



X INTERNATIONAL PEACH SYMPOSIUM

Draft Scientific & Social Program

Monday, May 30

12:00-19:00 Attendee registration (Kiosk Venue)

19:00-21:00 Welcome Reception (The Boston's)

Tuesday, May 31

07:30-08:30 Attendee registration

08:30: 09:00 Welcome Remarks

09:00-10:30 Session I: **Plenary lectures**

Moderators: **Theodore DeJong & Laura Rossini**

09:00-09:30 **Daniele Bassi**

Are we ready for the next peach? A still underexplored crop
[PLE-1]

09:30-10:00 **James Adaskaveg**

Overview of practices to combat postharvest diseases of peach fruit
[PLE-2]

10:00-10:30 **Costas Biliaderis**

Conventional and emerging technologies for processing peach products
[PLE-3]

10:30-10:45 **Vassilis Fotopoulos**

Priming technologies in peach: where are we now, where do we go from here? [PLE-4] *virtual*

10:45-11:30 Morning coffee break

11:30-13:00 Session II: **Breeding (germplasm, rootstocks, cultivars)**

Moderators: **Ksenija Gasic & Yolanda Gogorcena**

11:30-12:00 **Pere Arus**

The peach genome and its breeding applications [PLE-5]

12:00-12:15 **Ksenija Gasic**

Starting from scratch: 14 years of peach breeding program at Clemson University [OP-1]

- 12:15-12:30 **Stelios Theodoulidis**
Yellow clingstone peaches destined for processing within a global context
[Stakeholder Talk]
- 12:30-12:45 **Rodrigo Infante**
The Chilean Nectarine Breeding Program [OP-2]
- 12:45-13:00 **Yolanda Gogorcena**
The genomic analysis of a wide peach germplasm collection revealed a genetic relationship between European landraces and American ferals and landraces [OP-3]
- 13:00-13:15 **Chunxian Chen**
Retrospection of some century-long peach chill, yield and other production data for breeding prospects [OP-4]

13:15-14:30 Lunch

14:30-16:15 Session III: Cultivation practices/Mechanizations
Moderators: **Gregory Reighard & Ignasi Iglesias**

- 14:30-15:00 **Guglielmo Costa**
Peach fruit thinning: can we go beyond the current solutions [PLE-6]
- 15:00-15:15 **Allesandro Botton**
Thinning peach with a new-generation GA-based compound: shedding light on bud developmental physiology to improve treatment efficacy [OP-5]
- 15:15-15:30 **Steven McArtney**
Accede is a new thinner for stone fruit based on the naturally occurring compound 1-aminocyclopropane carboxylic acid [OP-6]
- 15:30-15:45 **George Pantelidis**
Evaluating the effects of different mechanical flower thinners on the production cost and fruit quality characters in table and processing peach cultivars [OP-7]
- 15:45-16:00 **Pedro Dinis Gaspar**
Multitask robotic rover for agricultural activities (R2A2): A robotic platform for peach orchard [OP-8]
- 16:00-16:15 **Gregory Lang**
Designing planar peach/nectarine production systems that are adaptable to precision cropping, a range of rootstock vigor levels, and potential autonomous mechanization technologies [OP-9]

16:15-16:45 Evening coffee break

16:45-17:15 Round table [Stakeholder event]:
The use of fertilizers towards sustainable peach fruit production

17:15-19:00 **Session IV: Integrated Pest Management**
Moderators: **Slawomir Lux & Eirini Anastasaki**

- 17:15-17:30 **Nikos Papadopoulos**
Challenges and opportunities in management of emerging and alien invasive pest in peaches [PLE-7]
- 17:30-17:45 **Eleni Verykoui**
Occurrence and phenology of the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae) in the peach producing area of Central Macedonia, Greece [OP-10]
- 17:45-18:00 **Massimiliano Virgilio**
A multi-access identification key to fruit flies (Diptera, Tephritidae) of economic importance in Europe [OP-11]
- 18:00-18:15 **Panagiotis Milonas**
Biological control of Mediterranean fly *Ceratitis capitata* with entomopathogenic nematodes: from laboratory assays to field application [OP-12]
- 18:15-18:30 **Slawomir Lux**
Implications of farm structure and crop management on fruit infestation and medfly IPM [OP-13]
- 18:30-18:45 **Marco Colacci**
The status of medfly and IPM practices based on case studies in Italy [OP-14]
- 18:45-19:00 **Eirini Anastasaki**
Chemical characterization of the volatile infestation-fingerprint of peaches by *Ceratitis capitata*, *Bactrocera zonata* and *B. dorsalis* and conversion into a detection tool (e-Nose) [OP-15]

19:00-20:00 **Session V: Out-of-the-box plenary talks**
Moderators: **Gemma Reig & María Angeles Moreno**

- 19:00-19:30 **Andronikos Mauromoustakos**
Exciting times with statistically thinking for industrial problem solving strips [PLE-8]
- 19:30-20:00 **Magdalini Krokida**
Evaluation of environmental and economic performance using LCA and LCCA tools. The case study of peach fruit production [PLE-9]

20:30-23:00 **Dinner (Brasserie Home)**

Wednesday, June 1

08:30-11:00 Session VI: Plant disease management
Moderators: **James Adaskaveg & Guido Schnabel**

- 08:30-09:00 **Rosario Torres**
Advances in management of fungal diseases in peach: the *Monilinia* spp [PLE-10]
- 09:00-09:15 **Celia Cantin**
Influence of anatomy and composition of the fruit cuticle on peach susceptibility to *Monilinia fructicola* infection [OP-16]
- 09:15-09:30 **Carla Casals**
Effect of abiotic factors on *in vitro* and *in vivo* development of *Rhizopus* spp [OP-17]
- 09:30-09:40 **Ioannis Avramidis**
Geoxe: Essential tool for *Monilia* management before harvest on peaches [Stakeholder Talk]
- 09:40-09:50 **Dimitris Servis**
Revyona: an innovative fungicide for the integrated control of diseases in stone fruits [Stakeholder Talk]
- 09:50-10:00 **Charalambos Liotsos**
Corteva Agriscience: A commitment to growing progress [Stakeholder Talk]
- 10:00-10:15 **Julien Ruesch**
EcoPêche 2: a multipartenarial project to conceive and evaluate innovative peach orchard management to reduce dependance to phytosanitary products [OP-18]
- 10:15-10:30 **Guido Schnabel**
Biology, epidemiology and management of diseases of peach driving the spray program in the southeastern United States [OP-19]
- 10:30-10:38 **Ana Butcaru**
Evaluation of the sensitivity of new peach and nectarine cultivars to bacterial diseases and oriental peach moth attack [OP-20]
- 10:38-10:45 **Emine Tanriver**
Development of plants resistant to plum pox virus by intergeneric hybridization between peach and other *Prunus* species [OP-21]
- 10:45-11:00 **Manuel Rubio**
Use of almond as interstock for PPV (sharka) protection in peach [OP-22]

11:00-11:30 Morning coffee break

11:30-13:00 Session VII: Genetics, genomics and biotechnology
Moderators: **Maria José Aranzana & Benedicte Quilot**

- 11:30-12:00 **Thomas Gradziel**
Exotic genes for solving emerging peach production challenges [PLE-11]
- 12:00-12:15 **Monica Canton**
Epigenetic signatures regulate flower bud endodormancy in peach [OP-23]
- 12:15-12:30 **Maria José Aranzana**
Molecular-based pedigree reconstruction of peach lines and cultivars [OP-24]
- 12:30-12:45 **Morgane Roth**
Genetic diversity in a new peach core-collection designed for resilience breeding [OP-25]
- 12:45-13:00 **Sook Jung**
Resources for peach genomics, genetics and breeding research in GDR, the genome database for Rosaceae [OP-26]
- 13:00-13:15 **Pedro Martinez-Gomez**
Whole-genome bisulfite sequencing and methylome profiling of homo- and hetero-grafted peach rootstocks uncovers a burst of DNA methylation events with potential impact on gene expression [OP-27]

13:15-14:30 Lunch

14:30-16:00 Session VIII: Climate change / fertilization strategies

Moderators: **Davide Neri & Gregory Lang**

- 14:30-15:00 **Pavlina Drogoudi**, Climate change and the peach production sector: Challenges and adaptation strategies [PLE-12]
- 15:00-15:15 **Maria Jose Rubio Cabetas**
Advance studies to develop biomarkers for water stresses tolerance in rootstocks [OP-28]
- 15:15-15:30 **Juan Carlos Melgar**
Rational fertilization in peach orchards: considering orchard-specific variables to improve mineral nutrition programs [OP-29]
- 15:30-15:45 **Maria Paula Simoes**
Foliar nutrient status of peach orchards and sustainability [OP-30]
- 15:45-16:00 **Luca Mazzone**
Influence of different nitrogen fertilization rate on vegetative, productive and qualitative performance of three peach cultivars [OP-31]

16:00-16:30 Evening coffee break

16:30-18:30 Session IX: Propagation & Field performance

Moderators: **Florin Stanica & Dragan Nolic**

- 16:30-17:00 **Tiziano Caruso**
Propagation techniques and nursery management for the production of certified peach plants in Europe [PLE-13]

- 19:00-19:15 **Davide Neri**
Living mulch under the row of young peach orchard [OP-32]
- 17:30-17:45 **Gregory Reighard**
Field performance of peach rootstock cultivars in South Carolina [OP-33]
- 17:45-18:00 **Florin Stanica**
Dynamics of fruit branches at new peach and nectarines cultivars under Vertical Axis and Trident canopies [OP-34]
- 18:00-18:15 **Edwige Remy**
Specific chilling requirement as criteria in PSB genetic improvement activity [OP-35]
- 18:15-18:30 **Jesús López-Alcolea**
New break dormancy spray treatments in nectarine peach (*Prunus persica* var. nectarina), in warm areas [OP-36]

18:30-20:15 Session X: Fruit quality and postharvest management

Moderators: **Hilary Rogers & Pedro Martinez Gomez**

- 18:00-18:15 **Ioannis Minas**
Large-scale orchard sensing of the genetic and horticultural impact on peach fruit quality [OP-37]
- 18:15-18:30 **Hilary Rogers**
Common and genotype-specific responses of peach cultivars to chilled storage based on transcriptomic analysis [OP-38]
- 18:30-18:45 **María Angeles Moreno**
Chilling injury in local and modern peach cultivars from a Spanish peach bank germplasm [OP-39]
- 18:45-19:00 **Damiana Natasha Spadafora**
Augmented analysis of sensorial, volatilome and gene expression data from peach cultivars during cold storage to identify markers for fruit quality [OP-40]
- 19:00-19:30 **Brendon Anthony**
Primary and secondary metabolism crosstalk during peach fruit quality development [OP-41]
- 19:30-19:45 **Allesio Allegra**
Effect of *Opuntia ficus indica* mucilage edible coating on fresh-cut nectarine cv. 'Big Bang' [OP-42]
- 19:45-20:00 **Gemma Reig**
Inking on Spanish peach orchards: causes and solutions [OP-43]
- 20:00-20:15 **Zhihong Gao**
Prediction and optimization of fruit quality of peach using artificial neural Network and Response surface methodology [OP-44]

22:00-00:00 Cocktail party (Café Neon)

Thursday, June 2

09:00	Departure from Naoussa
09:15-10:30	Guided tour [Aristotle's School Cultural Center]
10:30-11:30	Site visit at a Cooperative Units of ACNaoussa & ASEPOP Naoussa
11:30-13:00	Brunch & travel direction to Vergina
13:00- 15:00	Guided tour [Tombs of King Philip II, Vergina Museum]
16:00-18:00	Free time at the City of Veria
18:30	Return to Naoussa
20:30 – 01:00	Gala dinner [Kioski Venue]

Friday, June 3

09:00-11:00 **Session XI: ISHS Young Mind Awards Competition**
Moderators: **Alessandro Botton & Morgane Roth**

- 09:00-09:07 **Orestis Giannopoulos**
Investigating the impacts of ozone treatments on postharvest quality of peaches [OP-45]
- 09:07-09:14 **Nathalia Zaracho**
Construction of a NIL collection of *P. davidiana* into the peach genetic background [OP-46]
- 09:14-09:21 **Najla Ksouri**
Motif discovery within upstream regions of variable length reveals regulatory signatures in peach [OP-47]
- 09:21-09:28 **Jesús Guillamón**
Non-target metabolomics and expression analysis for studying the modulation endodormancy release in peach flower buds [OP-48]
- 09:28-09:35 **David Sterle**
Exploration of environmental and weather variables for peach floral bud cold hardiness prediction in western Colorado [OP-49]
- 09:35-09:42 **Lefkothea Karapetsi**
SNPs identification and association study of fruit quality genes from selected whole-genome sequenced peach varieties cultivated in Greece [OP-50]
- 09:42-09:49 **Giulio Demetrio Perulli**
Peach smart fertigation with wastewater: physiological and nutritional evaluation [OP-51]

- 09:49-09:56** **Francisca Carrasco-Cuello**
Crop load and transpiration reduction effect on fruit and leaf mineralogical content in commercial late-harvest nectarines [OP-52]
- 09:56-10:03** **Jeff Pieper**
The impact of size controlling rootstocks on peach fruit metabolome and internal quality in differing training systems [OP-53]
- 10:03-10:10** **Jordan Knapp-Wilson**
3D Imaging and Quantitative Analysis of Adult Peach Tree Architecture via TreeQSM [OP-54]
- 10:10-10:17** **Gianmarco Bortolotti**
A computer vision system for in-field fruit quality evaluation: preliminary results on peach fruit[OP-55]
- 10:17-10:24** **Leonidas Kyrgiakos**
Assessment of input use efficiency in peach grove cultivation: a case study of Naoussa region [OP-56]
- 10:24-10:30** **Vasilis Rodovitis**
Population dynamics of Mediterranean fruit fly in mixed fruit orchards in Central Greece

10:30-11:00 **Morning coffee break & Vote for ISHS Young Mind Awards Competition**

11:00-12:30 Session XII: **Plenary lectures**

Moderators: **Guglielmo Costa & Ioannis Minas**

11:00-11:30 **Guido Schnabel**
Peach skin disorders: causes and mitigation measures [PLE-14]

11:30-12:00 **Maria Fabiana Drincovich**
The metabolic diversity of peach fruit and its usage as phytochemicals resources with roles in human nutrition and health [PLE-15]

12:00-12:30 **Theodore De Jong**
Understanding factors influencing peach fruit development and growth [PLE-16]

12:30-14:00 **ISHS Business meeting**
Moderators: **Theodore DeJong & Florin Stanica**

Decision for the hosting of 11th ISHS Peach Conference
ISHS Young Mind Awards (Best Oral and Poster Presentation)
Concluding Remarks

Poster presentations

* *pending registration of presenting author*

Section: Breeding (germplasm, rootstocks, cultivars)

- 1. Lamis Chalak**
Peach saplings as a main element of the Lebanese fruit crops
- 2. Dragan Milatovic**
Morphological characterisation of peach pollen grains using scanning electron microscopy
- 3. Dragan Nikolic**
Variability and heritability of flower traits, flowering and fruit set in promising peach hybrid
- 4. Dragan Milatovic**
Characteristics of one-year-old shoots of peach hybrids from the crossing combination 'Flaminia' × 'Autumnglo'
- 5. Maria Gladysheva-Azgari**
De novo assembly and annotation of mitochondrial genome of *Prunus persica* cv. 'Sovetskiy'
- 6. Metka Hudina**
Long-term performance of the peach cultivar 'Redhaven' grafted on eleven rootstocks
- 7. Luca Dondini**
Molecular and phenotypic characterization of a bud mutation delaying maturity date in peach
- 8. María Angeles Moreno**
The influence of rootstocks in the 'Big Top' nectarine cultivar concerning chilling injury symptoms
- 9. Corina Gavat**
Studies regarding the flat peach and nectarine cultivars from the Research Station for Fruit Growing in Constanta
- 10. Luca Mazzoni**
Sensorial and nutritional characterization of eighteen peach cultivars cultivated in the Mid-Adriatic area
- 11. Daniela Giovannini**
Evaluation of suitability of peach cultivars and selections for fresh-cut industry
- 12. Lefkothea Karapetsi**
Identification, morphological and genetic characterization of peach genetic resources in different areas of Greece

13. R. Gharesheikhsbayat*

Characterization of native peaches and nectarines of Iran (

14. Li Miao*

Introduction of two ancient peach landraces in Shandong Province, China

15. Pedro Jose Martinez Garcia*

Genome-wide association study of interesting traits in peach using two Spanish peach germplasm collections

16. Chunxian Chen*

Inheritance of the rough skin trait in peach

Section: Genetics, genomics and biotechnology

17. Pedro Martinez-Gomez

High-throughput sequencing of small RNAs evidenced the role of different plant viruses in the activation of RNA silencing-related genes and the induced resistance to plum pox virus (sharka) in peach by 'Garrigues' almond grafting

18. Phenotyping peach orchards with increased accuracy and throughput: perspectives of digital phenotyping (Morgane Roth)

19. Najla Ksouri

ddRAD-seq variant calling in peach and the effect of removing PCR duplicates

20. Jorge Mas Gómez

Genetic diversity along peach genome in Spanish germplasm collections

21. Corina Gavut

The nectarine assortment created in Romania

22. Emilia Caboni

Novel breeding strategies for tackling present and future challenges in prunus species

23. Ruijuan Ma*

Transcriptome analysis of photosynthetic adaptation in peach rootstock leaves under waterlogging stress

24. Jinping Xiao*

Genome-wide Identification and characterization profile of long non-coding RNAs involved in anthocyanin biosynthesis during the flesh coloring in Wutao (*Prunus persica* (L.) Batsch cv.)

25. Raquel Sánchez-Pérez*

Gene expression analysis in peach during endodormancy release

Section: Plant physiology and abiotic stress conditions

26. Shane Phillips

The use of medium to high molecular weight linear anionic polyacrylamide solutions in enhancing chill accumulation in deciduous fruits in the Riverland and Sunraysia regions of the Southern Australian Murray Darling Basin

27. Panawat Sikhandakasamita

Investigation of pistil doubling of low-chill peaches with early ripening

28. Katerina Grigoriadou

Effects of different LED wavelength absorption spectra on in vitro shoot proliferation, leaf anatomy, photosynthetic pigments and photosystem II photochemistry of GF677 rootstock

29. George Pantelidis

Estimation of chilling and heat requirements of peach and nectarine cultivars grown in the EUFRIN trials located in Lleida, Spain and Naoussa, Greece

30. Dragan Nikolic

Adaptability of peach cultivars 'Royal Glory' and 'Caldesi 2000' to different environmental conditions

31. Florin Stanica

Climate changes influence flowering and fruit setting at peach and nectarine cultivated in the Bucharest area

Section: Plant pathology and pest management

32. Manuel Rubio

Transmission of sharka resistance induction to Almond × Peach interspecific hybrids

33. Philip Brannen

Historical 1929 and 1930 phony peach disease (caused by *Xylella fastidiosa*) incidence data and relationships to physical variables and climatological data

34. Philip Brannen

Historic and current prevalence of phony peach disease (caused by *Xylella fastidiosa*) in the United States

35. Elina Coneva

Assessment of Armillaria root rot resistant rootstock 'MP-29' for sustainable peach production in Alabama

36. Darko Jevremovic

Viruses and viroids infecting peaches in Serbia

37. Aleksa Obradovic

Studying *Xanthomonas arboricola* pv. *pruni* strains from Montenegro for copper sulfate and streptomycin sensitivity *in vitro*

38. Nikos Papadopoulos

Occurrence and phenology of the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae) in the peach producing area of Central Macedonia, Greece

39. Derek Newberger

Using soil disruption followed by cover crops and rootstocks to alleviate peach replant disease

40. Ksenija Gasic

Short- and long-term solutions for Armillaria root rot in Prunus

41. Dimitrios Gkouderis*

Implementation, customization and functional evaluation of a location aware decision support system for precise management of Lepidoptera in Greek peach orchards of Pella, Greece

Section: Nutrition, irrigation

42. Eleni Pliakoni

Deficit irrigation and reflective mulch effects on peach fruit quality and storage performance

43. Francisca Carrasco-Cuello

Transpiration influence on ⁴⁴Ca uptake and location in peach rootstocks using the *in vitro* GreenTray® bioreactor

44. George Nanos

Nutrient inputs and outputs in commercial clingstone peach orchards in Greece after local or sustainable fertilization practices

45. Yolanda Gogorcena

Effect of 3-indol-acetic acid (IAA) on iron deficient Prunus rootstocks

46. Anton Yordanov

Influence of rootstock on the content of heavy metals, micro and macroelements in the fruits of peach

47. Deanna Bigio

Utilizing nanocellulose as freeze protection in peach trees [OP-56]

48. Monica Canton

Nitrogen dynamics and bud dormancy: A transcriptomic study in peach

49. Persefoni Maletsika

Alternative fertilization effects on peach and nectarine plant and fruit characteristics

50. Angelos Patakas

Irrigation scheduling based on stress coefficient (Ks) estimations in two different peach cultivars

51. Louise Larissa May De Mio*

Management of nitrogen fertilization and green pruning in production and vegetation growth of peach

52. Louise Larissa May De Mio*

Physicochemical characteristics of 'Chimarrita' and 'Maciel' fruit by non-destructive methodology and the development of *Monilinia fructicola* at postharvest

Section: Cultivation practices/Mechanizations

53. Sanjaya Raj Khanal

The effect of the girdling time on growth and fruit quality of low-chill early ripening peach cultivar 'KU-PP2'

54. Pedro Dinis Gaspar

Robotic arm and gripper to pick fallen peaches in orchards

55. Srijana Thapa Magar

Development and Evaluation of a SmartIrrigation Peach App in a Young Peach Orchard in Georgia, USA

56. George Nanos Development of an innovative smart-farming and decision-support service to improve clingstone peach cultivation

57. Eduardo Assunção

Navigation system of autonomous multitask robotic rover for agricultural activities based on computer vision through tree trunk detection - Application to peach orchards

58. Eduardo Assunção

GPS-based autonomous navigation system for multitask robotic rover for agricultural activities with augmented reality web application for supervision support - Tests in peach orchards

59. Davide Neri

Use of photo-selective nets in Y system with flat peach Platibelle

60. Andrea Kohler

Fruit quality and yield in planar training systems for peach

61. Ana Butcaru*

Influence of Vertical Axis and Trident planting systems on peach and nectarine fruit quality

62. Preetika Verma*

Studies on peach budding in stool beds of 'Rubira' rootstock

Section: Fruit Quality & postharvest physiology and technology

63. Tomas Necas

Analyses of selected chemical compounds of different pomological groups in peaches ()

64. Allesio Allegra

Use of chemical treatments to reduce browning colour of white fresh-cut peaches, harvested in summer and late crop

65. Julien Ruesch

Review of 10 years of studies on peach and nectarine: identifying the least susceptible varieties to storage diseases

66. Laia Torregrosa

Quality alterations in different stone fruit cultivars due to a low dosage of methyl bromide fumigation

67. Maria Paula Simoes

Controlled atmosphere storage and fruit quality for 'Sweet Henry' peach cultivar

68. Pavlina Drogoudi

Impact of winter and spring temperatures on flowering phenology of peach and nectarine cultivars grown at different European sites

69. Gemma Reig

Agronomical performance, physiological response and fruit quality of several commercial flat peach varieties grown in the Ebro Valley, Spain

70. Pavlina Drogoudi

Agronomical, fruit and canned product quality traits from newly released non-melting peach cultivars/selections

71. George Manganaris

Comprehensive protocols to determine textural properties and sensorial attributes on fresh and canned peach fruits

72. Francesca Raffaelli*

Flat peach: consumer test, sensory analysis and valorization of nutritional properties

73. Luyang Jing*

Effect of 1-MCP and Nano-TiO₂ composite coatings containing the postharvest quality on the honey peach (*Prunus persica* L.) fruits