

Invitation



Soft fruit production systems and challenges throughout the whole supply chain

Tuesday
18 February 2025
17:00–21:00

Amphitheater 2,
Tassos Papadopoulos Building,
Cyprus University of Technology,
Themidos & Ifigeneias corner, Limassol



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primesoft

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Program (Πρόγραμμα)

17:00–17:30 **Registrations (Εγγραφές)**

17:30–17:45 **Το ερευνητικό πρόγραμμα PRIMESoft: Ανάπτυξη καινοτόμων τεχνολογιών έναυσης σε καλλιέργειες μαλακών καρπών**
George Manganaris

17:45–18:10 **The blueberry fruit production within a global context: Challenges and constraints**
Marco Butera

18:10–18:35 **Postharvest Challenges and Opportunities in the context of global berry markets**
Jordi Giné-Bordonaba

18:35–19:00 **Berry Me, I Berry You – A Journey through the World of Raspberries**
Tobias Bönisch

19:00–19:30 **Η καλλιέργεια της φράουλας: Προκλήσεις και προοπτικές ανάπτυξης**
Θεοφάνης Παπανικολόπουλος

19:30–20:00 **Round table discussion**

20:00–21:00 **Reception (Δεξίωση)**

Abstracts (Περίληψεις)

The PRIMESOFT project in a snapshot: Development of innovative priming technologies safeguarding yield security in soft fruit crops through a cutting-edge technological approach

Soft fruits, also referred to as small fruits or berries, represent a wide and very diverse group of crops that have high nutritional value but are very perishable with limited shelf-life potential. These crops are also greatly affected by stress conditions (salinity, flooding, heat, cold, excess light) that reduce productivity. The concept of the application of priming agents (PAs) to enhance yield performance and quality attributes of soft fruit crops is entirely novel. The presentation will provide information regarding the prospects of priming agents as a novel agricultural and technological approach to improve stress tolerance, giving special reference to strawberry cultivation. To our knowledge, existing technologies representing major competition are limited to relatively few formulations/biostimulants based on silicon nutrition/supplementation and which do not always provide cross-protection against multiple abiotic stress factors, such as drought, salinity and heat. The novelty of our scientific strategy lays on the fact that it encompasses (1) the exploration of both a naturally derived priming agent (PA) in the form of melatonin as well as a synthetic PA recently co-patented by the HO (use of NOSH/NOSH-A in plants; WO/2015/123273) and (2) the employment of both advanced nanomaterial engineering and encapsulation techniques through electro-hydrodynamic processes to enhance PA's efficiency towards increment of yield, enhancement of health-promoting properties and additionally ameliorate plant damage under climate change-related abiotic stress conditions in added-value soft fruit crops, namely strawberry and raspberry.

The blueberry fruit production within a global context: Challenges and constraints

Blueberry (*Vaccinium* spp.) commercial cultivation is considered long term in comparison to other soft fruit investments. Therefore, when a grower or agronomist designs a new blueberry orchard, they need to justify establishment costs and generate adequate income at acceptable quantitative and qualitative levels for at least 10 to 15 years. To that extend, an orchard designed in 2024, planted in 2025 will still be in production in 2035 or 2040. Consequently, the agronomical investment must consider both depreciations, return of investment but also potential challenges of the world's market in 15 years. Climate change was primarily a topic discussed by scientists and academics since the mid-1980's, however it is now becoming harsh and real for everyone, especially people working in agriculture. The climate anomalies that in the past were only local events now are happening increasingly at global scale., According to climate change projections, high-chill zones will transition to mid-chill in 10 years, and many mid-chill areas will become low-chill. Eventually, low-chill regions will turn into no-chill areas. These changes will significantly affect production cycles and the global blueberry market in the coming years. The global spread in many blueberry areas also bring new pests: *Drosophila suzukii* and *Scirtothrips dorsalis* have already altered the mindset of several blueberry producers. Looking ahead, due to the global movement of plant material and the more suitable climate condition for some diseases due to the climate change, we may witness a global pressure of important diseases, such as *Xylella fastidiosa*, *Monilinia vaccinii-corymbosi* (Mummy berry), or *Popillia japonica*. Economically, the massive expansion of new berry plantations by small and major blueberry players over the last 5 years will inevitably transform blueberries into an increasingly common commodity; this market evolution, coupled with climate change and the spread of new pests, will increase the complexity to achieve economic success for producers and investors. The challenges before us are immense and global, whereas the decision to make a blueberry orchard will need careful and professional design. This decision will need to be accommodated with serious contemplation on how the world will be like in 10 or 20 years. Only then the blueberry entrepreneur can make conscious and profitable decisions.

Postharvest Challenges and Opportunities in the context of global berry markets

Berries are among the most delicate horticultural produce with a limited shelf-life mainly due to their high susceptibility to decay, bruising, shriveling or water loss as well as textural changes during postharvest handling. Despite of their limited shelf-life, berries have been the most valuable produce category in Europe over the past decade. In the context of current growth for the fresh berry market category and the need to supply further distant markets, a perfect execution from the field until the final customer is key to ensure Driscoll's primary mission of delighting the consumer. Perfect execution involves that all the steps and process across the value chain are taken into consideration and set to high standards. A clear example is Driscoll's pursuit to maintain an excellent cold chain across all postharvest operations (from field to cooler, at the cooler, during transport as well as at the customer site) aiming to ensure maximum shelf-life and delight when our strawberries, raspberries, blueberries or blackberries reach the final customer. Nevertheless, at specific moments during the season, lead times to certain markets may challenge the berries shelf-life and hence there is a need to deploy additional postharvest strategies that, in combination with an excellent cold chain, can facilitate that not only quality is maintained for longer but also that the fruit delight is not impacted. Multiple postharvest technologies are indeed available in the market yet not all of them may be suitable for all berries or moments along the producing season. The correct choice and implementation of these postharvest technologies will not only depend on the berry type, the variety itself but also on the origin and the supply chain conditions until the destination market. An overview of the most relevant postharvest innovations/technologies available will be discussed for each of the targeted berries.

Berry Me, I Berry You – A Journey through the World of Raspberries

Raspberries – these vibrant, ruby-red fruits are far more than just a sweet delight. They symbolize nature, indulgence, and global connection. In this talk, we'll explore the fascinating journey of a raspberry: from propagation, breeding, cultivation and care to harvest, cooling, and consumption – whether in a personal garden, through community initiatives like plant adoptions, or on sprawling plantations from Down Under to the northernmost regions. There is always a place for the beauty of this precious fruit. Raspberries are more than just a fruit – they are a story of passion, sustainability, and the joy of sharing nature's treasures. Drawing from personal experiences, including a life shaped by the deep love for Raspberries this presentation combines insights into raspberry farming with a reflection on how these small fruits are a call to return to more mindful agricultural practices. As market demand for healthier, more natural produce grows, and climate change is an ongoing event to handle, it becomes clear that robust plant varieties and high end production systems might only be part of the solution. The real success lies in understanding your plants and being attentive to their needs. Long-term sustainability in raspberry farming cannot rely solely on chemical interventions. Instead, the focus must shift toward a systemic, protective approach that emphasizes prevention rather than reactive, curative methods. Join me as we celebrate the raspberry's journey, its role in global agriculture, and its unique place in our hearts. From seedling to taste explosion – let's dive into the world of this most precious red diamond and discover how she can inspire big changes in the way we grow, nurture, and enjoy our food.

Η καλλιέργειας της φράουλας: Προκλήσεις και προοπτικές ανάπτυξης

Η Ελλάδα είναι μια από τις πιο σημαντικές ζώνες για πρώτη παραγωγή φράουλας στην Ε.Ε. Το 2022/2023 καλλιεργήθηκαν 20000 στρέμματα με αξία προϊόντος περισσότερο από 150 εκατ. €. Παρόλο που διαθέτει συγκριτικά πλεονεκτήματα, στερείται δικών της ποικιλιών φράουλας. Το υπάρχον μοντέλο παραγωγής βασίζεται σε διεθνείς ποικιλίες, τα χαρακτηριστικά των οποίων είναι προσαρμοσμένα στις απαιτήσεις των χωρών που αναπτύχθηκαν. Το πρόγραμμα ανάπτυξης ποικιλιών της Berryplasma στοχεύει στη δημιουργία γενοτύπων φράουλας οι οποίοι να συνδυάζουν βελτιωμένα παραγωγικά χαρακτηριστικά (πρωιμότητα, μέγεθος καρπού, συνολική παραγωγή) και ποιοτικά χαρακτηριστικά όπως μετασυλλεκτική διάρκεια ζωής του καρπού και υψηλό % εμπορευσιμότητας. Στα πλαίσια του προγράμματος έχουν αναπτυχθεί 4 ποικιλίες, 3 Short day (Kallisti, Elektra and Phaedra) και 1 Day neutral (Aethra) απόλυτα προσαρμοσμένων στις συνθήκες την Νοτίου Ευρώπης συνδυάζοντας ταυτόχρονα όλα τα επιθυμητά εμπορικά και ποιοτικά χαρακτηριστικά.

Speakers (Ομιλητές)



George Manganaris

George Manganaris is founder of the Fruit Sciences & Postharvest Group (www.fruitsciences.eu) at Cyprus University of Technology under his capacity as full Professor. His main scientific interests include the quality evaluation of fleshy fruits through the employment of physiological, biochemical and molecular approaches, the elucidation of fruit ripening syndrome with emphasis in the development of disorders and overall the postharvest maintenance of fresh produce. Additionally, he is

involved in projects and synergies dealing with the application of preharvest treatments and/or novel technologies for maintaining quality of fruit crops and their responsiveness to abiotic stress conditions. Currently, Dr. Manganaris is Coordinator of the PRIMESoft project (Horizon Europe, WIDERA, www.prime-soft.eu) and Institutional Coordinator of the FRIETS project (Horizon 2020, Marie-Curie RISE, www.friets.eu). To date, Dr. Manganaris is the author of 64 Tier I scientific papers in refereed journals [<https://www.fruitsciences.eu/research-papers.html>] with overall 100 contributions, 44000 citations and 33 h-index according to Scopus Database. He is the Editor in Chief in 'Scientia Horticulturae' and a member of the Editorial board in 'Postharvest Biology & Technology' and 'BMC Plant Biology' journals. He has been assigned to evaluate/monitor competitive research proposals/projects for EU [Horizon 2020, European Commission Executive Agency for Small & Medium-sized Enterprises (EASME), Eurostars] and for National agencies, (Italy, France, Belgium, Denmark, Poland, Chile, Greece, Slovenia, Serbia, Israel, Latvia, Qatar, Canada). He has been appointed by the Hellenic Authority for Higher Education to participate as Committee member for the accreditation of [4] Departments and [6] undergraduate study programs. He has/is acted/acting as (co-)PI of [5] accomplished and [3] on going PhD programs, while he has acted as an external examiner of MSc theses/PhD dissertations in Italy, Spain, United Kingdom, Greece, Australia. He is currently Council Member of the International Society for Horticultural Science (ISHS), elected Vice Chair of the ISHS (Division Temperate Fruit Crops) for the period 2022-2026 and Board member of European Fruit Research Institute Network.



Marco Butera

After earning his degree in Forestry and Environmental Sciences from the Faculty of Agriculture at the University of Torino, he began his professional career as a technical advisor specializing in fresh and frozen horticultural crops. Two years later, he joined Consorzio Piccoli Frutti, a highly specialized growers' consortium based in Northern Italy, with producers spread across the country from North to South. As the second-largest berry producer in Italy, the consortium offered

a dynamic and challenging environment where Marco served as an internal technical advisor. His role involved supporting growers throughout the season by overseeing farm management, planning and establishing new production sites, conducting trials for new selections and varieties from European and U.S. breeding programs, and implementing innovative cultivation techniques and processes. During his tenure at Consorzio Piccoli Frutti, Marco established a robust network of collaborations with nurseries and research institutions dedicated to berry production. He also worked closely with leading consultants and technology providers in the berry sector. By regularly participating in prominent conferences and trade fairs for the soft fruit industry, he remained at the cutting edge of industry developments, consistently expanding his knowledge and maintaining strong professional relationships. In January 2023, Marco took a major step forward in his career by transitioning to freelance consulting. Since then, he has collaborated with berry growers across a wide range of countries, including Greece, Vietnam, Serbia, and currently focusing on France, Bulgaria, Turkey, Georgia, Cyprus, Israel, Romania and Slovenia. Adopting a practical, hands-on approach, Marco provides comprehensive on-site and online support for all aspects of berry crop planning and management, from initial project development to full-scale operations. His expertise encompasses cultivation in tunnels, greenhouses, and open fields, utilizing both soil and substrate systems. He delivers tailored solutions, including data-driven variety selection, customized fertigation strategies, pest and disease management, staff training, production forecasting, and more, ensuring that each grower's specific needs are met with precision and effectiveness.



Jordi Giné-Bordonaba

Jordi Giné-Bordonaba is an Agricultural Engineer (University of Lleida, 2006), MSc in Environmental Diganostics (Cranfield University, 2006) and PhD in Postharvest Biosciences (Cranfield University, 2010) with over 15 years of experience in topics related to Postharvest Physiology and Technology including basic physiological aspects of fruit ripening and the development or deployment of new storage techniques/treatments to maximize fruit quality while reducing postharvest

fruit losses, mainly caused by physiological disorders or rots. Since 2021, Jordi is the Postharvest Specialist for Driscoll's of Europe, Middle East & Africa. Before joining Driscoll's, the entire Jordi's career was in Research and Academia. After his PhD, he did a short postdoctoral stage at the University Rovira i Virgili in Tarragona, before joining the Postharvest programme at IRTA in 2011. During his 14 years at IRTA, he participated in 20 projects funded with EU, international or national funds as well as over 40 contracts with companies. In 2019, he was granted a José Castillejo fellowship from the Spanish government, to carry out part of his research at the Fondazione Edmund Mach. In the same year and until 2022 he was a visiting lecturer at the University of Barcelona teaching on Postharvest Physiology and Technology. He has over 60 peer-reviewed articles (h index= 27), a patent, 7 book chapters and over 55 contributions to national and International conferences.



Tobias Bönisch

Tobias Bönisch is an expert in raspberry production and sustainable plant management. Born and raised on a farm, he has been growing raspberries for over 20 years. He earned a degree in Agricultural Science from the University of Kiel, specializing in Plant Science, with a thesis focusing on *Botrytis cinerea* in raspberries and its unique challenges in Northern Germany. As the founder of A-Berry Consult, Tobias offers practical consultancy services for bramble and vegetable production, particularly

raspberries. His expertise includes staff training, production integration, plant health and the implementation of organic and biodynamic practices. To stay connected to the field, he manages a small farm where he focuses on raspberries and vegetables while conducting cultivation experiments tailored to northern German climate conditions. Tobias is also a part of the Biolchim team, advising on biostimulants, specialty fertilizers, and plant health in Northern Germany, Denmark, and Sweden. Additionally, he works as an internal consultant for Westhof-Bio, one of Germany's largest organic vegetable producers. Here, he implements sustainable growing techniques, focuses on employee motivation and leadership development, and contributes to plant health and development. His international experience spans managing a large raspberry farm in Australia, contributing to breeding programs at Advanced Berry Breeding in the Netherlands, and working closely with Geert De Weert ongoing for many years and consulting in multiple countries. Tobias combines scientific knowledge with hands-on expertise to drive innovative and sustainable approaches in agriculture.



Θεοφάνης Παπανικολόπουλος

Ο Θεοφάνης Παπανικολόπουλος είναι απόφοιτος της Σχολής Τεχνολογίας Γεωπονίας (Λάρισα, Θεσσαλία, 1978-1982). Εργάστηκε για 4 έτη στην εταιρία Agroexport ως υπεύθυνος για τις καλλιέργειες τομάτας και αγγουριού σε υδροπονικό σύστημα (NFT) και σε υποστρώματα με RockWool και περλίτη. Το 1989 ίδρυσε την πρώτη του εταιρία με σκοπό την παροχή τεχνικών συμβουλευτικών υπηρεσιών για τους παραγωγούς της περιοχής της Βάρδας στον Νομό Ηλείας. Ταυτόχρονα, άρχισε

την ενασχόλησή του με την παραγωγή εμβολιασμένων φυτών κηπευτικών (καρπούζι και τομάτα) δημιουργώντας το πρώτο επαγγελματικό φυτώριο (Georion) στο είδος του στην Ελλάδα. Από το 1986 παρακολουθούσε τεχνικά τις καλλιέργειες της φράουλας στην περιοχή της Ηλείας κατευθύνοντας περισσότερο από το 80% της Ελληνικής παραγωγής. Ασχολήθηκε με την εξέλιξη της τεχνικής της καλλιέργειας και την οργάνωση της παραγωγής στην ευρύτερη περιοχή, συμβάλλοντας καθοριστικά και στη δημιουργία της πρώτης ομάδας παραγωγών (Υρμίνη). Το 2012 δημιούργησε την εταιρία BerryPlasma με σκοπό την εφαρμοσμένη έρευνα (R&D) στα μικρά οπωροφόρα (Soft Fruits).