. Substances in the mandibular glands mediate queen effects on larval development and colony organization in an annual social bumble bee**Guy Bloch**

Hebrew University of Jerusalem, Israel

11:15 - 11:30

OC317. The colony environment and brood care interact to influence circadian brain gene expression in *Apis mellifera* and *Bombus terrestris***Tzvi Goldberg**

The Hebrew University of Jerusalem, Israel

11:30 - 11:45

OC318. Ontogeny of superorganisms: Social control of queen specialization in ants

Romain Libbrecht

University of Tours, France

11:45 - 12:00

OC319. Royal protein signature in termite:chemical profiling and behavioral bioassays

Christophe Lucas

University of Tours - CNRS, France

12:00 - 12:15

OC320. Ecological drivers of sociality in Xyleborinus saxesenii, a widely distributed ambrosia beetle

Antoine Melet

Albert-Ludwigs-Universität, Freiburg, Germany

12:15 - 12:30

OC321. The effects of juvenile hormone on long and short-term memory in a social bumble bee (*Bombus terrestris*)

Yuval M.-Butbul Shalem

Hebrew university of Jerusalem (HUJI), Israel

12:30 - 13:30

Lunch Break

Afternoon Sessions

13:30 - 15:30

SESSION 15

Integrated Pest Management

Pest Bio-Ecology, Monitoring and Control III

Chair: Alberto Urbaneja, Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

Hall 1: Andreas & Maria Kalokairinou

13:30 - 13:45

OC430. IPM strategies for managing leatherjackets in pasture

Archie Murchie

Agri-Food & Biosciences Institute & AgriSearch, Innovation Centre, Northern Ireland

13:45 - 14:00

OC431. Field assessment of an IPM scheme for *Bemisia tabaci* based on laboratory scientific evidence

Marianna Stavrakaki

Hellenic Mediterranean University & Agricultural University of Athens, Greece

14:00 - 14:15

OC432. Integrated Pest Management strategies for cabbage stem flea beetle in the UK

Patricia Ortega-Ramos

Rothamsted Research, United Kingdom

14:15 - 14:30

OC433. Developing IPM techniques for the spherical mealybug, *Nipaecoccus viridis* for citrus orchards in a region of endemic Huanglongbing

Lauren Diepenbrock

University of Florida, United States of America

14:30 - 14:45

OC434. Integrated Management of *Dysmicoccus grassii* Leonardi (Hemiptera: Pseudococcidae) based on *Acerophagus artelles* releases in commercial banana crops in the Canary Islands

Miguel A. Dionisio

Koppert España, Spain

14:45 - 15:00

OC435. Advancing current IPM schemes based on scientific evidence and farmer engagement: the ZeroTuta project

Emmanouil Roditakis

Hellenic Mediterranean University, Greece

15:00 - 15:15

OC436. The role of the landscape in supporting hoverfly populations and natural pest control of aphids

Laura Mansier

University of Amsterdam, The Netherlands

15:15 - 15:30

OC437. The impact of reduced tillage and distance to field margin on predator functional diversity

Stine K. Jacobsen

University of Copenhagen, Denmark

13:30 - 15:30

SESSION 9

Medical and Veterinary Entomology

Innovative Vector Control Strategies: Adapting to the Future

Chairs: Antonios Michaelakis, Benaki Phytopathological Institute, Greece & **Alessandra della Torre**, University of Rome, Italy

Hall 2: Concert Hall

13:30 - 14:00

Keynote speech

OC214. The Sterile Insect Technique and its derivatives against *Aedes* invasive species in Europe

Jérémy Bouyer

Université de Montpellier, France

14:00 - 14:15

OC215. Sugarcane molasses as an alternative adult diet for laboratory rearing of *Aedes albopictus***Eleni C. Savvidou**

University of Thessaly, Greece

14:15 - 14:30

OC216. The integrated management of the Asian tiger mosquito in Region of Attica (Greece)**Antonios Michaelakis**

Benaki Phytopathological Institute, Greece

14:30 - 14:45

OC217. Long non-coding RNAs regulate *Aedes aegypti* vector competence for Zika virus and reproduction**Alexandros Belavilas-Trovas**

Hopkins Bloomberg School of Public Health, United States of America & University of Thessaly, Greece

14:45 - 15:00

OC218. Mosquito odour-baited mass trapping reduces malaria transmission intensity**Rickard Ignell**

Swedish University of Agricultural Sciences, Sweden

15:00 - 15:15

OC219. Genome sequence and metagenomic analyses of *Aedes koreicus* and *Aedes japonicus*: implications in vector control**Guido Favia**

University of Camerino, Italy

15:15 - 15:30

OC220. A robotic system for sex separation of the tiger mosquito, *Aedes albopictus*, based on machine vision at the pupal stage**Athanasios Kokkinis**

University of Patras, Greece

13:30 - 15:30

SESSION 16**Stored Product Protection**

Urban Entomology and Stored Product Protection: Artifact Pests and Wood Borers in the Urban Environment

Chairs: Rüdiger Plarre, BAM Berlin, Germany &**Christos Athanassiou**, University of Thessaly, Greece

Hall 3: Experimental Theater

13:30 - 14:00

Keynote speech

OC460. It's just a point of view – destructions and creations of cultural objects by artifact pests**Rüdiger Plarre**

BAM, Germany

14:00 - 14:15

OC461. Modified atmospheres using CO² to control *Lyctus* spp. in dwellings**Hagit Navarro**

Murdoch University, Australia

14:15 - 14:30

OC462. Developing a molecular insect-free test for the detection of infestations in stored paddy rice**Nuria Agustí**

Institute of Agrifood Research and Technology (IRTA), Spain

14:30 - 14:45

OC463. Bio-insecticide effectiveness of plant extracts powder against insects of stored products**Dalida Darazy**

Lebanese University, Lebanon

14:45 - 15:00

OC464. How does pirimiphos-methyl affect the progeny of *Tribolium castaneum* (Herbst)?**Anna Nikoletta Skourti**

Agricultural University of Athens, Greece

15:00 - 15:15

OC465. Deltamethrin applied on concrete against *Alphitobius diaperinus*: six-week residual trials**Nickolas G. Kavallieratos**

Agricultural University of Athens, Greece

15:15 - 15:30

OC466. Extracts of *Acmella oleracea* are effective green pesticides for the management of key stored-product arthropods**Constantin Filintas**

Agricultural University of Athens, Greece

13:30 - 15:30

SESSION 11**Biodiversity and Conservation**

Ecology, Climate and Diversity

Chair: Axel Hochkirch, Trier University, Germany

Hall 4: Seminar Hall

13:30 - 14:00

Keynote speech

OC286. LIFE SOS Crau Grasshopper: habitat management, breeding programme and translocation strategy**Lisbeth Zechner**

Conservatoire d'espaces naturels Provence-Alpes-Côte d'Azur, France

14:00 - 14:15

OC287. Phylogeography and conservation of *Melitaea diamina* (Lepidoptera, Nymphalidae): southern relict populations trapped by climate change**Loukia Spilani**

CSIC-UPF - University of Barcelona, Spain

14:15 - 14:30

OC288. Forest edge effects on termites in a neotropical rainforest

Edouard Duquesne

Université libre de Bruxelles, Belgium

14:30 - 14:45

OC289. Historical changes in bee species richness in two areas with contrasting land use patterns in Cyprus

Androulla I. Varnava

Cyprus University of Technology, Cyprus

14:45 - 15:00

OC290. Protecting farmland pollinators: Whole farm scorecard

Saorla Kavanagh

The National Biodiversity Data Centre, Ireland

15:00 - 15:15

OC291. AConserving insects on Mediterranean islands

Menelaos C. Stavrínides

Cyprus University of Technology, Cyprus

15:15 - 15:30

OC292. Conservation of insect diversity needs long term commitment of various land use stakeholders – four-year results of the EU LIFE-Project “Insect Responsible Sourcing Regions”

Patrick Pyttel

Lake Constance Foundation, Germany

13:30 - 15:30

SESSION 12

Social Insects and Apidology

Bee Threats in a Changing Environment II

Chair: Maria Bouga, IBRA, United Kingdom & **Jordi Bosch**, CREAM, Spain

Hall 5: Small Theater

13:30 - 14:00

Keynote speech

OC322. Solitary bees (*Osmia* spp.) as model organisms in ecotoxicology studies

Jordi Bosch

CREAF, Centre for Ecological Research and Forestry Applications, Spain

14:00 - 14:15

OC323. Pesticide loads in food provisions of the solitary bee *Osmia cornuta*: effects of landscape composition and management practices

Gonzalo Sancho

Centre for Ecological Research and Forestry Applications (CREAF), Spain

14:15 - 14:30

OC324. Multiple exposures to a neonicotinoid pesticide reduces longevity of bumblebee queens

Alison O'Reilly

University College Dublin, Ireland

14:30 - 14:45

OC325. Short-term exposure to elevated temperatures affects learning and memory in bumblebees

Maxence Gérard

Stockholm University, Sweden

14:45 - 15:00

OC326. Virus distributions in wild bees (*Andrena* spp.) and managed honey bees are associated with floral communities at local and landscape scales

Yael Mandelik

The Hebrew University of Jerusalem & Rehovot Agricultural Research Organization, Israel

15:00 - 15:15

OC327. Diversity or redundancy of stingless bee resin sources in tropical forests: Resin chemistry and their spatial distribution in lowland moist dipterocarp forests

Shao-Xiong Chui

Technical University of Munich, Germany

15:15 - 15:30

OC328. The effect of sublethal imidacloprid and clothianidin on cognitive learning in the visual domain of honey bees

Charisse Zou

Dougherty Valley High School (DVHS), United States of America

15:30 - 16:00

Coffee break

16:00 - 16:30

Poster Session IV

16:30 - 18:30

SESSION 15

Integrated Pest Management

Pest bio-ecology, monitoring and control

Chair: Lucia Zappalà, University of Catania, Italy

Hall 1: Andreas & Maria Kalokairinou

16:30 - 16:45

OC438. Region wide assessment of the distribution of *Cacopsylla pruni* — main vector of European stone fruit yellows — and an agroecological approach for its management

Louis Sutter

AGROSCOPE, Switzerland

16:45 - 17:00

OC439. Probing on tillage-alternatives Juvenile Aphrophoridae vectors of Xylella fastidiosa (JAVE) control

Domenico Valenzano

University of Bari Aldo Moro, Italy

17:00 - 17:15

OC440. Convergence in red palm weevil and Xylella-vector invasion events and consequent IPM options

Francesca Garganese

University of Bari Aldo Moro, Italy

17:15 - 17:30

OC441. Evaluation of Mentha pulegium, Ocimum basilicum and Origanum majorana essential oils encapsulated in nanosystems against Tetranychus urticae, Aphis gossypii and Tuta absoluta

Dionysios Perdakis

Agricultural University of Athens, Greece

17:30 - 17:45

OC442. Plant essential oils: a multifaceted tool for crop protection

Michele Ricupero

University of Catania, Italy & Instituto Valenciano de Investigaciones Agrarias (IVIA), Spain

17:45 - 18:00

OC443. The long and challenging road to capitalize on plant-based extracts from the lab to the field

Pierre Silvie

IRD - CIRAD Montpellier, France

18:00 - 18:15

OC444. Effect of conventional acaricides and mineral oils on Anagrus vladimiri, a potential biological control agent of citrus mealybug

Shashwat Singh

The Volcani Center, Israel

18:15 - 18:30

OC445. Larval cannibalism in Spodoptera frugiperda rearings and experimental designs – which factors are amplifying the problem?

Christian Baden

Bayer AG, Monheim, Germany

16:30 - 18:30

SESSION 9

Medical and Veterinary Entomology

Changing Patterns on VBDs Transmission Risk

Chairs: Elina Patsoula, University of West Attica, Greece &

Marieta Braks, RIVM, The Netherlands

Hall 2: Concert Hall

16:30 - 17:00 Keynote speech

OC221. There is nothing simple about vector control

Marieta Braks

RIVM, The Netherlands

17:00 - 17:15

OC233. In vitro evaluation of the antibacterial and anticancer activity of the peptide fraction extracted from the hemolymph of Hermetia illucens

Carmen Scieuzo

University of Basilicata, Italy

17:15 - 17:30

OC223. Influence of climate change and infection on thermal preferences of mosquitoes

David Hug

University of Zürich, Switzerland

17:30 - 17:45

OC224. Mayaro virus, an emerging New World alphavirus knocking at our door

Marco Brustolin

Institute of Tropical Medicine of Antwerp, Belgium

17:45 - 18:00

OC225. Investigation of the presence of Dirofilaria spp infection in Culex pipiens mosquitoes and dogs in the Attica Region

Marina Bisia

Benaki Phytopathological Institute, Greece

18:00 - 18:15

OC226. Entomological surveillance and detection of West Nile Virus in Culex pipiens mosquitoes in the Region of Attica, Greece, 2021-2023

Georgios Balatsos

Benaki Phytopathological Institute, Greece

18:15 - 18:30

OC227. Are entomological surveillance data reliable endpoints for risk assessment of Aedes albopictus abundance and risk of arbovirus transmission?

Alessandra della Torre

SAPIENZA University, Italy

16:30 - 18:30

SESSION 16

Stored Product Protection

Urban Entomology and Insects for Food, Feed and Waste Management

Chairs: Laura Gasco, University of Turin, Italy &

Christos Rumbos, University of Thessaly, Greece

Hall 3: Experimental Theater

16:30 - 17:00 Keynote speech

OC467. Insects for feed: sustainability and circular economy in practice

Laura Gasco

University of Turin, Italy

17:00 - 17:15

OC468. Wet feed effect on mealworms' growth and performance: an important but rather underrated factor

Christos I. Rumbos

University of Thessaly, Greece

17:15 - 17:30

OC469. Evaluation of isoproteinic diets composed of agricultural by-products as feed for *Tenebrio molitor* larvae

Mariastela Vrontaki

University of Thessaly, Greece

17:30 - 17:45

OC470. Exposing edible insects to livestock viruses, a step towards sustainability

Antonie Lecocq

University of Copenhagen, Denmark

17:45 - 18:00

OC471. Valorization of agricultural side-streams for the rearing of larvae of the lesser mealworm, *Alphitobius diaperinus* (Panzer) (Coleoptera: Tenebrionidae): Effect on larval growth and body composition

Marianna Rigopoulou

University of Thessaly, Greece

18:00 - 18:15

OC472. Inbreeding depression impacts mating and reproductive performances in *Hermetia illucens*

Giulia Giunti

University of Salerno, Italy

18:15 - 18:30

OC473. Effects of insecticide residues in organic residual streams on insects reared for food and feed

Nathan Meijer

Wageningen Food Safety Research, The Netherlands

16:30 - 18:30

SESSION 11

Biodiversity and Conservation

Conservation and Restoration

Chairs: Gustavo Becerra-Jurado, CINEA (European Commission) & **James Bell**, Rothamsted Research, United Kingdom

Hall 4: Seminar Hall

16:30 - 17:00 Keynote speech

OC293. Drivers and Repercussions of UK Insect Declines (DRUID): Artificial Neural Networks predict species distributions for a wide range of insect taxa

James R. Bell

Rothamsted Research, United Kingdom

17:00 - 17:15

OC294. Diversity of insects associated to systemic integration of millet and shrubs (*Faidherbia albida* and *Guiera senegalensis*) in Niakhar area Senegal

Dienaba Sall SY

LNRPV, ISRA, Senegal

17:15 - 17:30

OC295. EU LIFE Programme funding direct action to protect Europe's threatened insects

Gustavo Becerra-Jurado

Infrastructure and Environment Executive Agency (CINEA), Belgium

17:30 - 17:45

OC296. Movement ecology of Hermit beetles (*Osmoderma eremita*) in Eastern Romanian Carpathians

Marian D. Mirea

University of Bucharest, Romania

17:45 - 18:00

OC297. LIFE BEETLES (LIFE 18 NAT/PT/000864) – The first insect conservation project in the Azores archipelago

Maria Teresa Ferreira

Regional Secretariat for the Environment and Climate Change, Portugal

18:00 - 18:15

OC298. Drivers and Repercussions of UK Insect Declines (DRUID): Updating a 30-year dataset to a 48-year dataset alters trend direction

Chris R. Shortall

Rothamsted Research, United Kingdom

18:15 - 18:30

OC299. CZ-SK SOUTH LIFE: Optimization of Natura 2000 sites management delivery in the South Bohemia Region and the territory of South Slovakia (LIFE16 NAT/CZ/000001)

Eva Jeřková

South Bohemia Region, Czech Republic

18:30 - 18:45

OC482. Ant community dynamics on small Corsican islands over a 37-year period

R. Blaya

Avignon Université, France

16:30 - 18:30

SESSION 12

Social Insects and Apidology

Bee Threats in a Changing Environment III

Chairs: Fani Hatjina, Hellenic Agricultural Organization

"DEMETER", Greece & **Dirk de Graaf**, University of Gent, Belgium

Hall 5: Small Theater

16:30 - 17:00 Keynote speech

OC329. Paving the way for marker-assisted selection in beekeeping

Dirk de Graaf

Ghent University, Belgium

17:00 - 17:15

OC330. Exposure to realistic levels of pesticide mixtures affect nesting performance, longevity and reproductive success in a solitary bee

Sergio Albacete González

Centre for Ecological Research and Forestry Applications (CREAF), Spain

17:15 - 17:30

OC331. Evaluation of environmental stressors on the learning behaviour of honey bees

Elena Chierici

University of Perugia, Italy

17:30 - 17:45

OC332. Assessing bee exposure to pesticide residues in pollen from crop flowers, and bee collected pollen

Elena Zioga

Trinity College Dublin - Dublin City University, Ireland

17:45 - 18:00

OC333. Differences in sensitivity between Africanized *Apis mellifera* and *Melipona scutellaris* after exposure to fungicide pyraclostrobin

Caio Domingues

University of Maribor (UM), Slovenia - São Paulo State University (UNESP), Brazil

18:00 - 18:15

OC334. Multi-omics approach to assess honeybee adaptation in threatening habitats

Solenn Patalano

B.S.R.C 'Alexander Fleming', Greece

18:15 - 18:30

OC335. Climatic and geographic drivers of intra-specific turnover in honey bee subspecies compositions across space and time: insights from Gradient Forests and Generalized Dissimilarity Modeling

Mert Kükrer

Middle East Technical University, Ankar - Kilis 7 Aralık University, Türkiye

18:30 - 20:15

WORKSHOP

Insects on the plate - Edible insects for food and feed

Organiser: Christos Rumbos, University of Thessaly, Greece

Hall 6: Creative Workshop

Christos Athanassiou

University of Thessaly, Greece

Recent advances on insects as feed

Laura Gasco

University of Torin, Italy

Basics on insect production with focus on by-product-based feedstocks

Christos Rumbos

University of Thessaly, Greece

Insect defences: effects of diet composition on immune responses

Tedeschi Rosemarie

University of Torin, Italy

Market trends and potential

Yarali Paisios Ayse

MAGMA AGRO SA, Greece

18:30 - 19:00

Poster Session IV

From ADVAGROMED to CIPROMED: two projects introducing insect farming in the MED region

Friday 20 October 2023

09:00 - 10:00

Plenary lecture

Hall 1: Andreas & Maria Kalokairinou

PL5. Plenary lecture - The Aegean bees: granted by nature, treated by humans, threatened by climate change Theodora Petanidou

Professor of Ecology & Ecogeography, Department of Geography, University of the Aegean, Greece

10:00 - 10:30

Coffee break

Sessions

10:30 - 12:30

SESSION 15

Integrated Pest Management

Novel Technological Tools in IPM

Chair: Dionysis Perdikis, Agricultural University of Athens, Greece

Hall 1: Andreas & Maria Kalokairinou

10:30 - 11:00

Keynote speech

OC446. The Animal Landscape and Man Simulation System (ALMaSS), a simulation framework for developing IPM

Christopher John Topping

Aarhus University, Denmark

11:00 - 11:15

OC447. The application of Smart Technologies in agriculture for insect pest monitoring and control

Andrea Sciarretta

University of Molise, Italy

11:15 - 11:30

OC448. Do drones affect the behaviour of *Halyomorpha halys*? Implications for pest monitoring in pear orchards

Lara Maistrello

Università degli Studi Di Modena e Reggio Emilia, Italy

11:30 - 11:45

OC449. Early detection of wireworm (Coleoptera: Elateridae) infestation and drought stress in maize using hyperspectral imaging

Eva Praprotnik

Agricultural Institute of Slovenia & University of Ljubljana, Slovenia

11:45 - 12:00

OC450. Search for peptides acting on *Ceratitis capitata* larvae

Márcia Santos

National Institute of Agricultural and Veterinary Research, Portugal

12:00-12:15

OC451. Identification of the predators of oilseed rape pests using camera traps

Gaetan Seimandi-Corda

Rothamsted Research, United Kingdom

12:15 - 12:30

OC452. Connecting global expertise in Plant Virology and Entomology to develop sustainable pest management solutions: The community network for vector-Borne plant Viruses

Nina Ockendon-Powell

University of Bristol, United Kingdom

10:30 - 12:30

SESSION 9

Medical and Veterinary Entomology

One Health

Chairs: Elina Patsoula, University of West Attica, Greece & **Smaro Sotiraki**, Hellenic Agricultural Organization "DEMETER", Greece

Hall 2: Concert Hall

10:30 - 11:00 Keynote speech

OC228. Two invasions at once: Preliminary results from the delimitation and control strategy of *Aedes aegypti* and *Ae. albopictus* populations in Cyprus

Marlen Ines Vasquez

Cyprus University of Technology, Cyprus

11:00 - 11:15

OC229. Characterizing the effect of coinfection ratios on bluetongue virus reassortment in *Culicoides sonorensis*

Molly Carpenter

Colorado State University, United States of America

11:15 - 11:30

OC230. Vertical transmission rates of Dengue, Chikungunya, and Zika Virus in *Aedes albopictus* and *Aedes aegypti* mosquitoes

Isabelle Marie Kramer

Goethe University, Frankfurt am Main, Germany & Institute of Tropical Medicine, Belgium

11:30 - 11:45

OC231. *Phlebotomus perfiliewi* (Parrot, 1930) as a permissive Italian species: putative role of a wild population in the transmission of an Asian strain of *Leishmania tropica*

Gioia Bongiorno

Istituto Superiore di Sanità, DMI, Italy

11:45 - 12:00

OC232. Effect of mating and blood meals on the demographic traits of *Aedes albopictus* adults

Georgios D. Mastronikolos

University of Thessaly, Greece

12:00 - 12:15

OC233. Monitoring and management of insecticide resistance in malaria and arbovirus mosquito vectors through access to advanced diagnostic tools (INFRAVEC2- ISIDORe)

Konstantinos Mavridis

Foundation for Research and Technology-Hellas (IMBB-FORTH) & Agricultural University of Athens, Greece

12:15 - 12:30

OC234. Development and commercialization of Aprehend, a fungal biopesticide for the control and prevention of bed bugs

Nina E. Jenkins

Penn State University & ConidioTec LLC, United States of America

10:30 - 12:30

SESSION 16

Stored Product Protection

Urban Entomology and Stored Product Protection: Integrated Protection of Stored Product Pests- Post Harvest Insect Biology and Control

Chair: Daphna Gottlieb, The Volcani Center, Israel
Hall 3: Experimental Theater

10:30 - 10:45

OC474. New insights in khapra beetle research: results from a five-year transnational research in USA and Europe

Hannah Quellhorst

Kansas State University, United States of America

10:45 - 11:00

OC475. Biological control of some arthropod pests present in stored rice using the generalist predatory mites *Blattisocius* sp. and *Cheyletus* sp.

Lidia del Arco

Institute of Agrifood Research and Technology (IRTA), Spain

11:00 - 11:15

OC476. Evaluation of the suitability of by-products of the cotton industry for the rearing of four insect species: Promoting circular economy through insect farming

Argyrios D. Kolorizos

University of Thessaly, Greece

11:15 - 11:30

OC477. Effects of parasitism risk on vigilance and fitness of the moth larvae *Ephestia cautella* (Walker)

Daphna Gottlieb

The Volcani Center, Israel

11:30 - 11:45

OC478. Insect infestations of insect meals under storage: a real-case scenario?

Christos G. Athanassiou

University of Thessaly, Greece

11:45 - 12:00

OC479. Evaluation of cold and heat treatment on different life stages of *Oryzaephilus surinamensis* (Coleoptera: Silvanidae)

Marina Gourgouta

University of Thessaly, Greece

12:00 - 12:15

OC480. Evaluation of graphene for the control of stored product insects

Evagelia Lampiri

University of Thessaly, Greece

12:15 - 12:30

OC481. Insecticidal effect of phosphine against eggs of different stored product insect species in laboratory bioassays

Marie-Carolin Götze

Detia Degesch GmbH, Germany

10:30 - 12:30

SESSION 11

Biodiversity and Conservation

Threats and Awareness

Chairs: Luke Tilley, Royal Entomological Society, United Kingdom & **Darija Lemic**, University of Zagreb, Croatia
Hall 4: Seminar Hall

10:30 - 11:00 Keynote speech

OC300. Citizens Science campaign - new approach to knowledge in forgotten beetle

Darija Lemic

University of Zagreb, Croatia

11:00 - 11:15

OC301. Climate change impact on damselfly - parasite Interactions

Md Kawsar Khan

Freie Universität Berlin, Germany

11:15 - 11:30

OC302. Small-scale richness of pollinator species in a threatening world. Lessons from LIFE PollinAction

Edy Fantinato

University Ca' Foscari of Venice, Italy

11:30 - 11:45

OC303. Promoting pollinator protection among farmer in the LIFE4pollinator project

Laura Bortolotti

CREA Research Centre for Agriculture and Environment, Italy

11:45 - 12:00

OC304. Terrestrial islands: how habitat fragmentation shapes wild bee diversity and threatens the conservation of our most important pollinators

Jaco Visser

Charles University, Czechia & Université Libre de Bruxelles, Belgium

12:00 - 12:15

OC305. Supporting biodiversity restoration in an urban environment: Uniting insects and citizens

Jetske G. de Boer

Netherlands Institute of Ecology (NIOO-KNAW) & Aeres University of Applied Sciences, The Netherlands

12:15 - 12:30

OC306. Grand challenges in entomology: priorities and actions for the future

Luke A.N. Tilley

Royal Entomological Society, United Kingdom

10:30 - 12:30

SESSION 12

Social Insects and Apidology

Wild Bees Ecology, Biogeography and Pollination

Chairs: Theodora Petanidou, University of the Aegean, Greece & **Denis Michez**, University of Mons, Belgium

Hall 5: Small Theater

10:30 - 11:00 Keynote speech

OC336. Biogeography and ecology of European bees

Denis Michez

University of Mons, Belgium

11:00 - 11:15

OC337. The use of RFID technology in the study of solitary bees - on the case of *Osmia bicornis*

Aleksandra Splitt

Polish Academy of Sciences, Kraków & The National Institute of Horticultural Research Poland

11:15 - 11:30

OC338. Phylogeny and the evolution of *Nomada* cuckoo bees

Jakub Straka

Charles University, Czech Republic

11:30-11:45 Keynote speech

OC339. Bee and non-bee pollinator importance for food security

Fabrice Requier

Université Paris-Saclay, France

11:45-12:00

OC340. Spatio-temporal dynamics of wild pollinator diversity and activity in Avocado orchard

Yehonatan Halevi

The Hebrew University of Jerusalem, Israel

12:00-12:15

OC341. Ecology and management of pollination services in Korla fragrant pear in China

Qian Li

Chinese Academy of Agricultural Sciences, China & Wageningen University & Research, The Netherlands

12:30 - 13:30

Closing Session

Hall 1: Andreas & Maria Kalokairinou

Posters

Mon. 16 Oct 2023 - Poster Session I

The Number 1.-85. corresponds to the poster panel at the Poster Area (Level 1)

Morphology and Systematics

1. P001. Characterization of a new island radiation on endemic *Convolvulus floridus* (Convolvulaceae) in the Canary Islands
[Saskia Bastin](#)
2. P002. Experimentally induced host-shift changes morphology and fluctuating asymmetry in sex-specific manner in a seed beetle: an experimental evolution approach
[Sanja Budečević](#)
3. P003. A new species, a new invader, or an old neighbour? The curious tale of the aphid *Longicaudinus corydalisicola* (Tao, 1963)
[Alice Casiraghi](#)
4. P004. Use of Infrared Spectroscopy (ATR-FTIR) to identify aphid species
[Tomasz Durak](#)
5. P005. Scaling of the antennal sensory system of the smallest insects
[Anastasia Makarova](#)
6. P006. Evolution of pesticide resistance in seed beetles: transgenerational effects of sub-lethal pyrethroid concentration on morphology and development
[Snežana Pešić](#)
7. P007. The species of the carabid *Platynus Bonelli*, 1801 from the Italian W Alps (Coleoptera, Carabidae)
[Angela Roggero](#)
8. P008. Taxo-Fly project - a EU funded Service Contract to generate Taxonomic Resources for European hoverflies
[Gunilla Ståhls-Mäkelä](#)
9. P009. Identification of endoparasites and parasitoids in colonies of Asian giant hornet, *Vespa mandarinia* (Hymenoptera: Vespidae), using morphology and DNA barcodes in South Korea
[Moon Bo Choi](#)

Ecology and Behavior - Other

10. P010. Do phylogenetic drivers involved in the diversity of tomato volatile profiles shape antixenosis resistance against *Tuta absoluta*?
[Komla Amegan](#)
11. P011. How generalist generalist aphid species respond to alien plant?
[Arnaud Ameline](#)
12. P012. Survival of virgin and mated olive fruit flies of various ages under conditions of food deprivation
[Evangelia Balampekou](#)
13. P013. Feeding behaviour of the cabbage stem flea beetle (*Psylliodes chrysocephala*)
[Svenja Bänisch](#)
14. P014. Influence of host plants on the development and colonization capacity of two vector insects (Hemiptera: Aphrophoridae) of *Xylella fastidiosa*
[Francisco Beitia](#)
15. P015. Impact of cross-mating on sexual interactions of two strains of *Trogoderma granarium* Everts (Coleoptera: Dermestidae)
[Maria C. Boukouvala](#)
16. P016. Effect of the plant community on the numerical and behavioral dominance of ant species in pineapple cropping systems in Reunion Island
[Marie Bourel](#)
17. P018. Exploring West Nile virus ecology in Greece: interactions between hosts, vector, and the environment.
[Androniki Christaki](#)
18. P019. Effect of plant secondary metabolites on the gut microbiota of caterpillars compared with their diet
[Kateřina Czajová](#)
19. P020. Quantification of host preferences among bryophagous Lepidoptera in Central Europe
[Michaela Drgová](#)
20. P021. Different patterns of winter diapause of aphids
[Roma Durak](#)
21. P022. Emergence of males in the parthenogenetic reproduction of *Marchalina hellenica* (Hemiptera: Marchalinidae) and its mtDNA divergence in Greece
[Nikoleta Eleftheriadou](#)

22. P023. Learning and memory studied using setup suitable for diverse microinsect species

[Maria Fedorova](#)

23. P024. Effect of soy leaf flavonoids on pea aphid probing behavior

[Beata Gabryś](#)

24. P025. Impact of the symbiont *Serratia symbiotica* on *Aphis fabae* behavior

[Alisa Hamidovic](#)

25. P026. The INSIGNIA-EU project

[Fani Hatjina](#)

26. P027. Annual population cycle of *Maruca vitrata* (Geyer)

[Mahabaleshwar Hegde](#)

27. P028. The influence of olive fruit biometric parameters on *Bactrocera oleae* (Rossi) (Diptera: Tephritidae) oviposition preference among 62 olive cultivars in natural field settings

[Argyro Kalaitzaki](#)

28. P029. Behavior and development of the parasitoid wasp *Trichogrammatoidea cryptophlebiae* on the natural host *Thaumatotibia leucotreta* and the exotic host *Lobesia botrana*

[Roy Kaspi](#)

29. P030. *Halyomorpha halys* in Serbia: should I stay or should I go?

[Aleksandra Konjevic](#)

30. P031. The impact of soil microplastic on insect diversity and plastic decomposition by insects

[Slobodan Krnjajic](#)

31. P032. Effects of different tomato cultivars on biological parameters of tomato borer *Tuta absoluta*

[Kyriaki Mylona](#)

32. P033. Seasonal dynamics of the clearwing moth *Synanthedon myopaeformis* in an intensive apple orchards

[Aleksandra Popović](#)

33. P034. Is Guava (*Psidium guajava*) a host for *Drosophila suzukii*?

[Maria K. Sakka](#)

34. P035. Population of American grapevine leafhopper (*Scaphoideus titanus* Ball, 1932) in different types of vineyards in Eastern Croatia

[Ankica Sarajlić](#)

35. P036. Presence of conspecific affects wing vibration behavior of male olive fruit flies

[Anastasia Terzidou](#)

36. P037. Impact of ozone pollution on the learning and memory of bumblebees

[Maryse Vanderplanck](#)

Urban and Forest Entomology - Insects in urban landscapes - pests, friends and allies

37. P038. Successes, limitations, and opportunities for biological control of invasive species in forests and urban areas in the Southern Appalachians, Tennessee, USA

[Jerome Grant](#)

38. P039. Identification of the introduction pathways of invasive ants of the *Tapinoma nigerrimum* group in the Metropolis of Montpellier.

[Marion Javal](#)

39. P040. Using knowledge of urban multitrophic interactions to implement urban plant protection in green space design

[Kristina Karlsson Green](#)

Urban and Forest Entomology - Forest insects in a changing environment - challenges and new approaches

40. P041. Non-chemical control of *Lymantria dispar* in three European countries

[Paraskevi Agrafioti](#)

41. P042. Comparing Urban Heat island effects on the pine processionary moth development in two regions with contrasted climates in France

[Asma Bourougaaoui](#)

42. P043. The Life Oak Processionary Caterpillar project - Is biological control possible?

[Luc De Bruyn](#)

43. P044. Species and density of pests occurring in container seedlings of *Dendropanax morbiferus* in a tree nursery in Korea

[Dongwoon Lee](#)

44. P045. Urbanization reduces gut bacterial microbiome diversity in a habitat specialist ground beetle

Tibor Magura

Urban and Forest Entomology - Ecology and evolution of bark beetles

45. P046. How to find the right host - Primary attractants and host selection of the bark beetles *Ips typographus*

Linda Lehmannski

46. P047. Fungi associated with fir beetles (*Pityokteines vorontzovi* and *P. curvidens*), their behavioural attraction and putative functions

Sifat Munim Tanin

Toxicology and Pesticide Resistance

47. P048. ABCB2 transporter in the first line of defense protects malaria vectors from pyrethroids

Jason Charamis

48. P049. Influence of a neonicotinoid on *Trissolcus japonicus* behavioral responses to cues from *Halyomorpha halys*

Eric Conti

49. P050. Investigating putative synergistic interactions in spider mite resistance to abamectin via engineered *Drosophila* strains

Vassilis Douris

50. P052. The impact of cyanotoxin anatoxin-a on mosquito and dragonfly larvae: a serious ecological threat to aquatic ecosystems.

Ali Fadel

51. P053. Determination of the therapeutic potential of two volatile organic compounds as a treatment against fipronil poisoning in bees

Vincent Fernandes

52. P054. Comparative biochemical characterisation and inhibitory profiling of cattle tick, human, bovine and mosquito Flavin Adenine Dinucleotide sub-domains.

Robert Finn

53. P056. Tracking the diamide-resistance dynamics of Korean field populations of *Spodoptera exigua* (Lepidoptera: Noctuidae), and reconsideration of its resistance diagnostic marker

Juil Kim

54. P057. Utilising a field survey of acaricide resistance to create a genetic database for the discovery of genetic markers

Adi Kliot

55. P058. Monitoring population dynamics and damage levels of olive oil fruit fly (*Bactrocera oleae*) in relation to the implementation of the bait sprays program in two regions of Heraklion, Crete

Katerina Kremi

56. P059. Evaluation of insecticide resistance in Western flower thrip, *Frankliniella occidentalis* on pepper in Korea

Dongwoon Lee

57. P060. Detection of extensive multiple insecticide resistance and likelihood of control failure in populations of tomato borer *Tuta absoluta* from Greece

Kyriaki Mylona

58. P061. Evaluation of the effect of conventional and biological insecticides against the tomato borer, *Tuta absoluta* with a novel bioassay method

Kyriaki Mylona

59. P062. Impact of toxic substance exposure on life history and reproduction of Black Scavenger flies (Diptera: Sepsidae)

Aditi Rawal

60. P063. Resistance to pyrethroids of the predatory mite *Amblyseius andersoni* (Acari: Phytoseiidae)

Guillaume Serra

61. P064. Pesticide use and operator safety perceptions of the Greek public

Konstantinos Simoglou

62. P065. Predicting Greek public opinion on the use of pesticides and consumers' safety

Konstantinos Simoglou

63. P066. Evaluation of the larvicidal activity of insecticides on Olive Fruit Fly *Bactrocera oleae* (Diptera: Tephritidae)

Marianna Stavarakaki

64. P067. Monitoring the efficacy of baited insecticide applications for the olive fruit fly *Bactrocera oleae*: a 5-year survey
Marianna Stavrakaki

65. P068. Pediculicide sales during the period 2015-2022 in Turkey
Aysegul Taylan Ozkan

Biological Control and Biopesticides - New developments in greenhouse biocontrol

66. P069. Life table analysis and development of *Delphastus pallidus* LeConte (Insecta: Coleoptera: Coccinellidae), under different constant temperatures
Muhammad Ahmed

67. P070. *Typhlodromus recki* as a potential biological control agent of key tomato pests
Georgios Broufas

68. P071. *Amblyseius andersoni* as a biological control agent of the tomato russet mite *Aculops lycopersici*
Georgios Broufas

69. P072. Effects of temperature and relative humidity on development and reproduction in *Feltiella acarisuga* (Vallot) (Diptera: Cecidomyiidae)
Yongseok Choi

70. P073. Searching and foraging behaviour of the predators *Macrolophus pygmaeus* (Hemiptera: Miridae) and *Nesidiocoris tenuis* (Hemiptera: Miridae) on *Tuta absoluta* (Lepidoptera: Gelechiidae) eggs
Sofia Dervisoglou

71. P074. Assessment of predation behaviour of *Dicyphus cerastii* (Hemiptera: Miridae)
Elisabete Figueiredo

72. P075. Exploring the searching ability of *Macrolophus pygmaeus* and *Nesidiocoris tenuis* (Hemiptera: Miridae) on different *Tuta absoluta* (Lepidoptera: Gelechiidae) egg densities and oviposition patterns
Dionysios Perdikis

73. P076. Different densities, different predator. Evaluation of four aphidophagous predators in sweet pepper crops.
Jesica Perez-Rodriguez

74. P077. Characterization of an orange-nymph mutant in *Orius laevigatus* (Hemiptera: Anthracoridae) Amador
Amador Rodríguez Gómez

75. P078. Prey preference and intraguild interactions between *Trichogramma achaeae* (Hymenoptera: Trichogrammatidae) and *Macrolophus pygmaeus* (Hemiptera: Miridae) toward *Tuta absoluta* (Lepidoptera: Gelechiidae) biological control
António Onofre Soares

76. P079. Screening for predators of *Aphis nerii* and *Myzus persicae* on *Mandevilla*.
Valentini Tiziano

Biological Control and Biopesticides - Biological control of orchard pests

77. P080. Evaluation of the parasitoid *Ooencyrtus mirus* (Hymenoptera: Encyrtidae) as a biological control agent for *Halyomorpha halys* (Hemiptera: Pentatomidae): oviposition preference and development time on fresh and frozen eggs of different age
Eleni Koutsogeorgiou

78. P081. The effects of antimicrobials treatments on egg-infested olives targeting the primary endosymbiont of the olive fly
Ivana Carofano

79. P082. Interspecific competition between egg parasitoids of *Megacopta cribraria* (Hemiptera: Plataspidae): seasonal egg parasitism rates and host limitation
Xing Ping Hu

80. P083. *Psytalia lounsburyi* (Silvestri) and *Psytalia ponerophaga* (Silvestri) (Hymenoptera: Braconidae) as potential biological control agents of *Bactrocera oleae* (Rossi) (Diptera: Tephritidae) in Greece
Argyro Kalaitzaki

81. P084. Using antimicrobial peptides as bifunctional molecules to control the bacterium ('*Candidatus Liberibacter asiaticus*') causing citrus greening disease and its vector the Asian citrus psyllid (*Diaphorina citri*)
Robert Shatters

82. P085. Egg parasitism of stink bugs (Hemiptera Pentatomidae) by Scelionidae and other parasitoid wasps (Hymenoptera) in Greece

[Francesco Tortorici](#)

83. P086. Synopsis on the complex of egg parasitoids of Heteroptera (Hemiptera) in two areas in Europe

[Francesco Tortorici](#)

Urban and Forest Entomology

84. P384. Resistance against *Leucoptera sinuella* (Lepidoptera: Lyonetiidae) among hybrid clones of *Populus* spp. in central Chile

[Sebastián Yáñez-Segovia](#)

Toxicology and Pesticide Resistance

85. P055 Insecticide resistance status and functional characterization of pyrethroid resistance in olive fruit fly *Bactrocera oleae*

[Anastasia Kampouraki](#)

Tue. 17 Oct 2023 - Poster Session II

The Number 1. - 100. corresponds to the poster panel at the Poster Area (Level 1)

Ecology and Behavior - Sensory biology

1. P087. Uncovering the Olfactory System of the Beet Armyworm (*Spodoptera exigua*): Insights for Ecology and Control Strategies
[Cristina Crava](#)
2. P088. Artificial light at night impairs stridulation behaviour in crickets
[Keren Levy](#)
3. P089. Gross antennal morphology of *Philaenus spumarius* juveniles and behavioural response to olfactory plant cues
[Anita Nencioni](#)
4. P090. High sexual activity of hungry females in a gift-giving spider: congruence or sexual exploitation by males?
[Martina Zvarikova](#)

Ecology and Behavior - Evolutionary ecology and behavior

5. P091. Effects of different foraging strategies in different climate conditions on the reproductive success in the desert harvester ant *Pogonomyrmex barbatus*
[Felix Glinka](#)
6. P092. Sex in the dark: male investment in nuptial gift production is affected by the visual environment
[Zuzana Ježová](#)
7. P093. Dietary influences on reproductive behaviour of the black soldier fly
[Yvonne Kortsmit](#)
8. P094. The mystery of disappearing widow spiders in the Negev desert
[Yael Lubin](#)

Ecology and Behavior - Chemical communication/engineering

9. P095. Characterization of ant and lepidopteran silk nanofibers: a case study from their parasitic association
[Avishek Dolai](#)
10. P096. The role of field-collected cues in the host recognition of twig girdlers (*Oncideres rhodosticta*) on honey mesquite (*Prosopis glandulosa*)
[Ohseok Kwon](#)
11. P097. An integrated approach for the control of *Coroebus undatus* (Coleoptera, Buprestidae)
[Maria Rosa Paiva](#)
12. P098. Exploiting the evolution of odorant discrimination in ants to decipher the olfactory code
[Yoann Pellen](#)
13. P099. Effects of the menstrual cycle on human skin odors and mosquito attraction
[Marion Risse](#)
14. P100. Searching new tools to improve *Phlebotomus papatasi* control strategies
[Maia Tsikolia](#)
15. P101. The smell of drought: Water limitation alters plant volatile emission and parasitoid attraction to herbivore-infested plants
[Ilka Vosteen](#)

Biological Control and Biopesticides - Entomopathogens as biopesticides

16. P102. Do spray nozzles of foliar application affect the performance of *Beauveria bassiana*?
[Roberto Beltrán-martí](#)
17. P103. Exploring the transmission of viral infections in the agricultural pest *Ceratitis capitata*
[Pablo García Castillo](#)
18. P104. Application of molecular communications for the development of an entomopathogenic nematode-plant growth promoting bacterial bioagent for plant health
[Thomas Kakouli-Duarte](#)

19. P105. Towards a holistic and sustainable control strategy against the invasive pest *Drosophila suzukii*
Kwang-zin Lee

20. P107. Combination of botanical insecticide and entomopathogenic fungus as a better control agent against *Riptortus pedestris* (Hemiptera: Alydidae)
Untaek Lim

21. P108. Biological control of *Halyomorpha halys* (Hemiptera: Pentatomidae) on kiwi trees *Actinidia deliciosa* var. Hayward using a formulation with *Beauveria bassiana* (Hypocreales: Cordycipitaceae)
Vasileios Papantzikos

22. P109. Mycovirus-related differential response of a *Beauveria bassiana* strain to abiotic and biotic stresses
Enrique Quesada Moraga

23. P110. Unraveling the cause of aphid mortality in melon plants endophytically colonized by entomopathogenic fungi
Meelad Yousef Yousef

Biological Control and Biopesticides - Other

24. P111. Clues from cues: inferring *Anagonia lasiophthalma* safety from a simple experimental design
Catarina Afonso

25. P112. Evaluation of induced effects of two novel photoreactive substances against the whitefly *Bemisia tabaci*
Konstantina Alipranti

26. P113. *Allium sativum* essential oil-based insecticides: target and non-target toxicity
Orlando Campolo

27. P114. Intra and interspecific competition between *Trissolcus mitsukurii* and *Trissolcus japonicus*, parasitoids of the brown marmorated stink bug
Elena Costi

28. P115. Bioprospecting the environmental microbiome of Crete towards the development of novel biopesticides
Joel Couceiro

29. P116. A comparison of commercialized and wild populations of housefly parasitoids using molecular and behavioural approaches
Sara D'arco

30. P117. Antimicrobial properties of the chitosan from different developmental stages of the bioconverter insect *Hermetia illucens*
Federica De Stefano

31. P118. Soil treatment with Botanigard®WP22 (*Beauveria bassiana* GHA): ON and OFF-season biocontrol tool of *Ceratitis capitata*
Hélène Delatte

32. P119. Toxicity of eight essential oils to *Trialeurodes vaporariorum*
Tanja Drobňaković

33. P120. Effective irradiation and dormancy based mass rearing protocol for propagation of biological control of insect pests
Md. Mahbub Hasan

34. P121. Application as culture substrate for chitinase-producing microorganisms using chitin shells obtained from Korean cicada (*Cryptotympana atrata*) sheaths
Woojin Jung

35. P122. Modification of aphid probing behavior by plant flavonoids quercetin and rutin
Božena Kordan

36. P123. Attracting performance of the pheromone neryl (S)-2-methylbutanoate and kairomones towards the western flower thrips (*Frankliniella occidentalis*).
François Lefort

37. P124. Effects of natural insecticides on the green peach aphid *Myzus persicae* (Sulzer) and its natural enemies *Propylea quatuordecimpunctata* (L.) and *Aphidius colemani* Viereck
Antonio Masetti

38. P125. Identification and Functional Characterization of *Toxoneuron nigriceps* Ovarian Proteins Involved in the Early Suppression of Host Immune Response
Rosanna Salvia

39. P126. The long and challenging road to capitalize on plant-based extracts used to control crop pests in Senegal
Pierre Silvie

40. P127. Volatile organic compounds - their repellent activity and effects on survival and reproduction of *Tenebrio molitor* pest
Karolina Walkowiak-Nowicka

Genetics and Evolutionary Biology

41. P128. Long read assembly of the insect model species *Rhodnius prolixus* (Hemiptera: Reduviidae), a Chagas disease vector
Antonella Bacigalupo
42. P129. Study of Auchenorrhynchan species composition in vineyards in Greece and phylogenetic relationships of the dominant species of the genus *Empoasca*
Maria Bouga
43. P130. Molecular mapping of the neuroectoderm across phyla – conservation and divergence of brain regions between insects and vertebrates
Gregor Bucher
44. P131. Exploring thermal biology to understand the altitudinal segregation of diving beetle assemblages
José Antonio Carbonell
45. P132. Allopatric and ecological diversification in *Cyaniris semiargus* (Lepidoptera, Lycaenidae)
Valéria Sofia Carvalho Marques
46. P133. Comparative transcriptomics provides insights into insecticide resistance-related genes in phlebotomine *Leishmania* vectors
Jason Charamis
47. P134. The identity of *Neoleucopis* spp. (Diptera: Chamaemyiidae) in Greece and their impact on *Marchalina hellenica* (Hemiptera: Marchalinidae)
Nikoleta Eleftheriadou
48. P135. piRNAs as a new level of regulation of insect oogenesis
Núria Farrús
49. P136. Phylogenetic analysis of the cytochrome P450 genes of Lepidoptera
René Feyereisen
50. P137. Genetic diversity, host range and virus transmission ability of the Mediterranean populations of *Bemisia tabaci* Sub-Saharan Africa 2 species
Elvira Fiallo-Olivé
51. P138. Macroevolution and shifts in the feeding biology of the New World scarab beetle tribe Phanaeini (Coleoptera: Scarabaeidae: Scarabaeinae)
Conrad Gillett
52. P139. Assessment of Mediterranean fruit fly population genetics for effective sterile insect technique (SIT) application in Türkiye
İnal Burcu
53. P140. Genomics of domestication in the arboviral vector *Aedes aegypti*
Alejandro Lozada Chavez
54. P141. Eight new mitogenomes of *Bemisia* (Hemiptera: Aleyrodidae): Insights into the phylogeny of *B. afer* sensu lato and endemic Canary Islands *Bemisia* spp
Jesus Navas-Castillo
55. P142. Metagenomics for ecological inference: Unravelling the unknown biology of smoke-flies (Diptera: Platypezidae: Microsaniinae)
Tapani Neuvonen
56. P143. Pollinator genomics as a tool to develop intraspecific biomonitoring applications
João Pimenta
57. P144. Methoprene tolerant (Met) is required for the correct formation of the basal ovarian follicle in cockroach panoistic ovaries.
Maria-Dolors Piulachs
58. P145. piRNA and hormones in the panoistic ovary of the cockroach *Blattella germanica*.
Maria-Dolors Piulachs
59. P146. Embryonic development of the spider *Tegenaria pagana* C. L. Koch, 1840 (Araneae: Agelenidae)
Evgenia Propistsova
60. P147. Origin of the European Grapevine Moth in California
René FH Sforza
61. P148. De-toxification by phosphorylation: the function of the Ecdysone-Kinase like (EckL) gene family in the whitefly *Bemisia tabaci*
Esther Yakir

Multitrophic Interactions

62. P149. Mycorrhizal symbiosis increases natural enemy attraction upon herbivory: a case study with *Tuta absoluta* / *Nesidiocoris tenuis* in tomato
Martin Aguirrebengoa
63. P150. Revealing the chemical ecology of *Curculio elephas* (Coleoptera: Curculionidae) through its electrophysiological responses to chestnut plant volatiles
Eirini Anastasaki
64. P151. Interaction of olive fruit fly and *Colletotrichum* species infestation on olive fruits
Nikoloz Gogolashvili
65. P152. *Rhopalosiphum padi* (The Bird cherry-oat aphid) is attracted to *Fusarium graminearum* causing *Fusarium* head blight, leading to increased pathogen fitness on their shared wheat host
Samuel Asamoah
66. P153. Plant-mediated effects of native mycorrhizal fungi against key pests of tomato
Georgios Broufas
67. P154. A step to deeper understand the combined impact of *Bemisia tabaci* (Hemiptera: Aleyrodidae) and *Macrolophus pygmaeus* (Hemiptera: Miridae) on host plant traits
Alessia Farina
68. P155. Influence of genetic variability of tomato on the effect of mycorrhiza-induced resistance on *Spodoptera exigua* and its susceptibility to entomopathogens
Ada Frattini
69. P156. Citrus Tristeza Virus tolerant rootstocks trigger dissimilar volatile profiles in *Citrus sinensis* and deterrent responses against the vector *Aphis gossypii*
Salvatore Guarino
70. P157. The predator *Nesidiocoris tenuis* triggers the response of an egg parasitoid to tomato plants infested by *Tuta absoluta*
Emilio Guerrieri
71. P158. Beet yellows virus infection of sugar beet promotes performance of its aphid vector *Myzus persicae*
Anabella Heintz
72. P159. Diversity of predators, parasitoids, hyperparasitoids and endosymbiotic bacteria of the black cherry aphid, *Myzus cerasi* (Fabricius) (Hemiptera: Aphididae) in Türkiye
Burcu İnal
73. P160. Influence of SBR on phloem sap composition of sugar beet and the behavior of its vector *Pentastiridius leporinus*
Britta Kais
74. P161. Co-infection with other sugar beet viruses modifies the localization and transmission by aphids of beet yellows virus (BYV)
Souheyla Khechmar
75. P162. Interactions between two host-specific begomoviruses in a common vector and its effect on vector transmission
Wei Hua Li
76. P163. Does fertilization plant-mediated bottom-up effect reach the third trophic level in the tomato-pest-NE tritrophic system?
Anne-Violette Lavoir
77. P164. Effect of *Agrobacterium tumefaciens* on papaya whitefly, *Trialeurodes variabilis* (Quaintance), populations infesting *Carica papaya*
Cindy McKenzie
78. P165. Plant-mediated effects of beneficial soil fungi against key pests of pepper
Maria Pappas
79. P166. Intraguild predation among the main predator species in Mediterranean pear orchards
Luis Perera Fernández
80. P167. Plant-mediated interactions between fungi and herbivores
Shumaila Rasool
81. P168. Multitrophic interactions in tomato and wheat under drought stress
Michele Ricupero
82. P169. Interactions between two phloem-limited viruses in their host plant and vector: Implications for vector fitness and virus epidemics
Rajagopalbabu Srinivasan
83. P170. Oviposition responses of *Tuta absoluta* females to herbivore-induced volatiles after *Halyomorpha halys* infestation in tomato plants
Savvina Toufexi

84. P171. Aphid settling and feeding behaviour on virus-infected Common bean (*Phaseolus vulgaris*) promotes transmission of three viruses.

[Francis Wamonje](#)

85. P172. The love triangle: a new alien bean weevil (Coleoptera, Chrysomelidae) attacking local legumes (Fabaceae) and attacked by local parasitoids (Hymenoptera, Eulophidae) in Israel

[Zoya Yefremova](#)

Invasion Biology and Climate Change

86. P173. Non-destructive methods for detection of fruit flies' infestation in fruits

[Eirini Anastasaki](#)

87. P174. *Bactrocera dorsalis* (Diptera: Tephritidae) in the Indian Ocean: a tale of two invasions

[Marc De Meyer](#)

88. P175. Socio-economic impact and climate change effect on the distribution of twelve invasive termites in the Asia-Pacific region

[Edouard Duquesne](#)

89. P176. Monitoring and control of predatory hornets in Italy

[Manuela Giovanetti](#)

90. P177. Effect of thermal acclimation on the metabolome of the Mediterranean fruit fly

[Panagiota Koskinioti](#)

91. P178. First report of pepper fruit fly (*Atherigona orientalis*) in Greece on commercial pepper crops

[Katerina Kremi](#)

92. P179. Insect pest invasions in mainland France since 2000

[Raphaelle Mouttet](#)

93. P180. Ecological niche modelling in predicting response to climate change: the case of *Eupoecilia ambiguella* (Lepidoptera: Tortricidae) in Europe

[Vicente-Santiago Marco-Mancebón](#)

94. P181. New localities in Türkiye and new hosts in the world of invasive alien species: *Corythucha arcuata* (Say, 1832) (Hemiptera: Tingidae)

[Şükran Oğuzoğlu](#)

95. P182. Supercooling capacity and acute cold stress of *Ceratitis capitata* (Diptera: Tephritidae) populations across the Northern Hemisphere

[Georgia Papadogiorgou](#)

Invasion Biology and Climate Change - Popillia

96. P183. *Popillia japonica* Italian outbreak management using natural strains of Biological Control Agents (BCAs)

[Leonardo Marianelli](#)

97. P184. World-wide invasion of *Popillia japonica* reconstructed based on complete mitochondrial genomes and nuclear snp markers

[Francesco Nardi](#)

98. P185. Long-Lasting Insecticide-treated Nets: a new strategy to control the Japanese beetle *Popillia japonica* (Coleoptera: Scarabaeidae)

[Francesco Paoli](#)

99. P186. Damage cost implications of the Japanese beetle (*Popillia japonica*) in Europe: a synthetic control group approach

[Franziska B. Straubinger](#)

100. P187. Producer willingness to pay for biological pest control under *popillia japonica* infestation across Europe

[Franziska B. Straubinger](#)

Wed. 18 Oct 2023 - Poster Session III

The Number 1.-96. corresponds to the poster panel at the Poster Area (Level 1)

Physiology and Biochemistry

1. P188. Understanding insect surface functionality to guide the design of engineered material surfaces with super-hydrophobic and bactericidal activity
[Marianne Alleyne](#)
2. P189. The heat shock response in *Polistes* spp. from differing climates following heat stress
[Astrid Amstrup](#)
3. P190. Yeast glucan particles for macrophage-specific regulation of cellular metabolism in *Drosophila*
[Adam Bajgar](#)
4. P191. Gene composition and expression regarding fatty acid absorption in three Hemiptera species with disparate fat content in their diet
[Ignacio Barroso](#)
5. P192. Ontogeny of the oscillator controlling the sperm release rhythm from the testes in the yellow mealworm beetle - *T. molitor* (Coleoptera: Tenebrionidae)
[Piotr Bebas](#)
6. P193. Effect of *Geniotrigona thoracica* propolis on the growth inhibition of *Malassezia globosa*
[Chanpen Chanchao](#)
7. P194. Fat body content: Indicator of what?
[Antoine Gekière](#)
8. P195. Allatotropin affects immune system activity of mealworm beetle *Tenebrio molitor* L.
[Natalia Konopińska](#)
9. P196. Critical thermal maxima (CTmax) of larvae and adults of three European paper wasp species from differing climatic areas (*Polistes dominula* CHRIST 1791, *P. gallicus* LINNÉ 1767, *P. biglumis* LINNÉ 1758)
[Helmut Kovac](#)
10. P197. The respiratory metabolism of paper wasps' larvae and pupae from differing climates (*Polistes dominula*, *Polistes gallicus*)
[Helmut Kovac](#)
11. P198. Macrophage-induced insulin resistance is an adaptive strategy for lipoprotein mobilization upon bacterial infection
[Gabriela Krejčová](#)
12. P199. Seal lice survive in the sea breathing underwater
[Claudio Lazzari](#)
13. P200. The role of insect neuropeptides in response to temperature stress in mealworm beetle, *Tenebrio molitor* L.
[Jan Lubawy](#)
14. P201. Ovarian transcriptomes of epoxidase null mutants reveal candidate genes related to JH signaling and reproduction fitness in *Aedes aegypti*.
[Houda Ouns Maaroufi](#)
16. P203. Possible involvement of SIFamide receptor and allatotropin in the regulation of juvenile hormone biosynthesis during metamorphosis in a cricket
[Tsugumichi Shinohara](#)
17. P204. Genetic diversity and developmental characteristics of the two-spotted cricket *Gryllus bimaculatus* De Geer (Orthoptera: Gryllidae) in South Korea
[Jeong-Hun Song](#)
18. P205. Selected humoral aspects of *Galleria mellonella* immune reaction upon secondary infection with *Pseudomonas entomophila*. Preliminary tests of antibacterial properties of newly identified Kazal peptide Pr13a
[Michał Sułek](#)
19. P206. Can the solitary bee *Centris analis* recover from the effects of exposure to the fungicide azoxystrobin?
[Rafaela Tadei](#)
20. P207. Whether and how plant secondary metabolites affect metabolism of the storage pest *Tenebrio molitor*?
[Magdalena Winkiel](#)
21. P208. Revealing the binding specificity and interaction mode of Bio-inspired Compounds with Odorant Binding Protein 1 of the mosquito *Anopheles gambiae*
[Evgenia Stamati](#)

Insect Biotechnology - Improved methods for RNAi-mediated pest control

22. P209. Body condition, diet, and protozoan infection in the insect vector *Mepraia spinolai* captured during contrasting environmental conditions
Antonella Bacigalupo

23. P210. Two consecutive years studies on sand fly species distribution in Lombardy region (Northern Italy)
Francesco Defilippo

24. P211. Characterization of chitin and chitosan derived from the diptera *Hermetia illucens* for application in cosmetic and pharmaceutical fields
Carmen Scieuzo

P25. 212. Uncovering Dengue Virus Host Factors: Paving the Way for Innovative Antiviral Strategies
Shin-Hong Shiao

Medical and Veterinary Entomology - Paradigms of "One Health" approach in combating vector borne diseases (VBDs)

26. P213. Plant-mediated delivery of dsRNAs to phloem-feeder leafhoppers
Luciana Galetto

27. P214. Investigating the RNAi target gene function of PSMB5 for managing Colorado Potato Beetle (*Leptinotarsa decemlineata*)
Leonie Graser

28. P215. 3-Carene metabolism: a potential target for RNAi-based *Ips typographus* pest management
Aisha Naseer

29. P216. Identification of novel targets to control red palm weevil *Rhynchophorus ferrugineus*
Solafa Zahran

Insect Biotechnology - Genome editing of insect pests and vectors of disease to understand physiological processes and resistance mechanisms

30. P217. Investigating the molecular determinants of Bt-toxicity in *Spodoptera frugiperda* through in vivo functional genetics
Amalia Anthousi

31. P218. Precision guided Sterile Insect Technique in Mexican fly
Georgia Gouvi

Insect Biotechnology - Discovery and engineering of viruses and micro-organisms for improved pest control

32. P219. The construction of an infectious clone based on a covert-infecting RNA virus in *Euschistus heros* (Hemiptera: Pentatomidae) for VIGS
Éricmar Avila Dos Santos

33. P220. Pathogenicity of La Jolla Virus in *Drosophila suzukii* following Oral Administration
Yvonne Linscheid

34. P221. Development of a screening system for the identification of antiviral compounds that target the IRES of insect-specific dicistroviruses
Luc Swevers

Symbiosis and Insect Pathology

35. P222. Desiccation tolerance in *Ceratitis capitata* eggs and the effect of *Wolbachia* on stress response
Antonios Avgoustinos

36. P223. Understanding the antagonist effects of *Actinomyces* in Honeybee *Apis mellifera* against the American Foulbrood *Paenibacillus larvae* and European Foulbrood *Melissococcus plutonius* through biochemical analysis
Dalida Darazy

37. P224. The impact of symbiosis disruption in pentatomid stink bugs affects pest control
Elena Gonella

38. P225. Revealing insect resistance mechanisms in a host-parasitoid interaction

Samuel Gornard

39. P226. Endophytic and entomopathogenic presence of *Beauveria bassiana* in kudzu bug, *Megacopta cribraria*, and kudzu, *Pueraria montana*, in the southeastern United States

Jerome Grant

40. P227. Influence of secondary symbionts on host plant utilization and choice in the whitefly *Bemisia tabaci*

Laurence Mouton

41. P228. Candida, do you serve as insect's probiotic or dietary supplement?

Itai Opatovsky

42. P229. Effects of a plant virus and endosymbionts on aphid resistance to parasitoids

Patricia Sanches

43. P230. Effects of diet on the expression of immune genes in the house fly (*Musca domestica*)

Maaïke Vogel

Integrated Pest Management - Pest bio-ecology, monitoring and control

44. P231. Evaluating the use of X-ray and temperature for the sterilizing of *Drosophila suzukii* for a Sterile Insect Technique program

Ibrahim Abdelhafiz

45. P232. Rapid expansion and impact of a new invasive insect in Douglas-fir stands in France and Wallonia (Belgium): the Douglas-fir needle midge (*Contarinia pseudotsugae*)

Marie-Anne Auger-Rozenberg

46. P233. ResBerry: Resilient organic berry cropping systems through enhanced biodiversity and innovative management strategies

Christine Becker

47. P234. Biopesticide efficacy trials against the southern green stink bug *Nezara viridula*.

Carlos Bernardes

48. P235. Protecting and enhancing ecosystem services and plant defenses in tomato crop

Vasileia Chatzaki

49. P236. Effects of climatic variables on olive infestation by *Bactrocera oleae*

Eric Conti

50. P237. Investigating the role of wheat variety on the bird cherry-oat aphid performance to improve BYDV management in cereals.

Maria Elisa D. A. Leandro

51. P238. Evaluation of hydrosol toxic effects on *Tuta absoluta*, *Aphis gossypii* and *Tetranychus urticae* and their predator *Macrolophus pygmaeus*

Sofia Dervisoglou

52. P239. Exclusion netting – a non-insecticidal tool to manage huanglongbing for replanted citrus orchards?

Lauren Diepenbrock

53. P240. Landscape level pest management strategies in tomato and potato production systems influence insect resistance evolution by *Phthorimaea* spp.

Hannalene du Plessis

54. P241. Insect artificial rearing may select for negative to SIT adult behavior. The case of olive fly

Aristidis Economopoulos

55. P242. Comparative effect of six kind of traps on *Bactrocera oleae* and the beneficial insects

Ahmad Elbitar

56. P243. Diamondback moth (*Plutella xylostella*) - a significant pest of oilseed rape in the southeast area of Romania

Georgescu Emil

57. P244. Mass rearing the Mediterranean fruit fly in Greece: Innovations in larval diet formulations and economic aspects

Gerasimos Giannatos

58. P245. Two-year monitoring of economically important pests from Fam. Gelechiidae and Tortricidae (Lepidoptera) on stone fruit in North Macedonia

Miroljub Golubovski

59. P246. Assessing the ecological interactions between invasive and endemic species of gall midge pests of canola

Rebecca Hallett

60. P247. Biological control effect of "Natural Enemy in First" method in hot pepper

Eunhye Ham

61. P248. Evaluation of the predatory mite *Blattisocius tarsalis* (Mesostigmata: Blattisociidae) and the egg parasitoid *Trichogramma euproctidis* (Calcidoidea: Trichogrammatidae) for the control of *Tecia solanivora* (Lepidoptera: Gelechiidae) under semi storage conditions.
Estrella Marina Hernandez Suarez
62. P249. Conservation biological control potential in sugar beet fields in Denmark
Nika Jachowicz
63. P250. Strip cropping: Improving biodiversity and crop resilience in organic farming
Stine Jacobsen
64. P251. Sentinel prey in oilseed rape fields in Estonia indicate high predation rate regardless of the field bordering semi-natural habitat type
Riina Kaasik
65. P252. Attract-and-kill method for *Drosophila suzukii* control in grapes and cherries in Greece
Apostolos Kapranas
66. P253. Distribution of the olive fruit fly off, *Bactrocera oleae*
Linda Kfoury
67. P254. Sterile Insect Technique to control pentatomid pest species: irradiation screening on *Halyomorpha halys* and *Bagrada hilaris*
Chiara Elvira Mainardi
68. P255. Sterile insect technique to control pentatomid pest species: irradiation screening on *Halyomorpha halys* and *Bagrada hilaris*
Chiara Elvira Mainardi
69. P256. Side-effects of two strobilurin fungicides on *Orius laevigatus* (Hemiptera: Anthocoridae), predator of the western flower thrips *Frankliniella occidentalis* (Thysanoptera: Thripidae)
Vicente-Santiago Marco-Mancebón
70. P257. Side-effects of three fungicides on *Anthocoris nemoralis* (Hemiptera: Anthocoridae), predator of *Cacopsylla pyri* (Hemiptera: Psyllidae)
Vicente-Santiago Marco-Mancebón
71. P258. Susceptibility of egg masses, nymphs and adults of *Halyomorpha halys* (Hemiptera: Pentatomidae) to three chitin synthesis inhibitors
Antonio Masetti
72. P259. Understanding and Managing Barley Yellow Dwarf Virus.
Louise Mcnamara
73. P260. Influence of temperature on the toxicity of six chemical substances on a beneficial parasitoid
Marie Perrin
74. P261. Assessing the impact of European hazelnut weevils and green shield bugs on hazelnut yield: insights for integrated pest management strategies
Hamidi Rachid
75. P262. Looking for the best trapping design for early detection of xylophagous invaders
Alain Roques
76. P263. Crop diversity and floral resources influence the abundance of pest and natural enemies in pear orchards
Juan Antonio Sanchez
77. P264. Updated distribution and main host plants of *Eotetranychus lewisi* (McGregor, 1943) in mainland Portugal and Madeira Island
Márcia Santos
78. P265. Phenology and pest status of *Ectomyelois ceratoniae* (Lepidoptera: Pyralidae) on walnut, *Juglans regia* L. in field and post-harvest conditions in Italy
Davide Scaccini
79. P266. Current developments in the control of insect vectors in sugar beet
Mario Schumann
80. P267. Seed treatment induces antibiotic resistance to *Rhopalosiphum padi* in Barley
Amma Simon
81. P268. Evaluation of the side effects of the biopesticide Clavitus® 13SL on natural enemies
Marianna Stavrakaki
82. P269. Pest abundance in oilseed rape fields can be controlled by parasitoids and spatiotemporal distancing from previous year fields
Silva Sulg
83. P270. Pesticide resistance in natural populations of two predators, key biocontrol agents in horticultural crops
Anastasia Tsagkarakou

84. P271. Agroecology-inspired Strategies and Tools to Enhance Resilience and ecosystem services in tomato crop (ASTER)

Alberto Urbaneja

85. P272. Phenology and distribution of billbugs (Sphenophorus spp.) in sod farms

Shimat V Joseph

86. P273. Parasitoids of *Nezara viridula* (Linnaeus, 1758) in Hungary

Johnson Wahengbam

87. P274. Optimizing decision-making potential, cost and environmental impact of traps used for monitoring of olive fruit fly *Bactrocera oleae* (Rossi) (Diptera: Tephritidae)

Meelad Yousef Yousef

88. P275. Neonicotinoid insecticides and its alternatives against soil pests from sunflower crops

Roxana Zaharia

Integrated Pest Management - Plant defenses, elicitors and antagonists.

89. P276. Peptides and metabolites against *Aculops lycopersici* and *Bemisia tabaci* in tomato

Galini Koutsoula

90. P277. Plant-mediated defences induced by the omnivorous mirid bug *Dicyphus hesperus* do not prevent transmission of a begomovirus by *Bemisia tabaci*

Saioa Legarrea

91. P278. The long and challenging road to capitalize on knowledge of plant-based extracts

Pierre Martin

92. P279. Preferences of snap bean cultivars by the sweetpotato whitefly, *Bemisia tabaci* for egg laying and development

George Mbata

93. P280. Plant defensive activation through exposure to volatiles in citrus: effect on HLB and its main vectors

Meritxell Pérez-Hedo

94. P281. Phenotyping methods for aphid resistance of wheat

Ilma Qonaah

95. P282. Acquisition and inoculation of a begomovirus is influenced by host resistance to the virus and naturally occurring virus variants

Rajagopalbabu Srinivasan

Invasion Biology and Climate Change - Popillia

96. P283. Approaches to control *Popillia japonica* adults: Does the entomopathogenic fungal species *Beauveria pseudobassiana* have potential as control agent?

Noëmi Küng

Thu. 19 Oct 2023 - Poster Session IV

The Number 1.-97. corresponds to the poster panel at the Poster Area (Level 1)

Integrated Pest Management - DNovel technological tools in IPM.

1. P284. Pilot application of bait sprays for the control of *Bactrocera oleae* with Unmanned Aerial Vehicle
[Konstantina Alipranti](#)
2. P285. *Cydia pomonella* remote monitoring in apple orchards using a new a smart trap prototype
[Veronica Carnio](#)
3. P286. High-throughput isolation of fluorescent *Anopheles stephensi* larvae using the Biosorter large particle cytometer
[Giuliano Ferrero](#)
4. P287. Integrated Management of the *Bactrocera oleae* using Modern Electronics, Automations, and IoT Technologies: The Case of Stavies in Crete
[George Fouskitakis](#)
5. P288. Agroecological approaches to monitor and control for virus yellows in sugar beet
[Dion Garrett](#)
6. P289. Biologically produced pheromones control *Helicoverpa armigera* and *Plutella xylostella*
[Maria Konstantopoulou](#)
7. P290. Transgenic potato plants expressing aegerolysin complexes confer resistance against Colorado potato beetle
[Marko Petek](#)
8. P291. Using the principles of ECOstacking to develop ecologically-based IPM approaches in apple agroecosystems in New England
[Jaime Pinero](#)
9. P292. Proximal remote sensing in detecting damage by Cereal leaf beetle (*Oulema* sp.) in winter wheat
[Sandra Skendzic](#)
10. P293. Image-based detection and identification for smart pest management in Africa using deep learning
[Arttu Soukainen](#)
11. P294. Experimental development and implementation of a research program against the Moroccan locust *Dociostaurus maroccanus* Thunberg (Orthoptera: Acrididae) in Aghios Efstratios island
[Antonios Tsagkarakis](#)

12. P295. Integrated Management of the *Bactrocera oleae* using Modern Electronics, Automations and IoT Technologies: The Case of Roumata in Crete
[Kiki Varikou](#)

Medical and Veterinary Entomology - Next generation vector surveillance: Emerging technologies and the role of society

13. P296. Promotion, exploitation and results by Mosquito Alert ITALIA: the story of a successful citizen science project
[Alessandra della Torre](#)
14. P297. Deciphering the molecular interaction between the Asian Tiger Mosquito *Aedes albopictus* and the Chikungunya virus
[Maria Greta Dipaola](#)

Medical and Veterinary Entomology - Innovative vector control strategies: Adapting to the future

15. P298. Implications of sublethal concentrations of *Origanum vulgare* essential oil and its dominant constituent carvacrol on life-cycle traits of *Aedes albopictus* and *Culex pipiens* biotype *molestus* (Diptera: Culicidae)
[Athanasios Giatropoulos](#)
16. P299. Developing a push-pull systems to control *Culicoides* biting midges
[Alec Hochstrasser](#)
17. P300. Food for thought (Tiger mosquito - *Enterobacter* version)
[Venetia Karathanasi](#)
18. P301. *Anopheles* mosquito species from Greece: species identification and insecticide resistance status
[Ilias Kioulos](#)
19. P302. A platform for gene drive-inspired local control of insect pests
[Kyros Kyrou](#)

20. P303. Baseline characterisation of Southern African malaria vectors for paratransgenesis potential
Shune Oliver

21. P304. Structural determinants of ORco ligands antagonizing odorant receptor function for mosquito vector control
Kostas Iatrou

Medical and Veterinary Entomology - Changing patterns on VBDs transmission risk

22. P305. Molecular Identification of blood meal source in collected blood-fed mosquitoes in Greece, for the period 2017-2021
Stavroula Beleri

23. P306. *Culex pipiens* biotypes, host preference and resistance mutation in the Attica Region
Marina Bisia

24. P307. Mosquito as a potential vector of Lyme disease.
Miriama Peklanska

25. P308. Assessment of non-live preparation of *Chromobacterium* sp. Panama (Csp_P) with an attractive sugar bait for the control of malaria vector mosquitoes
Chinmay Tikhe

Biodiversity and Conservation

26. P309. Regimes of fire and its relationship with aboveground arthropod communities
Martin Aguirrebengoa

27. P310. Flowering plant mixture in sown patches for conservation of wild pollinators in apple orchards
Myrto Barda

28. P311. Assessing different anthropogenic pressures on the diurnal Lepidoptera biodiversity of Aspromonte National Park.
Orlando Campolo

29. P312. Species diversity of the leafhoppers and planthoppers, known or potential vectors for phytoplasma, in The Moldova Hills wine region
Andrei Teodoru

30. P313. Abandonment and intensification: How changes in grassland management affect pollinator communities. Lessons from LIFE PollinAction.
Sebastiano Favarin

31. P314. A bibliographic review of the ants of Greece and Cyprus: drawing a historical and biogeographic picture
Christos Georgiadis

32. P315. The two BeeNet monitoring networks for the evaluation of Italian agroecosystems
Manuela Giovanetti

33. P316. Assessment of biological soil quality in organic farming systems in Southern Italy (Caserta, Campania)
Giulia Giunti

34. P317. Arthropods as functional biodiversity in different sugarcane agrosystems in Reunion Island: study methods and first results
François-Régis Goebel

35. P318. Insect decline – Evaluation of potential drivers of a complex phenomenon
Michael Grevé

36. P319. Construction of DNA taxonomy references of mayflies inhabiting Japan
Mikio Kato

37. P320. LIFE SPAN Saproxyllic Habitat Network: planning and management for European forests (LIFE19 NAT/IT/000104)
Laura Loru

38. P321. The atlas of mitochondrial genetic diversity for Western Palaearctic butterflies
Mattia Menchetti

39. P322. Farmers' opinions and perceptions on pollination services: Evidence from a multi-country study in the Mediterranean Region
Efstratios Michalis

40. P323. Conservation of the saproxyllic beetles in Romanian Carpathians (LIFE ROSalia)
Marian D. Mirea

41. P324. Shrubs as a reservoir for natural enemies in Mediterranean agroecosystems
Luis Perera Fernández

42. P325. Wild bees and other pollinators of my place: a drawing competition as a learning tool
Theodora Petanidou

43. P326. Transforming nature into wonderland: creating an artificial Mediterranean flower-bee garden as a learning tool

[Theodora Petanidou](#)

44. P327. Differences between co-occurrence networks of indigenous and exotic arthropods in the Azorean archipelago

[Gabor Pozsgai](#)

45. P328. Interaction between introduced psyllids and native and exotic ants in eucalyptus plantations lago

[Sanmartín-Villar](#)

46. P329. Landscape effects on whiteflies explained by local trophic interactions and the consequences of land-use landcover

[Jason Schmidt](#)

47. P330. Bringing insects to new audiences

[Francisca Sconce](#)

48. P331. Effect of field margin management on diversity and activity density of ground-dwelling spiders in orange orchards

[Theodoros Stathakis](#)

49. P332. Can flowering plants support insect-based ecosystem services in Korla fragrant pear orchards?

[Mengxiao Sun](#)

50. P333. Thrips on red raspberry in South Norway

[Jiunn Luh Tan](#)

51. P334. Improving knowledge and conservation of wild bees populations in the Regional Natural Parks of the French Nouvelle-Aquitaine region

[Eva Thibon](#)

52. P335. Conservation of Parnassius apollo in Poland, Czech Republic and Austria (Project LIFE APOLLO2020)

[Tomáš Ernest Vondřejc](#)

Social Insects and Apidology - Wild bees ecology and biogeography

53. P336. All altitudinal zones are important for the pollination systems of Mount Olympus

[Theodora Petanidou](#)

54. P337. Composition and diversity of bee (Hymenoptera: Anthophila) species found in flowering apple orchards in Latvia

[Janis Gailis](#)

Social Insects and Apidology - Bees and pollination

55. P338. The status of pollination services in the North China Plain, a case study in Quzhou

[Yanjie Chen](#)

56. P339. Interspecific competition among early flowering plants

[Prokop Pavol](#)

57. P341. The use of bumblebees as potential pollinating agents in vertical farming: drawbacks, feasibility and prospective research

[Agata Morelli](#)

58. P342. Flower visitation through the lens: exploring bumblebees' behaviour with computer vision-based application

[Zsófia Varga-Szilay](#)

Social Insects and Apidology - Bee threats in a changing environment

59. P344. EAG test on Apis mellifera as a future prospect of application for Varroa destructor control

[Dalila Di Criscio](#)

60. P346. Including honeybees in the All-Ireland Pollinator Plan

[Archie Murchie](#)

61. P347. Nosema ceranae spores and chronic bee paralysis virus decrease newly emerged Carniolan honey bee longevity

[Leticia Salvioni Ansaloni](#)

62. P348. Assessment of post-fire vegetation recovery after forest wildfires: how honey bees and other pollinators are affected. The case of Voria Evia

[Antonios Tsagkarakis](#)

Stored Product Protection - Urban Entomology and Stored Product Protection: Integrated Protection of Stored Product Pests

63. P349. Utilizing nitrogen as a phosphine resistance breaker in stored product protection

[Paraskevi Agrafioti](#)

64. P350. Inter and intraspecific interactions drive temporal niche segregation in *Tribolium* species

[Miriam Benita](#)

65. P351. Sublethal effects of *Acmella oleracea* hexane extract on various behavioral traits of *Prostephanus truncatus*

[Maria C. Boukouvala](#)

66. P352. Usage of insect-based chitosan for the preservation of fresh cherry tomatoes

[Patrizia Falabella](#)

67. P353. Food impact on immediate and delayed mortalities of three insecticides applied on concrete against *Alphitobius diaperinus* small and large larvae

[Constantin Filintas](#)

68. P354. Identification of dominant insect species in storage facilities of specific dried fruits in Greece, Turkey, and Israel

[Marina Gourgouta](#)

69. P355. Efficacy of *Carlina acaulis* essential oil nanoemulsion as wheat protectant against adults and larvae of three Tenebrionidae pests

[Nickolas Kavallieratos](#)

70. P356. Insecticidal effect of three insecticides applied on different surfaces for the control of three stored-product beetle species

[Evagelia Lampiri](#)

71. P357. Influence of grain type on the efficacy of graphene for the control of *Tribolium castaneum*, *Sitophilus zeamais* and *Sitophilus oryzae*

[Evagelia Lampiri](#)

72. P358. Insecticidal potential of lavender essential oil against some stored grain cereals pests

[Cristina Petrisor](#)

73. P359. Usage of insect-based chitosan for the preservation of fresh fruits

[Rosanna Salvia](#)

74. P360. Insecticidal effect of contact insecticides applied on fortified rice for the control of stored product insects

[Mariastela Vrontaki](#)

75. P361. Insecticidal effect of different diatomaceous earth formulations for the control of stored product beetles

[Mariastela Vrontaki](#)

76. P362. Efficacy of Apiaceae essential oil nanoemulsions against five arthropod pests

[Anna Nikoletta Skourti](#)

77. P363. Changes in *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) fitness when different developmental stages are exposed to chlorfenapyr

[Anna Nikoletta Skourti](#)

Stored Product Protection - Urban Entomology and Stored Product Protection: Artifact Pests and Wood Borers in the Urban Environment

78. P364. The pyrrole derivative chlorfenapyr causes immediate and delayed mortality to adults and larvae of *Alphitobius diaperinus* on concrete

[Constantin Filintas](#)

79. P365. Quality control of *Pachycrepoideus vindemiae* (Hymenoptera: Pteromalidae) and *Muscidifurax raptor* (Hymenoptera: Pteromalidae) as pupal parasitoids for biological control of *Piophilidae casei* (Diptera: Piophilidae) in ham productions

[Diletta Missere](#)

80. P366. Using long-lasting insecticide-incorporated netting protects bulk storage and processing facilities while minimizing fumigations

[Rob Morrison](#)

Stored Product Protection - Urban entomology and insects for food, feed and waste management

81. P367. Density dependent development of the yellow mealworm *Tenebrio molitor*

[Eleni Koutsogeorgiou](#)

82. P368. Inclusion of *Tenebrio molitor* (Coleoptera: Tenebrionidae) reared on substrates enriched with post-distillation residues of aromatic-medicinal plants in fishfeed: cellular responses in the liver and the muscle of *Sparus aurata*

[Efthimia Antonopoulou](#)

83. P369. Dietary inclusion of *Tenebrio molitor* (Coleoptera: Tenebrionidae) reared on substrates enriched with post-distillation residues of aromatic -medicinal plants as modulator of the internal metabolism in pigs

[Efthimia Antonopoulou](#)

84. P370. Agri-food residues as rearing substrates for *Tenebrio molitor* (Coleoptera: Tenebrionidae): effects on growth, cellular responses and antioxidant capacity

[Stefanos Andreadis](#)

85. P371. Evaluation of antimicrobial activity of lipids extracted from *Tenebrio molitor*

[Federica De Stefano](#)

86. P372. Evaluation of food substrates on larval development and nutrimental parameters of *Tenebrio molitor* L. (Coleoptera: Tenebrionidae)

[Sofia Dervisoglou](#)

87. P373. Evaluation of antimicrobial activity of lipids extracted from *Hermetia illucens* reared on different feeding substrates

[Patrizia Falabella](#)

88. P374. Larval development of the superworm *Zophobas morio* (F.) (Coleoptera: Tenebrionidae) on substrates enriched with functional ingredients of aromatic and pharmaceutical plants of the Greek flora

[Marina Gourgouta](#)

89. P375. Asymptotic Estimated Digestibility, a new indicator to overcome challenges related to faeces collection and ingesta quantification in *Hermetia illucens* larvae

[Jérémy Guillaume](#)

90. P376. Black soldier fly as a tool for the valorization of tomato waste

[Costanza Jucker](#)

91. P377. Subchronic oral dose toxicity evaluation and allergen of freeze-dried powder of *Locusta migratoria* as a novel food source

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96. P383. Insects for upcycling nutrients from food waste and agri-food byproducts into animal feed, fertilizers, and soil amendments – Towards pilot implementation in Greece

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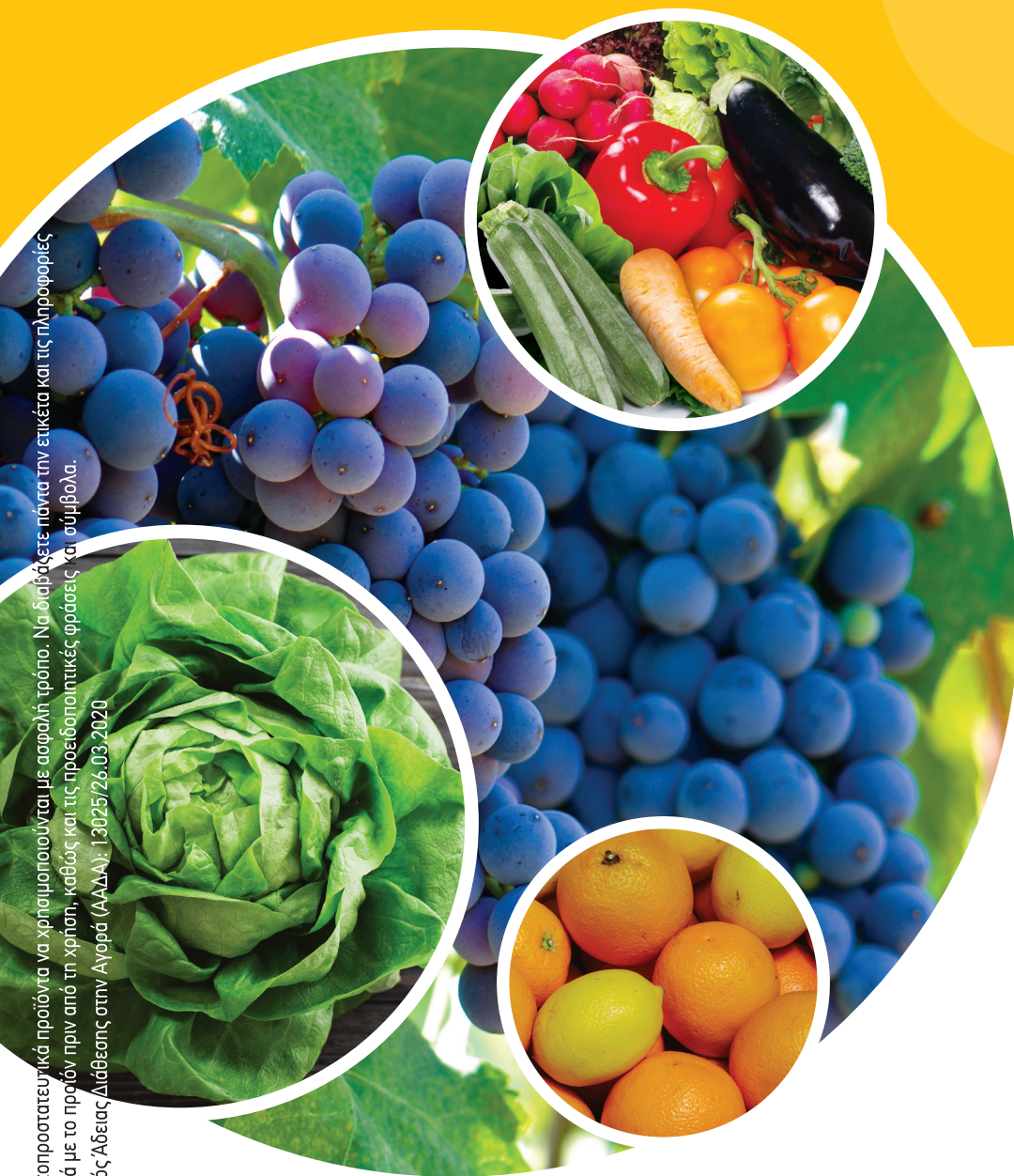
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97. P385. Case of study of Inga-Cocoa agroforestry system in the Ecuadorian Amazon

[Sebastián Yáñez-Segovia](#)



Limocide



Εντομοκτόνο,
Μυκητοκτόνο
και Ακαρεοκτόνο
με βάση το
εκχύλισμα του
Aurantii dulcis

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